

Industry Top Trends 2023

January 31, 2023

This report does not constitute a rating action



Foreword

Dear reader,

We recently published our latest Industry Top Trends reports for corporate and infrastructure industries globally to communicate our credit views on rated companies and industries. It is the eighth annual edition, and this publication brings the individual reports together in a single volume along with our assessment of the common themes that emerge.

The year ahead will be another challenging one for many industries as they face weaker demand, sustained cost pressures, and higher financing costs. This follows a difficult year for financial markets, as investors came to terms with resurgent inflation, supply chain disruption, rapidly rising interest rates, war in Europe, and continuing aftershocks from the COVID-19 pandemic. Prospects appear finely balanced, with much resting on the severity of the economic slowdown and the persistence of inflation. Debt metrics have improved rapidly after a spurt of growth, but a lurch back into severe recession would rapidly unravel credit prospects.

These reports outline S&P Global Ratings' key industry assumptions for 2023, as well as our views on key risks and opportunities that may affect sector trends. They draw on the assessments of more than 5,500 corporate and infrastructure entities that we rate globally. By presenting our assumptions, risks, and ratings trends in a consistent format, we hope to aid understanding of our analytical assessment of industry trends.

Best wishes



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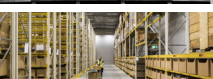



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Acknowledgments

We would like to thank the many colleagues who have contributed to this report to provide you with S&P Global Ratings' essential corporate and infrastructure insights.

Special thanks to Samuel Zanger, Yucheng Zheng, Gregoire Rycx, Tom Lowenstein, Miguel Martin-Garcia, Georgia Martin, Alisha Forbes, Sara Weber, Elora Karim, Kelliann Delegro, Alex Ilushik, Annie McCrone, and Jonathan Greene.

Contents

Key Themes		5
Corporate		
	Aerospace and Defense Commercial aerospace gains altitude, but risk of turbulence remains	14
	Autos Weakening demand ahead	26
	Building Materials Stable credit quality despite high inflation and interest rates	38
	Capital Goods Fast-moving profit drivers will test business strength	65
	Chemicals Perfect storm of high inflation and weak macro dim the credit outlook	78
	Consumer Products Waning demand will test operating resilience	85
	Healthcare Health care services and spec-grade are likely to deteriorate further	97
	Homebuilders and Developers Economic headwinds challenge housing demand	109
	Hotels, Gaming, and Leisure Not your typical recession; impact could be moderate	124
	Media and Entertainment Many questions on media's future, not many answers	140
	Metals and Mining Positive credit momentum slows with big demands on capital	160
	Oil and Gas Hydrocarbon prices to remain supportive of credit quality	169
	Real Estate Tide has turned amid higher rates and weaker growth	178
	Retail and Restaurants Competition will gather pace as consumers cut spending	198
	Technology Technology remains resilient but ratings pressure is rising	210
	Telecommunications Macro headwinds will slow, but not stop, earnings growth	231
	Transportation Recession risks rise for global transportation companies	264

Infrastructure



EMEA Utilities

Credit resilience amid stormy waters

282



Latin America Utilities

Cushion to withstand high inflation and low growth

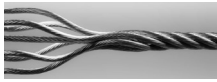
293



Midstream Energy

In a position of strength during uncertain times

304



North America Merchant Power

The Inflation Reduction Act is likely to turbocharge renewables

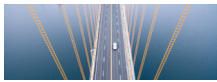
313



North America Regulated Utilities

The industry's outlook remains negative

322



Transportation Infrastructure

Mobility transition comes amid tough economic prospects

331

Industry Top Trends 2023

Key Themes

- A relatively shallow recession will likely see revenues and cash flow growth grind to a halt but not slump. Capex is likely to be resilient with energy transition an impetus.
- Margins are likely to remain elevated but are under pressure from material and labor costs. Supply chain and inventory pressures are easing but still a concern.
- Refinancing risks loom over weaker speculative-grade issuers. A harsher-than-expected recession is the greatest risk and would likely have a severe credit impact.

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A slowdown but not a slump

Our analysts expect revenue and cash flow growth to slow to a near-halt in 2023, but not to plummet (see charts 1 and 2). This reflects our broader macroeconomic assumptions for a difficult 2023, but one where recessions are likely to be shallow rather than severe. Following 7% growth estimated in 2022, we project adjusted revenues for nonfinancial companies rated by S&P Global Ratings will stagnate, increasing 1% this year and 2% in 2024. Adjusted EBITDA is expected to be flat this year, following estimated growth of 6% last year, and gain 2% in 2024.

Chart 1

Global Nonfinancial Corporate Revenue Growth

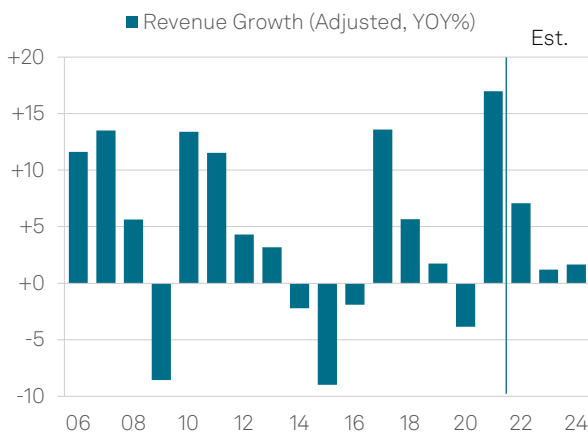
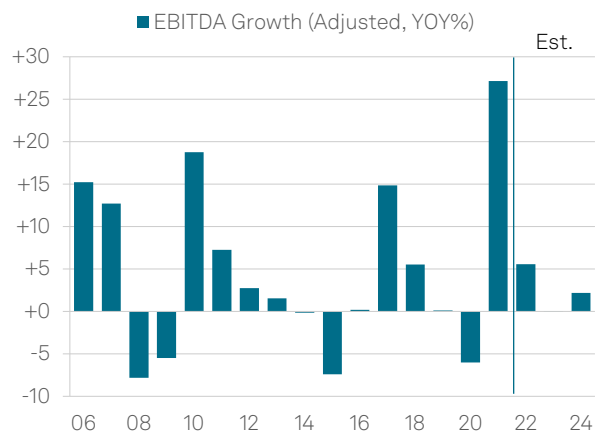


Chart 2

Global Nonfinancial Corporate EBITDA Growth

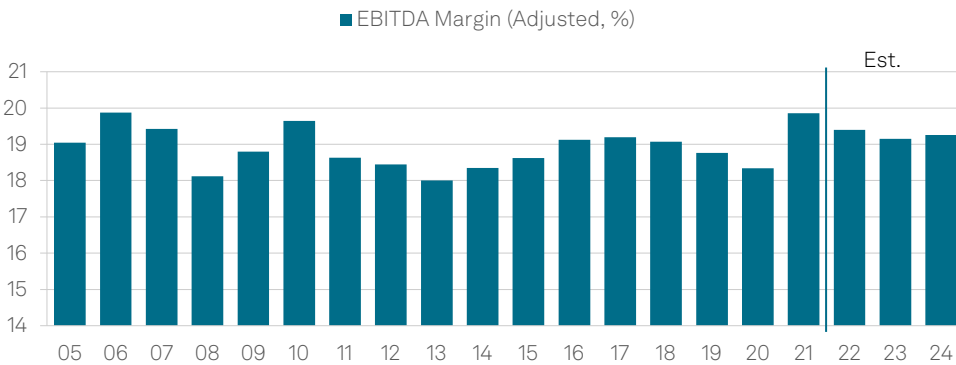


Source: S&P Global Ratings. Includes non-financial corporations currently rated by S&P Global Ratings. Expressed in U.S. dollar terms.

Revenues are likely to ebb in commodity-linked sectors--oil and gas, metals and mining, chemicals--and cost-of-living pressures will curb demand growth in consumer discretionary sectors. Nevertheless, absent a severe recession, and with unemployment rates not expected to rise sharply, **most sectors expect demand to moderate, rather than deteriorate sharply**. Pent-up demand following pandemic-related lockdowns also remains a supportive factor: the aerospace sector is struggling to meet demand for narrowbody jets as airline traffic recovers, automakers entered the year with healthy orderbooks, and booking volumes for 2023 cruise ship holidays accelerated in the second half of 2022.

Chart 3

Profit Margins Expected To Remain Elevated Though Cost Concerns Growing

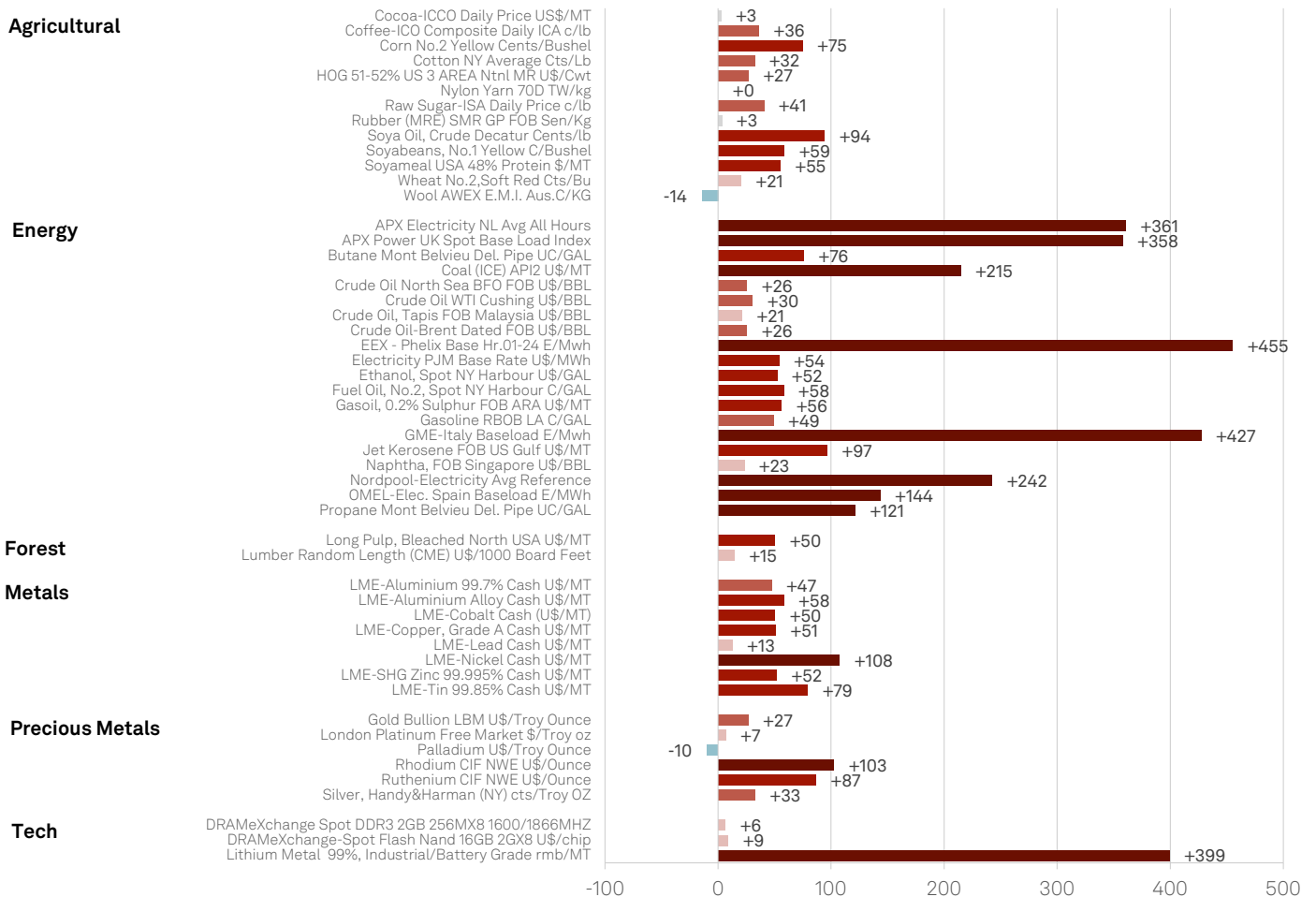


Source: S&P Global Ratings. Includes non-financial corporations currently rated by S&P Global Ratings.

Chart 4

Corporate Non-Labor Cost Pressures Have Eased But Prices Remain Structurally Higher

Price Changes From Pre-COVID (Dec. 31, 2019) To Now (Jan. 25, 2023)



Source: S&P Global Ratings, Refinitiv

Margins strong, but supply chains and labor costs are concerns

Profit margins are likely to remain elevated but are feeling the strain (see chart 3). The inflation surge has largely been beneficial for the corporate sector, which has been able to raise prices beyond the level needed to pass through cost increases, but we expect issuers will find this harder to achieve as inflation rates ease and cost-of-living pressures bring resistance to price increases. Encouragingly, producer input price inflation appears to have peaked and many non-labor costs--particularly energy related--have fallen substantially from their 2022 highs, meaning that upstream cost pressure has eased. Even so, many non-labor costs remain substantially higher than their pre-pandemic level (see chart 4). In the capital goods sector, for example, while we assume that materials costs in 2023 will be 10%-15% lower than 2022, these lower prices are still 20%-30% higher than the average for the past 10 years.

Labor cost pressures and shortages are a continued source of unease for many sectors, particularly in North America. In transportation, for instance, recruitment issues and difficult wage negotiations are likely to persist for companies that cut staff and reduced salaries during the pandemic. Capital goods report margin degradation from elevated labor costs, and health care services face particularly acute labor cost pressures with health care employment back to pre-pandemic levels and staff in demand. In retail, where non-labor costs are stabilizing or declining, labor costs continue to face upward pressure with elevated wages and benefits required to attract and retain employees. Shortages are also an issue for sectors where demand remains robust: homebuilders, IT services, and metals and mining issuers have flagged this issue.

Supply chain problems have eased (see chart 5) but remain a worry. Some sectors--notably consumer products, retail, and health care--report that supply chain issues have smoothed. Others, such as autos, aerospace and defense, and utilities, point to lingering pressures. The prognosis remains complex, with supply chains at the fulcrum of multiple trends: inflation and growth, labor cost pressures, war in Europe, reshoring, sensitivities around semiconductor technologies and supply, the push for green energy, and the impact of China reopening after abandoning its zero-COVID policy. China alone represents a significant and wildcard. The easing of health restrictions could boost technology supply volumes and ease export bottlenecks at ports, for example, but returning demand could push up raw material prices.

Chart 5

Supply Pressure Index - Supply Bottlenecks Have Eased Considerably



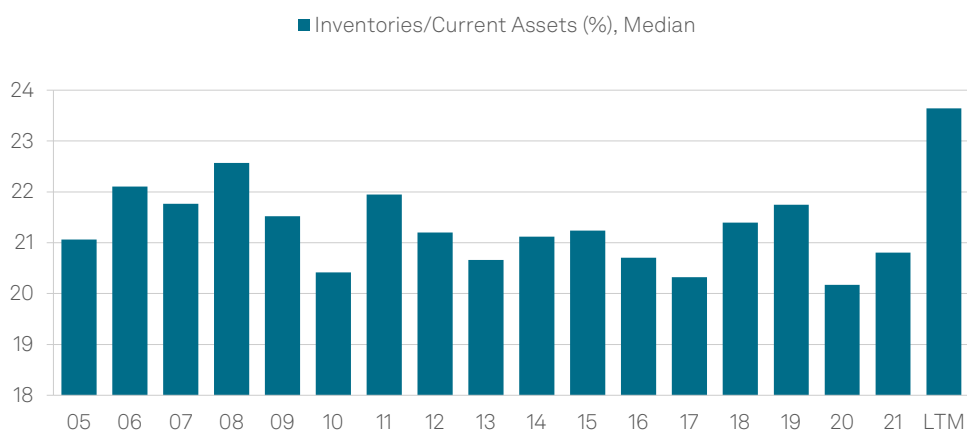
Source: IfW, FRBNY, S&P Global Ratings

There is optimism that working capital needs could ease, boosting free cash flow. Supply chain and inflation issues led working capital needs to surge last year. For example, we estimate that free cash flow for the capital goods industry globally dropped almost 25% in 2022 due to working

capital accumulation. In the building materials sector, some speculative-grade companies drew on revolving credit facilities and local lines to fund working capital and saw their adjusted leverage increase as a result. Chart 6 illustrates the broad impact, with the median share of inventories as a proportion of current assets reported in the last-12-month results surging to a post-2005 high. Easing supply chain disruptions ought to allow inventory needs to fall. For instance, in the retail sector, inventory reduction will continue to be a focus in 2023 and should be a modest source of cash. In the technology sector, recent negative rating actions in Asia-Pacific were related to increasing leverage and cash flow headwinds amid rapidly rising inventories. As the hardware supply chain has been gradually reducing inventory levels, we expect such working capital needs will start to reverse.

Chart 6

Supply Disruptions Have Forced Companies To Rapidly Build Inventories



Source: S&P Capital IQ, S&P Global Ratings. LTM--Last 12 months. Data as of Jan. 30, 2023; includes non-financial corporations currently rated by S&P Global Ratings.

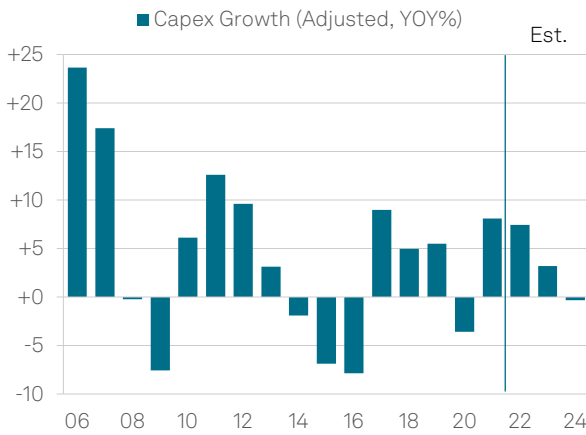
Energy transition and infrastructure drive capex

Capital expenditure (capex) growth is likely to prove relatively resilient in 2023. Our analysts estimate capex will rise by 3% in 2023, slowing from 2022's estimated 7% expansion (see chart 7). There are two notable drivers of spending:

- **Continuing investment within transport and transportation infrastructure** (see chart 8) to address capacity shortfalls and bottlenecks. For instance, the containership orderbook equates to 29% of the total global fleet according to Clarkson Research. Our analysts estimate capex by port operators will increase 19% in 2023, following a blistering 36% in 2022.
- **Energy transition and renewables spending continue apace and is driving investment across industries.** This impacts raw and intermediate materials (metals and mining), end markets (autos), as well as power production itself (utilities). In some of these industries, capex is breaking records. North American regulated utility capital spending reached a record high of more than \$190 billion in 2022 and we expect it will be even greater in 2023 (see chart 9). For EMEA utilities, we expect capex to rise over 10%, and up to 50% for some power networks. Metals and mining capex rose 30% in 2022, and while the growth rate will slow, spending will remain elevated, particularly as environmental, social, and governance and energy transition concerns drive investment toward specialty metals.

Chart 7

Global Nonfinancial Corporate Capex Growth



Source: S&P Global Ratings. USD terms.

Some significant spenders will tighten their purse strings. Technology and telecoms (see chart 10), for instance, are curbing their capex, which partly reflects the end of the pandemic-driven work-from-home boom. But even for these sectors, strong structural drivers remain, notably the need for 5g networks for telecoms and industrial automation, electric vehicles, and alternative energy for technology. Geopolitical tensions are also having a bearing, with many governments taking steps to promote investment and capacity growth within domestic borders and to lessen the reliance on Taiwan.

Chart 8

Global Capex Growth By Sector, 2023

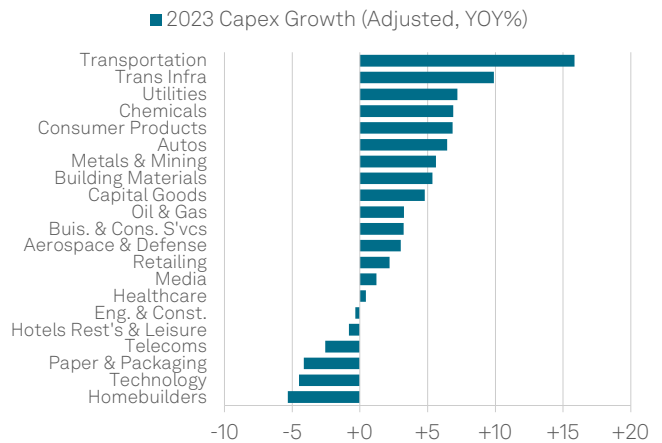
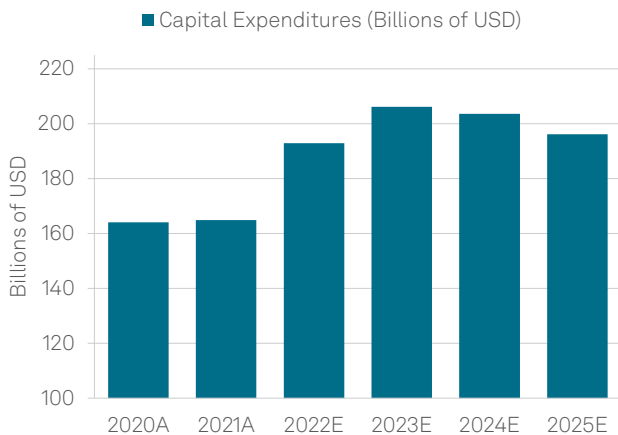


Chart 9

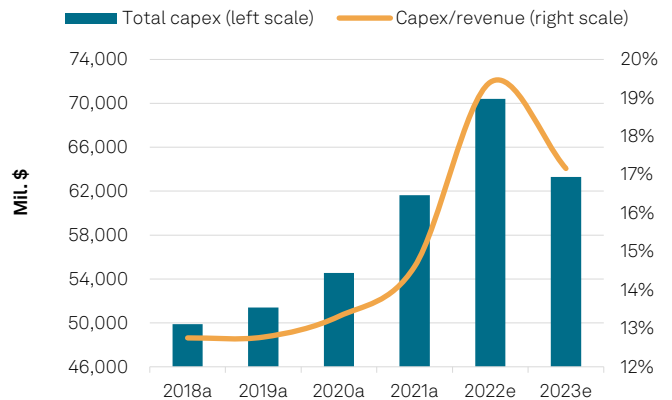
North America Regulated Utility Capex Stepping Up



Source: S&P Global Ratings. Data as of Jan. 11, 2023. Capital expenditures represent North American investor-owned electric, gas, and water utilities. a--Actual. e--Estimate.

Chart 10

U.S. Telecoms Capex Reducing But Still Elevated



Source: S&P Global Ratings. e--estimate

This relatively resilient capex picture offers some good news in relation to global economic momentum, with significant elements of investment likely to prove relatively immune to anxieties around growth prospects. However, two areas of this spending may give rise to some credit concerns.

- **First, massive investment programs could start to reduce ratings headroom** and add credit risks, particularly given the uncertainty surrounding new energy technologies and the amounts of money involved.
- **Second, the desire to expand production in these areas may run up against supply rigidities and exacerbate cost pressures and inflation**, which could ultimately require interest rates to stay higher for longer to curb. Mining companies face a plethora of challenges in expanding supply, ranging from geological, regulatory, and labor tensions and shortages. The renewables industry faces supply bottlenecks and cost inflation. Wind turbine costs are up by 10%-20% from pre-pandemic levels, while installed solar panel costs are up more than 20%. Absent a full-blown recession, many of these cost and supply pressures seem unlikely to ease.

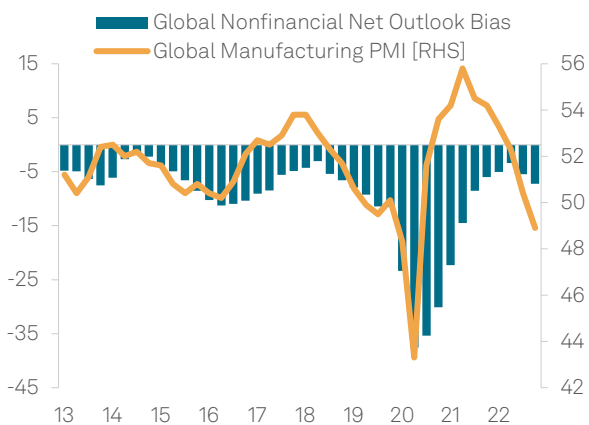
A deeper or more prolonged recession is the primary risk

Recession, inflation, and refinancing risk loom largest. Tables 1 and 2 show the three main risks or opportunities identified by S&P Global Ratings' analysts for their industries in the year ahead, for corporates and infrastructure respectively. A more severe or prolonged recession is the most frequently cited risk, ahead of inflation (and its implications for interest rates and profit margins) and worries about refinancing.

A more severe recession than assumed in our economic forecasts would likely bring renewed pressure on credit quality and ratings (see chart 11). In "Corporates: Will companies buckle under higher borrowing costs and inflation?" published as part of the "[Global Credit Outlook 2023: No Easy Way Out](#)" (Dec. 1, 2022), we applied stress tests to our entity forecasts to simulate the impact of a more severe downturn. The results suggested a deep recession could push average speculative-grade leverage metrics back above pandemic highs (see chart 12) and mean that more than half of these entities would record negative free cash flow, versus 12% in the base case.

Chart 11

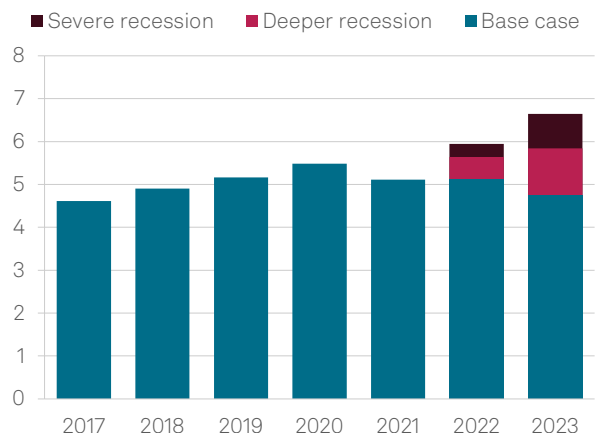
Global Manufacturing PMI And Nonfinancial Corporate Net Outlook Bias



Source: S&P Global Ratings, Refinitiv. Net outlook bias shows the difference between the percentage of positive outlooks less the percentage of negative outlooks applying to ratings in the non-financial corporate universe. The PMI is a diffusion index with values above 50 indicating expansion and below indicating contraction.

Chart 12

Deeper Recession Could Take Leverage To New Highs Global nonfinancial SG median debt/EBITDA (x)



Source: S&P Global Ratings. SG--Speculative grade. "Deeper recession" assumes interest costs higher by 2%, and haircuts base-case EBITDA projections by 10% for 2022 and 20% for 2023. "Severe recession" assumes interest costs higher by 3% and haircuts base case EBITDA by 15% for 2022 and 30% for 2023. Declines are then calibrated by industry and entity cyclicality.

Table 1

Corporate sector risk and opportunity map

Sector	Subsector/Region	Risk/opportunity '1'	Risk/opportunity '2'	Risk/opportunity '3'
Aerospace and Defense	Commercial aerospace	Supply chain	Chinese demand	Skilled-labor shortages
	U.S. defense	Supply chain	Defense spending cuts	Financial policy
	European defense	High inflation	Strategic pivot to APAC	Defense spending cuts
Autos		Protectionism	COVID supply disruptions	M&A and financial policy
Building Materials	North America	Interest rates and inflation	Shareholder returns	Easing costs help margins
	EMEA	Prolonged recession	Energy prices	Interest rates, refinancing
	Latin America	Economic and political risk	Overcapacity	CO ₂ emission regulation
	Asia-Pacific	Input cost inflation	COVID pressures in China	Emission regulation
Capital Goods		Capex cuts in recession	Refinancing risks	Sticky costs, supply chains
Chemicals		More severe recession	European energy crisis	Refinancing risks
Consumer Products		High, persistent inflation	Focus on sustainability	Digitization / cyber threat
Health care		Margin pressures	Interest rates / spec-grade	New entrants
Homebuilders	U.S.	Slowing housing demand	Existing inventory	
	Europe	Mortgage rates, lending	More severe recession	Government support
	Asia-Pacific	Government support	Financing discipline	Refinancing risks
	Latin America	More severe recession	Structural demand trends	
Hotels, Gaming, Leisure	Gaming	Macao investments	Recession and regulation	M&A, shareholder returns
	Hotels	More severe recession	Impact of war in Europe	Sales focus hurts margins
	Cruise, Recreation	Inflation and discounting	Consumer spending cuts	Recession and demand
Media	Content	Shift in focus to profits	Content less valuable	Social media monetization
	Distribution	Churn and weaker ad sales	Linear TV decline	Sports rights for streamers
	Advertising	More severe recession	Linear TV decline	Regulation and privacy
Metals and mining		Prices fall (recession)	Supply constraints	Shareholder returns
Oil and gas		More severe recession	Regulation and taxation	Financial flexibility
Real estate	U.S. REITs	Prolonged recession	Elevated interest rates	Housing cooling and rents
	European REITs	Access to funding	Higher rates, recession	Rate clarity and stability
	Asia-Pacific REITs	Evolving office demand	Chinese retail recovery	High interest rates persist
	Latin America	Economic and political risk	Office and retail demand	Nearshoring fades
Retail and restaurants		Consumer resilience	Inflation reignites	Integrating real and virtual
Technology		China's reopening	Refinancing of spec-grade	More severe recession
Telecommunications	Global	Inflation and recession	Refinancing; M&A curbs	Poor ROI, regulation
	North America	Inflation and recession	Supply chain and costs	Shareholder returns
	Europe	More severe recession	Refinancing of spec-grade	Market consolidation
	Latin America	More severe recession	Dollar strength, leverage	5G capex needs
	Asia-Pacific	Prolonged recession	Competitive pressures	5G capex needs, leverage
Transportation	Airlines	More severe downturn	Oil prices could cushion	COVID-19 variants
	Shipping	More severe downturn	Freight rates slump	Counterparty issues
	Rail Roads	Labor shortages, tensions	Regulatory scrutiny	Deeper recession
	Equipment Leasing	More severe downturn	Access to liquidity	Air traffic recovery stalls
Most Prevalent Themes		Recession	Inflation	Refinancing

Source: S&P Global Ratings. Risks and opportunities have been simplified and standardized relative to the originals for cross-sectional clarity. No rank ordering is implied between the risks/opportunities.

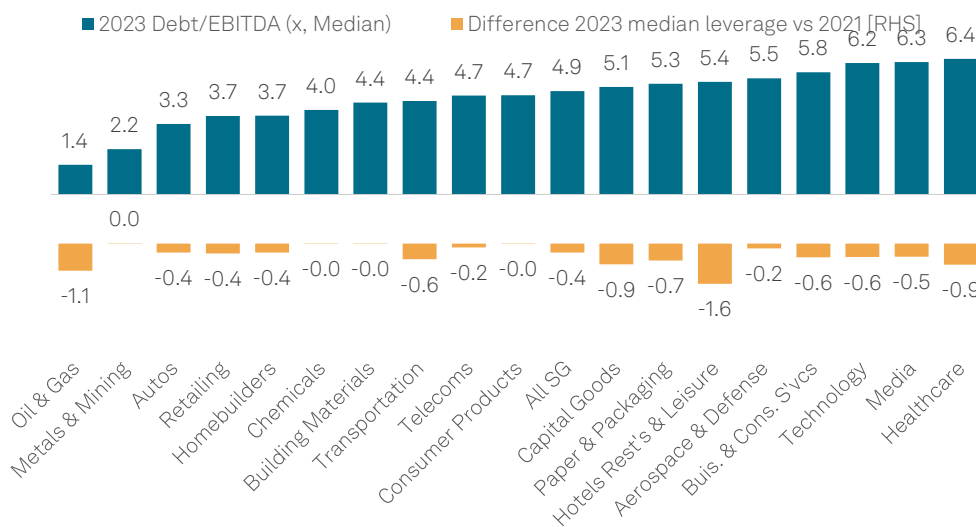
Concern for speculative-grade refinancing more than leverage

Refinancing risk for speculative-grade issuers is a widespread worry, encompassing companies' ability to access financial markets during periods of market volatility, the sharp rise in borrowing costs applied to new financing, and the risk that economic weakness might undermine cash flow projections and leverage reduction plans. This has the potential to place immense strain on more vulnerable capital structures, even if the downturn remains relatively shallow. Companies rated in the 'B' category or lower are more likely to experience weak profitability and cash flows due to tough business conditions.

Sector leverage multiples in themselves are not a cause for concern, with almost all speculative-grade sectors estimated to have lower leverage in 2023 than in 2021 (see chart 13). This reflects strong EBITDA growth in 2021 and 2022, and constrained debt issuance last year. Surging inflation has also eroded the real value of debt. More broadly, the sustained wave of refinancing at attractive rates and with longer maturities before 2022 has bought time for the corporate sector to adjust. As a result, higher borrowing costs are likely to work through the capital structure relatively slowly. Nonfinancial corporate refinancing demands for 2023 appear largely manageable, as 80% of the \$994 billion maturing is investment grade (see "[Global Credit Markets Update Q1 2023: Standing On Thin Liquidity](#)," published on Jan. 25, 2023). However, as companies typically refinance their debt 12-18 months ahead of maturity, the focus will turn to 2025 and 2026 maturities, which could add to liquidity pressure for some issuers later this year.

Chart 13

Median Leverage For Speculative-Grade Nonfinancial Sectors



Source: S&P Global Ratings

Financial policy concerns are centered on shareholder returns. Appetite for M&A seems likely to be modest generally, but there is some concern that the fall in equity prices may encourage buybacks and dividends. For example, we are already seeing hints that U.S. telecom providers will look to improve shareholder returns through stock buybacks or delay their plans for leverage reduction. On the flip side, what seems likely to be a structurally higher cost of debt is likely to encourage capital discipline, particularly among issuers with weaker credit profiles.

Table 2

Infrastructure sector risk and opportunity map

Sector	Sub-sector/Region	Risk/opportunity '1'	Risk/opportunity '2'	Risk/opportunity '3'
Midstream Energy		Recession	Regulation and transition	Strong financial position
Utilities	EMEA	Price volatility	Regulation and transition	Large-scale investment
	Latin America	Recession and inflation	Affordability for consumer	Hydrology and oil prices
	N.America Merchant Power	Use of excess cash	Inflation and interest rates	Cost reductions
	N.America Regulated	Inflation Reduction Act	Recession	Affordability for consumer
Transportation Infrastructure	Airports	Slower airline recovery	Regulatory stability	COVID-19 variants, politics
	Ports	Dramatic trade slowdown	Supply chain problems	Trade disputes
	Roads	Concession maturities	Decarbonization	
	Rail and Mass Transit	Affordability concerns	Mobility transition	

Source: S&P Global Ratings. Risks and opportunities have been simplified and standardized relative to the originals for cross-sectional clarity. No rank ordering is implied between the risks/opportunities.

Aerospace and Defense

Commercial aerospace gains altitude, but risk of turbulence remains

January 23, 2023

This report does not constitute a rating action



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What's changed?

Total global air travel continues to recover toward pre-pandemic level. This is driving global demand for jetliners, particularly narrow-body aircraft, and for aftermarket parts and services.

Airbus and Boeing continue to ramp up narrow-body production. However, all eyes remain on the supply chain and whether it can keep up.

Rising U.S. and EMEA defense spending supports longer-term sales growth. That said, increased defense spending is unlikely to translate into a near-term windfall for the sector.

What are the key assumptions for 2023?

Global air travel continues to recover, despite the threat of recession. This reflects pent-up demand that may slow, but not reverse, in the face of recession or COVID-19-related disruption.

Aircraft production and deliveries increase. Airbus advances production of its A320 family, targeting historic levels. Boeing targets fifty 737MAXes and ten 787s a month in 2025-2026.

Defense companies will see modest growth. But inflation, supply-chain constraints, and lags between authorization and orders will limit the immediate benefits.

What are the key risks around the baseline?

Air travel recovery could falter. A recession or recurring COVID-19-related disruption would likely slow recovery, notably of long-haul international travel supported by widebody aircraft.

Supply-chain disruption and bottlenecks may hinder aircraft makers' ability to raise production rates. If component and labor availability does not improve, delivery delays and lost revenue could ensue.

Inflation might erode spending power and margins. Some issuers may struggle to fully pass on rising costs.

Ratings Trends: Aerospace and Defense

Chart 1
Ratings distribution

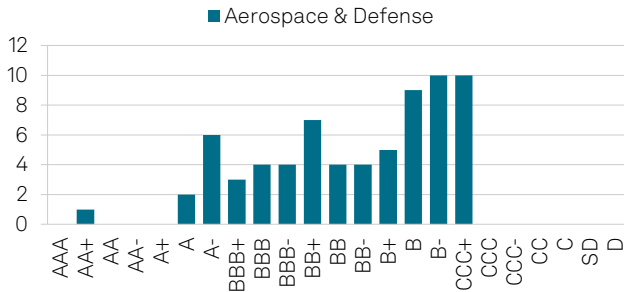


Chart 2
Ratings distribution by region

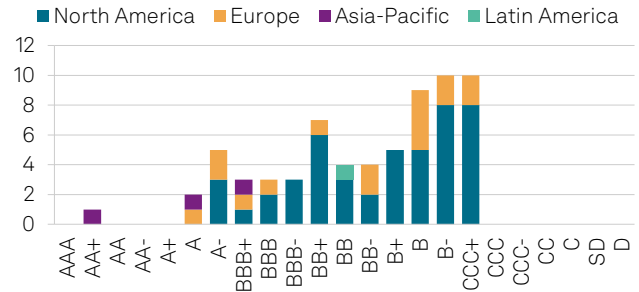


Chart 3
Ratings outlooks

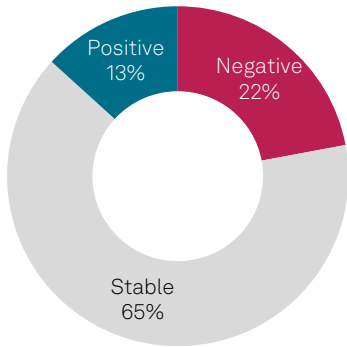


Chart 4
Ratings outlooks by region

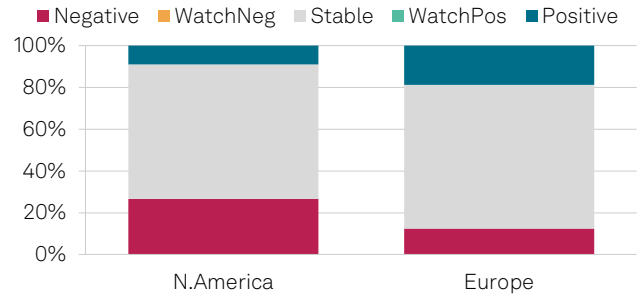


Chart 5
Ratings outlook net bias

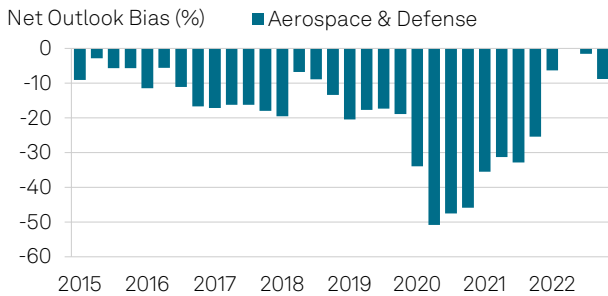
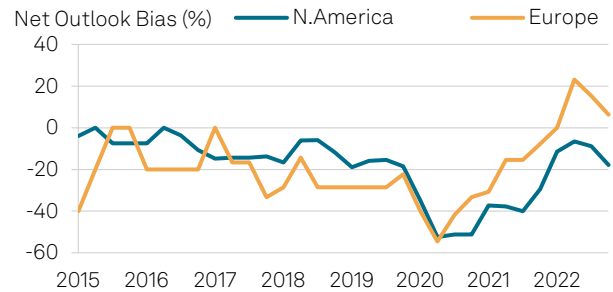


Chart 6
Ratings net outlook bias by region



Source: S&P Global Ratings. Ratings data measured at quarter-end.

About 65% of our ratings are on a stable outlook, while the other 35% have either a positive or negative outlook. The negative outlooks include some large U.S. defense contractors (Raytheon, L3Harris, and Huntington Ingalls) working through elevated debt incurred to make acquisitions. There are now more negative outlooks on North American entities than on their peers in Western Europe, reflecting the preponderance of suppliers to Boeing and financial sponsor-owned issuers in the U.S. The delay in Boeing's recovery due to production and regulatory factors has put pressure on companies in its supply chain. We anticipate that these companies will feel some relief as Boeing achieves better production stability and increases build rates.

In the past few months, we have upgraded several investment-grade defense players in Europe (including BAE Systems, Thales, Safran, and Babcock) on continued robust operating performance coupled with strong balance sheets and good liquidity. The European players in our rated universe carry the majority of the positive outlooks in our global A&D portfolio. This reflects the completion of significant restructuring measures implemented during the pandemic that leave these entities well positioned to benefit from the ongoing recovery in civil aerospace and healthy industry fundamentals in defense. Private equity-owned companies, which typically bear high debt burdens, face rising interest rates and will likely feel ratings pressure.

Industry Outlook: Commercial Aerospace

Ratings trends and outlook

Rating and outlook improvement has and will continue to reflect each issuer's balance of exposure to narrow-body or wide-body, with aircraft platforms recovering at a very different pace. Those issuers with higher concentration to narrow-body should see stronger operating results, but there is also a higher risk of volatility in the numbers if their supply chains cannot keep up with the steep rise in production rates. Some smaller suppliers that cut capacity and staff or incurred financial damage during the pandemic could find it challenging to invest in the capital expenditure and working capital needed to quickly hike production.

Main assumptions about 2023 and beyond

1. Narrow-body production rates will climb further

Despite softening consumer sentiment, airlines continue to order new planes. Airbus recently adjusted the ramp-up rate of its A320 family to 65 per month for 2023 and 2024, with a target of 75 per month by the middle of the decade. Its wide-body production rates remain stable. Boeing targets a monthly production rate of fifty 737 MAXs and ten 787s in 2025-2026.

2. Operating challenges will likely persist in 2023

The wider industry will continue to contend with disruption caused by the European energy crisis, persistent inflation, the ongoing impact of COVID-19, the Russia-Ukraine conflict, and rocky production ramp-ups at smaller manufacturers.

3. Aftermarket demand will continue to track aircraft utilization

Providers of parts used in repairs and companies that perform maintenance should improve further. This should track, albeit with some lag, aircraft flying, but will be partly offset by access to usable parts from retired planes and by ample spare parts inventory now that airlines have reduced their fleets.

Global air traffic levels will continue to rise. Latest IATA data forecasts that total global revenue passenger kilometers (RPKs) will land about 30% down on 2019, improving to about 15% down in 2023. We therefore maintain our view that global air traffic levels will continue to rise but is unlikely to return to 2019 levels until at least 2024. Although we forecast a shallow recession in the U.S. and Europe in 2023, we think reduced consumer spending will affect the demand for goods as opposed to services. Unsatisfied demand for air travel in 2022 should spill into 2023, and airlines will likely operate more flights this year. Recovery has been quicker and demand hotter for domestic and regional travel, thereby spurring the demand for narrow-body aircraft. At the same time, growing interest in international travel routes should inflate the demand for wide-

body aircrafts. China's recent reopening for international travel could result in tailwinds for long-haul travel, but OEMs are likely to be cautious about whether to raise wide-body production rates and by how much. OEMs' workforces are already stretched, so moving large numbers of workers across the shop floor from narrow-body to wide-body will present unique challenges that are likely to constrain OEMs' ability to raise wide-body rates, at least through 2023. We note that of all of our rated issuers, engine maker Rolls-Royce Plc is the most dependent on the recovery of wide-body flying hours (it is not present on narrow-body platforms) and stands to benefit the most if the opening up of China results in quicker recovery than currently forecasted.

Although this all suggests that the demand for new, more efficient planes will continue, we do not assume any material hikes in either narrow- or wide-body production in 2023. The accelerated retirement of older planes over the past three years has helped meet the demand for replacement parts. Although the rapidly increasing prominence of sustainability considerations will prompt aircraft and engine OEMs to materially invest in new, more fuel-efficient planes, we assume this influence will unfold only gradually over decades.

Airbus continues to hold a stronger position in narrow-body aircraft than Boeing, but it will not see the markedly high demand for wide-body aircrafts over the next few years that Boeing will enjoy, in our view. Airbus recently announced that it delivered 661 planes in 2022 (against a previous target of 'about 700'), of which 516 or 78% of total deliveries were A320s. The group revised down twice its delivery targets in 2022 and continues to cite supply-chain challenges, specifically around the availability of skilled labor and certain raw materials, alongside some delays on engine deliveries. We do not believe that these issues will ease in the near term, prolonging complications for the suppliers throughout 2023. We continue to think that Airbus' success hinges on timely aircraft deliveries and predelivery payments, alongside favorable working capital flow, persistent high inflation (across labor markets, raw materials, energy, and transport), and ongoing supply-chain disruption, among other operating headwinds. Also, although absolute S&P Global Ratings-adjusted EBITDA will continue to rise, the group's margins are likely to feel strain in 2023 as the group pushes to bring the A321XLR and A350F into service. Airbus continues to work on a freighter version of its flagship wide-body, the A350, but deliveries before 2025 are unlikely.

Boeing made significant progress stabilizing performance in 2022 but still lags in important areas. The company received regulatory approval to resume deliveries of its wide-body 787 planes in August after deliveries were paused in July 2021 while the company sought to correct a production quality issue. Also, Boeing raised production and deliveries of its 737 MAX narrow-body planes after uneven results through much of 2022. The company faced similar supply-chain problems as Airbus, but from a lower level of production. In December alone Boeing delivered 53 MAXs, bringing the total for the year to 387. The company will focus on increasing MAX production in 2023 to support its target of 400-450 deliveries, which will require ramping up by its many suppliers. Additionally, the recently passed U.S. budget included a path to regulatory approval for two MAX models that were in danger of missing deadlines. The smaller MAX-7 and larger MAX-10 allow the company to compete with Airbus in important market segments, and failure to achieve approval would have been a setback.

Boeing still has considerable obstacles ahead, however. China has not approved resumption of 737 MAX deliveries, though commercial flights of the planes resumed this month. Boeing is working to remarket the nearly 140 completed planes in inventory intended for Chinese airline customers. Demand for narrow-body aircraft exceeds manufacturers deliver capacity, and Boeing will likely find takers for its MAX planes without significant price concessions. Still, permanent loss of access to the Chinese market would be a big competitive disadvantage. Furthermore, Boeing's defense business could lose money in 2023 due to underperforming fixed-price aircraft contracts. Nevertheless, we anticipate that cash flow will build as the company

Industry Top Trends 2023: Aerospace and Defense

increases aircraft deliveries, including finished planes from inventory. Higher and more stable production should improve conditions for Boeing's suppliers. Accordingly, though we see a positive trend for credit measures, we expect few upgrades among U.S. commercial aerospace firms.

Business aviation is likely to see continued momentum into 2023. The segment is seeing a large number of first-time users and buyers owing to a shift in business travel from commercial to private in the wake of pandemic-related health concerns. The U.S. remains the largest market for business jets, with chartered flight providers, fractional providers, and general aviation likely to materially increase their fleets. OEMs are enjoying favorable pricing while still building up their orderbooks, and the delivery wait for many models is more than two years. Production has slowed because of headwinds similar to those faced by commercial jet manufacturers. Still, both deliveries and business jet expenditures are set to grow significantly in 2023 from the levels in 2022, with larger long range jet models responsible for much of the growth.

Demand for maintenance, repair, and overhaul (MRO) services and aftermarket parts remains robust, though fulfillment and capacity supply remain challenging. Despite the rebound in air travel and cargo demand, as well as growing business jet utilization, some MRO servicers' recovery path has been littered with problems. Labor continues to generate headwinds, and some supply-chain constraints will linger in 2023. Engine OEMs and part suppliers have been unable to support the demand for both the aircraft OEMs and the aftermarket servicers. Airframe servicers, however, see the benefit of low new airframe deliveries as retirements are delayed and older fleet stay in use. A provision of the newly ratified NDAA offers some relief by allowing government entities to consider aftermarket parts and serviceable materials from suppliers other than OEMs--an option that has not been widely available in the past.

Aerospace engineers and aviation mechanics require significant training and specialization, and the needed time commitment to do so has been a major hurdle in stabilizing a smaller labor force following the **exodus of seasoned labor during the pandemic.** This is acutely felt by smaller suppliers located far from the pool of highly skilled employees that large cities or regions tend to offer. Availability of specialists in highly complex new technologies is also limited. That said, service providers have reported operations at full capacity over the past few quarters, and backlogs suggest the trend will continue over the next 18-24 months. Combined, an aging fleet, high shop utilization, and high commercial demand for new and used parts further supports our expectation of meaningful revenue growth for the MRO and aftermarket segment.

Credit metrics and financial policy

We expect gradual improvement in credit metrics, with the pace depending not only on final demand but also on OEMs' and suppliers' ability to manage production increases. A company's mix of commercial/military, OEM/aftermarket, and narrow-body/wide-body sales will also vary the credit metric improvements. Inflation will likely squeeze margins throughout 2023, as companies might not be able to fully pass on cost increases.

Overall, we do not expect to see material financial underperformance or ratings downside for commercial aerospace issuers through 2023. This reflects robust pent-up demand as well as the drastic measures companies took to rightsize operations and cost bases during the pandemic. Ratings upside will require faster and stronger global air travel recovery than we currently assume.

Key risks or opportunities around the baseline

1. The supply chain may not keep up with rising production rates

For Airbus, this could result in lower-than-expected production of the popular A320 family, which represented 78% of deliveries in 2022. For Boeing, this could mean backtracking 737 MAX production, which was uneven for much of 2022 but appeared to stabilize at year-end.

2. Boeing might not be able to replace demand from China

Boeing plans to remarket its Inventory of MAX planes ordered by Chinese airlines to other customers but will struggle to regain market share from Airbus without access to the Chinese market.

3. Skilled labor shortage exacerbates supply-chain challenges

The ability of companies to attract and retain skilled labor--a headwind even before the pandemic--continues to complicate operations.

Industry Outlook: U.S. Defense

Ratings trends and outlook

Ratings for defense companies are largely stable. Companies without significant exposure to commercial aerospace are likely to be insulated from potential economic cyclicality. However, prioritization of shareholder returns will likely offset earnings growth from increased defense spending.

Main assumptions about 2023 and beyond

1. Robust defense spending will likely underpin revenue growth

Defense companies are likely to see higher revenue in 2023, though cost inflation will absorb a portion of spending increases. Commitments from U.S. allies to increase defense spending improves longer-term demand outlook.

2. Near-peer threats are likely to drive budget priorities

The Russian invasion of Ukraine and heightened tensions with China will characterize the strategic focus and defense spending priorities.

3. Companies will likely emphasize shareholder returns

Cash flows are set to remain high, even after accounting for cost pressure. Large firms face scarce mergers and acquisition (M&A) opportunities and may prioritize share repurchases or dividends, limiting credit metric improvement.

Support for robust defense spending remains broad-based in the U.S.: as reflected in the recently enacted budget. Military spending for 2023 is up 10% year over year, with the budget higher than the 4% increase requested by the Biden administration. The aim is to counter inflation and accelerate the implementation of strategic initiatives. The larger budget includes a pay raise for troops as well as additional funds to continue various weapons programs and modernize military equipment in response to growing concern regarding Russia's invasion of Ukraine and a perceived heightening of threats from China. The legislation attracted wide bipartisan support, suggesting that defense spending is likely to remain a hefty budget item. Renewed concerns about deficit spending and potential pockets of unwillingness to support for Ukraine could water down enthusiasm for growth in spending.

The recently passed budget reaffirms the U.S.' commitment to NATO through the European Deterrence Initiative and Ukraine Security Assistance Initiative while maintaining its focus on China through the extension of the Pacific Deterrence Initiative. The Middle East continues to be somewhat deemphasized, while electronic warfare and cyber security are likely to remain key focus areas.

The larger-than-expected budget includes an increase on the request for the Missile Defense and Defense program to \$24.7 billion up from \$21.9 billion. The budget also includes additional Navy shipbuilding orders, including three Arleigh Burke-class destroyers built by Huntington Ingalls and two Virginia-class submarines, built by Huntington Ingalls and General Dynamics. The most significant reductions were to orders for combat vehicles and aircrafts, including the C-130 and F-35, both made by Lockheed Martin. However, Northrop Grumman's B-21 and Boeing's F-15 both saw an uptick in orders.

Credit metrics and financial policy

We expect credit measures to be stable, or somewhat improve, for most U.S. defense

companies. Higher defense spending should yield an increase in revenues, though there is typically a delay for authorizations to translate to outlays, and for orders to flow through to sales, earnings, and cash flows. Inflation and lingering supply-chain constraints are likely to moderate the benefits of increased spending on credit measures. Cash flows will benefit from the tapering effect of a tax rule that went into effect in 2022 requiring companies to capitalize rather than expense research and development spending. The rule may be changed or deferred in future legislation, but additional tax payments will decline over the next several years even if the rule stays in place.

While near-term factors support robust defense spending, we still expect budget growth to

flatten, potentially prompting companies to seek other means of shareholder returns. We view large, consolidating M&A as unlikely because of the Biden administration's concerns about maintaining competition within the industry. Lockheed Martin dropped its bid to acquire Aerojet Rocketdyne because of regulatory opposition. We think L3Harris' plan to acquire Aerojet will likely face less scrutiny because the companies' programs do not overlap much. Still, we view a merger of prime contractors as very unlikely, and large companies may pursue increased dividends and share buybacks to boost returns. Smaller contractors with less financial cushion, some of which are owned by financial sponsors, are dealing with increased borrowing costs and may see some deterioration in credit measures.

Key risks or opportunities around the baseline

1. Supply-chain problems could impede sales

Shortages of, and delays sourcing, components and difficulty keeping pace with labor needs has resulted in demand exceeding capacity.

2. Defense spending might decline

The recent pace of growth will be difficult to sustain. Political pressure to contain budget deficits, alongside potential opposition to supporting Ukraine, may result in moderating spending.

3. Financial policies may become more aggressive

Slowing defense budget growth and few M&A opportunities may push large defense contractors to increase share repurchases in order to boost shareholder returns.

Supply-chain problems and labor constraints in 2022 led to delays and prompted some companies to build buffer stock of components. These issues appear to be easing across the broader economy and may improve further if a recession occurs. Improvement may be limited, however, by the significant overlap of the defense sector with commercial aerospace. We expect pent-up demand and production constraints for commercial aircrafts will translate into little spare capacity in the industry even if a recession occurs in 2023 and competition for components and labor will remain high. These factors could keep costs high and delay revenue but are unlikely to be a material rating consideration for larger firms. Conversely, some of the smaller contractors with less capacity to manage sustained working capital absorption could see a ratings impact if disruptions last longer than expected

Industry Outlook: European Defense

Ratings trends and outlook

The conflict between Russia and Ukraine has led several European countries to hike defense spending, but we continue to believe that our rated issuers have not experienced short-term windfalls. Instead, rising defense budgets should underpin industry prospects over the medium to long term, and European defense issuers should continue enjoying robust demand for their products and services in 2023. We do not expect a significant number of rating actions in 2023, following upgrades of BAE Systems, Thales, and Babcock in the past few months.

Main assumptions about 2023 and beyond

1. The Russia-Ukraine conflict will likely result in higher European defense spending for years to come

In reaction to the scale and length of the conflict, many European governments have pledged to hike defense spending toward or above NATO's 2% of GDP target. Although it takes time for political will to translate in to spending, and for contract wins to translate into revenue streams, the general trend will continue to strengthen demand in European defense industry over the medium to long term.

2. Depleted stocks of munitions and some weapons systems could create a small, specific spike in demand for some manufacturers, but the impact on overall credit quality is negligible for our rated portfolio in 2023

Some manufacturers are accelerating production of specific ammunition and weapons to replenish stocks that have been depleted because of the conflict in Ukraine. We do not expect this to have a material impact on the operating performance or credit quality of our rated issuers in Europe.

3. Fragmentation remains a challenge for the wider industry

Coordinated spending and joint procurement remains more of a weakness for Europe than, for example, the U.S. This is due to the fragmentation of the European industry and the sheer number of platforms and weapons systems. However, M&A opportunities rarely arise, especially transformational ones, so we expect to see more joint projects and coordination than acquisitions or disposals in 2023.

Increased political cohesion in Europe, the rise in perceived threats, and the need to modernize their armed forces means that many countries' defense budgets continue to rise. That said, many defense budgets still fall short of NATO's 2% of GDP target. We expect expenditure to climb further throughout 2023, at least to the point where governments start to count the economic cost of COVID-19 in earnest. Inflation will eat away at spending power, and we continue to expect that steadily increased spending in many regions outside of the U.S. will create opportunities for European defense issuers, which tend to be more global than their domestic-focused U.S. peers.

Credit metrics and financial policy

Any pure-play defense issuer is likely to continue enjoying good contract, revenue, and cash flow visibility with stable credit metrics. Gradually improving credit metrics could be at least partly offset by increased dividends and share buybacks, particularly among large defense contractors.

Smaller, weaker contractors will continue to focus on rebuilding financial strength, although many of these are owned by private equity firms.

Key risks or opportunities around the baseline

1. High inflation could start to drag on defense budgets

It may also weaken government's spending power and raise the costs for future projects.

2. The shift in strategic priorities could affect contracts and platforms

We continue to expect that the strategic pivot to Asia-Pacific will usher in new contract and platform opportunities for some and losses for others. This might affect existing contracts platforms, too.

3. Pandemic-related costs could materially strain government budgets

Governments are still counting the economic cost of COVID-19-related lockdowns and containment measures. As the figure rises, spending priorities could change.

Related Research

- [Booz Allen Hamilton Inc. Upgraded To 'BBB-' From 'BB+'. Outlook Stable; Debt Ratings Raised](#), Jan. 17, 2023
- [L3Harris Technologies Inc. Outlook Revised To Negative On Proposed Aerojet RocketDyne Acquisition, 'BBB' Rating Affirmed](#), Dec. 21, 2022
- [Engineering Services Company Babcock International Group PLC Ratings Raised To 'BBB' On Lower Leverage; Outlook Stable](#), Dec. 20, 2022
- [French Engine And Equipment Maker Safran Upgraded To 'A-' On Solid Free Cash Flow; Outlook Stable](#), Dec. 2, 2022
- [BAE Systems PLC](#), Nov. 29, 2022
- [Rolls-Royce PLC Outlook Revised To Positive From Stable On Improving Operating Performance; 'BB-' Ratings Affirmed](#), Nov. 18, 2022
- [Airbus SE](#), Nov. 4, 2022
- [Boeing Co.'s Third-Quarter Losses Due To Defense Contract Labor, Supply Chain Cost Overruns](#), Oct. 26, 2022
- [Lockheed Martin Corp.'s Additional Share Repurchase Authorization Will Somewhat Weaken Its Credit Metrics](#), Oct. 18, 2022

Industry Forecasts: Aerospace and Defense

Chart 7
Revenue growth (local currency)

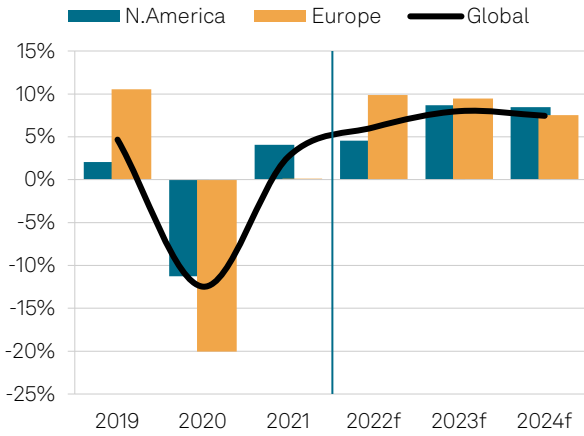


Chart 8
EBITDA margin (adjusted)

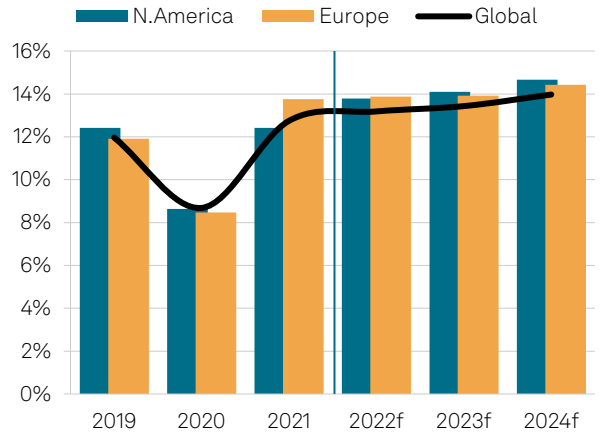


Chart 9
Debt / EBITDA (median, adjusted)

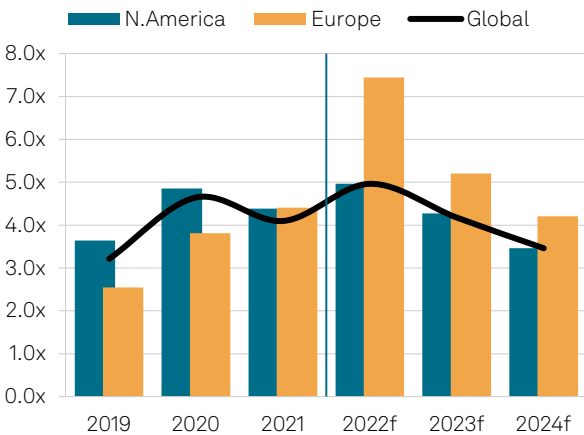
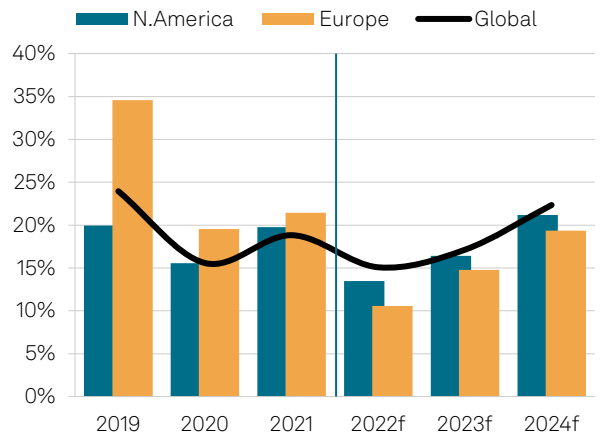


Chart 10
FFO / Debt (median, adjusted)



Source: S&P Global Ratings. f = forecast.
Revenue growth shows local currency growth weighted by prior-year common-currency revenue share. All other figures are converted into U.S. dollars using historic exchange rates. Forecasts are converted at the last financial year-end spot rate. FFO—Funds from operations.

Cash, Debt, And Returns: Aerospace and Defense

Chart 11

Cash flow and primary uses

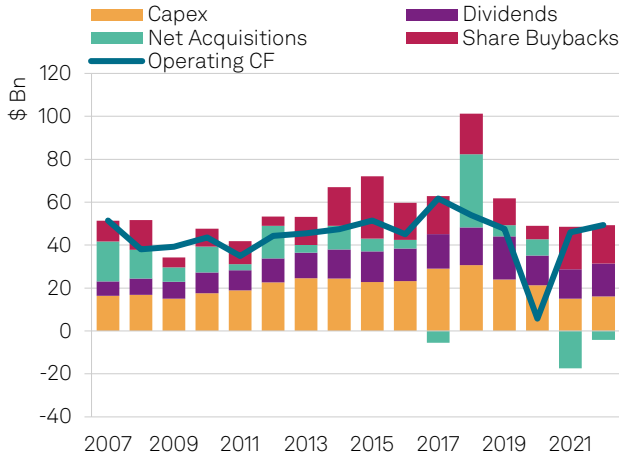


Chart 12

Return on capital employed

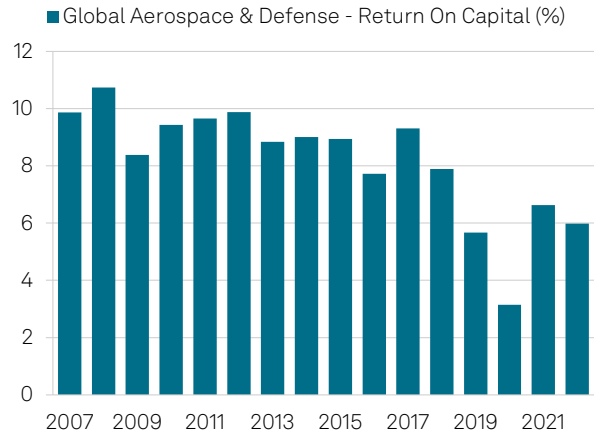


Chart 13

Fixed- versus variable-rate exposure

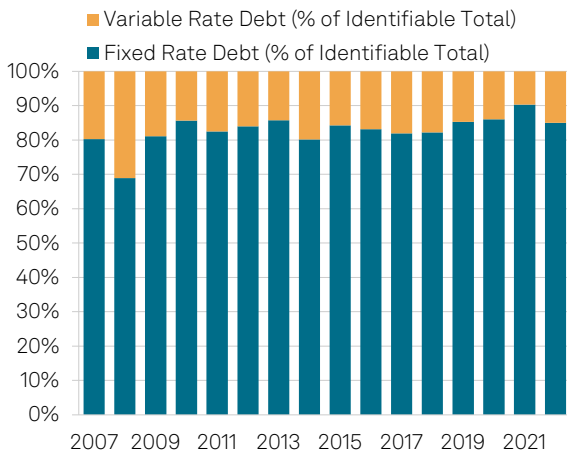


Chart 14

Long-term debt term structure

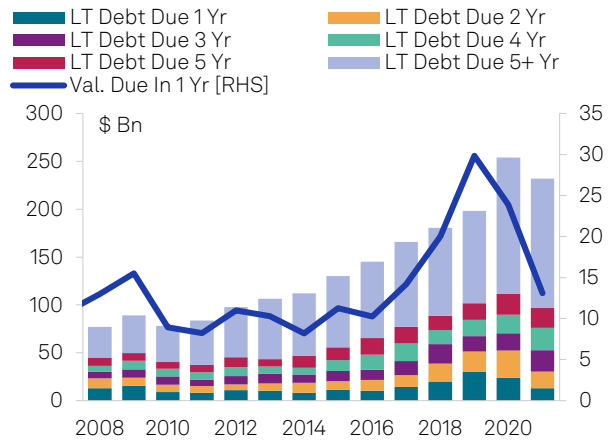


Chart 15

Cash and equivalents / Total assets

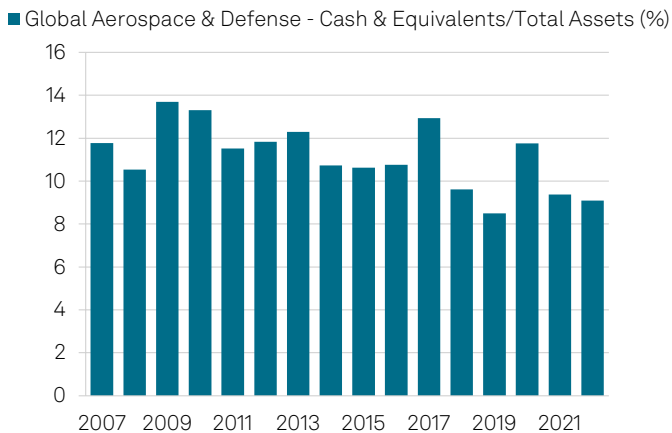
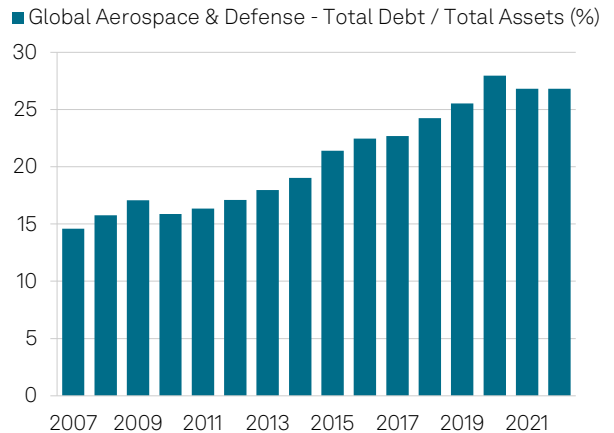


Chart 16

Total debt / Total assets



Source: S&P Capital IQ, S&P Global Ratings calculations. Most recent (2022) figures use the last 12 months' data.

Autos

Weakening demand ahead

January 23, 2023

This report does not constitute a rating action



What's changed?

We view volume recovery in the U.S. and Europe toward previous levels as unlikely before 2026. Extended supply disruption and softening demand are risks to sales volumes.

Electrification, supply chain, and infrastructure investment will raise clean mobility transition costs. This will call for better capital allocation against emerging protectionism and competition.

Higher interest rates will dampen economic prospects in Europe and the U.S. Tighter interest rates will likely raise affordability issues and increase pressure on prices.

What are the key assumptions for 2023?

Supply chain issues could extend into late 2023. We expect demand will weaken in second-half 2023.

Price deterioration will weigh on margins and cash flow. With weakening demand, pricing will not fully offset inflation at original equipment manufacturers and suppliers will be in catch-up.

Electric vehicle (EV) sales should be resilient to the weaker economy. Growth rates will be lower and momentum in Europe, the U.S., and China will likely diverge.

What are the key risks around the baseline?

Geopolitical tension and protectionism could compound competition. Europe's failure to respond to the U.S. and China's moves in EV value chains could lower its competitiveness.

Semiconductor and electric component shortages could be protracted. We expect a much lower impact on global production compared with the last two years.

Mergers and acquisitions (M&A) will cloud visibility on rating changes. But the risk is more material for suppliers than for original equipment manufacturers.

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Ratings Trends: Autos

Chart 1
Ratings distribution

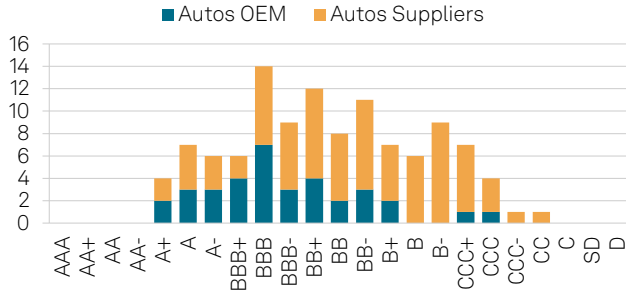


Chart 2
Ratings distribution by region

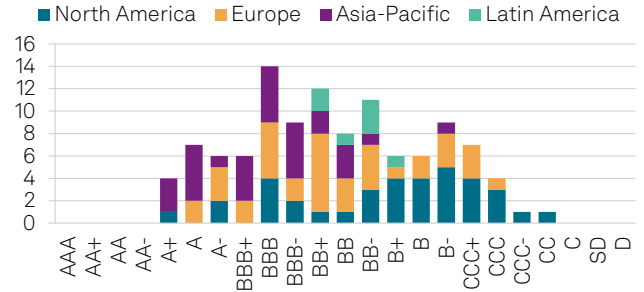


Chart 3
Ratings outlooks

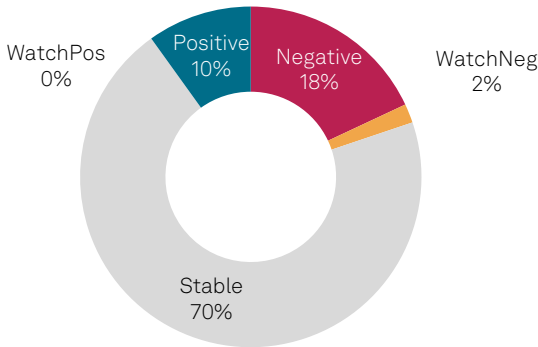


Chart 4
Ratings outlooks by region

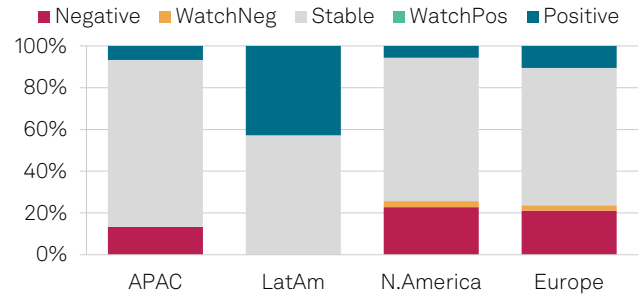


Chart 5
Ratings outlook net bias

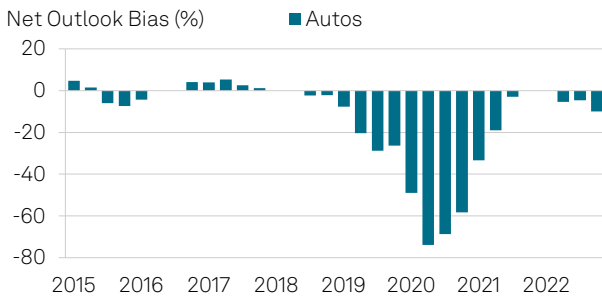
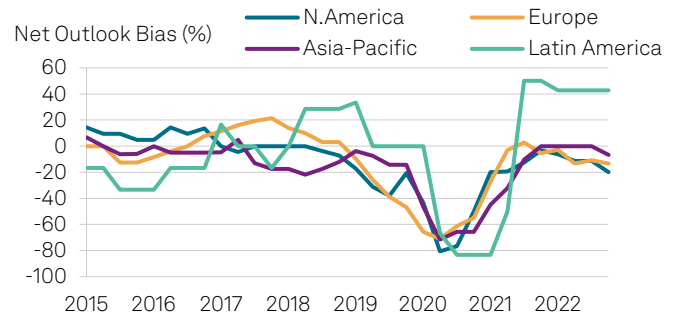


Chart 6
Ratings net outlook bias by region



Source: S&P Global Ratings. Ratings data measured at quarter-end.

Industry Outlook

Ratings trends and outlook

Even as supply shortages ease, weakening economic fundamentals lead us to question the resilience of pent-up demand in 2023. Regardless of the uncertainty in our global economic and credit outlook, we do not expect the automobile space will see substantial credit quality deterioration in 2023. Most of our rated issuers have stable outlooks, indicating there is sufficient rating headroom to absorb a mild recession and some residual supply-side disruption. We think ratings downside is likely limited to credits at the lower end of the rating spectrum where issuers might need to refinance debt with higher interest rates.

We specifically see sufficient headroom for the bulk of the original equipment manufacturers (OEMs) that we rate. OEMs will benefit from sound order books and the improved pricing in 2021-2022 for at least the first half of 2023. But we project these issuers will face weaker demand conditions in the second part of 2023 and into 2024. Risks could mount if economic conditions weaken beyond our expectations and eventually affect the labor market.

Unlike OEMs, rating headroom for auto suppliers is generally lower because they absorbed a share of the excess costs generated by inflationary spikes in 2022 and continue realigning their portfolios to take advantage of the strong momentum in EV sales. After a challenging 2022, auto suppliers could benefit from a moderate increase in production and more efficient cost indexation mechanisms in 2023. We think suppliers' capacity to access capital and realign portfolios to the ever-changing markets (where room for commoditized products looks increasingly tight) will be key for the ratings. We project ratings upside will be limited for suppliers facing greater risk in shifting from internal combustion engines (ICE) to EV--including insourcing risks from OEMs for certain products.

We expect to see various options for capital allocation in the industry to improve financial and strategic flexibility. This will be to manage the higher cost of capital, imminent technology transition risks, opportunities in new service-based businesses, and new supply chains set up (either proprietary or in partnership), all investments with highly uncertain investment paybacks. All of the above can be rating sensitive but remain highly unpredictable for now.

Main assumptions about 2023 and beyond

1. From supply chain disruption to demand weakness

We expect overall a moderate (4%-6%) increase in light vehicle production. Growth will be held back by lingering supply chain disruptions in first-half 2023 and emerging decline in demand in second-half 2023, in response to a weaker economy in the three main global markets.

2. Increasing penetration of EV albeit at declining growth rates

EV sales are progressing steadily but with diverging momentum in the main markets.

3. Deterioration of pricing conditions will weigh on margins and cash flow

Slowing consumer demand and higher interest rates will pressure prices in 2023 after the massive price increase seen over the past couple of years.

From supply chain disruption to demand weakness. Unexpected OEM inventory rebuilding at year-end 2022 leads us to think production recovery might be softer in 2023 at 4%-5% growth, compared with our previous expectation of 6%-8% (see table 1). We also expect automakers to be

Industry Top Trends 2023: Autos

disciplined during the extended ramp-up of production to limit the risk of unloading inventories at reduced prices. This is given the emerging risks around the resilience of pent-up demand this year. The healthy state of order books at year-end 2022 will likely provide a shield for auto manufacturers and suppliers against abruptly declining demand for first-half 2023. The extent of the weakness in demand will depend on labor markets, which are so far resilient, and expectations on the timing of an economic rebound.

Table 1

Global Light Vehicle (LV) Forecast (As Of Jan. 2023)

	Actual		New projections (as of Jan. 2023)			Previous projections (as of Oct. 2022)		
	2021	2021	2022e	2023e	2024e	2022e	2023e	2024e
	Mil. units	YOY%	YOY%	YOY%	YOY%	YOY%	YOY%	YOY%
Global LV sales	80.3	4.0	(1)-0	4-5	4-6	(1)-0	3-5	4-6
China (Mainland)	23.9	1.0	1-2	0-2	2-4	4-6	0-2	2-4
U.S.	15.1	3.4	(10)-(8)	6-8	6-8	(6)-(4)	6-8	6-8
Europe	16.8	0.1	(11)-(9)	3-5	4-6	(11)-(9)	3-5	4-6
Rest of the world	24.6	10.6	7-8	4-6	7-9	3-5	4-6	7-9
Global LV production	77.2	3.5	4-5	4-5	4-5	3-4	6-8	2-4

e--Estimate. All percentages are year-on-year changes. Sources: Actuals from S&P Global Mobility, forecasts by S&P Global Ratings.

Regional patterns could vary though. The current economic scenario for the U.S. is a mild recession, with no fundamental change in forecast sales following, the material revision of 2022 volumes below the 14 million light vehicle unit sales landmark. Noteworthy even in this relatively mild scenario, we do not expect a recovery of pre-pandemic volumes before 2026. In our downside scenario, U.S. inflation is high owing to supply chain disruptions, causing the Federal Reserve to ramp up its policy tightening through 2023, which will further dent demand into 2024.

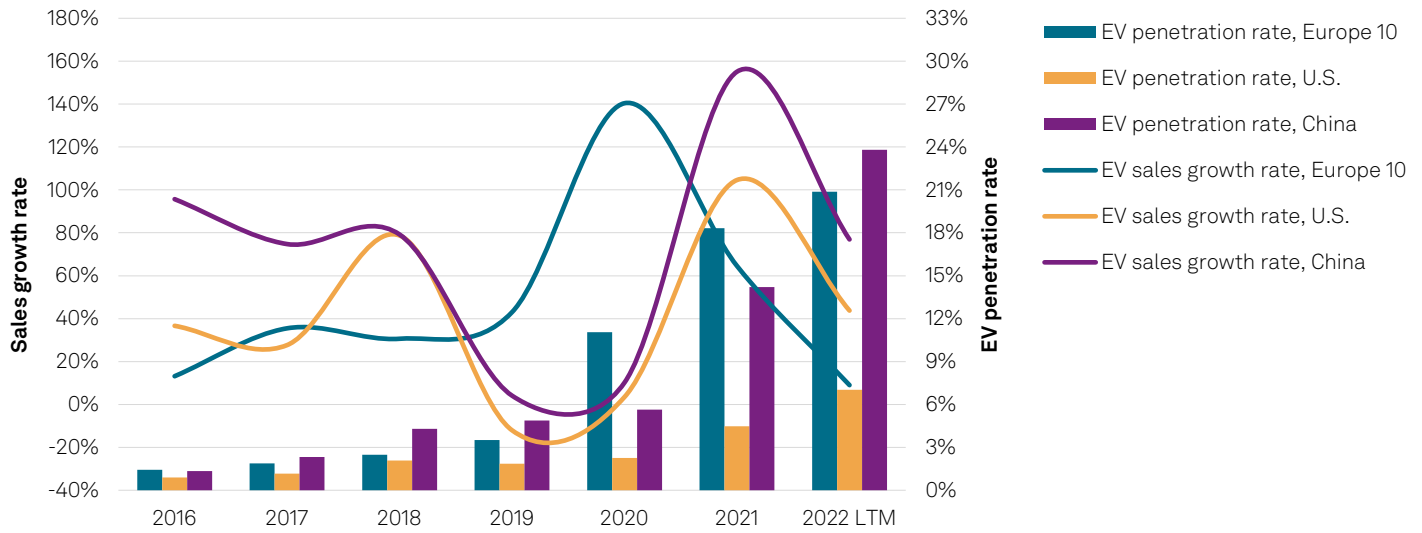
In Europe, we expect sticky inflation, and a tighter monetary policy will result in the economy stagnating, rather than sliding into a full-blown recession--so long as labor markets remain tight. Similar to the U.S., we do not expect light vehicle sales to regain pre-pandemic volumes any time soon.

In China, stronger GDP growth this year compared with 2022 (5% versus 3%) is linked to improved social mobility and business activity, and partly offset by lower productivity caused by new waves of COVID-19. The moderate growth of light vehicles sales in 2023 and 2024 is mainly linked to the end of the government stimulus and a very gradual recovery in consumer confidence.

Increasing penetration of EV albeit at declining growth rates. The global EV market proved very resilient in 2022, and its 50% growth compares with an alleged slight decline of total light vehicle sales (around -1% according to preliminary figures) (see chart 7). Based on EV volumes, global EV units sold passed the 10 million mark in 2022, which represents 13%-14% of global light vehicle sales. China leads with 6 million-7 million units sold, followed by Europe (2 million-3 million), and the U.S. (1 million).

Chart 7

EV Sales Growth Rate And Penetration Rate



LTM--Last twelve months. Sources: EV Volumes, S&P Global Ratings.

Over 2022, growth subdued in almost all of the main markets we observe. The deceleration was most noticed in Europe, where sales were in the high single-digit range.

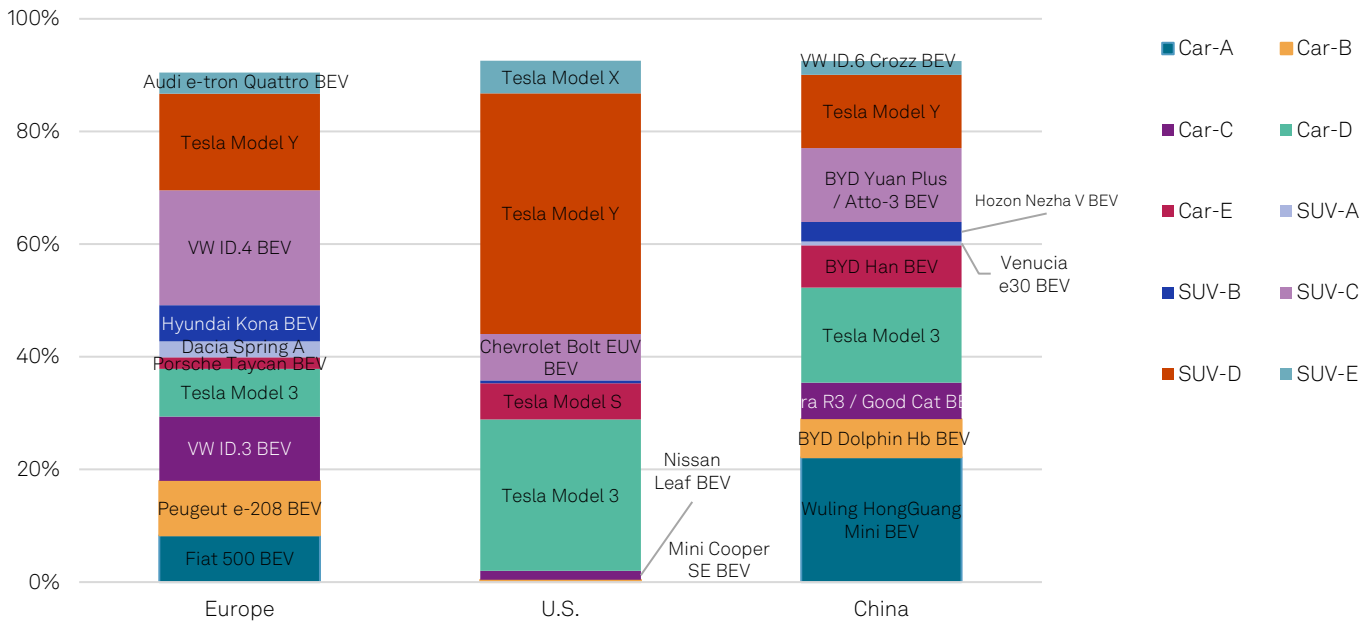
Meanwhile, EV subsidies have stopped in China. EV penetration exceeds one-fourth of light vehicle sales in the country, and subsidies might no longer be key in supporting the shift to electric mobility. Subsidy schemes in Europe differ between countries. Germany (EV 26% of 2022 year-to-date sales) will reduce EV subsidies in 2023, France (18% of sales) recently topped up its incentives, and Italy (8%) renewed the support mechanisms for purchasing environmentally friendly vehicles and scrapping old combustion engine vehicles. In the U.S., the new Inflation Reduction Act of 2022 (IRA) will support increasing EV penetration. The IRA could advance demand during first-quarter 2023 when certain vehicles will qualify for maximum subsidies, until the Treasury Department updates guidance on some rules in March. As of now, the proposal restricts the choice of vehicles eligible for the subsidy.

The battery electric vehicles (BEV) market structure differs substantially among regions. In China, the A-segment (urban mini hatchbacks) represents roughly one-quarter of the BEV market. Electrification in Europe is driven by the C- and D-segments (SUVs) and in the U.S. the D-segment (cars and SUVs), all associated with larger margins compared to more entry level types of vehicles. Tesla is the only OEM with a global presence in China, Europe, and the U.S. within the D-segment.

The cost equation for entry level EVs seems more manageable in China than Europe or the US, despite significant battery price hikes in 2022 that might have eroded what we think are tight margins for Chinese urban mini hatchbacks. Considering the Chinese BEV market is almost entirely dominated by domestic EV producers (except the SUV D- and E-segments, in which Tesla Model Y and VW ID.6 are best sellers) Chinese producers could likely emerge as the leading cost competitive BEV challengers (see chart 8). China is said to have approximately 300 EV OEMs, and in this competitive environment softer pricing is likely the immediate response to emerging weakness in demand. Therefore, we believe Chinese automakers will be tempted by inroads into other markets. This represents a risk for the overregulated-but-unprotected European market.

Chart 8

Segment Structure of BEV Market By Region And Bestseller By Category



Based on 2022 data till Nov. Sources: EV Volumes, S&P Global Ratings.

In Europe, most automakers no longer see the ICE vehicle and EV price parity happening anytime soon. Consequently, the price of small EVs will remain considerably higher than ICE models of the same size. The price difference is material and can hover at roughly €10,000. Weaker economic conditions and high interest rates could dent the affordability of vehicles in the most popular segments of the market or lure consumers to a lower priced EV made in China--as long as local subsidies do not require vehicles to be produced or assembled locally.

The IRA in the U.S. leads us to expect a modest boost in volume and profitability targets for automakers--especially those qualifying for subsidies linked mainly to North American-built EV sedans and smaller cars that start under \$55,000 and SUVs and trucks that start under \$80,000. Overall, the IRA could support price declines, leading to an increased adoption of EVs through 2025, although profit pressure will intensify due to the rising costs of battery components. We expect additional pressure on profits and cash flow for at least the next five years, until more automakers operating in North America achieve the combined benefits of scale and vertical integration.

Price deterioration will weigh on margins and cash flows. Strong pricing has been a major driver of revenue growth over the past two years, mainly due to the imbalance between pent-up demand and the supply of light vehicles in 2021 and 2022. We estimate that global production lost 10 million-11 million vehicles in 2021 (out of 77 million) due to the shortage of semiconductors. All the auto OEMs that we rate were impaired by production disruption, yet aggregated auto revenue (S&P Global Ratings-adjusted local currency) posted positive growth. Semiconductor shortages carried on in 2022, resulting in production cuts exceeding 4 million units (on an estimated global production of 81 million units). Still, combined OEM revenue points to growth. We assume the semiconductor shortage will progressively ease this year, but will potentially hinder the production of 2 million-3 million units. Defending the current pricing could become challenging for OEMs as supply and inventories normalize and concerns on demand emerge in the U.S., Europe, and China. The degree of pricing pressure will also depend on unemployment rates in

Industry Top Trends 2023: Autos

weakening economies and on how consumers respond to higher interest rates, which reduce vehicle affordability.

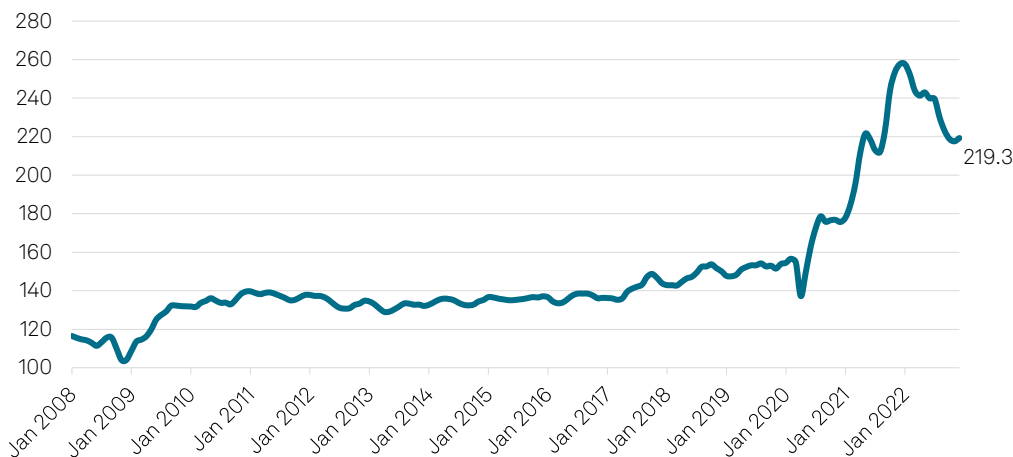
Limited pricing upside is a key element in our projections for 2023-2025 because automakers face higher costs with the growing mix of EVs and have limited capacity for further fixed cost reduction programs, most of which were implemented during the pandemic. Unlike what we have seen over the past two years, pricing will no longer allow for easily absorbing cost tension, reinforcing the pressure on OEMs' margins.

Pricing trends might differ substantially by region and segment. We assume pricing in the premium and luxury segment to be more resilient to weaker macro conditions because of the lower elasticity of demand to price. Based on available market data, some signs of pricing weakness are emerging on used cars and there is no evidence yet on new cars in Europe and the U.S.

In mid-December 2022, the Manheim Used Vehicle Value index was down 14.2% from its peak with the largest decrease in the SUV/crossover utility vehicle category (see chart 9). Although this is a wholesale index and retail used car prices are only down a couple of percentage points, we expect retail prices will fall similarly. Lower used car prices could take some demand from new car buyers and increase pressure on new car prices.

Chart 9

Manheim Used Vehicle Value Index: U.S.



Sources: Manheim, S&P Global Ratings

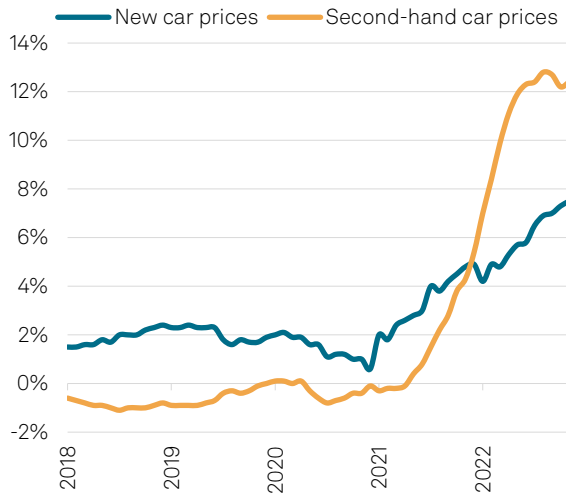
In the eurozone, there is little evidence of pricing reversal so far, with only a stabilization in used car pricing year over year. Prices of new cars continue to increase (according to the latest datapoint in November 2022, see chart 10). However, in the U.K. market, where the economy's deterioration is more visible, the reversal of used car prices is well advanced (see chart 11).

In China, OEM pricing strategies are divergent. Following the phase out of purchase tax cuts on ICEs and EV subsidies, potential weakness in demand pushed some big names into adapting pricing to demand. Tesla recently announced a 5%-14% price cut on its Model 3 sedan and Model Y CUV to make them more competitively priced. Xpeng followed Tesla with price cuts on EVs in China. On the other hand, BYD Auto hiked the prices of certain models to protect margins. Other OEMs are holding prices flat and might adjust them depending on market conditions.

Chart 10

Eurozone Car Prices

Year-on-year change, %

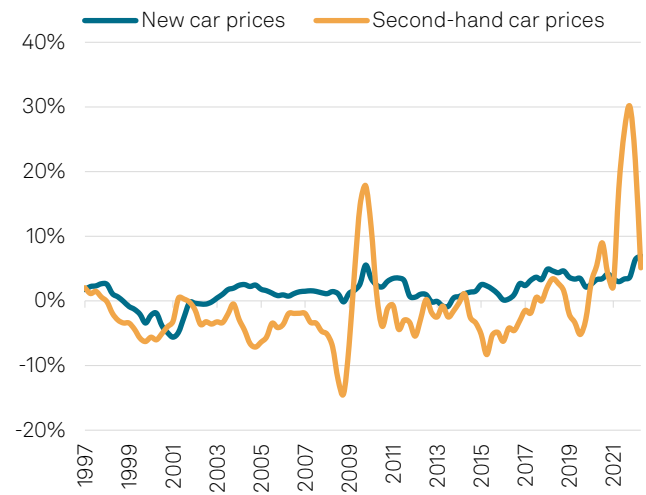


Sources: Eurostat, S&P Global Ratings.

Chart 11

U.K. Car Prices

Year-on-year change, %



Sources: Refinitiv, S&P Global Ratings.

Credit metrics and financial policy

We expect declining prices will weigh on OEMs' EBITDA margins and cash flows in 2023-2025.

Global manufacturers efficiently responded to the pandemic by materially reducing fixed costs and, in our view, further cost savings are limited. Despite the easing of raw material prices, variable cost reductions are challenging when considering the gradually increasing EV product mix, and associated semiconductor requirements and sticky battery pack prices. Still, rating headroom for most OEMs is comfortable enough to weather a mild recession. The share of cash and cash equivalents on total assets at global OEMs stepped up materially in 2022 compared with in 2007 and 2008 and provides a cushion for absorbing near-term pressure. Some OEMs are confident in their capacity to generate positive free operating cash flow in 2023-2024, as shown by a number of them announcing increased dividend payouts.

We deem the headroom in suppliers' credit metrics more limited as margins remain somewhat weak due to cost inflation, continued volatility in OEM production schedules, and overall weaker volumes compared with before the start of the pandemic. Despite the expected improvements in the cost indexation mechanism, prospects of weakening demand do not bode well for suppliers trying to recover lost ground with clients. We negatively view the refinancing risk that comes with a much higher cost of debt, which we are seeing prevailing incidences of in our rated population of speculative-grade suppliers. This adds to our preexisting concerns about the need for many suppliers to diversify product portfolios and build expertise in areas such as software for the transition to cleaner software-defined vehicles, which might expose them to M&A risk and integration challenges.

Key risks or opportunities around the baseline

1. New protectionism distorts the competitive rules of the game

China has the largest EV single market, two-thirds of the global lithium refining capacity, and a clear advantage in cobalt extraction and processing. The U.S. is responding, but Europe's response, so far, is muted.

2. A new wave of COVID-19 in China raises the risk of further supply disruption

Pandemic-linked lockdowns in China dragged auto production and part availability during 2022. The risk of additional supply disruption in the region cannot be ruled out for 2023.

3. Shopping upstream at OEMs and M&As at suppliers will cloud visibility on rating changes

OEMs could be tempted to selectively pursue upstream vertical integration, and suppliers' changes in portfolios may drive M&A, which could increase the risk to ratings.

New protectionism distorts the competitive rules of the game. The combination of pandemic-linked lockdown policies in China and the differing effects of semiconductor shortages on Chinese versus non-Chinese OEMs highlight how central China is in global auto value chains (even more so if focusing on the transition to clean mobility). China controlled 80% of the reported battery manufacturing capacity reported in 2021, more than 50% of global lithium refining capacity, and is heavily present in the extraction and refining of cobalt.

At the same time, Europe (by 2035) and the U.S. (where several states could follow California's ban on new gasoline-fueled vehicles) have increased their environmental ambitions and set challenging regulatory targets for emission free mobility. Long before politicians translated ambitions into policies, OEMs in these regions transformed their business models to surf the green mobility transition, and are now trying to manage the increasing EV volumes planned until 2025 with adequate battery supply through medium-term contracts. After directly experiencing the effect of supply chain disruption over the past two years, OEMs are now focused on constructing a stable and cost-efficient procurement to sustain business development through to 2030 using a mix of proprietary initiative and partnerships close to the end markets. Their individual efforts, however, are likely to be jeopardized by emerging protectionist measures like the IRA, which attracts massive investments in battery capacity and assembly facilities in the U.S. and potentially diverts resources and investments initially earmarked for Europe (such as the Northvolt VW project). The European reaction is subdued for now, but we do note the recent visit President Macron paid to President Biden and the announcement of a Sovereign Green Fund by Ursula von der Leyen at Davos. As a result, Europe and its major auto players are directly exposed to the risk of being challenged in their home markets by cost competitive Chinese BEV companies (for example BYD Auto, SAIC Motor, Nio Inc., XPeng Motors, Geely's Lynk & Co., and Great Wall Motor Co., Ltd). These players will take advantage of local subsidy schemes without any restrictions in selling their products and compete with less attractive investment fundamentals for local initiatives that are key for the long-term competitiveness of Europe's industry. Although not material for short-term rating changes, we rate all our OEMs on the expectation that they will build equally strong business positions for EVs as they have for ICE vehicles. This could be challenging for some in view of geopolitical developments.

The new wave of COVID-19 in China raises the risk of further supply disruption in 2023. In our main scenario for 2023-2024, we expect a gradual easing of semiconductor and other materials supply shortages, which unlike 2021 and 2022 should have a relatively minor impact on global production. As of today, the downside risk is represented by a new surge of COVID-19 cases that could spread in China and force the government to take measures to stop variant spread. We

understand the Chinese government has softened the rigid lockdown measures it applied in the last two years, but we believe that any further changes will majorly depend on the severity of the contagion.

Vertical integration efforts at OEMs and M&A at suppliers will cloud visibility on rating changes. The accelerated energy transition and move toward software defined vehicles is pressuring OEMs to verticalize business models as far as possible and suppliers to gain scale or diversify product ranges. OEMs announced various supply chain agreements with mining and battery companies, including investments to secure supply and smooth the volatility of many raw materials for BEVs. For suppliers, we continue to expect further M&A driven by a need to increase the scale on EV parts as legacy ICE counterparts slowly shrink. The degree of M&A and who participates will depend on the cost of debt and the recovery of stock valuations over the next couple of years.

Related Research

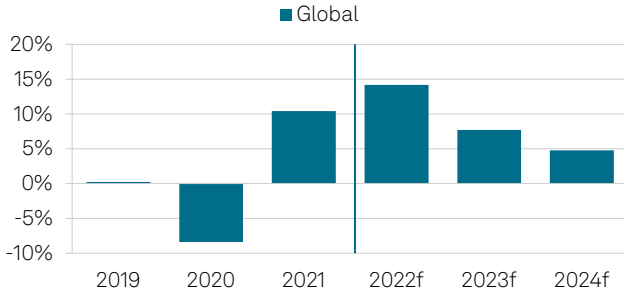
- [Credit FAQ: How Will The Electric Revolution Impact The Credit Quality For The Global Auto Industry?](#), Oct. 21, 2022
- [China Auto: The Speedometer Is Slowing](#), Oct. 19, 2022
- [Global Auto Forecast: Weaker Economic Outlook Stalls Recovery](#), Oct. 14, 2022
- [Scenario Analysis: Energy Rationing Could Hit The Brakes On European Auto Production](#), Sept.30, 2022
- [A Look At Who's Jostling For Position in Electric Vehicle Markets](#), Sept.7, 2022
- [Europe Braces For A Bleak Winter](#), Aug. 29, 2022
- [European Corporate Credit Mid-Year Outlook 2022: Autos EMEA](#), July 14, 2022
- [North American Corporate Credit Mid-Year Outlook 2022: Autos US](#), July 14, 2022
- [Battery Suppliers. Automakers To Take A Charge As Price Rise](#), May 18, 2022
- [Global Auto Sales Forecasts: Russia Ukraine Conflict Imperils Recovery](#), March 28, 2022

Industry Forecasts

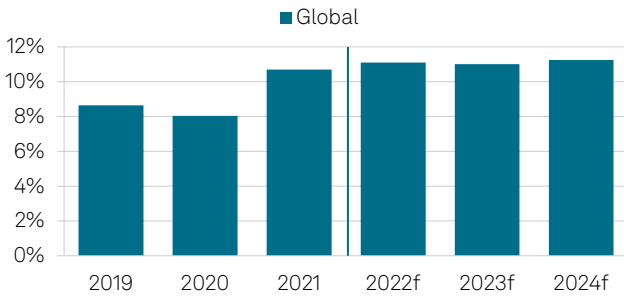
Auto OEMs

Chart 12

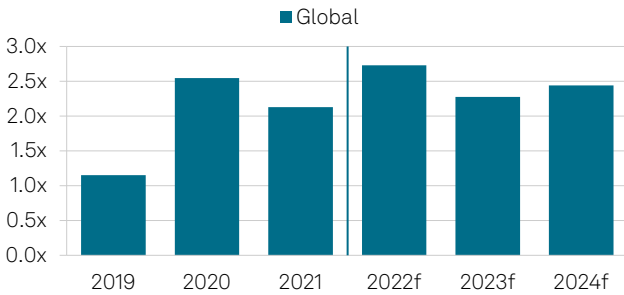
a) Revenue growth (local currency)



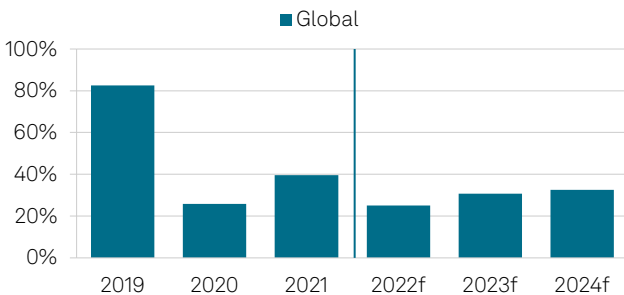
b) EBITDA margin (adjusted)



c) Debt / EBITDA (median, adjusted)



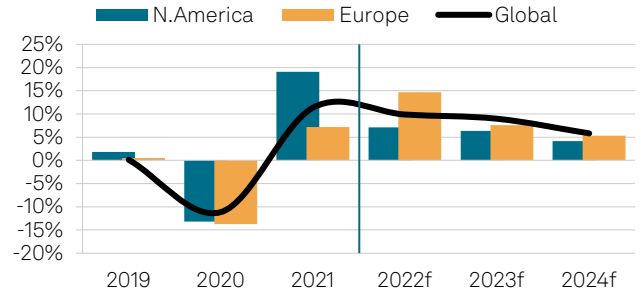
d) FFO / Debt (median, adjusted)



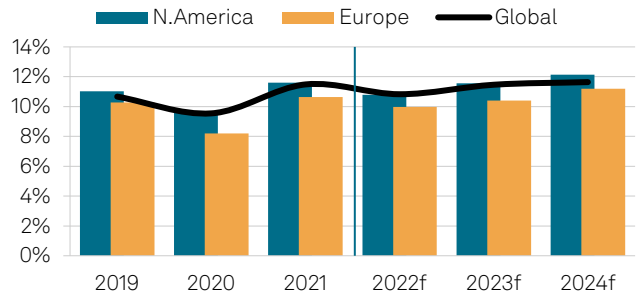
Auto Suppliers

Chart 13

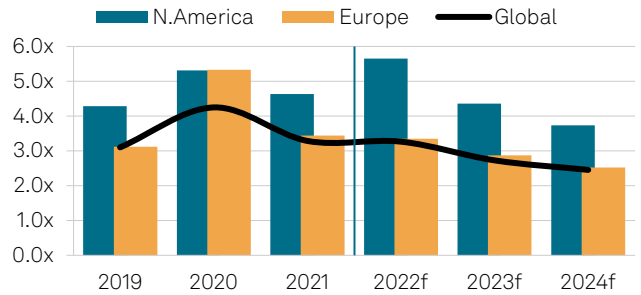
a) Revenue growth (local currency)



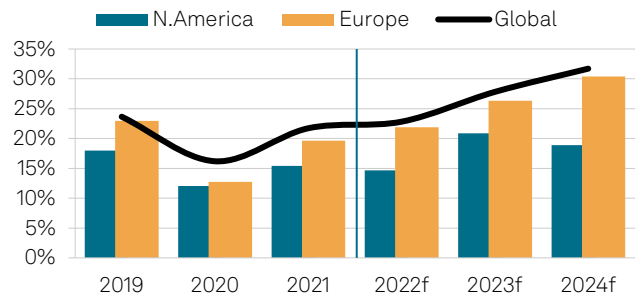
b) EBITDA margin (adjusted)



c) Debt / EBITDA (median, adjusted)



d) FFO / Debt (median, adjusted)



Source: S&P Global Ratings.

Revenue growth shows local currency growth weighted by prior-year common-currency revenue share. All other figures are converted into U.S. dollars using historic exchange rates. Forecasts are converted at the last financial year-end spot rate. OEMs--Original equipment manufacturers. FFO--Funds from operations.

Cash, Debt, And Returns: Autos

Chart 14

Cash flow and primary uses

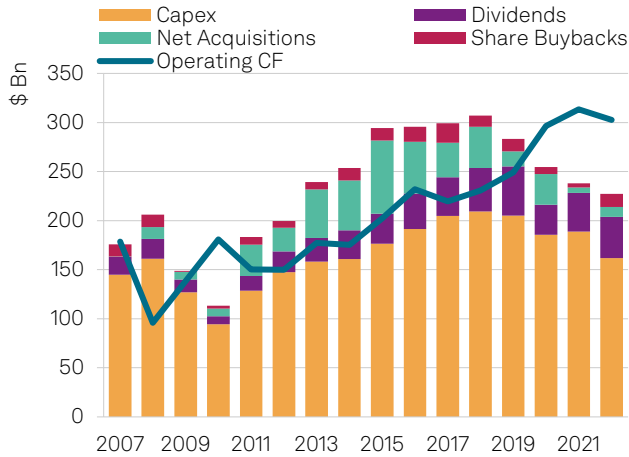


Chart 15

Return on capital employed

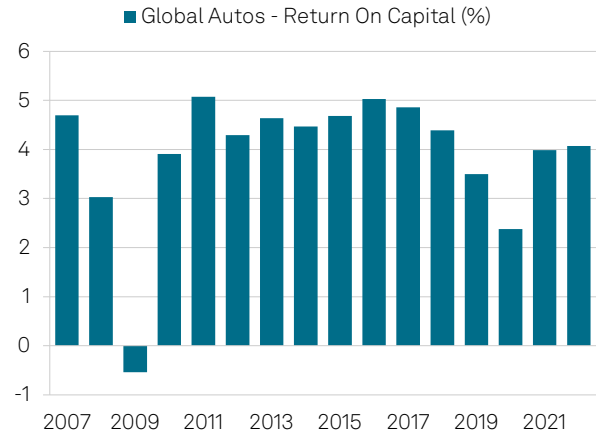


Chart 16

Fixed- versus variable-rate exposure

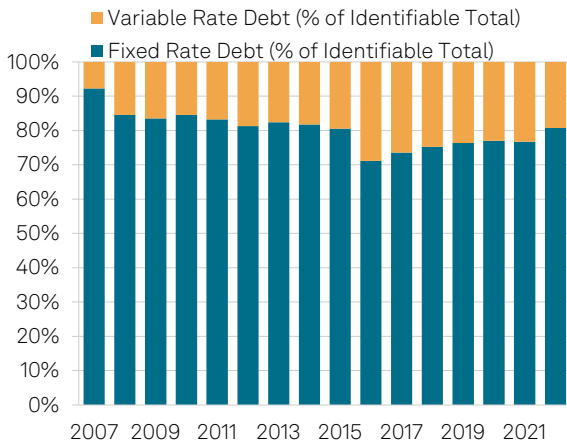


Chart 17

Long-term debt term structure

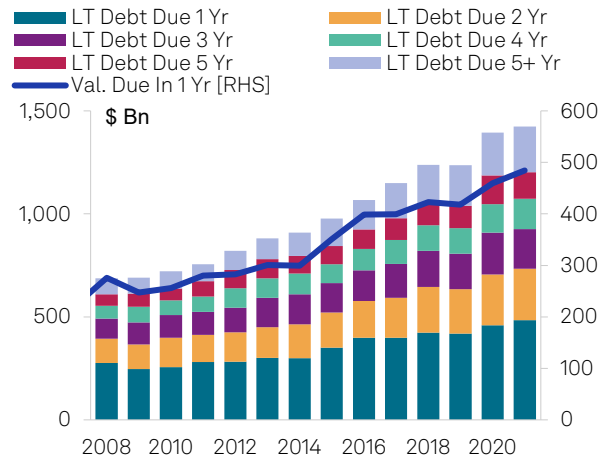


Chart 18

Cash and equivalents / Total assets

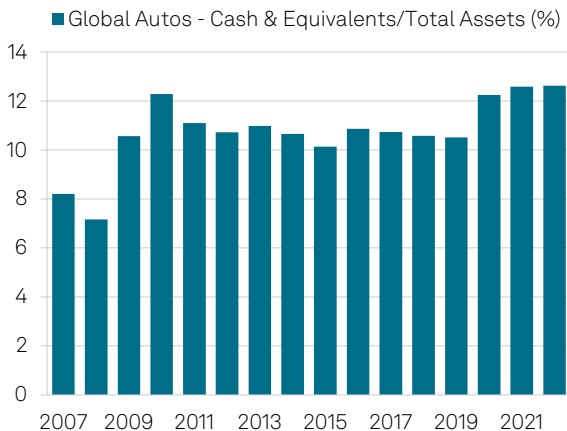
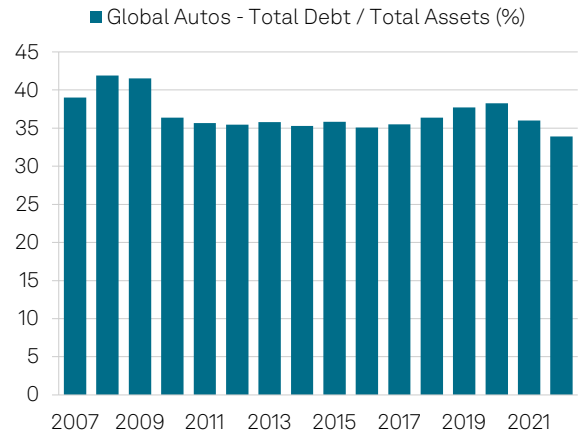


Chart 19

Total debt / Total assets



Source: S&P Capital IQ, S&P Global Ratings calculations. Most recent (2022) figures use the last 12 months' data.

Building Materials

Stable credit quality despite high inflation and interest rates

January 23, 2023

This report does not constitute a rating action



What's changed?

Companies are navigating high inflation and volatile costs. Margins will likely be still under pressure in 2023, with persistent volatility on energy prices in Europe.

Volumes will likely decline after several years of growth. In Europe and North America, volumes should drop in most segments, apart from infrastructure. China should recover in 2023.

Increased interest rates in both the U.S. and Europe are a challenge for the sector. Reduced consumer discretionary spending fuels the slowdown in residential construction. Higher debt-service costs will dent cash flow in leverage finance.

What are the key assumptions for 2023?

Credit quality will remain largely stable. This will be supported by decent rating headroom, and balanced capital allocation.

Demand for home repairs will decrease. This will offset sustained infrastructure investment in low-carbon energy and renovation of existing infrastructure.

Climate transition risk will continue to drive capital allocation. This is particularly true for regions with carbon regulation.

What are the key risks around the baseline?

Shareholders might consume much of the credit buffer. Financial policy remains the main factor in negative rating actions, and more aggressive behavior than we are assuming would likely stress ratings.

The recession and volume decline could be worse than we expect. In that scenario, margin pressure could accelerate, particularly if cost inflation remained high.

Higher interest rates are a risk for speculative-grade issuers. However, refinancing risks will increase only in the medium term, as most of issuers' financial debt mature beyond 2025.

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Ratings Trends: Building Materials

Chart 1
Ratings distribution

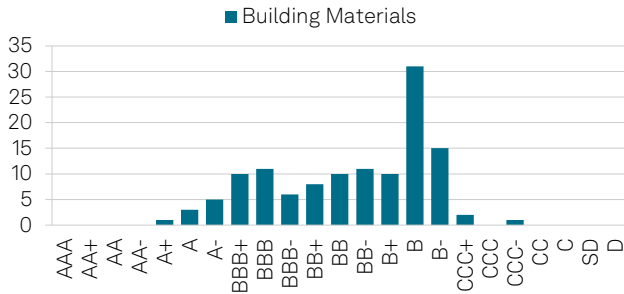


Chart 2
Ratings distribution by region

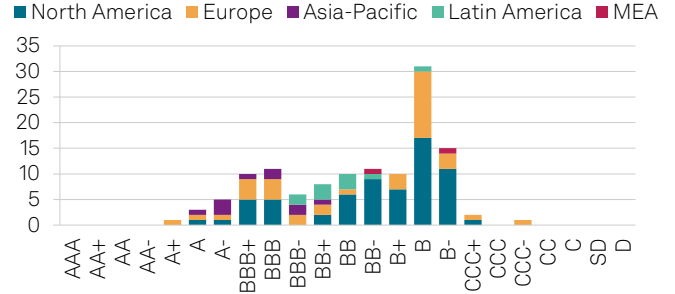


Chart 3
Ratings outlooks

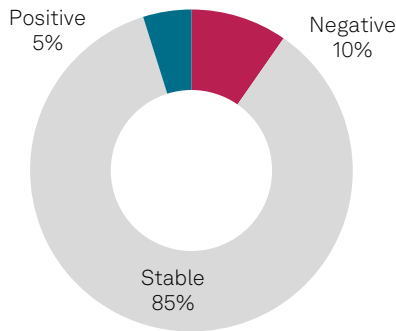


Chart 4
Ratings outlooks by region

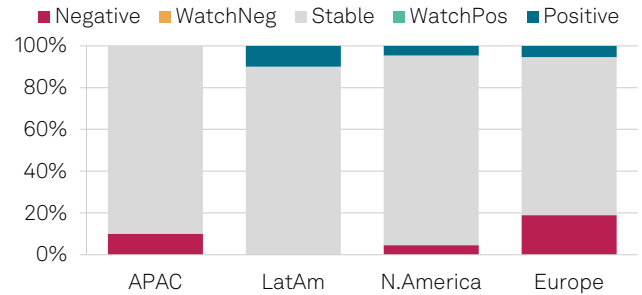


Chart 5
Ratings outlook net bias

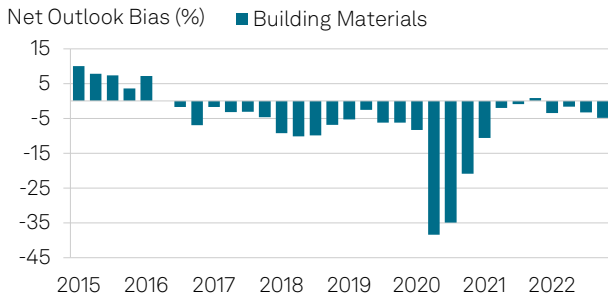
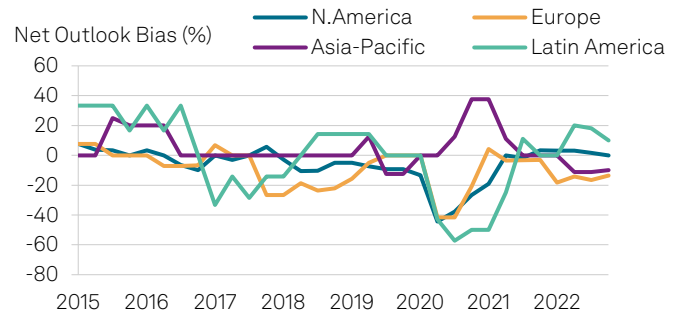


Chart 6
Ratings net outlook bias by region



Source: S&P Global Ratings. Ratings data measured at quarter-end.

Industry Outlook: North America

Ratings trends and outlook

A shift toward a more negative outlook bias could arise in 2023, as the prolonged effect of inflation and elevated interest rates reduce consumer discretionary spending and pressure operating margins. However, we expect the credit quality for North American building materials companies should remain largely stable in 2023, with over 90% of issuers having stable outlooks. We anticipate companies with high debt levels or reduced liquidity following leveraged buyout transactions or dividend recapitalizations will face worsening credit metrics in the next 12-24 months. On the other hand, companies that can maintain pricing with lower-cost inventory despite declining demand volume will be better positioned to meet our profit and leverage forecasts for 2023.

Main assumptions about 2023 and beyond

1. Slowing demand for home repairs and construction could bite in 2023

We expect modest revenue declines in 2023 after a period of strong performance. The expectation of the U.S. falling into recession in early 2023 indicates further potential for reduced discretionary spending.

2. Strong infrastructure and housing market fundamentals should mitigate margin pressure

Margins will be under pressure in 2023 as commodity, labor, and delivery costs remain constraining factors. Aging housing stock and federal investment in infrastructure should present some favorable demand expectations, but issuers will likely rely on pricing power to maintain margins.

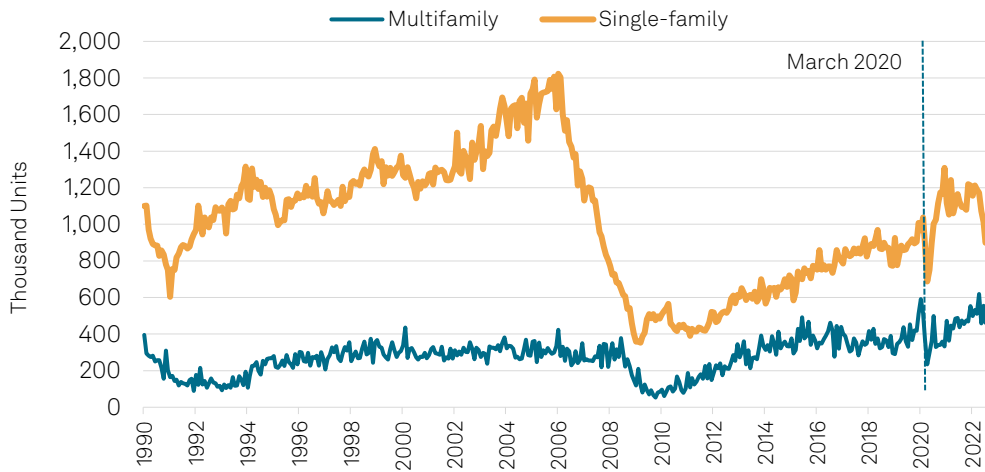
3. Liquidity preservation will become more important as market growth slows

The North American building materials sector has been attractive for consolidation. We believe a recession in early 2023 will precipitate a shift in issuers' liquidity management to prioritize sheltering cash flow.

Overall, we expect repair- and remodel-exposed companies to be relatively less volatile than those exposed to new housing. However, discretionary consumer spending levels could affect demand for some building products such as cabinetry and bath fixtures. Revenue across the portfolio has been generally strong in recent years, but we expect flat to low-single-digit declines for the sector with commodity-based companies falling more sharply. Housing starts hit a decade high in December 2020 and nearly replicated unit creation by year-end 2021, although year-on-year growth for the 12 months ending October 2022 fell to pre-pandemic levels. We now expect total housing starts to be about 1.2 million units in 2023.

Chart 7

U.S. Housing Starts

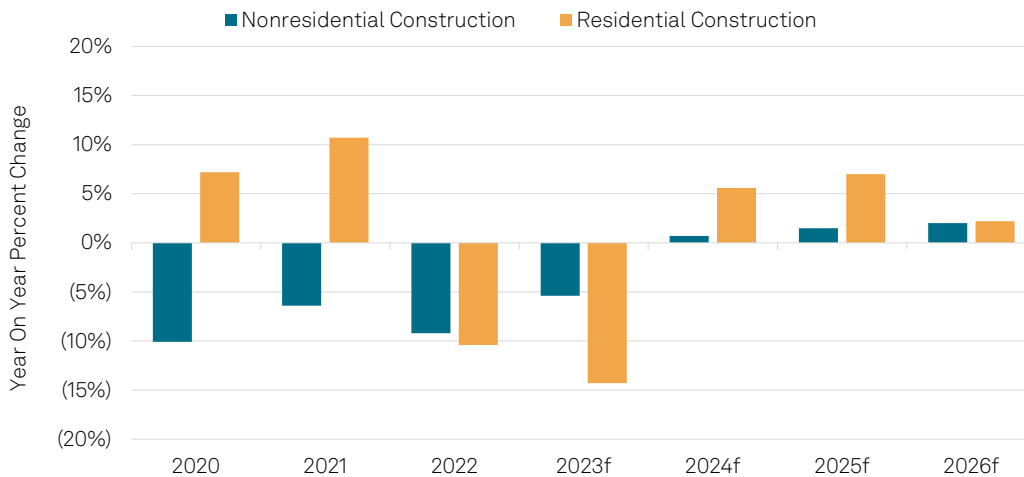


Source: Federal Reserve Economic Data. Note: Multifamily starts are housing starts of 5-unit structure. Data as of October 2022.

In contrast with residential end-markets, nonresidential construction has seen declines of 9.2% in 2022 but decelerating to about 5% in 2023 in private and public construction segments like lodging, education, manufacturing, and office. The Biden administration's \$1.2 trillion infrastructure bill from November 2021 includes investment in roads, bridges, water systems, electricity grids, broadband, and health care. We believe the bill will result in an uptick in nonresidential spending with the market reflecting federal investments modestly in 2024. However, forecasts for nonresidential construction are notably weaker because the sector is still hurting from the pandemic-related damage to commercial real estate and implementation designs are not indicating material short-term benefits.

Chart 8

U.S. Nonresidential and Residential Construction Forecast



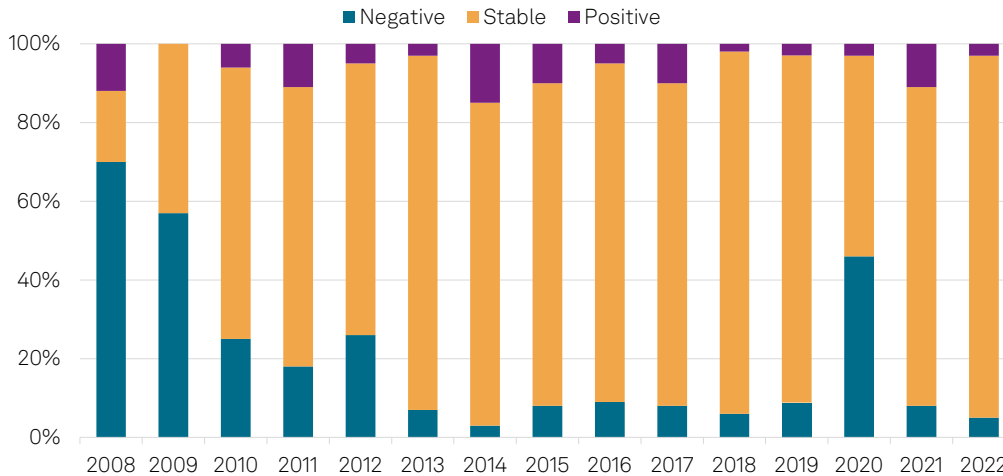
Source: S&P Global Economics, Economic Outlooks U.S. Q1 2023: Tipping Toward Recession. Nov 28, 2022. f -- Forecast.

Credit metrics and financial policy

We anticipate deterioration of earnings and margins impairing the sector's credit quality. Tailwinds from increased home investment, heightened repair and remodel spending, and new homebuilding activity that began during second-half 2020 persisted into early 2023. Over 90% of the outlooks in the sector were stable at the end of 2022, reflecting these tailwinds tapering off, with fewer positive outlooks.

Chart 9

Rating Outlooks in U.S. Building Materials



Source: S&P Global Ratings

Key risks or opportunities around the baseline

1. Interest rates and cost inflation could strain consumer wallet and reduce earnings

We anticipate a recession in 2023 reducing discretionary spending with interest rate hikes attempting to moderate inflation. If these intensify, we believe issuers will both face reduced volume and be hard-pressed to maintain pricing.

2. Shareholders may consume much of the credit buffer with shortening maturity horizons

Financial policy remains the main factor in negative rating actions. Both private equity-owned and publicly listed companies have used cheap debt to expand shareholder returns through dividend recaps and leveraged buyout transactions. Some of these transactions yield credit benefits, but many have caused downgrades.

3. Easing cost pressures could help mitigate margin pressure

Many issuers have struggled to find labor, further exacerbating material input cost inflation and straining margins. The labor force exit has added to business costs and reduced productivity. Many companies have cut corporate costs to maintain margins, but further cuts seem unlikely.

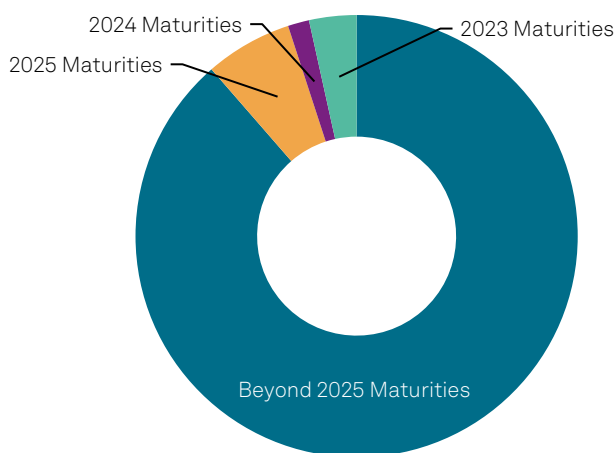
Increased inflation is a risk to our base-case assumption. So far, most building material companies have passed through raw material price increases, helped by robust demand, especially in the repair and remodel end-market. If high inflation persists, likely from supply chain constraints and global political volatility, issuers will find it more difficult to pass through costs. In

such a scenario, sales would most likely slow, and margins would drop compared with our base-case scenario. This could result in negative rating actions, especially for companies with significant exposure to discretionary consumer spending.

Aggressive financial policies remain among the main risks to ratings. Both private equity-owned and listed companies have demonstrated aggressive debt-funded activities. While these took advantage of cheap debt, many did not reap expected credit benefits, resulting in deteriorated credit ratings. Historically, deterioration has been concentrated in only low-rated, high-risk issuers. But our recent negative outlook revision on Stanley Black & Decker indicates a shift to include investment-grade issuers. The company's metrics were affected by waning consumer demand and persistent inflationary pressure coupled with recent acquisitions, share repurchases, and increased debt resulting in strained metrics. Expectations of a recession in 2023 generates the likelihood of additional issuers exhibiting similarly aggressive policies that could lead to credit deterioration. Exacerbating liquidity risk, total sector debt includes slightly over 10% of debt principal coming due by year-end 2025. We consider risk more severe for speculative-grade companies, whose at-risk debt composes over three-quarters of sector debt maturing by year-end 2025. Liquidity, therefore, represents a significant medium-term risk with climbing interest rates making refinancing costly and declining demand reducing capital on hand.

Chart 10

Building Materials Debt Principal Maturity Schedule



Source: S&P Global Ratings

Many factors have contributed to declining affordability and consumer demand. The alleviation of some of these factors may ease discretionary spending declines. High labor costs are a key factor affecting issuers' bottom lines and contributing to the depth of the expected 2023 recession. Despite aggressive countermeasures, the job market remains tight as overall inflation outpaces wage gains. If Fed intervention closes the gap between real disposable income and inflation, consumer demand might pick up and margin strain could lighten.

Factors contributing to slowing consumer demand and price increases might be resistant to external forces. U.S. inflation remains high on continued supply-chain disruptions emanating from the Russia-Ukraine conflict and China's zero-COVID policy. We could see supply chains stabilize sooner than expected, helped by easing measures in China or a faster resolution to the Russia-Ukraine conflict. If international relations supporting elevated price levels are alleviated, the Fed is likely to slow monetary tightening and we might see stressed issuers with more cushion than expected.

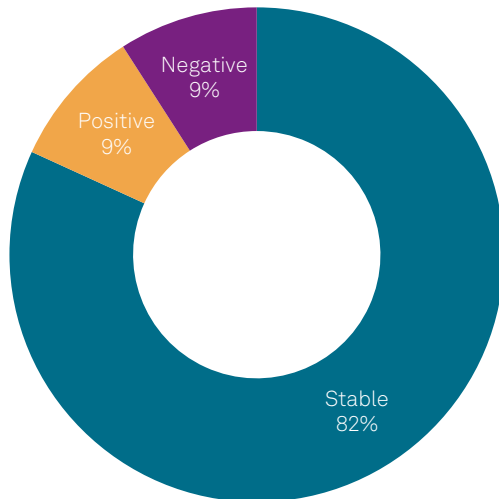
Industry Outlook: EMEA

Ratings trends and outlook

The European building materials sector faces significant indirect effects from the Russia-Ukraine war. In 2022, issuers saw unprecedented inflationary pressure and highly volatile costs. Most companies have passed through the rise in raw materials and energy costs to clients, leading to a dilution of companies' EBITDA margins and a rise in working capital needs. In addition, volumes have started to decline in Europe in the second half of the year. As recession risks are increasing and consumer confidence declining, volume and pricing pressure could intensify. Positively, most companies can leverage decent rating headroom built up in the recovery after the pandemic. In fact, about four-fifths of rated companies display a stable outlook. Still, negative outlooks increased to 18% in December 2022 from 11% in December 2021, and the current negative outlook bias indicates that negative rating actions should exceed positive ones in 2023. We believe speculative-grade companies are more exposed to downgrades, given their weaker business diversity and higher sensitivity to raising interest rates ahead of a high debt pile. Rating headroom for investment-grade companies remains broadly sound. We believe that financial policies will continue to determine companies' creditworthiness and our ratings, both in the investment-grade and speculative-grade category.

Chart 11

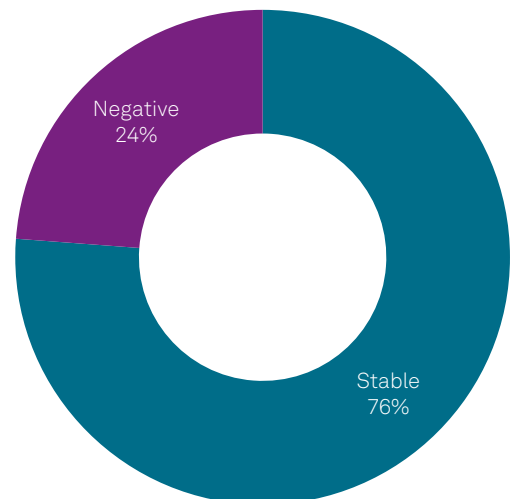
Ratings outlooks--European Investment Grade Issuers



Source: S&P Global Ratings

Chart 12

Ratings outlooks--European Speculative Grade Issuers



Source: S&P Global Ratings

Main assumptions about 2023 and beyond

1. Volume drop or stagnation in most segments, apart from civil engineering

According to Euroconstruct, the European construction outlook will significantly worsen in 2023-2024 compared with 2021-2022. Most volume contraction is in new residential and residential renovation. Civil engineering should benefit from investment in low-carbon energy and renovation of infrastructure.

2. Margin pressure will stay, with pockets of initial recovery if energy costs pressure eases

So far, most companies have passed through these costs to clients, though with some lag. Still, we expect 2022-2023 margins to be well below 2021 levels. While weakened demand in 2023 could stress margins, those segments where cost inflation pressure has eased could benefit from margin recovery. Similarly, if natural gas wholesale spot prices remain at current level, heavy side building material companies' margins could benefit.

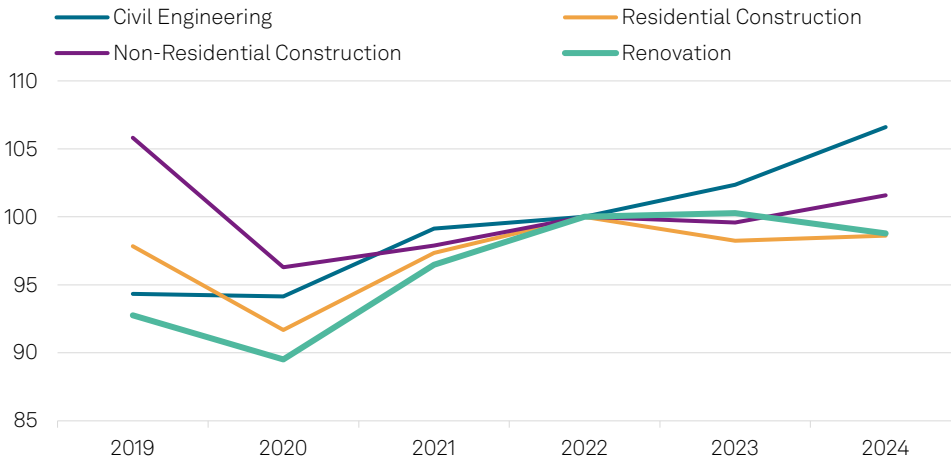
3. Financial policy is key to rating protection

It is unlikely that a mild recession we anticipate in 2023 would alone drive significant negative rating actions. Instead, we believe that financial policy will be the key factor behind any rating action. If investment-grade companies do not moderate shareholder remuneration, rating headroom could quickly disappear. In turn, if private equity-owned companies do not adapt their capital structure to increased interest rates, weaker cash flow would translate into lower ratings.

In 2022, significant changes in Europe worsened the economic and operating environment in the construction sector. The Russia-Ukraine conflict has further intensified inflation and highly volatile costs. Furthermore, rising interest rates and the problems with construction material and skilled workers availability resulted in slowing volumes and weakened business confidence. As such, we anticipate the construction sector will grow much less in 2023-2024. According to Euroconstruct, cumulative growth in 2023-2024 will be just 0.2%, compared with 8.8% in 2021-2022. Most of the contraction relates to the new residential and residential renovation sectors. Higher interest rates could significantly scale down the boom in new housing across Europe from the past five years. Mitigating the risk, civil engineering should continue benefiting from investments in low-carbon energy and renovation of existing infrastructure, following the Next Generation EU plan's implementation.

Chart 13

Construction Output By Sector (EC -19, Index, 2022=100)

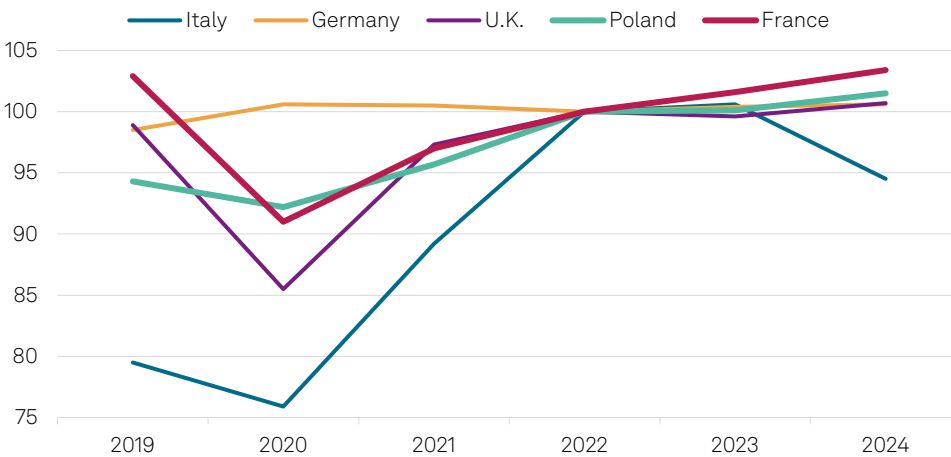


Source: Euroconstruct

At a country level, the picture is more homogeneous in 2023-2024 when compared with 2021-2022. According to Euroconstruct, Italy, which has been the best performer in 2021-2022 with an expected cumulative growth of about 30% thanks to the support of subsidies to the residential renovation segment, should post no growth in 2023 and a 5% decline in 2024. Similarly, the U.K. construction sector, which has significantly rebounded in 2021-2022 largely thanks to a positive contribution from the infrastructure segment, should post stable construction volume in 2023-2024. Most other countries should post almost-stable growth in 2023 and a modest recovery in 2024. Germany should continue posting stagnating growth in 2023-2024.

Chart 14

Construction Output By Country (Index, 2022=100)



Source: Euroconstruct

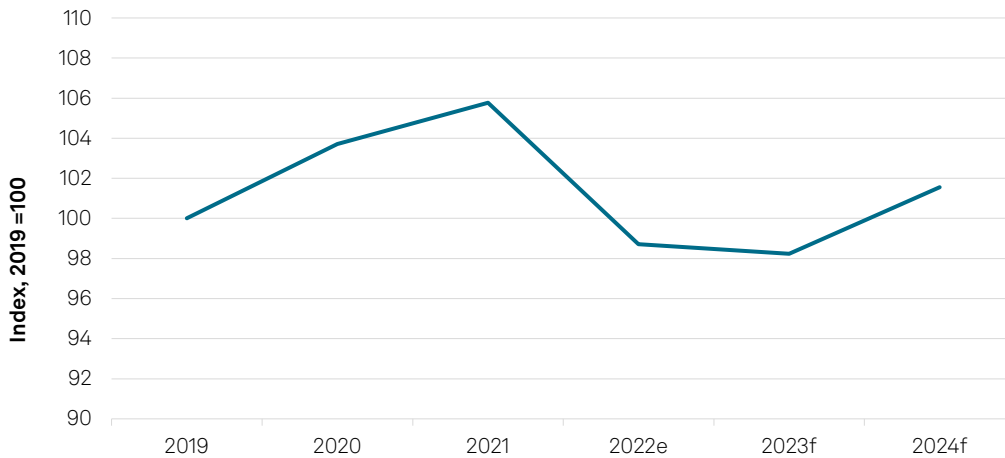
In this context, it is not surprising that the building material sector should significantly moderate its solid performance posted after the pandemic, with a likely volume drop in 2023 and volume stagnation in 2024. Still, companies should continue to pass through cost inflation to

clients, though with more lag in segments where the volume drop is more pronounced. As a result, we anticipate stable revenue in 2023 and moderate growth in 2024. We also believe average EBITDA margin should broadly stabilize in 2023 after the abrupt decline in 2022, and then progressively recover from 2024. EBITDA margin related to heavy-side building material companies, such as cement, will likely continue to suffer if energy prices will remain elevated or further increase, given the comparatively higher weight of energy bills in their cost base.

Raw material and energy products' cost inflation initiated in fourth-quarter 2021 further intensified over 2022 in Europe, reaching unprecedented levels. This has been a key issue for the building material sector. As example, natural gas, a key energy source in some building materials segments, had displayed a monthly spot price in the TTF market of about 7x higher in July than in the same period of 2021. Positively, most Europe-based building material companies have significant operations outside the continent, where the pressure on energy bills is comparatively less. Furthermore, for high energy consuming companies, the energy mix in Europe includes a significant contribution from alternative fuels, whose price has not followed the same trend as fossil fuels. Still, we estimate that building material companies' energy bills in 2022 has doubled on average compared with 2021, notwithstanding the mitigation of hedging policies. Although most companies have passed through these costs to clients, this happened with some lag, reflecting resilient-if-slowng demand. As a result, average EBITDA margin dropped by 150-200 basis points (bps) from 2021's record high. With slowing global demand, most raw material cost inflation significantly retraced in second-half 2022. For example, in November 2022, both aluminum and copper spot prices at the London Metal Exchange were about 20% lower than the prewar level, although they remained higher than the average 2020-2021. In addition, energy prices, particularly electricity and natural gas, have partially retraced from their third-quarter 2022 peak and trend toward prewar levels. most European building materials companies passed through increases in energy costs in 2022, so companies can temporarily enjoy some positive margin impact from the price decrease if they are not hedged. That is particularly relevant for energy-intensive businesses such as cement. Despite the contraction in prices, in January 2023 natural gas spot price at the TTF market was €60-€80, 2x higher than the 2021 average. Those segments where cost inflation pressure has eased and exposure to energy saving megatrend might support demand, could benefit from some margin recovery.

Chart 15

Adjusted EBITDA Margin (Index, 2019=100)

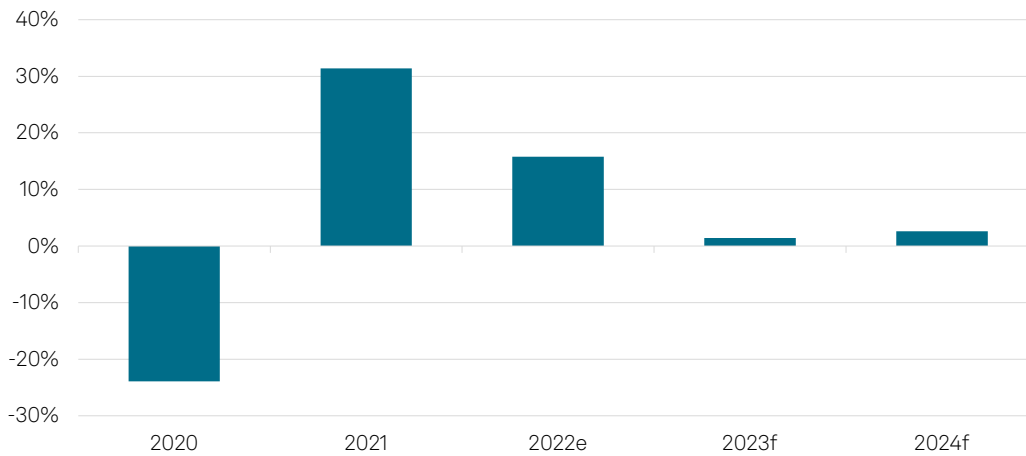


Source: S&P Global Ratings. e—Estimate. f—Forecast

Notwithstanding weakened business confidence, most companies kept unchanged or even increased their capex in 2022. We anticipate that capex will have grown about 15% in 2022, following a 31% increase in 2021. Most building material companies prioritize investment in those business segments with higher growth potential and less climate transition risk.

Chart 16

Capex Trend (% Change Year On Year)



Source: S&P Global Ratings. e—Estimate. f—Forecast

Climate transition risk is particularly at the core of cement companies' capital allocation as these companies assign an increasing share of their maintenance capex to improve plants' thermal efficiency while cutting carbon dioxide (CO2) emissions. Investment relates to increasing the use of alternative fuels or biomass, decreasing clinker content, and accelerating process innovation. On average, we estimate that investments associated with reaching 2030 targets CO2 reduction represent about 20% of large European cement companies' yearly maintenance capex. Some companies are switching to other building products, which is helping

Industry Top Trends 2023: Building Materials

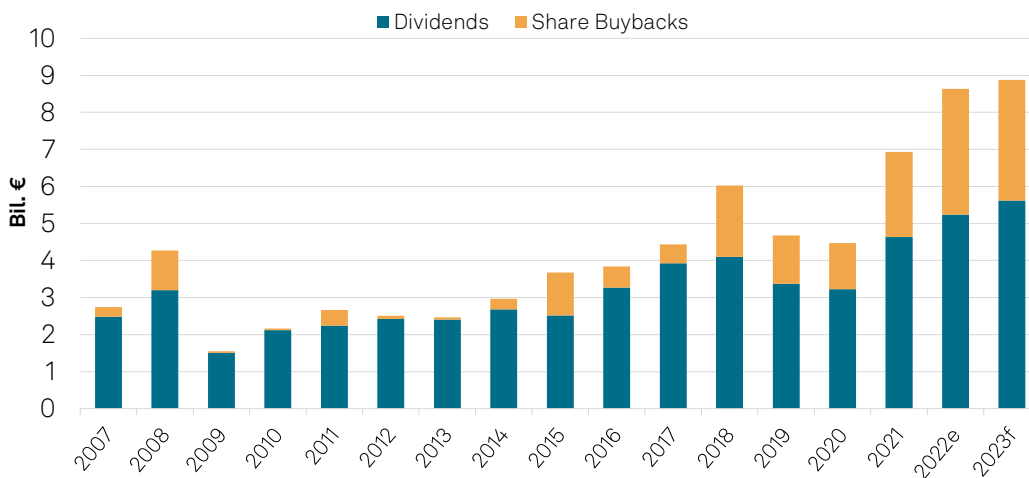
reduce their consolidated carbon intensity. The most tangible example is Holcim, whose growth strategy focuses on increasing its share of value-added products and strengthening its environmental credentials by refocusing away from the core cement business. As part of this portfolio transformation, in 2021, Holcim acquired Firestone Building Products for \$3.40 billion, and more recently Malarkey Roofing Products for \$1.35 billion, both to strengthen Holcim's presence in the U.S. residential roofing market. The company also executed its strategy to reduce exposure to cement in emerging markets. A key step in this move, in May 2022, Holcim announced the divestment of its India businesses for net cash proceeds of Swiss franc 6.4 billion. We believe the company will reinvest these funds to accelerate the transformation of its portfolio, expanding its solutions and products segment to the targeted 30% of group sales by 2025.

Credit metrics and financial policy

The military conflict in Ukraine and energy crisis left investment-grade companies with lower free operating cash flow (FOCF), but leaving room for mergers and acquisitions (M&A) and shareholder distributions in 2023. The building materials sector recovered swiftly from the COVID-19 pandemic, benefiting from very strong end-markets demand, and started 2022 with strong rating headroom. However, the war brought uncertainty surrounding inflation, energy availability, and demand. The inflationary pressure on working capital impaired companies' free cash flow and net adjusted debt. Overall, we forecast that average adjusted leverage of investment-grade issuers will increase to 1.4x in 2022 from 1.2x in 2021. Still, we believe the increase is manageable for companies, and adjusted leverage was at record lows in 2021. Dividends and share buybacks increased in 2022, based on the strong results of the previous year. We expect that shareholder remuneration will slightly increase in 2023. Several investment-grade companies have solid rating headroom at end-2022, such as CRH and Holcim, which will likely translate into higher M&A activity or shareholder remuneration. While companies could use their rating headroom, we believe they remain generally committed to the rating, and we do not anticipate negative rating actions.

Chart 17

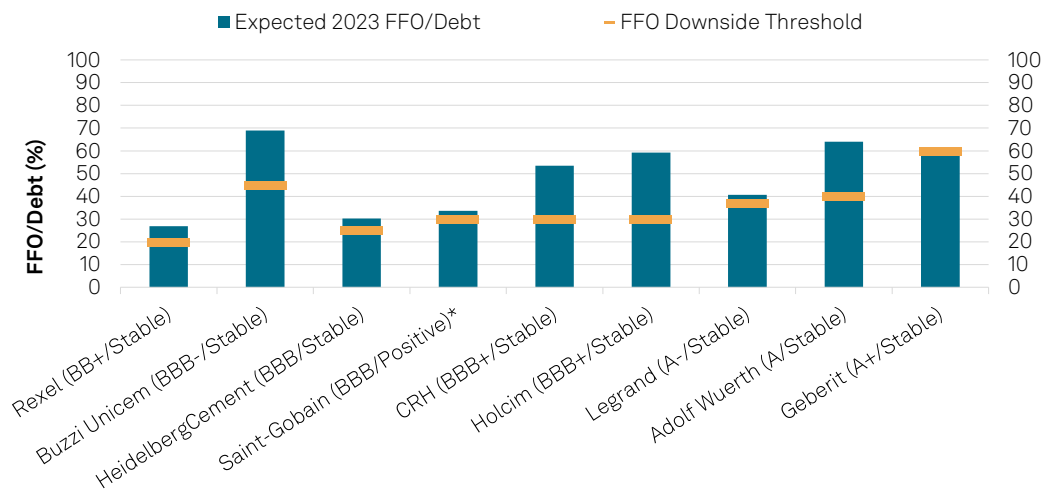
Largest European Building Materials Companies' Shareholder Remuneration



Source: S&P Global Ratings. e—Estimate. f—Forecast. Companies include Buzzi Unicem, Compagnie de Saint-Gobain, CRH, Geberit, HeidelbergCement, Holcim, Legrand, Rexel, and Wuerth.

Chart 18

Rating Headroom of Main Rated Investment-Grade Issuers



Source: S&P Global Ratings Downside threshold for Saint-Gobain is for the stable outlook.

After a pause in 2022, we expect debt-funded acquisitions or dividend recap to resume for speculative-grade companies, which could result in higher financial leverage. The military conflict and economic stresses pushed issuers to concentrate on their operations and cash flows. The raw materials and energy costs inflation diluted the companies' EBITDA margin, although most companies have passed through costs to customers. However, cost inflation and supply chain tensions absorbed a lot of cash in companies' working capital needs, which lead to a drop in their FOCF. In some cases, speculative-grade companies drew on revolving credit facilities and local lines to fund working capital and saw their adjusted leverage increasing. In our view, if the working capital trend does not reverse or if the European economy turns into a prolonged recession, there could be negative rating actions in 2023. The debt market was also muted for most of the year. As a result, we only saw a handful of leveraged buyout transactions and bolt-on acquisitions at the beginning of the year. In 2023, we anticipate that debt-refinancing activities, which have been postponed, will resume. Some private equity-owned companies report low leverage levels. However, private equity-driven financial policies continue to constrain companies' financial risk profiles, through dividend recapitalization or acquisitions. Our base-case scenario behind the ratings does not encompass dividends or transformational M&A for private equity-owned companies because they are generally uncertain in size and timing.

Key risks or opportunities around the baseline

1. Prolonged recession and weaker demand would impair credit metrics

We anticipate that volumes will broadly stagnate in 2023, with volume drops in some end-markets. In our view, companies could struggle passing through any additional inflation costs to clients. In this situation, we would expect a weakening in margins and cash flows.

2. Energy prices and shortages could constrain companies' production and profitability

Building materials is an energy intensive sector, and companies face an elevated rise in their energy bills. As recession risk increases, companies may struggle to pass through further increases in energy prices in 2023. Positively, energy consumption in Europe has reduced on the back of a mild winter, leading to a decrease in energy prices.

3. Hikes in interest rates will increase refinancing risks for speculative-grade issuers

Many rated speculative-grade issuers have debt that is priced at historic low interest rates. As central banks increase their benchmark rates, we expect that issuers will face an increase in their interest expenses which would reduce their FOCF. Mitigating this, most issuers do not have large debt maturity before 2025.

Contraction in demand will test issuers' pricing power and cost flexibility. End-markets demand started to decline in 2022, and we believe this will continue in 2023. We anticipate a drop in volumes in the new residential building end-market. Households are likely to postpone spending due to the rise in interest rates and building materials product prices. In our view, this will limit companies' abilities to pass through inflation costs to clients, adding significant pressure to margins and cash flow. The outcome of the Russia-Ukraine war is still uncertain, and further indirect consequences could emerge in 2023. Competition from other regions, which are not facing the energy crisis to the same extent, could also intensify and push European manufacturers to lower their product prices.

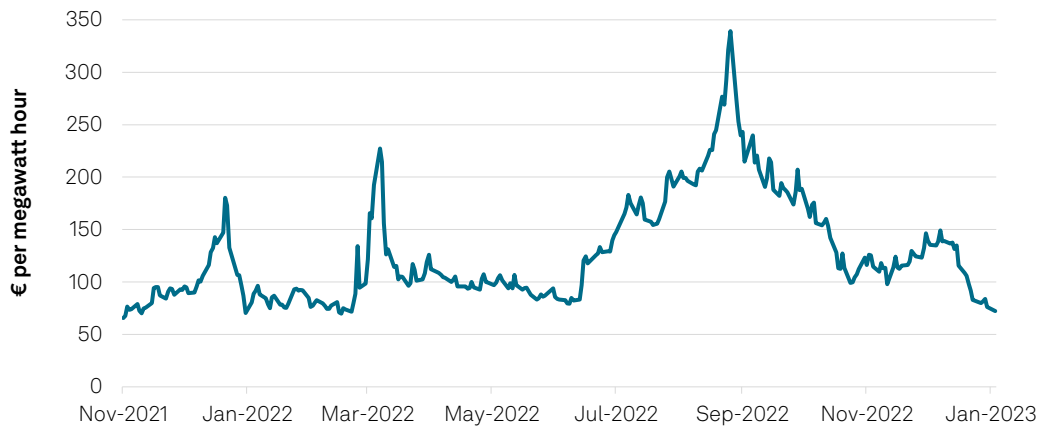
Energy prices and shortages could constrain companies' production and profitability.

Electricity and gas prices have soared in 2022 since the outbreak of the conflict in Ukraine. Building materials is an energy-intensive sector, and companies faced an elevated rise in their energy bills. In particular, natural gas is needed for the manufacturing of key building materials and products, such as ceramic tiles, clay roof tiles, and cement. Gas prices peaked in August 2022, and remain above historical levels. In addition, gas hedges have not covered the price increases and companies' needs. So far, companies have passed through the rise in energy costs to customers, which led to a dilution of profitability margins. While energy prices are declining, companies may struggle to pass through further price increases in 2023, as recession risks increases and volumes are expected to decline. The European energy crisis has deteriorated the competitive position of European building materials manufacturers. We believe some companies could permanently move away part of their production capacities from Europe.

Risks of energy shortages have increased since early 2022. However, gas reserves were almost full in Europe ahead of winter, and mild temperatures have helped contain energy needs. Although this risk has recently declined, companies could also face temporary power cuts, due to lower-than-usual electricity production output in Europe. In this situation, we would expect lower plants usage rate, sales, and profitability. This might translate into negative rating actions for less diversified companies, or where available rating headroom is limited.

Chart 19

Dutch TTF Natural Gas Futures

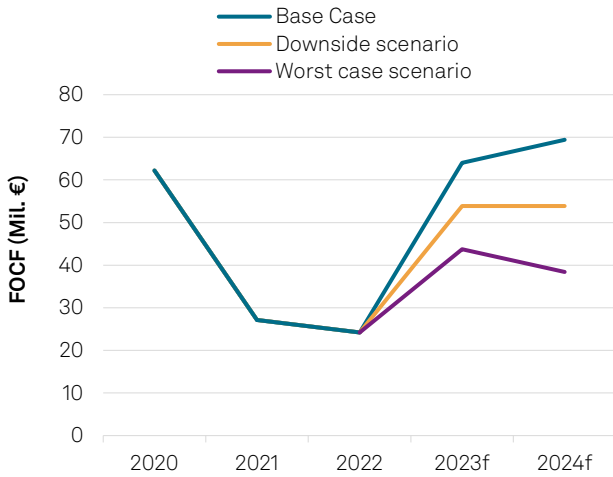


Source: S&P Global Ratings

In an uncertain and volatile global economy, the rise in interest rates will dent FOCF and increase refinancing risks. Many rated issuers have debt priced at historically low interest rates before the COVID-19 pandemic. Some issuers also refinanced and repriced their debt in 2021, boosted by the sector's very strong recovery and supportive financial market conditions. However, the European Central Bank and the Fed have started increasing their policy rates, and we expect that issuers will face an increase in their interest expense. In our view, the credit metrics of speculative-grade issuers will be more affected because of their highly leverage capital structures and weaker free cash flow profiles. While hedges and rate caps could somewhat protect speculative-grade issuers for some quarters, we believe the rise in interest rates could permanently weaken the companies' FOCF. We conducted two simulation exercises under which we have increased interest expense for issuers rated in the 'B' and 'CCC' category in the building material sector. In our downside-case scenario, we increased interest expense by 20% in 2023 and 30% in 2024. In our worst-case scenario, interest expense is 30% and 60% higher than our base-case one in 2023 and 2024, respectively. Under these two scenarios, average FOCF would recover less than in our base-case scenario, although we would still see higher average FOCF than in 2022, owing primarily to reversals of working capital. A few issuers would have very limited or negative FOCF. Under these two scenarios, the average EBITDA interest coverage would also drop, although it would remain above 2x.

Chart 20

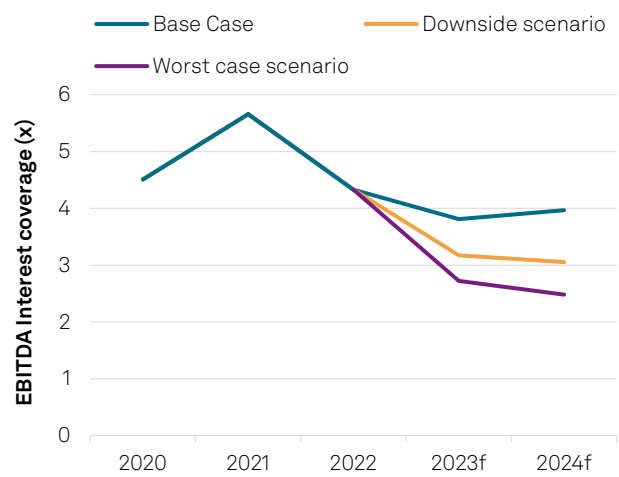
Free Operating Cash Flows Sensitivity Analysis



Source: S&P Global Ratings

Chart 21

EBITDA Interest Coverage Sensitivity Analysis

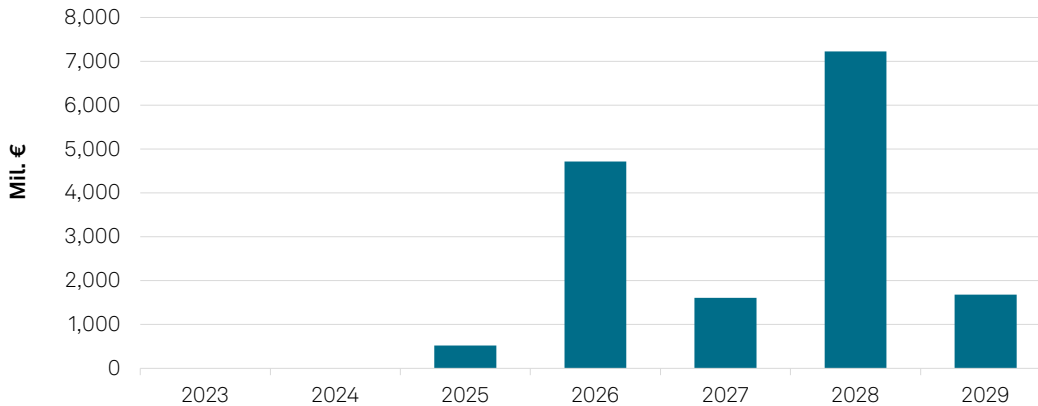


Source: S&P Global Ratings

Positively, issuers in the 'B' and 'CCC' category do not have large debt maturity before 2025 in the European building material sector. When companies will refinance their debt, we expect much higher interest rates and expense, which will weaken their free cash flow if they do not adapt their capital structure (that is, a lower debt quantum).

Chart 22

European Building Materials Speculative Grade Debt Maturity Distribution



Source: S&P Global Ratings. Includes Term Loan B, revolving credit facilities and bonds maturities.

Decarbonizing the cement production remains at the top of the agenda for cement manufacturers. The following are extracts from "Decarbonizing Cement Part One: How EU Cement Makers Are Reducing Emissions While Building Business Resilience" and "Decarbonizing Cement Part Two: Companies Could See Pressure On Ratings As The EU Firms Up Carbon Rules," published Oct. 27, 2022 on RatingsDirect:

Cement production is responsible for about 7% of the world's direct CO2 emissions, according to the Global Cement and Concrete Association. Cement manufacturers' carbon intensity ratios are about 6x larger than the average for the materials sector and well above most other

business sectors. Producing a ton of grey cement today generates around 0.6 metric tons of CO2 on average but can vary widely from 0.5 to 0.8 metric tons (EIA data). The EU's largest cement manufacturers have committed to reducing their scope 1 CO2 emissions per ton of cement by around 30% by 2030, from 1990, mostly via enhanced thermal-energy efficiency and fuel switching. We view this target as achievable, and at reasonable cost. Beyond 2030, a significant drop in direct emissions can only be achieved via reduced demand (greater product efficiency) and accelerated carbon capture and storage. The required technologies are still in prototype or development, awaiting significant infrastructure investments to scale up. As such, it remains uncertain whether the sector can achieve carbon neutrality by 2050.

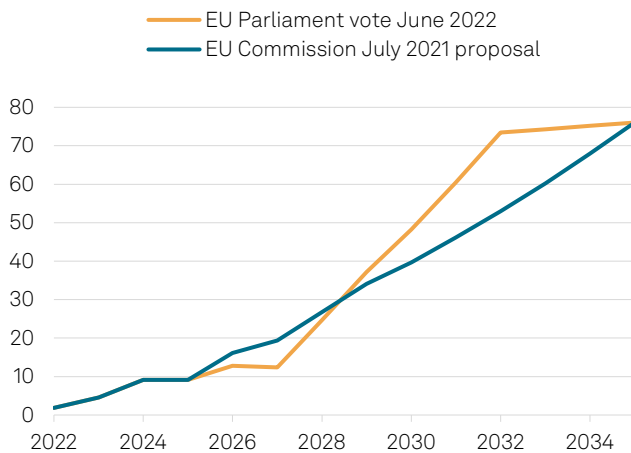
The proposed EU regulation "Fit for 55", targeting a 55% carbon emissions reduction by 2030, could lead to a much lower supply of free carbon allowances for cement companies, significantly increasing their carbon-related costs if they cannot cut emissions. The so far limited effect of carbon costs on cement companies' profits and financial risk profiles could change under the proposed EU ETS reform. This is because most manufacturers would likely rapidly consume any stockpiled carbon allowances and start paying much higher carbon costs. Their ability to sustainably pass-through much higher costs to customers would be tested. We note that so far, amid rising European energy prices, cement manufacturers have been able to increase cement prices, albeit with a time lag, largely preserving EBITDA and sales volumes.

Our scenario analysis found that annual carbon costs could reach 75% of EU cement companies' EBITDA on average, assuming a complete phase-out of allowances. We also found that cement companies with high emissions and with a high share of business in the EU could see significant profitability pressures post-2027. While sector decarbonization presents many challenges, we also consider a number of mitigating factors that may shield the most efficient players. Geographic diversification—and having the time and capacity to adapt operationally and financially—could be credit supports for cement companies. Cement substitution alternatives are currently limited, meaning demand should remain structurally steady. These factors together could allow entities to pass higher costs onto customers, but pressure on profitability still looms, in our view.

Chart 23

EU-based rated cement companies' possible carbon costs trend in 2023-2035

% of EBITDA

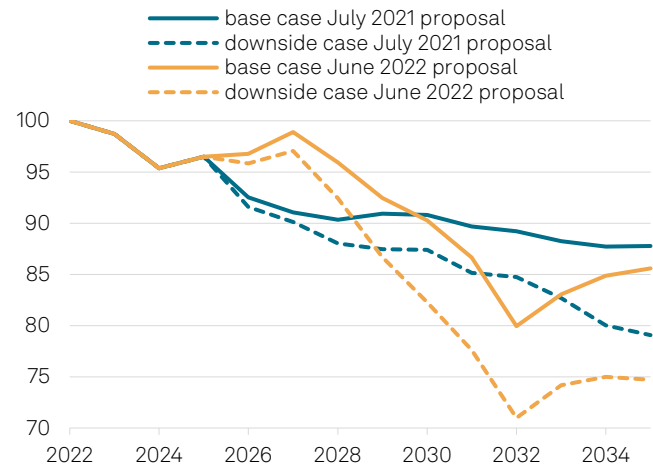


Source: S&P Global Ratings

Chart 24

EU-based rated cement companies' EBITDA trend in favorable and less-favorable scenarios

Index: 2022=100



Source: S&P Global Ratings

Industry Outlook: Latin America

Ratings trends and outlook

Credit quality for Latin America (LatAm) building materials companies were largely stable in 2022, despite pressure on profit margins from high input-cost inflation, particularly for energy, electricity, and transportation. Companies have built up enough buffers through pricing actions, strict cost controls, and prudent financial policies to sustain credit protection measures and liquidity positions within rating thresholds. As of the date of this report, close to 80% of our LatAm building materials rated entities bear stable outlooks, meaning that we do not expect many rating actions in 2023. About 22% of rated LatAm building material issuers are rated investment-grade ('BBB-' and above), while the remaining 67% and 11% in the 'BB' and 'B' categories, respectively. For 2023, we predict another challenging year for LatAm building material companies as they will face several economic and political risks. Those include a significant slowdown in most countries, moderating-but-still-elevated inflation, weakening consumer purchasing power, a lack of visibility on some government policies, and still-tight financing conditions. In our view, all these factors will reduce industry growth prospects in 2023, with risks to our forecast remaining firmly on the downside. In that context, we expect LatAm building material rated entities to maintain prudent capital allocation strategies, balanced between growth and deleveraging, with enough cushion in ratings to absorb risks.

Main assumptions about 2023 and beyond

1. Softer demand will slow revenue growth

Revenue growth prospects for LatAm building materials will likely slow in 2023 due to economic risks, weaker consumer purchasing powers, and subdued investment.

2. Profit margins will stabilize or partially recover in 2023 despite persistent higher costs

Our forecast suggests that LatAm building materials corporations' profit margins will stabilize or even slightly recover in 2023 as pricing actions continue and inflation gradually eases

3. Prudent financial policies will allow for resilient credit metrics

We believe that the adherence to prudent financial policies will continue in the sector. We expect balanced capital allocation strategies, between growth and deleveraging, without compromising credit quality.

The building material sector in LatAm continued to perform relatively well in 2022. This was thanks to still-high remittances level, which continues to foster the informal construction sector, and steady nonresidential construction activities, although somewhat offset by general elections cycles and policy direction in some countries that have maintained investments subdued. All LatAm building materials companies have increased prices to partially cope with input-cost inflation, but profit margins were down close to 150 bps on average. Moreover, early signs of consumer demand weaknesses emerged, which in our view will likely endure and slow the industry growth prospect in 2023. We now anticipate LatAm economies will slow significantly in 2023, with GDP only expanding 0.7%, as the region will face weaker external and domestic demand, and squeezed investments given tight financial conditions and political uncertainty in some countries. Although our forecast suggests that inflation should gradually ease, persistently higher costs will push building material companies to sustain their pricing strategies, but likely more slowly than in 2022, which in turn could continue to negatively weigh on household

disposable income and demand. As a result, softer demand and lower pricing actions versus 2022 will likely translate into slower revenue growth in 2023, potentially in the 4%-6% range.

Looking at LatAm's two largest economies: On one hand, we expect Brazil's GDP growth to slow to 0.5% and 2.0%, respectively, in 2023 and 2024, from 2.9% projected in 2022, due to the impact of tight monetary policy that will likely intensify as growth prospects dim, dampening domestic demand. Moreover, public policy uncertainty could slow investment implementation. Therefore, we anticipate cement volumes to continue dropping in 2023, likely by 2%-3%, following a 2%-5% contraction expected for 2022, mostly because of weak economic prospects, still-high interest rates, and elevated unemployment, all affecting the do-it-yourself (DIY) construction sector. At this stage, we expect volumes to bounce back by 2024, but only if economic prospects improve.

As for Mexico, the latest data available (September 2022) on cement production shows that levels remain near last 10-year high level, at close to 50 million tons per year, reflecting somewhat favorable supply-demand conditions. This is mostly underpinned by still-high remittances, steady industrial and commercial nearshoring activities, and a sequential recovery in tourism activities that maintained cement demand at good levels, while exports to the U.S. remain strong. However, data for the 12 months ended September 2022 signal a slowing trend, with production falling close to 4% versus the same period a year earlier. We believe this is mostly explained by a normalization of cement bag demand after the pandemic's peak, while inflation starts to weigh on consumer purchasing power, particularly in the low and middle classes. For 2023 and 2024, we expect Mexico's GDP growth to slow to 0.8% and 2.0%, respectively, from 2.6% expected for 2022, primarily due to lower U.S. demand for Mexico's manufactured exports. In our view, growth prospects for Mexico's building materials will be tight given that consumer purchasing power will erode further due to persistent inflation, employment weaknesses, and a still-limited number of large infrastructure projects because of weak public spendings and subdued private investments. We expect cement production level of 45 million-50 million tons in 2023, while companies will maintain pricing action to pass through costs-inflation. This should moderate revenue growth, on average in the 1%-5% area. Nevertheless, continued strong remittances from the U.S., if they continue in 2023 even as the U.S. economy weakens, would help boost consumption in Mexico, particularly in the informal sector, and could mitigate some of the risks. Beyond 2023, we continue to expect Mexico's GDP growth rate close to its traditional structurally low 2% due to low and inefficient investment levels.

Our updated forecast on LatAm building materials companies for 2023 also points that EBITDA margins should stabilize or even slightly recover near 22%, after a 150 bp slippage in 2022, induced by input-cost inflation, particularly on energy, electricity, and transportation costs.

We still believe that LatAm companies have the capacity to increase prices, although less so than last year, because they could risk further undermining consumer purchasing power. These, coupled with our expectation of prudent financial policies and solid cash flow, should allow credit metrics to remain broadly stable or even slightly improve in 2023.

Credit metrics and financial policy

We do not expect any major shift in Latin America building materials corporations financial policies through 2023, but instead, a continuity of prudent capital allocation strategies, balanced between growth (through capex and selective bolt-on acquisitions, if any) with short term paybacks and debt reduction to support deleveraging strategies. We also anticipate limited shareholders rewards through dividend payments. Moreover, 2023 refinancing risks remain well contained thanks to prior pro-active refinancing strategies.

Key risks or opportunities around the baseline

1. LatAm building materials companies face economic and political risks

A deeper and longer period of economic slowdown, inflation, and tight financing conditions, as well as political uncertainty, could reduce consumer spendings, squeeze companies' capacity to pass through costs increases, and undermine operating and financial performance beyond our estimate.

2. Overcapacity is likely to increase in the next year

We believe that slower economic activity and still-high political uncertainty could slow investments and building materials companies production plants utilization rates. Therefore, excess capacity could affect operating margins if no immediate countermeasures are taken.

3. CO2 regulations are progressing slowly, but companies are moving ahead to reduce their footprints

Building materials corporations are investing to reduce their CO2 emissions footprint despite slow progress on regulatory framework in the region.

We expect LatAm building materials corporations to face another year of economic and political turbulences. This maintains risks to our forecast firmly on the downside for 2023. In our view, a deeper and longer period of economic slowdown, inflation, and tight financing conditions could further reduce consumption trends, squeeze capacity to pass through costs increases, and ultimately undermine LatAm building material companies' operating and financial performance beyond our estimates if no sufficient countermeasures are implemented.

Moreover, political risks and a high degree of policy uncertainty in some countries could also pose risks to our forecast:

- For instance, in **Brazil**, the change in government in January could slow investment implementation due to administrative delays. Some uncertainty about the new administration's policies, especially on the fiscal front, could also pare back investment until there is more visibility.
- In **Mexico**, beyond 2023, we expect the country to grow close to its traditional structurally low growth rate of 2%, due to low and inefficient investment levels from restricted policies responses.
- In **Argentina**, the government will face a tough implementation of the Extended Fund Facility (EEF) targets with the IMF. The EEF targets imply politically challenging fiscal, monetary, and reserve targets amid high inflation and slowing growth. Signs that EEF targets aren't met would likely intensify pressure on the exchange rate, increase inflation, and lower investment. This factor puts the risks to our 2023 GDP growth forecast for Argentina firmly to the downside.
- In **Chile**, we expect demand to contract in 2023, as the fading effect of the removal of stimulus measures continues, especially those that boosted consumption such as pension withdrawal allowances. Uncertainty about the rewriting of Chile's constitution will also likely temper investment until there is more policy visibility.
- In **Colombia**, we expect investor uncertainty about policies under the recently elected President Gustavo Petro, especially in terms of the energy sector and on the fiscal side. We lowered our 2023 growth forecast to 1.1% from 1.9% previously. There are clear signs that the very strong domestic demand growth of the past two years is starting to weaken, as the impact of stimulus measures from the pandemic fades.

- In **Peru**, the most recent change in power reflects heightened political deadlock, and it increases risks. It also creates uncertainty about Peru's institutional stability and its capacity to sustain continuity in key economic policies and support economic growth, in our view.

Lower utilization rates could mean higher risk to operating efficiency but also low investment needed to increase installed capacity. Most rated LatAm building materials companies have dominant or leading market positions, well-established distribution networks, and state-of-the-art production plants, which in our view allow them to sustain solid profitability levels. Although, excess capacity in the region has been common in many countries, due to limited public and private investment in recent years, we believe that operating efficiencies risks could increase if slower economic activities reduce utilization rates, and if companies cannot continue with their pricing strategies. We estimate that utilization rates in Brazil, Mexico, and Peru will remain near 65%-70%, 70%-75%, and 70%-88%, respectively, in 2023. On the other hand, this means that capex needs to increase installed capacities in LatAm should not be large; instead, companies will focus on shorter payback projects to increase their operating efficiencies and reduce their CO2 emissions.

LatAm CO2 emission regulatory frameworks are progressing slowly, but building materials companies are investing to reduce their CO2 emissions footprint. We do not foresee significant progress on CO2 emission regulations and Emission Trading Systems in LatAm in 2023. Specifically, in countries where our rated entities have operations, mostly in Brazil, Mexico, Peru, and some central American countries, CO2 emission regulations have not yet been enforced. In most of these countries, it is still unclear how and when upcoming carbon taxes regulations will take effect. Therefore, it is still difficult to have a clear view on how this could affect companies' cost structure and, potentially, their credit quality. Yet most rated issuers continue to take action on their own to reduce their CO2 emissions, including increasing blended cement; using alternative fuels; injecting hydrogen; using more gas and less carbon; and, in some instances, reducing their clinker factor while increasing cement prices. Over the next few years, we expect investment related to CO2 emissions reduction to increase to meet with domestic regulations, but the magnitude of them is still unclear.

Industry Outlook: Asia-Pacific

Ratings trends and outlook

All rated building materials companies in Asia-Pacific (APAC) have a stable outlook. This should support ratings on companies to weather slower economic growth in most APAC countries, except for an anticipated rebound in China. Tighter monetary policy will weigh on housing activity and constrain demand on building materials in the region.

No rating in the sector changed in 2022 despite challenging operating conditions. This indicates resilient credit quality and sufficient financial buffer to counter weakness in demand and profitability.

With China's reopening from COVID-19 lockdowns and the bottoming out of the sluggish property sector, Chinese producers are likely to improve financial performance from a low base in 2022. The Korean market will likely turn weaker after a robust 2022. Rising interest rates and waning housing prices as seen in the recent months could continue to weigh down demand. The favorable performance in the Australian market will be supported by strong residential activity on material near-term backlog and healthy public sector investment.

Key risks include a prolonged COVID-19 outbreak in China leading to enduring weakness in demand, and rising costs hitting margins for all peers in the region.

Main assumptions about 2023 and beyond

1. Tighter monetary condition to slower economic growth in APAC excluding China

Lower global growth and higher interest rates should slow Asia-Pacific economies, except for China's. While the recovery from COVID-19 should continue to support economic growth, rising interest rates will weigh on housing activity and hamper demand for building materials.

2. China's swift exit from the zero-COVID policy will drive a possible recovery around mid-2023

With China's ending of stringent COVID-19 restrictions, we see a higher visibility on recovery in 2023. A more meaningful pick-up in demand could come around mid-year, further supported by the bottoming out of the sluggish property sector. The current outbreak will mainly cause widespread disruptions in first-quarter 2023.

3. Rated companies will maintain prudent financial policies

We expect rated entities to maintain a disciplined investment appetite due to economic uncertainty despite their rating buffers. They are usually the industry leaders, so are not in dire need of mergers to weather industry adversity. Instead, they will focus on existing operations and improve efficiency.

In Australia, we continue to see strong underlying demand for building products and good pipeline visibility. This is supported by the robust residential activity with material near-term backlog and strong public sector investment, offsetting the uncertainty in demand for multi-level apartments.

The solid demand will support most of the buildings material companies in Australia to pass through increasing costs to consumers. However, we expect ongoing supply chain constraints,

Industry Top Trends 2023: Building Materials

labor shortages, high raw material costs and extreme weather events to continue to drive construction delays and cost pressures in 2023, tempering earnings growth and margins.

In China, the sector is likely to embrace a recovery in demand around mid-2023 supported by the country's exit of zero-COVID policy and ease in property downturn. In 2022, the shockwaves from China's COVID lockdown on resurging cases and the stressed property sector had hit construction activities, spurring a decline in demand and weakening in prices. In the first 11 months of 2022, China's cement production volume has dropped 10.8% year-on-year. In 2023, China's building material sector continues to be strongly affected by COVID developments. The current surge of infections will weigh on the labor-intensive construction activities by reducing workforce productivity. Still, we do not foresee the sector as being materially affected by the short-term disruptions. We believe the impact of COVID outbreak this round will be largely manageable with the first quarter being the low season for construction activities in China due to the Lunar New Year.

The recovery in demand could come around midyear 2023 on the eventual bottoming out of the property sector and gradual pickup in construction activities after the current coronavirus outbreak. Solid infrastructure investment from the Chinese government aiming to prop up the economy will also stem the demand recovery. A batch of government measures adding fresh liquidity to the Chinese property sector in November 2022 has set a floor to the property crisis since China Evergrande Group first encountered liquidity difficulties in second-half 2021. The package of policy support includes easing bank lending, supporting onshore bond issuance, and allowing equity raising.

Nevertheless, we continue to expect a 'L' shape recovery in the Chinese property sector, as it takes time to restore the weak confidence towards homebuyers and investors. Recovery will only begin in the second half of this year, at the earliest.

In Korea, the sector's operating performance should come under pressure in 2023, as construction companies turn more selective in their project starts, raw material prices remain elevated, and property transaction volumes are likely to be low. We expect housing market sentiment will likely remain weak over the next 12 months due to the rising interest rates, subdued demand and lowered property prices. Nevertheless, major building material companies such as KCC Corp. are likely to be more resilient because of their ability to transfer increased cost burden to selling prices on the back of good market position. Also, the government's deregulation efforts, including more reconstruction and taxation relaxations, could provide some additional support, but visibility on the magnitude and potential impact of such measures remain low at current stage.

Credit metrics and financial policy

We forecast credit metrics of our rated companies to remain resilient in 2023. Revenue growth will be mitigated by ongoing pressure on profitability driven by high costs. Chinese producers are likely to see improvement in financial performance from a low base in 2022.

Financial policy will remain disciplined. Capex will be stable year over year in 2023 because there will be no significant expansions or acquisitions. We also do not foresee demand for higher dividends. Overall, our rated universe's credit metrics should sit comfortably within their respective rating range.

Key risks or opportunities around the baseline

1. Input cost inflation continues to weigh on profitability

Still-high raw material and fuel prices will continue to pressure building material companies' profitability. Companies' focus on managing costs through operational efficiencies and execution of price increases is key to mitigating input cost inflation.

2. The prolonged outbreak in China will drag on the recovery in demand

A longer-than expected outbreak in China will diminish the positive economic impacts from the economic activity growth following the reopening. Subdued economic growth and delayed recovery in the property sector will hinder the resumption of construction activities.

3. More stringent environmental requirements will benefit industry leaders

Although APAC generally lags Europe in carbon trading, more countries will likely introduce their own emission trading systems. The impact on the sector depends on the design of the scheme and the price of carbon. Yet rated entities are generally industry leaders with fewer emissions than the industry average.

Companies in APAC will continue to face pressure on profitability from input cost inflation. A weaker economic outlook would probably limit the magnitude of cost increases. Yet high fuel prices and power costs driven by the Russian-Ukraine conflict and high labor costs will continue to hit volume and pricing, thereby continuing to weigh on margin and credit metrics.

We expect thermal coal prices to stay high and subject to high price volatility on supply constrain and geopolitical risk. Thermal coal is the major energy source and the key cost component for building materials producers. Still-high coal prices are underpinned by enduring tight supply conditions, high natural gas prices, as well as an intensifying switch to coal in many countries given its relative affordability as a substitute.

While our base-case scenario assumes improved business activity in China to have a more dominant impact than reduced workforce productivity this year, new and longer-than-expected infection waves could dampen demand recovery in 2023. The prolonged COVID-19 waves in China could exacerbate the challenging operating conditions with disruptions in construction activities and supply chain. Spikes in infections will also bring risks to our forecast of 5%-8% decline in home sales in 2023 and may push the expected "L" shaped recovery in the property sector further into the coming year.

China's national carbon trading scheme was launched in July 2021 and currently covers only power producers. The government plans to expand this to cover other heavy emission industries like building materials, steel, and petrochemicals. The impact on cement producers remains to be seen, depending on how the government allocates carbon quotas and the price of carbon, currently at about 10% of that in Europe.

Whether carbon quotas are allocated free of charge, like power producers, or at a cost, we believe our rated companies stand at a better position compared with their peers because their emissions are below the national average. Therefore, they are the ones more likely to benefit from the introduction of carbon pricing because those that cannot meet national standards will likely shut down or sell themselves to stronger players who can meet standards.

Related Research

- [Decarbonizing Cement Part One: How EU Cement Makers Are Reducing Emissions While Building Business Resilience](#), Oct. 27, 2022
- [Decarbonizing Cement Part Two: Companies Could See Pressure On Ratings As The EU Firms Up Carbon Rules](#), Oct. 27, 2022

Industry Forecasts: Building Materials

Chart 25

Revenue growth (local currency)

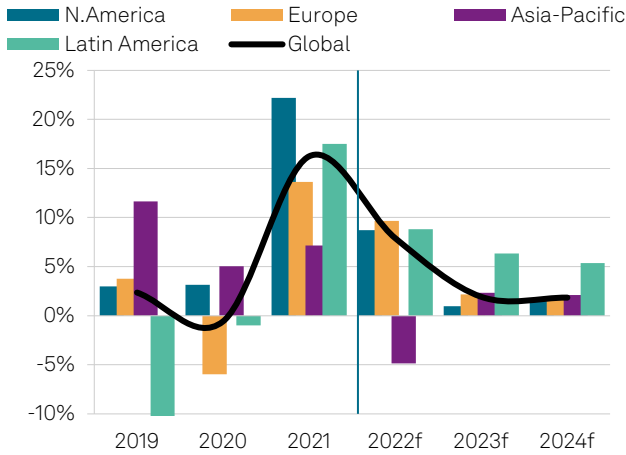


Chart 26

EBITDA margin (adjusted)

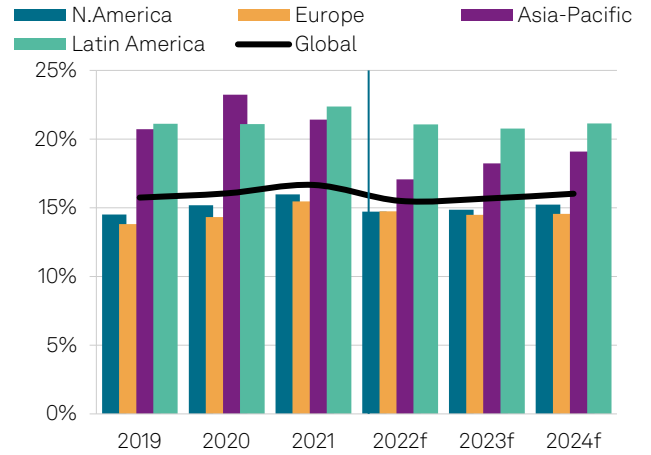


Chart 27

Debt / EBITDA (median, adjusted)

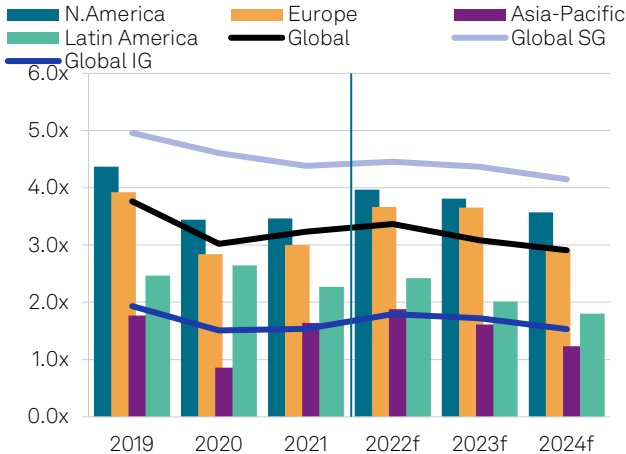
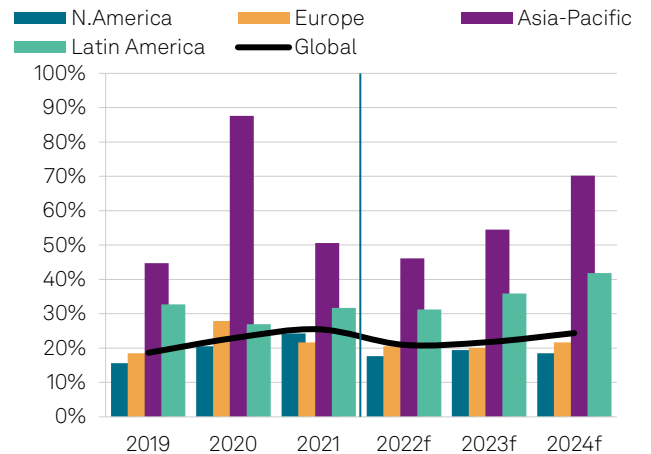


Chart 28

FFO / Debt (median, adjusted)



Source: S&P Global Ratings. f = Forecast.

Revenue growth shows local currency growth weighted by prior-year common-currency revenue share. All other figures are converted into U.S. dollars using historic exchange rates. Forecasts are converted at the last financial year-end spot rate. FFO—Funds from operations.

Cash, Debt, And Returns: Building Materials

Chart 29

Cash flow and primary uses

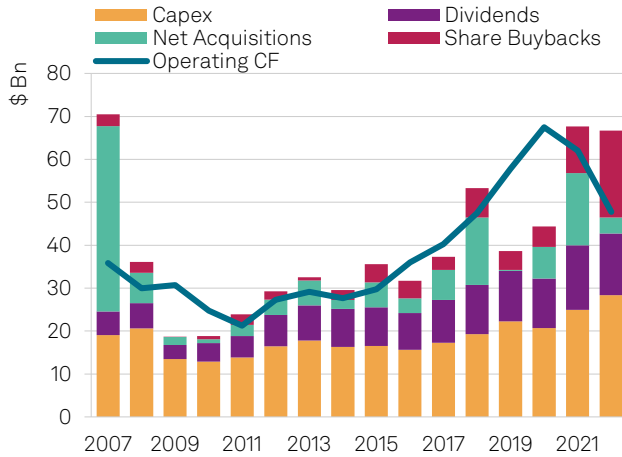


Chart 30

Return on capital employed

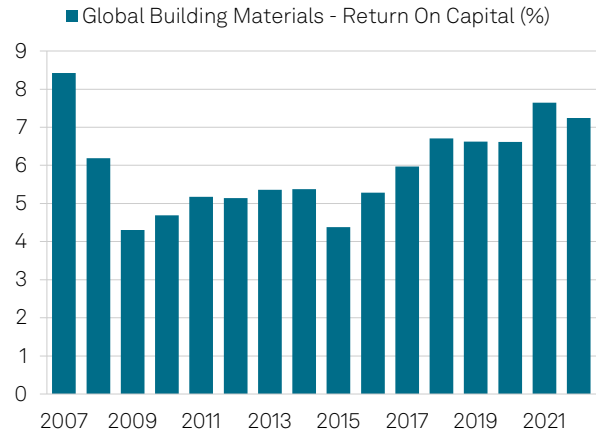


Chart 31

Fixed- versus variable-rate exposure

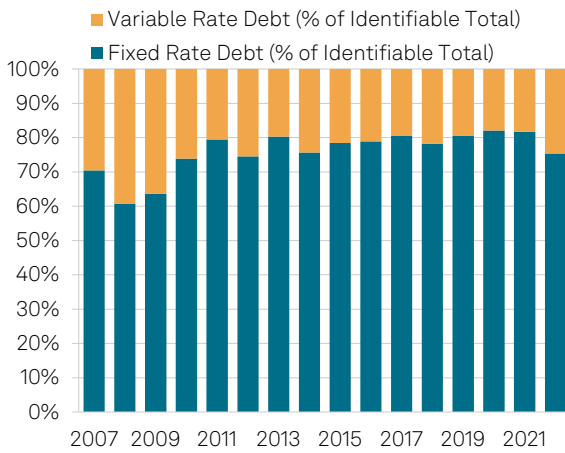


Chart 32

Long-term debt term structure

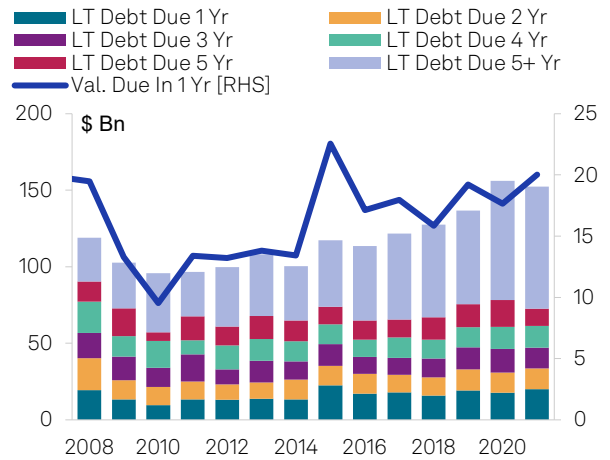


Chart 33

Cash and equivalents / Total assets

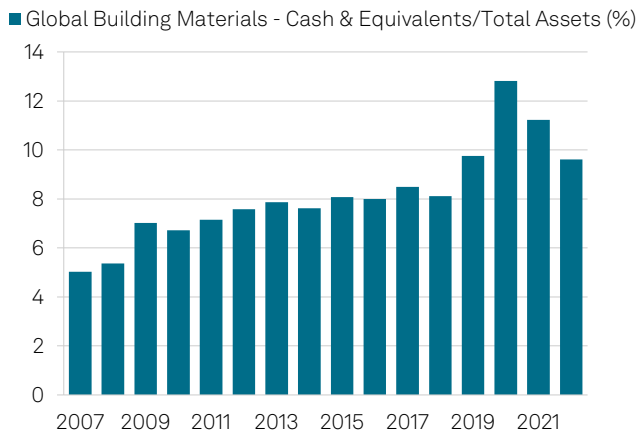
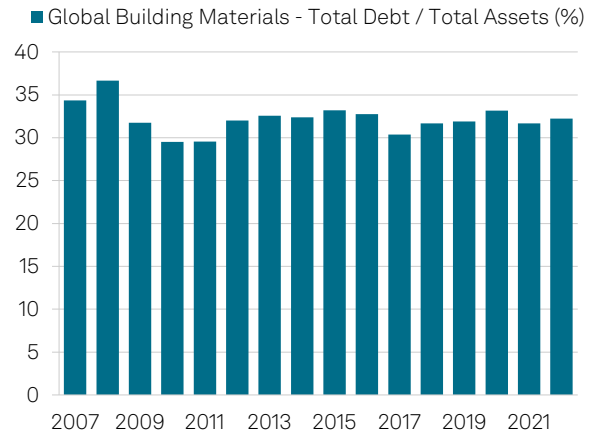


Chart 34

Total debt / Total assets



Source: S&P Capital IQ, S&P Global Ratings calculations. Most recent (2022) figures use the last 12 months' data.

Capital Goods

Fast-moving profit drivers test business strength

January 23, 2023

This report does not constitute a rating action



What's changed?

Interest rates are higher around the world. Demand stems from interest-sensitive budgets in a range of public and private sectors, which will likely affect capital goods with some delay.

Commodities have eased, but many other costs look sticky. Commodity prices are down but still historically high. Renewed supply contracts and rising labor costs will sustain cost pressures.

Natural gas supply concerns in Europe are fading. Alternative supplies, alternative fuels, and reduced consumption have preserved security of supply for now.

What are the key assumptions for 2023?

Low capex growth and flat GDP constrain demand upside. Order momentum could slow in case of a recession in 2023, but good pricing power would likely ease any decline in nominal terms.

Backlogs convert and a cyclical pop in cash flow. Easing supply constraints should improve component availability for order execution and lower working capital, boosting free cash flow.

Strategic investments are a big tailwind. Even with cyclical pressure, onshoring, energy transition, and infrastructure investments provide a baseload of demand for manufacturing.

What are the key risks around the baseline?

Higher rates push off capital spending. The sharp rise in rates could cause an air pocket in demand for 12-18 months if capital budgets are recast downward in 2023.

Lower-rated companies face refinancing risks. About 40% our rated universe is rated 'B' or 'B-', so rising rates for weak performing leveraged companies tightens refinancing capacity.

Inflation rebounds or supply chains tighten again. A cyclical downturn could worsen if demand weakens with coincident costs spikes or disrupted operations.

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Ratings Trends: Capital Goods

Chart 1
Ratings distribution

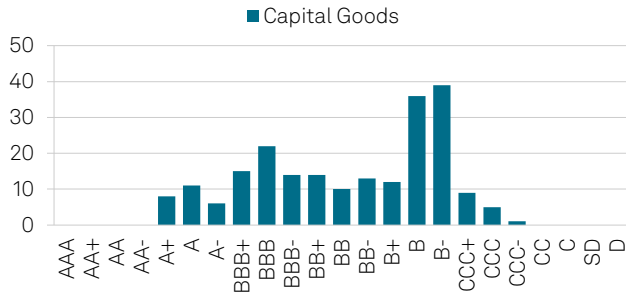


Chart 2
Ratings distribution by region

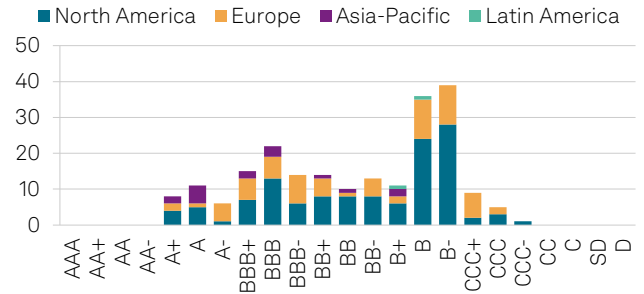


Chart 3
Ratings outlooks

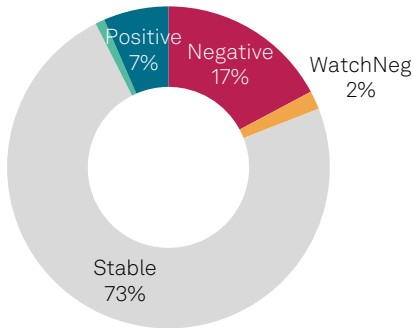


Chart 4
Ratings outlooks by region

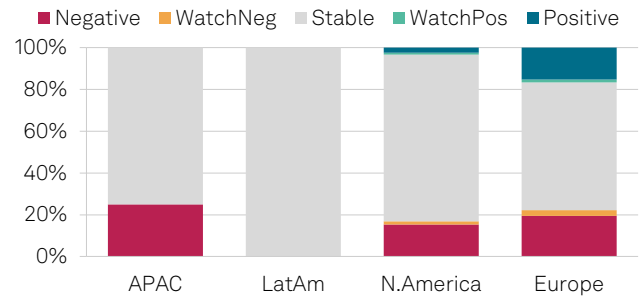


Chart 5
Ratings outlook net bias

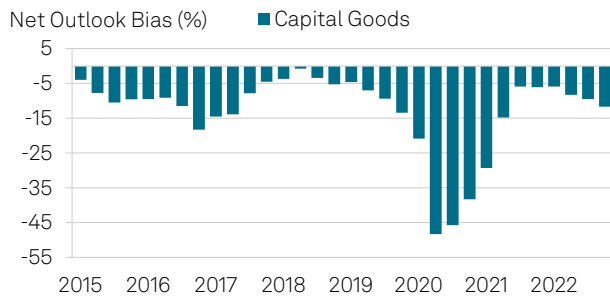
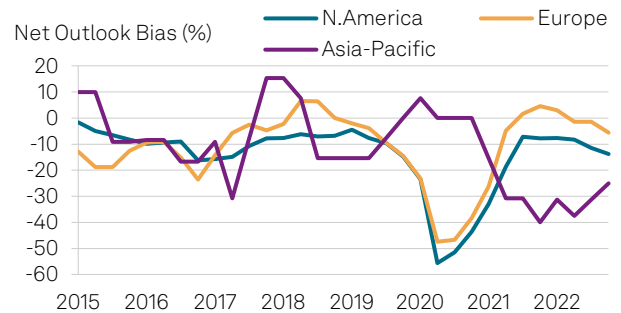


Chart 6
Ratings net outlook bias by region



Source: S&P Global Ratings. Ratings data measured at quarter-end.

Industry Outlook

Ratings trends and outlook

Our net outlook bias in global capital goods is modestly negative, about steady with last year at about 10%, so we're grinding through a slow degradation in credit quality globally. Overall, our North American portfolio dominates our outlook statistics with a 10%-15% negative outlook bias. The bias in Europe is about neutral, but it also has more positive outlooks than the rest of the world, owing to a faster-than-expected end-market recovery, bringing operating performance to pre-COVID-19 levels or better, supporting deleveraging efforts and improving financial flexibility. In Asia-Pacific (APAC), the outlook is decidedly negative, partly because a slower recovery from COVID than other regions, inflation and sluggish demand, weaker profitability, and slower deleveraging.

In line with the modest negative bias globally, we downgraded a net 5% of the portfolio in 2022. Downgrades picked up in the second half, however, as cost pressures ate into earnings and cash flow, mostly for lower-rated, smaller, and financially leveraged issuers. In North America and Europe, companies needing to refinance large portions of their capital structures over the next 12-18 months could face difficulties, taking into account often weak competitive positioning, lower margins, and bullet maturities on unhedged debt. In contrast, upgrades had outpaced downgrades 1.5:1 in 2021, mostly within this same cohort of low-rated credits, potentially indicating a cyclical turn in earnings and credit quality.

About 40% of the global capital goods portfolio is rated 'B' or lower, and about 45% of issuers in the U.S. portfolio are 'B' or lower, owing to a preponderance of financial sponsor-owned companies often with weaker competitive characteristics. The sharp rise in interest rates and lower earnings prospects have hit the pricing of low-rated debt tranches, many of which are trading at deep discounts and could indicate refinancing stress unless earnings boom in the next few years.

Pricing power remains key for profitability in 2023. Inflationary pressures in North America and Europe might have peaked, but prices for commodities are still high. We now anticipate that second-round effects from rising labor costs and renewed supply contracts will keep costs rising, albeit to a lesser extent than in 2022. For the time being, rising prices have not resulted in any material loss of orders because underlying demand has remained healthy, fueled by pent-up demand following COVID-19 and government investment programs. Still, new order growth has started to slow in the second half of 2022 and we expect a decline in new order intake in 2023, driven by a high base in 2022 and price effects.

Main assumptions about 2023 and beyond

1. Revenue growth flattens as economic outlook darkens

Our aggregate corporate forecasts indicate that growth in global capital expenditures (capex) in 2023 and 2024 will slow to low-single digits on the back of a surge in 2021 and 2022. Not coincidentally, S&P Global Ratings economists forecast a 1% decline in real equipment investment in 2023-2024, coming off a cyclical peak in 2021 of 13% and about 6%-7% in 2022.

2. Improving debt leverage from a surge in cash flow

We estimate free cash flow for the capital goods industry globally dropped almost 25% in 2022 due to high working capital build up. Our base-case forecast assumes a partial release of working capital and improved cash flow generation, which could help lower median debt leverage toward 3x in 2023 from almost 4x in 2021, but this could depend on continued improvement in supply chain issues.

3. Secular tailwinds and cyclical headwinds could make for a choppy 2023

The underpinnings of demand for capital goods look fairly strong around the world, but the rapid rise in interest rates could recast capital outlays for businesses and governments. We see pockets of weakness, like construction in Asia, but strategic investments for supply chains and energy appear entrenched for a few years. Nevertheless, large, cutting-edge investments and demanding customers also carry some risk for manufacturers, as exemplified by the uneven profitability of some segments of renewable energy, like wind turbines.

Our aggregated global forecasts point to a cyclical easing of good growth in 2023 and 2024.

The J.P. Morgan Global Composite Output Index--produced by S&P Global--posted 48.2 in December 2022, the fifth consecutive month of global contraction, with fewer supply delays, reduced energy market concerns, and weak demand. Global new orders dropped at the steepest rate since 2009, barring pandemic lows. S&P Global Ratings economists project a downturn in equipment and nonresidential investment in 2023, so that we currently forecast only slightly positive constant-currency revenue growth and a small 4% decline in total EBITDA after a cyclical surge last year. Adjusted for an assumption of a weaker U.S. dollar against most currencies around the world, however, we expect good pricing on large backlogs will propel organic revenue growth and support margins in U.S. dollar terms despite economic headwinds, boosting global revenue 5% and EBITDA 5%-10% in 2023. We assume a steady pace of mergers and acquisitions (M&A) supplements our fairly modest low-single-digit organic revenue growth assumptions. A countercyclical release of working capital should spark good free cash flow and lower debt, even if inventories stay historically elevated.

Slower growth and lower costs could boost cash flow for North American issuers. Following robust revenue growth in 2022 on the back of significant price increases, we expect another year of positive--albeit moderating--organic revenue growth in North America. Robust commodity and infrastructure investment might offset a chill in cyclical and discretionary sectors. Investment to diversify European energy resources and energy efficiency, as well as U.S. infrastructure bill and EU recovery funds, should provide a tailwind to capital goods activity over the next several years. Sectors with pricing power and strong structural drivers, including grid, internet-of-things (IoT)/factory automation, energy, and mining-equipment manufacturers could outperform. While we have not seen any material cancellation of orders, we view companies exposed to the construction sector with the highest risk given the sharp drop in new project developments after the steep interest hike for mortgages.

Industry Top Trends 2023: Capital Goods

Companies that typically operate with longer lead times (for instance, heavy equipment manufacturers) have built up significant backlogs in the back half of 2022, both due to pent-up demand for new equipment and some delay in product shipments given supply chain challenges, which should support good production volumes entering 2023. In addition, we expect the benefit of pricing increases announced in 2022 to carry over into 2023. Still, we believe short-cycle demand will generally soften given our forecast for a mild recession in 2023. We remain cautious about revenue growth from new orders in 2023 even with large backlogs intact in late 2022.

Most issuers indicated some limitations on output in 2022 due to sourcing issues, logistics, distribution, or even their own capacity. Now, the most severe supply chain challenges have moderated, which could steady the throughput of goods in 2023. We assume materials costs in 2023 will be 10%-15% lower than 2022, but still 20%-30% higher than the last 10 years. However, energy costs will likely increase and selling, general, and administrative costs (SG&A) will remain elevated to accommodate wage growth and logistics costs, even if some volumes or prices drop in 2023.

European capital goods companies' revenue growth could slow to 5%-6%. European industrials reported robust demand and revenue growth of about 12% during 2022, with the guidance now signaling better 2023 supplier trends and continuing higher prices. However, companies remain wary of recession-risk, and persistent cost inflation and supply stress may remain dominant influences for 2023, which, coupled with rising interest rates, could spur demand destruction. At the same time, order backlog remains at record high levels and inflation expectations for 2023 should translate into revenue growth of more than 5% on nominal terms.

Among the larger companies (US\$10 billion topline), we expect 3 out of 12 will see revenue grow more than 10%, among them Assa Abloy (thanks to organic and inorganic growth), Epiroc (supported by continued strong demand for battery metals and inorganic growth) and Ashtead (supported by the expansion of the group's specialty business and rolling bolt-on acquisitions). On the other hand, we expect only thyssenkrupp AG to see a meaningful decline of revenues (up to 15%), underpinned by normalization of material prices trailing the peaks of 2022, and further wind-downs in its Multi Tracks segment.

Profitability in EMEA to improve. We expect moderate margin expansion on-average --around 50 basis points (bps)--in 2023 after a challenging 2022. This is mainly because European capital goods issuers are now better set to cope with persisting supply and inflation challenges. Companies have implemented price increases that will unfold in full in 2023 and commodity prices have peaked, providing some additional support to profitability, and better supply of parts should help to improve operational efficiency.

KION, Siemens Energy, and TK Elevator profitability have been suffering intensely from component shortages, causing delays in order/project execution and time lag to pass on cost increases. We expect a recovery of 150-300 bps for 2023. Together with ABB, Siemens AG, and Schneider, the largest capital goods companies in EMEA should account for roughly 65% of the expected nominal EBITDA growth. Meanwhile, thyssenkrupp's margin is set to decline by at least 120 bps mainly due to the normalization of steel environment. Leaving out the above-mentioned companies, we expect margins to be broadly unchanged while nominal EBITDA will increase in line with revenues. Elevated backlogs should cushion against slowing growth, yet further opportunities for margin improvement could exist. Incremental structural savings are important for industrials as they adapt to rapidly-changing pricing and cost developments. For example, Sandvik has recently started a program to improve operating efficiency and resilience, and Alfa Laval is set to make capacity adjustments to address supply-demand imbalances in its Marine and Energy division.

The cost of reorganizing Europe's gas supply is high. To attract new suppliers, Europe is willing to pay record prices for natural gas, which also translates into record high electricity prices. Even though energy markets are globally connected, energy costs increased in the U.S. and Asia to a much lesser extent than in Europe. TTF gas increased four-fold from its five-year pre COVID (2015-19) average of €17.5/MWh to about €70/MWh for 2023, while U.S. Henry Hub gas increased just 50% from €8.4 per MWh to about €12 per MWh, widening the cost disadvantage for European companies. Direct impact is limited as capital goods companies in Europe are primarily concerned with assembly production, with energy costs account for only about 2%-3% of direct cost of goods sold (COGS). At the same time, rising energy costs will raise the cost of sourced supplies, adding to cost inflation pressure, impacting the profitability of companies with limited pricing power. Global companies with ability to shift production and supplies, such as Siemens AG, and companies able to pass on costs due to their strong market position, will be impacted least.

Given the globally desynchronized supply chains, where availability is the key differentiation factor over price, and gradually declining energy prices, as implied by current forward rates, we expect only limited impact on the competitiveness of European capital goods companies in the short to medium term. However, if materially higher energy costs in Europe are cemented compared to other regions, it would weigh on the competitiveness and profitability of companies with an inflexible European-centric supply network, or that serve primarily energy-intensive European companies.

A diverse group of U.S. credits holds strong. Overall operating trends in larger diversified conglomerates have been stable and, in some cases, favorable in 2022 and we expect to see similar trends in 2023. For many, the supply chain should improve with lead times moderating, backlog figures decreasing, and working capital requirements becoming less onerous. Distributors should weather a mild recession in 2023 fairly well given a large portion of their revenue is tied to relatively stable maintenance, repair, and overhaul (MRO) demand. We also anticipate those with exposure to energy end-markets should continue to benefit in 2023 from good demand and energy investments, and onshoring in many industries should also provide a tailwind to distributors. While we anticipate some pricing give-back in 2023 as commodity prices come down, there may be a lag effect because it will likely take a few more quarters to drain the supply chain of higher-cost inventory, and we expect distributors to maintain their ability to pass on costs. Further, we believe pricing will hold for less commoditized parts. Nevertheless, reduced pricing will likely lead to some margin degradation given elevated labor costs from wage inflation and the fixed cost of maintaining distribution locations. We forecast another year of good performance for equipment rental companies, given a still-tight supply of new equipment, a continued shift toward renting versus buying and infrastructure project starts.

HVAC risks in U.S. might depend on exposure to residential markets. Johnson Controls International PC (JCI) is mostly exposed to complex commercial projects with long lead times, contributing to higher growth than Lennox International Inc., for example, which has greater exposure to residential investment. Although we expect order rates will come down through 2023 as the commencement of larger construction projects may be put on hold or cancelled outright given higher interest rates, the industry should benefit from a stable level of replacement demand, particularly given trends towards energy efficiency and decarbonization, as well as aftermarket parts and services. We anticipate residential order volumes to decline through 2023 driven largely by new construction, which generally represents a small portion of revenue for JCI, Trane Technologies, and Carrier Corp, and about 15%-20% for Lennox. While replacement demand may slow modestly, we believe subsidies, rebates, and tax incentives offered by the Inflation Reduction Act (IRA) may partially offset demand declines driven by weakening economic

conditions. Nevertheless, residential revenue may be flat to slightly up in 2023 given carryover pricing from 2022 and pricing premiums on higher efficiency units required to be sold in 2023.

Input cost inflation likely to pressure profits in APAC. This is due to weaker consumer sentiment (excluding Japan) and Japan's muted growth in consumer demand. We expect capital goods companies in Japan, for instance, will only be able to pass about 50%-60% of the increased input costs to customers. We therefore expect the EBITDA margin for APAC companies to remain flat in 2023, at around 10%-11% on average.

China's new COVID policy will likely affect Chinese economies in two ways: improved social mobility and business activity will boost the economy, but reduced workforce productivity (due to illness or mortality) could put downward pressure on business activities, leading to prolonged supply chain disruption for global capital goods companies. We expect the upside drivers will have a bigger positive impact than the downside drivers a negative impact in 2023, leading to our GDP forecast in China recovering to around 5% in 2023 from around 3% in 2022.

Recovery in China will mainly only be a benefit to Chinese capital goods companies, given relatively small earnings exposure for China by global capital goods companies. For Japanese capital goods companies, the level of global information technology (IT) spending, semiconductor and auto sales, as well as energy (and decarbonization) policy will have a big influence.

Credit metrics and financial policy

Despite deteriorating macroeconomic indicators, factors like manufacturing onshoring, energy transition, and government investments support a baseload of demand for the late-cycle capital goods sector. We expect investments in energy--for instance, in liquid natural gas (LNG) facilities --as well as ongoing decarbonization efforts, will support demand for energy-related components. We also expect auto sales to grow in 2023 as more than a year of supply constraints have kept auto sales well below pre-pandemic levels. Air travel should continue to recover from pandemic lows, supporting demand in the commercial aerospace market. In addition, we expect commodity prices to remain supportive of investment in agricultural and mining equipment end markets in 2023. The U.S. Inflation Reduction Act and CHIPS and Science Act combine to bolster multiyear capital spending on items like solar panels, wind turbines, semiconductor foundries, and battery plants. While the Infrastructure Bill should spur construction and infrastructure activity, we foresee only a gradual ramp-up in 2023. In all, cyclical and secular tailwinds are counterbalanced by sharply higher interest rates and high costs for equipment, which could drag on public and private investment decisions in 2023 and 2024.

Working capital build-up should release into good cash flow and lower debt leverage. Capital goods companies funded a shockingly large working capital investment in 2022, which weighed on free cash flow generation. We expect a portion of this investment to release as companies ship high-cost backlog, resulting in higher levels of free cash flow in 2023 vs. 2022. We do not anticipate a full reversal given continued revenue growth and considering our expectation that companies will maintain an elevated level of safety stock amid still-uncertain supply chain conditions.

Given larger expected free cash flow generation and potential for equity market dislocations in 2023, we believe issuers could pursue share repurchase activity as part of their capital allocation. We believe these will be moderate and funded from cash flow rather than debt due to higher interest rates. Dividends will likely remain steady, with a typical modest increase usually seen in capital goods companies.

Portfolio transformation continues to be a key theme for diversified industrials. Despite the macroeconomic uncertainty and potential weakness, we believe most diversified issuers

continue to be positioned well with record backlogs carried from 2022, healthy demand trends supported by decent order rates, long cycle businesses improving over time, and secular trends related to areas within automation, sustainability, digital transformation, and electrification. We expect continued M&A activity and divestments for these issuers in 2023 as companies embark on longer-term strategies and invest for longer term growth, improved profitability, and more stable cash flows, while disposing businesses exposed to more cyclical end-markets or project risks, heavy competition, or low growth potential.

No significant improvement in financial ratios for APAC issuers. We believe the financial policies in APAC capital goods companies in 2023 will follow one of two paths: 1) companies with significant acquisitions or investments in recent years will cut back in the next few years, and their financial ratios will improve; 2) companies that have suspended investments recently will resume investment along with the recovery in EBITDA and operating cash flow, and their financial ratios will not improve. We expect Chinese companies with more domestic demand will continue to invest aggressively in the home market along with market expansion, while issuers in low-growth countries such as Japan and Singapore will look to make cross-border investments (including acquisitions of foreign companies, possibly in areas of IoT and energy). Because APAC issuers pursue growth, we believe shareholders return will not be the first priority for their cash flow allocation.

Key risks or opportunities around the baseline

1. Orders hit an air pocket in 2023 if higher rates push off capital spending

The higher cost of capital and of manufactured goods inevitably affect the all-in returns on any large investment, public or private. A slowing economy could test our assumptions for steady demand and easy cost pass-through. Nevertheless, many large projects have multiyear capital commitments from government and business, and support strategic goals like manufacturing onshoring, and energy transition.

2. Refinancing risks rise with higher rates and weaker earnings

Significant amounts of low-rated debt are trading well below par because of higher interest rates and some elevated profit risks for smaller issuers. Even if maturities are still fairly long, we've seen defaults on 2025 maturities owing to business strains like high costs. Median debt/EBITDA for 'B' and 'B-' rated issuers in global capital goods in 2022 was about 7x, so these issuers are aiming to boost profits to sustain their capital structures in a higher rate environment.

3. Sticky costs and new supply chains tighten cash flow and returns

EBITDA margins have been marching higher since 2020, as most capital goods companies passed along higher costs fairly easily. This could start reversing itself if demand weakens and costs remain high or supply chains are disrupted.

Supply chain challenges are easing in 2023, but problems could hit backlog conversion. Supply chain disruptions would be one of the key risks to our base case since it would lead to an inability to convert the backlog to revenue, while inventory levels would remain elevated and new orders would be declining. However, our base case assumes the supply situation improves in 2023. Companies have actively expanded their supplier base by developing new suppliers to reduce bottlenecks. A better supply of semiconductors thanks to increased capacities and reduction in demand from recession-sensitive sectors (such as consumer electronics) could support increased supply in the capital goods and automotive industries. Better availability and lower

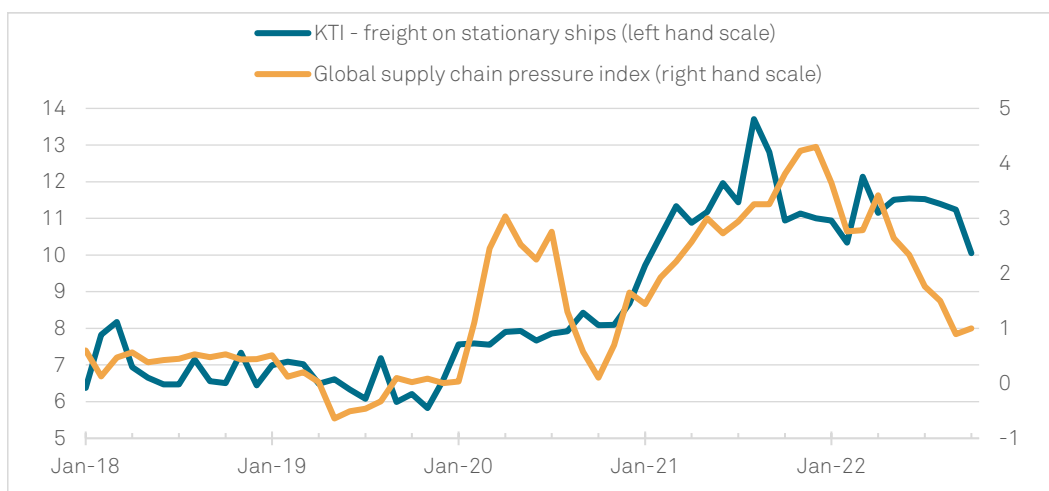
Industry Top Trends 2023: Capital Goods

shipping prices, reduced port congestion, and a less restrictive COVID-19 policy in China should also help to stabilize global supply chains.

Better parts and component availability will aid in the execution of the sector's large order backlog, helping to offset the likely softening of demand in 2023. Improved material flow will boost profitability by avoiding extra costs such as expensive air freight, but it will also improve fixed cost absorption with higher plant utilization. Inventory days are likely to decrease with more synchronized supply chains compared to 2022, improving the cash operating cycle (though it will remain above pre-COVID levels). Despite the structural release of working capital, cost inflation will keep having a drag on working capital. While many large global issuers have a largely region-for-region sourcing model and are able to shift supply and production, smaller companies outside of North America with less diversified production and supply chain networks might be tied to Asian or European supply chains. As such, regional lockdowns or component scarcity would weigh on earnings and working capital.

Chart 7

Supply pressure index - Supply bottlenecks have eased considerably



Source: IfW, FRBNY, S&P Global Ratings

Pricing power will remain a key differentiator. Industrials' pricing power, which benefits from attributes such as value-based pricing and offerings that address global challenges, should help protect margins. Companies with a greater share of revenue from a mix of software and services may be better shielded from pricing pressure and thus face lower margin pressure in 2023. We have observed several dynamics among companies around the world:

- Market leaders with high barriers of entry, like Siemens AG, Schneider Electric, Caterpillar, John Deere, and Hitachi, were able to pass costs increases to customers, demonstrating their strong pricing power.
- However, companies with exposure to long-cycle project business faced eroding gross margin for costs that are not hedged, such as logistic costs.
- Some companies did not have indexation clauses in all of their contracts/orders, such as Siemens Energy in its onshore wind turbines segment and TK Elevator for smaller projects with short to medium lead times. In such cases we anticipate a delay in passing on costs that support profitability in 2023 as unfavorable contracts are phased out and indexed contracts begin to be executed. Similarly, GE's renewables business faces new markets and innovative products that are dragging on profits.

Industry Top Trends 2023: Capital Goods

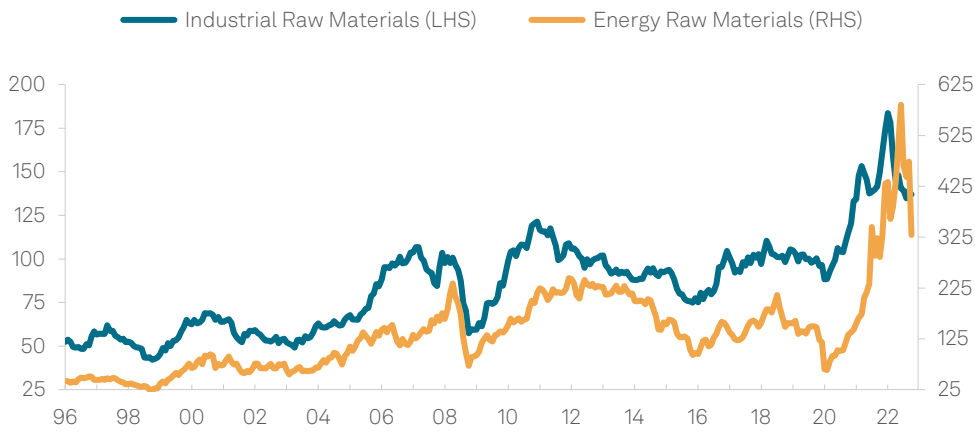
- In some cases, the rate of cost inflation and component supply delays pressed even gross margins for short-cycle products, which have typically have a short lead time. Such is the case with logistic truck maker KION where margins in its truck segment were under pressure despite relatively rapid price increases. We anticipate a recovery in its truck margin as commodity prices have moderated and price increases fully materialize in 2023.
- Energy-intensive businesses have implemented an energy charge, passing on increased expenses straight to their customers. The nominal EBITDA should be maintained even though these levies will increase revenues and put pressure on EBITDA margins.
- Companies that operate in a fragmented market with limited market share or high dependency on few customers (e.g. supplier to original equipment manufacturers) or suppliers have a weaker pricing power, putting pressure on margins.

A cohort of highly leveraged credits aims to boost earnings and reduce leverage despite economic pressures and higher rates. 'B' and 'B-' rated issuers in capital goods have about 7x debt/EBITDA, and we assume reported currency EBITDA will jump 10% in 2023 so that leverage drops to 6.5x in 2023 and 6x in 2024. This higher EBITDA, however, relies on the follow-through of operating synergies from acquisitions 12-24 months ago. Operating trends for the sponsor-owned speculative grade issuers during 2022 were mixed with many companies experiencing high-single- to low-double-digit topline growth supported by record levels of backlog and orders, offset by significant margin pressure. For most of these companies, the rapidly rising costs took a significant toll on first-half earnings as companies experienced a 3-5 month lag in their ability to recognize their price increases. Given the lackluster earnings and rising interest rates, companies whose debt profile matures within the next 12-18 months were hesitant to refinance during this time period, causing additional downside pressure. Several other companies who completed debt-funded deals (such as leveraged buyouts or acquisitions) in late 2021 and early 2022 also remained pressured from a leverage perspective given the added debt load and costs associated with the transaction in addition to pricing and supply chain headwinds. Looking ahead to 2023, we assume softer revenue growth, with a few companies already feeling the impact on sales from slowing end markets (housing and construction). While supply chain pressures seem to be abating and most companies have already worked through lower-priced backlog, margins should remain intact with higher nominal EBITDA. A decline in nominal EBITDA, however, could have a big impact on their leverage profile. On the other hand, companies whose cash flows were significantly impacted by working capital outflows in 2022 should see some reprieve as they sell down their high levels of inventory and are able to have better collection of receivables.

In APAC, because of local currency depreciation against the U.S. dollar, unhedged debtors are exposed to further U.S. dollar appreciation. While domestic funding is accessible, access to dollar debt funding has tightened. If economies slow sharply, banks may tighten credit, leading to a squeeze of liquidity for lower-rated and highly leveraged borrowers.

Chart 8

HWWI commodity price index

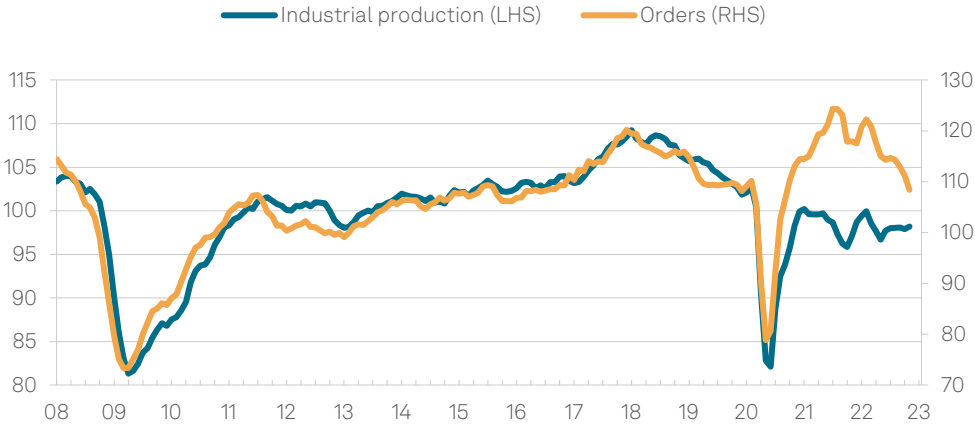


Source: Refinitiv, HWWI--Hamburgisches Welt Wirtschaft Institut

Chart 9

German Industrial Production Versus Orders

3-Month Moving Average



Source: Refinitiv, S&P Global Ratings

Related Research

- [ESG Materiality Map, Capital Goods](#), Oct. 6, 2022
- [Japan Heavy Industries And Capital Goods: Three Risks To Credit Quality](#), June 8, 2022

Industry Forecasts: Capital Goods

Chart 10
Revenue growth (local currency)

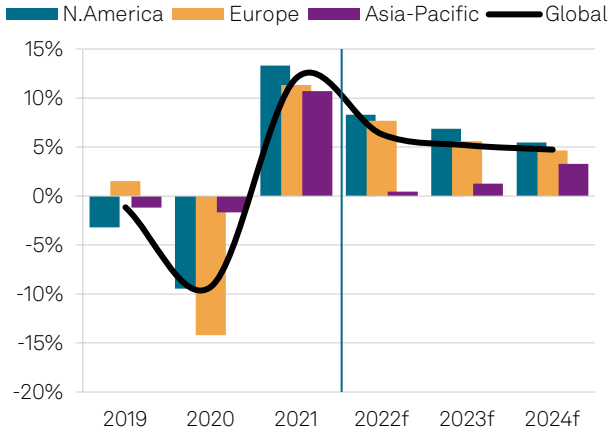


Chart 11
EBITDA margin (adjusted)

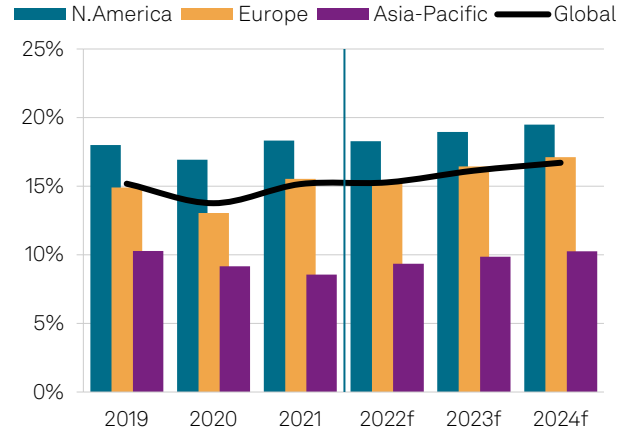


Chart 12
Debt / EBITDA (median, adjusted)

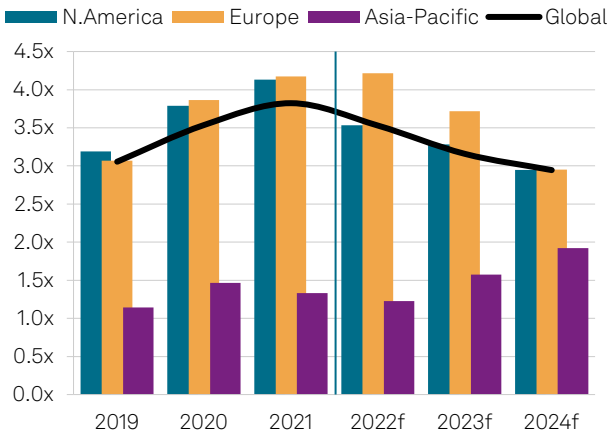
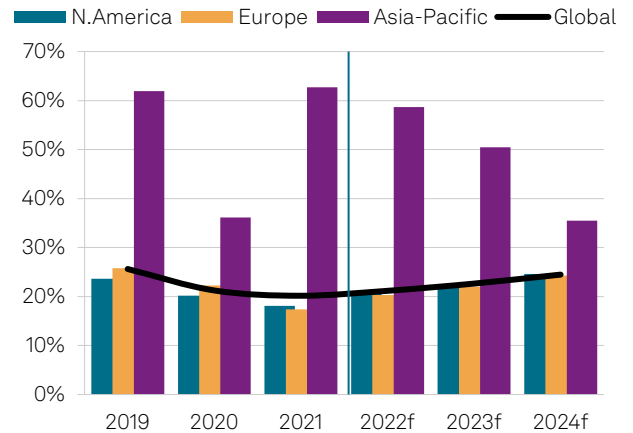


Chart 13
FFO / Debt (median, adjusted)



Source: S&P Global Ratings. f = forecast.
Revenue growth shows local currency growth weighted by prior-year common-currency revenue share. All other figures are converted into U.S. dollars using historic exchange rates. Forecasts are converted at the last financial year-end spot rate. FFO—Funds from operations.

Cash, Debt, And Returns: Capital Goods

Chart 14

Cash flow and primary uses

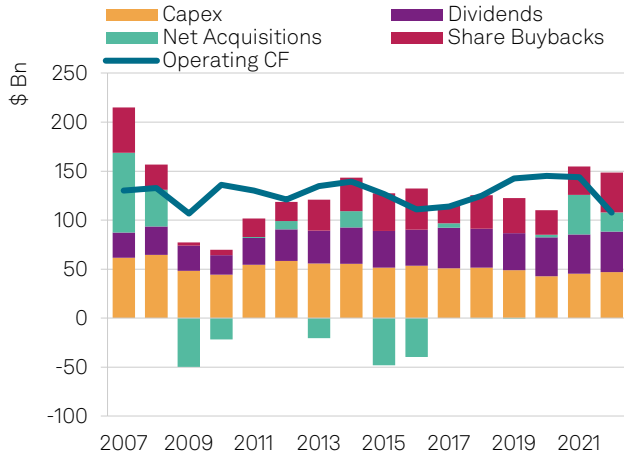


Chart 15

Return on capital employed

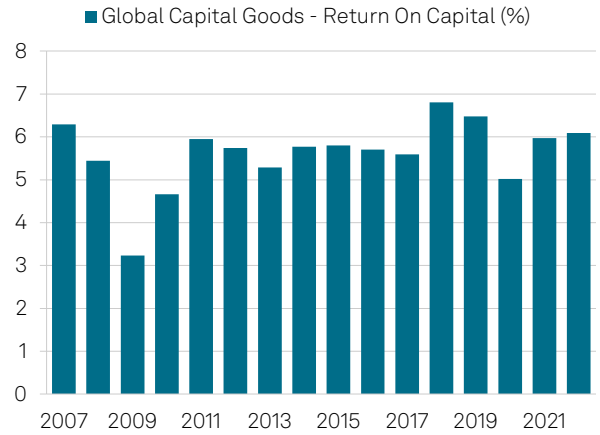


Chart 16

Fixed- versus variable-rate exposure

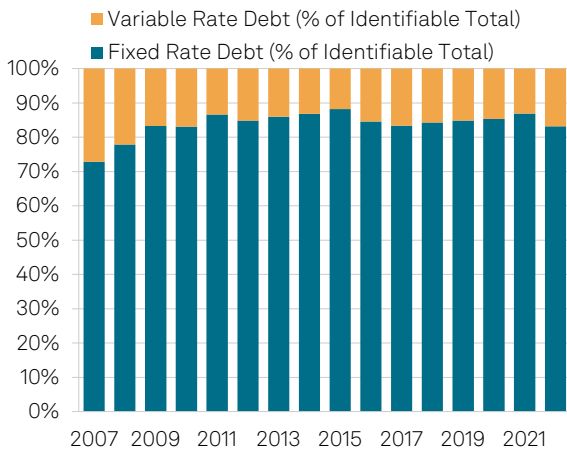


Chart 17

Long-term debt term structure

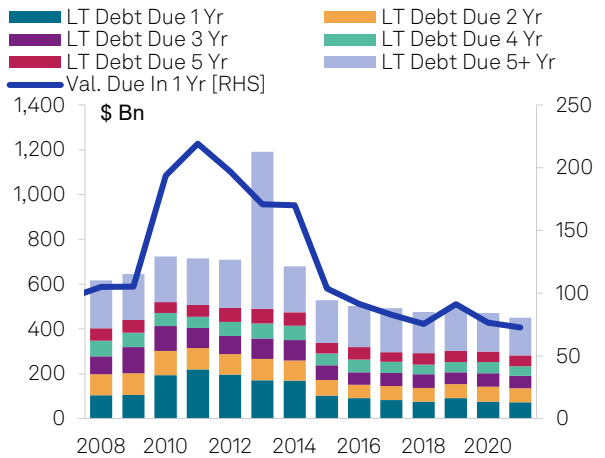


Chart 18

Cash and equivalents / Total assets

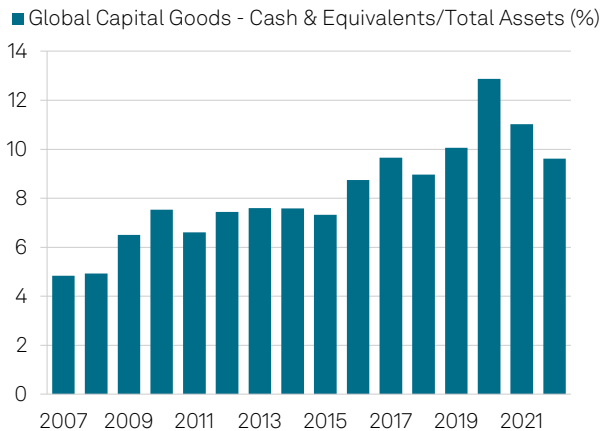
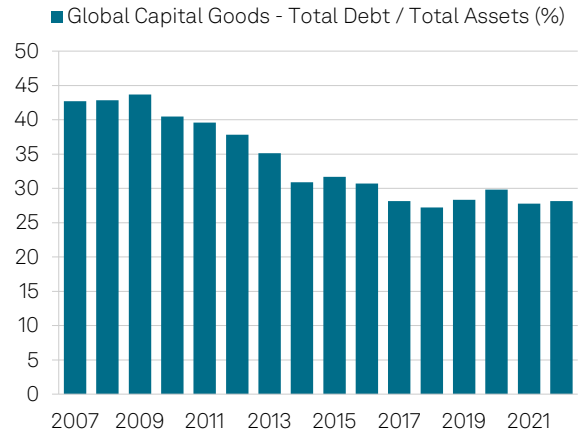


Chart 19

Total debt / Total assets



Source: S&P Capital IQ, S&P Global Ratings calculations. Most recent (2022) figures use the last 12 months' data.

Chemicals

Perfect storm of high inflation and weak macro dim credit outlook

January 23, 2023

This report does not constitute a rating action



What's changed?

A reversal of petchem fortunes. The petrochemical (petchem) industry did a 180 in the second half of the year and is in a cyclical trough.

Inflationary pressures. Significant increases in energy, raw material, and freight costs eroded producer margins.

Exorbitant fertilizer prices. War in Ukraine, economic sanctions, nitrogen capacity shut-downs, supply chain disruptions and Chinese export restrictions, lifted fertilizer prices to record levels.

What are the key assumptions for 2023?

Mild recession for Europe and the U.S. In the U.S. we are forecasting fractionally negative (0.1%) growth. We forecast eurozone GDP growth to be zero this year.

Petchem market remains weak. Margins globally remain weak for commodity chemical producers due to high feedstock costs, additional capacity, and softer demand.

Fertilizer prices to remain elevated. High fertilizer prices will gradually abate but remain elevated due to uncertainty about global supplies and trade flows.

What are the key risks around the baseline?

A global economic recession deeper than forecasted can significantly impact prices/volumes.

A significant increase in Europe natural gas prices and disruption to its availability would further affect European chemical producers' operating rates and competitiveness.

Capital market access. Rising rates and recession could affect speculative-grade market access.

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Ratings Trends: Chemicals

Chart 1
Ratings distribution

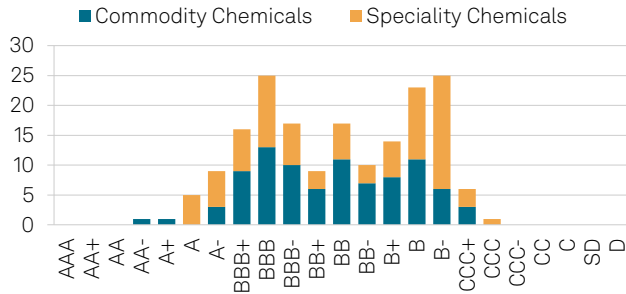


Chart 2
Ratings distribution by region

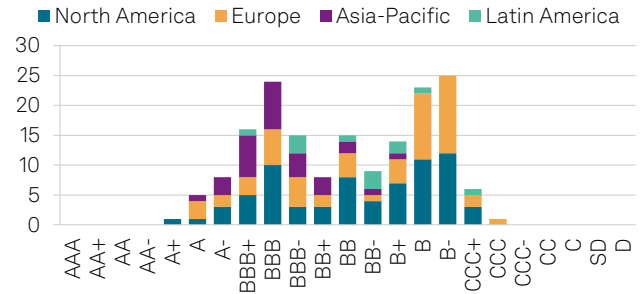


Chart 3
Ratings outlooks

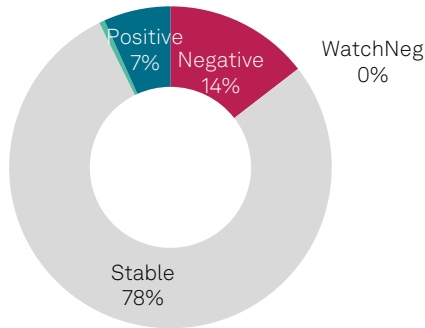


Chart 4
Ratings outlooks by region

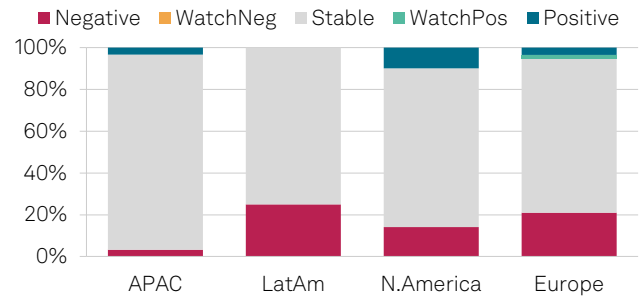


Chart 5
Ratings outlook net bias

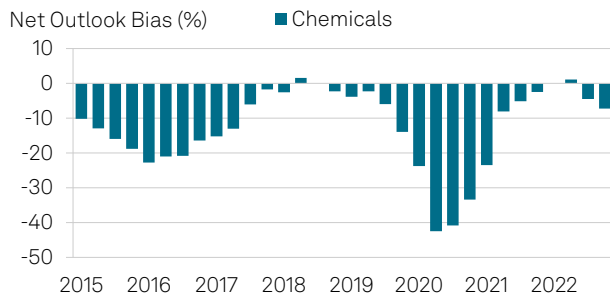
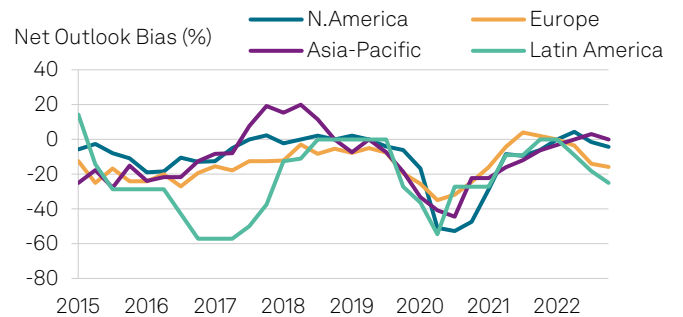


Chart 6
Ratings net outlook bias by region



Source: S&P Global Ratings. Ratings data measured at quarter-end.

Industry Outlook

Ratings trends and outlook

Benefiting from strong demand and healthy margins and cash flow, chemical company credit metrics were quite strong in 2022 as many companies paid down debt or built cash. During the year, we have observed many chemical issuers successfully protecting margins by way of strong focus on pricing discipline and improvements to product mix, thereby retaining some cushion to weather a mild recession we foresee in 2023. Indeed, the overall outlook for the rated chemical portfolio is largely stable at 78%.

The negative outlook bias is more pronounced in Europe, which is in the midst of an energy crisis that could get worse depending on certain factors like weather, rationing and LNG capacity additions. Over 20% of the chemical credits there have negative outlooks.

Main assumptions about 2023 and beyond

1. Slowdown in global growth including recession in OECD economies

We forecast lower revenue and earnings for many chemical companies, with specialty chemical companies generally being less vulnerable to pricing weakness. Chemical companies catering mainly to markets in China may see some growth. We forecast broadly flat to lower volume developments and a diminishing ability to pass through inflationary pressures to customers.

2. Petchem in a cyclical trough

Petchems are in a cyclical trough and will remain that way through 2023. Inflation, high interest rates, and pricing pressure due to additional capacities will weigh on producer margins. U.S. producers will maintain an economic advantage but margins will still be weak. Higher-cost producers in Asia and Europe will likely have cracker margins at or near zero for some of their feedstocks.

3. Strong fertilizer prices to continue in 2023

Some additional capacity in potash and less constrained phosphate markets could ease the market toward normality. The effects of the Russia-Ukraine war may reverberate through the global fertilizer industry for years to come. High fertilizer prices will gradually abate in 2023, though will remain at historically elevated levels. Medium-term demand is likely to expand between 1% and 2% per year.

Recession in OECD economies. S&P Global Ratings is forecasting a slowdown in global GDP growth to 2.2% from 3.4% last year, with a mild recession or flat growth for some key OECD economies. For key regions in the U.S. and eurozone, we are forecasting negative 0.1 and flat growth, respectively, this year. This slowdown will lower revenue and earnings for many chemical companies but the impact will vary, with specialty chemical companies generally exhibiting less vulnerability to pricing weakness. Some companies, particularly ones catering to markets in China, may buck the trend and witness some growth given our expectation that economic activity in that country will strengthen slightly, following a weak 2022. Our economics team has China growing at 4.8% up from 3.2% last year. Our base-case forecasts for 2023 already factor-in broadly neutral to lower volume developments, depending on the product and end-market exposure. Revenue growth is primarily driven by price increases to offset inflation. Given the expected recessionary economic environment, we foresee a diminishing ability to pass through inflationary pressures to customers without a degree of demand destruction or, where possible,

product substitution. Hence for the sector overall, we are forecasting a slight decline in margins. Lower volumes and margins might stress issuers' credit metrics and ultimately our ratings, particularly in the cases of less diversified entities.

Petchem is in a cyclical trough in the base ethylene/propylene as well as the poly chains (polyethylene and polypropylene) and will remain that way through 2023. Capacity additions have been ongoing since 2021 starting in the Gulf of Mexico and will continue through 2024, with Asia, particularly China, leading the way. It's highly likely that these supply additions will outstrip demand as we enter softer economic and recessionary periods, resulting in lower operating rates and margins. Persistent inflation, high energy costs (particularly in Europe), higher interest rates, the Ukraine war and weak end markets, will continue to weigh on producer cracker margins. U.S. producers will maintain an economic advantage given their proximity to an abundant supply of ethane but margins will still be weak. Higher cost producers in Asia and Europe will likely have cracker margins at or near zero.

Strong fertilizer prices to continue in 2023. Some additional capacity in potash and the less-constrained phosphate market (due to past investments in capacities) could ease the market toward normality but won't completely plug the gap created by missing Russian fertilizer volumes and export restrictions in China--particularly given expectation of broadly resilient demand, albeit with the risk that high prices will lead to further demand destruction. The effects of the Russia-Ukraine war may reverberate through the global fertilizer industry for years to come. Russia is the largest exporter of nitrogen and second largest exporter of potassium and phosphorous fertilizers.

We anticipate that high fertilizer prices will gradually abate in 2023, though will remain at historically elevated levels as long as there is uncertainty about global supplies and trade flows. Medium-term demand is likely to expand between 1% and 2% per year, although we note that high prices caused a degree of demand destruction, notably in emerging economies and smallholder farms. This estimate is based on forecast increases in planted areas for cereals and seed oils in Brazil, a globally declining stock-to-use ratio, and continued farm subsidies reflecting the importance of food security for governments. We anticipate credit quality in our fertilizer portfolio will generally benefit from these conditions, as prices will remain higher for longer, though so will volatility. Unprecedented top-of-the-cycle conditions led to significantly improved profitability and cash flows in our rated portfolio of fertilizer companies; however, this alone does not guarantee a rating upside, with company-specific factors (such as financial policies and the utilization of windfall profits) being also important considerations.

Outlook uncertainties beyond the typical supply-demand fundamentals include international sanctions, logistic issues, the rebalancing of global trade flows, and export restrictions.

Credit metrics and financial policy

Despite expected economic recessionary conditions in many OECD countries and weak margins in the petchem product chain, we expect negative rating actions to be muted. Strong conditions in the petchem market in 2021 and early 2022, solid demand recovery, record high fertilizer prices, and healthy TIO2 prices afforded producers the ability to either accumulate cash or reduce debt, building up rating headroom. Still, given the macroeconomic challenges, we expect credit metrics to weaken. We consider balanced financial policies as critical for the credit quality given multiple risk factors and uncertainties that we foresee in 2023 and notwithstanding possible business-enhancing merger and acquisition (M&A) opportunities afforded by the current environment.

Key risks or opportunities around the baseline

1. A more severe economic recession for OECD countries

A severe recession could hamper volume and earnings for chemical companies. Other headwinds include geopolitical risks, the erratic Chinese COVID policy, and inflation. Moreover, a deeper-than-anticipated reversal in pricing could also hurt earnings across several chemical products and compound the negative impact of weakening demand.

2. European energy crisis

We will be watching how Europe rebuilds its gas inventories in a manner that does not result in a repeat of the record-high gas prices seen in 2022. We could still see high global gas prices in other geographic regions given our belief that gas is becoming "globalized."

3. Ability of speculative-grade issuers to refinance maturities

Many chemical issuers took advantage of supportive credit conditions prior to Russia's invasion of Ukraine to improve the maturity schedules and profiles. We anticipate corporate speculative-grade issuance to remain choppy in 2023. Spec-grade issuers with near-term upcoming maturities may therefore find refinancing challenging this year.

A more severe economic recession for OECD countries. A deeper or prolonged global recession could significantly hamper volumes for chemical companies as we would expect demand from the key end markets (like housing, construction, Industrials, autos, transportation industries) to decline precipitously. Other headwinds are meaningful and include geopolitical risks, the erratic Chinese COVID policy, inflation, and prospects for even higher energy costs.

Severe price weakness in an inflationary cost environment could be especially deleterious to credit quality. This is true for a broad swath of chemical companies across several subsectors that do not have contractual cost-passthrough protections. Spec-grade credits that do not have the market position, competitive capability, or pricing power to fend off pricing pressure are especially vulnerable.

European energy crisis. The main issue for Europe in 2023 is how it will rebuild its gas inventory levels and do so in a manner that will not result in a repeat of the record-high gas prices that it saw in 2022. Moreover, it's likely that with gas prices becoming "globalized", we could see high global gas prices in other geographic regions. Much of this will be dictated by the winter weather and rationing of demand which so far, seems to have benefitted European natural gas inventories, which stood at 83% vs. this time last year when it was at 69%. The EU cannot look to LNG as it will be several years before we see any meaningful additions to global LNG capacity.

Ability of high-yield issuers to refinance maturities. Many chemical issuers--with few exceptions--were opportunistic in improving their debt maturity schedules and profiles by taking advantage of supportive credit conditions prior to Russia's invasion of Ukraine and before inflation ramped up. We anticipate corporate spec-grade issuance to remain choppy in 2023, with higher interest rates and geopolitical and energy uncertainty, weighing on sentiment and issuance activity, particularly for European issuers. Spec-grade issuers with near-term upcoming maturities may therefore find refinancing challenging this year.

Industry Forecasts: Chemicals

Chart 7
Revenue growth (local currency)

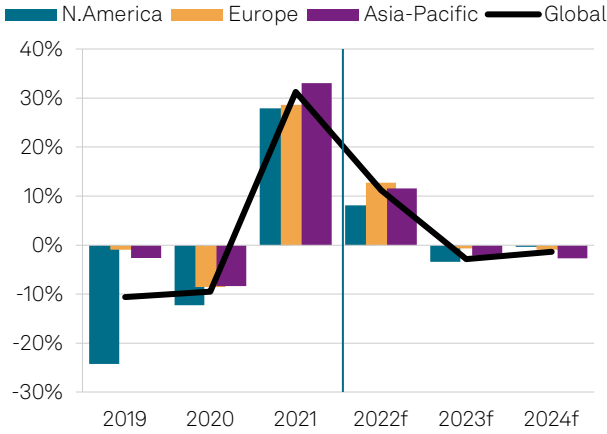


Chart 8
EBITDA margin (adjusted)

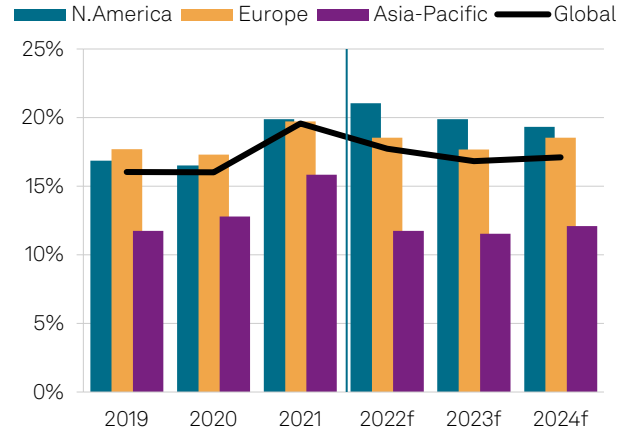


Chart 9
Debt / EBITDA (median, adjusted)

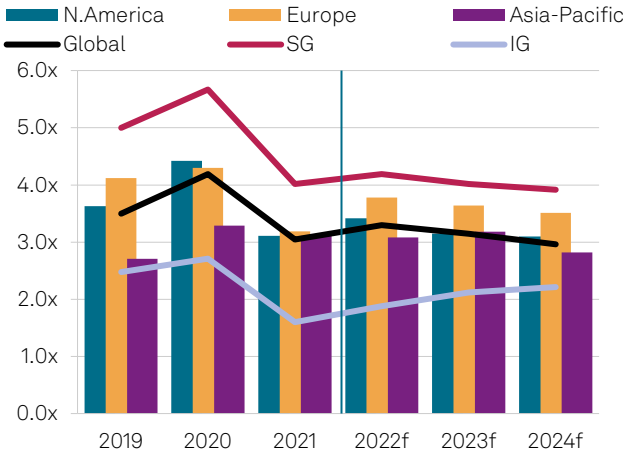
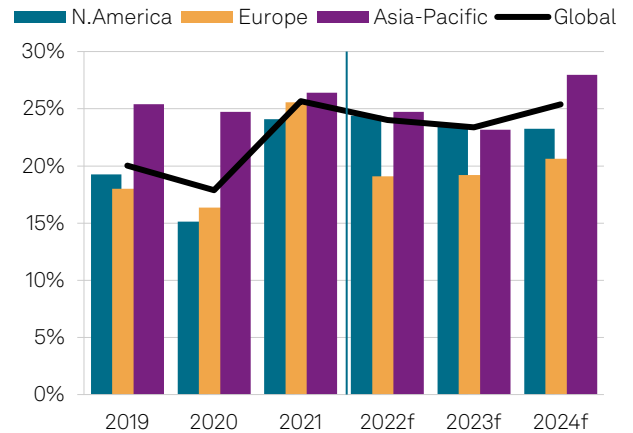


Chart 10
FFO / Debt (median, adjusted)



Source: S&P Global Ratings. f = forecast.
Revenue growth shows local currency growth weighted by prior-year common-currency revenue share. All other figures are converted into U.S. dollars using historic exchange rates. Forecasts are converted at the last financial year-end spot rate. FFO—Funds from operations.

Cash, Debt, And Returns: Chemicals

Chart 11
Cash flow and primary uses

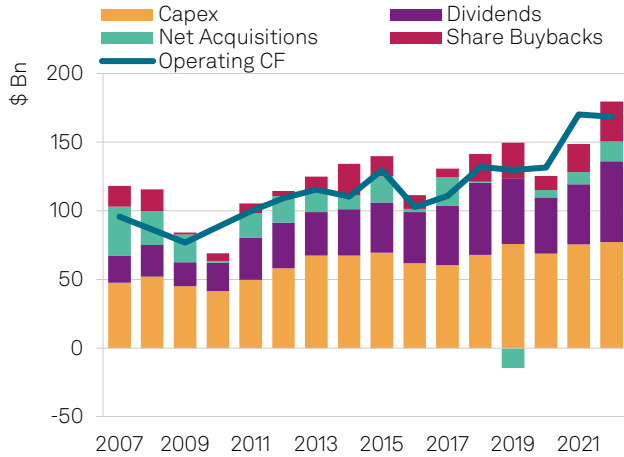


Chart 12
Return on capital employed

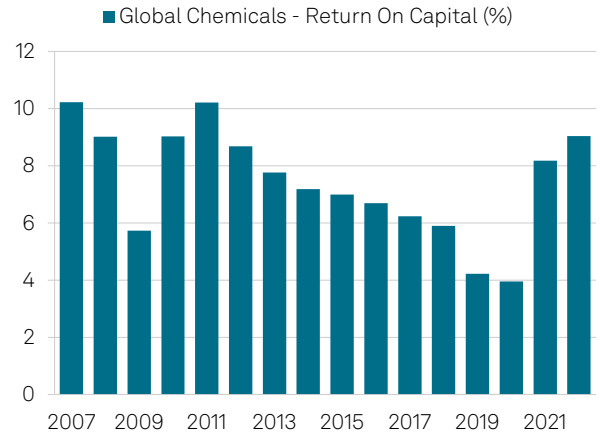


Chart 13
Fixed- versus variable-rate exposure

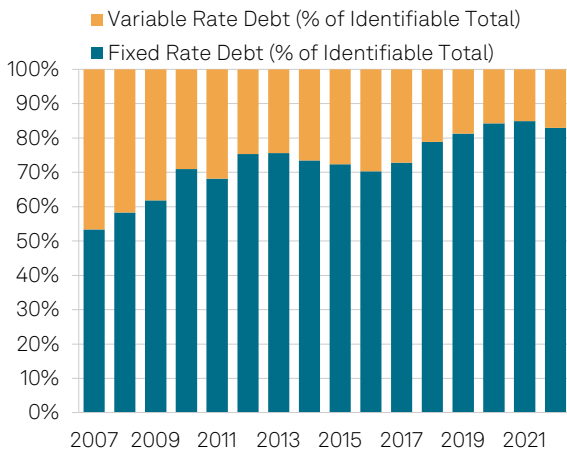


Chart 14
Long-term debt term structure

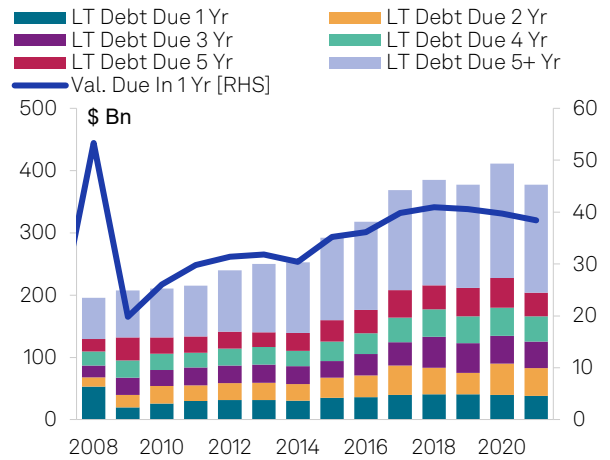


Chart 15
Cash and equivalents / Total assets

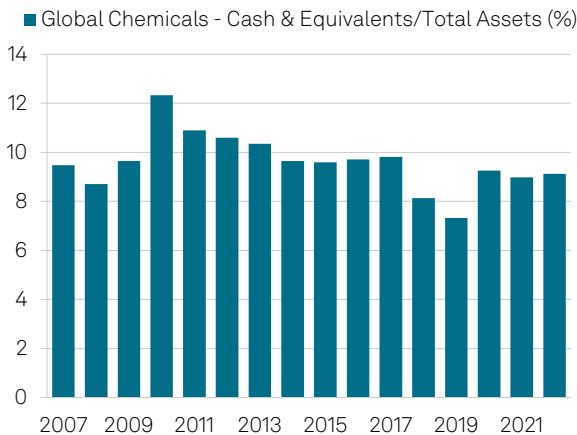
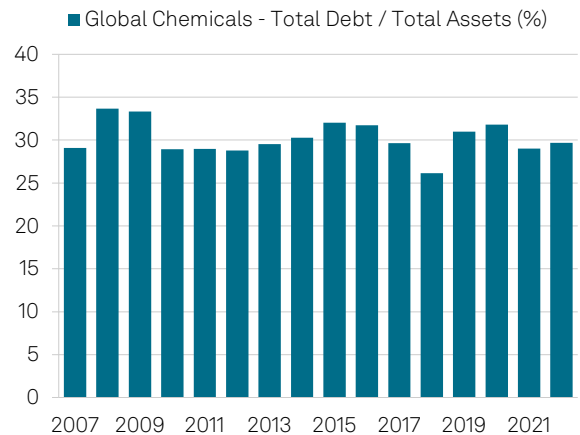


Chart 16
Total debt / Total assets



Source: S&P Capital IQ, S&P Global Ratings calculations. Most recent (2022) figures use the last 12 months' data.

Consumer Products

Waning demand will test operating resilience

January 23, 2023

This report does not constitute a rating action



What's changed?

Reopening of China. Increased social mobility in the country will boost volume recovery for global consumer product companies. The recovery of travel retail will also accelerate further.

Supply chain bottlenecks and spike in commodity prices have eased. This should alleviate the pressure on gross margins and improve operating efficiency.

High year-end inventories. Preemptive inventory stocking in the first half of 2022 and a slowdown in demand in the fourth quarter created a large build-up of inventories at year-end.

What are the key assumptions for 2023?

Tepid consumer demand. Weaker economic conditions will affect consumer confidence and dampen demand, especially for more discretionary goods or big-ticket items.

Moderating price increases. Inflation will likely begin to cool in the second half, prompting companies to limit, or at least slow, their pricing actions, in a bid to stabilize volumes.

Limited financial policy surprises. Most of the rated companies will adhere to their stated financial policy, with minimal revisions to shareholder remunerations and M&A strategy.

What are the key risks around the baseline?

Inflation remains entrenched. Inflation could persist due to continued higher wages and high energy prices, especially if the Russia-Ukraine conflict drags on.

Sales volumes to decline sharply. A deep economic slowdown could lead to significant trading down. In such a scenario, mid-tier brands and private label products will gain market share.

Refinancing conditions remain tough. Companies with highly leveraged capital structures will struggle to refinance as rates increase and capital markets remain tight.

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Ratings Trends: Consumer Products

Chart 1

Ratings distribution by region

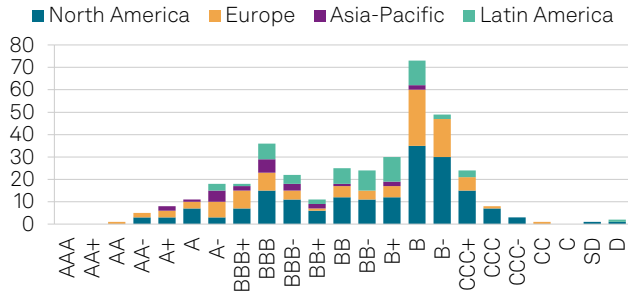


Chart 2

Ratings distribution by subsector

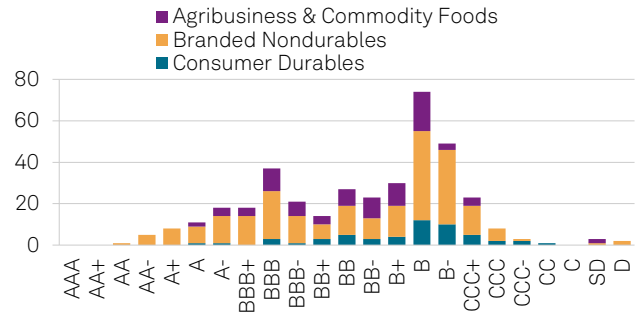


Chart 3

Ratings outlooks by region

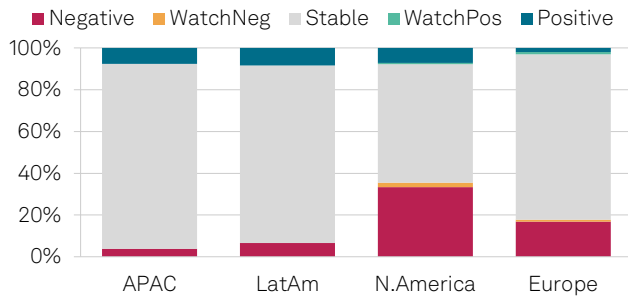


Chart 4

Ratings outlooks by subsector

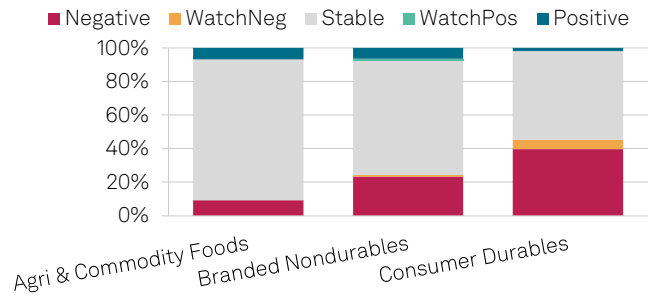


Chart 5

Ratings outlook net bias by region

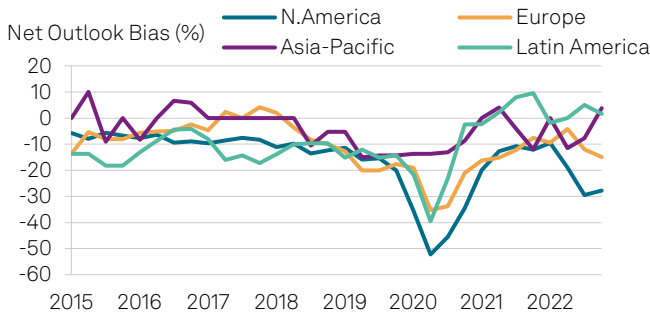


Chart 6

Ratings net outlook bias by subsector

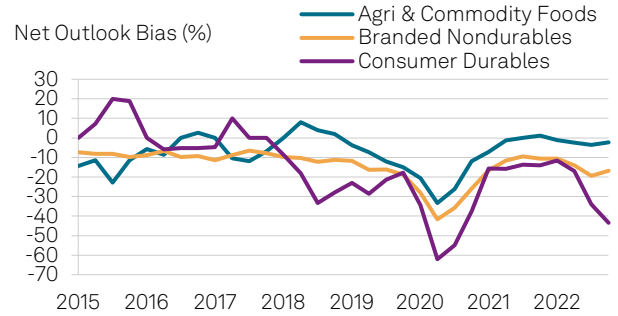


Chart 7

Ratings outlooks

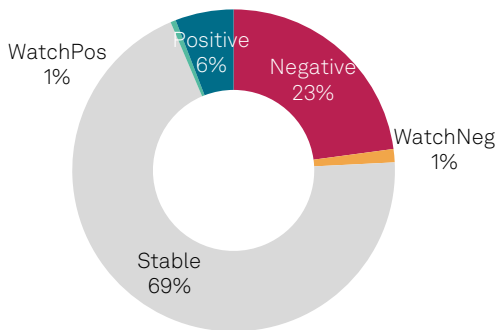
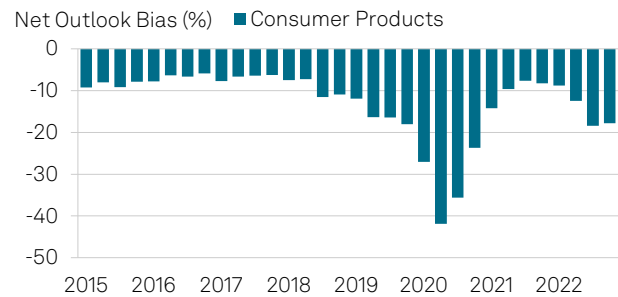


Chart 8

Ratings net outlook bias



Source: S&P Global Ratings. Ratings data measured at quarter-end.

Industry Outlook

Ratings trends and outlook

Over the recent months, rating actions across the consumer products sector have been mainly negative and concentrated on sub-investment grade issuers. The negative rating actions were primarily due to these companies' higher exposure to inflationary headwinds and supply chain constraints. Many companies have navigated the disruptions by raising prices and cutting costs, but risks intensify because of rising interest rates and the softening macroeconomic backdrop.

Persistent inflation and some weakening of consumer demand from the second half of last year also led to an increase in the negative bias. Globally, we have negative bias on 24% of the issuers we rate in the sector versus 15% a year ago. More negative outlooks in North America reflect the greater proportion of discretionary products manufacturers rather than higher pressure in the region.

Large consumer goods multinationals with strong brands, significant geographical presence, and wide product ranges will strengthen their competitive advantage. These companies have sufficient price and mix flexibility, as well as product range across discount, mass market, and premium segments, to curtail the overall impact on their volumes. Accordingly, credit prospects are broadly stable for investment-grade companies, given their strong market positions within their categories, generally good product diversification, sound cash flow characteristics, and potential flexibility to moderate discretionary spending in times of stress.

Still, 'B' remains the largest rating category, at more than one-third, accounting for the highest number of issuers in the sector. This includes many smaller and highly leveraged companies with weak business risk profiles. These companies remain vulnerable to significant volatility in operating performance, and find it challenging to implement price increases to restore profitability and cash flows. Higher interest rates will also gradually intensify the pressure on many of these companies that have already been hit by rising costs. Meanwhile, weaker macroeconomic conditions and a pullback in consumer spending could be a tipping point for many of these issuers with limited financial flexibility.

Main assumptions about 2023 and beyond

1. Consumption trends will gradually soften in some discretionary categories

Rapid--and in some cases very steep--rises in fuel, energy, and food prices, and ongoing tensions from the Russia-Ukraine conflict have drained consumer confidence. We expect weaker sales volumes over the next few quarters as consumers--particularly lower- and middle-income households--continue to cut back on discretionary spending, trade down, and become more price conscious to deal with falling real incomes. Home consumption will still be resilient, even in a recessionary environment, as consumers look to moderate their spending on eating out.

2. Pricing will continue to be in the spotlight, but price increases will slow down

Despite pronounced price increases over past year, sometimes well into the double digits in many jurisdictions and product categories, sales volumes have generally held their own for most global branded consumer goods companies. Even where volumes have declined, it has been in low single digits dwarfing the magnitude of price pass-throughs. This year, however, amid depressed macroeconomic conditions and a weak consumer outlook, the carry-over effect of the previous price increases, consumer goods companies' will be hard pressed to continue to markedly raise prices at the same pace. Also, the high price pass-throughs by global consumer goods companies has yielded greater ground for price competition from private label products. Positively, the easing of supply chain bottlenecks and current normalization in commodity and input prices, alongside higher carry-over pricing from the prior year, should likely result in margin stabilization or even uplift for consumer product companies with strong brands or those well positioned in staple categories.

3. Credit quality will weaken, predominantly across the 'B'-level rating category

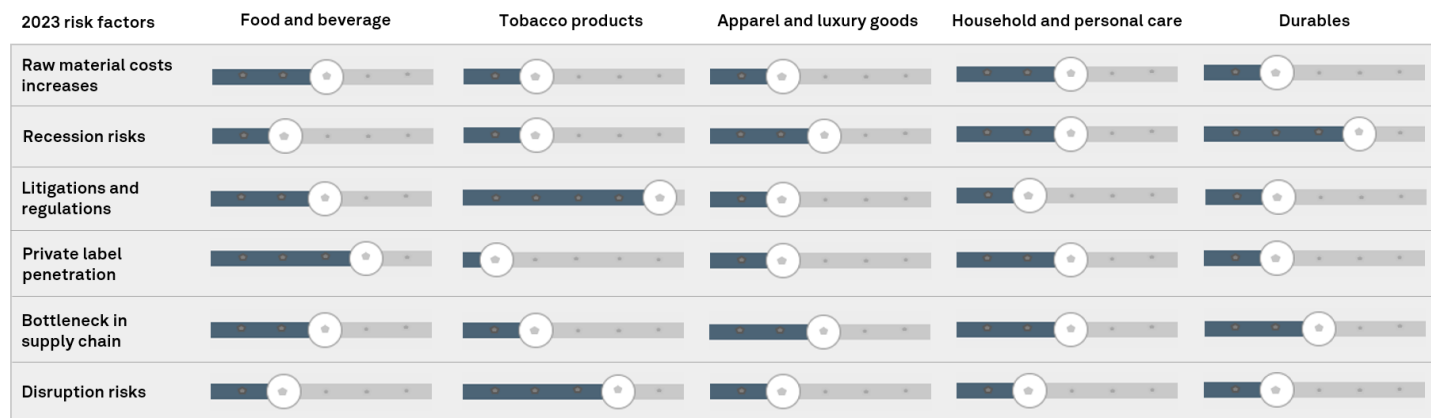
Notwithstanding the high number of rating actions in the second half of 2022, we believe that the credit outlook will remain weak for consumer goods groups in our 'B' categories. While credit deterioration is unlikely to be widespread in the absence of a significant maturity wall or systemic refinancing risk over the next 12 months, companies in the 'B' rating category or lower are more likely to experience weak profitability and cash flows due to tough business conditions, accentuated by weaker consumer demand and lower volumes. Notably, companies in the consumer products sector account for a high portion of our weakest-rated issuers(rated 'CCC' or 'C'), at 22.2% in the U.S and 13.9% in Europe. Higher interest rates and listless capital markets will continue to create hurdles for speculative-grade issuers in need of new funding.

Subsector assumptions for 2023

The five-point scale in chart 9 below presents our assessment of the materiality of the forward-looking risk factors for 2023, with the risk level increasing from left to right. For ease of presentation, we have combined certain adjacent sub-sectors like Food & Beverage and Apparel & Luxury goods. Detailed sub-sector comments follow below.

Chart 9

Key Risk Factors In 2023 For Consumer Goods By Sub-Sector



Source: S&P Global Ratings.

Agribusiness. The agribusiness sector has benefitted from strong cyclical margins across several end markets, enabling most issuers to materially reduce leverage without pursuing large M&A or outsized shareholder returns. While the operating prospects for much of the sector remains favorable and largely insulated from a likely economic downturn--given the inelasticity of demand for food staples and favorable farmer incomes that have benefitted from high commodity prices--we expect the recent strong earnings to materially fall off in 2023 for protein processors, among other segments. We believe margin compression in this subsector could be dramatic, potentially with annual declines of several hundred basis points. This is particularly possible for those with commodity or geographic concentration in U.S. beef and poultry, where operating conditions are rapidly deteriorating as beef livestock input costs continue to increase and elevated chicken cold storage inventories need to be sold down at lower prices. The degree of balance sheet strength built up during the strong earnings cycle of the past two years and still-robust international demand are critical in mitigating downside risk to ratings, which should be the case for most issuers. For large agricultural commodity traders, renewed high price volatility in soft commodities in 2023 could lead again to high trading profits. Processing profits are currently supported by solid industrial demand overall (although some segments like animal feed could see lower demand), but margins are more sensitive to market shifts as production costs, notably energy, have risen. Continued strong demand for healthier and natural ingredients from FMCG producers, especially in developed markets, should create tailwinds. In other subsectors, we expect an increase in investment activity will spur a modest pickup in debt financing as capacity constraints in areas like oilseed processing ease with new expansion projects. At the same time, ongoing M&A into adjacencies and new geographies may also fuel debt financing. Still, low leverage levels continue to support the sector's creditworthiness, such that our overall outlook for the sector remains largely stable.

Alcoholic beverages. The increasing likelihood of an economic downturn will likely moderate rather than reverse the premiumization trend that has favored much of the sector for the past several years, notably spirits brands. It may slow the rebound in off-premise demand that has been trending favorably as economies reopened following pandemic-related lockdowns. Nevertheless, the sector has demonstrated resilience by implementing marked price increases in addition to aggressively managing variable costs during market disruptions, whether pandemic or supply-chain related, such that margins should not further deteriorate in a pending slowdown, particularly as supply chain constraints and packaging input costs likely ease. Moreover, most players in the sector have reiterated their financial policy targets and, in some cases, further

Industry Top Trends 2023: Consumer Products

tightened their leverage targets, buffering ratings despite our expectation of a temporary softening of premiumization and lower on-premise demand.

Apparel. This year will bear challenges for apparel companies, like other discretionary product groups, arising from a mild recession in the U.S. and weaker economic prospects in many parts of the world, as per our projections. Inflationary pressures will continue to erode consumer's discretionary income and impede their ability to purchase discretionary items. Apparel companies will likely resort to promotional pricing to drive sales and clear excess inventories that accumulated due to preemptive orders to counteract supply chain bottlenecks and subdued sales in the last quarter. Travel and special occasions could motivate consumers to purchase new apparels, but shoppers will probably be mindful of prices and anticipate deals. Additionally, foreign exchange headwinds could constrain financial results. Consequently, we forecast year-over-year declines in revenue and EBITDA margin contraction. Many apparel groups in the sub investment grade space, will likely post negative free operating cash flow for 2022 since cash flow was tied up in more expensive and higher inventory levels. Therefore, we expect issuers to focus on returning to positive free operating cash flow and liquidity preservation rather than large investments or shareholder returns. Although we do not expect sizable M&A, we believe this year's obstacles could create opportunities for better-capitalized companies to acquire weaker competitors in some highly competitive markets like the U.S. and U.K.

Beauty and cosmetics. Premium and luxury beauty is poised to continue outperforming the mass market and personal care segment, although we see some downtrading because of lower consumer confidence. That said, beauty companies tend to remain relatively resilient and maintain their operating performance during economic weakness and recessions better than other discretionary products, since lower price point products with wellness attributes and affordable luxury features of these products generally do not cause consumers to defer purchases. Although demand for beauty products significantly declined during the pandemic due to mask wearing and social distancing, we anticipate a solid comeback even though consumers' price sensitivity might limit beauty companies' ability to offset rising input costs. Furthermore, beauty companies are still up against supply challenges for certain components and ingredients, which could lead to substitutions and higher input costs. We therefore forecast topline growth to moderate and EBITDA margin to remain neutral or slightly reduce in 2023. M&A will likely be limited to tuck-ins and potentially include the purchase of distressed businesses.

Durables. We anticipate net sales for durable goods manufactures will decline in 2023. This will primarily be due to lower volumes consistent with a shallow recession in the U.S. and a sluggish global economy, partly offset by carry-over effects of price increases. The cyclical volume weakness could be exacerbated by the pull forward of demand into 2020-2022 when consumers were flush with excess cash and spent considerably on goods as opposed to services. However, these trends are now reversing. Gross sales in 2023 are likely to decline at a rate of between a mid-single-digit and a low-double digit rate, depending on the subsector. Nevertheless, we believe margin degradation in 2023 will be limited primarily to fixed cost under-absorption since we expect the environment will be more predictable than the extremely volatile 2022 that damaged profitability. For durable goods manufacturers that source primarily from Asia, the after effects of extraordinarily high container rates have moderated, and headwinds from high commodity inflation, fragile supply chains, and poor labor availability, among others, will likely abate. For European manufacturers, although new orders are declining, existing orders suggest that the production catchup will remain a positive factor in 2023 and help producers of consumer appliances implement their product mix strategy. We expect working capital will be a source of cash and that capital expenditure will be tightly managed, particularly for speculative-grade issuers. Moreover, economic uncertainty and tight credit markets will likely weigh on shareholder returns and acquisition activity.

Household products and personal care. Household products and personal care companies have suffered margin compression and lower demand amid inflationary pressures. Demand for these items has softened after consumers stocked up during the height of the pandemic. Additionally, input costs such as chemicals and resins and supply chain challenges have hurt margins more than for food commodities. We expect mid-to-lower income consumers to trade down to private label or mid-tier priced items as price increases from 2022 are fully realized in 2023. Accordingly, we forecast mid-to-high single digit revenue growth as companies continue to catch up on pricing lags, and we expect volume declines in the low- to mid-single-digit range. We anticipate revenues will be affected by foreign currency translation effects, especially given the global footprint of many of these companies. We expect fairly stable financial policies from large multinational companies, with bolt-on acquisitions, consistent dividend payments, and share buybacks.

Luxury. The luxury market's resilience should endure in 2023, with big brands gaining market shares. The personal luxury industry has a long track record of positive performance with very few negative trends (during the 2008-2009 financial crisis and at the start of the pandemic in 2020). Although the luxury industry is not immune to macroeconomic recessions or external shocks, the sector tends to rebound robustly from each decline. For instance, after the slump in 2020--the industry's worst ever, with a year-on-year decline of 20%-25%--the personal luxury sector experienced a "V shape" rebound, returning to pre-pandemic levels by end-2021, outperforming the overall market consensus. Current estimates place the value of the personal luxury goods industry at nearly US\$350 billion at end-2022, representing an annual increase of about 15% at a constant currency basis. We anticipate the industry will maintain, on average, mid-single-digit annual growth on a normalized level over the next 12-18 months. The recent years' growth has been driven by a combination of volume growth and price increases; we expect further price increases to occur also in 2023. The "zero-Covid" approach in China generated some business disruption in the region, considering China accounts for 20%-25% of the total industry in 2021. But the recent reopening in China represents an upside for our 2023 base case. Over the past few years, we have noted an acceleration of a few major industry trends, including a higher penetration of the retail channel, a strong momentum in the U.S. market (the largest market for personal luxury goods), and overperformance of big global brands compared with their smaller competitors. At the same time, we recognize that the personal luxury goods industry is based on discretionary spending with a focus on high price points. As such, we expect growth to moderate due to lower consumer confidence and a strong comparison base. Moreover, luxury brands can show some volatility within their performance, especially before reaching a sufficient degree of maturity within their category.

Non-alcoholic beverages. We assume constant currency net sales for the category in 2023 will increase at a mid-single digit rate due to carry over pricing from 2022. Price increases have been robust in the U.S. and Europe, ranging between 10% and 15% in 2022; and, as of January 2023, pricing is up more than 20% on an average compared to pre-pandemic levels. Volume performance will likely be somewhat flat in 2023 due to lower on-premise demand amid a shallow recession. We expect overall margin stability as pricing holds, particularly for issuers with strong brands given little private label competition, and because supply chain issue should cause fewer disruptions than in 2022. What's more, we expect issuers to focus on marketing and product innovation such as introducing new or updated taste profiles alongside low-sugar options, while focusing on energy drinks, sports drinks, coffee, and tea, among other trending drinks. More partnerships with alcoholic beverage firms are also probable, but the impact is likely to be modest. We expect continued dividends and share repurchases consistent with issuers' stated leverage goals and anticipate M&A activity.

Packaged foods. At-home food consumption remains robust because of changes in lifestyles like work at-home while the weak economic environment will lead to many consumers reallocate

Industry Top Trends 2023: Consumer Products

discretionary spending towards eating more at home. We estimate sector revenues, on average, will increase in the mid- to high-single-digit percentages in 2023 thanks to the ongoing realization of price increases. This will be partially offset, however, by low- to mid-single digit declines in sales volumes due to greater elasticity with the extraordinary price increases implemented, but not fully realized, in 2022 due to pricing lags. High commodity, energy, and logistic costs hit margins hard in 2022, especially for companies in the food processing and commodity foods segments. We forecast EBITDA margins will recover in 2023 as pricing actions begin to outpace persisting, but somewhat slowing, inflation. We also anticipate that supply chain challenges will ease but commodity prices are likely to remain volatile.

Additionally, we expect weaker demand for relatively discretionary food categories like premium organic or plant-based products in 2023, with companies likely to continue investing selectively behind their main brands and in product innovation to capture pockets of revenue growth. Brands continue to outperform private labels, but the latter will likely gain ground due to consumer downtrading in commoditized categories or where they already have a higher degree of penetration. We expect companies to continue reshaping their portfolios through divestitures of noncore assets and acquisitions--most of which will likely be tuck-ins--into faster-expanding categories or new geographies. Furthermore, we expect continued dividends and share buybacks will be in line with companies' stated long-term targets.

Tobacco. We expect the U.S. tobacco industry to see modest net sales pressure in 2023. The long-term secular decline in combustible cigarette volumes continues, likely to contract by 5%-7% in 2023, partly offset by manufacturers' ability to increase prices. Some trade down to discount brands is likely, through this will be muted if gas prices--which have declined significantly over the last year--remain near current levels. Demand for oral tobacco products should continue to increase from a low base while demand for e-vapor will likely stabilize as the industry laps regulatory-driven product removals. We expect continued robust margins and cash flow given the sector's general stability and pricing power, with shareholder returns--both ongoing high dividends and share buybacks--commensurate with stated financial policies. We assume next generation products could spark M&A activity. The regulatory environment has become more complex and tighter over the past few years. In addition, for the U.S. market, the outcomes regarding the ban on menthol and reduction of nicotine content in cigarettes are still not certain, but we think there'll be a resolution around menthol in cigarettes in the next five years. We assume mandated reductions of nicotine content in cigarettes to non-addictive levels is much further out, and may never occur, due to the sweeping magnitude of such an initiative. Big global players have exited, or in the process of exiting, Russia, the fourth-largest cigarette market by volume and a key country for heated tobacco products.

Credit metrics and financial policy

We forecast a moderate improvement in the credit metrics for the global consumer goods sector in 2023. This would follow a very difficult 2022 when companies' high-cost headwinds eroded EBITDA margins and operating bottlenecks drove a peak in the sector's median leverage.

Although our forecasts for 2023 indicate slower revenues due to lower volumes and a slowdown in price growth, EBITDA margins across the sector as a whole should expand slightly due to the combined benefit of previous strong price increases, fewer supply chain disruptions, and our expectation of moderated inflationary pressures in the second half of the year. The downside risk to these projections include rising labor costs and high energy costs stemming from the Russia-Ukraine conflict.

The rated universe in the global consumer goods industry continues to be dominated by speculative-grade companies, with a sizable majority in the 'B' category (see chart 2). Many of

Industry Top Trends 2023: Consumer Products

these companies have weak business risks profiles, alongside highly leveraged capital structures. Rising interest rates and tight financing conditions will further constrain these companies' already limited financial flexibility.

At the other end of the spectrum, many large highly rated global multinationals continue to allocate a significant part of their free cash flow to shareholder returns. Based on our estimates, more than one third of the top-rated investment-grade **European** consumer goods companies still have ongoing share buyback programs, with many even having launched additional share buybacks in 2022, in addition to ongoing dividends. These include companies such as Unilever, Henkel, Danone, Nestle, JD Peets, Pernod Ricard, and Diageo. In the event of any significant operating headwinds, these companies can choose to moderate their shareholder returns to preserve cash and increase their headroom under the credit ratings.

On the other hand, several **U.S.**-based companies have signaled their intention to reduce debt. After a difficult year of managing credit metrics amid historic inflation, some issuers have lowered leverage targets to underpin their commitment to preserving an investment-grade credit quality. Also, we believe that these actions, to some extent, reflect managements' acceptance of higher interest rates as the new normal. For instance, Conagra cited on its Investor Day the volatile economic environment and higher interest rates, in addition to its commitment to its credit rating, as the rationale for lowering its long-term leverage target to 3.0x from 3.5x. Similar intentions have been expressed by The Kraft Heinz Company, Keurig Dr. Pepper Inc., and Constellation Brands, Inc. In Latin America, we expect to see lower dividends and share buybacks since margins for consumer goods companies will continue to be pressured at least during the first half of 2023.

In **Asia-Pacific**, global multinationals in Japan and China such as Japan Tobacco, Suntory Holdings and Midea Group, maintained their ongoing financial policies despite strengthening headwinds. They upheld shareholder remunerations, brand investments, and capital expenditure. We expect the trend to stay in 2023. This is because these companies likely continue generating stable cash flows aided by their solid brand equity and diversified portfolios, enabling them to sustain their financial policies.

We do not expect to see significant financial policy surprises in 2023. Most of the rated companies will likely maintain their stated financial policy, with limited revisions to shareholder remunerations. Considering that several challenges continue to restrict management bandwidth, higher funding costs and fairly limited financial headroom, we do not anticipate large M&A transactions. We think consumer goods companies will approach sizable M&A activity with caution, but we continue to factor in portfolio transformation through investment, bolt-on acquisitions, and disposals. This trend also reflects strategies focused more on their core businesses in times of challenging economic environment. Companies will continue to invest in developing and strengthening digital capabilities, so we expect that capital expenditures will remain elevated.

Key risks or opportunities around the baseline

1. Higher and more persistent inflation

In our base case, we expect many components of higher inflation to likely ease in the second half of the year. However, we're watching closely for any signs that suggest inflation may become entrenched because we believe this would threaten credit quality for many smaller consumer products companies with leveraged capital structures.

2. Greater focus on sustainability

Companies are actively establishing sustainability strategies and action plans, materially investing in their supply chains, and scaling up production of sustainable goods, new technology, and business practices. Companies will likely focus to innovation and new product development.

3. Increased digitization as the shift in distribution channels accelerate

Branded consumer goods companies are investing in technology to accelerate growth in ecommerce and direct-to-consumer operations. Digitization, however, goes beyond that and is helping garner insights into consumer needs and contribute to efficiencies and innovation in products, supply chain, marketing, and distribution. At the same time, increasing digitization also exposes consumer goods companies to greater level of cyber threats.

Related Research

- [China Retail Outlook 2023: More Bricks, Fewer Clicks](#), Jan. 8, 2023
- [Agriculture Industry Is Still Sweating This Year's Droughts](#), Oct. 13, 2022
- [High Inflation, High Interest Rates: A Double Whammy For Rated Canadian Consumer Products Companies](#), Aug. 16, 2022.
- [Declining Spending Combined With Higher Rates Could Tip The Scale For 'B' And 'B-' Rated U.S. Consumer Products Issuers](#), Aug. 12, 2022
- [Consumer Goods: Unrelenting Inflation Puts Pricing And Brand Power To A Grueling Test](#), July 13, 2022
- [U.S. Packaged Food Companies Could Fail Additional Inflationary Stresses](#), April 21, 2022

Industry Forecasts: Consumer Products

Chart 10

Revenue growth (local currency)

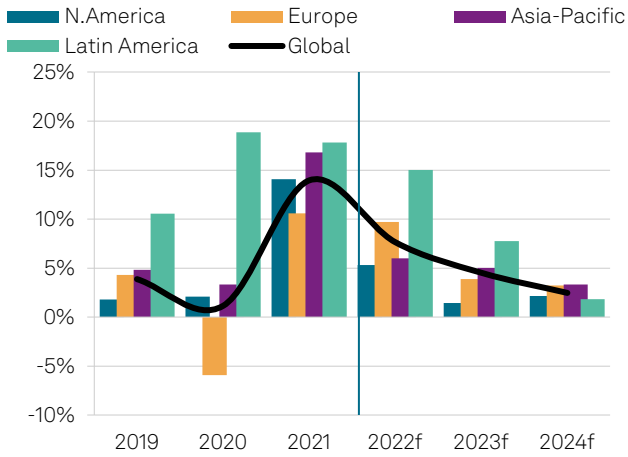


Chart 11

EBITDA margin (adjusted)

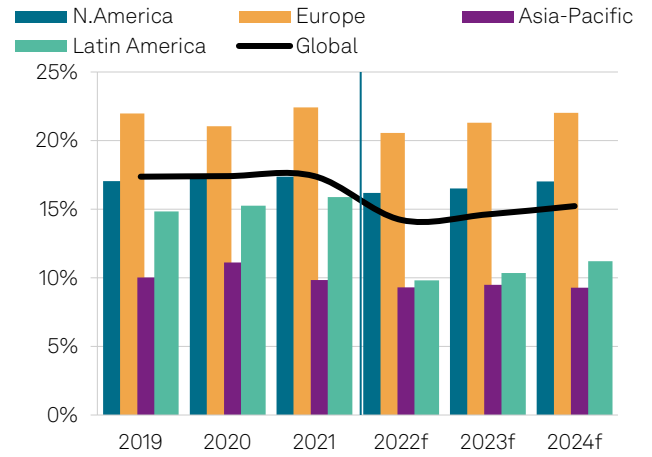


Chart 12

Debt / EBITDA (median, adjusted)

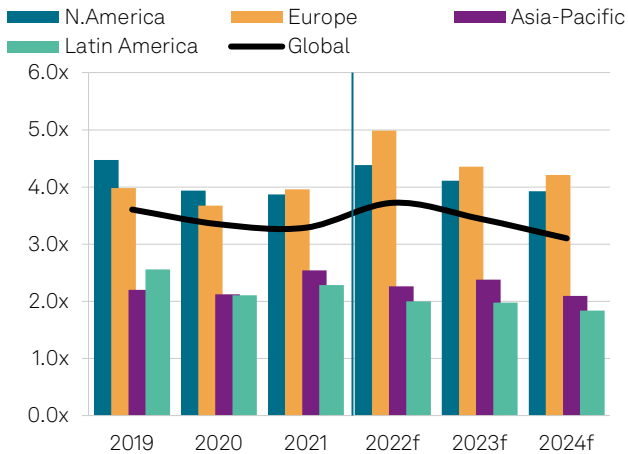
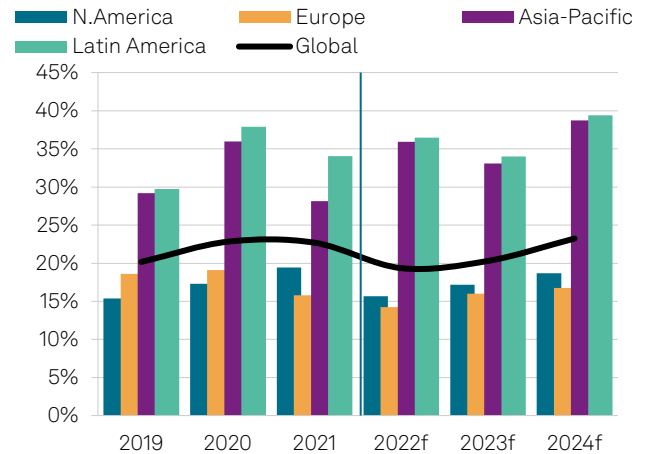


Chart 13

FFO / Debt (median, adjusted)



Source: S&P Global Ratings. f = forecast.

Revenue growth shows local currency growth weighted by prior-year common-currency revenue share. All other figures are converted into U.S. dollars using historic exchange rates. Forecasts are converted at the last financial year-end spot rate. FFO—Funds from operations.

Cash, Debt, And Returns: Consumer Products

Chart 14

Cash flow and primary uses

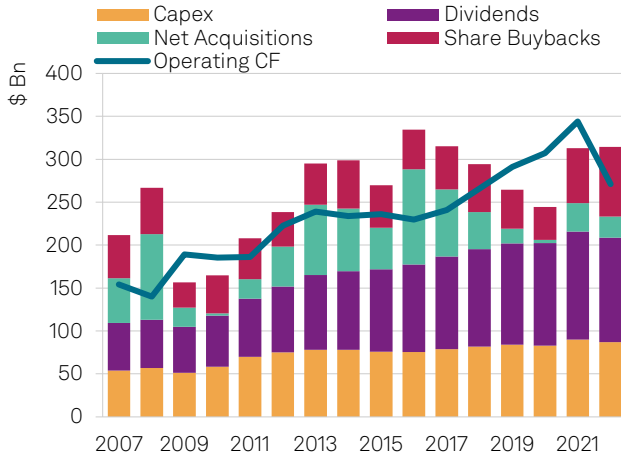


Chart 15

Return on capital employed

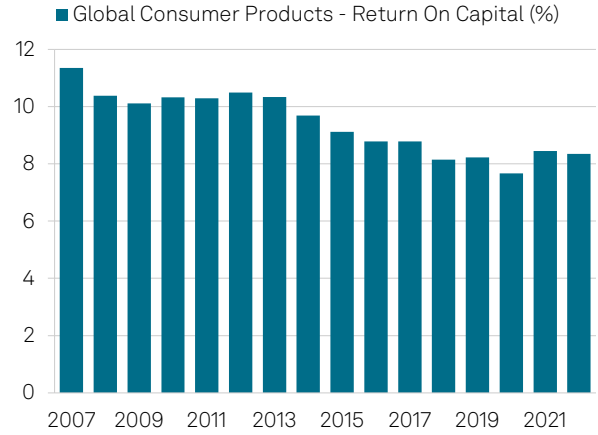


Chart 16

Fixed- versus variable-rate exposure

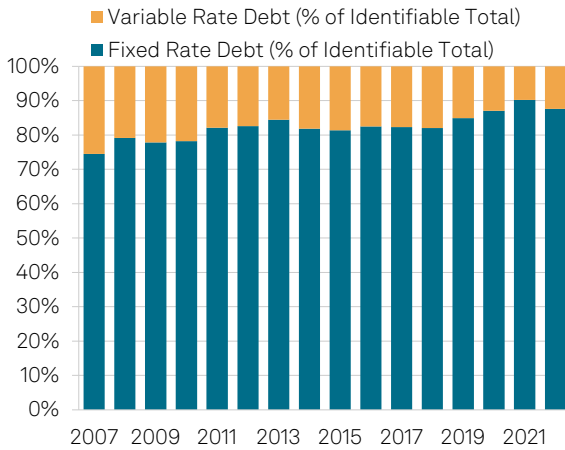


Chart 17

Long-term debt term structure

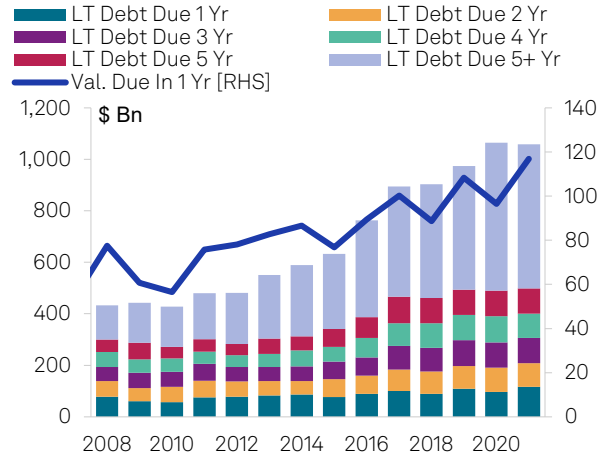


Chart 18

Cash and equivalents / Total assets

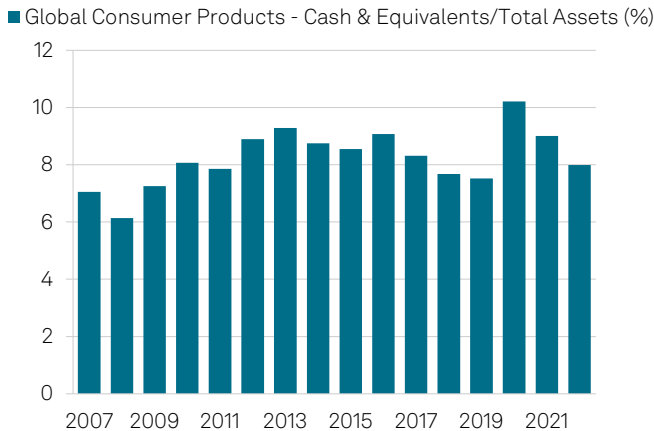
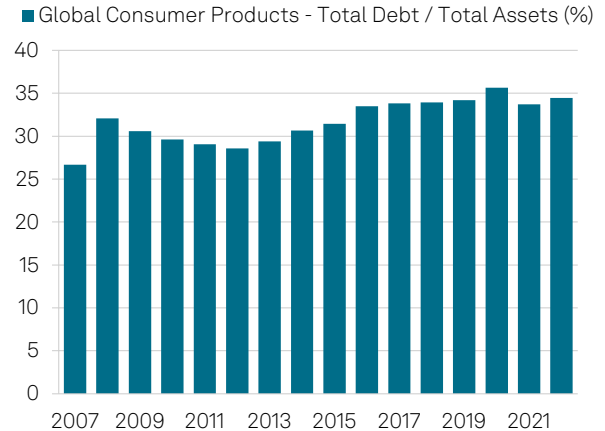


Chart 19

Total debt / Total assets



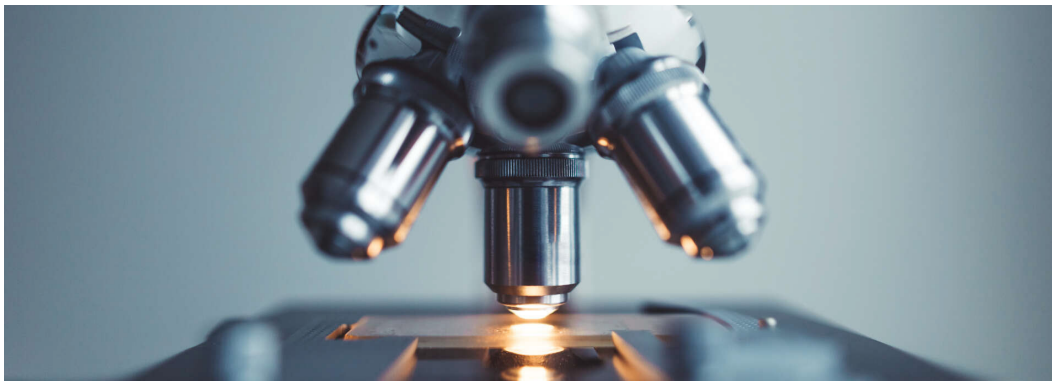
Source: S&P Capital IQ, S&P Global Ratings calculations. Most recent (2022) figures use the last 12 months' data.

Health Care

Health care services and spec-grade to deteriorate further

January 23, 2023

This report does not constitute a rating action



What's changed?

Overall industry rating outlook stable. Despite the challenging economy and threat of recession, our overall outlook for 2023 is stable for the major subsectors.

Health care services most vulnerable. Health care services has the lowest margins and is most exposed to high labor costs.

Ratings deterioration concentrated in lower end of health care ratings spectrum. Negative rating actions and downgrades handily outpaced positive actions and upgrades in 2022.

What are the key assumptions for 2023?

Demand for health care remains steady. We are projecting mid-single-digit growth for the industry, which remains largely recession resistant.

Labor and supply chain issues ease. Labor and material inflation has likely peaked, based on recovering health care employment and less temporary staffing.

Increased M&A and elevated interest rates pressure ratings. The health care M&A environment, typically very active, was muted in 2022.

What are the key risks around the baseline?

Inflationary pressures persist. Inflationary costs, especially labor, but also material and energy, worsen resulting in lower-than-expected EBITDA and cash flows.

Patient and procedure volumes and demand weaken. Volumes have recovered for the most part, and we expect demand to remain steady.

Persistent higher interest rates. Many of 2022's negative ratings actions were in the speculative-grade end, which will drive downgrades again should already high interest rates further rise.

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Ratings Trends: Health Care

Chart 1
Ratings distribution by region

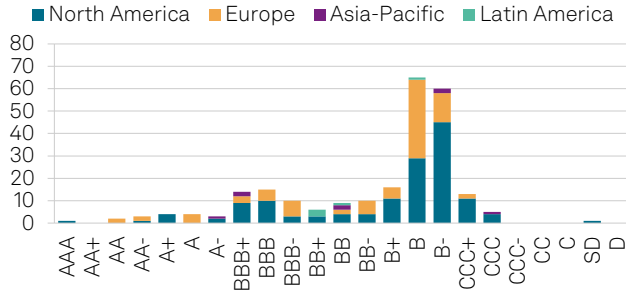


Chart 2
Ratings distribution by subsector

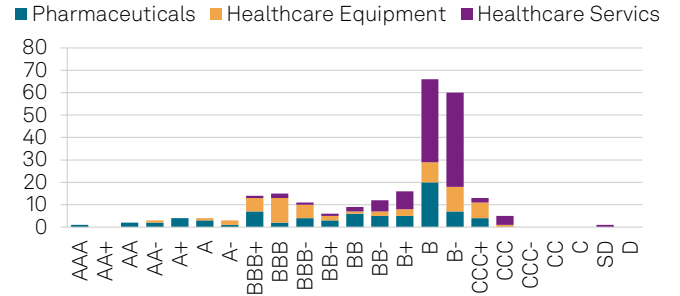


Chart 3
Ratings outlooks

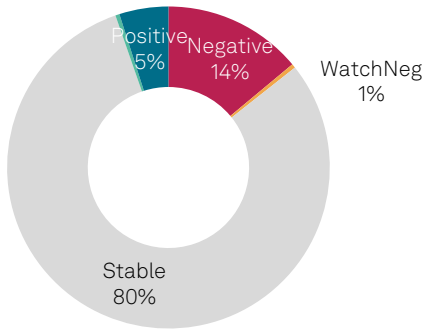


Chart 4
Ratings outlooks by subsector

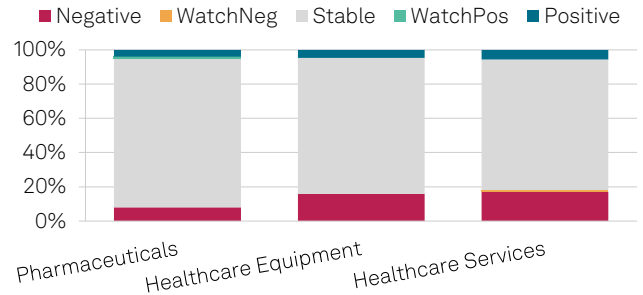


Chart 5
Ratings outlook net bias

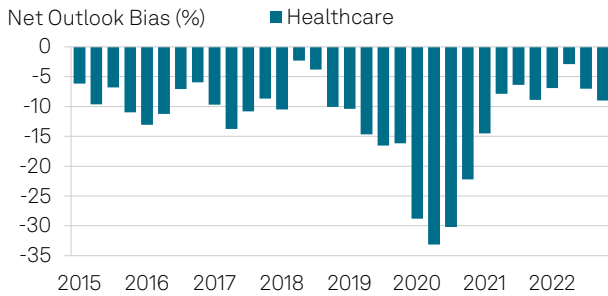
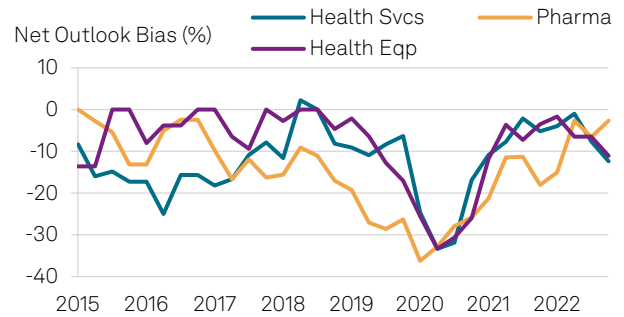


Chart 6
Ratings net outlook bias by subsector



Source: S&P Global Ratings. Ratings data measured at quarter-end.

Industry Outlook

Ratings trends and outlook

Our overall ratings outlook for the health care industry remains stable entering 2023, with a stable outlook for each of the major subsectors--health care services, medical devices, and pharmaceuticals. However, the stable outlook is not equal across the board in this challenging macroeconomic environment. We see pharmaceuticals as being the most entrenched at stable, while health care services, with its greater exposure to labor costs, relatively lower margins, and higher-on-average leverage, is the most vulnerable from a ratings perspective.

In 2022, negative rating actions (downgrades and negative outlook revisions) handily outpaced positive ones (upgrades and positive outlook revisions) in 2022, 61-38. This is in sharp contrast to 2021, when positive actions came out ahead, 79-40, on the heels of a subsiding pandemic. The disproportionate number of negative rating actions in 2022 was due mainly to rising labor and other costs, pressured margins, and higher interest rates rather than M&A because M&A activity was unusually muted in 2022. The negative rating actions were widely distributed, with negative actions outnumbering positive actions in all the major health care subsectors, with health care services accounting for the highest net negative at negative 11.

Entering 2023, there are limited risks regarding the industry's topline, but more for margins and cash flows. The health care industry has more or less recovered from the pandemic, on a patient and procedure volume basis, and we believe demand remains solid. We project health care spending to grow in the mid-single-digit percent area. The continued solid patient demand and the traditionally recession-resistant nature of the health care industry contribute to the limited risk of a revenue decline due to the looming recession. Labor tightness, and to a lesser extent, supply chain issues, may limit health care providers' capacity to provide care, but we believe it is a diminishing impact at this point. EBITDA margin and cash flows, however, could be more affected. While we believe health care labor costs may have peaked, since overall health care employment has returned to pre-pandemic levels, costs remain elevated, and the labor market remains tight. This is less of a challenge for the high-margin pharmaceutical and medical device industries, but a major challenge for lower-margin health care providers that have a much larger labor component in their cost base. Material costs and supply chain challenges will also pressure margins, but to a much lesser extent. A major theme for 2023 will be the providers' ability to pass along the increased costs to payors, such as managed care providers; plan sponsors; and ultimately, the patient.

The elevated interest rate environment is also taking a toll, especially for companies with high debt leverage at the lower end (rated 'B+' and below) of the rated universe. Previous years of heavy M&A activity, especially among the private equity-owned players that deployed aggressive growth strategies, have led to speculative-grade health care companies having higher adjusted leverage on average than other industries. With interest rates continuing to climb, the higher-than-average leverage, and the pressures on margins and cash flows, this speculative-grade group, mostly health care service providers, has borne the brunt of the sector's negative rating actions, especially downgrades (all but two involved speculative-grade companies). We believe negative rating actions will outpace positive ones again in 2023, despite the solid growth prospects we see for the industry, with speculative-grade and health care service providers leading the way downward.

Pharmaceuticals--the most stable of the subsectors. We view the branded pharmaceutical sector as the "most" stable of the major health care subsectors. Even though the industry is facing increasing pricing pressure, with net pricing flat to down (after adjusting for inflation) as

Industry Top Trends 2023: Health Care

has been the case for the past few years, margins remain strong, higher than in other health care subsectors, enabling the industry to absorb higher labor and material costs, energy costs, and supply chain issues more readily. The industry, including Pfizer and Gilead, continues to benefit from meaningful, albeit declining, COVID-19 pandemic-related sales. Meanwhile, the uncertainty relating to the opioid litigation, including for Johnson & Johnson and Teva, has largely been settled.

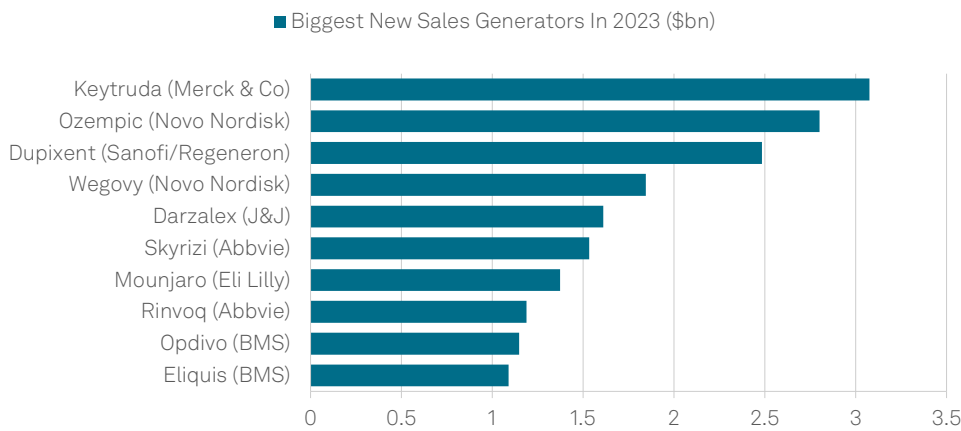
Credit metrics for the rated branded pharmaceutical players have strengthened in 2022. Despite the pressures on pricing, margins and cash flows remain strong, and sales continued to grow at mid-single-digit percentage rates. M&A activity was also unusually muted in 2022, leading to rising cash balances and some deleveraging. The solid operating performance and declining net debt led to the upgrade of AstraZeneca and to several positive outlook revisions, including ones on Abbvie, Gilead, Bristol-Myers, and Eli Lilly.

From a credit perspective, we see the main threats for the pharmaceutical industry as continued payor pressure, adverse legislative changes, and the return of M&A. The ability for Medicare to negotiate drug prices, enacted as part of the Inflation Reduction Act in the U.S., will have material ramifications for the pharma industry in the future, but given the phased-in nature of the act (see ["Medicare Drug Price Negotiation Has Long-Term Implications For Pharma,"](#) published Aug. 22, 2022) the negative impact is not for several years. There are other potential pieces of legislation that may hold negative implications for the industry, such as the increasing bipartisan support to scrutinize the FDA's accelerated drug approval process, given the controversy surrounding the Alzheimer's treatment ADUHELM's approval last year. Meanwhile, we do expect a meaningful increase in M&A for the pharmaceutical industry in 2023. With the increasing negotiating power of the major managed care payors and the looming impact of Medicare drug price negotiation, we believe there is an increased strategic need for M&A to broaden and deepen portfolios and drug pipelines. We believe that the higher interest rate environment will be only a minor drag on M&A activity for the sector, given the large cash balances accumulated at many companies, the relatively low debt levels, and strong margins at the Big Pharma and major biotechnology companies. Thus, ratings may come under pressure as companies pursue large debt-financed transactions.

From an EMEA perspective, we anticipate solid earnings for EMEA in 2023 amid strong pipelines, no significant patent cliff, and a high number of blockbusters that continue to enjoy a strong growth potential. Behind Keytruda from Merck, Dupixent from Sanofi and Ozempic from Novo Nordisk are expected to be the biggest new sales generators this year (see chart 7).

Chart 7

Biggest New Sales Generators - Drugs



Source: Evaluate Pharma and Evaluate Vantage. Note: includes sales booked by global partners, where relevant.

A resumption of M&A is possible but not likely given the quality of the pipelines. The pricing environment looks a bit tougher, however, with, for instance, an increase in rebates imposed by the U.K. Department of Health.

Medical devices, stable, but challenges abound, especially on the speculative-grade end. Our outlook for the medical device and products subsector remains stable. Procedure volumes have recovered to pre-pandemic or near pre-pandemic levels, depending on the type of procedure. Labor shortages in certain geographic regions have hindered full recovery, and there is limited insight into procedure backlogs, but we believe it is a decreasing challenge. Labor and supply chain challenges remain, which will be a drag on EBITDA margins, but they have a limited impact, especially for the higher-rated investment-grade players, given their relatively high margins. The diagnostic test and life science companies also continued to benefit from COVID-19-related sales, even with the receding COVID-19 threat. Indeed, the medical device and product sector saw the most high-profile upgrades in the sector, with the ratings on Abbott Laboratories, Thermo Fisher, Danaher, and Boston Scientific all being raised.

However, challenges remain. The strength of the U.S. dollar, especially against the euro, where the industry has a significant portion of sales, has been a material headwind. Certain components remain in short supply and companies have had to make spot buys to maintain proper inventories of critical parts. We do not believe the shortage has had a significant impact on topline because health care companies generally have priority and critical component supplies, such as microchips, are returning to normal. However, the impact to margins will likely remain until mid-2023, even if supply chains fully return to normal in the near term because there is a higher cost of goods sold sitting in inventories. The speculative-grade portion of the sector continues to struggle, particularly the contract medical device manufacturers. While procedure volumes have largely recovered, ordering patterns have not yet returned to normal. The contract manufacturers have also had mixed success in absorbing or passing on their elevated labor and material costs. Thus, the medical device and products sector did see several negative rating actions in 2022, concentrated among contract manufacturers, and we could take more negative actions among the group in 2023, especially if demand and inflation do not improve further and interest rates continue to rise.

Hospital and health care providers most vulnerable. The labor shortage remains the biggest challenge for health care service providers. Rising interest rates are the second-highest concern,

Industry Top Trends 2023: Health Care

given the large number of highly leveraged health care service providers that heavily populate the lower end of the rated health care universe. We entered 2022 with a stable outlook with a positive bias for the health care services industry, based on the near full recovery of patient and procedure volumes, especially on the more profitable elective procedures. The Omicron variant outbreak did cause some disruption in late 2021 and early 2022, but the impact was short, and many service providers had procedures in place to limit the operational and financial impact of further outbreaks. And the subsector has seen several high-profile positive rating actions, including the upgrade of HCA Healthcare to investment-grade, the upgrade of Tenet Healthcare Corp., and the revision of the outlook to positive from stable for Surgery Partners Inc.

However, since then, our credit view of the industry has worsened, and while our outlook for the subsector remains stable, it has a decidedly negative bias for 2023, especially in Europe, Middle East, and Africa (EMEA). The labor shortage worsened in 2022. While we believe labor pressures may have peaked in late 2022, based on the near full recovery of health care employment back to pre-pandemic levels and the declining use of expensive temporary staffing services such as temporary nurses, overall labor costs will remain elevated for at least the first half of 2023, if not longer. Staffing shortages have also negatively affected the topline in some cases because the labor shortage has limited service providers' capacity to see patients and perform procedures, but the impact differs depending on region and treatment type. In EMEA, staffing shortages have created significant procedure backlogs in Europe, such as the seven million U.K. citizens waiting for surgery. Government providers are also looking to limit spending as it looks to recover from the elevated spending during the pandemic, such as the French government seeking to curtail prices on laboratory testing. Operating inefficiencies, due to the labor shortage, have also contributed to lower margins. In the meantime, the pandemic remains a wild card, despite the expectations of a limited impact, and while the industry remains recession resistant, health care services may see some negative impact on demand.

Still, we currently think top-line growth for the U.S. health care service sector will be in the mid-single-digit percent area for 2023 but that EBITDA margins will be slightly lower. How much lower EBITDA margins will be will depend on three things: persistence of elevated labor costs (assuming they have peaked), ability to offset higher labor and material costs with savings and efficiencies, and ability to obtain reimbursement rate increases from payors. The potentially lower margins will weigh on adjusted EBITDA and cash flows during a time of increasing interest rates, which will hurt the health care service providers disproportionately, given the relatively larger number of highly leveraged low-speculative-grade companies in the subsector. The greater exposure to labor costs in the cost base, as well as the lower average EBITDA margins of the group, also makes health care services more vulnerable as a group to negative ratings actions. We expect U.S. health care services to potentially lead the health care industry in negative rating actions for 2023.

Meanwhile, for the EMEA health care services sector:

- We expect significant margin squeeze to affect health care services in EMEA in 2023: inflation, staff shortages, and tough tariffs negotiations to impair EBITDA generation.
- Staff shortages remain a key concern across Europe, and we might see some pressure on margins given the important share of labor costs in the cost structure of health care service providers ranging from 30% for labs to more than 70% in nursing homes. This will affect activity as well as the top line. Although elective surgeries have resumed, the waiting list for surgeries has reached unparalleled levels, notably in the U.K.
- Exposure to energy and gas prices is limited given that on average it represents a small chunk of their cost structure, between 1% and 3% maximum.

Industry Top Trends 2023: Health Care

- State support looks uncertain in the short term: COVID-19 subsidies fade away, and we anticipate that upcoming aids will only very partially cover cost inflation. We anticipate a different degree of state support for each country.
- The testing labs segment is expected to report strongly decreasing earnings in 2023, with a significant drop in PCR testing.
- In France, the sector will also face in 2023 a €250 million tariff cut as the government is pushing to retrieve part of the generous reimbursement scheme rolled out during the pandemic. We anticipate another set of tariff cuts from 2024 pending tough negotiations with the French government. The sector subject to periodic strikes as it fiercely contests the price cut program.

Main assumptions about 2023 and beyond

1. Demand for health care remains steady, with a mid-single-digit percent growth rate

U.S. health care spending patterns have been distorted the past several years, given the pandemic-related spending spike, followed by a roll-back of that spending as the pandemic receded. Spending grew a more modest 2.7% in 2021 (latest figure available), accounting for 18.3% of U.S. gross domestic product, a slowdown from the 9.7% growth seen in 2020 during the peak of the pandemic. We believe overall spending will return to a more sustained pre-pandemic level of mid-single-digit (4%-5%) growth in 2023. Spending grew 4.2% in 2019 and 4.6% in 2018.

2. Inflation risk decreasing, but rising interest rates continue to hurt

We believe that inflationary pressure, especially on health care labor, but also supply chain-induced higher material costs, has peaked, and started to lessen, but remains elevated. However, our assumptions of persistently elevated interest rates have led to a number of downgrades to the 'B-' level as well as outlook revisions to negative, reflecting concerns that company cost-cutting and efficiency efforts and ability to pass on costs to payors and patients may not be adequate to offset the higher interest costs, as well as the higher labor and material costs.

3. M&A activity, especially in pharma, will accelerate

M&A activity was muted in 2022, especially in the pharmaceutical subsector, where Big Pharma companies regularly buy out start-ups with innovative products. The higher interest rate environment may put a damper on business development, but Big Pharma and other highly rated biotech companies are sitting on significant cash balances that can be deployed and high interest rates are unlikely to undermine strategic acquisitions, especially for companies that need to broaden and deepen product pipelines. Increased M&A may lead to downgrades in the Big Pharma and major biotech group, which has already seen a steady march downward on the ratings scale due to the previous year's M&A.

Demand for health care remains steady, with a mid-single-digit growth rate. We believe annual health care spending growth will return to normal in the mid-single-digit (5%-5.5%) area, accounting for 18%-19% of U.S. gross domestic product. The threat of recession in the U.S. may negatively affect health care revenue, but not significantly, given the largely non-discretionary demand. The recently passed \$1.7 billion Omnibus spending bill in U.S. right before year-end 2022 also extended and maintained pandemic-era provisions that increased health care coverage and eased health care access, such as Medicaid expansion and the loosening of rules for telehealth. This should help offset any potential recessionary-related softness in demand for health care.

Industry Top Trends 2023: Health Care

The pandemic, though receding, remains a source of uncertainty in terms of disrupting operations and negatively affecting demand, but we believe it should be limited in terms of level of impact and time, such as what happened with the Omicron outbreak in late 2021/early 2022.

Inflation risk lessening, but rising interest rates continue to hurt. We are projecting EBITDA margins to be relatively flat to slightly lower in 2023 because we believe the impact of inflationary expenses on margin was largely absorbed in 2022 and that costs like labor and supply chain issues have peaked and are leveling off, but will remain elevated through at least the first half of 2023, if not longer. Cost reductions and efficiency efforts, along with higher negotiated reimbursement rates from payors, will largely offset the inflationary pressures. However, interest rates are projected to continue to rise and significantly crimp free cash flows and companies' ability to service debt, resulting in further negative rating actions.

M&A activity, especially in pharma, will accelerate. Health care has been one of the most active in M&A over the past several years, with pharmaceutical companies looking to expand their portfolios and pipelines to counter increasing pricing pressure and competition and health care service providers looking to expand their service offerings but also increase their scale in a still very fragmented market and exert greater negotiating leverage with payors and benefit from efficiencies of scale. This heavy M&A activity over the past several years, especially among the private equity-owned health care services players, have left many companies with highly leveraged capital structures. However, M&A activity in the health care industry, like many other industries, declined significantly in 2022, partially due to the lower market valuations and subsequently, more reluctant sellers. Valuations have not recovered, but we believe M&A activity will resume as the strategic need for M&A persists and sellers increasingly accept the new valuations. We believe the pharmaceutical sector, followed by the medical device sector, will lead the recovery in M&A because they are less affected by higher interest rates and have lower leverage (more companies rated investment grade) and cash balances that are currently elevated.

Credit metrics and financial policy

We are maintaining a stable rating outlook for the health care industry but expect credit metrics to deteriorate. Pharmaceutical companies' credit metrics had been improving in 2022, partially given the relative absence of M&A, but also continued solid sales and cash flows, resulting in several positive rating actions. But with the expected return of M&A, we believe as a group, credit metrics will likely deteriorate, reflecting the impact of potential large debt-financed acquisitions. Not all pharmaceutical companies will pursue M&A, but sizable share buybacks remain a possibility. For the health care service providers, the main risk is rising interest rates and deteriorating cash flows. Also, while we expect EBITDA margins to remain stable to slightly lower, there are still risks that margins could further decline (further inflationary pressures, pandemic-related disruptions), resulting in weaker credit profiles.

Key risks or opportunities around the baseline

1. Margin pressures could worsen further

We are projecting flat to moderate deterioration in EBITDA margins for 2023 because we believe labor pressures have peaked, supply chain pressures have eased, and cost-cutting and efficiency initiatives have taken further hold. Providers will seek to negotiate higher reimbursement rates from payors to further offset costs. However, should these efforts fall short and cost inflation further climb, EBITDA margins could further decline, putting increased pressure on cash flows and pushing adjusted leverage to higher, potentially unsustainable, levels.

2. Pandemic remains a wild card

A potential resurgence in COVID-19 cases, with periodic reports of new strains, could lead to a disruption at hospitals and service providers. While companies will benefit from their experiences operating under previous outbreaks, limiting the impact of future outbreaks, it may lead to further strain on margins.

3. Higher interest rates could drive more negative rating actions among low speculative-grade companies

The low speculative-grade health care companies, which as a group have a higher-than-industry average adjusted debt leverage, are especially vulnerable to rising interest rates. Indeed, corporate health care saw a high number of defaults in 2022, with five companies defaulting--BW Homecare Holdings LLC, Bausch Health, Carestream Health Inc., Endo International PLC, and Envision Healthcare twice. This compares with an average of roughly one default a year for an industry that is considered relatively stable in terms of demand. While the increase in health care defaults was due to various reasons, some more driven by deteriorating competitive positions that would be unlikely to support their highly leveraged capital structure, the current pressures on margins and climbing interest rates hitting a group of companies that have highly leveraged capital structures may mean more defaults in 2023.

4. New players in the health care market could change competitive dynamics

New entrants into the health care market, specifically on the health care services side, have the potential to change the competitive dynamics. Companies such as CVS Aetna and Walgreens, attracted to the growth prospects of the health care industry and seeking to leverage their competitive positions in the pharmacy market, are acquiring health care service providers and are becoming major competitors to incumbent players. CVS Aetna, along with UnitedHealthcare, which through its Optum division also has been actively expanding its health care services presence, are both major health insurers and can exert significant negotiating leverage on providers. The drive toward value-based care will also potentially significantly change the reimbursement model for health care companies.

5. U.S. legislative actions on health care muted, mostly

We now have a split U.S. Congress because Republicans hold a four-seat majority in the House of Representatives. A divided Congress reduces the likelihood of major health care legislation being passed. However, health care is increasingly a bipartisan issue and with only a four-seat majority, significant health care legislative policy activity is still possible. Issues such as tighter controls on accelerated drug approvals, which would be a negative development for the pharmaceutical industry, could be passed.

Related Research

- [Some U.S. Home Health Care Companies Face Material Headwinds from Medicare Reimbursement Reductions](#), Jan. 19, 2023
- [Cyber Risk in Health Care: High Stakes, Valuable Data, And Increasing Connectivity Attract Bad Actors](#), Dec. 6, 2022
- [Inflation, Labor Shortages, Supply-Chain Disruptions, and Rising Interest Rates are Testing the Credit Resilience of U.S. MedTech Companies](#), Nov. 29, 2022
- [Credit FAQ: The U.S. Veterinary Industry Will Face Additional Challenges as We Enter An Expected Recession](#), Nov. 28, 2022
- [Credit Trends: Risky Credits: North America's 'CCC+' And Below Rated Debt Reaches \\$230 Billion](#), Nov. 23, 2022
- [Trouble Ahead: Higher Interest Expense Strains 'B-' Rated U.S. Health Care Credit](#), Sept. 29, 2022
- [Credit FAQ: Envision Healthcare Corp.'s Two Major Restructurings in 100 Days](#), Sept. 2, 2022
- [U.S. Health Care Staffing Companies Benefit from Growing Labor Imbalances](#), Aug. 25, 2022
- [Ratings Upside Is Limited in the Burgeoning Health Care IT Industry](#), March 10, 2022
- [With Heightened Demand And Solid Growth Prospects, Life Science Tool Providers Are On Stronger Footing Than Before The Pandemic](#), Feb. 7, 2022

Industry Forecasts: Health Care

Chart 8
Revenue growth (local currency)

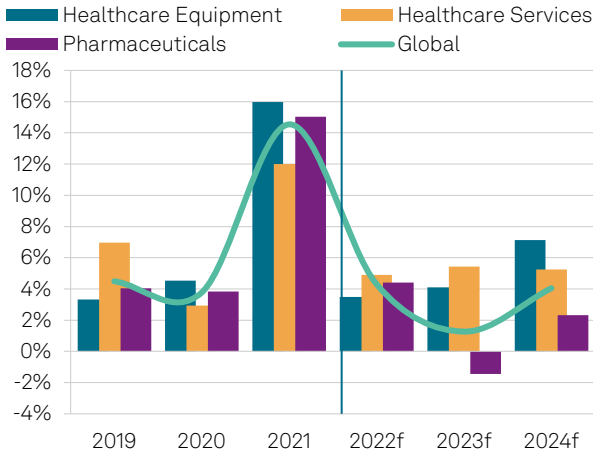


Chart 9
EBITDA margin (adjusted)

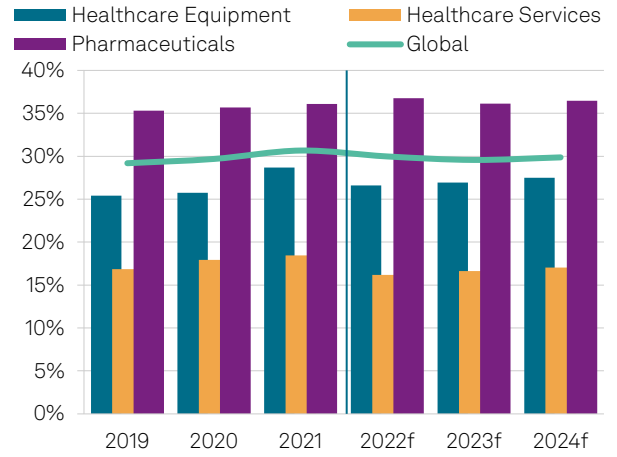


Chart 10
Debt / EBITDA (median, adjusted)

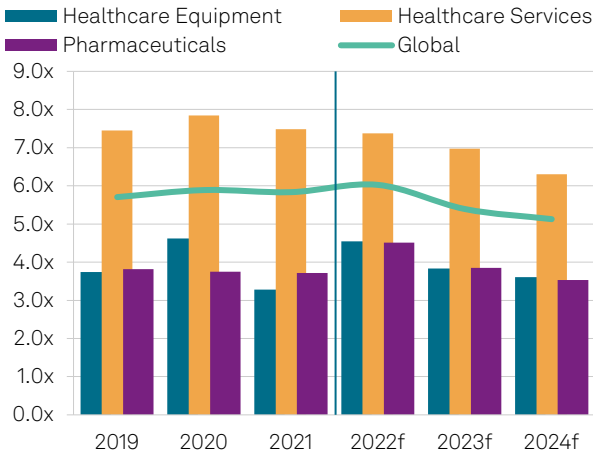
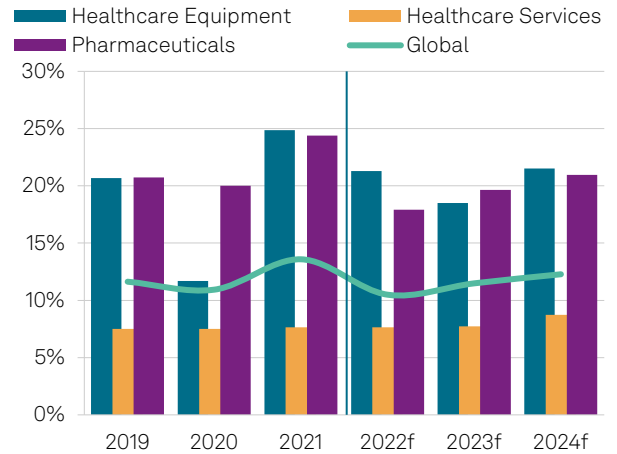


Chart 11
FFO / Debt (median, adjusted)



Source: S&P Global Ratings. f = forecast.
Revenue growth shows local currency growth weighted by prior-year common-currency revenue share. All other figures are converted into U.S. dollars using historic exchange rates. Forecasts are converted at the last financial year-end spot rate. FFO—Funds from operations.

Cash, Debt, And Returns: Sector

Chart 12

Cash flow and primary uses

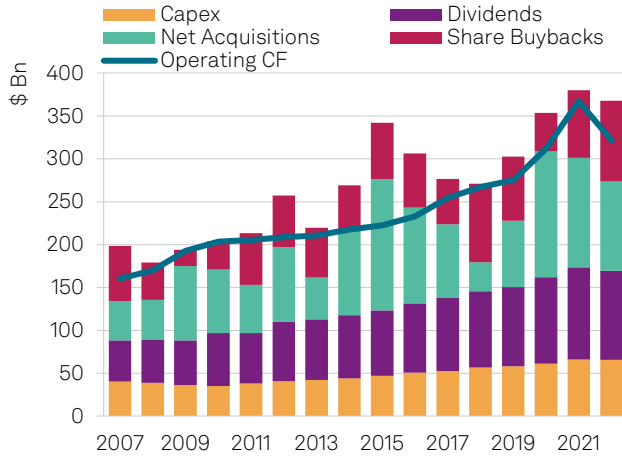


Chart 13

Return on capital employed

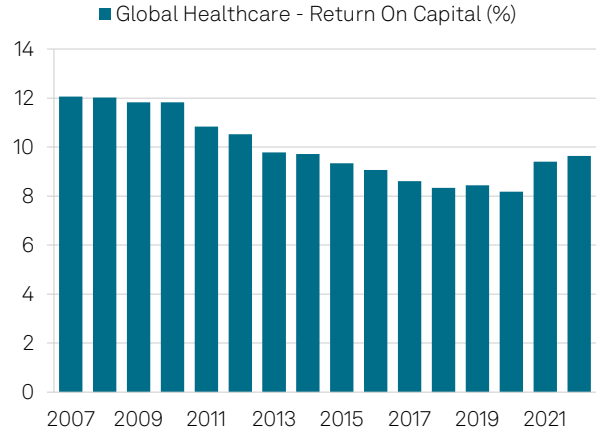


Chart 14

Fixed- versus variable-rate exposure

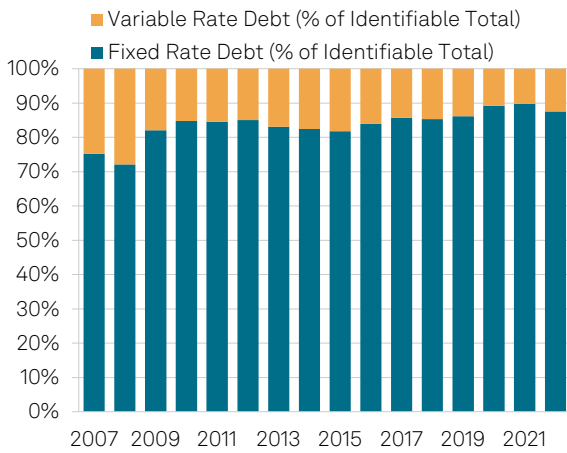


Chart 15

Long-term debt term structure

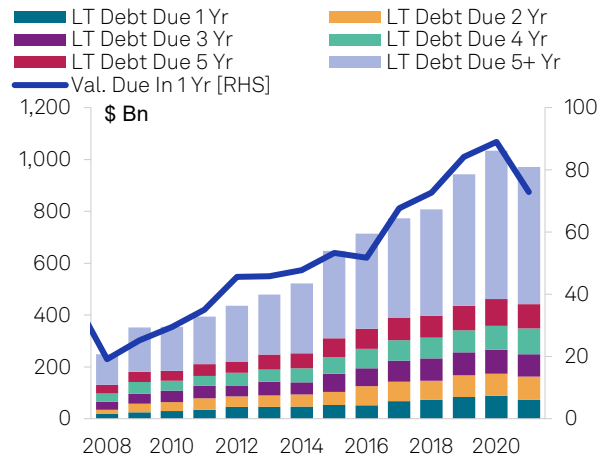


Chart 16

Cash and equivalents / Total assets

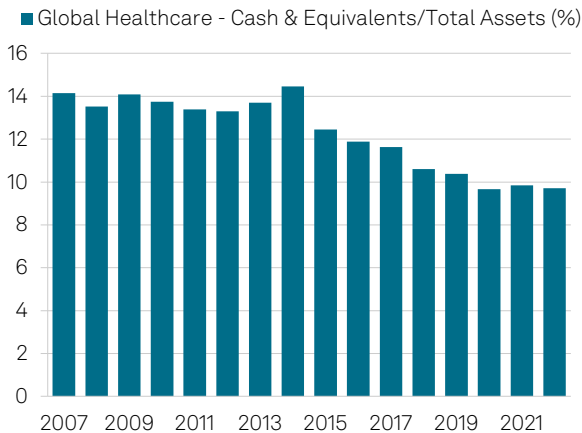
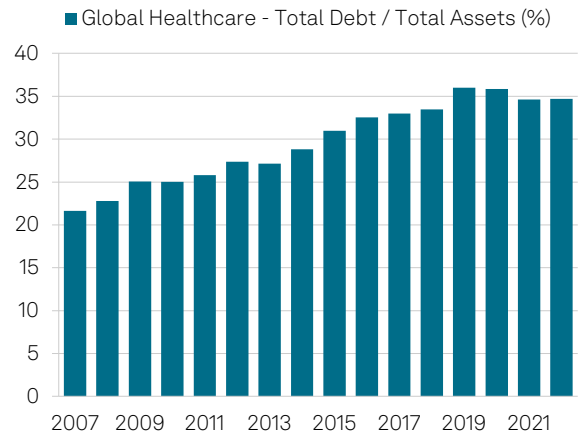


Chart 17

Total debt / Total assets



Source: S&P Capital IQ, S&P Global Ratings calculations. Most recent (2022) figures use the last 12 months' data.

Homebuilders and Developers

Economic headwinds challenge housing demand

January 23, 2023

This report does not constitute a rating action



What's changed?

The macroeconomy remains weak. Recession fears have curtailed housing demand. The lack of visibility on the length and severity of a downturn adds uncertainty to a recovery.

Price growth ranges from stable to decelerating. Profits weakened from higher construction costs and price adjustments as homebuilders adjust pricing to reflect current market conditions.

The Chinese government is supporting the sector. State-owned developers have a larger share of a reduced market with recent policies intended to add liquidity to the sector.

What are the key assumptions for 2023?

Top-line growth declines in the U.S. and Europe. Lower sales volume and selling prices arise as demand declines from retail purchasers and institutional and private households.

Brazil sees better operating performance. Homebuilders should gain better visibility from the federal government housing program despite economic headwinds.

Prices decline in China. China's property sales will likely drop 5%-8% as developers cut prices to boost sales to preserve liquidity.

What are the key risks around the baseline?

Recession fears continue in the U.S. We assume a shallow recession in the first half of 2023. If it is deeper and longer than we expect, our baseline assumptions will weaken.

Latin America has opportunities to grow. It maintains a significant housing deficit, benefitting from a growing middle-class and a solid mortgage lending sector with well capitalized banks.

Hong Kong faces moderate downside risks. Defensive actions like tightly monitored land investments, capex, and debt levels could moderate downgrade risks for developers.

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Ratings Trends: Homebuilders and Developers

Chart 1
Ratings distribution

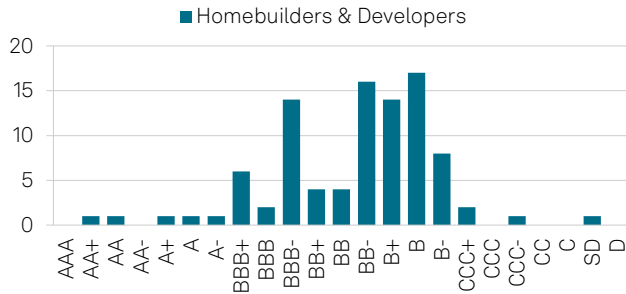


Chart 2
Ratings distribution by region

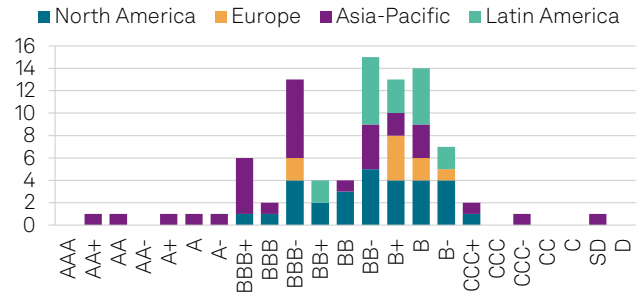


Chart 3
Ratings outlooks

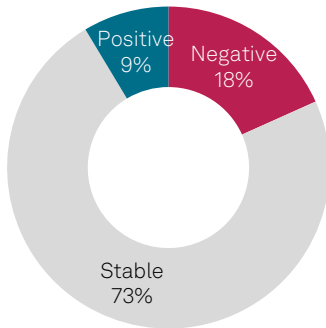


Chart 4
Ratings outlooks by region

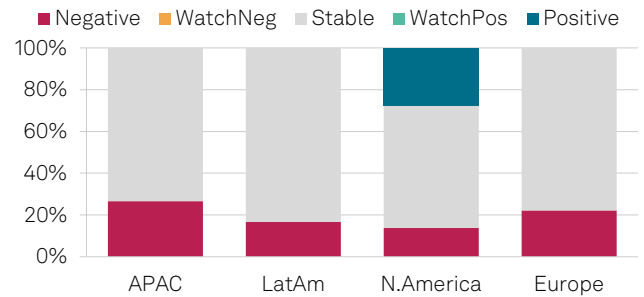


Chart 5
Ratings outlook net bias

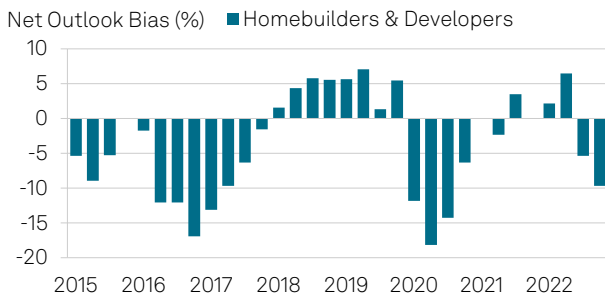
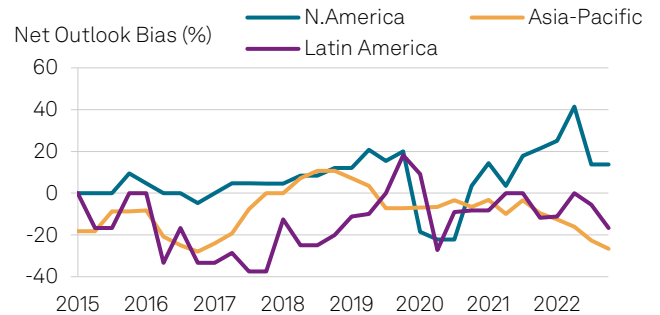


Chart 6
Ratings net outlook bias by region



Source: S&P Global Ratings. Ratings data measured at quarter-end.

Industry Outlook: U.S.

Ratings trends and outlook

Our overall outlook for the U.S. homebuilding sector is positive. Of the homebuilders we rate, 30% have a positive outlook, indicating potential upgrades over the next 12 months, while 15% have a negative outlook. The sector benefits from good long-term demand, tight supply, and historically low mortgage rates despite recent increases, good cost management, and judicious capital allocation. Many homebuilders have used this windfall to reduce debt and bolster land to protect balance sheets for an unpredictable--but inevitable--downturn. Even as the boom in homebuilder profits moderated in 2022 because of higher labor, land, and material costs and less determined buying, we expected that most would sustain solid credit measures with robust profitability and lower debt levels.

As of Jan. 1, 2023, we publicly rate 27 issuers in the U.S. homebuilding and real estate developer sector. Issuers' revenue ranges from \$510 million to slightly over \$27 billion. Currently, 19% of our ratings on U.S. homebuilders are investment grade ('BBB-' or higher) while 44% are speculative grade ('B' or lower). Of the rating outlooks, 15 are stable, eight are positive, and four are negative.

Main assumptions about 2023 and beyond

1. Decline in top-line and EBITDA growth

As housing demand has slowed towards the end of 2022, we expect that to continue into 2023 impacting both the number of deliveries and the average selling price of homes. Consequently, we expect the total of our rated universe to have revenue declines of about 5% with EBITDA declines closer to 13.5%.

2. Stable-to-declining margins

The entry-level market, which we believe is sensitive to rising mortgage rates, faces pricing pressure after rates rose throughout 2022. This slowed the price growth that sustained margins amid higher costs and an industrywide shift to lower price points. As gross margins peaked in 2022, we think slowing price growth and rising costs will cause margins to decline closer to normal levels in 2023.

3. Limited deterioration of leverage

Despite the rapid slowdown in housing demand, rated homebuilders are coming off a period of strong performance and peak gross margins. Most homebuilders improved balance sheets and are operating with significant cushion relative to our downgrade triggers. Builders are adjusting to weaker demand by slowing their starts and land acquisitions to preserve cash. They are also adjusting their pricing to maintain an appropriate number of deliveries.

Rising order cancellations. As demand for housing slows due to higher mortgage rates and a slowing economy, there has been an uptick in the number of order cancellations. To help offset this, homebuilders have been increasing their use of incentives and making price adjustments. A lot of incentives have been related to financing, such as interest rate locks and buydowns to address the payment shock from higher mortgage rates. While homebuilders have always used incentives to entice buyers, its use declined during the pandemic due to strong demand. Now, homebuilders use incentives to limit the decline in homes delivered and to maintain or regain sales momentum, which also causes margins to contract.

An increase in construction costs and lower home prices also drive margin contraction. As homebuilders adjust to market conditions and focus on turning inventory to maximize returns, incentive levels increase, and base home prices continue to see adjustments as necessary. Consequently, we expect the average sales price and home sales gross margin to decrease from current levels in fiscal 2023 with average gross margins in our rated universe declining to about 25.5% from about 26.5% in 2022.

Credit metrics and financial policy

Based on our positive rating bias for U.S. homebuilders, we expect to upgrade several homebuilders over the next 12 months. However, the strength and duration of the slowing economy causes us to remain cautious in our forecast as we would like more visibility on the housing market before gaining higher certainty in our expectations for upgrades. Consequently, we expect our positive ratings bias for homebuilders to moderate over the next year, if all else is the same.

The homebuilders' financial discipline before and during the pandemic yielded stronger ratios and a growing credit buffer, indicating that their credit quality improved. As the boom in homebuilder profits moderates in 2023, we expect most homebuilders to sustain solid credit-protection measures with robust profitability and lower debt levels given the cushion under their existing credit metrics. We would need to see a substantial deterioration in EBITDA to reduce that credit buffer before taking any negative rating actions. This credit buffer will likely stabilize during 2023 due to weakening profitability and declining top-line growth.

Key risks or opportunities around the baseline

1. Slowing housing demand is more severe and longer than expected

We currently assume a shallow recession in the first half of 2023. If it is deeper and longer than we expect, our baseline assumptions should be weaker than we currently anticipate.

2. Lower land spending helps maintain credit quality

Higher inventory levels amid a slowing economy reduces the amount needed for homebuilders to spend on land and development. These working capital funds become a source of cash, which we believe provides enough financial flexibility to limit the deterioration of credit quality.

Macro risks. We believe the biggest risk to our baseline assumptions is the uncertainty around the macroeconomy. Our economists currently expect a shallow recession in the U.S. during the first half of 2023, with unemployment peaking at about 5.6% in the fourth quarter of 2023. If the recession lasts longer or is more severe than expected, we could see operating performance deteriorate further for homebuilders, specifically lower deliveries compared with 2022. This leads to lower revenues in addition to our expectations of lower gross margins.

As we consider homebuilders as countercyclical, any decline in performance could see an increase in their cash balances as a weakening economy forces them to slow the amount of funds used to buy land. Many of our rated homebuilders ended 2022 with higher inventory levels than the previous year. This increase is mostly a function of growth, supply chain dysfunction, and expanded cycle time. As they work down these inventory levels amid a recession, they will not need to spend as much on land purchases, enabling cash generation. For homebuilders, we net cash in the calculation of leverage metrics, and therefore expect an increase in cash balances to offset EBITDA declines. This could add to the credit buffer already accumulated during the pandemic. We currently expect debt to EBITDA for our rated universe to remain in the 2.5x area in 2023, similar to current levels at the end of 2022.

Industry Outlook: EMEA

Ratings trends and outlook

In 2023, we expect increased construction costs, weakening macroeconomic conditions, and higher interest rates to challenge developers, although the former could somewhat ease over the year. The consequently lower sales and higher costs could therefore pressure margins. Today, two of the seven developers we rate have a negative rating outlook, highlighting the risk of downgrades in 2023 if company leverages are higher than expected. Our ratings of developers and homebuilders in Europe tend to be relatively low in the high-yield category, reflecting the volatility and cyclical nature of the industry.

Main assumptions about 2023 and beyond

1. Rising interest rates and tighter mortgage lending dent demand for new housing

We expect lower sales volume and possibly lower selling prices because of declining demand from private households as well as institutions. We also expect to see some margin pressure in the U.K. and Portugal, where we assume stronger price declines relative to other Western European countries in 2023.

2. Raw material prices remain elevated, putting pressure on margins

Property developers and their subcontractors are highly exposed to raw material costs, such as steel and cement prices, which have already increased significantly in 2022 and might not be absorbed through price increases in 2023.

3. Supply continues to constrain sales volume

We assume the pace of new projects remains moderate because of land scarcity and tighter administrative barriers. These projects should also continue to suffer from ongoing supply chain issues as well as a lack of staff in the main European markets, at least in the first part of the year.

Rising interest rates will dent purchasing power, especially in the U.K. where the central bank should raise rates to 4%. This ultimately hampers household demand for newly built residential properties, which relies heavily on mortgage loans. Some credit institutions are also tightening conditions for lending funds, which could further drag on housing purchases. Demand from the build-to-rent segment may also be stymied, as expected returns for investors decrease with higher construction and funding costs.

High construction costs. Although construction costs have eased over the past few months, we expect them to remain elevated this year, impacting developers' margins as they renegotiate contracts. Supply chain issues following the start of the Russia-Ukraine conflict in 2022 have created shortages (materials and labor) and raised homebuilders' costs, delaying projects. To optimize costs and limit margin erosion, we think developers may rethink their chain of subcontractors, with more proactive management of suppliers and lower use of master contracts.

Land scarcity and tighter administrative barriers. The inability to obtain building permits and source lands could continue to impede European developers' capacity to deliver residential real estate in the coming year and possibly weaken their contractors' margins. This could ultimately affect developers' cash collection and exacerbate swings in working capital. Receivable impairments may also affect EBITDA generation.

Credit metrics and financial policy

Revenue growth is set to decline materially in 2023-2024 after two years of healthy growth. EBITDA margins should decrease because of higher construction costs and weakening sales, although they lower from 2021-2022's abnormally high levels. The liquidity cushion could also narrow toward the end of 2023 due to lower sales growth.

Leverage will likely increase due to lower presales and potential working capital requirements. Debt levels for homebuilders remain lower than during the great financial crisis, which may limit defaults.

Interest coverage should decrease because of weakening operational environment and higher funding costs, although most developers decreased their cost of debt and optimized their maturity profiles in the previous years.

Key risks or opportunities around the baseline

1. Bank lending tightens or mortgage rates rise

More-restrictive bank conditions, decreased affordability, or higher-than-expected rate increases could cause banks to issue fewer mortgages, dragging down housing purchases and developers' sales further.

2. The macroeconomy deteriorates further than expected

Sales volume and prices will likely contract further due to weaker housing affordability as well as the uncertainty of future valuations as the economic situation deteriorates, especially if unemployment increases more than currently forecast.

3. Government support could act as a catalyst

Any attempt by the government to revive housing demand, either through household incentives or large orders, would benefit property developers.

Tighter lending conditions. The share of mortgage financing in property sales is high in Europe and has increased in recent years. Therefore, further tightening of lending conditions or weaker affordability would likely affect developers' sales or their price flexibility, especially in countries where rates are variable or where servicing household debt represents a high burden (the Netherlands, Sweden, and the U.K).

Worsening macros. As the European economy braces for a mild recession, with GDP and unemployment weakening temporarily according to our forecasts, we believe a stronger or longer recession would be detrimental to property developers. The sector is vulnerable to the economies of domestic countries, as evidenced during the last global financial crisis.

Government support. We are unsure if governments will stimulate demand either through bulk purchases, as seen during the COVID-19 pandemic, subsidized loans, or tax incentives on home purchases. In the U.K., help-to-buy schemes may not continue into 2023. On the contrary, new environmental and safety requirements will likely delay projects and increase costs to developers.

Industry Outlook: Other EMEA

Gulf Cooperation Council

Despite higher interest rates, global economic headwinds, and inflationary pressures, economic recovery across the Gulf Cooperation Council region boosted demand for residential real estate, as high oil prices sustained positive sentiment from regional buyers. Demand from international buyers remained solid as well, particularly in the United Arab Emirates, as GCC currencies pegged to the U.S. dollar offered a protected investment opportunity to depreciating currencies. Oil-supported economic rebound, population growth, and global events generally boosted residential sales prices and rental rates. Benefits from the World Expo held in first-quarter 2022 in Dubai and the World Cup in Qatar in late 2022 spilled over the entire region. In Dubai, the positive dynamic was sustained in 2022, with reported record transaction numbers.

We think that external economic pressures globally will moderate expansion in 2023, with demand softening and sales prices stabilizing. Still, the deceleration will be moderate given historically limited number of mortgage transactions in Dubai (20%-25%) and comparatively lower inflationary pressures. Furthermore, the success of new residential visas, continued adoption of more liberal social laws, and competitive real estate prices compared with other global hubs will likely continue to drive population growth and therefore help sustain demand.

We also think that the structural oversupply issue will be less acute in the short-term than it has historically as developers sold off inventory during the pandemic and limited new project launches in 2020-2021. However, the supply of new projects accelerated in 2022 and will likely continue in 2023, fueling the supply-demand imbalance in the medium to long term. The temporary uplift from the World Cup led to significant rental rate increases in the country, but we expect a correction in 2023 as the country deals with more supply amid lower demand that we expect will lead to lower rentals. In Saudi Arabia, we expect economic growth led by Vision 2030 to drive population growth, which, along with a stated objective to increase home ownership to 70% of the Saudi population by 2030, will sustain the demand for real estate in 2023 and beyond.

Israel

House prices appreciated by more than 20% in 2022, the fastest pace since 2010, and alongside the rapid increase in interest rates, led to the housing market cooling off. As home prices rose much faster than average wages and interest rates hikes increased mortgage costs, affordability deteriorated further. These resulted in a 37% year-over-year decrease in the number of transactions from August-October of 2022. The 16% increase in building starts in the 12 months ended in September 2022, higher level of unsold inventory, and tighter and more expensive funding conditions also pressured developers. The result is a short-term deterioration in house prices, and our base case includes a single-digit percent decrease in prices in 2023.

If lower demand persists for a longer period, we expect companies may suffer from lower revenue and profitability, given higher interest rates, higher construction costs, and lower sale prices. We expect these trends to translate into lower credit quality, especially for leveraged companies that purchased land at peak prices in recent years, which are more exposed to changes in prices and financing costs. In the medium to long term, we expect transaction volumes and prices to bounce back due to higher construction costs and rents and Israeli demographics supporting rigid demand growth,

Industry Outlook: Asia-Pacific

Ratings trends and outlook

We believe the China property sector is heading for a transformation and possible turnaround. Recent government measures will help improve the sector's liquidity, and the rising dominance of state-owned developers will stabilize homebuyers' confidence. For Hong Kong, we view the drop in home prices as cyclical, given the underlying demand and supply dynamics. We believe rated Hong Kong developers will remain bolstered against a 5%-10% decline in residential property prices. In Indonesia, we expect lower-rated developers with less recurring income will experience a liquidity squeeze on the back of weakening residential property demand.

Main assumptions about 2023 and beyond

1. China's property sales drop 5%-8%

Price declines cause most of the drop as developers will likely cut prices to boost sales and preserve liquidity. Unit sales volume should be stable as price discounts entice demand. Most of the price squeeze will be in lower-tier cities, where average selling prices will drop by a low-teens percent. On the other hand, developers will face less pressure to discount in higher-tier cities where demand is more resilient.

2. Hong Kong's residential prices fall 5%-10%

Hong Kong's home prices could drift further down in 2023 from lingering economic risks. The global tightening cycle is another major factor contributing to falling prices. We do not expect the downturn to be structural because mass-market home demand still looks solid and private home supply seems disciplined over the next four years. Hong Kong developers with a strong pipeline of mass-market products have better positions than peers.

3. Weaker customer sentiments mute momentum for Indonesian residential sales

Rising inflation, higher mortgage rate expectation, and the expiration of the value-added tax discount scheme in 2022 will likely hamper consumer sentiment and residential sales momentum in 2023. We expect higher land sales to partially offset muted residential sales as international travel resumes, as it becomes easier for investors to perform due diligence on land investments.

We continue to assume China property sales will follow an "L"-shaped recovery. In our view, sales recovery could happen in the second half of 2023. Although recent government initiatives will boost the sales of some stronger players, particularly state-owned developers, the faltering sales of distressed private developers should offset any gains. Weaker new construction starts and lower new land spending in 2022 will also stop sector sales growing in 2023.

In Hong Kong, we do not expect private home supply to significantly increase in the near-term as the government designates 70% of new supply for public housing over 2022-2032. We believe the average annual private home supply over 2022-2026 will be flat from the level achieved in 2017-2021. That said, despite disciplined supply, the vacancy rate of Hong Kong's private homes could rise if population continues to net decrease.

Credit metrics and financial policy

The rising dominance of state-owned developers in China means the market will move more slowly with less offshore issuance. The high-churn business and funding models previously favored by private developers have become untenable. The idea was based on the false belief that land and housing prices could only go up. Going forward, we believe property development in China will become less financially innovative, and developers will use leverage less aggressively.

We believe Hong Kong developers are better positioned for a downturn than their mainland peers. This is due to their stronger balance sheets and more diversified income streams. Recurring income, such as rental and other stable non-property businesses, account for 30%-60% of our rated Hong Kong developers' revenue or profit.

Key risks or opportunities around the baseline

1. Government measures manage China's property downturn

Recent government measures will add fresh liquidity to the sector. While these measures are not intended to bail out the sector, they will restore confidence in homebuyers and investors. State-owned developers, which now have a larger share in a reduced market, will use leverage less aggressively than privately owned peers. Their practices will also be less likely to fan housing price bubbles.

2. Defensive actions could moderate downgrade risks for Hong Kong developers

Should the decline in Hong Kong's residential prices be more severe and prolonged than we forecast, developers with tight rating headroom could risk downgrades. In our view, defensive actions, such as tightly monitoring land investments, capital expenditures, and debt levels over the next 12 months, could moderate such risks. Developers that conducted significant asset disposals over the past couple of years generally have greater rating headroom.

3. Challenging funding environment for lower-rated Indonesian developers

Indonesian developers have limited refinancing needs over the next 12 months. However, refinancing activity will increase through 2024 to address the looming maturity wall in 2025. This may heighten the sector's refinancing risk again, especially for those rated in the 'B' category and below, should their access to offshore funding remains constrained.

The Chinese government recently took bolder steps to restore confidence in the sector. Previously, support measures only aimed to keep developers solvent long enough to complete presold homes. Now, the focus allows some developers, mainly state-owned and a handful of viable private developers, to become a going concern--to buy land, grow, and prosper in the future. However, many less-sound developers will be left to fight for survival.

For Indonesia, developers have turned to domestic banks for refinancing as evidenced by sizable bank loans granted over the past 12 months. However, domestic banks are unlikely to fully satisfy the sector's refinancing needs.

Industry Outlook: Latin America

Ratings trends and outlook

Our outlook for Latin American (LatAm) homebuilders and developers remains mostly stable. Slightly more than 80% of our rated portfolio has a stable outlook and less than 20% has negative. However, we acknowledge that LatAm homebuilders are starting 2023 with less cushion to absorb downside risks compared with a year ago, as most of them faced margin pressures, stemming from high inflation on land, increased building material and labor costs, and a higher interest burden in 2022.

For 2023, we foresee macroeconomic headwinds as LatAm's largest economies significantly slow down, inflation moderates but remains elevated, consumer purchasing power weakens, and tight financing conditions continue through at least the first half of the year. As a result, we believe that downside risks will generally overpower benefits in 2023, causing mixed results depending on each entity and country.

In Brazil, we expect launches and sales for homebuilders to rebound compared with 2022 as political uncertainties gradually dissipate. We also forecast a slight recovery in operating margins as inflation eases while homebuilders benefit from projects recently launched with higher prices. Nonetheless, we remain cautious as a weaker economic landscape and persistently high interest rates present challenges, particularly because companies have less cushion to protect their credit quality.

In Mexico, we anticipate housing starts to continue lowering while home prices continue increasing, given that demand still surpasses the tight supply of units. In addition, we expect a robust mortgage supply with relatively stable mortgage rates despite volatile reference rates, and for rated homebuilders to protect their profit margins by passing through inflation costs to homebuyers.

Much like in 2022, the year ahead is likely to be turbulent for the LatAm housing industry. Thus, controlled margins, tight working capital management, healthy liquidity, and prudent financial policies will be key for homebuilders to maintain their credit quality.

Main assumptions about 2023 and beyond

1. Brazilian homebuilders should perform better

Our updated base-case scenario suggests that Brazilian homebuilders' operating and financial performance should improve this year. This is due to better visibility on the housing program following its general election cycle despite several economic headwinds that could undermine profitability and cash flows.

2. Mexico's housing starts continues to fall, but still demonstrates solid sales growth

We expect Mexico's housing production to remain under pressure amid limited government subsidies, macroeconomic headwinds, and tight supply capabilities. However, our most recent forecast still projects Mexican rated homebuilders to deliver solid sales growth and positive EBITDA margin trajectory while maintaining credit protection measures commensurate with their credit profiles.

We expect Brazilian homebuilders to perform better in 2023, but profitability and interest burden remain key metrics coming out of 2022. Last year was challenging for Brazilian homebuilders. After two years of robust growth, the sector faced higher inflation and interest

rates, coupled with heightened uncertainty over the presidential elections. As a result, most homebuilders decelerated launches, given the lack of visibility on demand throughout the year. This significantly impaired revenues and cash flows; most of the entities we rate did not meet our expectations for 2022. However, fewer launches also meant lower-than-expected debt, resulting in most of the homebuilders maintaining leverage broadly in line with our expectations.

For 2023, we now expect launches to resume and higher sales growth compared with 2022. We also anticipate Brazilian homebuilders will maintain conservative financial policies amid a sharp economic slowdown. For 2023 and 2024, we expect GDP to grow 0.5% and 2%, respectively, from the 2.9% projected for 2022. We assume inflation and interest rates will ease but remain elevated, which could further pressure consumer's disposable income, mainly those in the low- and mid-income segments. Still, we believe that the environment for the low-income homebuilders is better than last year, as the Brazilian government combats the high housing deficit with recent changes to its federal housing program and stated its intention to support industry fundamentals through investments.

We expect a slight recovery for Brazilian profit margins through 2023, mostly with support from recently launched or sold projects with higher prices, as homebuilders adjust prices to offset higher input costs. Although the macroeconomy still poses many risks, including still-high interest rates through 2024, we expect most Brazilian homebuilders to rely more on construction financing debt than market issuances to optimize their funding costs and alleviate their cash flows. As a result, we expect a gradual improvement in credit metrics from current levels.

In Mexico, we expect rated homebuilders' sales and EBITDA margin trajectory to remain robust with support from prudent financial policies, despite pressure. Mexico's housing starts continues to shrink, with 137,507 units produced in the 12 months ended November 2022, a record low, compared with 300,000 units in 2015. This also reflects a 15.9% year-over-year reduction. Historically low federal housing subsidies, macroeconomic headwinds, and lack of supply in the country are triggering this pronounced slippage.

We expect Mexico's GDP growth to significantly slow to 0.8% in 2023 and trend below historical rates in 2024, compared with 2.6% in 2022. This will keep housing starts low, coupled with a limited 2023 federal housing subsidy budget, high but easing near-term inflation, and a lack of units. In our view, these factors will prevent national production to surpass 160,000 units per year, as seen before 2019 when the housing subsidy was well above MXN6.0 billion per year.

Despite Mexico's significant housing shortage, it benefits from employment growth and supportive demographics, including a young population and burgeoning middle class. We also expect access to mortgage loans to remain healthy with fairly stable rates. Although the central bank offers volatile reference rates, government-owned entity el Instituto del Fondo Nacional de la Vivienda para los Trabajadores (Infonavit) mitigated the uncertainty by committing to freezing rates through September 2024. We also anticipate Infonavit and el Fondo de la Vivienda del Instituto de Seguridad y Servicios Sociales de los Trabajadores del Estado (Fovissste) will continue expanding their housing programs and customer base, which should continue to incentivize potential homebuyers. We also expect house prices to continue increasing faster than inflation due to the tight supply against the robust potential demand and inflationary pressures on building costs.

In our view, these factors bode well for the 2023 growth trajectory of the following Mexican rated homebuilders: Consorcio Ara, S.A.B. de C.V. (national scale: mxAA-/Stable/--), Inmobiliaria Ruba, S.A. de C.V. (national scale: mxAA-/Stable/--), and Vinte Viviendas Integrales, S.A.B. de C.V. (global scale: BB-/Stable/--; national scale: mxA-/Stable/--). We expect rated Mexican homebuilders to continue leveraging their competitive positions and business flexibility from strong inventories; landbank reserves; and geographic, product, and financing diversification to raise top-line growth

and increase their market share in this highly fragmented market. For 2023, our forecast suggests rated homebuilders will achieve steady revenue growth (high-single-digit to low-double-digit percent rates). In our opinion, this will be primarily driven by housing price adjustments at or above the inflation level to protect profit margins from still-elevated building material and labor costs, while units sold will be broadly stable or slightly declining as consumer purchasing power continues to weaken. Finally, we believe that some players will continue improving their credit metrics, mostly from nominal EBITDA growth, but also from paying down financial obligations, reducing their funding costs, and becoming more efficient from a profit and loss perspective.

Credit metrics and financial policy

Brazilian homebuilders enter 2023 with less cushion to withstand a prolonged downside scenario. In 2022, Brazilian rated homebuilders posted weaker than expected results, but most of them were able to maintain leverage within current rating thresholds, as they acquired less debt due to the slower pace of operations. Following the 2015-17 Brazilian economic crisis, the overall housing sector adopted a more conservative approach to leverage and financial policy. Most rated issuers, across all rating categories, increased their cash balance and maintained extended debt maturity profiles while increasing their access to the local debt market in preparation for another downturn like present.

Still, such measures have only proven partially successful against persistently high interest rates, with basic interest rates in the double-digit percent area since February 2022, and currently at 13.75%. The rates weigh on interest burden and coverage ratios due to already-low EBITDA and FFO generation and pressured margins. Additionally, high interest rates also hurt consumer purchasing power, which can hurt housing demand and sales trajectory for homebuilders. As a result, we believe that negative rating actions are more likely to happen in 2023 without significant change. There could be exceptions if Brazilian homebuilders can recover operating margins and manage interest burdens, but we will need to closely monitor such opportunities as inflation eases in the long term.

Financial policies for Mexican rated homebuilders will remain broadly unchanged in 2023, supporting current metrics. We expect rated homebuilders to continue demonstrating prudent financial policies over the next 12 months, including prioritizing strong balance sheets that support low leverage ratios, extending debt maturity profiles, and maintaining high cash positions. Moreover, homebuilders have demonstrated their capacity to access credit facilities and local debt capital markets, as well raise equity to fund their growth strategies--although we note that global geopolitical events have precluded such funding occurring in 2022. In our view, cash flows will remain steady in 2023, considering rated homebuilders' geographic, customer, and financing diversification. We also consider the higher working capital requirements as inventories increase to meet housing demand in the market. Therefore, we do not expect a significant departure in credit metrics from current levels.

Key risks or opportunities around the baseline

1. The macroeconomic environment poses downside risks to our forecast

A deeper or longer economic slowdown--with high inflation or tight financing conditions-- could reduce consumer spending, investment in the housing sector, and companies' capacity to pass through cost increases. This would undermine LatAm homebuilders' credit quality beyond our current estimate.

2. The housing deficit, demographic trends, and mortgage loan access provides growth prospects

LatAm maintains a significant housing deficit. It also benefits from a growing middle-class and a solid mortgage-lending sector with well-capitalized banks, providing solid medium- to long-term growth opportunities for the sector.

LatAm homebuilders face another year of economic turbulence, posing risks to our forecast for 2023. In our view, a deeper and longer period of economic slowdown, high inflation, and tight financing conditions could hurt household disposable income and delay investment decisions. It could also squeeze homebuilders' capacity to pass through cost increases and ultimately undermine operating and financial performance beyond our current estimate if not addressed. Furthermore, homebuilders are exposed to political risks and a high degree of policy uncertainty in some countries of the region. In Brazil, President Luiz Inácio Lula da Silva took office in January; the change in government could slow investment due to administrative delays. Some uncertainty about the Lula administration's policies, especially on the fiscal front, could also pare back investment until the government gains more visibility. In Mexico, general presidential elections will take place in 2024 and could delay homebuyers' investment decisions until they have more visibility on the country's policy direction.

The housing deficit, demographic trends, and access to mortgage loans provide solid medium- to long-term growth prospects. In many LatAm countries, we observe a significant housing deficit (close to 6.0 million in Brazil and 9.5 million in Mexico) and a slowly growing middle class as economies improve, although the pace will likely be below historical trends in 2024 and onward. In Brazil and Mexico, the housing sector is also favored by the fact that banks are well capitalized and mortgage-lending activities remain supportive. For example, in Mexico, mortgage rates remain broadly stable despite a volatile reference rate from the central bank. These factors all provide solid medium- to long-term growth opportunities.

Furthermore, in Brazil, the federal government housing program announced new income thresholds to accommodate more families among other changes to increase the addressable market for homebuilders that operate within the program. The new government also already announced its intention to increase its investments in the program, a benefit for Brazilian homebuilders operating in the low-income segment.

Industry Forecasts: Homebuilders and Developers

Chart 7
Revenue growth (local currency)

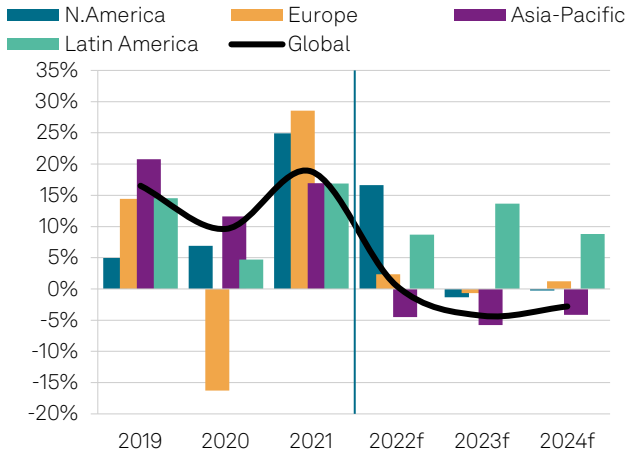


Chart 8
EBITDA margin (adjusted)

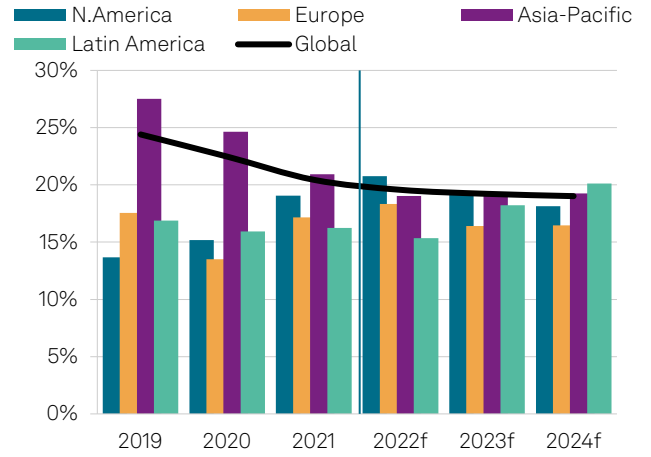


Chart 9
Debt / EBITDA (median, adjusted)

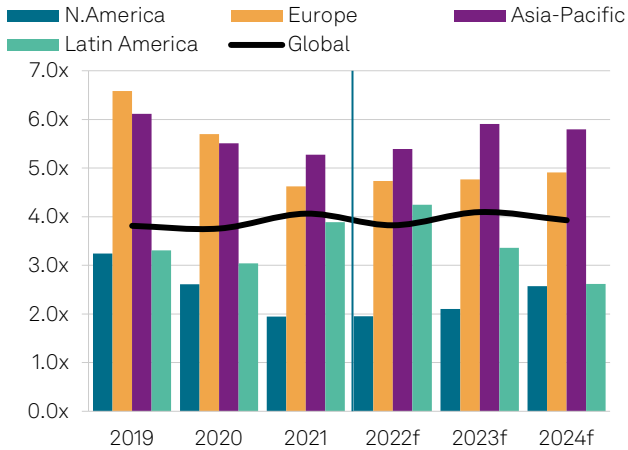
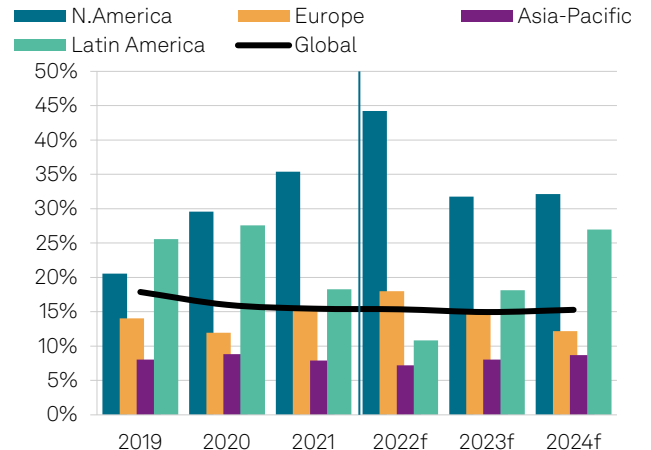


Chart 10
FFO / Debt (median, adjusted)



Source: S&P Global Ratings. f = Forecast.
Revenue growth shows local currency growth weighted by prior-year common-currency revenue share. All other figures are converted into U.S. dollars using historic exchange rates. Forecasts are converted at the last financial year-end spot rate. FFO—Funds from operations.

Cash, Debt, And Returns: Homebuilders and Developers

Chart 11
Cash flow and primary uses

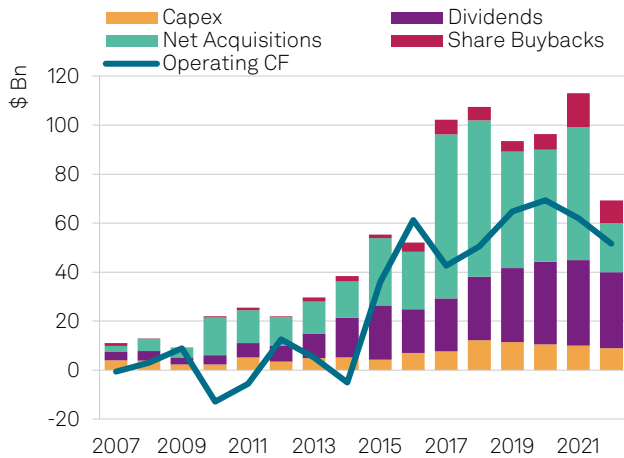


Chart 12
Return on capital employed

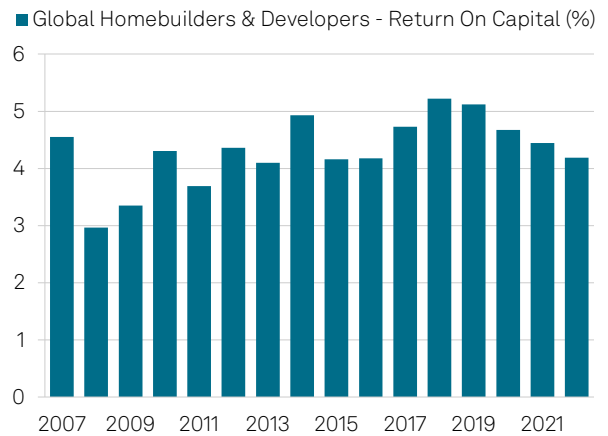


Chart 13
Fixed- versus variable-rate exposure

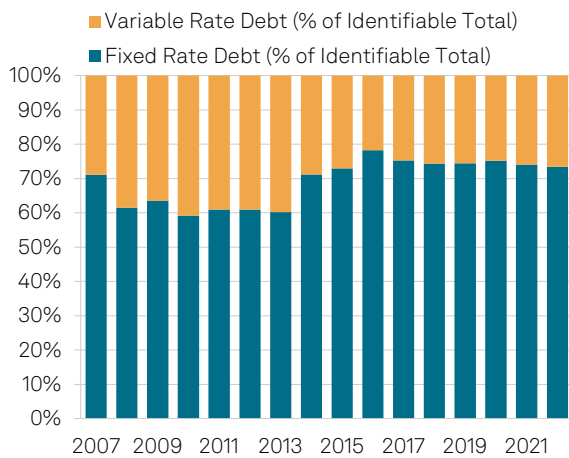


Chart 14
Long-term debt term structure

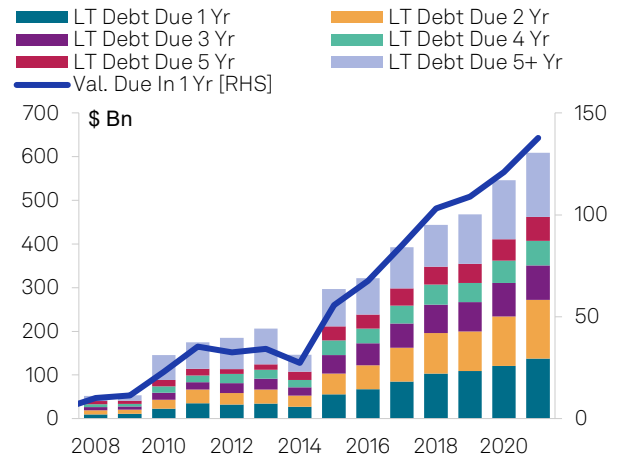


Chart 15
Cash and equivalents / Total assets

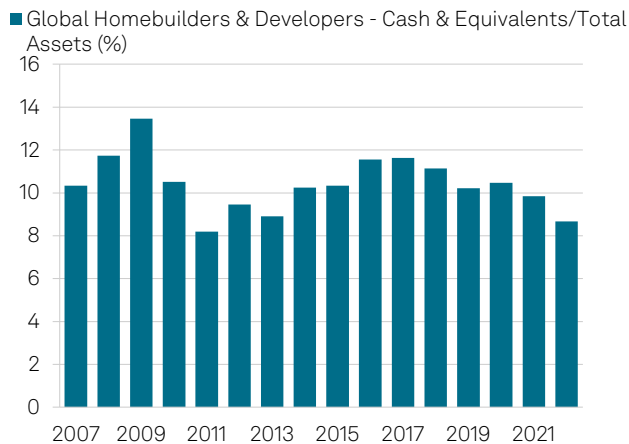
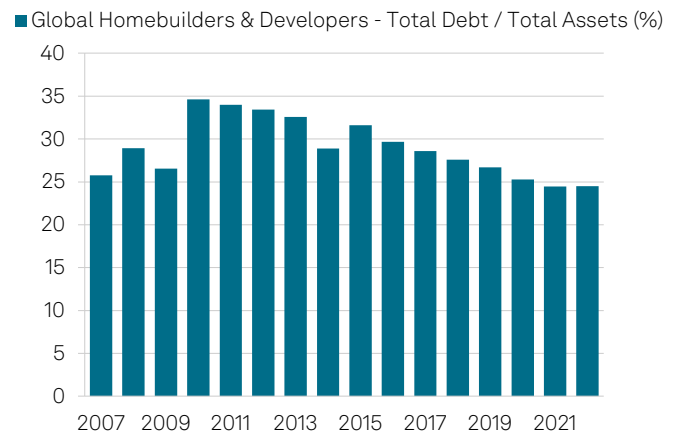


Chart 16
Total debt / Total assets



Source: S&P Capital IQ, S&P Global Ratings calculations. Most recent (2022) figures use the last 12 months' data.

Hotels, Gaming, and Leisure

Not your typical recession; impact could be moderate

January 23, 2023

This report does not constitute a rating action



What's changed?

Likely recession in world's major economies. Most economists, including S&P Global's, believe the U.S. will endure a shallow recession with a harsher one in Europe. Leisure is discretionary, cyclical, and escaping a recession unscathed is not typical.

Recession may not be too harmful. The U.S. job market is robust and global unemployment remains low. Several leisure sectors are still recovering from the pandemic, but propensity for travel, particularly in Europe, may soften the impact of a recession.

What are the key assumptions for 2023?

Gaming. The end of China's zero-COVID policy should support Macao's recovery; Recession may test EMEA revenue with tough 2022 comparisons. Vegas's leisure surge and good regional gaming revenue may begin to slow, but convention and group recovery may partly offset this.

Lodging. Record U.S. RevPAR above 2019 faces tough comparison, slowing occupancy growth, and possible moderating ADR; Europe's lagging occupancy continues to recover.

Cruise. Strong forward bookings suggest demand for cruises in 2023 could absorb higher capacity and occupancy likely recovers to historical levels by summer, causing a material improvement in EBITDA and credit measures from unsustainable levels.

What are the key risks around the baseline?

Downside recession case. U.S. inflation remains high on continued supply-chain disruptions. Still behind the curve, the Fed ramps up tightening through 2023 as economic activity falls further into the red, hitting lodging, gaming, cruise, theme parks and fitness harder than our base case.

Leveraging investment spending. Investments under new Macao concessions, new resort development, and M&A could slow deleveraging; CMBS maturities lead to hotel acquisitions.

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Ratings Trends: Hotels, Gaming, and Leisure

Chart 1
Ratings distribution by region

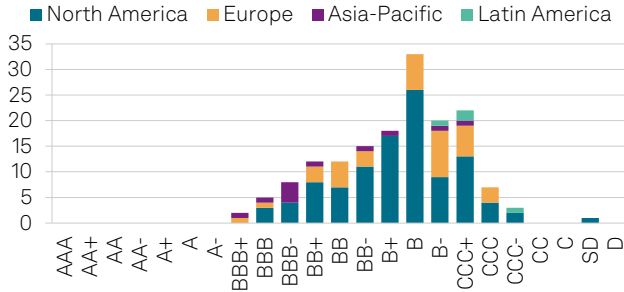


Chart 2
Ratings distribution by subsector

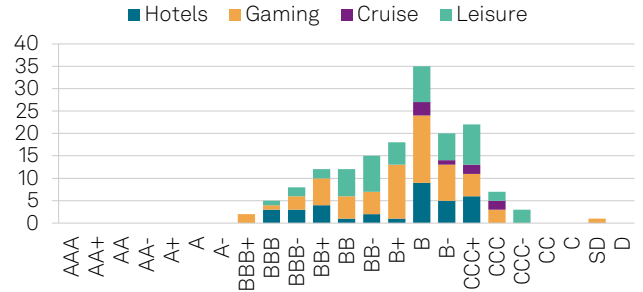


Chart 3
Ratings outlooks

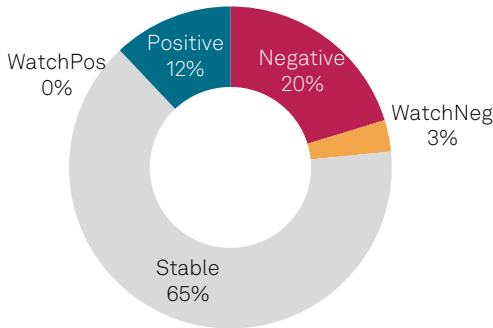


Chart 4
Ratings outlooks by subsector

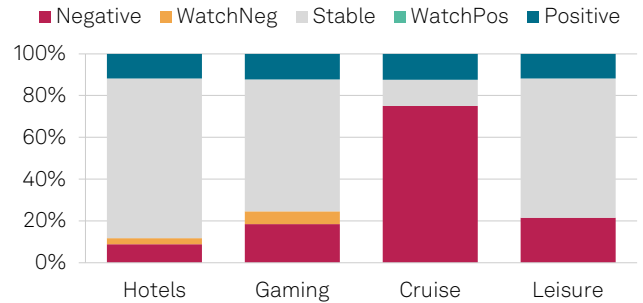


Chart 5
Ratings outlook net bias

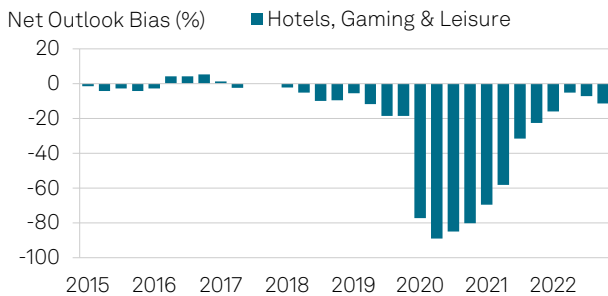
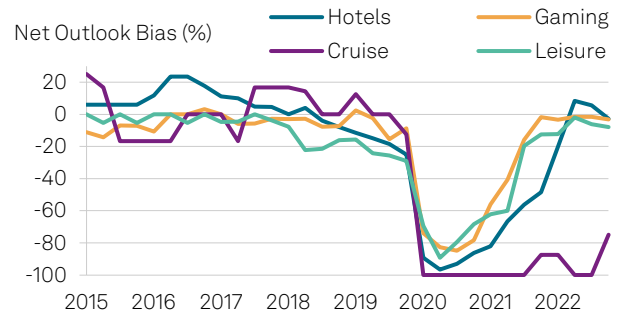


Chart 6
Ratings net outlook bias by subsector



Source: S&P Global Ratings

Industry Outlook: Gaming

Ratings trends and outlook

Ratings on U.S. gaming operators are largely back to or above pre-pandemic levels because of a strong recovery and improvements in credit measures. But a negative outlook bias persists for those operators exposed to Macao due to continued stress on revenue and cash flow, negative free operating cash flow (FOCF) in the first half of this year, and leverage above downgrade thresholds over the next few quarters.

Main assumptions about 2023 and beyond

1. China's rapid shift away from its zero-COVID-19 policy should support Macao's recovery

Our base-case forecast for gross gaming revenue (GGR) to improve to 60%-70% of 2019 levels. This should lower operators' cash burn and support better credit measures over the next 12 months.

2. The resilience of EMEA's gaming revenue will be tested in 2023

The impact of a recession could be varied based on product and channel mix.

3. A weaker economy could slow regional gaming and the leisure spending surge in Vegas

Pressure on consumer spending from high inflation and increasing unemployment could slow discretionary spending on gaming, leading to modestly lower regional gaming revenue and a slowdown in Vegas' leisure spending surge. But the ongoing convention and group recovery in Las Vegas may somewhat offset this.

China's rapid shift away from its zero-COVID-19 policy should support Macao's recovery. In December 2022, mainland China and Macao shifted away from their previous stance and relaxed travel restrictions, including testing and quarantine requirements. This was earlier than S&P Global Ratings' prior expectation of a gradual relaxation starting in the second quarter of 2023. Reduced testing and removal of quarantine measures, coupled with the reinstatement of electronic visas (e-visas) on Nov. 1, 2022, will lower entry hurdles for individuals entering Macao and support a recovery in visitation. As a result, we believe Macao's GGR recovery could improve more substantially, assuming the current virus wave begins to subside over the coming weeks. Therefore, we updated our base-case forecast for Macao's mass GGR to recover to 60%-70% of 2019 levels in 2023, the upper end of our previously published 50%-70% range. We expect the recovery could be gradual in the first few months because high caseloads in China could make people reluctant to venture out at least initially. However, the recovery in mass GGR is likely to accelerate more significantly in the second half of the year (to above 80% of 2019 levels) based on the recovery we have observed in other gaming markets like Las Vegas and Singapore. Although we expect continued stress on Macao operators' revenue and cash flow and for FOCF to remain negative in the first half of 2023, our updated base-case forecast should allow operators to improve leverage below downgrade thresholds by late 2023 to early 2024 on an EBITDA run-rate basis.

The resilience of EMEA's gaming revenue will be tested in 2023. We are forecasting moderate positive revenue growth in 2023 compared with the material bounce back in revenue likely in 2022, following the impact of COVID-19 in 2020 and 2021. Margins and FOCF could fall moderately in 2023. EMEA gaming issuers we rate faced persistently high inflation at the end of 2022 and rising interest rates across Europe. We have already witnessed weaker quarterly earnings numbers in

some segments of the portfolio, notably in the U.K. and particularly U.K. online as companies proactively implement safer gaming measures and face tough prior year comparisons. Conversely, rated companies in Italy, for example, are benefiting from particularly strong structural growth in online gaming. In Europe, online is a much larger portion of many gaming companies' revenue than it was during the last major recession. Additionally, we forecast inflation will be much higher for longer than during the last downturn. As a result, we believe the impact on revenue from a recession could be varied based on individual rated names based on product and channel mix. The degree of resilience of aggregate revenue generation in EMEA in the face of potentially deteriorating macroeconomic environment remains a key assumption.

Good regional gaming revenue and the surge in leisure spending in Las Vegas may begin to slow, although convention and group recovery may be a partial offset this.

Consumers' willingness to spend on gaming, travel, and entertainment in 2023 could be hit by lower accumulated savings, ongoing high inflation, and higher unemployment. As a result, we assume low- to mid-single-digit declines in regional gaming revenue in most markets. Inflation also poses a risk to sustaining strong margin expansion. Accelerating convention and group business in Las Vegas could partially replace moderating leisure demand, but a weakening economy could slow the pace of recovery if corporate travel budgets fall. Convention attendance represented about 15% of 2019 visitation. While Las Vegas tends to be more volatile in a downturn than regional gaming markets, continued group and convention recovery, the return of international travel, and investment in new attractions including Allegiant Stadium and the MSG Sphere (slated to open in 2023) should continue supporting visitation recovery. In addition, supply growth in gaming positions and hotel rooms in Las Vegas are relatively modest and much lower than in 2008-2010. As a result, a shallow recession in 2023 should have a less dramatic impact than during the previous financial crisis. The first quarter faces an easy comparison with last year due to the negative impact the Omicron variant had on travel and hotel demand in Las Vegas, especially group and convention. CES' attendance, for instance, grew more than 250% this January compared with last year. A favorable event calendar, including the return of CONEXPO-CON/AGG (a large construction trade show held every three years) and Formula 1's Las Vegas Grand Prix auto race, should also help.

Key risks or opportunities around the baseline

1. Investments under new concessions in Macao could slow deleveraging

The government of Macao recently entered into new concessions with the six incumbent licensees. This was in line with our base-case expectation. Investment commitments are high but manageable as long as Macao's GGR begins recovering this year.

2. A more severe revenue impact and tighter regulation in Europe

The key risk to our forecast is a more material impact to aggregate revenues from a potential recession, and a more conservative regulatory approach than expected resulting from the U.K. White Paper, in particular.

3. Developments, M&A, and shareholder returns could impair credit measures

Investments in new casino developments, M&A, and shareholder returns could slow credit measure improvement for some operators or eat into substantial leverage cushions for others. This could slow ratings improvements or cause downgrades.

Investments under new concessions are manageable as long as Macao's GGR begins recovering this year, but leverage improvement could slow down. The award of new concessions in Macao

Industry Top Trends 2023: Hotels, Gaming, and Leisure

eliminated license uncertainty and codified operators' investment commitments over the 10-year term of these new concessions. The six operators committed to investing \$15 billion over the 10-year term. These investments will include a mixture of capital expenditures (capex) and operating expenses (opex) to support nongaming amenities and events. One market participant, MGM, has preliminarily indicated the split between capex and opex will be fairly even. We believe this level of investment will be manageable for operators as long as Macao's GGR begins to recover this year. The biggest downside risk to our 2023 GGR forecast is that, when large numbers of people contract COVID-19, fear among the public will lead to more voluntary social distancing and more suspension of activity and spending. We also can't fully rule out renewed restrictions. This could cause a slower ramp up in Macao's mass GGR recovery, and slow operators' leverage improvement, especially as we assume investments under new concessions could accelerate in 2024.

A more severe revenue impact and tighter regulation in Europe. A key risk to the European base line revenue forecast is a more material impact to revenues from a worsening macroeconomic environment, including persistently high inflation and higher interest rates causing a material worsening in discretionary spending. While cost base increases are a risk, we are already forecasting moderate margin declines from high levels, as gaming companies improved cost bases throughout the pandemic. Regulation continues to be a factor. The U.K. Gaming Act review will probably remain the single largest regulatory event risk hanging over the rated portfolio. Although the proactive adoption by large rated U.K. operators of many safer gaming controls and affordability measures over the last 6-12 months should lessen any impact of the implementation of any new regulation, we still see some possible downside risk if recommendations turn out to be more stringent than expected. Potential regulatory measures could include a combination of enhancements to affordability controls and checks, monthly spending limits, advertising or sponsorship restrictions or maximum £2 slot stakes per spin, among other proposals.

New resort developments, M&A, and shareholder returns could impair credit measures.

Investments in new casino developments, M&A, and shareholder returns could slow improvement in some operators' credit measures or eat into substantial leverage cushions for others. This could slow ratings improvements or cause downgrades. New York recently announced a request for application for up to three casinos in the New York City area. Many operators are engaging in partnerships and announcing locations for what are expected to be multi-billion dollar integrated resort developments. While the developments would likely take several years to build and spending would occur over multiple years, selected casino operators will need to pay at least a \$500 million license fee at selection, which could be as early as this year. These developments could eat into sizable liquidity and leverage cushions or slow credit measure improvement, elongating ratings improvements or leading to negative rating actions. New casinos and resorts in markets like Chicago, Japan, the United Arab Emirates, and other locations also pose risks. This is especially true as operators will not receive any cash flow benefits from the projects in the near term, but over the longer term could broaden geographic diversification and increase scale. M&A and shareholder returns could also limit rating upside in the sector.

Industry Outlook: Hotels And Timeshare

Ratings trends and outlook

We raised most ratings back to pre-pandemic levels and the outlook bias is stable, although occupancy at many urban focused full-service upper upscale lodging companies will not likely recover fully until 2023.

Main assumptions about 2023 and beyond

1. U.S. revenue per available room (RevPAR) faces tough comparisons

The first quarter comparisons will be easy due to the impact of the omicron variant in Q1 2022. However, the comparison gets harder in the second quarter because the Spring and Summer 2022 leisure travel surge and pent-up demand for hotels led to a significant recovery in average daily rate (ADR) well above 2019.

2. Despite strong leisure demand, margins for 2023 could be under pressure in EMEA

We expect overall European hotel and lodging revenues to surpass 2022 levels supported by higher ADRs and marginally lower occupancy. While cost pressures continue, EBITDA margins could be 250-500 basis points (bps) below 2022. Despite more leveraged credits within European hotel and lodging, we expect solid FOCF and cautious capital expenditure trends.

3. Latin America's lodging sector is resilient to shallow recessions in major economies

For 2023, we estimate a similar trend to 2022. Latin America's main beach resorts, tourist sites recovery remains ahead of urban hotels where lodging demand relies more on business conditions.

4. Timeshare sales growth will likely decelerate in 2023

We believe strong leisure demand in 2022 will remain intact through the first quarter of 2023 because the first quarter of 2022 is an easy comparison due to the impact of the omicron variant. However, sales growth for full-year 2023 depends on how well consumers hold up under continued high prices and an anticipated shallow U.S. recession in the first half of the year.

U.S. RevPAR faces tough comparisons starting in second quarter. Comparisons in the first quarter are easy because of the impact of the omicron variant in Q1 2022. However, starting in the second quarter, comparisons become harder because the Spring and Summer 2022 leisure travel surge and pent-up demand for hotels led to a significant recovery in ADR well above 2019. While we believe that currently high ADR compared with 2019 is unsurprising in retrospect because hotel demand was abnormally low for two years, particularly in urban markets, we also think the continued rise in consumer prices and interest rates, and dwindling savings, may cause leisure travelers to search for deals, pressuring ADR in the latter part of the year. In addition, if corporate profits get squeezed by a probable recession, business travel may flatten or retract modestly at some point during the year. Even if occupancy at upper upscale full-service hotels in urban areas continue to recover and international travel to the U.S. continues to normalize, there is a plausible case that slowing or flattening demand will cause receding ADR later in the year and offset modest continued occupancy gains, leading to flat or slightly lower RevPAR in 2023. We are factoring this sensitivity into our base-case assumptions for RevPAR this year unless there is a compelling strong regional or other portfolio reason to differ. Receding ADR later in the year, combined with

continued labor, property tax, and utilities cost inflation could hurt margins in 2023 at the hotel property level.

Despite strong leisure demand, margins for 2023 could be under pressure in EMEA. We believe inbound international air traffic volume to Europe in 2023 will be 20%-25% below 2019, which could translate into lodging occupancy 5%-15% below 2019. Even though hotel occupancy will not fully recover, we expect low-single-digit revenue growth in European lodging based on still strong ADR in the summer of 2023 due to resilient demand and ability of hotels to pass on inflationary cost pressures through higher rates. Further, we expect some travelers might trade down on hotel accommodations, such that midscale hotel spending could move to economy or budget hotels, or price conscious consumers decide to reduce the number of holidays in premium and luxury hotels. Cost initiatives implemented during the pandemic could continue bringing efficiencies, but probably not enough to fully offset higher interest rates and pressure from utility price increases. The bulk of the European hotel and lodging portfolio skews toward highly leveraged corporates that are focused on addressing upcoming maturities in 2024 and hedging energy costs. We expect EBITDA margins could be about 250-500 bps lower compared with 2022. Capex needs are addressed on a case-by-case basis where companies are choosing expansionary capex based on demand resilience. We continue to expect solid FOCF despite cost pressures.

Latin America's lodging is resilient to a shallow recession in major economies. For 2023, we estimate a similar trend to 2022. Latin America's main beach resorts and other tourist sites recovery remains ahead of urban hotels where lodging demand relies more on business conditions. However, a deeper and longer lasting recession in the U.S. and other major economies is not off the table, which could eventually trickle down, pressuring occupancy rates and undermining their capacity to increase ADRs. Moreover, we still expect high cost increments from components like payroll and food and beverage will weigh on hotels' profitability in 2023 unless they continue to pass through those higher costs. Even though system-wide occupancy rates remain a few percentage points below pre-pandemic levels, RevPAR for 2022 is already above pre-pandemic levels, given double-digit increases in ADRs. However, we expect the surge in net package ADR at some resorts in 2022 may begin to moderate if consumers' willingness to spend on travel and entertainment is constrained by lower accumulated savings and continued high inflation. For all-inclusive resorts across Mexico, the Caribbean, Central, and South America we expect net package RevPAR for 2023 to be approximately flat, while the first quarter of the year will likely have strong year-over-year package ADR growth in the low- to mid-double digits. Furthermore, for the overall Mexican market, we estimate a 0%-5% growth in RevPAR. In our view, pent-up demand and the region's attractive offering and competitiveness will continue to support a relatively resilient performance in 2023.

Timeshare sales growth will likely decelerate in 2023. We believe strong leisure demand in 2022 will remain intact through the first quarter of 2023 because the first quarter of 2022 is an easy comparison due to the impact of the omicron variant. However, sales growth for full-year 2023 will depend on how well consumers hold up under continued high prices and a shallow anticipated U.S. recession in the first half of the year.

Bookings at rated timeshare resorts in early 2023 are higher than pre-pandemic levels and indicate occupancy will remain robust and help to drive tour flow in early 2023 despite potential macroeconomic risks. Price increases for timeshare have been more muted than for other leisure products such as hotels or theme parks, which improved timeshare's relative value proposition. We believe timeshare companies will attempt to maintain this value proposition because their strategy is to attract new buyers into the system that contribute to multiple revenue streams. Timeshare's pricing strategy may sustain sales momentum in the near-term even in an inflationary environment. In addition, timeshare's typical accommodations are suitable for remote work arrangements, which remain a feature of the labor market especially among high-

income vacationers. This may also explain a high share of younger timeshare buyers in recent quarters. Volume per guest (VPG), a key performance metric, remains elevated because timeshare operators continue to use a heavy mix of high-quality marketing channels such as sales centers co-located with hotels, to upsell points to existing owners.

Key risks or opportunities around the baseline

1. Our economic downside reasserts typical relationship between hotel demand and GDP

The occupancy recovery in the U.S. could falter and maybe even go backward later in 2023. Combined with falling ADR later in the year, U.S. RevPAR may decline more than our modest base-case assumption.

2. War escalation could threaten international travel, affecting demand for European hotels

The geopolitical crisis could jeopardize Europe's lodging recovery path for 2023. Further, if inflationary pressures don't cool off in the medium term, occupancy levels could shift to holiday homes, making them a sweet spot for 2023.

3. The timeshare sector's pivot toward new owners and rising rates will squeeze margins

We expect volume per guest (VPG) to moderate and tour flow to increase in 2023 as issuers focus on acquiring new customers, reactivate lower-yielding off-premises-contact sales channels, and grow owner bases.

Our macroeconomic downside scenario reasserts typical relationship between hotel demand and GDP. As articulated by our macroeconomists, in a possible downside scenario, U.S. inflation remains high on continued supply-chain disruptions. Still behind the curve, the Fed ramps up policy tightening through 2023 as U.S. economic activity falls further into the red. This reasserts the historical relationship between lodging demand and GDP and unemployment, causing the occupancy recovery in the U.S. to falter, and maybe even go backward later in 2023. Combined with falling ADR later in the year, U.S. RevPAR declines more than our modest base case assumption. In addition, continued rising labor and other cost inflation hurts hotel-level profitability, and rising interest rates forces some hotels owners with upcoming maturities to consider selling instead of a costly refinancing, which in turn results in some our rated lodging companies using leverage to acquire assets placed on the market.

Geopolitical threats could affect international travel and demand for European hotels. Due to proximity to the geopolitical crisis, European destination demand could easily shift to other regions for international travelers leaving regional hotel and lodging companies more exposed compared with their U.S. counterparts. Also, continued inflation is another key risk for the sector. If inflationary pressures don't ease in the medium-term, hurting consumer discretionary spending, we see a strong staycation trend emerging where regional holiday homes could be the ultimate winners for 2023.

The timeshare sector's pivot toward new owners and rising rates will squeeze margins. We expect VPG to moderate and tour flow to increase in 2023 as issuers put greater focus on acquiring new customers, reactivating lower-yielding off-premises-contact sales channels, and growing owner bases, net of attrition. After several years of heavily upselling to existing owners, timeshare operators will be motivated to pivot toward and invest in new owners that bring high life-time values over the course of their ownership. Rising interest rates are a headwind, and we expect timeshare companies will want to partly absorb that impact for the benefit of buyers to continue growing owner bases. The net result could be some pressure on timeshare companies' cash flow and consolidated margin.

Industry Outlook: Cruise, Recreation, Fitness, And Play

Ratings trends and outlook

Our ratings on most outdoor and recreation issuers have returned to pre-pandemic levels and the outlook bias is stable. Cruise ratings remain multiple notches below pre-pandemic levels, and a negative outlook bias persists across the largest operators because of very high debt leverage and 2023 recovery uncertainty amid rising recession risk. Ratings in the fitness sector are split between issuers with an upward rating bias as a result of deleveraging and improving credit metrics from revenue and EBITDA growth, and issuers still in the 'CCC' category with weak liquidity that are vulnerable to non-payment as some maturities loom and debt service costs increase in 2023.

Main assumptions about 2023 and beyond

1. Cruise recovery accelerates in 2023 on good forward bookings and occupancy recovery

Credit measures across the cruise industry should improve significantly as cruise operators' revenue and cash flow recovers more materially following the pandemic.

2. Theme park attendance recovers above pre-pandemic levels

Slower attendance growth and fewer in-park purchases could result in modest revenue declines and weaker credit metrics in 2023.

3. RV shipments drop significantly in early 2023, while marine remains resilient

Total RV shipments declined precipitously during the second half of 2022, and we expect this will continue at least through the first half of 2023 primarily because of more moderate retail demand.

4. Live events and ticketing grows from record levels despite a decline in consumer spending

Continued elevated event volumes will buffer the impact of a potential modest decline in ticket pricing and on-site spending levels.

5. Economic pressures could weigh on an already slow fitness sector recovery

A shallow recession could be a headwind for membership growth in 2023, particularly in the mid-tier segment where members could trade down to value options to save money.

6. Toy companies face a challenging environment

With a less-than-stellar holiday season, some toy companies may have a challenging first half.

Cruise recovery will accelerate in 2023 on good forward bookings and recovering occupancy.

Booking volumes for 2023 cruises accelerated in the second half of 2022 after testing and vaccination protocols eased. This is elongating the booking curve for the industry as customers commit to sailings further into 2023 following a year in which operators experience a higher percentage of close-in bookings than is typical. Operators report that 2023 cumulative advanced bookings are in line with or higher than historical ranges and at higher prices, and in some cases record prices, compared with 2019. As a result, we expect net revenue per passenger cruise day in 2023 could exceed 2019 levels. Additionally, strong forward bookings suggest demand for cruises in 2023 could absorb the industry's capacity increase and that occupancy will likely recover back to historical levels by the summer of 2023. Together, these improvements should support significant revenue and EBITDA growth in 2023, relative to 2022, and material

Industry Top Trends 2023: Hotels, Gaming, and Leisure

improvement in credit measures from unsustainable levels in 2022. With the exception of Carnival, rated cruise operators' EBITDA could recover back to or above 2019 because of improving ticket and on-board revenue, occupancy recovery, and capacity increases. Carnival's capacity growth is the lowest among the industry and it faces more material currency, fuel, and inflation headwinds. Despite the expected cash flow improvement, the industry's leverage will likely remain higher than pre-pandemic for some time given extraordinary borrowings when the industry shut down.

We expect a shallow U.S. recession will be a drag on regional theme park's operating metrics in 2023.

S&P Global economists have revised our base case forecast for U.S. GDP and consumer discretionary spending downward for 2022 and 2023 and forecast that the U.S. economy will fall into a recession within the first half of 2023 as rising prices and interest rates eat away at household purchasing power. We believe the outlook for regional theme parks has weakened as pent-up demand wanes and consumers are sitting on less savings than a year ago. As such, we currently forecast a modest pullback in visitation and in-park per capita spending next year. While we believe industry participants have shifted toward premium food and beverage items and implemented cashless transactions, which drive up average price and order size, we base our assumption for a decline in park per-capita spending on our expectation that consumers will opt for fewer purchases throughout their visit to the park. We believe theme parks will be able to maintain elevated admission prices but, we expect fewer purchases will be a single-digit percent drag on park spending in 2023. Additionally, we expect margins will compress by approximately 100-200 bps in 2023 across the sector as incremental revenue growth does not offset inflationary wage pressures.

RV shipments will drop significantly in early 2023, while marine remains resilient. Total RV shipments declined precipitously during the second half of 2022, and we expect this will continue at least through the first half of 2023 primarily because of more moderate retail demand. The shipments decline is pronounced for towables, which is likely due to rising interest rates that have raised the cost of financed purchases, record demand in 2021 and early 2022, and dealers' inclination to be cautious about carrying inventory as they head into a potential recession in 2023. On the other hand, motorized shipments have been less volatile because there was less inventory built up during the pandemic due to supply chain constraints. Industry shipments could plausibly find a trough in 2023 after dealers gain more visibility about the appropriate inventory levels compared with retail demand. We assume RV original equipment manufacturers (OEMs) will be prudent about cost management, can conserve cash by using cost cutting plans from past down cycles, and monetize net working capital. Rated RV issuers have fairly moderate leverage on a trailing-12-months basis, which provide a solid basis to cope with the industry down cycle.

We believe marine shipments could be less volatile than RVs because supply chain constraints over the past few years have not fully restocked dealer inventories. Marine inventory dynamics will likely take longer to resolve since that industry's supply chain is less geographically concentrated and therefore needs more transportation time compared with the RV industry, which is mostly in Elkhart, Ind.

Still elevated event volumes will buffer a modest potential decline in ticket pricing and on-site spending.

We expect the number of events (sporting events, theatrical performances, and concerts) to grow modestly in 2023. Despite a record number of shows in 2022, we forecast mid-single-digit percent growth in the number of events held globally and the number of fans per event in 2023. We believe growth will primarily result from a stronger recovery in international events and a full year presumably with no material impact from COVID-19. Event attendance was modestly impaired in the first quarter of 2022 due to concerns regarding the omicron variant. We are making a base-case assumption that ticket prices will moderate and on-site spending will decline from very high levels in 2022. However, we believe a mix shift toward premium seating

Industry Top Trends 2023: Hotels, Gaming, and Leisure

over the course of the pandemic will support pricing above pre-pandemic levels in 2023. As a result, we believe revenue and EBITDA across the industry will continue to grow from record levels.

Economic pressures could weigh on an already slow fitness sector in recovery. All of our rated fitness sector issuers are still reporting same-store memberships below end-of-year 2019 as of the third quarter of 2022 (in the single-digit percent range below 2019 for budget issuers and in the 10% -20% range below 2019 for luxury operators). We now expect a full recovery in memberships could be in the later part of 2023 or 2024 depending on the economic environment. We believe the slower recovery for higher end fitness operators has been primarily the result of a deeper trough from higher cancellations during club closures, geographic concentration in areas that kept clubs closed longer during the pandemic, and a slow return to office in urban commercial markets. While fitness companies have begun to offset lower memberships through higher monthly membership fees, inflationary pressures in labor and construction costs, as well as higher interest rates, have continued to result in EBITDA and cash flow measures that have not fully recovered to pre-pandemic levels. A shallow recession in 2023 could be a headwind for membership growth in 2023, particularly in the mid-tier segment where members could trade down to value options to save money. Additionally, luxury gym operators have been taking aggressive price increases to offset significantly lower membership bases compared with pre-pandemic levels. However, at some point even more wealthy consumers may begin to feel inflationary fatigue and membership growth trends could begin to slow. We now expect memberships at the end of 2023 could be flat to 5% above 2019 for budget fitness operators and 5% to 10% below 2019 for luxury fitness operators. Revenue could be up around 5% to 10% as a trend across the sector.

Toy companies face a challenging environment in 2023. Toy companies faced a challenging holiday season in 2022, with weakening consumer discretionary spending, persistent inflation, higher inventory levels leading to promotions and discounts, and the post-pandemic shift back to experiences. In 2023, we expect modest growth in the low-single-digit percentage area. Coming off a less-than-stellar holiday season and an upcoming recession, toy companies may face pressure on top line growth from retailers who may limit new toy orders in the first half of the year. Still, some will look to counteract this and potentially aim for growth driven primarily by toys linked to a slate of feature entertainment releases that are scheduled throughout the year. We still expect cost inflation to pressure margins during 2023 but will be partially mitigated by cost cutting initiatives. Despite our base-case forecast for a recession, we continue to believe consumers will reliably purchase toys for their children during the important holiday shopping season and special occasions even though they may do so in moderately lower volumes, as the toy industry is somewhat resilient to economic slowdowns.

Key risks or opportunities around the baseline

1. Potential discounting, inflation, and high fuel costs pose risks to cruise cash flow recovery

Increasing macroeconomic risks increase uncertainty around cruise operators' cash flow recovery and leverage improvement despite currently positive booking indicators.

2. Consumer spending is the most significant risk to theme parks and live events in 2023

While our base-case forecast for the U.S. economy includes a shallow recession, further economic pressure on consumer spending remains the most significant risk to the regional theme park, live event, and ticketing industries in 2023. As consumers enter 2023 with less savings, we believe they would be unable to weather continued elevated levels of inflation or a significant increase in unemployment.

3. RV shipments and retail demand could fall more than current industry expectations

The extent and severity of a potential recession in 2023 is uncertain. Shipments in 2023 may decline more than the RV Industry Association (RVIA) is forecasting if retail demand further weakens. The RVIA modestly revised its forecast for 2023 downward multiple times in 2022, therefore we believe more adjustments are possible.

4. Persistent cost inflation and recession pressure margins for toy companies

Toy companies passed through price increases last year to retailers to partially mitigate cost inflation pressures, but recession may further add pressure to margins.

Potential discounting, inflation, and high fuel costs pose risks to cruise cash flow recovery.

Weakening macroeconomic conditions and lower accumulated savings could cause consumers to pull back on travel spending. In a recession, cruise operators typically lower their prices to fill ships. If operators discount prices, it could slow their cash flow recovery and leverage improvement following years of very depressed cash flow and extraordinarily high leverage, especially if fuel and other costs remain elevated because of geopolitical events and inflation. Fuel costs represent about 10% of cruise operators' total operating expenses. Significantly higher fuel prices compared with 2019 could weaken cruise companies' EBITDA and margin recovery. Hedging programs at some cruise operators could reduce exposure to fuel price volatility, fuel costs will still be much higher than before the pandemic. Despite these risks, the wider-than-usual gap between the price of a cruise vacation and the price of a land-based vacation may alter the typical discounting dynamics that occur in the industry during a recession. Additionally, an elongating booking curve for the industry and a more typical wave season in early 2023 following the elimination of many COVID-19 restrictions could provide visibility into operators' recovery in the strong summer season. This is because the industry doesn't usually see significant spikes in cancellations during typical recessions.

Consumer spending is the most significant risk to theme park and live events in 2023. While our base-case forecast for the U.S. economy includes a shallow recession, further economic pressure on consumer spending remains the most significant risk to the regional theme park, live event, and ticketing industries in 2023. As consumers enter 2023 with less savings, we believe they would be unable to weather continued elevated levels of inflation or a significant increase in unemployment. We believe the number of live events for 2023 will remain elevated, but that a severe and sudden recession would materialize in further downside to event attendance and on-site spending. Under such a scenario we believe event growth will not be sufficient to offset demand degradation and industry-wide revenue and profitability would decline. In a deeper recession, we believe theme park customers would not only pull back on in-park purchases but also on days in which they visited parks, threatening the industry's attendance recovery (which

Industry Top Trends 2023: Hotels, Gaming, and Leisure

through 2022 has remained relatively strong), resulting in mid-single-digit revenue declines. Concurrently, we do not believe operators have sufficient levers to cut costs to protect EBITDA and cash flow generation as companies are exiting the pandemic with leaner cost structures and reduced labor bases. Lastly, the regional theme park industry has been subject to increased shareholder influence. Seaworld's largest shareholder Hill Path Capital owns approximately 40% and holds two board seats including the chair position. Meanwhile, Six Flags has recently been the target of an activist investor that is pushing for the sale or separation of its real estate from Six Flags' operations. We believe this could result in financial policy decisions and capital allocation strategies that put pressure on credit metrics in 2023.

RV shipments and retail demand could fall more than current industry expectations. The RVIA, an industry association for OEMs, forecasts that the peak-to-rough decline in shipments between 2021 and 2023 will be about 35% at the midpoint. We believe the risk is to the downside on this forecast, and the result will be partly a function of the trajectory of retail demand over the coming quarters.

RV industry shipments have been a leading economic indicator in the past, and shipments have tended to decline ahead of recessionary periods, possibly due to interest rate hikes near the top of a cycle that reduce the availability of consumer financing and retail demand. The current interest rate environment is a burden on retail volumes, which is estimated to have declined 20%-25% in 2022 year over year. In addition, inflation has significantly raised retail prices for new units, another burden for demand and OEMs' and dealers' margins. We believe dealers have responded to inflation by partly pivoting their inventory strategies to acquire used RV units in the secondary market, and this strategy will likely benefit the largest dealers that have scale and deeper market intelligence.

The extent and severity of a potential recession in 2023 is uncertain. Shipments in 2023 may decline more than forecast by the RVIA if retail demand further weakens. The RVIA's forecast for 2023 has been modestly revised downward multiple times in 2022, therefore we believe more adjustments are possible.

Persistent cost inflation and recession will continue to pressure toy margins. Cost inflation remains stubbornly high, and we do not expect it to abate until the second half of 2023, which will likely continue to pressure margins. Toy companies passed through price increases to retailers in 2022, partially mitigating inflation, but a recession poses further risk as weary consumers will likely tighten budgets and purchase fewer toys. Coming off a likely disappointing holiday season, toy companies may be faced with a tough first half of the year as retailers manage inventory and adjust their order inflow to address a pressured consumer. The tightening of budgets has gained momentum since it first emerged in the spring of 2022, and we expect it to continue into 2023 due to a shallow recession starting in the first half of the year. Toy companies may struggle to achieve growth, and with stubbornly high costs and another year of discounts and promotions, they may face heightened pressure on profitability. We continue to believe retailers' willingness to share higher input costs with toy manufacturers depends on consumers' willingness to pay higher prices, which may be difficult to achieve in a recession.

Related Research

- [Life Time Inc. Upgraded To 'B-' On Increased Certainty Around Deleveraging Path; Outlook Positive, Jan. 19, 2023](#)
- [Macao Gaming: Brighter Prospects For Revenue Recovery, Jan. 17, 2023](#)
- [MGM Resorts International 'B+' Rating Affirmed On Expected Leverage Improvement; Off CreditWatch; Outlook Negative, Jan. 11, 2023](#)
- [Wynn Resorts Ltd. 'B+' Rating Affirmed On Expected Leverage Improvement; Outlook Negative, Jan. 5, 2023](#)
- [Las Vegas Sands Corp. And Sands China Ltd. 'BB+' Ratings Affirmed On Expected Leverage Improvement; Outlook Negative, Jan. 5, 2023](#)
- [Melco Resorts And Studio City Ratings Affirmed On Macao's Brighter Gaming Prospects. Off CreditWatch; Outlook Negative, Jan. 5, 2023](#)
- [Hyatt Hotels Corp. Upgraded To 'BBB-' On Deleveraging. Plausible Policy Targeting Low Investment Grade; Outlook Stable, Dec. 19, 2022](#)
- [Expedia Group Inc., Dec. 14, 2022](#)
- [Carnival Corp., Dec. 13, 2022](#)
- [Mattel Inc., Dec. 13, 2022](#)
- [Equinox Holdings Inc. Downgraded To 'CCC-' On Upcoming Debt Maturity; Outlook Negative, Dec. 9, 2022](#)
- [Four Seasons Holdings Inc. 'BB' Issuer Rating Affirmed; Outlook Positive; New Term Loan Rated 'BB+', Nov. 14, 2022](#)
- [Six Flags Entertainment Corp. Outlook Revised To Stable From Positive As Pricing Initiatives Affect Attendance Recovery, Nov. 10, 2022](#)
- [Harley-Davidson Likely To Focus On Pricing And Profitability In The Coming Quarters Amidst Macro And Retail Uncertainty, Oct. 27, 2022](#)
- [InterContinental Hotels Group Upgraded To 'BBB' On Recovering RevPar And Increased Leverage Cushion; Outlook Stable, Oct. 20, 2022](#)

Industry Forecasts: Hotels, Gaming, and Leisure

Chart 7
Revenue growth (local currency)

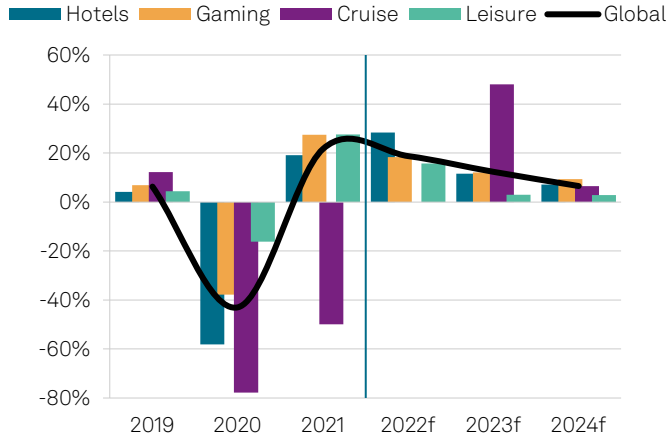


Chart 8
EBITDA margin (adjusted)

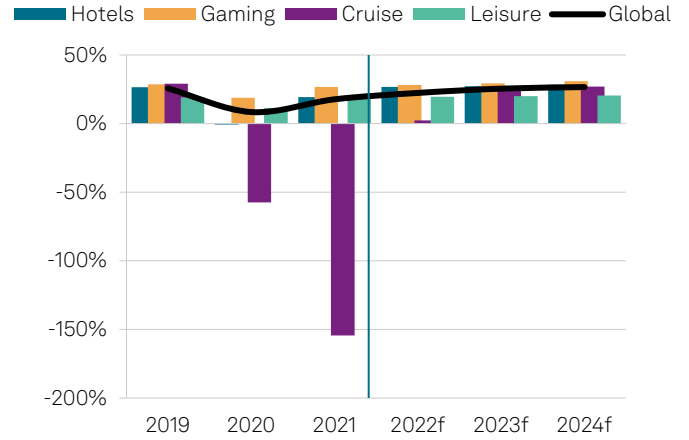


Chart 9
Debt / EBITDA (median, adjusted)

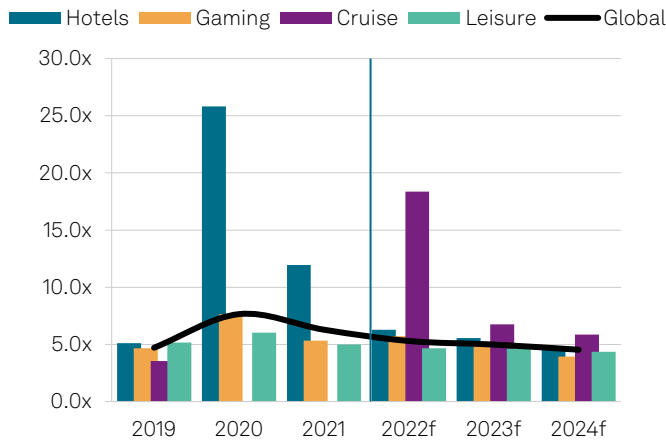
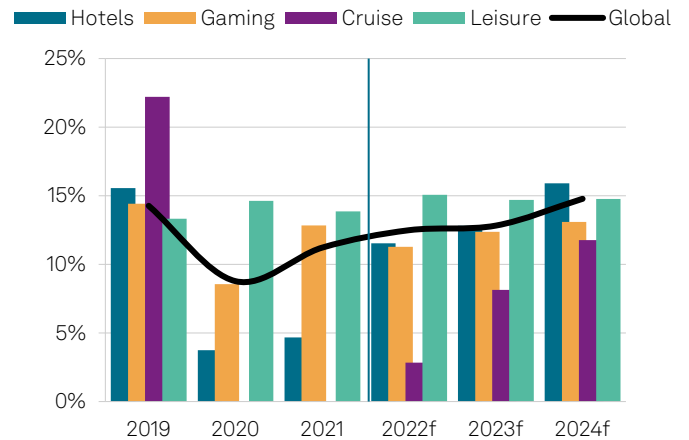


Chart 10
FFO / Debt (median, adjusted)



Source: S&P Global Ratings.
Revenue growth shows local currency growth weighted by prior-year common-currency revenue share. All other figures are converted into U.S. dollars using historic exchange rates. Forecasts are converted at the last financial year-end spot rate. FFO—Funds from operations.

Cash, Debt, And Returns: Sector

Chart 11
Cash flow and primary uses

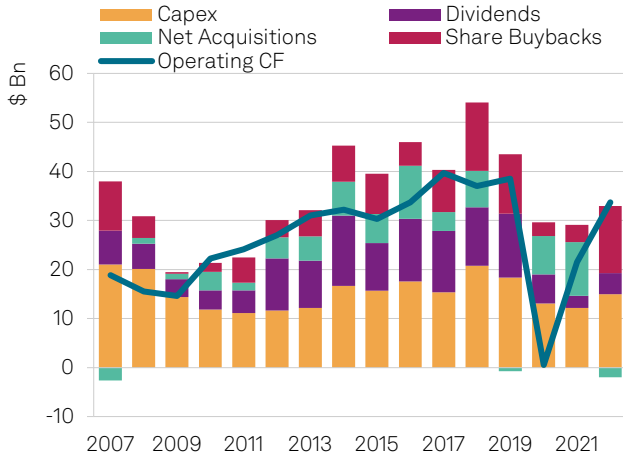


Chart 12
Return on capital employed

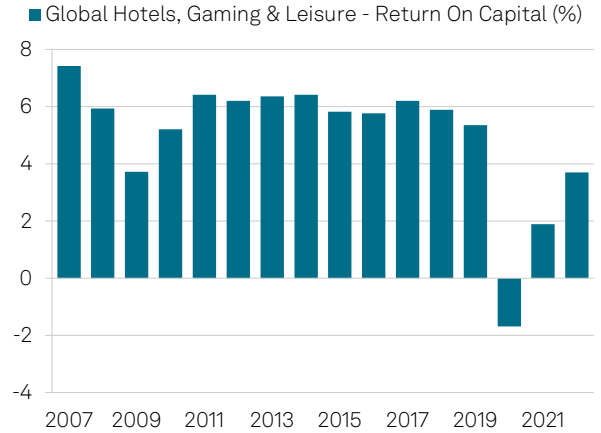


Chart 13
Fixed- versus variable-rate exposure

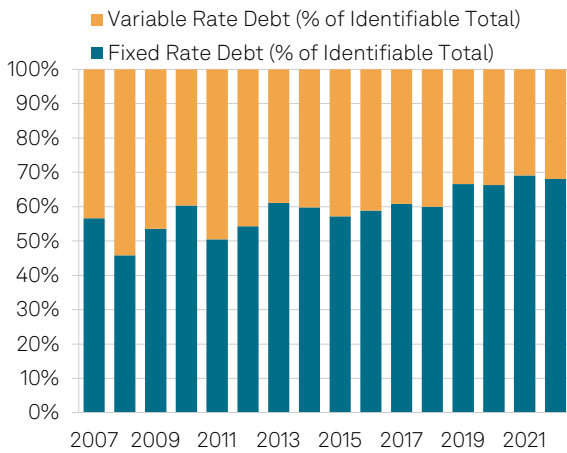


Chart 14
Long-term debt term structure

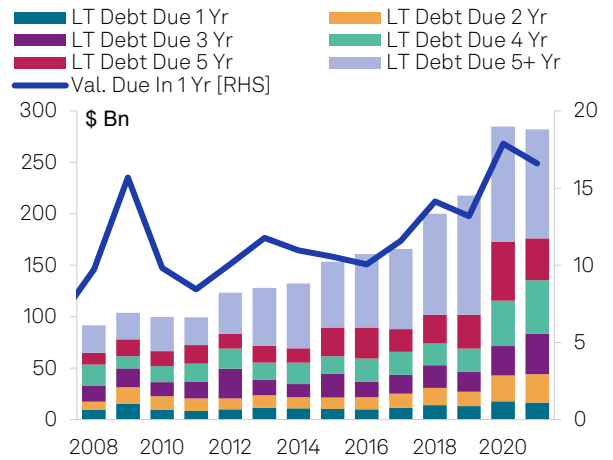


Chart 15
Cash and equivalents / Total assets

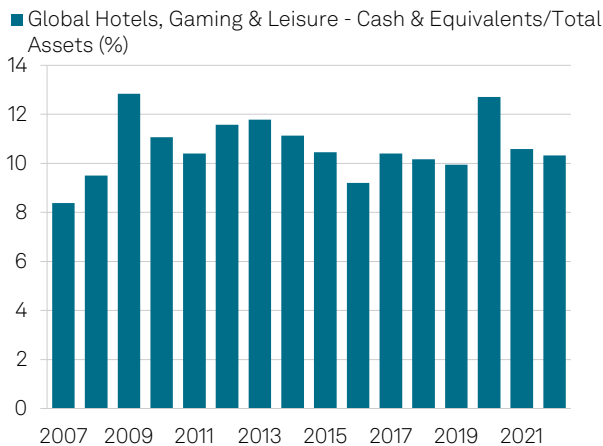
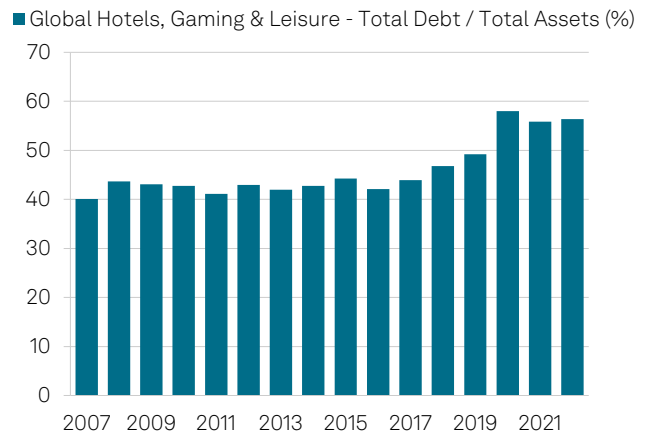


Chart 16
Total debt / Total assets



Source: S&P Capital IQ, S&P Global Ratings calculations. Most recent (2022) figures use the last 12 months' data.

Media and Entertainment

Many questions on media's future, not many answers

January 23, 2023

This report does not constitute a rating action



What's changed?

Streamers focus on profitability. Streaming's pivot to profitability over subscriber growth has forced media companies to re-evaluate business models.

Secular trends worsening. Linear TV's decline is accelerating with higher cord cutting, declining audiences, and weakened advertising. Can media manage this decline as they invest in streaming?

Advertising hits a recessionary pothole. Global ad spending will likely soften in early 2023, though we expect a recovery beginning in second half of the year.

What are the key assumptions for 2023?

Recession in key markets. 0.1% decline in U.S., 0% growth in Europe, 1.1% growth in Latin America, and 4.4% growth in Asia-Pacific. Our forecast assumes a second half recovery.

2H economic recovery powers advertising recovery. Digital advertising, which was the first to slow in 2022, will likely be the first to recover.

Accountability in content spending. The days of irrational content spending are likely over.

What are the key risks around the baseline?

Deeper macroeconomic slowdown. A prolonged recession, persistent high inflation, and higher interest rates could both hurt advertising spending and accelerate negative secular pressures.

Accelerating secular trends in media ecosystem. Accelerating declines in linear TV along with weak advertising will increase pressure on media companies' credit metrics.

Can streaming show progress toward profitability? Streaming is harder than we thought. Do other media companies pull back on their streaming ambitions?

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Ratings Trends: Media and Entertainment

Chart 1
Ratings distribution by region

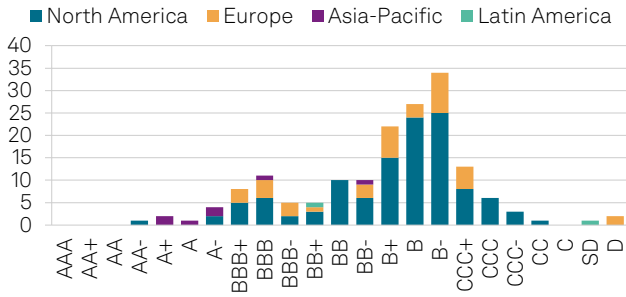


Chart 2
Ratings distribution by subsector

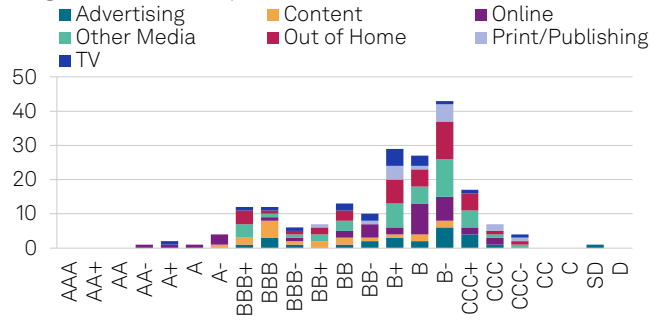


Chart 3
Ratings outlooks by region

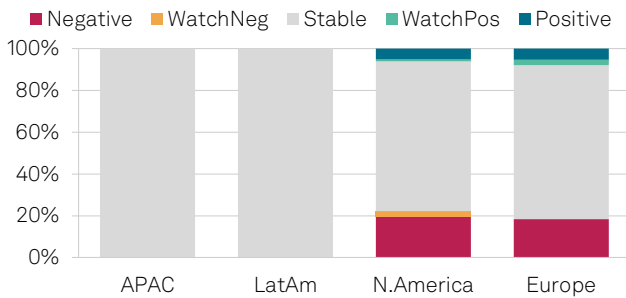


Chart 4
Ratings outlooks by subsector

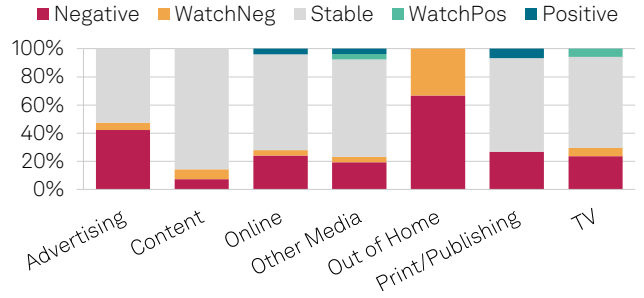


Chart 5
Ratings outlook net bias by region

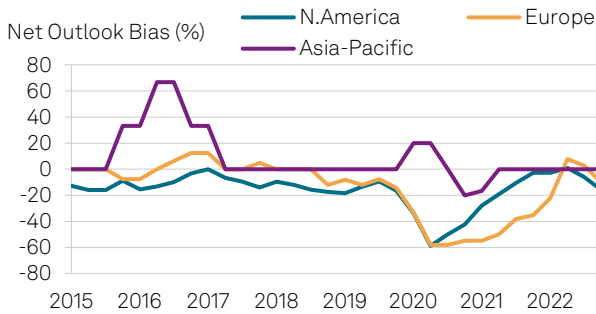


Chart 6
Ratings net outlook bias by subsector

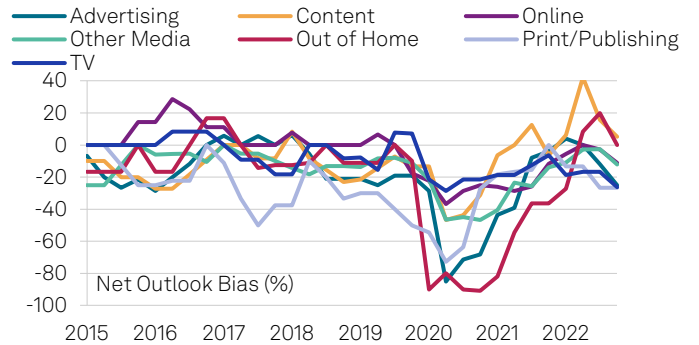


Chart 7
Ratings outlooks

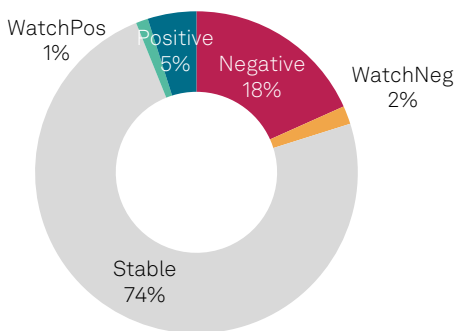
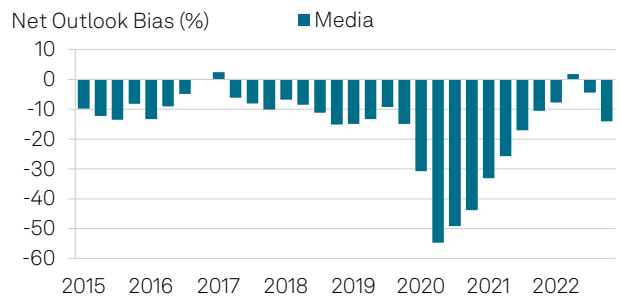


Chart 8
Ratings net outlook bias



Source: S&P Global Ratings. Ratings data measured at quarter-end.

Industry Outlook: Content

Ratings trends and outlook

Our two-year outlook for the global media and entertainment industry is negative. 2023 is a year of significant uncertainty, with many questions related to the long-term direction of the industry, including what the path to profitability for streaming looks like, how long linear TV has before it turns unprofitable, and what happens to advertising over the long term. We are unsure if we'll get any concrete answers to these questions in 2023.

Operating and credit metrics will remain weak as the industry struggles with ongoing secular pressures and business models being disrupted. Film and TV content creators have seen their profitable monetization streams decline significantly as their parent companies prioritize new and library content to their inhouse streaming initiatives. Still, the old adage about media--content is king--remains true, as content remains the anchor of the sector. Distribution of content faces the greatest disruption; linear TV and theatrical cinema are being supplanted by streaming as the primary distribution medium. This decline will take years even in the U.S., where it has been underway since the Great Recession. The credit impact will be felt more harshly by U.S. focused companies as they must wean themselves from high-margin affiliate fee revenues.

With the most economically sensitive revenue stream of any media player, advertising faces significant uncertainty in 2023, though we expect global ad revenues to return to growth as the global economy does. Advertising shifts, for example from linear TV to streaming or digital, may be manageable for the diversified media companies if they have the right asset mix.

Key questions about media in 2023

1. Has the age of peak content spending ended?

No, and we expect global content spending to grow in 2023, albeit at a more moderate pace relative to 2022. Still, we remain convinced that the studio model needs fixing as profitability and cash flows remain scarce even as global spending exceeds \$100 billion. This reassessment may already be underway: some companies have taken a hard look at how they monetize content and whether creating content solely for their own streaming services will generate sufficient profits, or should they return to selling some content to third-parties with larger global distribution platforms.

2. What kind of business is streaming?

The realities of the streaming business model are coming into focus and appear to be more challenging than initially assumed, especially the all-important path to profitability. At the end of 2022, AMC Networks and Lionsgate trimmed their streaming ambitions as they realized they didn't have the necessary scale to make their niche services viable. We think this shakeout will continue in 2023.

3. What will be the trends in advertising in 2023?

We enter 2023 with little visibility into advertising trends. This is not unusual during the early stages of an economic downturn as advertisers will delay spending decisions while they try to gauge consumer sentiment. Top-of-mind questions for this specific economic downturn include: how quickly will digital recover? how deeply will linear TV/radio/print decline? which media segments will recover and which won't? what new secular trends will emerge? what existing trends will accelerate?

Credit metrics and financial policy

Even prior to the start of a recession, we are seeing increased pressure on credit metrics, especially on cash flow metrics, on key segments of the global media industry.

Long-term impact of higher interest rates on the credit quality of lower rated companies. We believe interest rates, for at least the next several years, are unlikely to return to the historically low levels that we experienced over the last 2-3 years. As a result, these higher interest rates will weaken cash flows which will, in turn, hurt credit quality. Weaker cash flow metrics could put downward pressure on credit ratings, especially for lower-rated companies, even in the face of similar levels of leverage. To return cash flow metrics to historic levels, companies may need to carry less debt and thus reduce leverage.

Secular pressures, in particular the streaming evolution, could have negative credit implications for the media industry. We view the rating action that we took on AMC Networks in late December 2022 ("[Media Industry Implications From Our Rating Action On AMC Networks Inc.](#)," published Dec. 22, 2022) as an indication of the challenges that the evolution to streaming is creating for companies across the space. We're increasingly uncertain about the ability to generate a positive return on investment from a streaming platform. As we watch the companies try to navigate the need to grow their streaming services, achieve profitability, and keep ahead of the decline in linear TV, we could evaluate our view of the media industry versus other corporate sectors sometime in 2023 and could adjust leverage thresholds and ratings for the industry as a whole.

Even the global media companies aren't immune from this pressure on credit ratings.

Investment-grade diversified companies have stronger balance sheets and can offset a moderate deterioration in credit metrics by cautious financial policies. Companies with significant exposure to legacy media that faces structural challenges and are more exposed to cyclicalities of ad revenue--for example, linear TV, radio, and print--will see an increasing negative rating bias. These media subsectors will additionally suffer from weaker economic growth and declining consumer spending. In turn, this will result in higher leverage and weakened cash flows in 2023. Concerns about increasingly competitive dynamics, uncertainty surrounding future streaming profitability, and the worsening environment for linear TV drove our November 2022 outlook revisions for Paramount Global to negative from stable and for Warner Bros. Discovery to stable from positive.

Industry Outlook: Content

Ratings trends and outlook

Our two-year ratings outlook for those media companies focused on creating and owning film and TV content is biased negative. TV and film content is the core product of the global media and entertainment industry, and it remains as central today for the future of the industry as when Sumner Redstone stated that "content is king" back in 1996. And demand for both new and library content remains unfulfilled even as the global streaming services reprioritize their short-term goals to prove that streaming can be a profitable business. Despite this strong demand, the content creation monetization model is, in our view, broken and hence the negative ratings bias.

The film and TV content monetization model remains broken. We believe the problem with today's studio model is that content is being under-monetized. Despite record spending on new content, studios struggle to generate adequate returns on their investments. The global diversified media companies are prioritizing locking up their owned content exclusively on in-house direct-to-consumer streaming platforms. This strategy has greatly reduced the highly profitable third-party distribution streams (multiple platforms, multiple windows, and multiple geographies) that the studios depended on to generate an adequate return. We expect many media companies, recognizing the need to revive these revenue streams, will tweak this strategy, offering some content to third parties and reopening syndication streams that they had disavowed only a few years ago. Still, the overall trend is that content will be under-monetized, resulting in weaker operating and financial metrics (lower revenues and cash flow). In our industry ranking, we continue to favor media companies that own film and TV studios with deep libraries and deep intellectual property (IP). Our outlook, however, is modestly negative as we believe the monetization potential for the underlying content and IP is weaker than it was historically.

Demand for music and video games IP remains healthy. Our ratings outlook for non-film and tv content creators like music publishers and video game companies is more positive. Music, in particular, continues to have strong industry tailwinds that support our ratings outlook. Monetization for music is improving as streaming services like Spotify, Amazon and Apple are raising prices and music publishers strike deals with social media platforms that open new monetization avenues.

Main assumptions about 2023 and beyond

1. Growth of the film and TV content bubble is slowing

We expect 2023 will finally be the year that the growth of the content bubble begins to moderate. We don't expect spending to decrease, but only that the pace of growth will slow down as the streaming services and linear TV networks become more selective.

2. Studios revive third-party revenues streams

It took a while for most media companies to recognize that their studios can't exist without licensing and selling new and library content to third parties. We expect the studios will look to optimize the returns on their content, which could lead to modest incremental cash flows in 2023.

3. Music and videogame content creators are enjoying relative stability

The dynamics for the music and video game sectors are more positive than for film and TV. Music publishers are benefitting from tailwinds in streaming adoption, increasing pricing, the resurgence of live events, and the emerging monetization opportunities from social media. All

these tailwinds are occurring even as the overall competition to develop new artists is relatively unchanged. The video game sector remains relatively stable, even as growth has slowed post-pandemic. We expect industry consolidation to pause as the industry awaits the results of the regulatory process for the Microsoft/Activision megamerger. That said, if that deal were to close, it could spur more consolidation as companies look to get more scale and diversity across console and mobile platforms.

Too much content is making it more challenging to stand out. The explosion of new film and tv content, especially since the end of the pandemic, has overwhelmed consumers with too many choices and has made it difficult for any one piece of content to stand out. While this may be great for consumers, it has created significant financial stress for the studios as higher costs to create content and shorter attention spans from consumers depresses the return on investment for each new piece of content. As a result, the streaming services are more quicker cancelling content that doesn't perform strongly after its initial release, which hurts the studios that generally generate little-to-no-margins for the first few seasons of an episodic TV series.

Captive studios can't remain cost centers. We believe the global diversified media companies now recognize that they can't treat their in-house captive film and TV studios as cost centers and will seek to better monetize content across in-house streaming services and third-party sales/syndication. As the media companies launched their global streaming ambitions, they sought to fundamentally change the role of in-house, captive studios. While their role as primary content creators was to remain unchanged, the objective of these studios was no longer to maximize their own returns but to feed all new content into their owned streaming services. This strategy not only reduced studio revenue and profitability but also obscured financial transparency into studio performance, making comparisons to historical financial performance impossible. We believe the media companies will once again consider third-party licensing and sales, which will reopen much needed syndication and licensing revenue streams.

It's not all doom and gloom. The music industry is in a much better position than its film/TV content counterparts as it has already been through its own streaming transition. Industry dynamics favor the music publishers as music streaming services need to include all major publishers as part of their offering. Music publishers also benefit from the content's enhanced replayability and longevity, compared to video, leading to a more stable and predictable core revenue base, as well as enhanced return on investment and profitability. Music is also benefitting from growing demand from non-traditional platforms. Music has become more integral to the social media experience as platforms like Tik Tok explode in popularity, creating new monetization opportunities as social media platforms look to create a more integrated music experience for its users.

Credit metrics and financial policy

As the content model evolves and the transition to streaming continues, we expect credit metrics to remain weak for the studios over the next few years, with pressure on EBITDA and cash flow resulting in higher leverage and weakened cash flow-to-debt metrics. The impact on operating metrics will depend on each studio's business/content mix. Operating metrics for fully captive studios have already become irrelevant and those with hybrid models that continue to sell or license some content to third parties are still experiencing significant margin and cash flow erosion. Independent studios will also likely experience modest margin and cash flow erosion, depending on their content mix and ability to continue to monetize library content. If, as we expect, there is a shakeout in the number of streaming services, we expect studio business models to evolve as companies figure out what strategy works best for their asset mix.

M&A activity could help the smaller studios get much-needed scale and increase efficiency, but we do not expect much deal activity as balance sheets are already stretched for many media companies and the regulatory environment in the U.S. is less favorable for larger players, particularly tech companies, to make acquisitions. We believe there are more acquisition opportunities within the European studio ecosystem as even the larger European studios are far smaller than those studios buried within the global diversified media companies. However, we are skeptical that many of these transactions will occur due to tough financing conditions, as well as likely domestic opposition from those seeking to protect their country's film and TV businesses.

Key risks or opportunities around the baseline

1. Does the content bubble contract as profitability trumps growth?

Subscriber growth has been the north star for global streaming services for the past several years and content has fueled that push. That paradigm has been changing and as media companies shift their focus to profitability over subscriber growth, they could reduce content spending, cutting both the volume of shows/films made and the cost to create/acquire content. This could be further exacerbated by some media companies closing down or consolidating their streaming services.

2. Scarcity of content for non-streamers may reverse

Streaming has inflated the value of original and library content but exclusive arrangements with studios also limit the amount of library content available to license to third parties. As a result, the library value for the few remaining independent studios that are still licensing content to third parties has increased. This could reverse if some streaming platforms are shuttered and studios re-embrace a model that once includes a third-party licensing component as there would be fewer large streaming players to bid on increasing supply, driving down the value of content from these elevated levels. We believe this will place additional pressure on the smaller, independent studios' bottom lines, which are already facing challenges from scarcity of talent, crews, and studio space.

3. Social media monetization reaches its potential

Music has grown at a strong rate on the heels of increasing streaming music service penetration, but that growth will start to slow over the next few years as penetration rates start to plateau. If music companies can achieve monetization rates on social media platforms at rates more comparable to streaming platforms over the next several years, it would likely result in continued double digit revenue growth over the next 5-10 years. The music industry is not immune to fluctuations in its competitive dynamics, and labels will need to ensure their position in the ecosystem remains strong amid changes in how music spend is split between platforms, labels, and artists. That said, we believe that overall growth in spend will alleviate some of the pressure on labels' topline in 2023.

Industry Outlook: Distribution

Ratings trends and outlook

Our rating outlook for those media companies engaged in content distribution, which includes linear TV, movie exhibitors, and direct-to-consumer streaming services, is negative. This media segment continues to face significant secular pressures as digitalization (i.e., the internet) changes the way content is distributed. S&P Global Ratings' outlook for U.S. national TV and streaming, which are facing the brunt of these changes, is solidly negative while we are neutral on the local TV broadcasters as they have yet to experience the same pressures on operating and financial metrics. These secular changes will eventually affect linear TV across the world and our country-specific views reflect that varied pace. For example, it may be gradual for some markets (like France and Germany where there are strong local language programming options). Conversely, many English language markets, including the U.K. and Australia, are not far behind the U.S. in terms of competitive pressures from streaming services.

The global media distribution landscape continues to fragment, with declining TV audiences and increasing competition between streaming platforms fighting for consumer attention. In addition, rising programming costs are pushing out breakeven profitability for the streaming services, which we believe will ultimately lead to lower consolidated company profit margins. We expect a global recession in 2023 will amplify these risks, with persistently high inflation and weakening consumer confidence fuelling subscriber defections to cheaper entertainment alternatives. Amid these conditions, we expect many media companies, saddled with weaker advertising revenues and continued elevated investments in streaming services, will face weaker margins and higher leverage in 2023, while some could lose their competitive standing if they are unable to adapt their business models.

Main assumptions about 2023 and beyond

1. Streamers will spend more rationally on content, but can they show a path to profitability?

While the global diversified media companies have all pledged to spend more rationally on content for their global streaming services (though still higher than 2022's record levels), we do not expect, outside of Disney, to see any improvements in free cash flow deficits. We would not be surprised to see smaller players that lack content and library scale and the ability to absorb the losses to continue investing in streaming may abandon their ambitions. European linear broadcasters will likely continue investing in streaming in the near term as they face less fierce competition than their U.S. peers and still have capacity.

2. TV model continues to melt in the U.S.

The linear TV model globally remains under increased competitive pressure. In the U.S., where that pressure is most acute and is resulting in weak revenue growth and weakening cash flows, we expect overall pay-TV subscribers to decline by 6.5%, with subscribers to legacy MVPD services declining at 9.7%, somewhat tempered by virtual pay-TV subscribers growing at 5.5%. Overall pay-TV penetration in the U.S. will decline to roughly 55% from 61% as of 3Q22. This decline will not affect all media companies uniformly. Ironically, those with greater exposure to sports may be better positioned to retain revenues but the high fixed costs for sports rights fees means that margins and cash flow may decline faster.

3. Cinemas will struggle to restore historical levels of profitability and cash flows despite a stronger film slate and returning audiences

We think 2023 will be the first year of more-normalized cinema admissions after the pandemic. Despite a modest recession in 2023, higher ticket prices and spending per patron will prop up cinema revenue growth. We believe cinema remains one of the more-affordable options for out-of-home entertainment and will be resilient even during an economic recession. However, topline growth won't be sufficient to offset higher staff and energy costs, and very high debt and cash interest burden that many cinema operators still bear.

Streaming's focus shifts to profitability. 2023 will mark a shift in strategic focus for the global streaming platforms from new subscriber acquisition to subscriber retention, showing a path to profitability. We expect that content spending for the global streaming services will not decline in 2023 but will grow at a more rational mid-single-digit percentage. Tighter cost controls on non-content spending, such as marketing, technology, and customer-acquisition costs, will be key. For some streamers this could lead to reduced content investments, and those that lack scale and sizable content libraries could abandon their streaming ambitions. Over time this could lead better-funded global platforms and those that have already gained sufficient audience reach to win competition.

We think the ability to build a profitable streaming business requires sufficient investments in original content, and a large enough content library to grow a sizable subscriber base with limited churn--and all of this is becoming more and more difficult. Platform-based businesses (Amazon, Google, Apple) with different return-on-investment objectives than pure-play media companies invest heavily in content, making the profitability dynamics more challenging for those without scale. However, we still think there is a path towards streaming profitability for some of the global media companies. While we are uncertain which companies will achieve scaled profitability in the streaming space, we view the path that Netflix has taken as one that other large media companies are hoping to replicate.

Industry Top Trends 2023: Media and Entertainment

Companies that lack scale and sufficient resources to invest in streaming will scale back their growth ambitions, especially in the U.S., where competition is fierce and linear viewing is rapidly declining due to cord cutting; for example, AMC Networks and LionsGate/Starz. Our outlook on such players is increasingly negative, as we think they will struggle to retain audiences and remain competitive over the medium term and it is unlikely that over time the growth in their streaming revenue could offset declines in the linear TV business.

New streaming business models, including hybrid AVOD/SVOD, will be tested. We see linear TV and over-the-top (OTT) distribution models converging, with traditional broadcasters rolling out digital catch up and on-demand platforms and subscription video-on-demand (SVOD) players launching ad supported tiers. In 2023 we expect free and paid ad-supported tiers (AVOD, or advertising-based video on demand) will help global streaming platforms diversify revenue sources and retain subscribers. Ad-supported streaming provides higher CPMs (cost per thousand impressions) compared with linear TV thanks to high-quality audiences and more precise demographic targeting. Lower-priced ad-supported tiers should help retain subscribers in the context of falling real disposable incomes and consumer choices becoming more price-sensitive. At the same time, premium ad-free tiers should support average-revenue-per-user (ARPU) growth. However, it will take time for ad-supported propositions to gain scale to become attractive for brand advertising, especially in local EMEA markets where advertisers will likely still prefer the broader reach of linear TV over the medium term.

U.S. national TV is in crisis. U.S.-based national TV networks face a growing crisis, one in which there does not appear to be a clear solution. Pay-TV subscribers continue to decline at a steep rate, a trend that affects all linear TV networks regardless. The media companies' preferred strategy to somewhat temper these pressures is to focus on sports and news. Sports is the linchpin; it is generally exclusive to TV and cannot be found on alternative distribution media (but this is changing; for example, both NBC and Paramount now make their NFL broadcasts available on their streaming platforms as well as on their TV networks). This sports strategy better protects the topline as these networks can garner bigger affiliate fee increases and capture a greater share of advertising spending. However, what the networks get in topline support they give up in higher programming costs that are likely to grow even as revenues come under greater pressure. Conversely, linear TV networks without sports are increasingly experiencing weaker advertising and affiliate fee revenues but have a greater ability to control programming costs. Thus, we expect greater margins and cash flows degradation for those linear TV networks with significant exposure to sports and weaker revenues and cash flows for those linear TV networks lacking sports. How this plays out is not yet clear.

U.S. local TV performing well but secular clouds are forming. The near-term outlook on local TV broadcasters in the U.S. is less negative than nationally focused TV network and cable network companies due to relatively low content spending needs and less near-term pressures on key revenue streams, in particular retransmission revenue. The local TV broadcasters are not immune from the rising pay-TV subscriber declines impacting the nationally focused media companies. Over the last few years, local broadcasters have been able to more than counter these declines with their ability to raise retransmission fees by double-digit rates, exceeding pay-TV subscriber declines. But we believe this will be difficult to achieve going forward as the broadcast networks are prioritizing content for their streaming platforms, weakening the programming on their broadcast networks and weakening the ability for the broadcasters to command strong price increases. Still, we expect retransmission revenue will remain stable for the next few years as live news and sports remain "must-have" content. Recognizing that network content is becoming less exclusive, the local TV broadcasters are also trying to find ways to shore up additional content, as evidenced by Nexstar's acquisition of 75% of the CW, although these efforts are still in their infancy.

Ratings holding up in EMEA as transition to streaming is more gradual than in the U.S. In EMEA credit quality of rated broadcasters is holding up so far thanks to a slower transition from linear to on-demand viewing, and strong local content that helps keep audiences engaged on television. Linear TV viewing is holding up better than in the U.S. due to supportive regulation and healthy demand for local content that helps retain audiences. TV advertising accounts for about 15%-25% of total advertising revenue in the U.K., France, and Germany, and, as TV still provides the widest audience reach, it remains attractive for brand advertising. Relatively low leverage at the end of 2022 should allow broadcasters to absorb a decline in advertising revenue in 2023 and keep investing in streaming in the short-term. However, over the longer term, it will be increasingly difficult for the smaller EMEA broadcasters to remain competitive against both the behemoth global technology companies and the significantly larger U.S. diversified media companies, especially as they build up local content libraries. In 2023 these growing secular pressures will coincide with a macroeconomic slowdown, which will lead to a drop in TV advertising revenue, especially in the U.K. and Germany, where we expect deeper recessions. Broadcasters that are also investing in catch-up and on-demand platforms will see near-term pressures on margins and higher leverage.

Can local media companies in Europe compete against the global streamers? In Europe, Netflix, Amazon, and Disney dominate most SVOD markets, but local players are emerging. In the U.K., for example, ITV rolled out its revamped ITVX in December 2022 and expects to invest £200 million in platform development and original content in 2023-2024, which will weaken EBITDA and cash flows. In Germany, Bertelsmann is investing in RTL+, a so-far loss-making broad bundled service that provides access to on-demand video, music, magazines, and audiobooks. Television Francaise 1 (TF1) so far has been more cautious with content spend, and in 2023-2024 will likely focus on developing its MyTF1 platform after the company announced its exit from the Salto streaming joint venture with M6 and state-owned France Televisions. All these European broadcasters benefit from owning production studios that partly offset their exposure to declining advertising revenue and help acquire original content and build broader libraries. However, they lack scale and financial resources compared with global powerhouses and will need to carefully balance investment in programming against reducing profits and cashflows.

Industry consolidation could help smaller EMEA players withstand structural challenges, but we see limited opportunity in the short term. So far attempts for regional consolidation have been unsuccessful--in 2022 the French regulator blocked the proposed merger between leading privately-owned broadcasters TF1 and M6 on market competition concerns. Cross-country consolidation is also unlikely as synergies in content acquisition would be limited. In this context and due to increased cost of funding and macroeconomic risks, we think M&A activity will remain muted in 2023, at least until the second half of the year.

Globo's strategy of partnerships with global streamers boosts its own Globoplay platform. In Latin America, Brazilian TV broadcaster Globo has turned the corner after years of significant programming investments in its streaming initiatives, which depleted cash flows. We expect new content production and co-production to remain strong, with continued growth of the Globoplay streaming platform. Competition should remain high, but Globo has been proving itself capable of growing its customer base through content development, improved customer experience, and relevant partnerships with global streaming platforms. Over the last few years, Globo has announced partnerships with Disney, Amazon Prime, Discovery, and Starzplay.

Global box office disappointed in 2022. Will 2023's film slate come to the rescue? For cinema exhibitors, the 2022 global box office was weaker than we had expected due to fewer film releases and consumer ambivalence towards key film genres (primarily kids and adult). The smaller 2022 slate was driven by media companies' prioritizing non-blockbuster films to their in-house streaming services and by 2021 production delays from COVID, which affected the number

Industry Top Trends 2023: Media and Entertainment

of films available for release in 2022. At the end of the year, "Avatar: The Way of Water" provided a much-needed bump with about \$2 billion in global box office (through Jan. 21, 2023, and still counting), but overall box office revenue in 2022 was about 35% below pre pandemic levels of 2019.

We expect the sector will continue its recovery in 2023 from its pandemic-driven shutdown, mainly driven by improving admissions, higher ticket prices, and concession spending. Still, cinema operators will have lower profitability and cash flows than historical levels due to cost inflation (especially related to staff and energy) and higher interest costs. We expect several cinema operators that defaulted in 2022 (Vue restructured its capital structure, Cineworld filed for bankruptcy, and AMC Entertainment announced a debt-for-equity swap) will emerge in 2023 with new and more sustainable capital structures, but their leverage will still likely remain very high.

Credit metrics and financial policy

Credit metrics will likely remain weak for the next two years for the media companies that continue to invest heavily in content and their streaming services, as pressure on EBITDA and cash flow result in higher leverage and weakened cash flow-to-debt metrics. These pressures will be exacerbated in the near term by weak advertising revenues. The degree to which credit measures weaken will depend not only on each company's strategic and financial choices but on the pace of broader secular changes in the media ecosystem, especially the continued decline of the linear TV model. Most media companies depend on revenues and cash flow from these legacy media sectors to offset depressed cash flows from their streaming initiatives. We believe financial discipline is key to managing credit metrics, especially in pursuing streaming ambitions within the company's financial capabilities. We may see some media companies reconsider their content spend strategies and curtail or abandon streaming ambitions. This could prop up their profitability and credit metrics for the short-term. However, it would likely harm their competitive standing in the long term.

Key risks or opportunities around the baseline

1. Streamers may see higher churn and weak ad revenues in a recession

As the macroeconomic environment deteriorates, pushing up unemployment and pushing down real disposable income, consumers may reconsider their streaming subscription choices. This could result in higher monthly churn, with consumers shuffling between streamers and reducing the number of subscriptions (currently more than five on average in the U.S. and 2-3 in EMEA), and stagnating ARPU if consumers prefer lower-priced or free ad-supported subscription television (FAST) to more premium ad-free offerings. It also remains to be seen whether AVOD can reach sufficient scale to successfully compete against linear TV for brand advertising and also garner higher pricing per impression than linear TV.

2. Linear TV network declines could accelerate as advertisers leave and pricing crumbles

Linear TV remains relevant to large global advertisers because it still provides unmatched national reach. Networks continue to demand--and advertisers continue to pay--a premium for this reach despite declining pay-TV subscribers and declining audience ratings. At some point, advertisers could change their view of linear TV and refuse to pay those premiums. This could materially accelerate the decline in linear TV revenues and cash flows, especially for those linear networks with significant fixed-cost sports rights.

3. Streamers could finally benefit from sports rights ownership

For several years, streaming platforms have been acquiring the broadcast rights for sports leagues (for example, Alphabet's YouTube TV won the NFL's Sunday Ticket package, Amazon won the NFL's Thursday Night package and DAZN outbid Sky for Italy's Serie A's domestic broadcast package), but in most cases these wins remain opportunistic and it's unclear whether the winning streaming services can successfully and sustainably monetize these rights. However, as they snap up more sports rights in competition with linear TV networks and broadcasters, these wins could accelerate the decline in linear TV and help growth in streaming subscribers.

Industry Outlook: Advertising

Ratings trends and outlook

We expect our ratings on most advertising-dependent companies to remain stable in 2023 despite an anticipated slowdown in real global economic growth and a recession in some parts of the world, but risks to our ratings are tilted to the downside.

Our ratings outlook reflects two key points:

- **We view an economic recession as cyclical.** As a result, we expect media companies' credit metrics to return to pre-recession levels on average, with some media subsegments facing secular pressure in a worse position following each dip. We are less likely to lower ratings and will instead revise outlooks if we believe credit metrics are only temporarily harmed by a short and shallow recession and a company demonstrates a longer-term ability and willingness to restore credit quality.
- **We have already taken a number of rating actions in 2022** as some ad-based sectors showed signs of slowing growth. For example, in the U.S. we revised outlooks and, in some cases, lowered ratings on advertising-dependent companies, reflecting declines in broadcast radio and movie theater advertising, and slowing growth in digital advertising, particularly among digital programmatic advertisers with concentrations in the mortgage refinancing, insurance, and certain retail verticals. In EMEA advertising revenue across the rated universe has so far held up better than in the U.S., but we are cautious with our outlook for 2023, especially for lower-rated issuers that could face rising interest costs and refinancing risks.

Main assumptions about 2023 and beyond

1. Advertising growth rates will be hampered by an economic recession in 2023

S&P Global economists expect shallow economic recessions in key advertising markets (U.S., U.K., and Germany) in 2023. In general, a weak economy, with slowing consumer spending will result in a pullback in advertising spending. However, the impact on the various advertising media will vary greatly, as we expect digital and outdoor advertising to still grow in 2023, TV to modestly decline, and radio to decline steeply.

2. Digital advertising remains the growth engine for the advertising ecosystem

We forecast global digital advertising revenue will grow at a high-single-digit percentage rate in 2023 after a similar growth rate in 2022. Digital was the first ad sector to experience a slowdown in 2022 and is likely the first to see a recovery in 2023. Of the various digital sub-segments, digital video and retail media will be the fastest growing as both benefit from the continued shift to online shopping, digital video consumption, and connected TV and better demographic targeting provided by VOD viewing.

3. Advertising's shift away from traditional media to intensify

Traditional media advertising--excluding outdoor--will decline in 2023. We expect mid- to high-percentage cuts in TV ad revenues in the U.S. and several large European markets. The absence of major global sports events and lower political advertising in the U.S. will hurt TV ad revenues. We expect U.S. broadcast radio advertising to decline 15%, as radio advertising has very short lead times and is one of the first ad media to decline when the economy slows.

A recession in 2023 will impede advertising growth. We expect U.S. GDP to decline 0.1% in 2023, U.K. GDP to decline 1%, and eurozone GDP to be flat as tightened monetary conditions and higher costs for fuel and food cause a slowdown in consumer and business demand. Advertising trends are highly correlated with consumer spending, which is broadly the largest component of GDP (it's two-thirds in the U.S.), and we believe brand advertisers will curtail their marketing and advertising efforts in the face of lower consumer demand. Weakening macroeconomic conditions in 2022 already prompted us to lower our U.S. advertising forecast for 2023 to 2.6% from 8.4% (see "[U.S. Advertising Forecast Cut As Odds Of Recession Increase](#)," published Oct. 13, 2022) and it's likely that we'll revise our forecast again once 2023 trends become clearer. Our forecast still has overall advertising growth as we believe larger advertisers will be reluctant, in a shallow recession, to make wholesale changes to their brand advertising for fear of losing their voice with the customer and thereby potentially sacrificing market share when economic growth resumes.

The impact on advertising from a recession will vary widely by medium. Advertising formats that were already facing secular pressures, such as network television, cable television, radio, and print, could see larger declines and a weaker recovery as advertisers reassess the efficacy of these formats given the continued audience ratings declines. Meanwhile, advertising formats such as search, retail media, social, digital video, and outdoor are likely to see solid advertising growth in 2023, but likely slower than historical growth rates.

The timing of decline and recovery will also vary by advertising medium. Short lead-time advertising formats like, radio, digital video, and social already experienced a rapid pullback in demand in 2022. We believe digital and social will be the first to recover from a recession, while advertising on longer lead time channels--such as linear TV--may be delayed in both their decline and subsequent recovery.

Digital advertising will grow significantly faster than GDP in 2023. Digital advertising will continue to drive total nominal advertising growth in 2023 and digital's share of global advertising spend will likely exceed 65% in 2023 (it'll be close to 70% in the U.S.). We believe performance-based digital advertising, retail media, social media, connected TV, and video advertising will grow while programmatic advertising (being more commoditized and more cyclical) will likely slow down in 2023. Auction-based programmatic advertising is sold in real time and tends to react much faster to changes in sentiment. This makes it very easy for advertisers to scale back or halt their ad campaigns, whereas it takes much longer to cancel a television campaign. In addition, auction-based digital advertising is more weighted toward small and medium-sized businesses that are more focused on advertising performance and do not have the financial resources to continue brand-building through a downturn.

Social media advertising, while still likely to grow in the mid-single digits in 2023, continues to face pressure as advertisers pull spending in response to challenging macroeconomic conditions and ongoing privacy changes. For example, Apple's App Tracking Transparency (ATT) feature on its iOS platform still presents a significant headwind to the digital advertising industry.

Shift of advertising away from traditional media to intensify. We expect weaker macroeconomic growth and further erosion in linear TV viewing will lead to TV advertising budget cuts in 2023 in the U.S. and Europe. TV ad revenues in 2023 will also be hurt by the lack of major international sports events such as the FIFA World Cup and Olympics. In the U.S., 2023 ad weakness will be exacerbated by far lower political advertising compared with an exceptionally strong 2022. Brand advertising held up well last year as large producers of fast-moving consumer goods needed to justify price increases as they passed on cost inflation to consumers. If a potential economic recession in 2023 proves to be shallow, as we currently expect, declines in TV advertising will likely be temporary and could start recovering in the second half of the year. But over the longer term, as linear TV's reach continues to shrink, this medium will become less

Industry Top Trends 2023: Media and Entertainment

attractive and broadcasters' ability to raise prices per impression could decline. The emergence of new FAST channels and ad-supported tiers of global online streaming platforms, such as Netflix and Disney+, will create more ad inventory in the ecosystem. These new advertising options could further dilute linear TV advertising pricing and attract advertising dollars from linear TV.

We believe print advertising will decline sharply, reflecting a weaker economy, a continued structural shift to digital media consumption, and still depressed urban commuting. Outdoor advertising could face pressure from weak macro growth, especially in the U.K. and Germany, where we expect deeper recessions than in the rest of Europe and the U.S. At the same time, outdoor ads will benefit from the shift from print, continued expansion of digital outdoor formats, and recovery of mobility. Transport advertising will be supported by relaxation of COVID-19 restrictions in China and continued recovery in international tourism.

Access to first-party data becomes crucial. We expect the media companies to continue investing in data capabilities as first-party consumer data ownership and access to such data becomes an increasing competitive advantage. The ownership of first-party data also helps manage changes in privacy rules. For example, whereas Meta Platforms Inc.'s revenue has been significantly impacted by Apple's ATT feature, other digital advertisers who rely more on first-party and contextual data have not been nearly as impacted.

Global ad agency holding groups will likely grow the top line above GDP. For a number of years prior to the pandemic, the global advertising agencies were under considerable operational pressure due to a number of factors, including advertising dollars shifting from traditional media to digital, growing competition from tech and consulting companies expanding outside of their core business, and less ad spending from historically key ad clients, like consumer products companies that were controlling costs through zero-based budgeting. All of this raised concerns that the ad agencies would be disintermediated by the global tech platforms. We believe that the ad agencies have effectively navigated these concerns in part by refocusing and rationalizing their business portfolio mix on faster growing advertising/marketing segments such as sponsorships, experiences, and public relations, and less on traditional advertising functions such as media buying and creative. Additionally, the advertising ecosystem has become much more complicated, with numerous advertising options beyond linear television, radio, and print, each requiring a different approach or creative, and more frequent, targeted campaigns. This complexity has benefitted the ad agencies as the majority of advertisers lack the staff, the expertise, the data, and the analytical capabilities to navigate this new advertising ecosystem.

Credit metrics and financial policy

We expect ad-based media companies' margins and cash flows to weaken in 2023 due to lower topline growth and continued cost inflation, especially staff costs. Weaker consumer confidence and economic growth globally will weigh on topline growth. Operating costs will increase at rates above nominal topline growth, driven by wage inflation, investments in tech and data capabilities, and data collection. Traditional media will also face higher input costs such as energy, particularly for the print industry. As a result, we forecast leverage will increase across the board in 2023.

We think the investment-grade rated ad holding groups have enough financial flexibility to withstand these risks. They accumulated significant leverage headroom in their ratings in 2021-2022 as they benefited from an exceptionally strong recovery in advertising. Their cost base is also relatively flexible, with staff costs accounting for about 65% of operating expenses, and a relatively high natural rate of staff attrition.

M&A activity remained muted in 2022 and we believe it is unlikely to pick up at least until mid-2023 when the global macroeconomic outlook might start improving. We note however that some large, diversified media companies and ad holding groups sit on large cash piles that they could utilize towards M&A if they find attractive targets.

Key risks or opportunities around the baseline

1. A deeper or longer recession could halt growth in advertising

If a recession is more severe than we expect, advertisers could respond with more dramatic pullbacks in spending. Specifically, if there is a hard landing of the U.S. economy, businesses will likely delay or suspend advertising efforts substantially in short-lead time formats. If the recession is prolonged for the entirety of 2023 or longer, then advertisers are likely to pursue a wholistic reassessment of their advertising campaigns. In either scenario, a more severe economic downturn could result in advertising declines for 2023 and a weaker, more prolonged recovery into 2024.

2. Accelerated drop in scale and reach for linear TV

Faster decline in scale and reach for linear TV due to lower viewing, higher cord-cutting in the U.S., and fierce competition with digital VOD platforms could lead large brand advertisers to reassess linear TV's value and make more severe cuts in advertising and pricing. This could hurt the ability of ad-dependent TV broadcasters, who depend on TV's cash flows to fund their digital streaming ambitions, to adapt their business models quickly enough.

3. Continued privacy and regulation changes

Further tightening of privacy regulation and privacy-preserving measures implemented by the largest tech platforms could limit the ability of ad companies to target users and measure results of ad campaigns, thus affecting digital advertising revenue. This could weaken the credit strength of advertising companies that fail to adapt over the longer term.

Elevated regulatory risks could hamper digital advertising growth and put pressure on ad companies' ratings. Privacy regulation and consumer preferences are changing towards higher privacy and less trackable data available for targeting digital advertising. Changes in privacy measures require ad companies to constantly adapt their business models and change ways in which they collect customer. This makes access to first-party data especially important and requires investment in data assets and technologies. Inability to remain competitive could lead to negative revisions in our ratings and outlook, especially on smaller and less diversified ad companies. For example, in 2022 a change in privacy regulation related to Apple's ATT feature restricted the collection of unique device identifiers without consent. This prevented advertisers from using these data for ad targeting and measuring ad effectiveness, and resulted in a loss of digital advertising revenues in a USD billion area.

Related Research

- [Assessing The Impact Of Higher Interest Rates On U.S. Media And Entertainment Companies Rated 'B-', Jan. 9, 2023](#)
- [SLIDES: U.S. Media And Entertainment Industry: Key 2023 Themes And Concerns, Jan. 6, 2023](#)
- [Media Industry Implications From Our Rating Action On AMC Networks Inc., Dec. 22, 2022](#)
- [Warner Bros. Discovery Inc. Outlook Revised To Stable From Positive On Slower Expected Deleveraging Amid Macro Headwinds, Nov. 22, 2022](#)
- [Paramount Global Outlook Revised To Negative From Stable On Weakening Macroeconomic Climate: Ratings Affirmed, Nov. 9, 2022](#)
- [U.S. Advertising Forecast Cut As Odds Of Recession Increase, Oct. 13, 2022](#)
- [Assessing Media's Vulnerability To Today's Macroeconomic Risks, Aug. 3, 2022](#)
- [Industry Top Trends Update: Media and Entertainment \(EMEA\), July 14, 2022](#)
- [Industry Top Trends Update: Media and Entertainment \(North America\), July 14, 2022](#)
- [Credit FAQ: Calculating Leverage For Large U.S. Media Companies \(2022 Update\), March 24, 2022](#)
- [Cord-Cutters Keep Severing Ties To U.S. Pay-TV, Feb. 17, 2022](#)
- [U.S., Canadian, And European Telecom, Media, And Cable Majors Ranking: January 2022, Jan. 10, 2022](#)
- [U.S. Linear TV's Decline Won't Affect Media Companies Equally, Oct. 12, 2021](#)

Industry Forecasts: Media and Entertainment

Chart 9
Revenue growth (local currency)

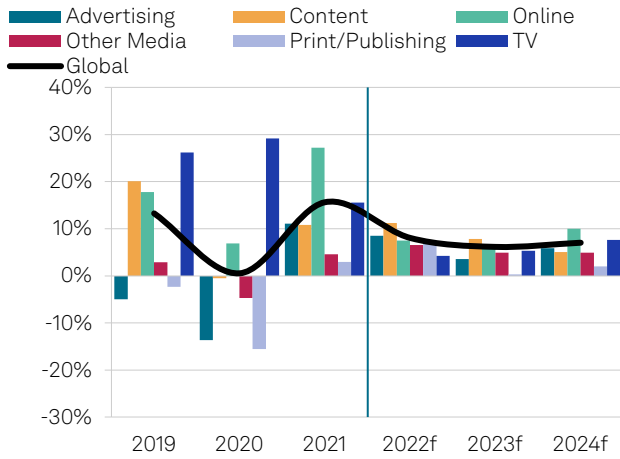


Chart 10
EBITDA margin (adjusted)

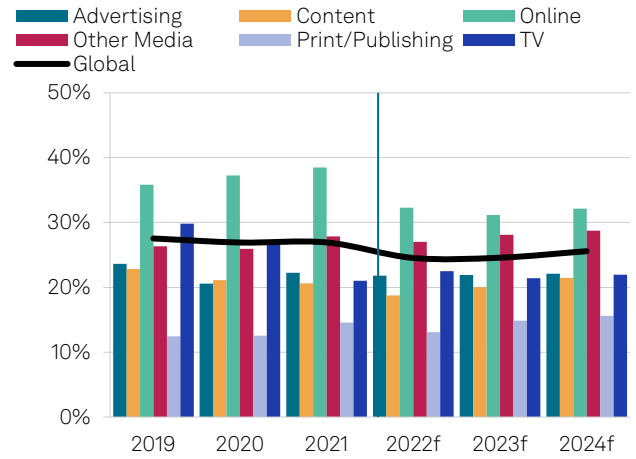


Chart 11
Debt / EBITDA (median, adjusted)

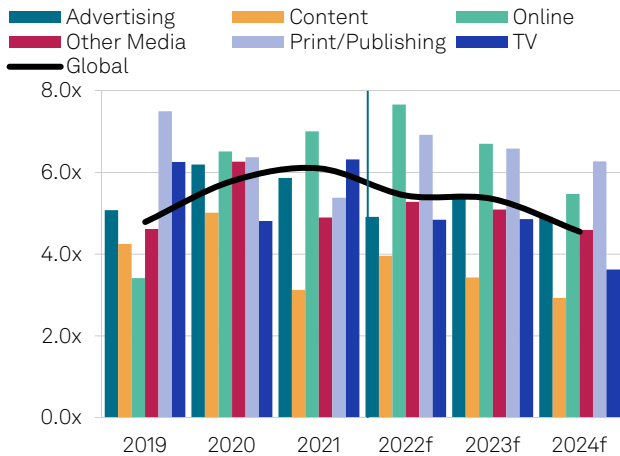
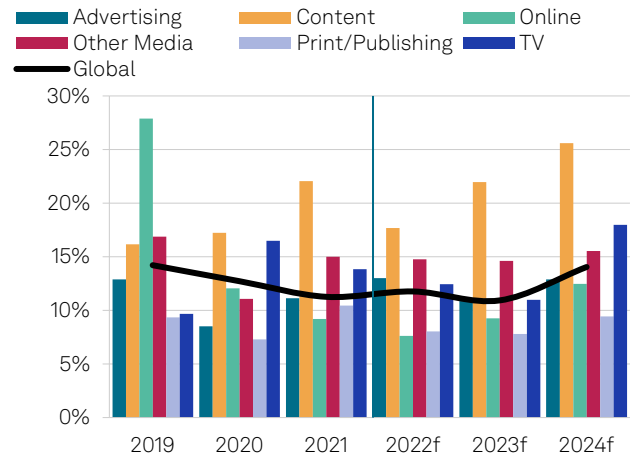


Chart 12
FFO / Debt (median, adjusted)



Source: S&P Global Ratings. f = Forecast.
Revenue growth shows local currency growth weighted by prior-year common-currency revenue share. All other figures are converted into U.S. dollars using historic exchange rates. Forecasts are converted at the last financial year-end spot rate. FFO—Funds from operations.

Cash, Debt, And Returns: Media and Entertainment

Chart 13

Cash flow and primary uses

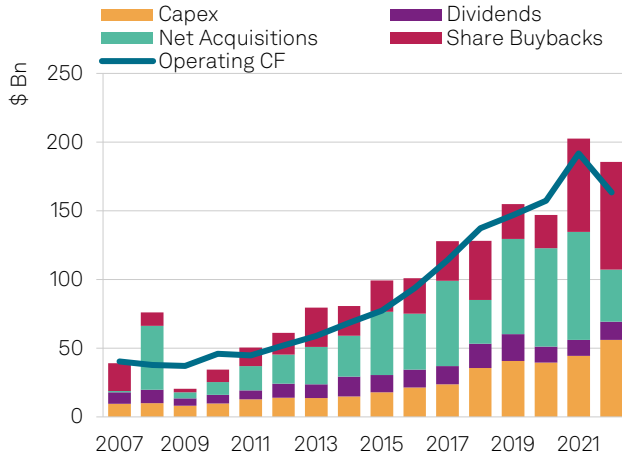


Chart 14

Return on capital employed

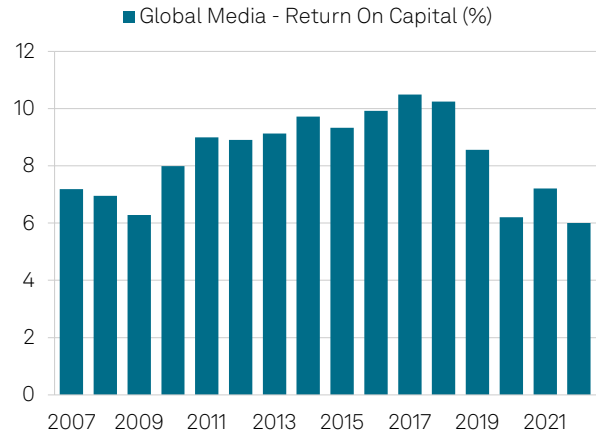


Chart 15

Fixed- versus variable-rate exposure

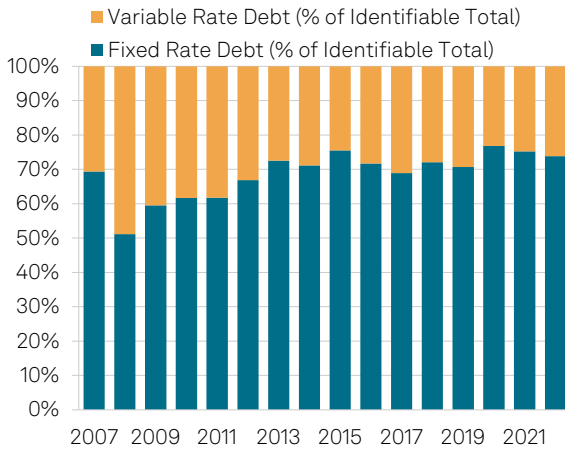


Chart 16

Long-term debt term structure

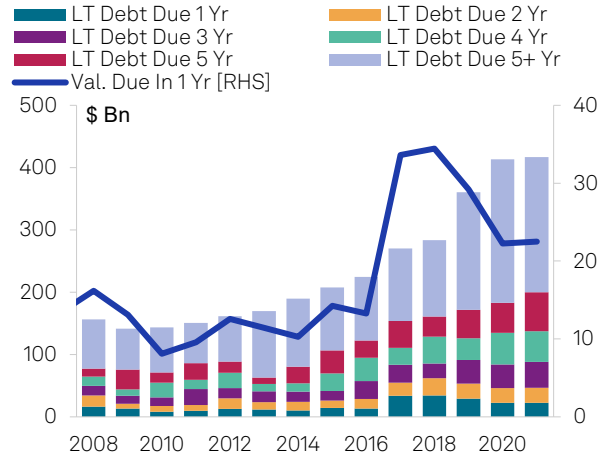


Chart 17

Cash and equivalents / Total assets

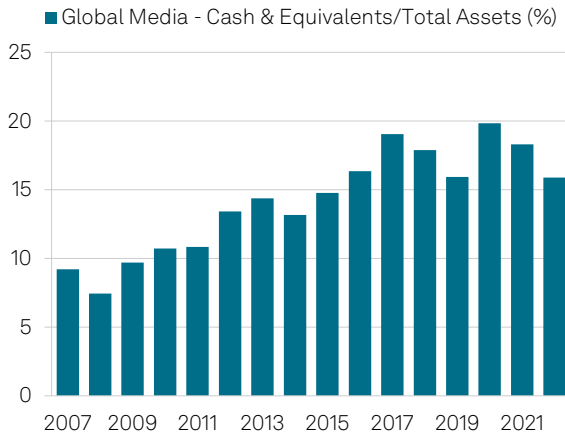
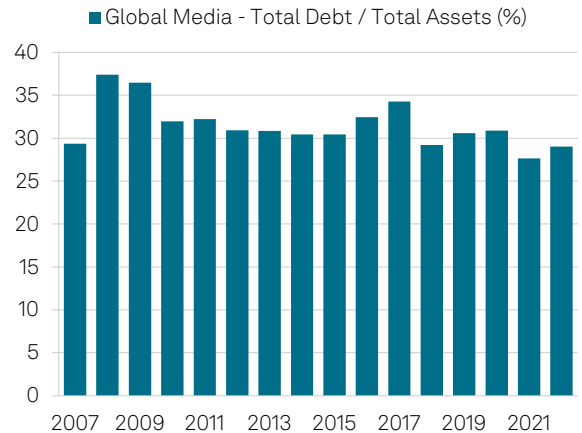


Chart 18

Total debt / Total assets



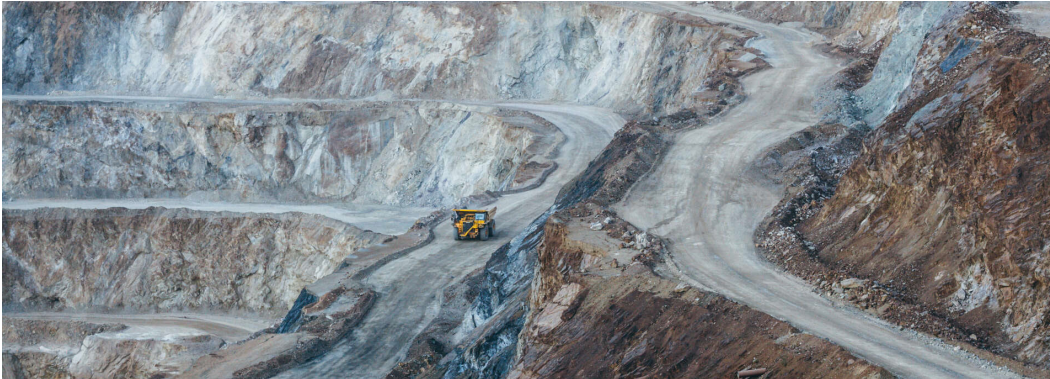
Source: S&P Capital IQ, S&P Global Ratings calculations. Most recent (2022) figures use the last 12 months' data.

Metals and Mining

Positive credit momentum slows with big demands on capital

January 23, 2023

This report does not constitute a rating action



What's changed?

Profits are softer but balance sheets are strongest in years. Prices for most metals have fallen from spike levels in early 2022, but low debt leverage provides ample credit buffer.

Pace of upgrades is slowing after years of balance sheet repair. The past 12-18 months represent the largest improvement in credit quality in a decade for this long-cycle industry.

Demands for capital spending pick up with energy transition. On the way to satisfying new demand for battery metals, the mining industry could invest unprecedented levels of capital.

What are the key assumptions for 2023?

Weaker economies and lower prices. We lowered our price assumptions for the next few years in Nov. 2022, which could lead to 10% lower revenue and 20% lower EBITDA in 2023 industrywide.

Relentless capex as demand grows. Even with lower earnings, we expect capital spending will remain elevated in 2023, essentially flat year over year, after a 20%-30% surge in 2021 and 2022.

Uneven global conditions could make for a bumpy road. The catalysts for volatility in metals, like economic uncertainty, currency swings, and geopolitical risks, could persist.

What are the key risks around the baseline?

What if the drop in prices is only the first leg of a deeper downturn? We're assuming only a moderate downdraft in metals prices, but prices can still drop further.

Disruptions squeeze profitable output. Metal works and mining operations around the world can get disrupted for a range of social, regulatory, environmental, or even political considerations.

Capex and weaker earnings consume well-earned credit buffer. The current downturn probably won't stretch credit ratios for many credits, but multiyear capital investments will persist.

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Ratings Trends: Metals and Mining

Chart 1
Ratings distribution

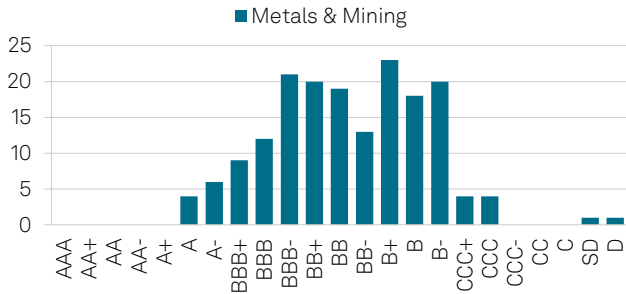


Chart 2
Ratings distribution by region

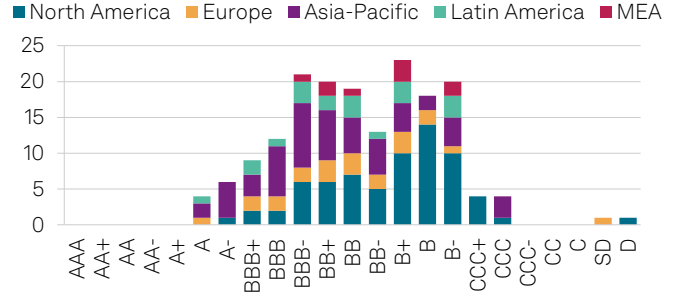


Chart 3
Ratings outlooks

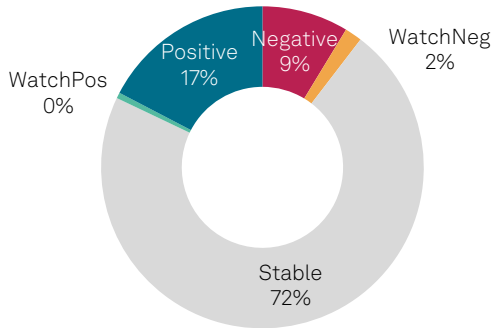


Chart 4
Ratings outlooks by region

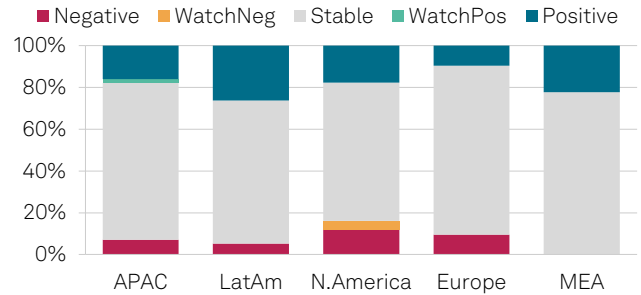


Chart 5
Ratings outlook net bias

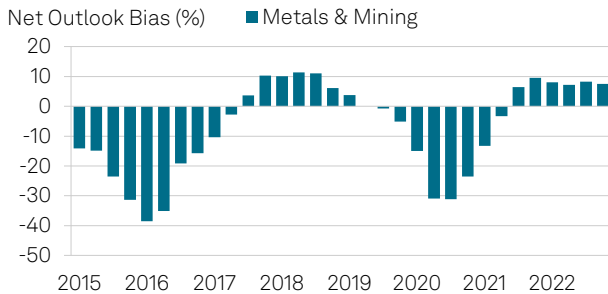
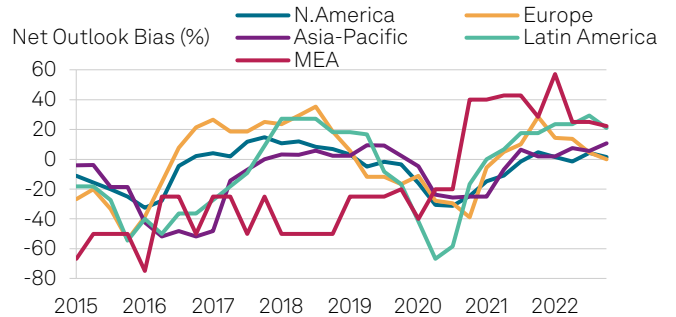


Chart 6
Ratings net outlook bias by region



Source: S&P Global Ratings. Ratings data measured at quarter-end.

Industry Outlook

Ratings trends and outlook

The net outlook bias for global metals and mining remains decidedly favorable at just under 10%, so that six consecutive quarters is now the second-longest sustained positive bias in a decade. This positive trend has contributed to several years of upgrades, as we've raised ratings on 10%-15% of issuers in the last two years. That said, the upgrade momentum slowed in 2022, because we lowered as many ratings as we raised late in the year. Almost a decade of capital discipline--following some major write-downs in 2014--has yielded generally tight markets for most metals, even in a downturn. Even though prices for most metals have dropped during 2022 with a weaker economic outlook, they remain higher than previous troughs.

The global metals and mining industry generated record cash flow in 2021 and 2022 to cap off seven consecutive years of positive free cash flow industrywide. This robust earnings and good cash flow have contributed to progressively lower debt leverage. Capital discipline and the consequent tighter supplies have boosted the industry's average return on capital to almost 10% in 2021 and 2022, which is the highest since the metals "supercycle" in 2007-08. Still, return on capital has averaged only about 5% since 2009, so the accretion of credit strength has been several years in the making.

Environmental considerations are embedded in virtually every strategic move, from copper mining to steelmaking. S&P Global Commodity Insights estimates that worldwide copper usage could double to almost 50 million tons in 2035 from about 25 million tons in 2021. According to S&P Global Commodity Insights' "The Future of Copper" (July 2022), in nearly every jurisdiction, a new mine seeking permission today would not be productive until the late 2030s, which is consistent with a general industry view that it takes about 15 years to permit, construct, and ramp up a new mine. And many of the largest, easiest, highest-grade deposits have been discovered, so new mines are progressively more remote, more expensive, and more difficult to operate. If the S&P Global Commodity Insights scenario is even close, copper miners and their customers could expect a generation-long structural deficit that should yield strong prices more often than not, but with a potentially massive capital outlay to build new capacity. Steelmakers globally are pivoting to increase output of metal from electric arc furnaces instead of coal-consuming blast furnaces, which is one path to reducing the sector's greenhouse gas (GHG) intensity.

Main assumptions about 2023 and beyond

1. Lower prices and higher costs should result in softer earnings and cash flows, yet balance sheets remain solid

The credit quality for many issuers in metals and mining has been improving with greater capital discipline and lower debt. However, we expect the pace of positive rating actions to slow as earnings weaken because of lower prices, persistently high costs, and demands for capital expenditures (capex) and shareholder returns.

2. Growing demand for capital outlays to support energy transition

Amid an environment of rising interest rates, cost pressures will feed into higher investment return hurdles. However, stronger credit profiles across the sector and a need to deploy additional growth capex for long-term growth initiatives give rise to funding opportunities and spur further mergers and acquisitions (M&A) in 2023.

3. Geopolitical risks abound

Geopolitical risks, China's COVID-policy shift, and additional supply disruptions will exacerbate the volatility in commodity markets. The ongoing Russia-Ukraine conflict could cause further shortages and fuel some commodity price spikes. As China accounts for over half of global demand for some raw materials, any prolonged weakness in its economy would erode support for many prices.

Buoyant metal prices are moderating amid a cost-inflationary market environment. Market and pricing conditions generally remain supportive in 2023. However, risks are anchored firmly to the downside. Key risks of a global economic recession, the ongoing Russia-Ukraine conflict, and uncertainty around China's reopening after relinquishing its COVID-zero policy could all feed into market uncertainty and volatility in 2023.

Nevertheless, credit buffer is generally good in this sector, and most issuers with good or average cost positions can withstand further price pressure before testing our downside credit thresholds. As a result, we expect issuers in this sector to yield healthy profits and cash flows supporting shareholder returns, growth capex, and acquisitions. This comes after metals prices largely remained buoyant in 2022, before seeing some price moderation throughout the second half, and mostly confirms our previous assumptions of lower prices in 2023 from record levels in 2021 and 2022.

Lower prices and persistently high costs are likely to eat into margins after record profits in 2021 and 2022. Persistently high costs remain amid a backdrop of global inflationary market conditions, with a lot of transportation and energy costs remaining stubbornly high. Costs such as electricity in parts of the world have disconnected from manufacturing economics, so that some commodity steel and aluminum output quickly became unprofitable and shuttered unexpectedly.

Furthermore, earnings visibility is blurred by the simple availability of energy inputs at any price, which has curtailed otherwise profitable metal output and shuttered customers downstream. At the same time, margin expansion and volumes are likely to be capped by inflationary cost pressures and higher logistic costs, whereas the ability of metal producers to fully pass-on such costs is likely to be limited.

On the other hand, **we forecast net debt leverage in our universe of metals and mining companies could increase slightly in 2023;** however, is likely to remain at historically low levels after industrywide average debt to EBITDA dropped below 1.5x in 2022. The metals and mining industry's debt leverage still remains lower than in previous cycles, thanks to spending restraint since 2015 and a renewed focus on returns over growth. Such restraint, particularly in mining, has already resulted in a tight market that could be exacerbated if there is a broad upswing in demand, which was evident in 2021 and 2022. This could occur in 2023 if metal demand strengthens more than we anticipate.

We continue to see supply constraints, even despite our expectation that exploration activity and growth capex will remain high in 2023. Producers remain cautious on volumes, prioritizing brownfield projects and organic growth over major greenfield development. Commodities such as coking coal and thermal coal have all seen near-term prices boosted by market supply disruptions and concerns over energy security following the Russia-Ukraine conflict, which is resulting in a market-shifting of global supply.

Growth capex could step-up, as energy transition and long-term growth initiatives get factored into investment decisions. After curtailing capex during the pandemic, capex budgets have since been restored, rising 30% in 2022. Still, metals and mining companies have maintained

discipline in their use of debt. Increasingly, financing activity has been trending up as exploration and development activity picked-up in 2021 and 2022, and we expect this trend to continue in 2023. Even though capex isn't likely to increase after a couple of big years, steady spending at elevated levels in 2023 could result in modestly higher leverage for the sector.

While the bulk of exploration activity will still be driven by the demand for base metals and gold, increasingly green mandates will shift the drilling agenda towards specialty metals such as lithium and uranium projects, where drilling activity continues to climb to all-time highs. Environmental, social, and governance (ESG) considerations are also prompting changes in business mix as global miners such as BHP, Rio Tinto, and Glencore continue to look reposition their portfolios for a lower carbon future.

Energy transition and future industries will continue to drive investment decisions. Mining companies and metal producers will continue to reshape their portfolios and pursue green investments, as companies will need to demonstrate how they futureproof their business models. BHP's A\$6.4 billion takeover of Oz Minerals will be its largest acquisition in more than a decade, and banks on demand for copper doubling over the next three decades.

2023 will be a transitional year for China's COVID policy. After a year which China's growth was repeatedly hampered by COVID outbreaks and a property market slump, 2023 could pivot to an increasing possibility for a rebound in 2023, after the government abruptly abandoned its COVID-zero strategy.

Early-indicators have Chinese leaders signaling for more stimulus in 2023, as the government looks to adjust its monetary and fiscal policy settings in order to ease any economic disruption caused by a sudden end to COVID-zero policy. The recent relaxation of China's harsh COVID-related restrictions has brought on a surge of infections, complicated by inconsistent messaging and a fragile health care system.

Chinese steel demand contracted last year by 2.3%, according to the World Steel Association, and is expected to see some modest recovery of 1% in 2023. The Chinese government will continue to look at ways in which it can boost domestic demand, consumption, and investment, and at the same time stabilize its property sector. Yet, if Beijing returns to its old playbook of debt-fueled infrastructure investment, demand for iron ore and other industrial commodities are likely to rise.

Credit metrics and financial policy

Most metals and mining companies are signaling continued capital restraint, particularly as it relates to M&A. Steelmakers have been building and buying assets aggressively, as companies look to reshape their commodity production footprints or to integrate further down the value chain. In contrast, debt-funded acquisition premiums have been virtually nonexistent in mining, partly because it has proven difficult to extract incremental returns from mines. Individual mining assets are discreet cash flow units that rarely benefit from the operating synergies that exist in industries with more scope for consolidating operations. The large wave of debt-funded M&As in 2006-10 appears unlikely to recur, owing to the potential for cash flow volatility and potential asset write-downs with sticky debt levels.

The metals and mining industry benefits from major barriers to entry owing to resource scarcity or constraints and the capital intensity of the assets, which should support credits with hard asset value. On the other hand, cash flows are among the most volatile of any industry we rate, which was a key factor for issuers reducing net debt levels in recent years. Mining companies, in particular, face periods of extraordinary cash windfalls that do not correspond with large capital

spending. Many of these companies have adopted scalable shareholder returns that provide a more transparent look at financial policy and cash flows.

Key risks or opportunities around the baseline

1. Prices may dip faster and deeper

Our moderate-downturn base-case price assumption assumes a mild recession, but risks to a harsher downside persist. The U.S. and Europe could experience heavier GDP contractions of up to 0.7% and 0.9% in 2023, respectively, while Chinese growth could stay at 4.5%. Risk sources vary in nature (escalation of Russia-Ukraine war, inflation persistence, COVID-19 resurgence, etc.).

2. Supply rigidity comes in different sizes

Miners across the globe are being challenged--probably like never before--to achieve their output targets. Issues differ by region, with geological, social, and labor tensions more common among Latin American miners; while export-bans, environmental regulations, and pandemic-induced lockdowns are increasingly impacting Asian miners and smelters. Labor shortages in the U.S. could hamper metal production there.

3. Financial discipline paid off, but pressure for dividends will persist

For several years, metals and mining companies have kept debt usage low, favored organic growth, and generated good excess cash flows. Those tactics are paying high returns to shareholders in times of rising interest rates and lackluster market access.

Prices drop but hold up better than in most downturns. In a recent report ("[Inflation, Geopolitics Are Twin Threats To Our Base Case](#)," published Dec. 8, 2022), we underlined several risks sources to monitor, particularly the U.S. federal funds rate hike program and its impact on asset prices. Our current base case estimate for the Fed's terminal rate (5.00%-5.25%) will be around 1.0% in real terms and near its historical average. If higher real rates (deflated by CPI) are ultimately required to cool demand sufficient to bring inflation back to target, then the Fed will need to go higher and stay there for longer.

The military conflict in Ukraine is another big source of volatility. Although its impact on global macroeconomy is hard to measure and multifaceted, the risk that Russia will continue to create political discord and economic pain in the West remains. Russia is a large producer of many important metals, and Western sanctions aren't preventing most of that material from getting to global markets. Also, energy markets could remain tight through 2023 and 2024, fueling inflation levels and curbing growth particularly in those countries more exposed to Russian energy, such as Germany and Italy.

Supply disruptions are more common and diverse. Chile's largest copper producer, Codelco, faces record production shortfalls for 2023 and 2024 of nearly 200,000 tons per year (due to a combination of declining ore quality, climate-related setbacks, and fatal accidents), while in Peru, protests affected transport of material of Las Bambas and Cerro Verde mines in December. These are a few examples from a long list of issues affecting miners across the globe. These types of events aren't new to the industry but the rate of occurrence has sped up with the incidence of extreme weather, the focus on ESG matters, and COVID-19 restrictions.

Financial discipline has paid off, and dividends and buybacks are likely to flex down from record levels with lower cash flows. As shown in Charts 15 through 20, metals and mining companies' shareholders benefited in 2021 and 2022 like probably never before, with record profits, dividends, and share buybacks. And at the same time, companies were able to keep

Industry Top Trends 2023: Metals and Mining

record cash levels of around 11% of total assets (Chart 19) while keeping debts low (roughly 30% of assets, as shown in Chart 20). Also, companies are largely immune to high interest rates as more than 70% of their debts are at fixed rates and refinancing needs are manageable, with less than 20% of their total debts coming due in the next 12 months (Charts 17 and 18). So, our base case signals a moderation in capex growth in 2023 and 2024, compensating for the lower price levels, so that shareholders' remuneration would remain aggressive.

Related Research

- [Issuer Ranking: Global Metals And Mining Companies, Strongest To Weakest](#), Dec. 9, 2022
- [S&P Global Ratings' Metal Price Assumptions: Lower Prices And Higher Costs Start Squeezing Profits](#), Nov. 1, 2022

Industry Forecasts: Metals and Mining

Chart 7
Revenue growth (local currency)

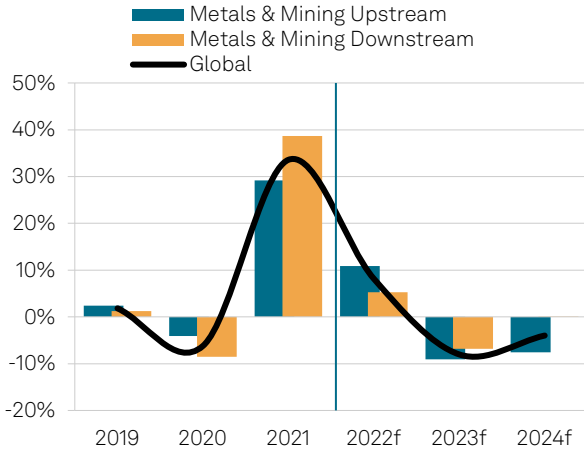


Chart 8
Capex Growth

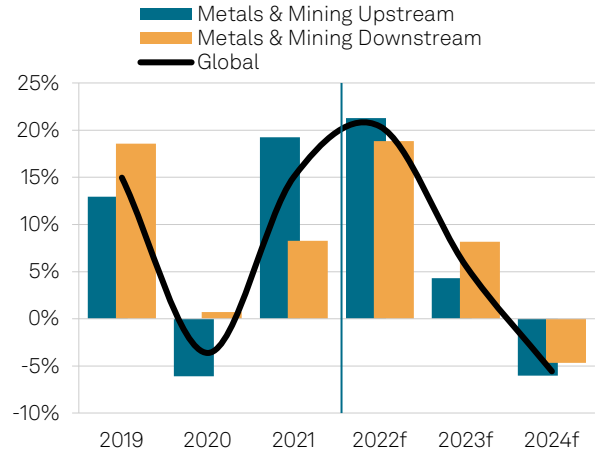


Chart 9
Debt / EBITDA (median, adjusted)

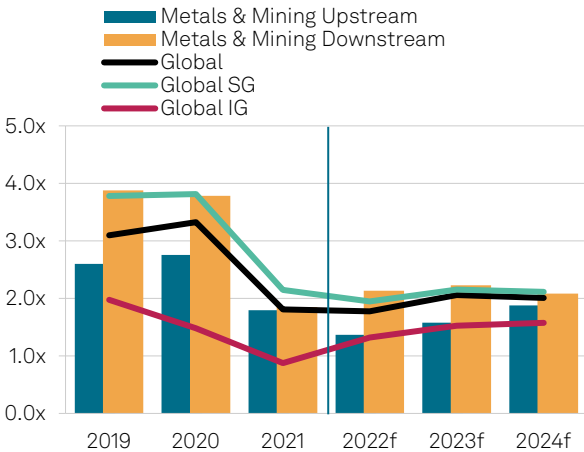
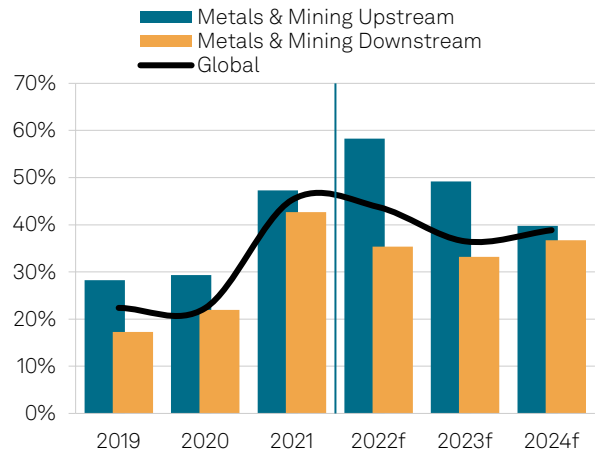


Chart 10
FFO / Debt (median, adjusted)



Source: S&P Global Ratings. f = Forecast.
Revenue growth shows local currency growth weighted by prior-year common-currency revenue share. All other figures are converted into U.S. dollars using historic exchange rates. Forecasts are converted at the last financial year-end spot rate. FFO—Funds from operations.

Cash, Debt, And Returns: Metals and Mining

Chart 11
Cash flow and primary uses

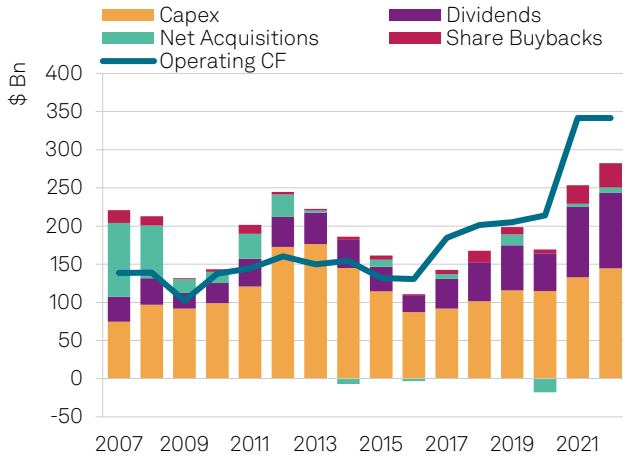


Chart 12
Return on capital employed

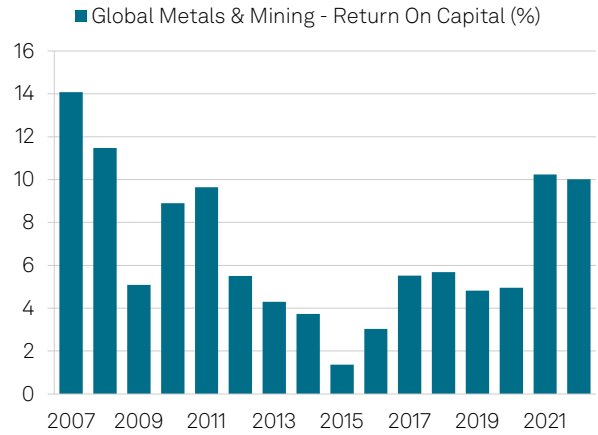


Chart 13
Fixed- versus variable-rate exposure

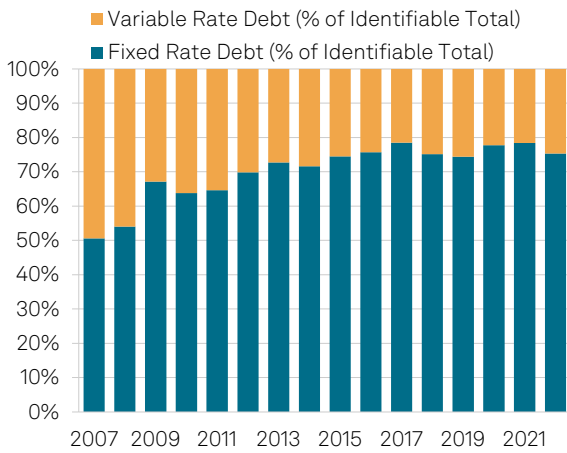


Chart 14
Long-term debt term structure

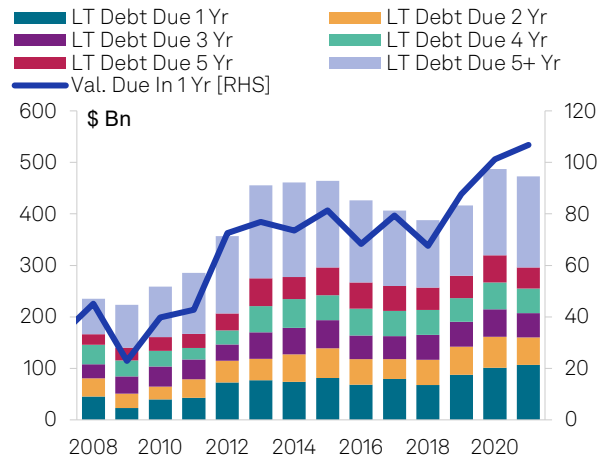


Chart 15
Cash and equivalents / Total assets

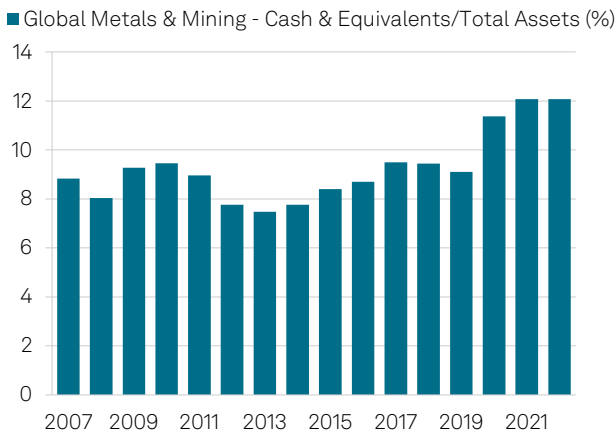
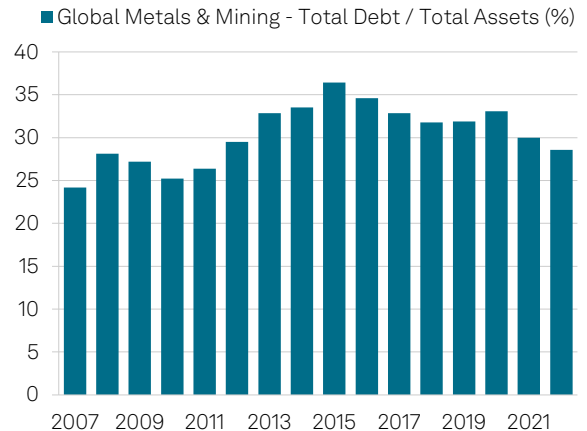


Chart 16
Total debt / Total assets



Source: S&P Capital IQ, S&P Global Ratings calculations. Most recent (2022) figures use the last 12 months' data.

Oil and Gas

Hydrocarbon prices to remain supportive of credit quality

January 23, 2023

This report does not constitute a rating action



What's changed?

Russia-Ukraine War. Disruption to Russian oil and natural gas supplies and swings in government policies, raised energy supply concerns and led to inventory, logistics, and trade flow disruptions.

Record European gas prices. Europe saw record spot and average market prices.

Refiners benefit from cyclical peak margins. 2022 was a complete reversal from 2020 as demand for oil products led to healthy crack margins.

What are the key assumptions for 2023?

Energy security will be paramount. The Russia-Ukraine war has raised concerns about energy supply.

Oil prices and refining margins should remain supportive of credit quality. Despite global recession risks, we see supply factors supporting oil prices in 2023.

Gas price also supported. European gas benchmarks are likely to remain elevated.

What are the key risks around the baseline?

A deep or prolonged recession. A global recession that is more severe than our base case assumptions could lead to lower prices.

Government actions. We see risks from regulation, taxation, and policies given the confluence of high prices, producers' strong profits, energy affordability and security, and decarbonization.

Escalation of the Russia-Ukraine war could result in a supply shock and sharp price spikes, likely followed by demand impacts.

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Ratings Trends: Oil and Gas

Chart 1
Ratings distribution

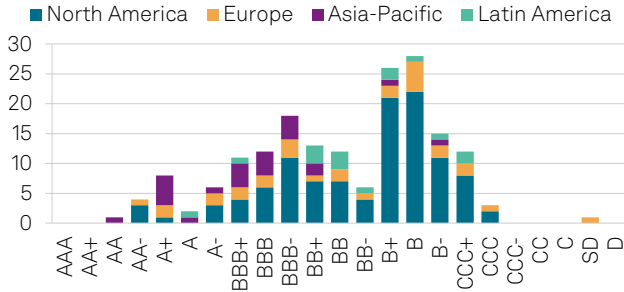


Chart 2
Ratings distribution by region

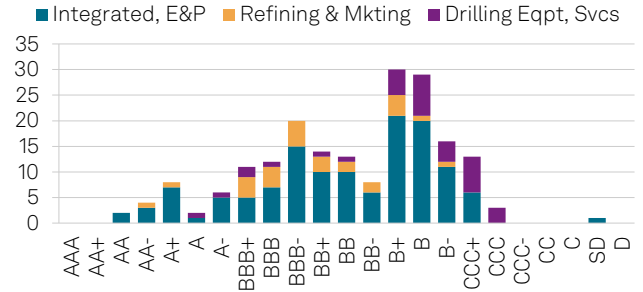


Chart 3
Ratings outlooks

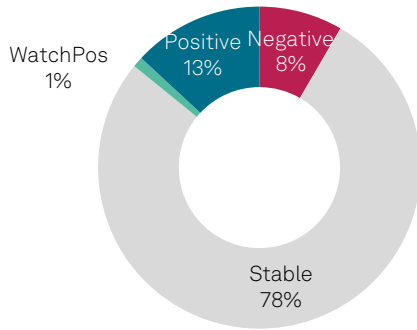


Chart 4
Ratings outlooks by subsector

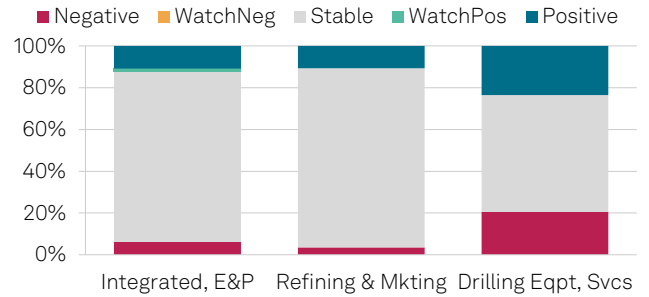


Chart 5
Ratings outlook net bias

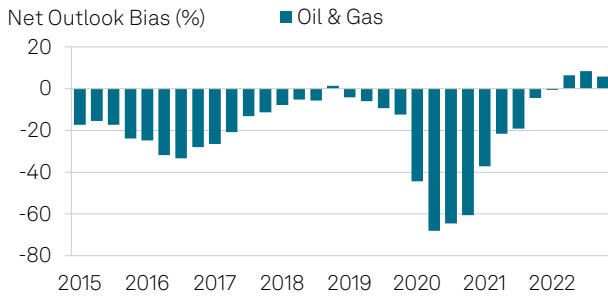
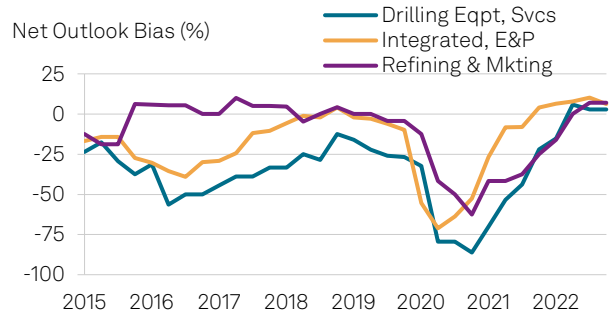


Chart 6
Ratings net outlook bias by subsector



Source: S&P Global Ratings. Ratings data measured at quarter-end.

Industry Outlook

Ratings trends and outlook

In 2022, positive ratings trends continued as healthy hydrocarbon prices allowed oil and gas companies to reduce debt while balancing shareholder rewards. For investment-grade issuers to warrant an upgrade, we wanted to see permanent debt reduction and not just improvement in credit metrics through higher hydrocarbon prices and cash flows. Typically for the investment-grade independent and integrated oil and gas companies, we evaluate producers at our long-term price deck to ensure credit metrics are sustainable even in downturns. For speculative-grade issuers, we expect ratings to be more volatile relative to their investment-grade peers, and improved credit metrics are the reason for the majority of upgrades.

Despite the strong hydrocarbon prices in 2022, positive rating actions in the oil field service (OFS) space were muted in comparison to the E&P sector. This was the result of public exploration and production (E&P) producers continuing to limit capital expenditures (capex) and not outspend. OFS companies had limited ability to offset material and labor inflationary pressures; however, we are beginning to see pricing power return to OFS companies and, as a result, we expect margin improvement, some debt reduction, and credit metrics to improve in the sector. We expect E&P capex budgets to increase by 15%-20% in 2023 including cost inflation.

Shale producers are bumping against productivity issues as producers drill up their Tier I acreage. They will need to spend more to improve efficiencies and maintain at least similar production levels. Moreover, we do not expect more capacity to enter the market and much of the equipment to remain mothballed or used for spare parts.

With the outlook largely stable, we do not expect the overall pace of positive rating actions exhibited in 2022 to continue in 2023. We believe oil and gas companies will be allocating a greater share of cash flow to shareholder rewards in 2023. We also believe the industry debt maturity schedule does not allow the same level of debt reduction opportunities afforded over the previous two years.

Over the longer term, we believe smaller producers will have to either merge or be acquired to effectively offset the impact of climate regulations and the costs and restrictions associated with that as well as declining productivity as prime acreage becomes depleted and wells mature. In this case, being bigger and having diversity and flexibility will not only allow companies to manage during the downturns but will also afford the company access to capital markets that smaller producers may not have in the future.

Main assumptions about 2023 and beyond

1. Energy security and affordability is the focus

The Russia-Ukraine war and the subsequent energy crisis have brought the subject of energy security to the forefront and deprioritized climate change initiatives. Many countries, having shuttered coal plants to comply with carbon emission standards, reactivated plants, or delayed closings given fuel shortages. We expect this yin and yang dynamic to continue for the foreseeable future. It is likely that high energy costs will promote continued investment in renewables or electric cars. However, given inflationary pressures and the likelihood of many global economies heading for a recession, budgets will be stretched and renewables investments delayed.

2. Oil prices remain supportive of credit quality

We expect oil prices to remain supportive of credit quality. In a mild recession scenario, it is unlikely oil prices will stay below \$75 for an extended period. Supporting this thesis are China's reversal of Covid shutdown policies and the supply side of the equation. Global inventory levels remain relatively low and OPEC has remained supportive on the production side and even if it wanted to increase production--is unlikely to be able to as some OPEC countries are having difficulty maintaining current production targets. Moreover, there is limited OPEC spare capacity. We also expect shale producers to eschew the "drill baby drill" mantra they were previously known for. Lastly, Russia will continue to be challenged to find takers for its production.

3. Natural gas prices to remain elevated

Natural gas prices will remain elevated well into next year as Europe will look to replenish its gas inventories beginning in April for the winter heating season, this time with markedly lower Russian supply expected. This will continue to have a knock-on effect on gas and liquid natural gas (LNG) price levels and volatility globally. With limited new build LNG capacity, global gas prices will respond in kind. This scenario could play out for the next several years before additional LNG capacity comes online.

Recessionary concerns aside, we expect the current strong cycle for hydrocarbon prices will continue next year driven by the supply side of the equation. Nevertheless, the industry faces medium to longer term headwinds driven by climate change and rising operating costs due to maturing and less productive wells. Climate change regulation will raise the cost of doing business and the cost to access capital markets as investors continue to focus on environmental, social, and governance issues (ESG) and to reassess the allocation and exposure of their portfolios to polluting industries. Also, barring the introduction of new technologies, productivity for some U.S. shale regions is peaking, which will increase costs to maintain production and increase capital budgets. We expect rising capital intensity and climate change regulation over time will drive increased mergers and acquisitions (M&A) as scale, scope, and diversity of operations prove to be a paramount offsetting factor.

OFS companies should perform better in 2023. Pricing power is shifting to oil field service providers which should result in improved margins and cash flow. Continued depletion of Tier I reserves and increasing capital intensity from U.S. shale should lead to increased demand for OFS goods and services. Although utilization and rig rates have improved, we remain less sanguine on deepwater versus land based providers given long lead times of development and the high breakeven prices needed to justify expenditures.

Refining margins in most regions will remain healthy, if not at the historically lofty levels refiners experienced in 2022. Demand for refined products has remained resilient, and inventory levels,

particularly for diesel, should keep middle-distillate cracks high. A tight diesel market should support good refinery runtimes and keep utilization in the low- to mid-80% area globally:

- **The U.S. market is set to follow up one of the strongest years on record**, with margins that are slightly lower but well above pre-pandemic levels, supported by strong distillate prices, low product stocks for jet fuel and diesel, and a robust export market, particularly given the European ban on Russian crude in December 2022 and refined products beginning February 2023. We believe North American refining utilization will stay at historic highs, averaging in the low-90% area for most of 2023. We expect U.S. refineries' credit quality to remain strong as companies continue to repay debt and build cash. We expect most U.S. companies to return more cash to shareholders without sacrificing credit quality or balance sheet strength that was built up during the previous 12-18 months.
- **Latin America will see crude runs remain at historically high levels** of about 4.6 million barrels per day.
- **The outlook for European refineries is mixed, with the EU embargo on Russian crude leaving refiners in Europe fewer alternatives** and likely buying more from Kazakhstan, Norway, the U.S., and Guyana. Unplanned downtime could also be a risk given recent labor strikes in the United Kingdom and parts of France and the Netherlands. That said, margins should be solid if European operators can solve their feedstock and operational challenges.
- **China continues to manage domestic capacity**, closing smaller refiners in favor of large ones, and managing utilization in response to rising product stocks stemming mainly from government COVID controls. China will likely look to reduce surplus inventory through increased exports. Overall, we believe Chinese and other Asian refineries will see improvement in operations during the next 12 months as COVID controls relax and countries manage utilization and product stock.

Credit metrics and financial policy

With the benefit of stronger hydrocarbon prices, E&P producers are raking in record cash flows and are balancing these cash flows between reducing debt and returning value to shareholders. The conversation on earnings calls has changed from one of production growth to one of improving the balance sheet. Many companies, particularly in the investment-grade space, are now publicly stating leverage targets such as a debt/EBITDA of 1.0x-1.5x in what they deem to be midcycle oil and gas prices of around \$50/barrel of West Texas Intermediate (WTI) and \$2.75 or so natural gas. Investors continue to influence producer's financial policy than in recent years.

Refiners globally will continue to see credit improvement in 2023, aided by strong margins and limited spare capacity. Refiners continued to focus on strengthening their balance sheets in 2022 while also rewarding shareholders, mainly through share repurchase programs. Liquidity is strong across many of our rated refiners, which provides them with ample financial flexibility in the event of a global recession and weakening demand or other shocks like labor strikes or unplanned downtime that could affect utilization and runtimes. We believe credit metrics will remain strong in 2023 but may not see much improvement from 2022, when we stabilized much of the North American refining portfolio and upgraded several speculative-grade refiners and one investment-grade company because of significant EBITDA growth coupled with debt reduction, which in our view improved the companies' permanent capital structures. Credit measures for North American refiners exhibited marked improvement in 2022, with debt to EBITDA averaging about 1.75x, or two turns better than the prior year.

Credit ratios may soften as refining margins come down from historically high levels.

Nevertheless, most companies have built up a substantial cushion in their credit ratios and

should be able to withstand moderate credit pressure and economic headwinds without having these factors affect ratings. Investment-grade refiners have substantial cash balances even after returning money to shareholders and should maintain leverage close to 1x. Speculative-grade refiners also have strong credit measures but are more exposed to regional demand patterns and crude prices given their smaller size and scale. That said, we believe their credit positions during the next 12-18 months are secure.

Key risks or opportunities around the baseline

1. A deep or prolonged recession

Risks of a severe global recession remain. Lower prices could follow a view that oil demand is flattening or could decline for a period. An escalation in the Russia-Ukraine war could potentially result in a supply shock and sharp price spikes, likely followed by demand impacts.

2. Government actions

We see increased risks of less-favorable regulation, taxation, and policies for the industry given the confluence of high prices, producers' strong profits, energy affordability, and security, and imperatives to decarbonize.

3. Stronger financial standing allows strategic flexibility

With continuing strong cash generation and deleveraging, companies can do more to prepare for the uncertainties of the future. This can involve mergers and acquisitions but also making investments in the resilience of current and future assets and businesses.

The upward trend in oil prices from the lockdown lows of second quarter 2020 reflected recovering demand supported by some OPEC+ supply management. The Russia-Ukraine conflict turbocharged prices as supply concerns, especially for gas, came to the fore. Although the majority of Russian oil supply has continued to reach markets so far, and Chinese oil demand growth is likely to rebound, we can't discount the possibility of a harsher or longer recession in major economies. Interest rate rises and the price increases may be more impactful for consumers and businesses than we assume in our base-case forecasts. Worse, an escalation or spread of the Russia-Ukraine war might sap confidence further. This would likely dampen oil consumption growth--which remained on a positive trend in 2022, with demand now close to 2019 levels. Further supply restraint from OPEC+ might not be achievable or sufficient to balance markets and support prices materially.

Governments and regulators have been increasingly active in oil and gas markets since 2020.

The coordinated production cuts of 2020 have been replaced by demands for more supply and investment to meet the immediate consumption and affordability needs of society. Companies in Europe are facing higher tax payments, albeit on the back of much higher profits. Our key concern is that regulation and policies rapidly become more restrictive for fossil fuel companies. We recognize that globally coordinated taxation or bans are not likely in the next year, but note a confluence of adverse trends that might lead to more impactful measures for the industry in certain states. For example, energy companies are increasingly seen as contributing to climate change as consumers and voters bear the brunt of higher energy prices and other costs of living, while producers report exceptional profits. At the same time, consumer behavior is responding to both increasing concerns about climate change and policies that subsidize or promote low-carbon activities.

Stronger financial standing allows strategic flexibility. The 2023 likelihood is that hydrocarbon prices and refining margins are likely to continue supporting strong cash generation and

Industry Top Trends 2023: Oil and Gas

potentially deleveraging for oil and gas companies. Notably, even given the opportunity, public companies have not increased capex dramatically; our estimated average 15%-20% increase in 2023 relates to some inflation, particular in North America, and short-payback activities rather than mega-projects, as well as prioritization of low-carbon investments for some European majors. Rather, excess cash flows have mostly gone to shareholders. These uses are likely to continue in 2023, potentially with less cash being directed to debt reduction, especially for companies with already low reported debt levels.

We anticipate prudence continuing as companies heed investors' calls for returns today, not production tomorrow. Also, companies recognize the uncertainties and evolution of the energy transition are more likely to be a negative factor over time--contrary to 2022. Consequently, we see a focus on investments in low-cost and low-emission assets for both the next turn of the cycle and the future decades.

Related Research

- [S&P Global Ratings Lowers 2023 European And U.S. Gas Price Assumptions On More Balanced Supply And Demand](#), Jan. 10, 2023
- [S&P Global Ratings Revises Its Oil And Gas Price Assumptions On Supply/Demand Fundamentals](#), Nov. 18, 2022
- [S&P Global Ratings Lowers 2022 Canadian AECO Natural Gas Price Assumption Due To Pipeline Maintenance](#), Sept. 15, 2022
- [U.S. Gas-Focused E&P Companies Continue Steady Production And Financial Discipline As Gas Prices Rise](#), July 28, 2022

Industry Forecasts: Oil and Gas

Chart 7
Revenue growth (local currency)

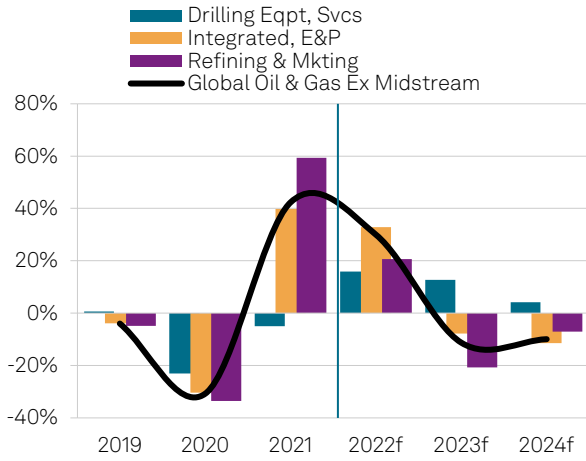


Chart 8
Capex Growth (USD, adjusted)

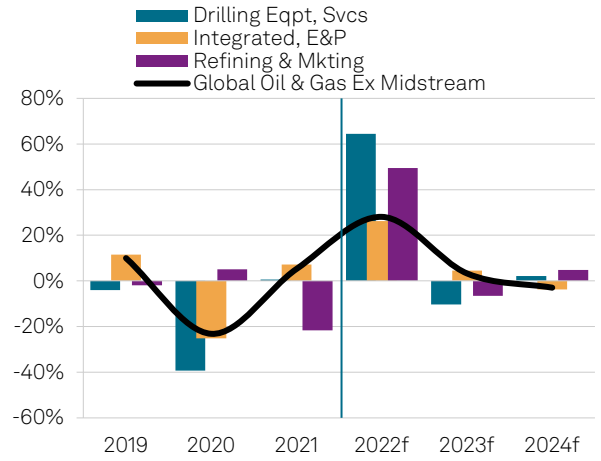


Chart 9
Debt / EBITDA (median, adjusted)

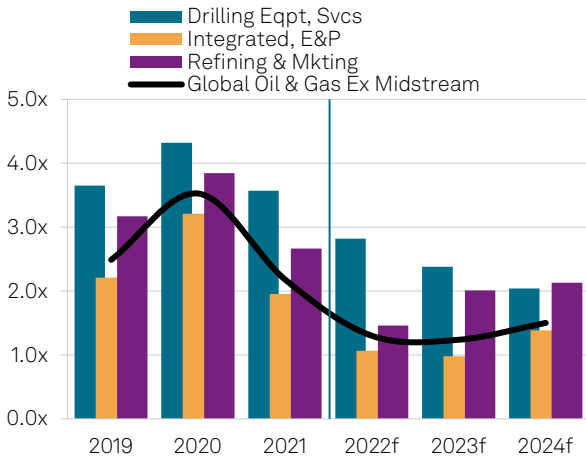
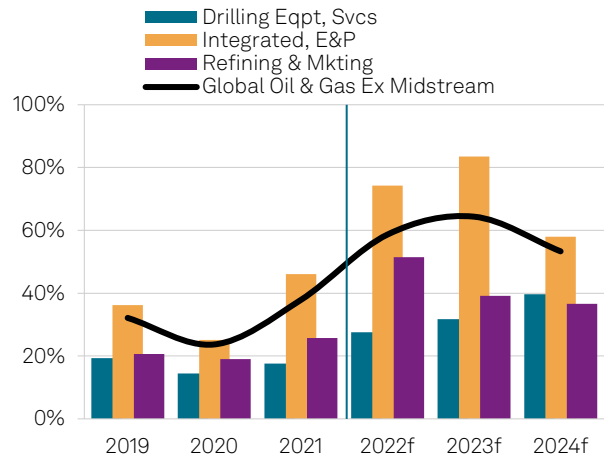


Chart 10
FFO / Debt (median, adjusted)



Source: S&P Global Ratings. f = Forecast.
Revenue growth shows local currency growth weighted by prior-year common-currency revenue share. All other figures are converted into U.S. dollars using historic exchange rates. Forecasts are converted at the last financial year-end spot rate. FFO—Funds from operations.

Cash, Debt, And Returns: Oil and Gas

Chart 11
Cash flow and primary uses

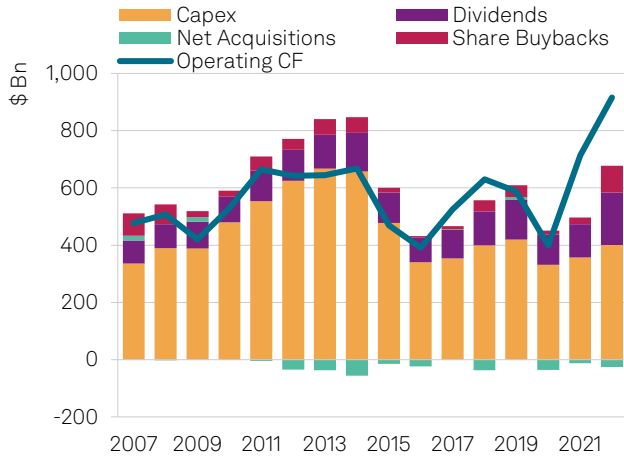


Chart 12
Return on capital employed

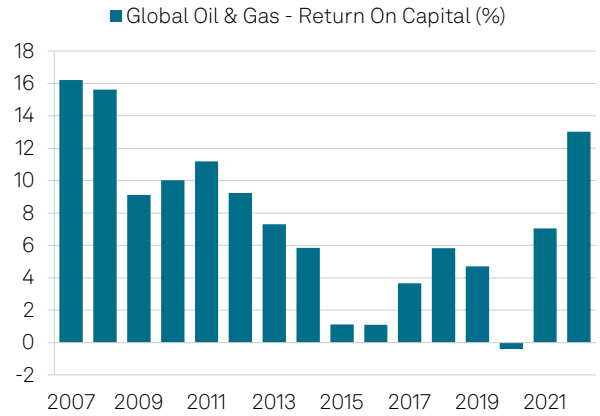


Chart 13
Fixed- versus variable-rate exposure

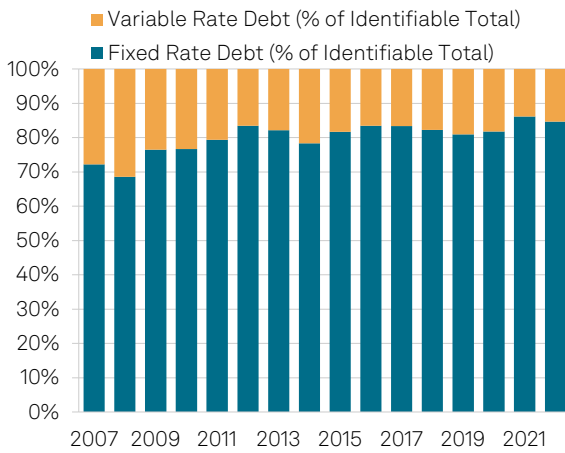


Chart 14
Long-term debt term structure

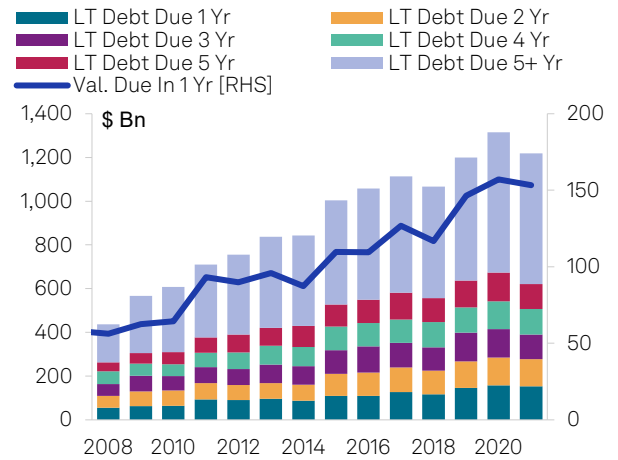


Chart 15
Cash and equivalents / Total assets

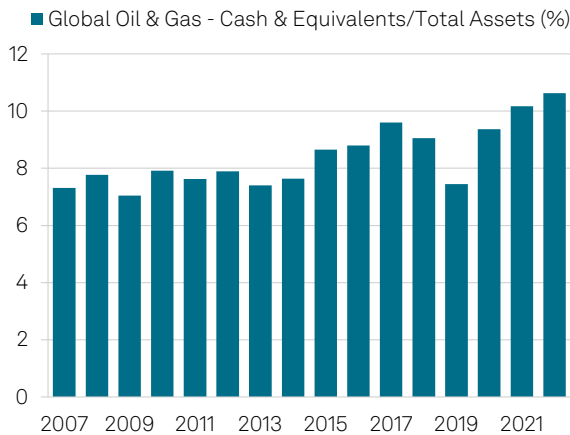
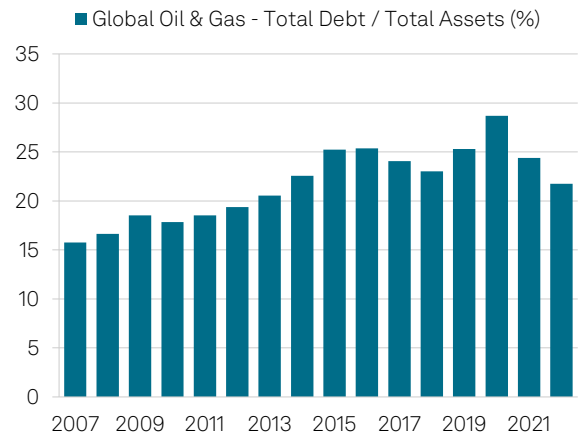


Chart 16
Total debt / Total assets



Source: S&P Capital IQ, S&P Global Ratings calculations. Most recent (2022) figures use the last 12 months' data.

Real Estate

Tide has turned amid higher rates and weaker growth

January 23, 2023

This report does not constitute a rating action



What's changed?

The negative rating bias is growing. 18% of ratings in Europe are on negative outlook, compared to 10%-12% of ratings in the U.S., Asia-Pacific, and Latin America.

Higher cost of debt will hamper growth. Wider bond yields and tighter credit market conditions will curtail acquisition and development plans.

Growing valuation pressure could increase refinancing risk. As financing conditions worsen and earnings outlooks weaken, we expect cap rates to widen and valuations to decline.

What are the key assumptions for 2023?

Slowing revenue growth. We expect lower rent growth and occupancy due to weaker job growth and consumer spending, and office assets will face further pressure from remote working.

More cautious approach to growth. We expect a pull-back in acquisition and development as issuers reset yield expectations due to higher cost of capital.

Increased borrowing costs will pressure credit metrics. Refinancing of debt at higher rates will pressure interest coverage and debt to capital metrics.

What are the key risks around the baseline?

Persistent inflation could extend downturn. Persistently high inflation could lead to elevated rates for a longer period, further curtailing demand for real estate amid a prolonged recession.

Office demand is still evolving. We expect remote working to pressure demand on top of lower cyclical demand.

Tighter access to funding could increase refinancing risk. Property valuations could be pressured across asset classes if rates remain elevated, increasing refinancing risk.

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Ratings Trends: Real Estate

Chart 1
Ratings distribution

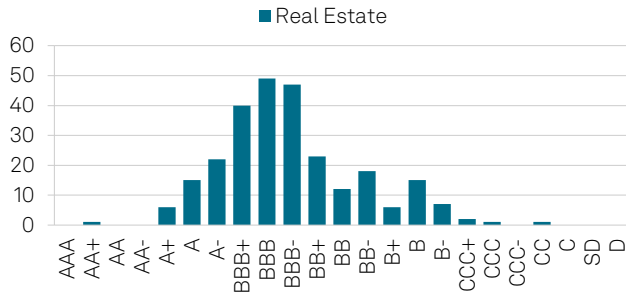


Chart 2
Ratings distribution by region

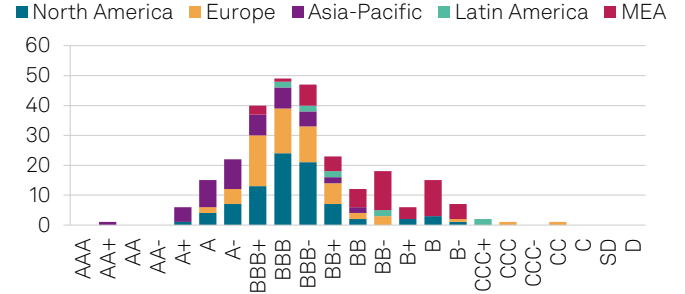


Chart 3
Ratings outlooks

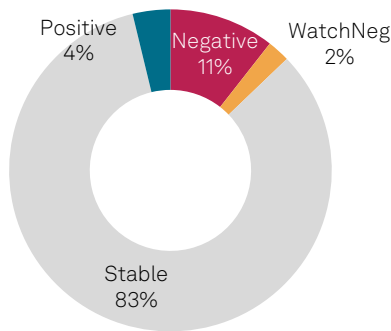


Chart 4
Ratings outlooks by region

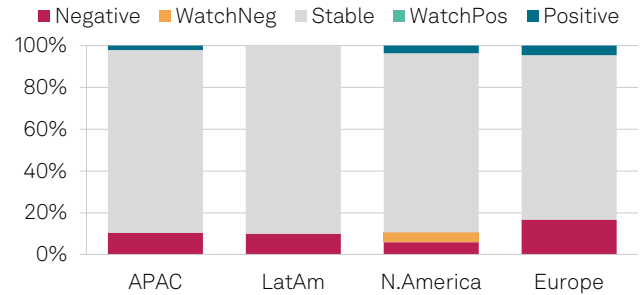


Chart 5
Ratings outlook net bias

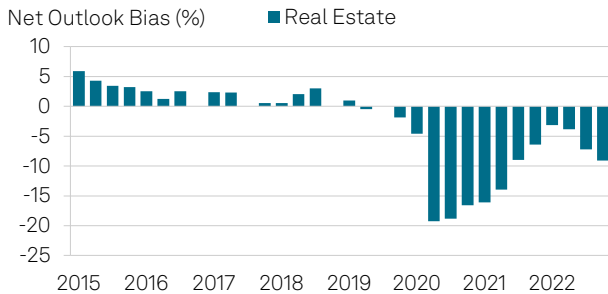
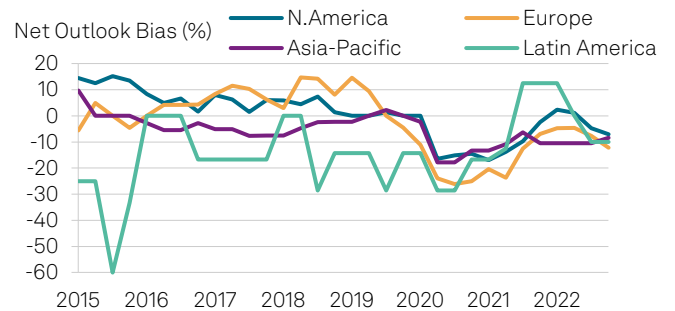


Chart 6
Ratings net outlook bias by region



Source: S&P Global Ratings. Ratings data measured at quarter-end.

Industry Outlook: U.S. REITs

Ratings trends and outlook

The tide has turned for the real estate sector after a prolonged period of low interest rates. The sharp increases in rates along with a looming recession in the U.S. will likely pressure the credit quality of real estate issuers in 2023. We expect conditions for North American real estate companies to become increasingly challenging over the next year, but there is potential for the landscape to improve in the second half of 2023 if the interest rate environment stabilizes and inflationary pressures continue to wane. We expect a growing negative rating bias for the sector given our expectations for slowing growth and higher funding costs. Currently about 11% of ratings have negative outlooks or are on CreditWatch with negative implications, while only 4% have positive outlooks. The downgrade to upgrade ratio worsened in recent months with 5 upgrades to 4 downgrades in 2022, and we expect the negative rating trend to continue in 2023.

We are closely monitoring office REITs and expect them to remain under pressure given their higher debt leverage relative to other REIT subsectors. In addition, we expect muted growth for this property type amid declining demand due to the shift toward remote work and a weaker job outlook. While retail REITs have achieved a solid recovery, with most operating metrics returning to pre-COVID levels, retail landlords may face increased risk as they deal with weaker consumer spending and inflationary pressures. We expect rental housing and industrial REITs to remain resilient, despite decelerating growth in rental rates, given their lower debt leverage and more-favorable growth prospects relative to other property types.

Main assumptions about 2023 and beyond

1. Revenue growth will slow due to expected recession

We expect revenue growth to decelerate in 2023 with lower rental growth and pressure on occupancy levels. We expect same-property net operating income (NOI) growth to decelerate across most property types, and believe the office subindustry will likely underperform as the shift to remote work dampens demand.

2. Higher cost of capital will limit acquisition and development activity

We expect most rated issuers to take a cautious approach to development and acquisition activity in 2023 given the higher cost of funding, with many re-underwriting projects and resetting yield expectations.

3. Higher borrowing costs will pressure credit metrics

We expect interest coverage ratios to weaken because maturing debt will need to be refinanced at much higher rates. Issuers with higher exposure to variable-rate debt or sizable debt maturities could find refinancing options somewhat limited in light of declining asset values and ongoing volatility in the capital markets.

S&P Global economists expect the U.S. economy will enter a shallow recession in the first half of 2023, leading to a mild contraction (-0.1%) in U.S. GDP for the year. We project the unemployment rate will peak at 5.6% in the fourth quarter of 2023, then slowly decline below 5.0% in 2025. We forecast interest rates remain elevated because the U.S. Federal Reserve (the Fed) will likely keep monetary policy tight until inflation begins to moderate in late 2023. We also expect the federal funds rate will peak at 5.00%-5.25% by the second quarter of 2023 before the Fed implements modest rate cuts in late 2023.

Weakening consumer spending and higher unemployment will likely pressure occupancy levels and rental rates across most property types in the next year. Still, we expect the fundamentals for rental housing and industrial assets to remain more resilient despite a moderation in revenue growth, supported by favorable demand trends. We expect the office sector to remain under pressure as the weakening job picture, as well as lower demand due to the adoption of remote working, slows leasing activity. Still, we expect that the flight to quality, because tenants prefer high-quality office space with rich amenities, will support better demand for class A assets (the asset quality typically held by rated REITs). We expect retail landlords to face increasing, yet manageable, risks given the more challenging operating environment for their retail tenants as consumer spending slows (S&P forecasts 0.80% growth in 2023 compared to 2.75% in 2022) and tenant bankruptcies increase. Logistics, labor, and supplier cost inflation continues to pressure lower-rated retailers.

Real estate is capital-intensive and the sudden sharp increase in interest rates will likely dampen external growth as the much higher cost of funding leads to the re-underwriting of development projects and a pause in activity on projects that no longer meet desired yields. We expect a general pull back in acquisition and development activity given challenging capital market conditions, at least until the interest rate environment stabilizes later in 2023. Bond yields have widened significantly, with the debt of 'BBB'-rated corporate issuers trading at over 7% in December 2022 compared to below 3% in January 2022. Capital offerings also declined significantly in 2022, with the debt issuance of public REITs down about 65% compared to 2021, while common equity issuance declined by about 50% in 2022. Accessing the equity market also remains difficult because the REIT sector (in aggregate) continues to trade at a significant discount to net asset value (NAV). Publicly listed U.S. equity REITs traded at a median of a 21% discount to their consensus S&P Capital IQ NAV per-share estimates as of Dec. 30, 2022, with the office sector trading with the widest discount to NAV at 48%, and health care REITs trading with the narrowest discount to NAV at 1.2%. Given their significantly higher cost of capital, most REITs are largely choosing to sit on the sidelines.

Credit metrics and financial policy

We expect credit metrics to weaken moderately in 2023 given the impact of higher rates and lower earnings. Issuers more exposed to floating-rate debt or near-term maturities will face higher borrowing costs, thereby impairing their debt coverage ratios. Given the tighter access to credit, we see increasing refinancing risk, particularly for lower-rated issuers. Rated REITs benefit from largely unencumbered balance sheets, and issuers have the flexibility to resort to alternatives to the unsecured bond market, such as term loans or private or secured debt (including commercial mortgage-backed securities), to refinance maturing debt and manage their borrowing costs. Increased use of secured debt could put unsecured debtholders at a relative disadvantage. Additionally, issuers rated in the speculative-grade category could face recovery ratings pressure.

Most rated REITs have proactively refinanced higher-coupon debt with lower-coupon issues over the past few years and built a good cushion in their debt coverage metrics, limiting downside risk. We believe most rated U.S. REITs can absorb these interest rate increases, given that they hold a limited amount of floating-rate debt and have well-staggered maturities. There are only a few issuers whose proportion of variable-rate debt exceeds 25% of their total debt.

Exposure to a sizable development pipeline could also pressure issuers' cash flow given the potential for slower lease-ups, which would delay the cash flow contributions from these new assets. Given recent capital markets volatility, the transaction market for real estate assets remains muted and planned asset sales could take longer to execute, delaying the receipt of

proceeds earmarked for debt reduction. Still, real estate issuers benefit from long-term leases that provide good cash flow, thus any deterioration will likely be modest and gradual.

While credit metrics have largely recovered from COVID-19-related headwinds, we expect further improvement to be muted, and anticipate the credit metrics of more leveraged or weaker-positioned issuers will deteriorate given their slowing growth and weaker earnings.

We expect financial policies to remain largely unchanged, and for most rated issuers to pull back on development and acquisition activity in 2023. That said, issuers with stronger balance sheets and cost-of-capital advantages may more aggressively pursue opportunistic acquisitions given the reduced number of bidders. We expect share repurchases and dividends will stay at current levels.

Key risks or opportunities around the baseline

1. A prolonged recession could further weaken performance

Persistently high inflation could lead to higher rates for longer, curtailing demand for real estate in a prolonged recession, with office and retail assets facing higher risks.

2. Elevated interest rates could drive steeper valuation declines

We expect property valuations could face greater pressure across asset classes if rates remain elevated, increasing refinancing risk.

3. Housing cooldown supports rental demand

Worsening affordability exacerbated by steep mortgage rate increases could further support the demand for rental housing despite a looming recession.

The economic landscape remains uncertain and the timing and pace of further rate increases is unclear. While our economists forecast a shallow recession in 2023, a possible downside scenario could involve inflation remaining elevated on continued supply chain disruptions and the Fed maintaining an aggressive rate stance. Our current base-case estimate for the federal funds rate is that it peaks at 5.00%-5.25% by the second quarter of 2023. If high inflation persists, the Fed may need to raise rates higher than we expect and maintain them for longer than anticipated. A steeper recession with higher unemployment will pressure rental growth and occupancy levels, with retail and office assets more severely affected by weaker consumer spending and slower job growth. Office real estate experienced the steepest decline in rents during the Great Recession and took longer to recover than other industry sectors. In this high interest rate environment, access to capital will remain constrained and external growth will likely slow further.

Steep rate increases could drive a more significant drop in asset values. We expect capitalization rates to widen more for assets with weaker growth prospects, such as retail and office. In this scenario, issuers with near-term debt maturities will face increasing refinancing challenges.

Home ownership in the U.S. has become more expensive. According to S&P Global economists, housing affordability is the weakest it's been since 2006 because rising borrowing costs have limited home affordability, while elevated inflation has lessened household savings. We expect the fundamentals for rental housing to remain solid over the next one to two years. We also anticipate that REITs who own portfolios concentrated in markets featuring the most unaffordable housing are well positioned to benefit from these dynamics. We expect housing landlords will likely be able to increase rents (albeit to a lesser degree than in the past 18 months) for at least the next several quarters as renting continues to be a more affordable option for most Americans.

Industry Outlook: European REITs

Ratings trends and outlook

European REITs will continue to confront rising funding costs and valuation headwinds in 2023, particularly for low-yielding assets and leveraged capital structures, because interest rates will likely continue to rise, leading to tightening EBITDA-to-interest and growing debt-to-debt and equity ratios. While inflation will likely progressively ease in 2023, we expect rent indexation, which will be mostly based on the 2022 inflation rate, will support rising revenue and declining debt-to-EBITDA ratios this year. However, tenants' capacity to afford higher rents on new leases may be undermined by weaker economic sentiment and purchasing power, particularly in the retail and residential segments. We think that the U.K. market, in particular, could be more vulnerable because of its weaker economic prospects, higher rates, and slower return to office. Nordic REITs will also likely face more headwinds relative to mainland European REITs given their weaker balance sheets (namely higher leverage, elevated exposure to floating-rate debt, and shorter debt maturity profiles).

European real estate companies, particularly in the Nordic countries, have issued significant levels of subordinated hybrid capital instruments in recent years. Many companies will need to make refinancing decisions in 2023 because numerous first call options will fall this year amid less-supportive financial markets. Real estate companies' ability to issue new hybrid capital instruments was already affected by market volatility throughout 2022, making the replacement of existing hybrid instruments more expensive or more difficult than some may have anticipated. We understand that this situation is exacerbating existing concerns among debt investors.

We expect most issuers will take actions to address these challenges and comply with their long-term loan-to-value (LTV) and interest coverage ratio targets, including by making disposals, cutting their dividend and/or capital expenditure (capex), and possibly undertaking equity raises. Still, we have negative outlooks on 18% of the REITs that we rate, which follows the 13 downgrades we undertook in 2022 (out of 68 companies; 19% of the rated portfolio), highlighting the risk for further downgrades in the next 12-24 months.

Main assumptions about 2023 and beyond

1. Rising interest rates will increase cost of refinancing

European REITs will likely continue to refinance their upcoming debt maturities through a mix of cash, private debt, and public debt, the latter of which still appears to be the least attractive from a pricing perspective.

2. Valuations will likely decline sharply and affect most property segments

We currently assume valuations decline by 10%, on average, from their peak in June 2022 to the end of 2023 or mid-2024. We believe office (particularly non-prime), logistics, and other low-yielding assets could fare worse than other subsectors because their yields have contracted the most in recent years and might move closer to risk-free rates.

3. Rents will likely increase, albeit at a slower pace as economic conditions weaken

We assume revenue rises by the low- to mid-single digit percent area on a like-for-like basis. This assumes that weaker economic prospects in 2023 hamper rental uplift and soften indexation effects. We think retail and non-prime office assets could see the most limited uplift in their rental renewals.

We expect European central banks to continue hiking interest rates in 2023, implying that new refinancing, either from banks or capital market, will remain significantly more expensive than in 2010-2020. Because most European REITs enjoy long debt maturity profiles and have low exposure to variable-rate debt, we think the impact on their cost of funding will be gradual.

Property appraisers will likely apply significantly higher cap rates to their upcoming property valuations as interest rates rise sharply. Appraisals are generally performed and adjusted to REIT's reported fair value annually (with some partially updated on a semiannual or quarterly basis). Revenue growth expectations, boosted by inflation-linked rent indexation, may soften the impact, though likely not enough to fully offset the effect of the material cap rate increase. Therefore, we assume valuations decline for most property segments.

Rental income will likely continue to increase, supported by the limited supply of new builds and inflation-linked rent indexation, which often effects rents with a time-lag. However, tenants' capacity to afford higher rents may be undermined by weakening consumer confidence, lower employment, and higher energy bills, particularly in the residential and retail segments. In the office segment, lower job creation or job cuts, combined with still-low utilization, could also erode corporations' willingness to pay higher rents and impact landlords' occupancy rates. Vacancy rates have remained resilient but may creep up over 2023-2024 if the economic situation deteriorates.

Credit metrics and financial policy

EBITDA-to-interest and debt-to-debt and equity ratios will remain pressured because of the rising cost of debt and valuation declines. In the next two years, we expect EBITDA to interest will decline by about 0.50x-0.75x and debt to debt and equity will increase by 1-3 percentage points, absent deleveraging measures. Most companies use these two ratios to indicate their long-term financial policies, therefore we expect them to take the necessary actions to remain within their stated guidance.

Debt to EBITDA, one of our core ratios, will likely improve by 1.0x-1.5x by 2024, on average, because we expect most companies to cut their investment and expand their EBITDA on a like-for-like basis.

Free operating cash flow generation will likely become more positive, especially in 2024, as material capex cuts likely exceed the additional interest burden. Issuers are aiming to be net sellers and use the proceeds for deleveraging, although disposing assets could prove challenging in the current volatile environment.

Key risks or opportunities around the baseline

1. Limited access to funding is a key concern

As the bond market remains volatile, REITs can use alternative sources to cover debt maturities and build up liquidity cushions, such as bank lending, private placements, and asset disposals. Therefore, refinancing risks for 2023 are remote. However, debt maturities will remain elevated in 2024-2025 and could cause issuers to start selling assets at distressed levels in case of more-restrained access to funding. Investors will also likely discriminate further between REITs based, for instance, on their own views about governance or the long-term quality of the underlying real estate assets.

2. Higher rates or a harsher-than-expected economic recession

Higher interest rate hikes or weaker-than-expected economic prospects would likely lead to more pressure on asset valuations and revenue.

3. Rates stabilization could revive investments and stabilize valuations

More clarity on terminal rates by central banks would likely help buyers and sellers agree on a price. A revival of transactions would also stabilize private valuation assumptions.

Bond market conditions strongly deteriorated in 2022, particularly for capital-intensive REITs, pushing them to refinance debt maturities with either existing cash or alternative funding, such as mortgage-secured loans. Bond issuances by S&P Global Ratings-rated European REITs fell to €16 billion in 2022, from €45 billion in 2021 and €30 billion in 2020. While investment-grade REITs exhibit sufficient liquidity to tackle their 2023 (and most of 2024) debt maturities, we think more restrained access to funding (from banks, for example) could further raise the refinancing risk for 2024-2025 maturities (which is already elevated for the sector). We believe REITs with ESG credentials and a pipeline of eligible assets will likely be better positioned to obtain new funding.

We believe a weaker economic environment could affect tenant demand for real estate.

Shrinking corporate sentiment and job destruction could lead corporates to cut office space beyond what is necessitated for remote working. Reduced purchasing power would also likely impact retailers' sales and households' disposable income, ultimately reducing their capacity to pay higher rents.

Rapidly increased borrowing costs affected investment prices and volumes in the second half of 2022, especially in the residential and office segments, despite a very strong start to the year. We understand most market participants expect a repricing, which remains uncertain absent clarity around the final extent of rate increases. Therefore, we think a stabilization in rates could unlock investments and ultimately help appraisers provide more accurate valuations.

Industry Outlook: Asia-Pacific REITs

Ratings trends and outlook

The improvement in Asia-Pacific REITs' credit metrics likely peaked in 2022 (for most countries) and we expect their metrics will stabilize in 2023. Higher interest rates and operating costs will likely erode ongoing rental income improvements. The negative rating bias was relatively stable through 2022 but eased late last year to about 10%. Rated REITs' portfolios of high-quality assets and prudent financial management will continue to support their relatively stable credit quality. Most REITs and landlords will feel the impact of a full year of interest rate hikes in 2023. However, their limited amount of floating-rate debt and modest upcoming debt maturities will reduce the strain. We also expect REITs to take a more measured approach to acquisitions and speculative development activities considering higher financing costs and economic headwinds.

Main assumptions about 2023 and beyond

1. Hong Kong and Japan office landlords face downward rental pressure

Significant new office supply in Hong Kong and Japan will depress rents and occupancy rates. We expect Hong Kong's overall office vacancy rate to remain above 10%, which is materially higher than 4.5% during 2015-2019. Similarly, we expect Japan's new office supply will surge by over 100% in 2023 relative to 2021, widening the vacancy rate to 7.0%-7.5% as of the end of 2023 from 6.0%-6.5% as of the end of 2022.

2. Retail malls focusing on consumer non-discretionary stores will see stable occupancy and rental rates

Retail malls with a high proportion of non-discretionary stores that serve as points of convenience for local consumers will maintain stable occupancy rates and a mild positive rental reversion. Downtown malls will likely benefit from the surge in tourist arrivals, but discretionary spending could decline due to inflation and higher interest rates.

3. Covenant headroom remains sufficient and acquisition pace slows amid rising interest rates

The pace of the expansion in the cap rate for rated REITs and landlords has been gradual. This is due to their ownership of high-quality assets and the limited sales transaction volumes to guide their property valuations. The covenant headroom of most rated REITs will provide them with a buffer against lower asset valuations. Higher financing costs and economic headwinds will also likely slow acquisition and development activities for REITs and landlords.

Credit metrics and financial policy

Pacific: We expect the credit metrics of our rated REITs to remain resilient in 2023, supported by strong market positions and tenant demand for quality assets. The transition toward a post-COVID normal began in earnest during 2022 as government progressively eased lockdown restrictions. Although this led to an uptick in trading performance, the improvement was stymied by the quick succession of interest rate hikes.

The credit metrics of our rated retail REITs will depend on the composition of their asset portfolio and their susceptibility to declines in discretionary retail sales. Despite the strong performances

Industry Top Trends 2023: Real Estate

of both discretionary and non-discretionary retail sales and rising foot traffic in 2022, we expect interest rate hikes and inflationary pressures will have a more severe effect on consumer spending in 2023. Retail shopping centers underpinned by non-discretionary stores and regional malls that serve as points of convenience for local consumers will likely continue to perform even if household savings and discretionary income levels decline.

We expect the credit metrics of our rated office REITs to remain moderate relative to the demands of their development pipelines. Office physical occupancy levels are improving, although they remain below pre-pandemic levels. With hybrid and flexible working arrangements here to stay, we expect an overall decline in office space requirements. However, the impact on our rated REITs will likely be relatively muted as new and existing tenants seek out prime office space offered by rated REITs with quality assets. Rental income growth will continue to be supported by inflationary pressure on prime-grade net face rents, although this will be partially offset by persistently high incentives.

We expect our rated industrial landlords to maintain adequate headroom in their credit metrics. The demand for industrial properties remains elevated, supported by the ongoing expansion of e-commerce retailers and distributors and the localization of supply chains. Rising interest rates will likely soften industrial capitalization rates, while also limiting supply as speculative development moderates.

Hong Kong: We expect our rated REITs will maintain their credit profiles despite softening economic conditions and higher interest rates, supported by their prudent financial management. Retail properties will remain broadly stable and likely benefit from the reopening of the city's borders. Those with high exposure to non-discretionary retail will face limited rental pressure over the next 12 months, supported by domestic consumption. Office landlords will face downward pressure on rents in 2023 amid economic headwinds and substantial new supply, while vacancy rates remain high. New grade-A office supply is set to reach more than five million square feet (sq.-ft.) over 2022-2023, which compares with about one million sq.-ft. over 2020-2021.

For Hong Kong landlords, while we expect the office segment to face constraints over the next 12 months, retail may provide some upside following the reopening of the border. Moreover, landlords with rental portfolios exposed to other countries could offer some cushion to the downcycle in Hong Kong. However, if the economic downturn persists, it could undermine the credit strength of Hong Kong property companies.

Overall, we believe Hong Kong landlords are better positioned for a downcycle than their mainland peers. This is due to their stronger credit metrics and better access to funding.

China: For landlords in China, the lingering effects of COVID-19 and the related economic slowdown could weigh on their near-term operational performance. We expect retail rent and occupancy to mildly improve in the second half of 2023, which will support the credit metrics of retail REITs. This is due, in part, to the relaxation of COVID-related travel restrictions, though domestic consumption remains the key driver. We expect office rents to be soft and negatively affected by high vacancy. We do not expect Chinese REITs to increase their capex and instead believe they will adopt more of a wait-and-see strategy.

Japan: We expect the credit metrics of rated REITs will remain stable in 2023, thanks to their high-quality assets and prudent financial management. Central Tokyo's office vacancy ratio will somewhat widen to 7.0%-7.5% as of the end of 2023, from 6.0%-6.5% as of the end of 2022, due to the spread of remote work and the massive supply of new offices. The supply of large-scale offices in Tokyo's 23 wards will surge by over 100% in 2023 compared with 2021. However, the performance of rated REITs will be resilient, supported by their high-quality and well-located

portfolios. As for the retail property segment, store sales will mostly recover to pre-pandemic levels, while hotels will see a gradual recovery in 2023. Condominium sales will remain resilient as solid demand continues to outstrip limited supply. Landlords will likely continue selectively investing in new properties with both debt and equity (or funds from asset divestments). In addition, the strong interest-coverage ratios, long average debt durations, diverse maturity profiles, and high fixed-rate debt of rated issuers will provide them with ample room to absorb some increase in interest rates.

Singapore: We expect the credit metrics of rated Singaporean REITs (SREITs) will remain steady in 2023. This is underpinned by their high-quality asset bases and prudent financial management. We expect more upside in the rebound for downtown retail assets, which suffered the greatest declines through the pandemic. Rated office landlords, who mainly hold high-quality assets, continue to benefit from the flight to quality. Amid the tougher funding environment, we believe rated SREITs have sufficient headroom to tolerate rising rates. This is supported by their relatively high proportion of fixed-rate debt—between 70% and 80% as of September 2022. Rising interest rates, culminating in a higher cost of capital, could cause rated SREITs to become more judicious in pursuing acquisitions.

Key risks or opportunities around the baseline

1. Office demand is still evolving

Remote and hybrid working trends have persisted, giving companies more flexibility on their leasing footprint upon lease expiry. This continues to create uncertainty around leasing demand. The flight to quality will continue to see tenants leaving older office buildings in favor of newer and more-sustainable buildings. Tougher economic conditions in 2023 and the large volume of office supply in countries like Hong Kong and Japan tilt risks toward the downside for office landlords.

2. The lifting of China's COVID restrictions could boost tourism and regional retail spending

The easing of COVID restrictions in China and opening of cross border travel could see higher mobility domestically and the resumption of travel to key gateway cities in Asia-Pacific. This would support stronger retail spending and hotel demand. On the other hand, significantly larger or longer-than-expected waves of COVID-19 infection could lead to voluntary social distancing and more stringent tourist arrival requirements.

3. Interest rates rise higher for longer

This could lead to further cap rate expansion, declining asset valuations, and an erosion in covenant headroom. REITs will also face higher refinancing costs. S&P Global Ratings' downside scenario assumes the Fed raises rates to least 6% by mid-2023, which compares with 5% in our baseline, and we believe rates could remain higher for longer.

Pacific: The key risks to the rated landlords across all sectors are the macroeconomic impacts of rising interest rates (recent and future) on consumers and businesses. The impact of interest rate hikes and inflationary pressures on household disposable income will influence retail sales and shopping center foot traffic. Businesses with maturing leases will decide if the current economic environment supports ongoing commercial viability and further lease renewals. Structural changes to e-commerce and the importance of supply chain timing and certainty will likely support the demand for storage and distribution facilities. Customer expectations around order fulfillment and delivery timing will drive the demand for strategically located urban infill locations to manage inventory levels and order fulfillment. Widespread hybrid and remote

Industry Top Trends 2023: Real Estate

working will likely lead to an overall reduction in office space requirements as businesses determine longer-term floorplate utilization patterns. We expect existing and new tenants will look for newer office space with improved facilities, instead of maintaining larger existing floorplates with lesser facilities, to attract employees back into the office.

Hong Kong: Hong Kong is on track for more COVID-related relaxations after it dropped the mandatory quarantine requirement for inbound travelers at the start of October 2022 and reopened its borders with China on Jan. 8, 2023. Retail landlords could benefit from greater demand for rentals, while the faster-than-expected uptick in tourism will boost retail sales and business confidence.

More persistent office decentralization could further narrow the difference in spot rents between central and other districts, pressuring the rent and occupancy levels of rated entities that are highly exposed to central Hong Kong. High-quality office premises located outside central Hong Kong will continue to attract tenants due to their more-attractive rents.

China: In the face of spiking new COVID cases and strained hospital capacity, reduced consumer mobility and retail mall footfall will weaken rental demand through the first quarter of 2023. We expect landlords' rent and occupancy will mildly improve in the second half of 2023. On the other hand, a significantly higher-than-expected level of COVID infections could prolong the negative impact on consumer spending and the economic recovery.

Japan: In our view, the key risk for Japan is a larger-than-expected domestic interest rate hike due to changes in the Bank of Japan's policy rate, which would undermine rated REITs' portfolio asset values and financial flexibility. In addition, risks are skewed to the downside due to increased office supply, which has created an imbalance in leasing supply and demand, as well as the possibility that remote working levels will remain elevated.

Singapore: SREITS could face tougher leasing conditions in 2023, especially for older office buildings. This is due to the uncertain macroeconomic conditions and higher-than-historical average new office supply. This could slow spot rent growth this year. Grade-A office spot rents surged last year and recovered above pre-pandemic levels. On the retail front, inflationary pressures could dent consumer sentiment, particularly discretionary spending. This may limit retailers' capacity to stomach higher rental increases.

Industry Outlook: Latin America Real Estate

Ratings trends and outlook

As of January 2023, we have stable outlooks on 90% of our rated Latin America (LatAm) real estate portfolio, with negative outlooks on the remaining 10%. This indicates our expectation for rating stability in the next 12-18 months, with a mild potential for negative rating actions. In our view, most of our rated LatAm real estate entities will maintain resilient credit metrics in 2023, despite our expectation for a shallow recession in the U.S. and in other large economies. Industrial portfolios will likely continue to perform well because we believe the current nearshoring and e-commerce trends in LatAm will continue despite our view that Mexico's manufacturing output will likely contract due to lower U.S. demand in 2023. We expect retail portfolios will enjoy a second year of restriction-free operations, which--coupled with some divestments and liability management carried out in the past year--will likely provide some buffer against an expected slowdown in consumption, particularly for discretionary products. Additionally, we estimate that office properties will continue to post a weak performance because these assets have suffered from the adoption of hybrid work models. Although vacancy rates have stabilized in key markets, we expect continued pressure through 2023 due to a worsening business environment, which may lead to further expense cuts (such as real estate leases). Nonetheless, the impact on our rated LatAm real estate portfolio will likely be mild because the office segment represents a small share of rated portfolios. Lastly, the political landscape in the region has worsened business conditions, in addition to recession risks and tight financing conditions, which may pose downside risks for the sector throughout 2023.

Main assumptions about 2023 and beyond

1. The performance of industrial assets will remain resilient

Global supply chain disruptions have increased the pressure on companies to shorten and strengthen their supply chains, while the demand for e-commerce continues to grow. Therefore, the demand for premium industrial assets in LatAm has increased since 2022. We expect these tailwinds will partly offset a mild recession in the world's largest economies and anticipate a significant economic slowdown in LatAm.

2. Office properties have stabilized but are vulnerable to worsening business conditions

Operating indicators seem to have stabilized. Nonetheless, a deteriorating economic environment in 2023 may further pressure landlords, who are already contending with higher vacancy rates, lower rents, and reduced valuations since the outbreak of the pandemic.

3. Recovery in retail properties is underway but may slow due to persistent high inflation

We assume retail assets will continue to recover absent major lockdowns or curfew measures. However, we estimate persistent high inflation in 2023 will undermine discretionary spending, which will negatively affect some retail tenants, tempering their occupancy rates and lease spreads.

We expect LatAm's real estate sector will have a broadly stable performance in 2023, though slightly skewed to the downside depending on property type, location, debt leverage, and available liquidity. In our view, the anticipated recession in the U.S., along with persistent high inflation, may impact some of these companies' tenants, which could ultimately reduce their occupancy rates and rents. However, we consider the rated entities to be relatively well

positioned to weather another challenging year. On average, we expect a rise in revenue and EBITDA of near 5%-10% for these entities with limited funding needs, which will be reflected in decreasing leverage metrics and stable coverage ratios despite higher financing costs. In most cases, our rated entities maintain well-extended debt maturity profiles, which alleviate their risk from tight financing conditions. Moreover, there are some planned asset recyclings and divestments for this year, though worsening business conditions could delay some of these plans.

Our rated industrial players are concentrated in northern Mexico, where they enjoy tailwinds from the shift to nearshoring and benefit from a wider range of tenants, such as manufacturers of auto parts, health devices, electronics, logistics, and e-commerce tenants. We expect stable occupancy rates on a country-wide basis, which have been close to 95%, indicating already tight supply and positive lease spreads above inflation growth. We currently estimate a shallow U.S. recession, which will slightly decrease the demand for manufactured goods from Mexico and affect some industrial tenants. Nonetheless, most of these entities are multinational companies with sound credit profiles and long-term investment horizons. On the other hand, our rated Brazilian players with industrial assets are largely geared toward e-commerce and logistics, rather than manufacturing facilities. Due to the increasing adoption of e-commerce by Brazilian consumers and retailers, we expect these entities to post double-digit percent increases in their revenue, fueled by developments that are already underway and some which will be finalized in 2023 and are already pre-leased.

We estimate a relatively stable performance in retail portfolios for 2023. Last year, the recovery in retail real estate continued to progress, benefitting from a surge in consumption from the reopening of malls and pent-up demand where retailers were able to increase their selling prices to pass-through higher costs and operating expenditure. Furthermore, occupancy rates continued to recover from the pandemic, although at an uneven rate depending on each asset's qualities. We expect that softer economic growth and still high inflation levels in 2023 will lead to continued elevated interest rates, undermining households' disposable income. In our view, this will likely pressure retail tenants' sales and, in turn, undermine landlords' variable rent collection. However, for our rated entities, a vast majority of their rental income comes from fixed rents, usually representing close to 90%. Although these lease agreements tend to be pegged to inflation, the decline in occupancy rates from greater e-commerce adoption has pressured asking rent; hence, flat or negative lease spreads for some properties is not off the table. Moreover, we expect occupancy rates to continue improving in 2023 in Mexico. Meanwhile, in Brazil, the vacancy rates of premium players have remained relatively low. In the next two to three years, we expect that e-commerce penetration in the region will continue increasing, reducing the need for traditional brick-and-mortar retailers. Therefore, real estate operators may need to adapt their properties to entertainment, leisure, and other services. We do not anticipate retail gross leasable area (GLA) will significantly increase in 2023; on the contrary, some rated entities have sold assets to repay debt and improve their profitability in the last year. We expect a few issuers will continue this strategy in 2023. However, persistent high inflation and interest rates may delay some transactions.

Although offices account for a smaller proportion of the portfolios of our rated real estate entities, we expect that these assets will continue to perform weakly in 2023 and not recover to pre-pandemic levels. In our view, a vast supply of offices in metropolitan areas, like Mexico City or Sao Paulo, and high vacancy rates above 20% will lead to stiff contention among landlords to attract tenants by lowering rents and refurbishing office spaces. In addition, worsening business conditions have prompted major corporations to cut their operating expenditure, such as lease agreements, which may continue throughout 2023 and further pressure office landlords.

Therefore, the value of these properties has been undermined and we expect that developers will proceed cautiously on greenfield projects, which will reduce the need for financing.

Credit metrics and financial policy

Our updated base-case scenario assumes most real estate operators will improve their leverage metrics by the end of 2023. In the case of industrial portfolios, we expect a mix of rental income and EBITDA growth, given strong operating indicators and an active pipeline, but not necessarily debt repayment. For retail and office portfolios, we also expect an improvement in rental income and EBITDA, in a few cases from asset sales and debt repayment. In most cases, we expect real estate operators to sustain their prudent financial policies, particularly regarding the use of debt, dividend payouts, or share buybacks, and to focus on maintaining healthy liquidity positions. Except for a small group of issuers, LatAm real estate operators are not exposed to significant refinancing risks in 2023, although there may be some refinancing of bank debt throughout the year. Specifically, we anticipate industrial asset operators will continue leveraging their prudent balance sheets to perform selective strategic land acquisitions, deploy capital, and recycle nonstrategic assets--when necessary--to capture the demand for larger spaces. On the other hand, we expect retail and office landlords to remain more cautious in terms of expansions because their portfolios haven't recovered from the pandemic and, in our view, are more vulnerable to the current business environment. On average, we expect rated LatAm real estate entities to maintain solid credit metrics for 2023, with debt to capital of 30%-35%, EBITDA interest coverage of about 3x, net debt to EBITDA in the 5.0x-6.0x range, and funds from operations (FFO) to debt of about 15%.

Key risks or opportunities around the baseline

1. Economic and political risks in LatAm may further weaken business conditions

A deeper and longer-lasting economic recession in the U.S. could impact several LatAm economies, negatively affecting tenants' financial performance and undermining real estate operators' credit quality beyond our current expectations. Additionally, political shifts in major LatAm economies may discourage investment in real estate.

2. Secular trends will continue to undermine retail and office portfolios

In our view, e-commerce still has room to grow in the region in the coming years. A faster pace of adoption could lead to a stiffer challenge for retail portfolios. While office portfolios have shown signs of recovery, with vacancy rates stabilizing, further corporate expenditure cuts and deteriorating investor sentiment may lower occupancy rates.

3. There is uncertainty surrounding the nearshoring trend

The surging demand for nearshoring could be more transitory than expected now that global supply chains seem to have normalized. Moreover, political shifts in the region may discourage foreign investment. On the contrary, geopolitical tensions may continue to increase companies' need to re-locate their operations closer to key markets.

The economic and political environment poses downside risks to our forecast for 2023. We currently estimate a 0.1% GDP contraction in the U.S. trickling down to LatAm economies, which slows the pace of GDP growth to between 0%-1% for Argentina, Brazil, Colombia, and Mexico, and leads to a 0.4% contraction in Chile. In our view, the Fed could continue to hike interest rates into mid-2023, damaging household purchasing power, until inflation yields. Nonetheless, there's a risk this won't reduce the pace of economic activity as expected, deepening or extending the

economic slowdown. Coupled with tight financing conditions, this could further reduce investment and consumption trends and undermine tenants across the three real estate subsegments we follow. For industrial portfolios, it could decrease foreign demand for goods manufactured in LatAm, slowing the need for nearshoring or affecting the terms and conditions for renewals. For retail assets, tenants' sales may stagnate because we expect a low single-digit percent rise in consumption in most LatAm economies, while high inflation in 2022 and 2023 will likely shift household demand away from discretionary goods and leisure. This scenario could discourage renewals and pressure lease spreads. In our view, the impact on rated retail portfolios will likely be mild and lead to more of a slowdown in the recovery to pre-pandemic levels, rather than a contraction. On the other hand, if corporates struggle with the economic slowdown and inflationary pressures on their costs and expenses, this will weigh on the demand for office space in 2023. However, the magnitude of the pressures is relatively unclear, given the already weakened level of demand since the outbreak of the coronavirus pandemic.

We anticipate that e-commerce adoption will increase in the region in the coming years, although at a slower pace than in 2020-2021. The region continues to represent an opportunity for further digitalization of e-commerce in several sectors, such as retail, which have pushed retailers to reevaluate their growth strategies, although we expect net store openings will likely remain positive. In the case of Mexico and Argentina, it is estimated that e-commerce represents close to 10%-12% of total retail. This is behind Brazil, which is estimated to be closer to the U.S. at 15%-20%. However, other economies' e-commerce penetration is below 10%. In our view, these levels suggest further expansion of e-commerce, reallocating capital to logistics and distribution and away from store openings. We expect retail landlords to increase their investment in mall refurbishments, rather than greenfield projects, to adapt to new demands from tenants and increase their spaces dedicated for services, such as entertainment and leisure. Additionally, occupancy growth will likely slow because we anticipate stagnant consumption in 2023, which will affect the return of small retailers that struggled the most during the pandemic and were forced to close stores. On the other hand, we consider the adoption of hybrid work models will gradually expand in most sectors in the coming years after surging amid the lockdowns during the pandemic. We estimate vacancy rates in key markets, such as Mexico City or Sao Paulo, of between 20%-25%, which about 10% higher than pre-pandemic levels. Although we expect a mild decline in occupancy rates in 2023 of about 0%-2%, there are some downside risks if corporates cut their expenditure more aggressively than we assume.

Our base case is that nearshoring demand will continue throughout 2023. Although this phenomenon has existed for a few decades in countries like Mexico, the current surge in this trend is largely due to the global supply chain disruptions experienced during the pandemic. We expect global supply chains will normalize in 2023, similar to what we saw in the second half of 2022, which will reduce the urgency of global manufacturers to re-shore next to key markets, like the U.S. This could slow the industrial real estate momentum in the region. Moreover, weaker demand from the U.S., suggested by the 0.1% GDP contraction in 2023, could somewhat impact industrial tenants, although we estimate the impact on landlords will be fairly contained. On the other hand, there's a risk that the local features of LatAm countries, such as the uncertainty in public policies, like energy policy, the rule of law and security, and countries' environmental strategies to deal with water scarcity, may start to weigh more on reallocation decisions depending on the tenants' intensity.

Industry Outlook: Other Regions

Gulf Cooperation Council

Retail: The broader GCC region's retail sector was supported by the Qatar World Cup held in November–December 2022 that reportedly attracted 1.4 million sports fans, with positive ramifications spilling into neighboring countries, predominantly Dubai. The World Expo (in the first quarter of 2022) in Dubai led to increased spending from international visitors, while local residents also stepped up their spending amid relatively less-prohibitive inflationary pressures compared with many other regions. Occupancy levels in malls rebounded to close to pre-COVID level as footfall also approached historic levels. We think that the upside from such global events will be short lived, but the economic rebound, supportive oil prices in this hydrocarbon-reliant region, population growth, and increased tourism will support steady operations. However, considering the recent deliveries of malls, as well as the pipeline of new projects, we think that rental pressures will linger despite some recent improvement. Therefore, we expect mall operators will remain focused on cost control and reconsider future investments because funding costs have increased.

Offices: Office landlords have benefitted from the economic rebound in the region, which has supported the demand for higher-grade offices, reducing the vacancy rate and increasing rental rates particularly in Dubai and Riyadh, the two biggest business hubs in the region. New business license issuance is on the rise as the region become more attractive to foreign investors. Riyadh endeavors to emerge as a new business center and requires international companies to establish their regional headquarters in the city, thereby competing principally against Dubai. We believe Dubai will remain an attractive destination despite the introduction of a 9% corporate tax starting in June 2023. The broader trends related to coworking and remote work may gradually shift companies' preferences, but we do not expect this to disrupt the market in the near term.

Israel

Offices: Continued economic changes may affect the demand for office space. S&P Global Ratings' latest forecasts include slower but positive growth in Israel's economy in 2023, which will likely support the demand for office space. However, we expect pressure on rents and occupancies amid the trend toward downsizing among high-tech companies. We also expect the supply of new high-quality office space entering the market in the coming years may lead to negative pressure on rental rates and occupancy, especially in areas already suffering from excess supply.

Retail: Lower retailer profitability will pressure rents. Continued inflationary pressures due to supply chain disruptions, as well as slower growth and higher interest rates, are weighing on retailers' profitability. Retailers may find it difficult to pass on the full increase in their costs to consumers, which will further reduce their profitability and, consequently, pressure rents.

Continuously higher interest rate pressure could lead to growing risk of asset devaluations. However, higher rents due to consumer price inflation will act as a moderating factor. We note that in the first nine months of 2022, most income-producing real estate companies presented positive estimates, due to both indexation and a real increase in rents. At the same time, amid the uncertainty in the global economy, we see a higher risk of moderate single-digit percent asset devaluation in 2023, mainly for office properties.

Related Research

- [Nordic Real Estate Outlook 2023: Refinancing Cliffs And Valuation Falls Ahead](#), Dec. 12, 2022
- [Real Estate Monitor: Negative Rating Bias Grows In The U.S. Real Estate Sector](#), Sept. 19, 2022
- [SLIDES: When Rates Rise: Most Asia-Pacific REITs And Landlords Have Maneuvering Room](#), Sept. 18, 2022
- [Property In Transition: Slowing Economies And Shrinking Demand Pressure The Credit Outlook For Office Landlords](#), Sept. 12, 2022
- [When Rates Rise: European REITs' Funding Costs And Cap Rates Climb, So Does Revenue](#), June 16, 2022
- [Credit FAQ: World Cup Will Give An Additional Near-Term Boost To GCC](#), Nov. 7, 2022
- [Saudi Arabia's Vision 2030: Some Likely Winners](#), Dec. 5, 2022
- [Credit FAQ: How The Rising Cost Of Debt Will Affect AREITs](#), July 25, 2022

Industry Forecasts: Real Estate

Chart 7
Debt to capital (adjusted)

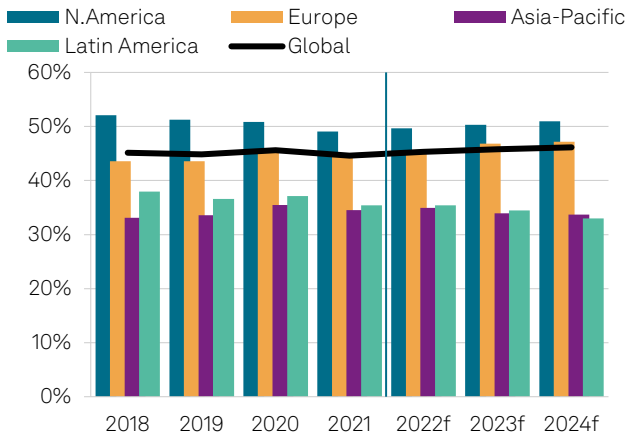


Chart 8
EBITDA interest coverage (adjusted)

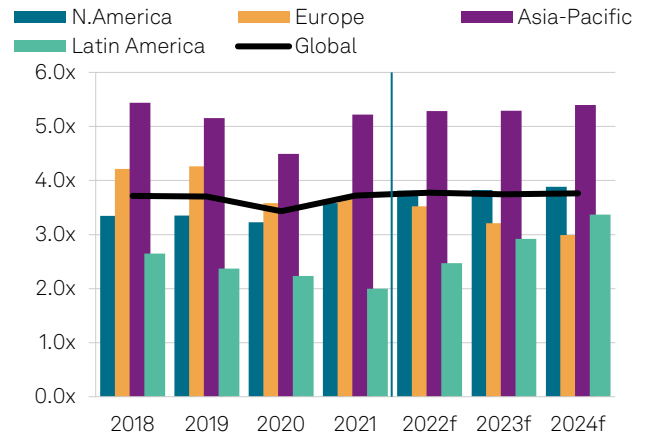


Chart 9
Debt / EBITDA (median, adjusted)

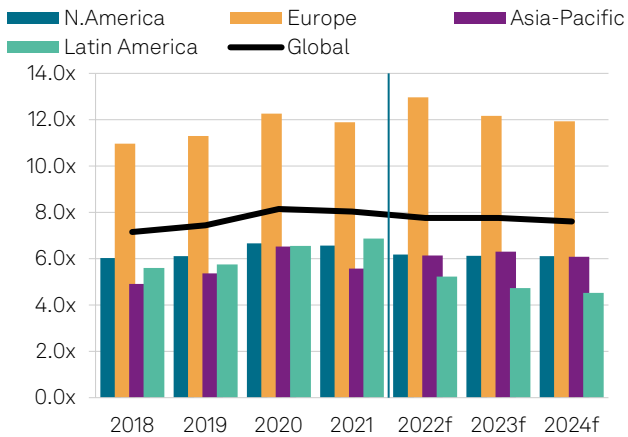
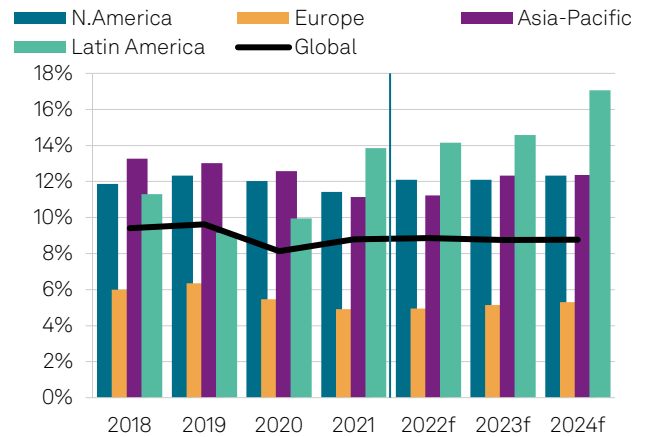


Chart 10
FFO / Debt (median, adjusted)



Source: S&P Global Ratings. f = Forecast.
All data converted into U.S. dollars using historic exchange rates. Forecasts are converted at the last financial year-end spot rate. FFO—Funds from operations.

Cash, Debt, And Returns: Real Estate

Chart 11
Rental revenue growth

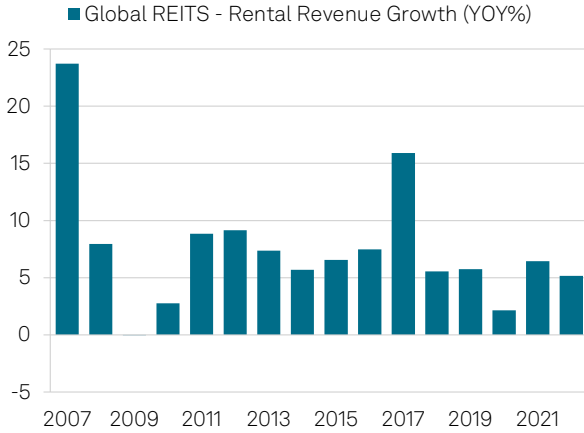


Chart 12
Return on capital employed

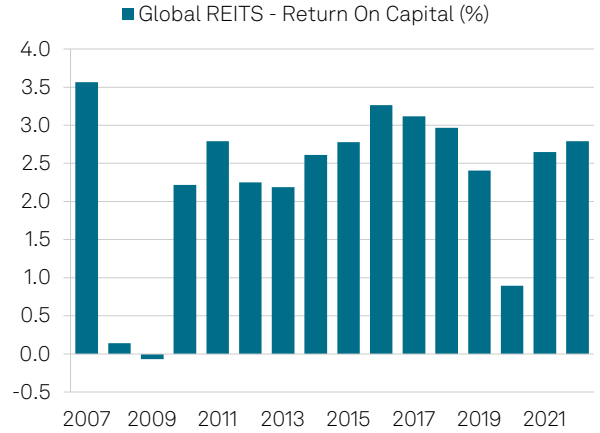


Chart 13
Fixed- versus variable-rate exposure

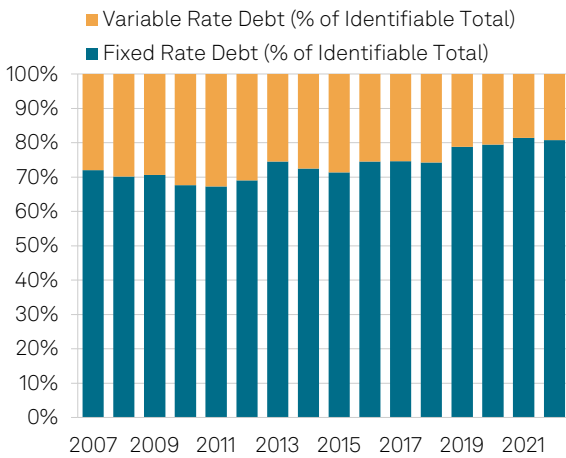


Chart 14
Long-term debt term structure

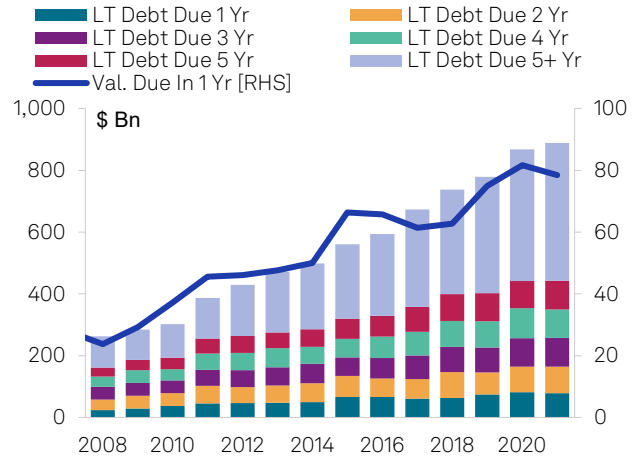


Chart 15
Cash and equivalents / Total assets

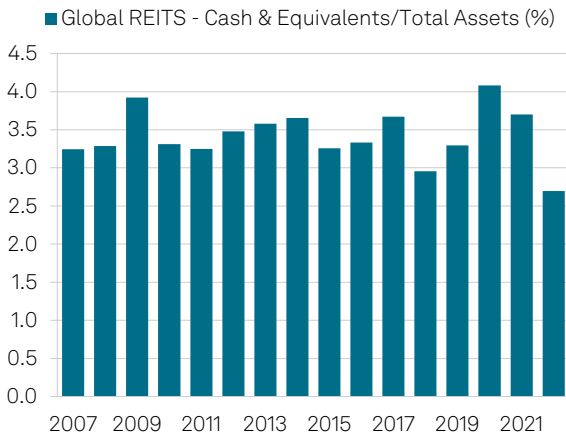
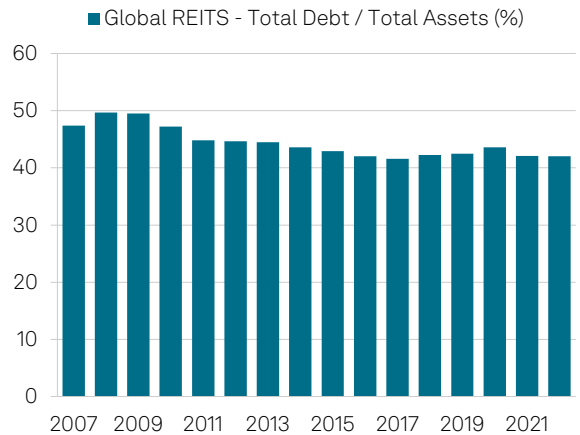


Chart 16
Total debt / Total assets



Source: S&P Capital IQ, S&P Global Ratings calculations. Most recent (2022) figures use the last 12 months' data.

Retail and Restaurants

Competition will gather pace as consumers cut spending

January 23, 2023

This report does not constitute a rating action



What's changed?

Consumer will spend less. Consumers' discretionary spending will be lower due to higher cost of essentials and the pivot to experiences.

Easing of supply chain constraints. Availability and range of products have improved.

Ability to raise prices will weaken. Pricing power will weaken in recessionary conditions and retailers will need to compete more aggressively on price.

What are the key assumptions for 2023?

Cost inflation will moderate in the second half. Cost pressures begin to alleviate from the second half, as suppliers curtail price increases in response to falling volumes.

Mixed picture on margins. Margins should gradually benefit from stabilization in costs and improved supply chain and logistics. The exception is labor costs, which is unlikely to ease.

Working capital will be a source of cash. Inventory reduction will continue to be a focus in 2023 and should be a modest source of cash.

What are the key risks around the baseline?

Consumers pull back significantly. Should consumers reduce spending more dramatically than expected, retailers would face an even more challenging operating environment.

Inflation remains elevated. Geopolitical events or supply chain challenges keep inflation high, putting more pressure on margins and increasing the likelihood of weaker demand.

Refinancing conditions remain tough. Underperforming retailers with weaker profitability and high debt levels, will struggle to raise debt on favorable terms.

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Ratings Trends: Retail and Restaurants

Chart 1
Ratings distribution

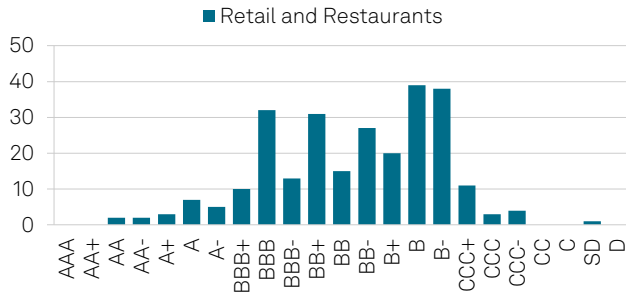


Chart 2
Ratings distribution by region

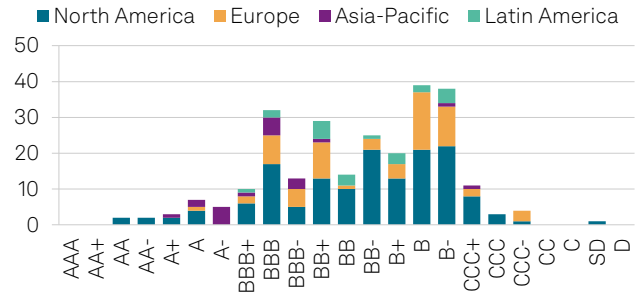


Chart 3
Ratings outlooks

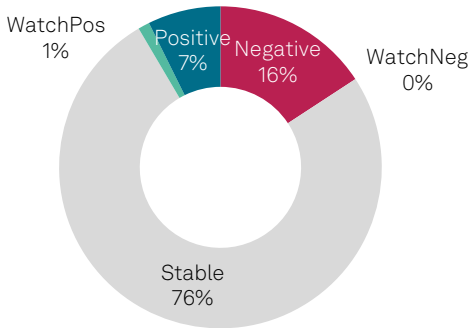


Chart 4
Ratings outlooks by region

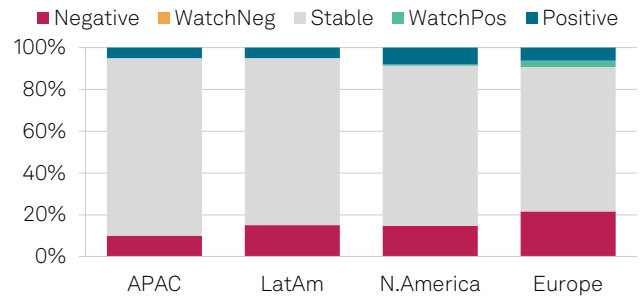


Chart 5
Ratings outlook net bias

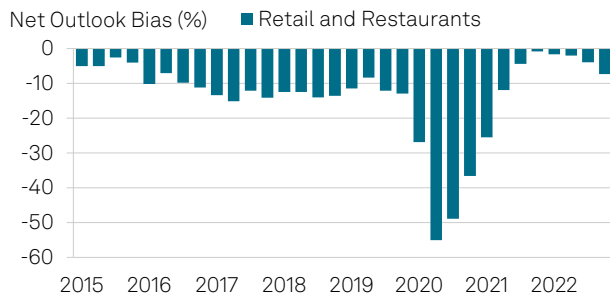
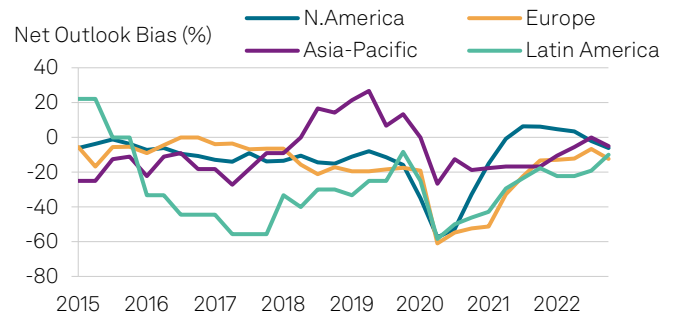


Chart 6
Ratings net outlook bias by region



Source: S&P Global Ratings. Ratings data measured at quarter-end.

Industry Outlook

Ratings trends and outlook

In the U.S. and Europe, we expect rating trends to continue their negative trajectory as a recession further weakens consumer demand while costs, although stabilizing, remain high. Despite resilience, the outlook for consumer spending is increasingly uncertain. Holiday shopping appears to have been tepid for most retailers. Excess savings is running out, there is greater use of credit, and sentiment is weak. Still, the strong labor market provides support as consumers who are confident of future earnings are more likely to spend.

On the cost side, except for labor, there has been a gradual decline, especially in freight and logistics. Stabilizing or even declining costs should support some margin recovery in the back half of the year after what we expect to be a very competitive and promotional first half. Retailers used relatively solid holiday demand to reduce some of the excess inventory. While year-end inventories remain high compared to previous years, we anticipate the orderly approach to inventory management to continue, providing a source of cash in 2023. We also expect capital spending to be disciplined while the outlook for the consumer remains uncertain.

Positive credit trends in early 2022 largely dissipated when the consumer finally responded to the decades-high Inflation. Large big-box retailers and supermarkets began to report a marked shift in buying patterns as more of household budgets were absorbed by food, fuel, and other essentials. Demand for discretionary products weakened and consumers began to trade down. Volumes for big-ticket discretionary items for the home also suffered the double-whammy of difficult comparisons relative to pandemic nesting and a suddenly circumspect consumer. Nevertheless, overall spending remained relatively robust through the year-end holiday and festive trading season, buoyed by declining but still high excess savings and the strong jobs market. Additionally, consumers were still expressing pent-up demand for in-person activities such as traveling, attending occasions, and dining out. Restaurants benefitted as did apparel retailers that cater to occasion-wear. Workers' return to office, albeit in a largely hybrid format, triggered a need to refresh work attire. Occasion and formal wear apparel came back in favor over casual wear.

We are expecting consumers to pull back on consumption as a result of higher cost of living pressures that have resulted in lower savings buffers. Retailers' margins will be squeezed as their ability to pass through higher input costs to protect margins has diminished. This is especially the case for discretionary retailers (see chart 7). An interesting dynamic to watch will be working capital management of issuers in 2023. Overstocked retailers are trying to wind down inventory levels after lifting merchandise levels in 2022 to protect against supply shortages. We expect elevated promotional activity during the first half of 2023 will help reduce inflated inventories, denting profitability, albeit bolstering cash flows.

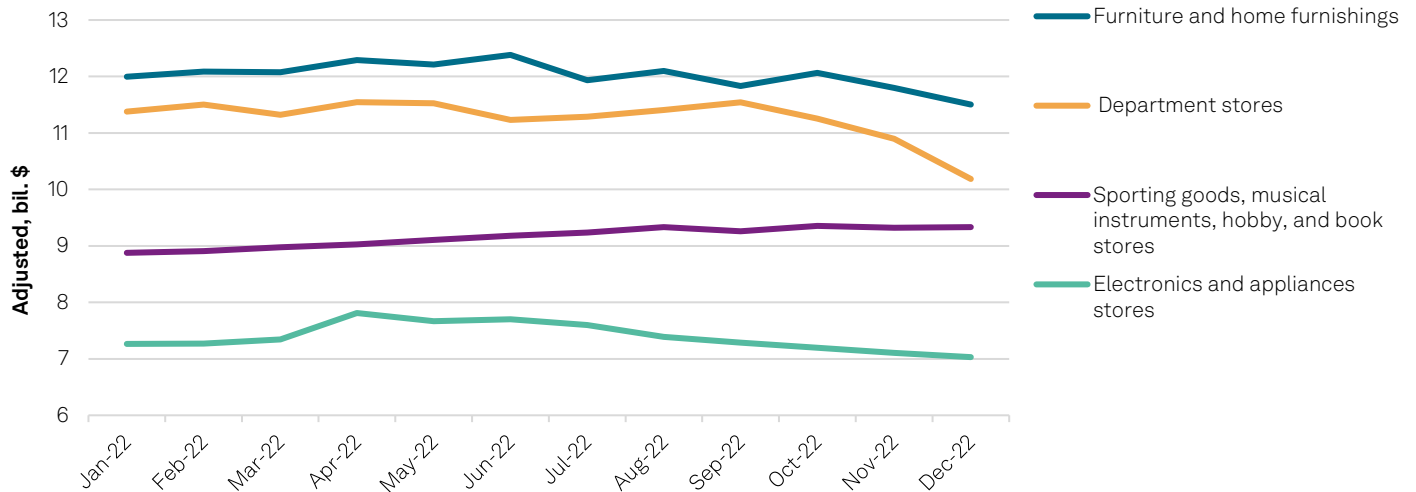
In Australia and New Zealand, there are very similar themes to the U.S. and Europe, with persistent inflation, higher rates, mild recession fears, and market uncertainty. Consumer spending in real terms started to go backwards during December despite it traditionally being a bumper period for retailers. Higher prices underpinned the rise in total spending as opposed to an increase in volumes. There is some trepidation around consumption for Q1 and Q2 in 2023 given the quantity of fixed rate mortgages that are due to mature and the refinancing due to take place in a much higher interest-rate environment. Unemployment at 3.4% in Australia (48 year low) means the low consumer sentiment is not yet translating into dramatic falls in consumer spending. Consumer sentiment in Japan is likely to languish because of higher prices for everyday items. In addition, as rising energy bills put pressure on Japanese retailers' profitability

Industry Top Trends 2023: Retail and Restaurants

since it is difficult to raise prices in Japan. They will likely continue efforts of improving operating efficiency and expanding premium product lineups to secure margin.

Chart 7

U.S. Monthly Retail Sales For Select Discretionary Categories



Source: U.S. Census Bureau.

In China, shoppers hit the streets. After adjusting to lockdowns over the past few years, the government relaxed COVID-19 restrictions and the pent-up demand was unleashed. Yet waves of infections are hitting, complicating staffing and other operational matters. We do not expect a V-shaped retail recovery in 2023. In our view, momentum will build over the year, with a stronger second half lifting retail sales 5.8% for 2023. That outpaces our GDP forecast of 4.8%, yet the headline figure masks shifting fortunes among segments. Digital penetration will pull back as brick-and-mortar sales become possible again. Some non-essential products will feel the drag from inflation and poor consumer sentiment.

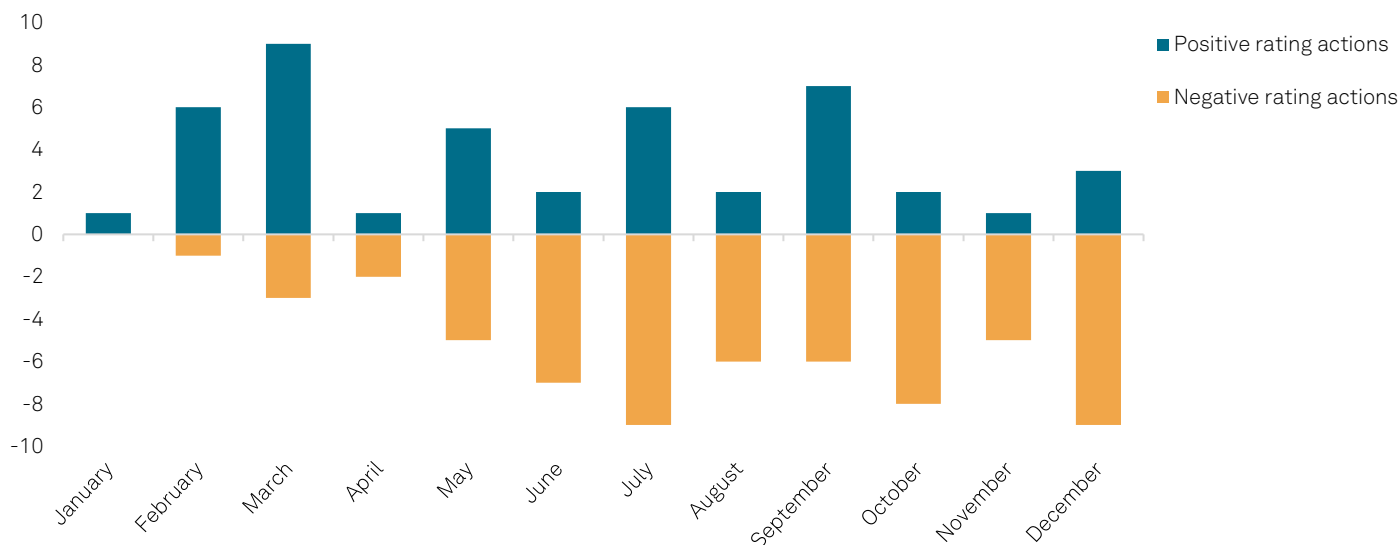
The reopening of China's economy is good news for the global travel retail sector, especially travelers from Europe, Australia, and New Zealand, at a time when growth in the domestic market is scarce. While business travel is still below pre-pandemic levels, the travel retail segment has benefitted from pent-up demand on leisure travel, and a strong summer season in Europe.

Macroeconomic trends in Latin America are also in line with those of U.S. and Europe, with expected low GDP growth of 0.7% in the region, high interest rates, and still-persistent--although declining--inflation, impacting consumption. All-time highs in remittances in several countries of the region may soften the impact for some companies. Moreover, volatility in exchange rates could still impact costs of imported inventory, although we forecast moderate average currency depreciation in the region. On the other hand, several Latin American countries have been going through significant changes in government, which might impact consumer confidence and, ultimately, spending.

In the U.S. and EMEA, negative rating actions (including outlook revisions and downgrades) began to outnumber positive in June and continued to do so each month except for one for the remainder of the year (see chart 8). For the full year, there were about 50% more negative rating actions than positive in the U.S.

Chart 8

U.S. and EMEA Retail Rating Actions In 2022



Positive rating actions include upgrades, outlook revision in a positive direction (e.g., stable to positive, negative to stable, or negative to positive), and positive CreditWatch placements. Negative rating actions include downgrades, outlook revisions in a negative direction (e.g., stable to negative, positive to stable, or positive to negative), and negative CreditWatch placements. Source: S&P Global Ratings.

EMEA trends were split. Interestingly, in EMEA there were 16 negative rating actions and 15 positive rating actions in aggregate over the 12-month period. Except for one outlook change, all the rating actions on EMEA investment-grade companies were positive. Therefore, most of our negative rating actions were in the more sensitive speculative-grade rating range ('BB+' and below).

Despite the significant number of negative rating actions in the second half of 2022, the global retail and restaurants portfolio started 2023 with about 16% of ratings carrying a negative outlook and 7% positive, suggesting downgrades are likely to outnumber upgrades in 2023. The EMEA retail and restaurants portfolio has the highest proportion of ratings on a negative outlook relative to other regions at 20%.

Liquidity stability. Because most issuers took advantage of amenable credit markets during 2020 and 2021 by pushing out maturities and bolstering liquidity, few ran into liquidity issues. The number of credits with unsustainable capital structures ticked up slightly but remained well below the peak of 2020, when one in four ratings was within 'CCC+' and 'CC'. In 2022 less than 10% of ratings were in this range. We expect this number to increase in 2023 as maturities appear on the horizon and issuers face pressure on the top and bottom lines. Additionally, the higher interest rate environment will pressure cash flows and coverage ratios, which could spur distressed exchanges or other forms of restructuring. The uptick of ratings in this deeply distressed range suggests more defaults in 2023 than in 2022. The combination of a challenging operating environment and volatile credit markets will make it difficult for some issuers to sustain highly leveraged balance sheets. Typically, distressed exchanges make up a large portion of defaults. As of this publication, there have already been two defaults: Moran Foods LLC (distressed exchange) and Party City (bankruptcy filing), both based in the U.S.

Main assumptions about 2023 and beyond

1. First half will be weaker than second half

Recessionary conditions in the first half are likely to weigh on consumer spending, which has held up better than expected due to excess savings and the strong labor market. Consumer confidence is low and suggests consumers will be more cautious, cutting back discretionary spending and trading down until inflation moderates, real wages recover, and the economic outlook improves in the back half.

2. Except for labor, costs will stabilize or decline

Commodity, shipping, freight, logistics, and warehousing costs have declined from their peak levels. We believe volatile spikes in costs are behind us, partly because demand is softening and partly because supply chain bottlenecks have eased. Retailers are also aiming to improve visibility over their supply chain, source closer to home, and reduce lead times. Risks to this assumption stem from the war in Ukraine and geopolitical shocks. On the other hand, the labor market will remain tight, with elevated wages and benefits to attract and retain the workforce.

3. Limited surprises on financial policy, as the cost of debt will remain elevated

The higher cost of debt will cause companies to rethink their balance sheets, especially issuers at the lower end of the rating spectrum whose cash flows will be meaningfully dented by the higher cost of capital. Higher interest rates will also dampen appetite for aggressive financial policies such as large transformative acquisitions or share buybacks.

Apparel and department stores: We anticipate that department stores and apparel retailers will wrap up steep discounting of merchandise in Q1 2023, as they come to grips with high levels of excess inventories. This has resulted in near liquidations at some U.S. retailers, in particular. The companies in this sector rely on expert management teams navigating consumer preferences and fashion trends well in advance to avoid seasonal surpluses. For instance, the sector benefitted from the resurgence of demand for higher priced apparel such as formalwear and partywear. Those that lacked strong product and design leadership in these categories will suffer more in our view, and the divergence of operating performance between the winners and losers in department store category will be an important trend to watch for in 2023. In highly competitive markets like the U.K., larger national chains such as Marks and Spencer (BB+/Stable/--) and Next Plc (BBB/Stable/--) with a good store footprint backed by a sound ecommerce offering and strong customer proposition outperformed smaller retailers. In our view, market consolidation in apparel segment could take the form of larger players taking over smaller brands facing financial difficulties.

Big Box: Big box retailers faced a wide array of challenges last year, from supply chain and labor rightsizing on the cost side to rapidly weakening demand and quick pivots in and out of merchandise categories from consumers. We expect 2023 will bring some stabilization on the cost side, with a continued return from elevated 2020-2021 pandemic profit levels to results more akin to 2019. That required downward margin revisions in 2022 that we do not believe will persist at the same pace in 2023. We expect leverage at or above downside thresholds to come down either through better EBITDA or capital allocation decisions that prioritize debt reduction over shareholder returns in the coming year.

Grocery: We expect grocery retailers to see low- to mid-single-digit same-store sales growth in 2023 as persistent--yet easing--inflation remains throughout the year. In real terms, we expect very modest volume growth, as consumers will be careful with their spending. Given ongoing cost pressures, we believe grocers will continue to largely pass along cost increases to consumers.

Industry Top Trends 2023: Retail and Restaurants

This together with the positive effect of carryover pricing from the previous year, will help maintain and even slightly expand the margins from the weaker levels witnessed in 2022, as shoppers stretch their budgets by switching to higher-margin store brands. A partial offset to margins will be wages; wage inflation is here to stay and is less likely to moderate even as commodity inflation eases.

While the current interest rate and debt market environments make for an unfavorable backdrop for mergers and acquisitions (M&A), we believe that in order to compete with large players in the grocery sector, issuers are likely to employ some degree of inorganic growth strategy. That said, we believe 2023 acquisition activity will be relatively subdued, particularly on the heels of U.S. retailers, Kroger Co.'s (BBB/Negative/--) October announcement to acquire Albertsons Cos. Inc. (BB/Watch Pos/--). Despite some trading down to value channels such as dollar stores, we expect most U.S. grocers to be resilient in the midst of a potential recession due to the benefit from increased volume as customers trade out of away-from-home dining and grocers pass-through cost increases.

Canadian food retailers have experienced similar trends to the U.S. With food price inflation above 8% in 2022, moving above 10% in the fourth quarter, margins of food retailers have proven to be surprisingly resilient. Similar to the U.S., we forecast low- to mid-single-digit same-store sales growth in 2023. Targeted marketing, promotion optimization, increased penetration of private label products, and a focus on operating efficiency (including automation) have supported margins. In the third quarter calls, both Metro and Loblaw's have indicated that food margins have been impacted, but the diversity from their pharmacy business have sustained 2022 EBITDA margins on a consolidated basis and we expect the same in 2023.

In Europe, contrary to the trends we see in the U.S., larger supermarkets, despite attractive own-brand product offerings, will experience a shift of consumers to discounters (particularly to the two large German discounters Lidl and Aldi). That said, we anticipate rated food retailers with leading home market share to continue to perform strongly due to their superior scale, buying power, stronger execution, and focus on competitive pricing. We have already seen some positive rating actions on REWE Group (BBB/Stable/A-2) and Ahold Delhaize N.V. (BBB/Positive/A-2). Similarly, we expect Carrefour S.A., the second largest grocer in France, to continue to show strong performance while smaller French retailers Casino Guichard - Perrachon S.A. (CCC+/Developing/--) and ZF Invest (Prosol, B-/Stable/--) saw negative rating actions. Similarly, we believe Tesco PLC (BBB-/Stable/A-3), the largest grocer in the U.K., will continue to solidify its position and outperform smaller rated food retailers such as Market Bidco Limited (Morrisons, B/Stable), WD FF Ltd. (Iceland, B/Negative/--), and Co-operative Group Ltd. (BB-/Negative/--), all of which saw negative rating actions in a very price-competitive U.K market.

Specialty: Performance in specialty retail varied across issuers, driven by the proportion of discretionary demand and the amount of pull-forward demand during the pandemic. We expect issuers that saw deterioration in financial performance due to declines in demand (such as Best Buy, Guitar Center, and Party City) are unlikely to see volumes come back materially until 2024. These issuers have all seen growth in inventory that they won't be able to work through until midyear, which should help working capital.

Similarly, a slowdown in the home improvement and do-it-yourself (DIY) industry will lead to flat like-for-like growth for rated European retailers in this segment such as Kingfisher Plc (BBB/Stable/A-2) and Hornbach Baumarkt AG (BB+/Stable/--). In the U.S. as well as most European countries, this segment will be significantly affected by a weak housing market, where house prices as well as investment are likely to suffer from rapidly rising mortgage rates. At the same time, there will be a modest benefit from a rise in demand for energy efficiency products.

Industry Top Trends 2023: Retail and Restaurants

These companies will need to focus on working capital management, containing the impact on earnings from demand compression by controlling costs.

We do not anticipate large scale M&A activity unless backed up by a sound business rationale. Global travel retailer Dufry AG (B+/Watch Pos/--) has announced the acquisition of a majority stake in global travel concession catering provider Autogrill SpA, via a share swap transaction. Combined, Dufry and Autogrill will be able to offer a more comprehensive commercial package in negotiations with airport authorities and benefit from significantly greater scale in their relationship with shared suppliers (mostly of not-for-resale goods and services). Dufry will gain through adding complementary site locations across the U.S. and a sizeable food service proposition to its product mix, thereby reducing cyclicity, as well as expanding in the domestic air travel segment, particularly in the U.S., which is currently experiencing the strongest recovery in air passenger traffic.

We expect issuers with more resilient demand, like CNT holdings (dba 1-800-contacts) and the pet stores, to continue to have stable operating performance in 2023. Key ratings drivers for the more stable sectors will be capital actions taken and upcoming maturities. We expect the capital markets to continue to be challenged for issuers that did not refinance during the pandemic.

Quick service restaurants (QSRs): Top line revenue growth in 2022 was boosted by pricing actions to offset rising costs due to inflation, but margin compression led to lower EBITDA overall. European QSRs in particular faced steep rises in labor cost and ingredients such as cooking oil, which negated the benefits of strong demand and higher prices. Inflationary pressures on the cost structure brought the post-pandemic recovery to a halt for many operators, translating into negative free operating cash flow. For 2023, we expect mid- to high-single-digit topline growth from pricing actions taken in the back half of last year. Moderating inflation and rising unemployment should also be a tailwind to margins, resulting in EBITDA growth and stronger cash flows in 2023. A big driver for traffic at QSRs will be the length and depth of a recession, and how much that translates to increased traffic at QSRs from diners trading down. Traffic was down across most brands in 2022 as trade-down was less than expected given macro conditions. There is also increased likelihood that the operators such as Telepizza (CCC-/Negative/--), the largest non-U.S. pizza delivery player, with weak liquidity, will undertake a debt restructuring or loan modification if operating performance continues to be weak.

Casual dining: We expect mid-single-digit same-store sales growth for casual diners in 2023 as higher pricing offsets volume softness across most brands. As is normally the case, casual diners like Bloomin' (BB-/Stable/--), Brinker (BB-/Stable/--), and Darden (BBB/Stable/A-2) pass on only a portion of cost increases on to customers in order to maintain their value proposition, with the remaining gap eating into margins absent operating cost improvements. While issuers have embarked on various initiatives to reduce operating expenses, we expect these efforts to only partially offset gross margin deterioration over the year. Not unlike the rest of the industry, increased wages will also be a factor as profit margins are dented. In sum, we believe a recession will impact foot-traffic within the casual diner space as consumers trade down to lower-priced venues or choose to dine at home, particularly as the effects of inflation have climbed up the income-demographic ladder. The dual impact of inflationary pressures and pressure on dine-in sales was behind our negative outlook on U.K. based PizzaExpress (Wheel Bidco Ltd., B/Negative/--). Despite some easing of inflation, a strong balance sheet will prove vital as casual dining restaurants contend with higher labor costs, still-volatile commodity costs, and a pinched consumer wallet.

Credit metrics and financial policy

We expect issuers to adhere to prudent financial policies in the uncertain macroeconomic environment, pausing share buybacks and conserving capital in order to maintain credit measures. Although we forecast a mild recession in the U.S., stagnation in the eurozone, and lower growth in emerging markets, we expect the outlook and confidence to improve from the second half in 2023. This should be accompanied by improved demand and more stable costs. As the outlook and confidence improves in the second half, we expect more shareholder-friendly activity and some selective M&A to return. In Europe we anticipate share buyback activity will be mainly limited to large food retailers with strong FOCF generation like Carrefour, Tesco, and Ahold-Delhaize. In our downside scenario, we see reduced rating headroom if companies return to expansive financial policies and shareholder-friendly activity before a sustainable recovery in credit metrics.

Key risks or opportunities around the baseline

1. Consumer resilience continues to surprise

With the labor market remaining strong, household balance sheets in good shape, and only a mild recession, consumers could surprise us again and spend solidly through 2023. Still, the heyday of 2021 is unlikely to return. Retailers will still need to maintain adequate margins and satisfy consumers' appetite for value and convenience, which is a difficult balancing act in a highly competitive landscape.

2. Inflation is reignited

Retailers and their suppliers created a playbook to rapidly pass on costs while consumers displayed historically low price sensitivity in 2021 and 2022. In the recession we expect in 2023, consumers will be more price-sensitive, making price increases with the same frequency impossible without significant volume declines.

3. Consumers demand greater omnichannel sophistication

Most brick-and-mortar retailers enjoyed an increase in foot traffic in 2022 as consumers returned to in-person activities. E-commerce even temporarily dipped as a proportion of total retail sales in the U.S while in Europe many pure-play e-commerce players reported anemic sales growth. Still, we believe a strong digital presence and sophisticated systems are critical to meeting consumer demand for relevant products and convenience. Retailers who invest in omnichannel retail models backed up by strong digital operations, systems, and analytics will be better positioned to take advantage of any channel shifts driven by changes to consumer shopping preferences. E-commerce retailers with physical stores will also be better positioned to manage the escalating costs of home delivery and returns through click and collect and in store returns processing.

Liquidity and covenant concerns were relatively rare in 2022 due to balance sheets that had been optimized in 2021. In 2023, lenders' lower appetite for risk will make any necessary negotiations costly. The companies that are forced to invest in e-commerce, particularly those in the discretionary segments, face payback risk if their sales do not improve as anticipated because of intense competition or weaker demand.

Related Research

- [China Retail Outlook 2023: More Bricks, Fewer Clicks](#), Jan. 8, 2023
- [U.S. Holiday 2022 Sales Outlook: Santa's Bag Will Be Smaller This Year](#), Nov. 10, 2022
- [Perspectives On Cyber Risk Across Corporates: The Potential Impact Of Cyber Threats Is Growing](#), Nov. 7, 2022
- [How Will Canadian Grocers Digest Inflation?](#), Aug. 8, 2022
- [European Retailers: Forced To Raise Prices While Wary Of Consumers Cutting Back Spending](#), June 9, 2022
- [Closing Time: The U.S. Retail Party Ends As Consumers Push Back On Inflation](#), May 23, 2022

Industry Forecasts: Retail and Restaurants

Chart 9
Revenue growth (local currency)

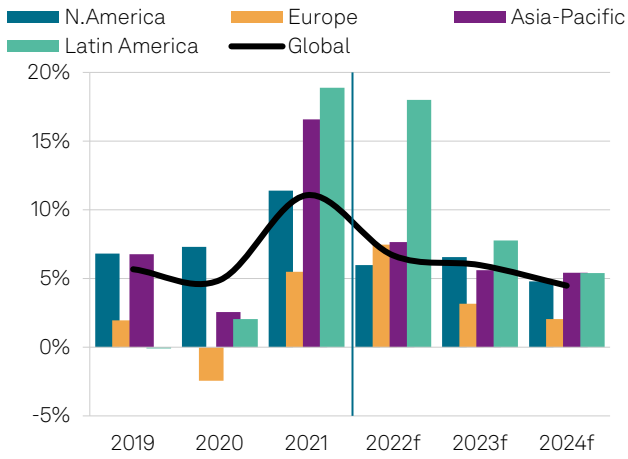


Chart 10
EBITDA margin (adjusted)

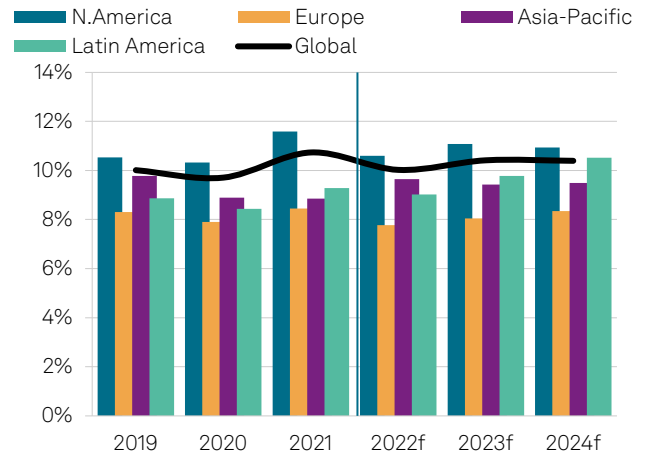


Chart 11
Debt / EBITDA (median, adjusted)

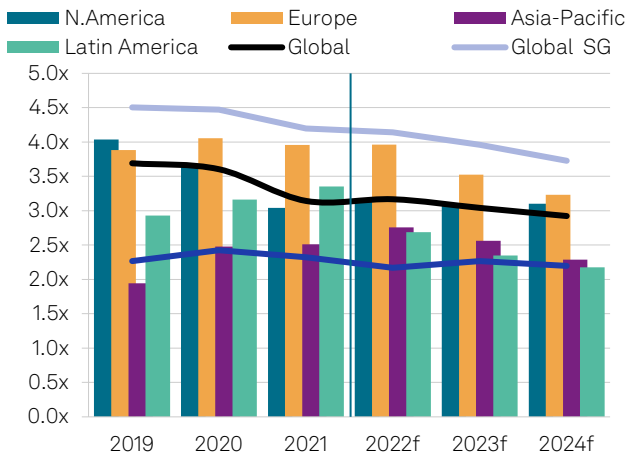
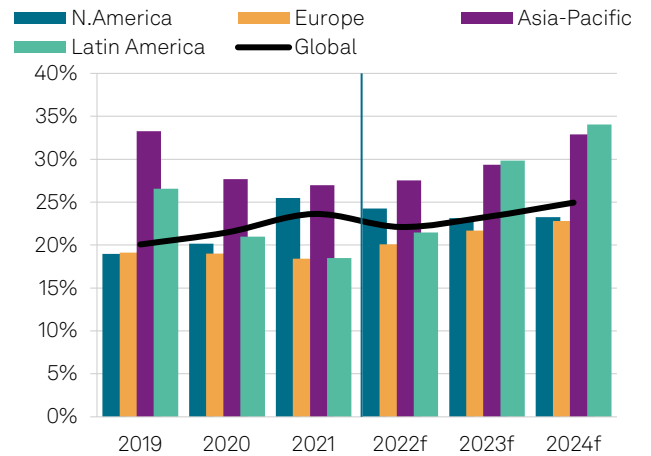


Chart 12
FFO / Debt (median, adjusted)



Source: S&P Global Ratings. f = Forecast.
Revenue growth shows local currency growth weighted by prior-year common-currency revenue share. All other figures are converted into U.S. dollars using historic exchange rates. Forecasts are converted at the last financial year-end spot rate. FFO—Funds from operations.

Cash, Debt, And Returns: Retail and Restaurants

Chart 13

Cash flow and primary uses

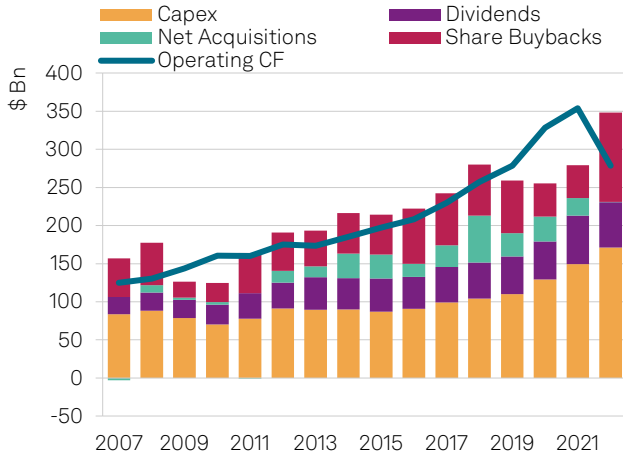


Chart 14

Return on capital employed

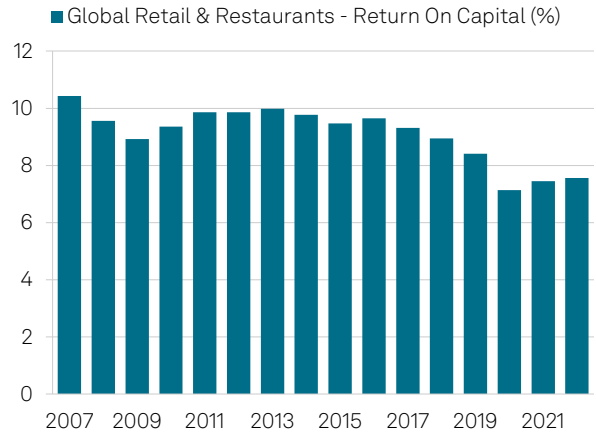


Chart 15

Fixed- versus variable-rate exposure

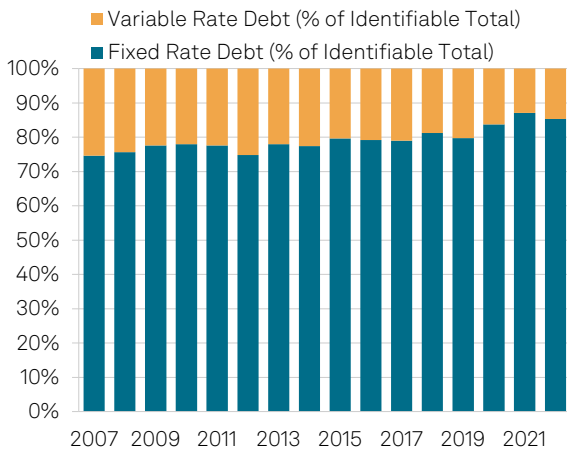


Chart 16

Long-term debt term structure

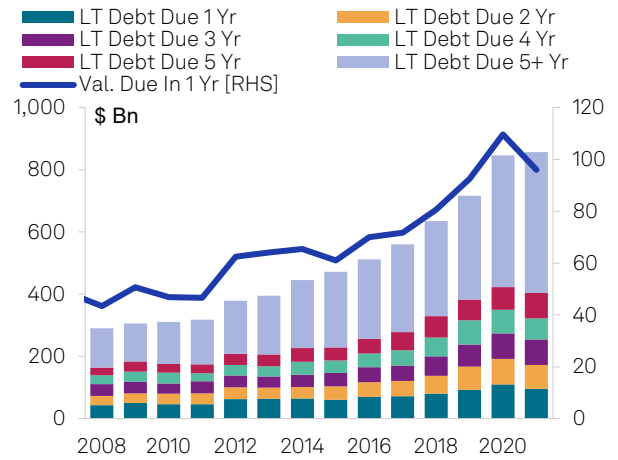


Chart 17

Cash and equivalents / Total assets

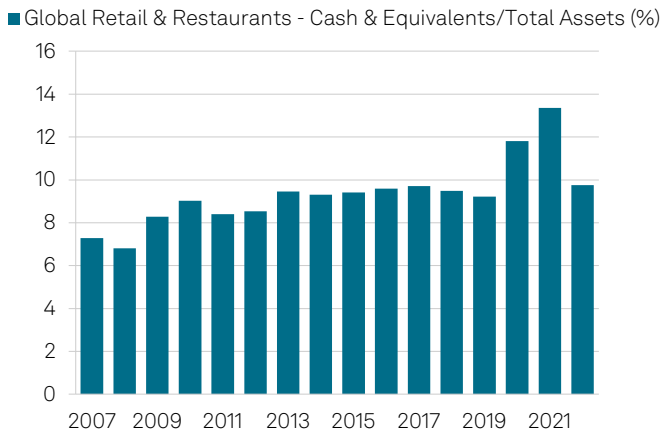
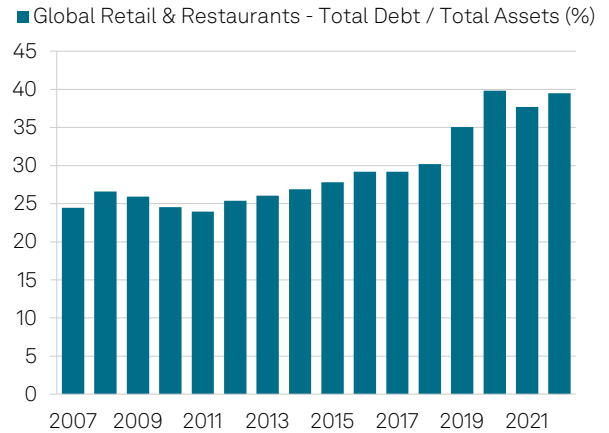


Chart 18

Total debt / Total assets



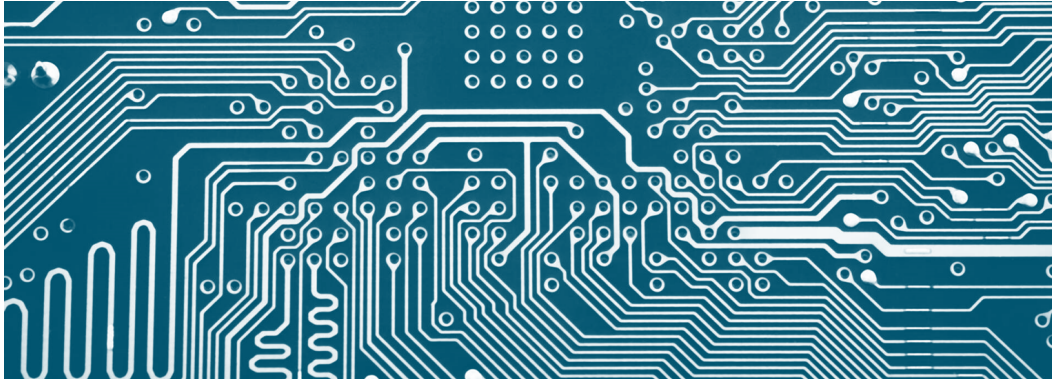
Source: S&P Capital IQ, S&P Global Ratings calculations. Most recent (2022) figures use the last 12 months' data.

Technology

Technology remains resilient but ratings pressure is rising

January 23, 2023

This report does not constitute a rating action



What's changed?

Ratings expectation. Our rating actions gradually turned negative throughout 2022 as macroeconomic conditions deteriorated and interest rates rose. While technology spending remains resilient for the most part, waning near-term demand as well as higher interest burden for many of the sponsor-held companies will hamper cash flow generation and pressure ratings in 2023.

What are the key assumptions for 2023?

Information technology (IT) spending should grow 3% in 2023 despite macro challenges as growing cloud and recurring software sales offset pockets of weakness in hardware and semiconductors.

Semiconductor downturn. After three years of strong growth, we forecast semiconductor sales will decline 10% in 2023 as macro weakness and inventory correction hits all end markets. We expect memory to fare the worst, declining 35% for the year.

What are the key risks around the baseline?

China is a large consumer and a dominant supplier of IT products. As its economy reopens, China will have an outsized impact on the overall health of the technology industry.

Rising rates have hurt 'B/B-' rated issuers the most. Should rates increase more than our base case, their cash flows--and in turn, our ratings--will be pressured.

Hard landing. If economic downturn is greater than our base case, we expect semiconductor and hardware issuers to underperform versus more stable software and IT services segments.

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Ratings Trends: Technology

Chart 1
Ratings distribution

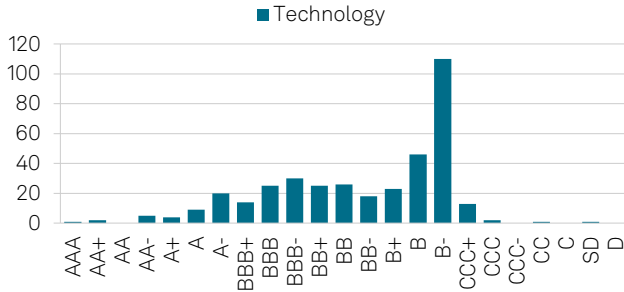


Chart 2
Ratings distribution by region

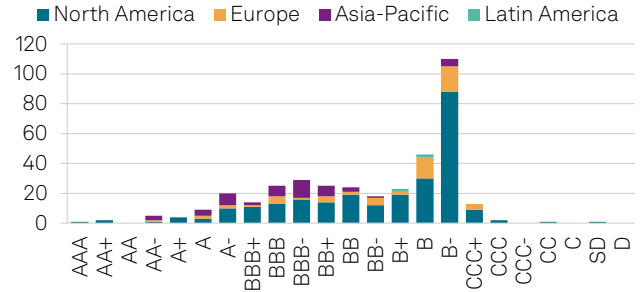


Chart 3
Ratings outlooks

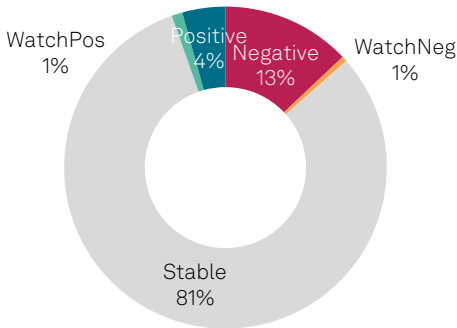


Chart 4
Ratings outlooks by region

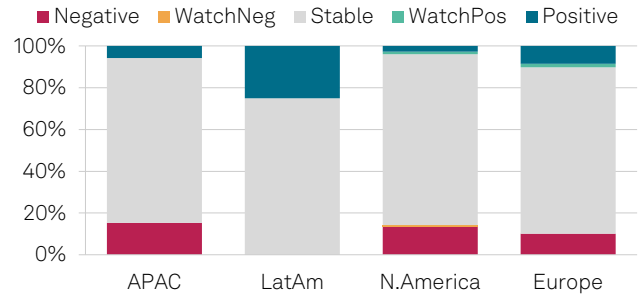


Chart 5
Ratings outlook net bias

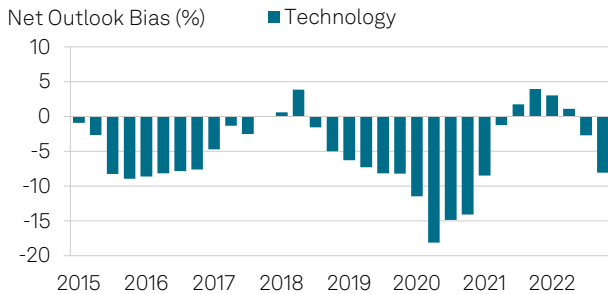
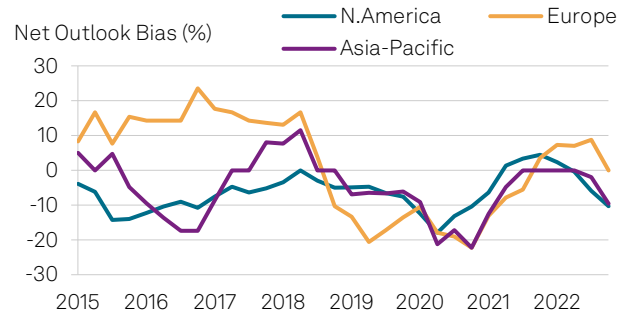


Chart 6
Ratings net outlook bias by region



Source: S&P Global Ratings. Ratings data measured at quarter-end.

Industry Outlook

Ratings trends and outlook

Technology rating actions gradually turned negative starting in spring 2022, triggered by the Russia-Ukraine conflict. As macroeconomic conditions deteriorated during the second half of the year, we saw negative rating actions outnumber positives by 3:1, essentially reversing the positive trend witnessed in 2021, when positive rating actions outnumbered negatives by more than 2:1. Of note, speculative-grade issuers accounted for about 85% of the negative rating actions in 2022, much higher than their 65% weighting in our global technology portfolio. Downgrades were most pronounced in the 'B' category as rising rates led us to reforecast credit metrics and cash flows for many of the highly leveraged issuers owned by financial sponsors. Given the ongoing macroeconomic challenges and technology-specific weakness around pockets of semiconductors and hardware segments, we expect negative rating actions to outpace positive rating actions in 2023. Should interest rates rise higher than we currently anticipate or stay high for an extended period, we would expect to take more rating actions, especially in the 'B/B-' category.

Main assumptions about 2023 and beyond

1. Growing cloud supports IT growth through macro downturns

We expect global IT spending to remain resilient in 2023, growing over 3%, despite macroeconomic challenges as increasing demand for cloud services and recurring software sales offset weakening hardware demand and volatile semiconductor sectors.

2. Semiconductor sales will decline in 2023 but long-term growth drivers remain intact

Semiconductor sales are likely to shrink for the first time since 2019, by about 10%, due to weakening demand and inventory overhang across most end markets. Memory sales in particular could plummet 35%. While this downturn will be painful, we still see strong long-term tailwinds from various secular growth drivers.

3. Technology remains resilient but ratings will trend negative in 2023

Rating actions turned negative throughout 2022 and we expect this trend to continue over the near term given slowing global economy and rising borrowing costs. Investment-grade ratings should prove resilient but speculative-grade ratings, especially those in the 'B/B-' category, will be pressured as cash flow is constrained due to slowing growth, inflationary pressure, and higher interest expense.

Growing cloud supports IT growth through macro downturns

After nearly two years of robust IT spending through the pandemic, 2022 IT spending came back down to earth as decelerating economic growth, pandemic restrictions in China, and lingering supply chain issues contributed to gradually weakening spending throughout the year (see table 1). Data center spending, especially by hyperscale cloud providers, remained robust as enterprise customers continued their migration to the cloud. Software sales grew double digits again, partly reflecting the ongoing transition towards a recurring "as-a-service" subscription model. On the other hand, shipments of consumer-focused products such as PCs and smartphones plummeted an estimated 15% and 9%, respectively, in 2022 as lingering supply chain disruptions and rising inflation reduced both household purchasing power and consumer confidence. The

Industry Top Trends 2023: Technology

semiconductor market managed to grow by nearly 4% but far short of the 9% we forecasted at the beginning of the year, due in large part to falling memory prices. In all, we estimate global IT spending grew near mid-2% on a constant currency basis in 2022; lower than global GDP growth near mid-3% area but still solid in light of the difficult comparison versus 2021's outsized 14% growth.

S&P Global's 2023 global GDP forecast is modest at just 2.2% growth. We forecast a contraction in GDP of 0.1% in 2023 in the U.S., with a shallow recession in the first half; the eurozone coming in flat for the full year; and growth in China of 4.8%, although the latter is subject to potential upside given the recent reopening of the economy. We believe rising prices and interest rates will continue to erode consumer confidence and migrate to enterprise IT spending over time. While the highly anticipated global recession has yet to arrive, the consensus is that a sharp slowdown is all but inevitable, given the steepest rise in policy rates in four decades, ongoing geopolitical tensions, and energy supply constraints stemming from the Russia-Ukraine conflict.

Table 1

Global IT Growth Forecasts

	2021	2022e	2023e
Macro			
Global GDP Growth	5.1%	3.4%	2.2%
U.S. GDP Growth	5.7%	1.8%	(0.1%)
Eurozone GDP Growth	5.1%	3.3%	0.0%
China GDP Growth	8.0%	3.2%	4.8%
Global IT Spending	13.7%	2.5%	3.3%
Revenues			
IT Services	13%	4%	4%
Software	15%	10%	8%
Semiconductors	26%	4%	(10%)
Network Equipment	2%	7%	4%
Mobile Telecom Equipment	12%	5%	0%
External Storage	6%	6%	-2%
Shipments			
PC	15%	(15%)	(10%)
Smartphone	4%	(9%)	1%
Server	6%	6%	3%
Printer	(3%)	(3%)	(2%)

e--Estimate. Source: S&P Global Ratings.

Despite these headwinds, we forecast that global IT spending will grow 3.3% in 2023, modestly higher than the 2.5% growth we forecast for 2022. Given persistent input-cost inflation and high energy prices combined with weakening demand, we believe enterprises are entering 2023 with a cautious view, delaying some non-critical, long-term projects while continuing their transition to the cloud. Cloud provider spending should also decelerate compared to 2022 given last year's aggressive buildout but should still far exceed overall IT growth. Software segment will continue to grow the fastest at around 8% in 2023 while IT services should outgrow global GDP given ongoing digital transformation projects and solid backlog entering the year. Hardware spending

Industry Top Trends 2023: Technology

will be mixed, with modest growth in servers and stabilization of smartphone shipments offset by a continued double-digit decline in PC shipments as inventory is cleared. We forecast semiconductors, primarily owing to our bearish memory view, to decline nearly 10%. We view China as the wild card: it accounts for about 10% of the worldwide IT spend but plays an outsized role in the credit-sensitive hardware and semiconductor space, accounting for around 20% of global consumption. As a dominant manufacturer of smartphones and other hardware products, its ability and willingness to maintain a smooth supply chain as it confronts COVID-19 concerns will have a disproportionate impact on overall global IT consumption.

Despite the modest 2023 IT spending outlook, we maintain a positive long-term view of the technology industry, though nearer term the picture is more volatile. We've seen mixed performance among semiconductor and hardware vendors despite broadening end markets and supplier consolidation. Smaller issuers who are transitioning their portfolio from hardware to software also face risks, especially amid deteriorating macroeconomic environment. But we believe the technology industry will become less cyclical as it matures. IDC Corp. estimates that as-a-service now makes up over 40% of enterprise technology spend and that it will increase to over 50% by 2025. This spending is sticky, recurring, and difficult to shut off even during economic downturns as both customers and providers have entered into long term commitments. Even traditional hardware providers such as Dell Technologies, Inc. and Hewlett Packard Enterprise Co. have rolled out as-a-service offerings. We believe enterprise spending on IT services will continue to increase as a percentage of their overall wallet as they are viewed as mission critical and drive efficiency across the organization. We believe the next wave of technology innovations in areas such as Internet of Things, artificial intelligence (AI), machine learning, and autonomous driving--which all require greater connectivity, storage, and processing power--will continue to drive greater spending for IT providers.

Below we discuss the outlooks for key technology products.

Software: We expect the software market to grow about 8% in 2023, a modest deceleration from about 10% in 2022. Over the past few years the software market grew above the typical high-single-digit pace as the pandemic spurred demand for tools that help drive hybrid work and cloud migration. As enterprises continue their digital transformation and as remote work becomes a post-pandemic reality, software remains a critical enabler of business automation and plays a key role in ensuring cybersecurity in increasingly complex workloads. However, with the weakening macroeconomy, we expect customers to scrutinize their technology spending, resulting in reduced budget and longer sales cycles.

Software-as-a-service (SaaS), which represents about 55% of the total software market according to IDC, remains one of the most resilient subsectors with a steady growth trajectory as it continues to take market share from on-premise software delivery. However, in light of growing macroeconomic weakness, there is near-term uncertainty among SaaS providers such as Salesforce, who not only provided weakening guidance for the upcoming quarter but also opted out of providing revenue guidance for the next year. While there has not been a significant deterioration in demand for the industry, the rapidly evolving environment has clouded the outlooks of many software players.

Nevertheless, secular trends supporting the industry remain intact, such as demand for lower ownership cost, scalability, and ease of implementation. As enterprises continue to move their workloads to the cloud, software providers enable on-premise customers to transition to the SaaS delivery of their applications. SaaS providers can more efficiently manage hardware and maintenance costs, thus significantly reducing the customer's hardware and IT services, i.e. labor and spending. Furthermore, customers can more easily scale applications, get quicker access to the latest updates, and have more predictable software expenditures as they shift the spending

Industry Top Trends 2023: Technology

from capital expenditure (capex) budgets to operating expense budgets. Lastly, customers also find lower upfront costs and less-complex implementations, making the purchase decisions easier for customers.

Services: We expect the IT services industry to experience an above-global-GDP growth rate, at about 4% revenue growth in 2023 (about flat when compared to 2022), as demand remains strong in areas such as digital transformation, cloud migration, and automation.

Large projects, such as enterprise resource planning (ERP), software implementations, and consulting engagements, were abundant in 2022, a continuing trend from 2021. These projects tend to have long implementation periods and involve the development or modernization of both front-end application and back-end platforms and infrastructure across areas such as customer engagement, cloud, artificial intelligence, big data, analytics, and cybersecurity. As businesses embed more technology in their operating environment, IT services vendors will have an ever-larger role to play as trusted business partners, favoring those with the most digital expertise but also superior customer service. Furthermore, hybrid work appears to be here to stay and IT services to help accelerate the shift from on-premise to private and public cloud environment will be essential.

We saw large IT services vendors such as Accenture and IBM experience double-digit revenue growth in these areas in 2022. We anticipate more growth ahead in 2023, albeit at a lower rate, aided by clients' desire to increase productivity gains, especially in a still tight labor market and rising wage pressure. However, there are two big risks ahead for IT services vendors. First, their ability to navigate labor supply challenges will be tested by an environment where utilization rates, attrition rates, and wage inflation are high; companies able to attract and retain skilled workers and that possess pricing power with customers will be the most effective in offsetting margin headwinds the industry will likely face. Second, there could be a significant macroeconomic weakness, leading to significant contraction in IT budgets such that enterprises defer these large and capital-intensive projects. While we believe enterprises appreciate the need for these IT upgrades over time, we also understand priorities could be given to liquidity preservation in times of stress.

Semiconductors: After a pandemic-fueled expansion increased industry revenues by nearly 40% over the past three years, we now forecast a 10% revenue decline in 2023 as customers correct their inventory across both memory and non-memory segments. We forecast memory revenues will plummet 35% during the year while non-memory segment, which consists of analog, logic, and other mixed signal products, will decline by a modest 3%. (Please refer to page 10 for further discussion of recent industry trends and longer-term outlook.)

Smartphones: We expect smartphone unit shipments to grow about 1% in 2023, reversing a decline of about 9% in 2022 (see chart 7). The modest rebound is premised on recovering sales in China, which accounts for roughly a quarter of global consumption. The country's latest relaxation on COVID-related restrictions and the replacement demand after years of shipment decline should contribute to low-single-digit percentage shipment growth in 2023. Meanwhile, demand in the U.S. and eurozone will be inhibited by weakening consumer spending due to high inflation and the higher probability of a recession.

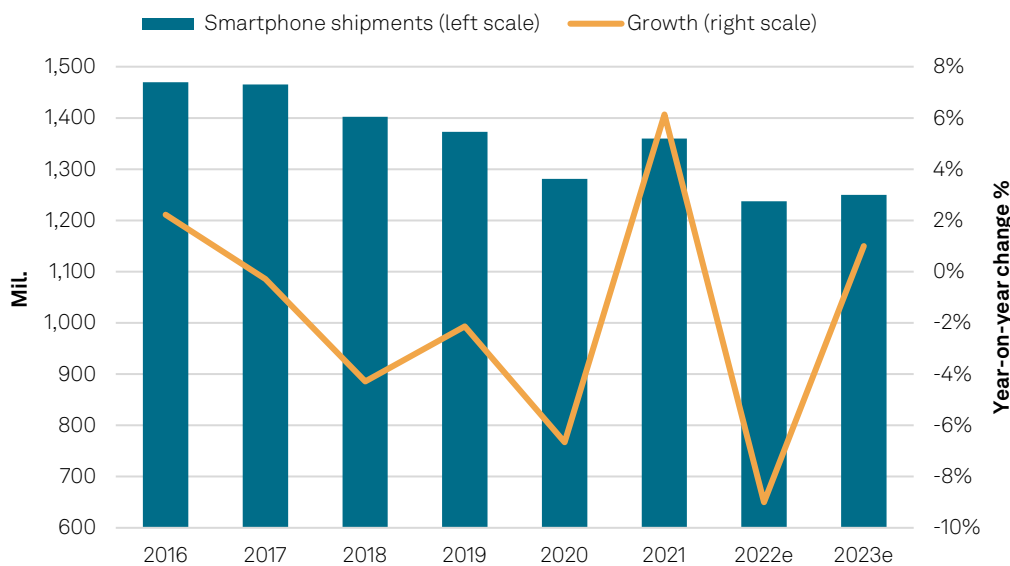
Destocking will likely remain a priority for most Android smartphone original equipment manufacturers (OEMs) in the first half of 2023, who accumulated inventory to guard against COVID-related supply disruption. We expect OEMs will roll out more promotions and sales discounts to clear inventory over the near term, and their profitability will be pressured as a result. The supply and demand dynamic may improve in the second half of the year as the inventory level normalizes but the pace of recovery will be uneven across geographies. We believe average selling prices will be flat or increase by low-single-digit percent in 2023 as sales

promotions are offset by rising penetration of more expensive 5G smartphones. We estimate 5G smartphones accounted for around half of smartphone shipment in 2022.

Apple Inc. gained global smartphone market share in 2022 and we expect its share will remain stable in 2023 as economic headwind in the U.S. and eurozone limit consumer appetite for upgrades. Meanwhile we expect Android smartphone sales to recover year-over-year. Competition among OEMs in the Android camp, particularly Chinese brands, is intense as Honor (the entry- to mid-level phone brand spun off by Huawei) aims to expand its exposure outside of China. This would put additional competition pressure on Samsung Electronics and Xiaomi. In all, we believe Chinese smartphone OEMs will modestly increase their roughly 50% global market share in 2023.

Chart 7

Smartphone Shipments Will Stabilize In 2023



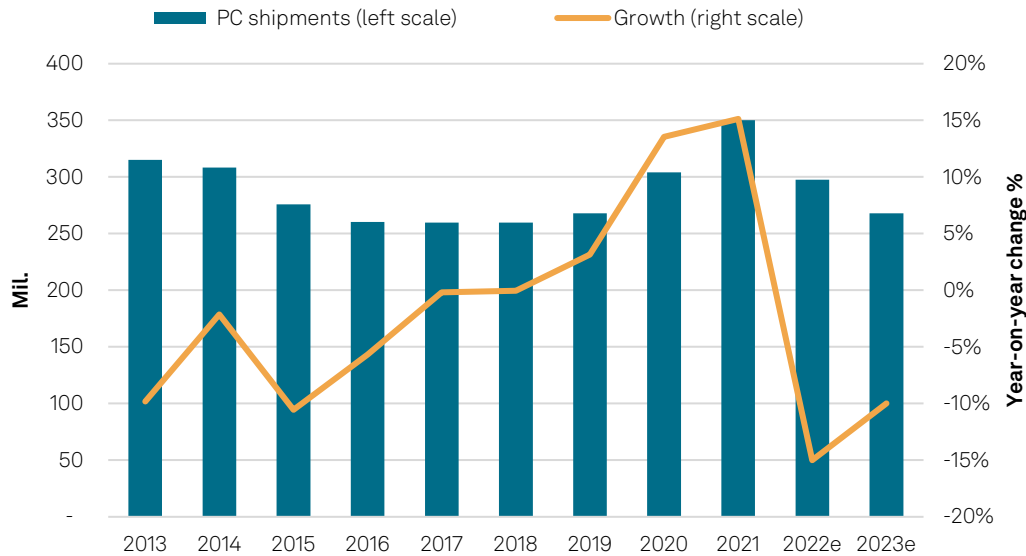
e--Estimate. Sources: IDC, S&P Global Ratings.

PCs: The pandemic-fueled double-digit PC unit growths in 2020 and 2021 reversed abruptly in 2022 as rising macroeconomic headwinds slowed consumer spending on electronics and commercial customers also slowed their hardware investments. We now expect 2022 PC unit shipments to decline by around 15%, essentially reversing the 15% growth in 2021 (see chart 8). With high levels of inventory entering 2023, weak economic outlook across the U.S. and Europe, and uncertainty around the pace of China recovery after its reopening, we forecast 2023 PC unit shipments will decline once again near 10% with commercial end market outperforming that of consumer, although we expect some recovery in the second half of the year. We believe average selling price (ASPs) will be pressured given high levels of inventory that may require promotions to clear, and some deflationary input costs such as memory and display. Profit margins will be pressured in this environment with Dell Technologies Inc. and Lenovo Group Ltd. fairing comparatively better than HP Inc. due to their better product mix and inventory management. Apple continues to be a share gainer and we expect this trend to continue in 2023.

Annual PC shipments jumped from around 250 million units pre-pandemic to nearly 350 million in 2021. While PC shipments will fall for a second consecutive year, we believe PC total addressable market is now larger than that of pre-COVID and unit shipments should remain well above 250 million in 2023 and beyond given the need to refresh higher number of installed PCs.

Chart 8

PC Shipments Will Decline Once Again But Remain Above Pre-COVID Levels



e--Estimate. Sources: IDC, S&P Global Ratings.

Servers: Server shipments grew above mid-single digits in 2022 as double-digit growth from the cloud customers in the U.S. and China offset mostly flat enterprise shipments. Cloud server demand will decelerate in 2023 as they digest 2022 purchases, but it should still grow above mid-single digits. We expect enterprise server demand to decline modestly year over year as hardware purchases are deferred amidst a macro downturn. We have already seen indications that enterprises are scrutinizing hardware purchases. Overall, we forecast server unit growth to moderate slightly to around 3% in 2023. The adoption of cloud, edge computing, software-defined infrastructure (SDI), and data analytics will continue to drive server shipment growth as companies shift toward a more operationally agile and resilient business model. While we expect secular growth in the server market due to ever increasing compute requirements, we believe legacy hardware providers will underperform market growth rates as large cloud providers design their own servers through original design manufacturers (ODMs). In fact, cloud providers account for about half of all server purchases and this number is rising, according to IDC. Nevertheless, we expect branded OEMs like Dell Technologies and HP Enterprise (combined market share near 33%) to modestly grow server shipments in 2022 as they target smaller cloud providers, service providers, and enterprises.

Storage: We expect external storage systems revenue will decline about 2% in 2023 following two years of growth in the 6% area. Our forecast for below-trend growth in 2023 is in line with our expectation for a mild recession during the first half of 2023, to which we believe enterprises will react by curtailing some technology investments. It also comes after a strong rebound that followed delays in 2020 when enterprises curtailed investments in response to COVID-19, which we believe gives enterprises some flexibility to slow investments. We think long-term mid-cycle growth for the segment will be in the 1% to 3% range, below IT spending in general, as enterprises are increasingly meeting their storage needs using cloud services rather than on-premises hardware.

Within the external storage market, we expect a severe price correction in NAND chips (used in flash memory) in 2023 will stimulate some demand for all-flash arrays and will support revenue growth while revenue from hard disk drive (HDD) and hybrid systems bear the brunt of enterprise

Industry Top Trends 2023: Technology

spending cuts. Over the longer term, we expect all-flash arrays to continue taking share from HDD and hybrid systems as continued NAND price declines narrow the cost of flash memory relative to HDDs. We are seeing large cloud providers leverage their scale to custom-build storage infrastructure instead of purchasing it from major branded OEMs such as Dell, HP, and NetApp, so the adoption of the hybrid cloud approach--whereby some workloads remain on premises as others shift to the cloud--is critical for the viability of the external storage systems market. Meanwhile, we expect enterprise customers, who have traditionally been major purchasers of external storage systems and have growing storage needs, will leverage software to optimize their storage capacity.

Networking equipment: We expect the networking equipment market to outperform the hardware sector and to grow roughly 4% in 2023. This follows a strong 2022 in which network equipment revenues grew nearly 7%, driven by strong demand in the first half of 2022 and improved pricing. We expect supply shortages to continue to ease in 2023, which should allow for better revenue performance as well as profitability for networking and optical systems providers.

While companies selling hardware have seen demand moderation during the second half of 2022, companies selling networking and optical equipment have fared much better due to strong backlogs. Companies such as Cisco Systems Inc., Juniper Networks, and Ciena saw order improvements and large backlogs throughout 2022, and we expect them to continue to work the backlogs down in 2023. Industry profitability should also improve year over year as component availability improves and companies stop making open market component purchases. Increasing software content also continues to dampen potential volatility for the networking equipment sector. While hyperscale spending growth will be much lower than in 2021 and 2022, we expect it to hold at current levels and view the quality of the backlog across our networking and optical coverage to be high. Risks to our view are driven by the historically uneven carrier spending patterns among service providers. Additional risk includes currency headwinds, as many of the companies have large exposure to Europe and would be impacted by a weakening euro.

Mobile telecommunications equipment: We expect the mobile telecom equipment market to be relatively flat in 2023 and 2024 due to the slowdown in 5G investments from 2020-2022 and decline in 4G spend. 5G technology is still at an early stage; the number of 5G subscriptions only represented about 12% of total mobile subscriptions at the end of 2022 and global 5G population coverage was just above 30%. Unlike with previous technology evolutions that lasted about a decade, we believe 5G investments could last longer driven by the enterprise market. However, 5G investments have been front-loaded compared with previous technology cycles, leading to higher growth in 2020-2022 than our previous expectations. Rapid 5G growth has been driven by the establishment of initial coverage requirements as well as increasing consumer demand, but we see increasing demand from enterprises for advanced use cases, including Internet of Things. We continue to expect increasing and substantial 5G investments for many years, offset by a decline in older technologies, including 4G, which is passing its peak and will start to decline.

Demand also differs by region and we continue to see uneven investment cycles. For instance, the number of 5G mobile subscriptions has already reached about 35% in North America and Northeast Asia (including China and South Korea) while the rest of the world is lagging. However, we expect other regions will catch up gradually with relatively less growth in the regions that started investing early in 5G and more growth in regions that are at an early stage in 5G. We believe the addressable market of Ericsson and Nokia can grow more than the overall mobile market as they are diversified with little exposure to China (where 5G deployment is more mature). Furthermore, Nokia also benefits from the pandemic-accelerated residential broadband demand due to its fixed networks business.

Industry Top Trends 2023: Technology

Finally, we think the economic and geopolitical environments could weigh on demand. While we expect supply chain constraints will gradually improve in 2023, we see risks if global GDP deteriorates beyond our base case. We believe mobile telecom operators are resilient, but they may need to reduce investments to protect their credit metrics. Geopolitical issues can also have a moderate impact. The exit of major telecom vendors from Russia after the Ukraine conflict has little impact on vendor revenues due to the relatively small size of the Russian market, and political tension between the U.S. and China has not impacted European vendors in the U.S. (where Chinese vendors are still excluded) or China (where European vendors have been present but small for years). However, it has benefited European vendors in Europe in particular, where Huawei has lost market share, with Ericsson and Nokia each winning about half of the tendered deals from operators moving away from Huawei.

Printers: We take a more conservative view of printer unit growth--likely decreasing 1% to 3% in 2023 after declining about 3% to 4% in 2022. Improving supply chains and component availability should allow printer providers to continue reducing backlogs built in 2022. Additionally, as supply remains tight, we expect vendors will prioritize higher-margin products and realize actioned price increases that support profits and cash flow. More diversified Japanese companies like Canon may fare somewhat better than U.S. peers as they benefit from business diversity and were somewhat less affected by logistics and supply chain constraints. The easing of constraints will likely support industry unit growth in 2023; however, deteriorating macro conditions, inflationary pressures, and more widespread headcount reductions are significant risks to slowing enterprise IT spending. Additionally, waning consumer demand driven by at-home printing will add pressures to industry unit declines and consumables. Many printer companies have highlighted demand pressures that may worsen as there is potential for hardware purchase deferrals and cancellations given the macro backdrop.

We continue to have a negative view on longer-term printer demand. We believe it is unlikely to return to pre-COVID-19 levels given the digital substitution that accelerated during the pandemic and strong hybrid work trends. Many companies like HP and Xerox expect the print industry to be about 80% of pre-pandemic levels. We expect offerings like consumables and supplies will likely continue to deteriorate given the ongoing decline in office print activity. This is forcing companies to adapt their business strategies to address industry challenges through investments in managed print and related services that may not fully offset print industry declines. We view companies like Canon, Ricoh, and Xerox--dependent on multifunction printers serving office needs--as most vulnerable to these trends.

Semiconductor sales will decline in 2023 but long-term growth drivers remain intact

The nearly three-year boom in semiconductor industry revenues started to show cracks in 2022, with global sales growth slowing in the first half and turning negative in the second. Memory saw the sharpest declines, with sales down by approximately 40% year over year in second half of 2022 amidst historically high inventory levels, but non-memory chips were also affected by weakening demand for consumer electronics and a regional slowdown caused by COVID lockdowns in China. We expect this weakness to persist and deepen for non-memory chips in 2023 with industrywide sales declining by about 10% year-over-year in 2023 (see chart 9). We expect sales outside of the memory category, including logic, analog, and mixed signal chips, to decline roughly 3% in 2023 given elevated inventory levels in the supply chain and across many end markets exiting 2022.

Given strong sales in the first half 2022 in spite of weakening end-product demand as well as ongoing supply chain challenges, we believe customers built meaningful inventory across most end markets as caution against further procurement challenges. With an improved supply chain relieving concerns of long lead times, weakening macro conditions, and China reopening, we

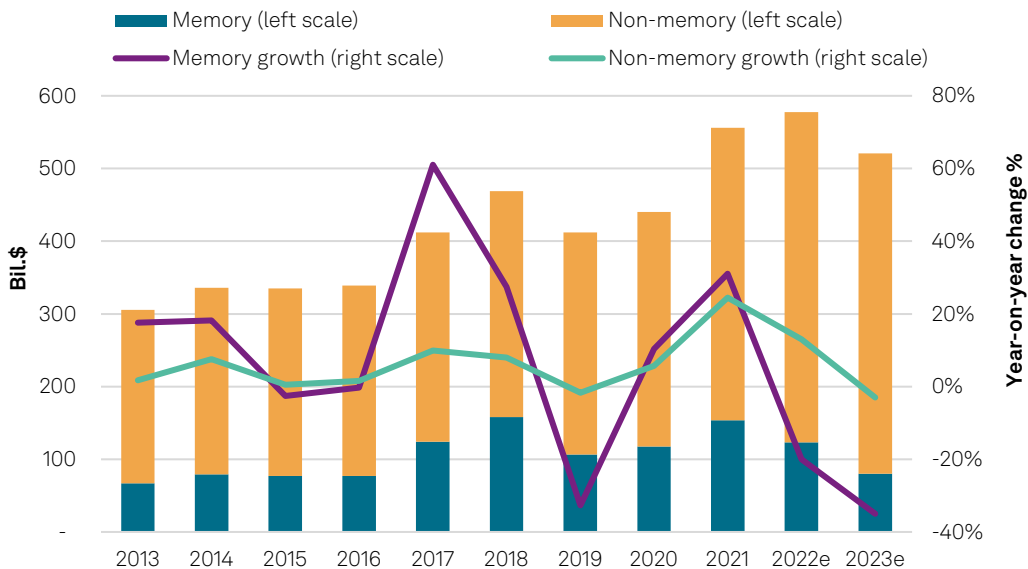
Industry Top Trends 2023: Technology

believe semiconductor customers are likely to spend the early part of 2023 carefully managing their inventory levels, as indicated by Qualcomm Inc. and Advanced Micro Devices Inc. (AMD) regarding their smartphone and PC OEM customers' purchasing behaviors.

Chart 9

Semiconductor Revenues Will Shrink After Three Years Of Growth

Semiconductor industry revenue by segment



e--Estimate. Sources: SIA, S&P Global Ratings.

After growing by more than 50% over the past two years, we believe the analog segment is set for an inventory correction in 2023. Industrials and auto end markets have remained solid entering 2023, but we see risk that they may slow as customers digest high levels of inventory as industrial investment slows with GDP growth. Nevertheless, we think analog vendors will likely outperform other areas of the sector through this downturn, as 5G spending and increasing dollar content in automobiles will likely offset some of the declines in consumer electronics and datacenter markets, where analog content is lower than digital products. Although semiconductor vendors such as NXP Semiconductor haven't indicated to significant demand slowdown in microcontroller or mixed signal products, we anticipate there to be at least a deceleration in growth, if not an outright slowdown in these product areas given their broad applications and the headwinds to macroeconomic conditions ahead.

The memory downturn has been significantly worse than we had expected, and market conditions continue to deteriorate. Memory prices have already declined meaningfully in recent months and we expect significant pricing pressure in 2023 given the inventory build that needs to be flushed before restocking can take place. We now forecast memory revenues will decline around 35% in 2023 after an estimated 17% decline in 2022. Our outlook revisions on Micron Technology Inc. and SK Hynix Inc. to stable from positive 'BBB-', and on Seagate Technology Holdings PLC to negative from stable at 'BB', and our downgrade of Western Digital Corp. to 'BB' from 'BB+', all reflect these mounting risks.

The DRAM market is more rational, with three large competitors controlling more than 90% of the market, and should find a bottom near mid-2023 through supply cuts. The NAND market remains highly volatile with four companies, excluding Samsung Electronics Co. Ltd., each holding shares in the 10%-20% range. We believe the NAND market will not find a bottom until calendar year-end

2023. Lastly, we believe government subsidies add to potential memory volatility over the longer term as it may encourage overinvestment and potentially keep smaller, less-profitable companies afloat.

As a result of the supply chain disruptions, semiconductor firms have been successful in passing along higher input costs to customers. Over the near term and until customers have reset their inventory level to be more aligned with less end customer demand, we expect any higher cost passthroughs to be more scrutinized and sales volume to exhibit higher price elasticity.

On the capacity front, some foundries and IDMs have announced capital spending cuts or delays, the impact of which may hasten an exit from the current downcycle, but we think the broader industry remains optimistic around persistent longer-term secular growth drivers as well as increasing geopolitical concerns within the semiconductor space. This view on longer-term investment growth underpins our ratings on the major wafer fab equipment (WFE) vendors--Lam Research, KLA Corp., and Applied Materials--all of which we have upgraded at least once over the past three years. We expect all three firms to face declining sales over the next year amid a roughly 20% year-over-year decline in overall WFE spending--particularly at Lam with a relatively higher proportion of sales to memory producers--but growing recurring services businesses, significant order backlog from years of supply shortages, and strong balance sheets should help the large OEMs navigate this downturn. Over the longer term, we expect to see credit fundamentals for the WFE industry continue to improve, as increasing capital intensity for leading nodes and growing government support for fab investment supports spending and a high degree of consolidation limits competitive pressures.

Nevertheless, we expect ratings stability across the sector, particularly among investment-grade issuers who have broadly emerged from the recent period of growth with strong balance sheets and low financial leverage compared to downgrade thresholds. Median leverage amongst U.S. investment-grade issuers was approximately 0.5x as of the year end, and the most leveraged issuer, Broadcom at about 2.5x pro forma for the pending acquisition of VMware, should benefit from increasing software revenues that will moderate the impact of any semiconductor industry downturn. Intel Corp. remains the only investment-grade issuer with a negative rating outlook, and much of its challenges stem from idiosyncratic risks including increasing competition from AMD and struggles keeping up with Taiwan Semiconductor's (TSMC's) leading manufacturing nodes. In spite of strong balance sheets, we see limited risk of M&A-driven downgrades in the sector, as years of consolidation and increasingly wary antitrust authorities constrain the pool of large transactions that would likely pass regulatory scrutiny.

The trajectory of the semiconductor industry in 2023 will be highly dependent on global macroeconomic factors. We continue to see strong tailwinds from secular growth drivers including industrial automation, electric and automated vehicles, exploding data transfer and consumption, and alternative energy. While this downturn will be painful, particularly for memory providers, we think it will be manageable in the context of past downturns--unless our macroeconomic forecast for a shallow recession proves overly optimistic. Although it is inherently difficult to quantify, we are increasingly paying attention to geopolitical risk to the industry as governments have taken steps both to constrain trade in leading-edge devices and manufacturing equipment as well as promote investment and capacity growth within their borders. While we generally think a less Taiwan-centric manufacturing footprint would reduce industry tail risks from geopolitical conflict, a more diversified supply chain will be less efficient and may serve to reverse much of the significant gross margin expansion reported by fabless or fab-lite firms over the past decades. We also would expect future industry downturns to be more severe if capital and capacity planning begins to be driven more by regional security concerns than more financially driven goals.

Technology remains resilient but ratings will trend negative in 2023

North America: We expect U.S. technology investment-grade credit ratings to be stable while speculative-grade credits face heightened rating downgrade risk. Although a recession in the U.S. is widely predicted and foreign exchange and persistent inflationary pressures remain headwinds, we believe investment-grade rating downside risk is low. Investment-grade issuer ratings predominantly have stable outlooks that already incorporate our more conservative view on company performance in 2023. As such, we expect investment-grade issuers will have sufficient balance sheet and cash flow cushion to preserve current ratings. Aside from Intel Corp. (A+/Negative/A-1) and two issuers with upgrade potential due to the pending acquisition (Broadcom [BBB-/Watch Pos/A-3] and VMware [BBB-/Watch Pos/--]), the rest of our investment-grade universe has stable outlooks.

Conversely, we expect the rising rate environment to remain a central theme among speculative-grade credits, weighing on credit fundamentals. We view U.S. issuers in the 'B/B-' category (about 44% of rated U.S. tech issuers) may face greater rating pressure if interest rates remain higher for longer given predominantly bank loan-only capital structures. Unsurprisingly, negative rating actions for speculative-grade credits (39) outpaced investment grade credit downgrades (5) in 2022. This trend may continue given speculative-grade issuers inherently have riskier business profiles, weak balance sheets, and low free cash flow levels. While many issuers do not face immediate refinancing needs, they may not be able to cope with the greater interest expense burden if demand prospects are weaker than expected. This may increase the risk of outlook revisions or even downgrades to the 'CCC' category. As capital market conditions remain challenging for speculative-grade credit, debt restructuring activity may tick up but default rates are expected to remain low.

We believe hardware companies will have less cushion to withstand the inflationary environment and face greater rating pressure, especially if end-customer demand weakness makes price hikes difficult. For example, we downgraded Diebold Nixdorf Inc. (CCC+/Positive/--) to 'SD' following its debt restructuring. The company's recovery has been slower than expected given ATM hardware pressures and inflation challenges and component shortages. While we see a path for the company's improvement, a long history of inconsistent revenue growth given uncertain ATM hardware demand, and weakening free operating cash flow (FOCF) generation question its ability to sustain a recovery to address mounting debt maturities over the next two years.

While software companies have been relatively resilient because of their high recurring revenue and good profit profiles, they have high debt balances relying on synergies from bolt-on M&A and favorable market conditions to grow into their capital structures. We view digital transformation trends to benefit software demand but see challenges for hardware companies and those that face meaningful technological risks. These companies are susceptible to higher business volatility and will likely have greater rating downside risk over the coming year or so. We currently have negative outlooks on roughly 15 issuers in the 'B' category. For example, Veritas Holdings Ltd. (B-/Negative/--) faces high business execution risk. While Veritas does not have refinancing needs in 2023 and has high cash balances, we expect its credit metrics to deteriorate further over the next two years before improving ahead of its 2025 debt maturity.

Asia-Pacific: Our credit outlook for Asia-Pacific issuers is mostly stable. However, an impending macro downturn and rising rates could turn rating bias more negative, especially for those technology hardware issuers with high consumer exposure. We believe most of the Asia-Pacific technology hardware issuers have sufficient cash flow and leverage buffer to withstand a moderate shortfall in revenue and profitability, but a prolonged demand downturn could lead to rating actions. For example, if we believe Xiaomi's (BBB-/Positive/--) sales declines will not stabilize in 2023 we could revise the outlook to stable. We could also revise the positive outlook

Industry Top Trends 2023: Technology

on Lenovo (BBB-/Positive/--) to stable if its robust non-PCs revenue growth cannot offset the weakness stemming from the PC inventory correction, resulting much weaker sales and cash flows.

Recent negative rating actions in Asia-Pacific were related to increasing leverage and cash flow headwinds amidst rapidly rising inventories. As the hardware supply chain has been gradually reducing inventory levels, we expect such working capital needs will start to reverse. In addition, we also expect the remaining chip shortages to be resolved over the next few quarters. As consumer demand wanes, we believe semiconductor manufacturers may shift excess capacity to help reduce tight supply in areas like communication and automotive. While that should help credit profiles and alleviate the rating pressure, industrywide inventory build-up may take longer to resolve and could last into the second half of 2023.

We still expect relatively strong growth for the IT services sector as digital transformation, automation, and demand for cost reduction will likely support Japanese and Indian issuers' credit profiles in 2023. We believe multiyear projects and diversified downstream market exposure will continue to generate recurring cash flows to hold up against the impact from a slower macro environment. However, smaller IT services and software companies in the 'B' rating category will be vulnerable to the macroeconomic headwinds and rising rates.

Europe: We expect steady performance for European tech issuers in 2023. Almost 85% of our rated issuers have a stable outlook, 11% have negative outlooks, and 4% have positive outlooks. That said, the risk of a deeper recession would increase rating downside risk compared to our base case of zero real GDP growth in the eurozone. While a weaker macroeconomic backdrop would likely weigh on our demand expectation, our forecasts already incorporate more conservative growth expectations.

We expect a lower growth trajectory for semiconductor issuers such as STMicro (BBB/Positive/--) and Infineon (upgraded in 2022 to BBB/Stable/--), moderating to mid- to high-single-digit growth in 2023 from high-double-digit growth in 2022 as they benefit from resilient automotive and industrial demand. Similarly, we expect growth to be mostly flat for telecom equipment makers including Nokia (BB+/Positive/--) and Ericsson (BBB-/Developing/--) as 5G deployments take a pause after a strong initial rollout of low-band coverage.

We believe software and IT services providers have strong growth prospects that provide rating upside. The efficiency and competitive benefits of their cloud migration and digitalization offerings should leave demand for their products relatively recession resistant. We see this translating into upside potential for names like Capgemini (BBB/Positive/--). Conversely, companies struggling to make the transition from legacy hardware and on-premises IT infrastructure management (like Atos (BB/Negative/--) and Claranet (B/Negative/--)) or with exposure to concentrated pockets of weakening customer demand (like Triton Midco (B-/Negative/--)) face more material downgrade risks.

We expect greater downside risk for speculative-grade issuers. We believe European speculative-grade issuers that have near-term maturities face increased refinancing risk if debt capital markets remain volatile and less receptive to weaker issuers. Additionally, we expect mounting rating pressures for speculative-grade issuers (about 63% of European technology ratings) as the higher interest rate environment will impede FOCF generation and weaken credit ratios.

Credit metrics and financial policy

We expect financial policy to lean conservative in 2023 for rated technology issuers given rising macro headwinds and high borrowing costs. Investment-grade issuers' balance sheets have remained mostly healthy despite weakening market conditions through 2022. There were few large acquisitions announced (Microsoft's pending acquisition of Activision Blizzard for \$69 billion, Broadcom's pending acquisition of VMware Inc. for \$61 billion), but both occurred during the first half of 2022 before macroeconomic concerns emerged. Adobe Inc. announced plans to acquire privately held Figma for \$20 billion in September 2022, but M&A activity was quiet for the most part during the second half of the year. Given rising regulatory scrutiny, high cost of debt, and still uncertain macro conditions, we do not expect meaningful acquisition-related rating actions in 2023. However, should policy rates peak in mid-2023 and lead to stabilization of financing conditions in the latter half of the year as per our base case, we could see some pent-up deal activity come to the market.

We have historically experienced limited downgrades caused solely by acquisitions among investment-grade issuers. Some can fund acquisitions with balance sheet cash and cash flows while others, such as Broadcom, have some cushion within their ratings to accommodate their growth strategies. In fact, we placed the Broadcom 'BBB-' rating on CreditWatch Positive upon its acquisition announcement despite the higher leverage, as we viewed the combined business to be stronger and less volatile.

Issuers engaged in higher share repurchases in 2021 and the first quarter of 2022 but activity slowed considerably during the second and third quarters. We would expect similar slowdown in the yet-to-be reported fourth quarter. Companies with significant balance sheet capacity such as Microsoft and Apple Inc. continue to execute sizable share repurchases utilizing their excess liquidity, and therefore our ratings remain unchanged. We expect lower-rated investment-grade issuers, especially those in hardware and semiconductor industries, to exercise caution with shareholder returns in 2023. With interest rates rising, we believe they will lean towards fortifying their balance sheets or making long-term capital investments over share repurchases.

In the speculative-grade space, rating pressure continues to build. Operating results generally fell short of budget in 2022 for issuers in the lower end of the ratings spectrum ('B' and below) as revenue growth has been weaker than expected coupled with rising costs due to inflationary pressure. They had little cushion to absorb execution missteps given limited free cash flow generation after debt service. We expect significantly higher interest burden for many of the sponsor-owned companies in 2023, which will further stress liquidity. We expect credit metrics to remain mostly stable for those issuers with high recurring revenues and pricing power, but those competing in a crowded market with weaker pricing power should incur weaker credit metrics and cash flow, with the potential for negative rating action.

Key risks or opportunities around the baseline

1. China is the wildcard in 2023

As China reopens its economy, its role in the technology ecosystem--as a consumer of key hardware and semiconductor components and as a global supplier of labor to produce these products--will be outsized in determining the overall health of the technology industry.

2. Higher debt financing costs will hurt those rated 'B' or lower

While the vast majority of 'BB-' or higher rated tech issuers have the market positions, operating flexibility, and ratings cushion to endure higher debt financing costs, we don't believe that's true of those rated 'B' or lower. The high likelihood of macroeconomic deterioration adds to the financial stress of these low rated issuers given their already strained credit profiles.

3. Hard landing would punish semiconductor and hardware issuers

Risk to our base case scenario of a soft landing remains firmly on the downside. Under such a downside scenario, we would expect greater financial impact on hardware and semiconductor issuers, especially those in the speculative-grade category.

China is the wild card in 2023. China's growing contribution to global IT spending, including areas of key hardware products, and its importance to the technology supply chain mean the country's recovery prospects could be a key determinant for the health of the global technology sector in 2023. China's abrupt relaxation of COVID restrictions in December 2022 and government policies to support the burgeoning digital economy could spur spending growth in 2023 and offset some of the headwinds facing the technology sector.

China's IT spending has grown rapidly over the years and now accounts for roughly 10% of total global spending. Its footprint in some consumer electronic categories is even larger, accounting for a little less than 20% of global PC shipments and a little over 20% of global smartphone shipments.

In 2023 China could see a recovery in spending for consumer electronics, especially smartphones, with the lifting of COVID restrictions. Last year, China's COVID lockdown measures and slowing economic growth resulted in smartphone and PC shipments declining 14% and 11% year over year, respectively, for the first nine months of 2022. China's lockdown measures likely weighed on consumer sentiment and spending, particularly for offline retail channels, which accounted for about 70% of smartphone sales in 2021.

Over the longer-term, China's efforts to accelerate the growth of its digital economy and increase the contribution of its domestic technology supply chain will likely drive faster IT spending growth relative to the rest of the world.

Within our rated technology universe, Lenovo Group Ltd. and Xiaomi Corp. stand to benefit the most from a China recovery. Lenovo and Xiaomi derive about 25% and 50% of their revenues from China respectively. Lenovo also has a significantly higher exposure to China than its major competitors, Dell Technologies Inc. and HP Inc.

China is also critical to the global technology sector's supply chain. Despite efforts by overseas companies to diversify production, most high-volume hardware products are still manufactured in China. By some accounts, China accounts for about 90% of global Wintel (Windows and Intel-based systems) PC production and 60%-70% of global smartphone production. China's removal of COVID-related restrictions should ease bottlenecks and production issues, such as the one which impacted Apple's iPhone production in Zhengzhou in 2022. However, whether the rapid rise of COVID infections in early 2023 will result in further production disruptions remains uncertain.

Finally, the recent step-up of U.S. restrictions on China's tech industry could throw a curve ball at the technology industry. China's integrated circuit (IC) wafer capacity, predominantly on non-leading edge nodes, represents about 16% of the total world supply as of 2021 and this could grow to 19% by 2024. Any production disruption could push the fragile balance of chip supply and demand back into shortage. It is reasonable for Chinese enterprises to lower their semiconductor investments in the face of weaker global economic growth and for the Chinese government to scale down its semiconductor subsidy package given the temporary financial pressure from weaker domestic GDP. In the longer-run, however, China will likely redouble its efforts to increase chip production and technology self-sufficiency. This has the potential to disrupt the delicate demand and supply balance that the global chip industry has built up over decades and represents a long-term credit risk for our rated technology issuers.

Higher debt financing costs will hurt those rated 'B' or lower. The U.S. Federal Reserve and central banks worldwide raised interest rates aggressively in 2022 and we believe that trend should continue in 2023, with S&P Global economists forecasting that policy rates will peak at 5.00%-5.25% near the second quarter of 2023. Under this scenario, the global economy should slowly regain momentum and this, in turn, should lead to a stabilization of financing conditions in the latter half of the year. Nevertheless, debt-financing costs will remain elevated through 2023 and this will hurt all technology issuers, but especially those rated in the 'B' category or lower that have significant debt outstanding and high variable-rate debt exposures.

Within our global tech coverage, we view financial sponsor-owned issuers as most likely to experience credit deterioration, as they are typically smaller, carry substantial variable-rate debt, are likely to have only minimal or negative free operating cash flow, and have limited excess cash on hand. Financial sponsors could provide financial support to portfolio companies in times of stress, but adequate support to stave off downgrades cannot be guaranteed.

Weakness in the consumer end markets began in the first half of 2022, with tepid demand for consumer electronics and PCs as the work-from-home trend lost steam. In the third quarter, signs of softness spreading into the industrial, data center, and other end markets (except for auto) were evident, hurting hardware sales.

Software issuers tend to have high recurring revenue characteristics, and many have annual price escalators incorporated in their subscription or maintenance services contracts, providing some buffer against adverse macro conditions. Despite these positive credit traits when compared to hardware vendors that have transactional sales business model, software issuers tend to have higher debt-to-EBITDA ratios and higher variable-rate debt outstanding. The rapid climb in debt financing costs has diminished many of these highly leveraged software issuers' free operating cash flow and strained their liquidity profiles. For example, in late Oct 2022, we revised our outlook on U.S. cloud-based insurance distribution software issuer Cardinal Parent Inc. (which does business as Zywave) to negative from stable and affirmed the 'B-' rating. Although Zywave's revenue continues to grow at reasonable rates, its financial position is burdened by a sizable variable-rate debt balance estimated to be near \$770 million and a debt-to-EBITDA ratio significantly exceeding 10x at the end of 2022. As debt financing costs continue to rise, we anticipate Zywave's cash interest expense will be over \$70 million and free operating cash flow will break even in 2023. The company's liquidity position could be further weakened, as it is susceptible to a sustained or more severe underperformance in the event of an economic downturn.

Entering 2022, most if not all 'B-' rated tech issuers generated some level of positive free operating cash flow. However, we estimate that about half of our 'B-' rated issuers are likely to have break-even or negative FOCF generation in 2023 because of the incremental debt-financing cost burden and an anticipated deteriorating business environment across most end markets.

Industry Top Trends 2023: Technology

This is particularly important given the rating downside scenarios for many 'B-' rated issuers cite breakeven or negative FOCF as a potential trigger.

The higher debt financing costs could prompt many software companies to raise prices, offer multiyear discounts for prepayments, or look for cost cuts to improve their cash flows or liquidity, with a delicate balance of not compromising their longer-term business model or customers' experience. Some companies might also seek to divest business segments and reduce their debt burden in times of stress. We may view these transactions as beneficial if they remove or mitigate near-term credit concerns. However, these divestitures could come at the expense of longer-term returns, especially if they involve selling better businesses to prop up the weaker ones.

We're bracing for more defaults or restructuring activities in 2023. The waning global economic conditions are likely to be more damaging to our rated tech issuers this time around because it is doubtful that debt financing costs will return to prior low levels, and some issuers may depend on favorable operating environments to preserve their credit metrics. Although many tech issuers have successfully refinanced or extended their debt maturities prior to the surge in debt financing costs, if business recovery stalls prior to these issuers' upcoming debt maturities, more default or debt-restructuring activities may ensue.

Hard landing would punish semiconductor and hardware issuers. We think a downside scenario to our base-case forecast for a shallow U.S. recession in the first half of 2023 would hurt semiconductor and hardware companies more than software companies that have increased their mix of recurring subscription revenue over the last decade, providing stability even during recessions. One area of the market would be at greater risk: on-premises hardware--PCs, servers, and storage. This area would see demand fall further as enterprises curtail investment budgets even more than they are already planning. This would be on top of already flagging PC demand after two strong years supported by work-from-home investment, which has run its course. Companies that would be affected include Dell Technologies Inc., HP Inc., Hewlett Packard Enterprise Co., NetApp Inc., Western Digital Corp, and Seagate Technology Holdings plc.

Semiconductor issuers are entering 2023 with elevated inventory across the board. Last quarter, we saw early signs of macroeconomic weakness spreading to the industrial end market, which had been a bright spot in the post-COVID environment and which we expect to be a long-term revenue driver for the industry as connectivity of machines and factories increases with 5G adoption driving higher levels of automation. NXP Semiconductors guided for industrial revenue to be down in the low-double digits next quarter year over year, and Texas Instruments Inc. also acknowledged cracks in demand. A hard landing would accentuate this near-term weakness, especially if customers start cutting chip orders to reduce inventory, and could spread to the automotive end market, which we also view as a long-term grower due to increasing electronic content in cars. In such a scenario, 2023 semiconductor industry revenues would decline more than the 10% currently forecasted and lead to ratings pressure especially among smaller speculative-grade issuers.

Finally, the DRAM and NAND memory markets that include Western Digital Corp., Micron Technology Inc., SK Hynix Inc., and Samsung Electronics Co. Ltd. have already entered a painful correction due to weakening demand across most end markets including PCs and smartphones, and to a lesser extent, servers. The players are already making big cuts to capex and production levels. We currently do not envision a return to midcycle supply/demand balance until the second half of 2023 for DRAM and 2024 for NAND at the earliest, and a hard landing would lengthen the timeline to this milestone and deepen the trough. Despite the rating actions already taken in the latter part of 2022, we believe there could be additional ratings pressure under such a scenario.

We believe the vast majority of investment-grade rated companies have the market positions, operating flexibility, and cushion within their ratings to endure downside to the mild recession we

Industry Top Trends 2023: Technology

envison for 2023. Such a scenario would challenge speculative-grade issuers more because they generally have less differentiated products and less powerful market positions, their smaller scale provides fewer options for cost reductions, and they generally operate closer to the limits of the rating, particularly in the 'B' category, in which companies' private equity sponsors attempt to maximize equity returns through financial leverage. Notable companies we see in the speculative-grade space most at risk in a downside scenario would include Xerox Holdings Corp., Pitney Bowes Inc., Seagate Technology Holdings plc., CommScope Holding Co. Inc., and VeriFone Systems Inc.

Related Research

- [U.S. Tech Bracing For The Credit Storm: Ripples Now With A Chance Of Bigger Waves](#), Dec. 6, 2022
- [Winter Is Coming For U.S. Tech](#), Nov. 15, 2022
- [Credit FAQ: U.S. Controls Cast Uncertainty Over Tech Majors' China Ties](#), Nov. 14, 2022
- [Technology And Geopolitics: What If The Semiconductor Industry Bifurcates?](#), Nov. 13, 2022
- [U.S. Chips On A New Block With Expanded China Restrictions](#), Oct. 19, 2022
- [Less Money, More Problems For U.S. Tech Companies As Economic Woes Continue To Rise](#), Aug. 30, 2022

Industry Forecasts: Technology

Chart 10

Revenue growth (local currency)

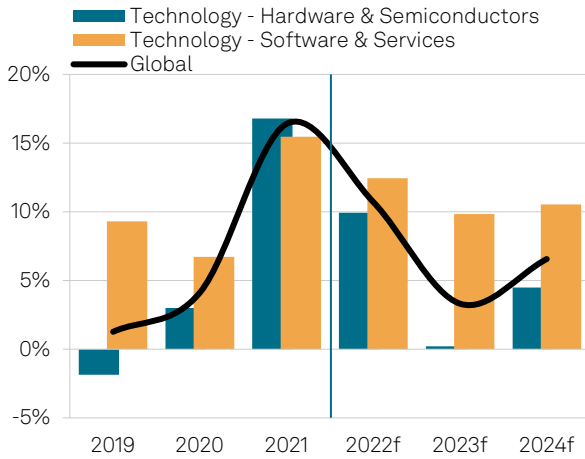


Chart 11

EBITDA margin (adjusted)

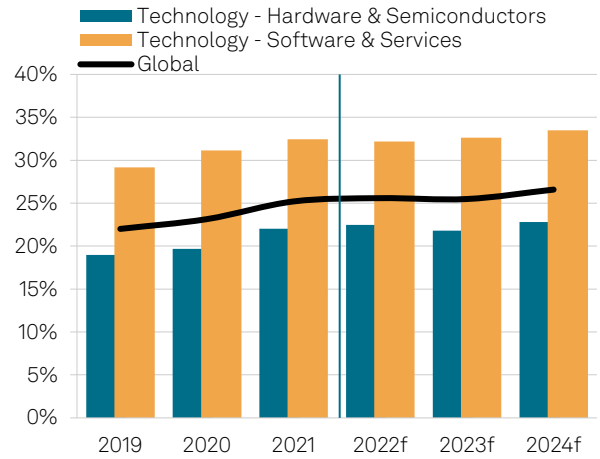


Chart 12

Debt / EBITDA (median, adjusted)

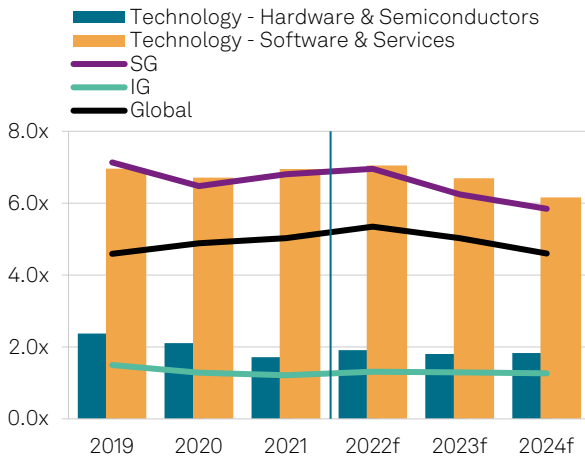
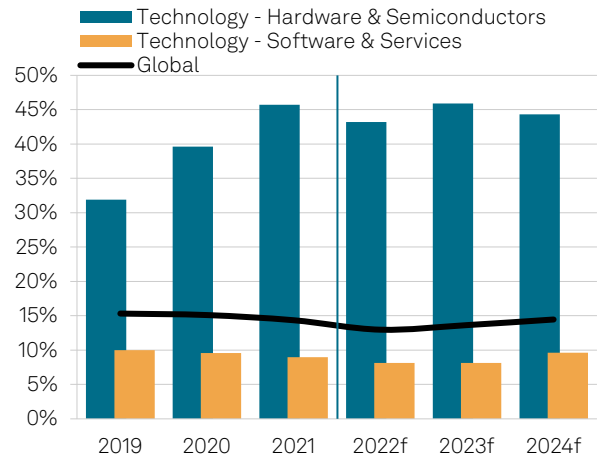


Chart 13

FFO / Debt (median, adjusted)



Source: S&P Global Ratings. f = Forecast.

Revenue growth shows local currency growth weighted by prior-year common-currency revenue share. All other figures are converted into U.S. dollars using historic exchange rates. Forecasts are converted at the last financial year-end spot rate. FFO—Funds from operations.

Cash, Debt, And Returns: Technology

Chart 14

Cash flow and primary uses

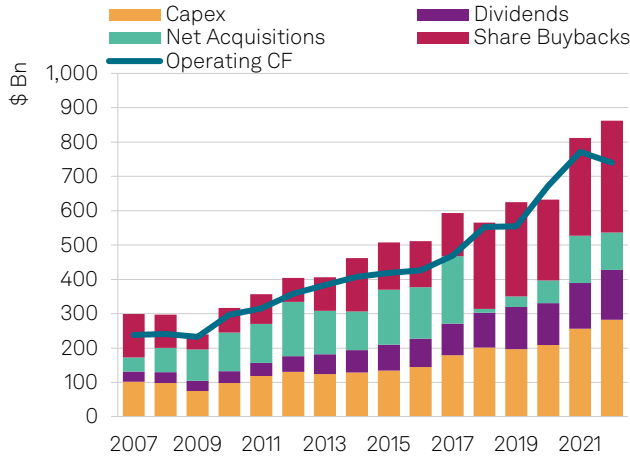


Chart 15

Return on capital employed

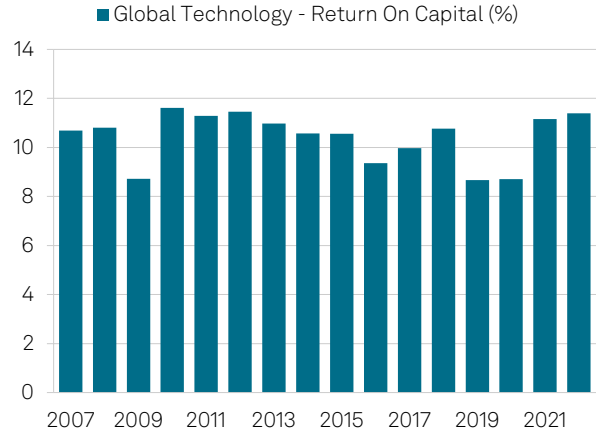


Chart 16

Fixed- versus variable-rate exposure

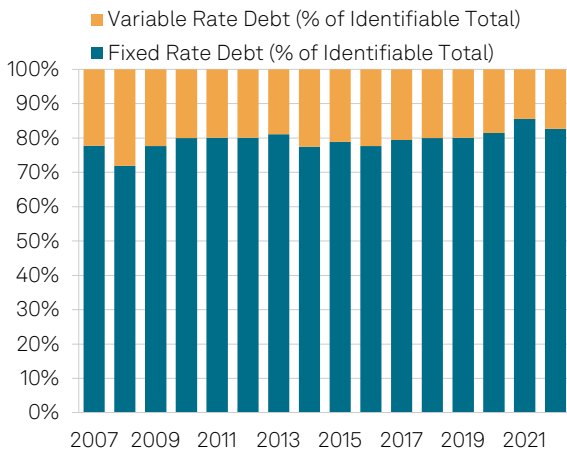


Chart 17

Long-term debt term structure

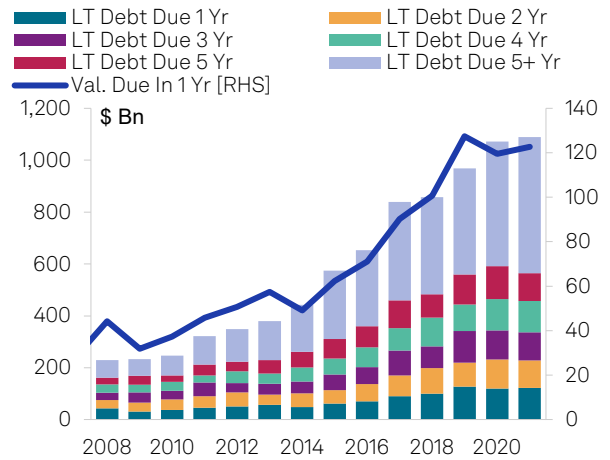


Chart 18

Cash and equivalents / Total assets

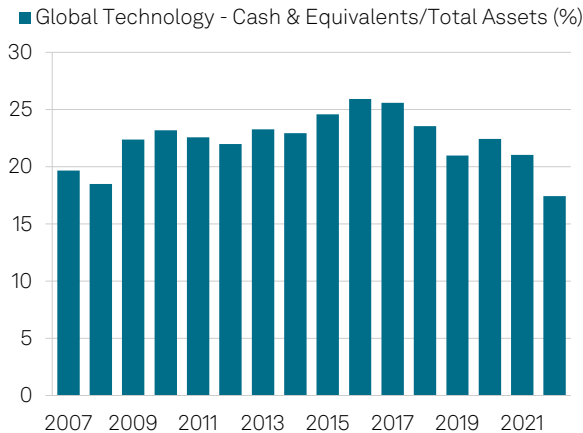
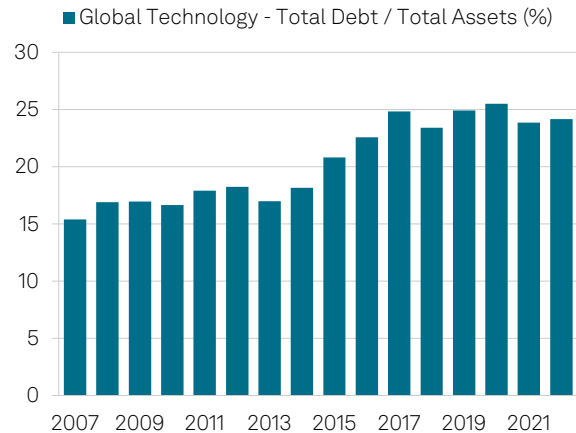


Chart 19

Total debt / Total assets



Source: S&P Capital IQ, S&P Global Ratings calculations. Most recent (2022) figures use the last 12 months' data.

Telecoms

Macro headwinds will slow but not stop earnings growth

January 23, 2023

This report does not constitute a rating action



What's changed?

Telecom industry to be relatively resistant to a weaker macro outlook due to its utility-like characteristics. Potential demand destruction will be limited to specific businesses or regions.

Margins will be generally resistant to inflationary headwinds. Pass through of cost increases combined with operational efficiency will limit the impact of inflation on profitability.

Rising interest rates will likely pressure ratings. Speculative-grade entities will be hit harder.

What are the key assumptions for 2023?

Modestly rising revenue reflecting cost pass-throughs, increased uptake of higher margin services, and improved cost controls.

Capital expenditure has peaked, but will remain elevated as fiber and 5G rollout continues.

Deleveraging is taking time. Capital expenditures are lower but EBITDA growth is slower, and aggressive shareholder returns could preclude a material improvement of leverage levels.

What are the key risks around the baseline?

Margin pressure if inflation and unemployment rise higher, decreasing discretionary spending.

Access to capital markets. Volatile capital market and higher interest rates would increase liquidity and refinancing risks.

Generating adequate returns. Constrained size and scale, aggressive competition, service commoditization, and pro-consumer regulation could continue to limit returns on investments.

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Ratings Trends: Telecoms

Chart 1
Ratings distribution

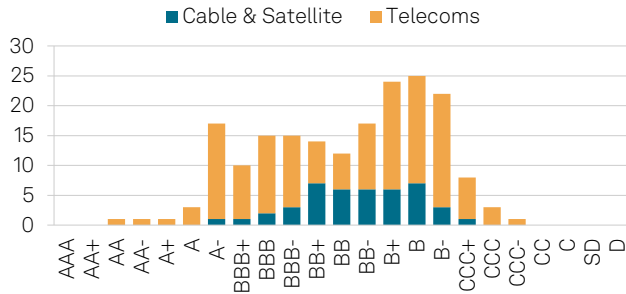


Chart 2
Ratings distribution by region

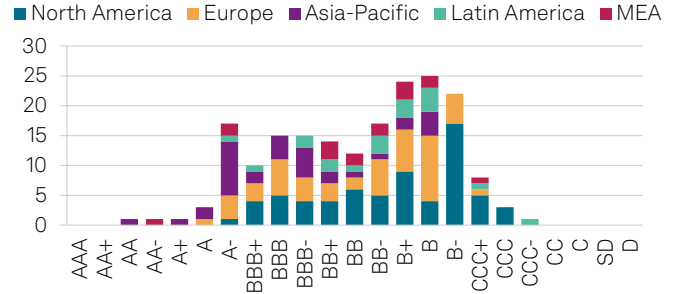


Chart 3
Ratings outlooks

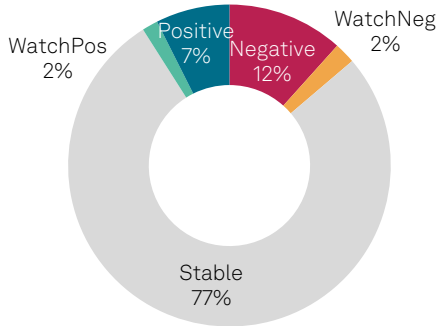


Chart 4
Ratings outlooks by region

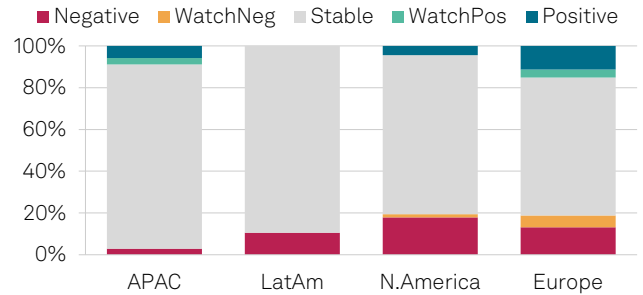


Chart 5
Ratings outlook net bias

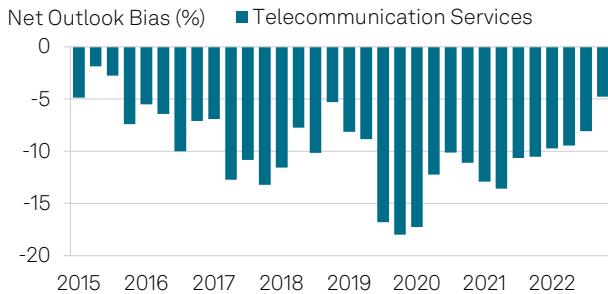
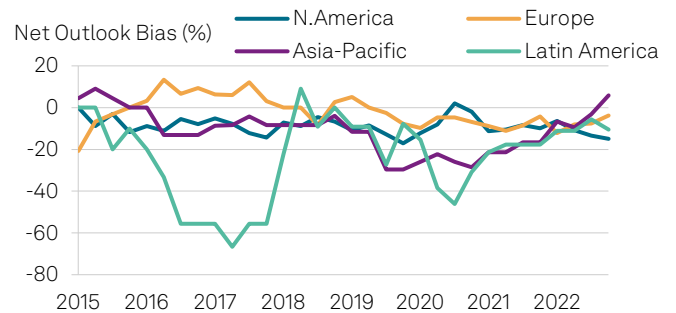


Chart 6
Ratings net outlook bias by region



Source: S&P Global Ratings. Ratings data measured at quarter-end.

Industry Outlook: Global

Ratings trends and outlook

Ratings in the telecommunications sector have been in line with our expectations. In recent months the sector's credit profile has been relatively stable, albeit with a slightly declining trend. Overall, 79% of telecom issuers had a stable outlook at year-end 2022, down from 84% in the previous year and in line with 2020 year-end results. The proportion of companies with negative outlooks or CreditWatch placements were essentially unchanged at 14% compared to 13% a year ago; companies with positive outlook or CreditWatch placements improved to 9% from 3% last year. Globally the net outlook bias has changed to negative 5% compared to negative 9% at year-end 2021. Downgrades outpaced upgrades by close to 3 to 1. Positive rating actions in Asia and Latin America (Latam) were offset by negative actions in the U.S. and Europe, the Middle East, and Africa (EMEA). Rating actions in the U.S. reflected weaker capital market and business conditions while actions in EMEA were often company-specific, or driven by sovereign rating constraints.

For 2023 we still expect high leverage in spite of modestly reduced capital expenditure (capex) investments--recessionary headwinds could slow EBITDA growth, which could weigh on the industry's credit quality, especially if cash flow declines more than expected or financial policies focus on shareholder returns in lieu of lower capex. Merger and acquisition (M&A) opportunities and asset divestitures will likely slow, reducing debt-funded transactions but also limiting funding flexibility for the capital-intensive industry.

Investment-grade ratings should remain stable through 2023 because of generally stronger business attributes and greater financial flexibility. About 80% of the investment grade companies have a stable outlook with only 10% on negative outlook or CreditWatch placement, in most cases reflecting company-specific leveraging transactions. About 75% of the speculative-grade portfolio has a stable outlook.

For speculative-grade issuers, protracted high interest rates or a prolonged recession with limited access to capital markets could particularly impact those with tight liquidity or near-term financing needs. Issuers with limited scale and differentiation, companies indexed to legacy offerings or high investment needs, or companies with refinancing needs in the near-term remain most vulnerable to negative actions in the coming year.

Main assumptions about 2023 and beyond

1. Positive growth rates despite macro headwinds

With inflation-driven price increases, we expect revenue gains globally. Similar to 2022, emerging markets will benefit from stronger demand while increased competitive intensity in the U.S. and Europe will limit growth.

2. Peak capex is over but still high

Capex intensity for the industry will remain elevated in 2023 but lower than 2022 levels. Capex spending has peaked for both Europe and Asia, while some U.S. cable and Latam wireless and wireline companies (telcos) will increase capex this year. Fiber-to-the-home (FTTH) expansion, 5G rollout, and continued investment in infrastructure will drive spending.

3. Credit metric improvements will remain constrained

Rising interest rates, high inflation, and a recession will likely limit revenue and EBITDA growth. Less capex will lead to marginally better free cash flow and financial flexibility, but we expect no material improvement in credit metrics.

Positive but uneven growth rates despite macro headwinds. Demand for telecom services should protect the industry amidst rising rates and our expectations of a shallow recession in 2023. With telecom operators mostly able to pass on their cost increases to consumers, we expect low-single-digit revenue growth while a focus on cost efficiency measures and synergy execution should lead to stronger earnings growth. We expect faster growth (mid- to high-single digits) in Asia-Pacific and Latin-America, with low single-digit growth in the U.S. and Europe.

- In the **U.S.**, wireless service revenue growth will be about 2%, reflecting competition from cable companies. Weaker subscriber growth and aggressive promotions amongst higher competitive intensity will limit revenue expansion. Business wireline services face secular industry pressures as large customers accelerate their digital transformation and cut costs, and small/midsize business (SMB) customers scale back operations against a backdrop of deteriorating economic conditions. Like in 2022, we foresee low-single-digit revenue growth for the U.S. cable business, reflecting average revenue per user (ARPU) growth, footprint edge-outs, and improving wireless economics.
- In the **eurozone**, we expect low-single-digit revenue growth as operators continue to raise prices, though at different rates in different markets, to pass on elevated labor, energy, and wholesale costs. European tower companies have automatic price escalators and energy cost pass-throughs that also support revenue growth.
- Mid-single-digit revenue growth in **Latin America** reflects the increasing needs for remote connectivity and streaming entertainment, indicating continued demand for broadband and wireless services.
- In **Asia**, the return of roaming revenues and the migration to high-priced mobile tariff plans on faster 5G networks will continue to expand modest revenue growth in 2023.

Capex spending has peaked but is still elevated. We forecast an overall decline in global capex as the bulk of spending to support fiber and 5G rollout in different regions is largely tailing off--except in the U.S. cable space and Latam. Ongoing deployment of next-generation infrastructure will keep capex intensity at 16%-18% of revenues, down from 19%-20% in 2022. In the U.S., 2023 telco capex will decline by approximately 10%, reflecting the reduction in 5G-related capex by Verizon and T-Mobile. U.S. cable operators will continue their capex investments for network upgrades, not only to protect market share in the short term but to support sustained ARPU

growth in the long term. Even though capex in the eurozone has peaked as fiber deployments and initial 5G coverage requirements wind down in certain countries, we still forecast high spending for the region with countries like Germany and the U.K. ramping up fiber buildout, and 5G deployment shifting from initial coverage to densification. Similarly in Asia, telcos' peak spending on initial upfront capex has passed but will remain elevated as investments in fiber and 5G support increasing adoption. On the other hand, Latam capex spending will continue to grow to roll out 5G infrastructure. But with telecoms reaping the benefits of previous investments, we expect capex intensity to improve. Of course, with current inflationary headwinds, material, equipment, and labor costs could pressure capex budgets. We expect most companies in that situation would push out capex rather than stress balance sheets amidst prolonged weakening of macroeconomic conditions.

Credit metrics and financial policy

Credit metric improvements will remain constrained, and we see a possibility of more negative ratings, especially in the speculative-grade space. With the increasing reliance on connectivity, we expect the global telecom industry to grow by low single-digits despite weak macroeconomic conditions. However, rising interest rates, persistently high inflation, and a shallow recession may constrain revenue and EBITDA growth in 2023. In addition, companies will continue to invest in network infrastructure. A combination of already leveraged balance sheets, weak EBITDA growth, and high capex spending will limit leverage improvement.

Against the backdrop of inflationary pressures and higher interest rates, we expect leverage and liquidity management will remain key considerations for telecoms. They may consider pushing out capex, or consider alternate means to fund their capex, including sale of noncore assets, monetization of networks, or joint venture (JV) structures to move investment off balance sheet. Government subsidies could also lead to more economically viable investments.

Weak stock prices could push many telcos to return more money to their shareholders, hampering any material improvement in the industry's leverage profile. We will therefore focus on financial policy and capital allocation. For highly leveraged speculative-grade companies, amid high interest rates and volatile capital markets, risks to refinancing and liquidity are elevated and could pressure credit quality.

Key risks or opportunities around the baseline

1. Sustained Inflation and a prolonged recession could pressure earnings

Telecom operators have been able to pass on cost increases to customers. However, a deep recession, higher unemployment, and lower discretionary spending could lead to higher churn amongst price-sensitive customers, contributing to higher competition and lower revenues and cash flow.

2. Limited access to capital markets and a slowing M&A market could increase risk

Rising interest rates and a slow capital market could increase liquidity and refinancing risks for smaller speculative-grade telecoms. Investment-grade telecoms could face reduced funding from asset divestment or JV opportunities, constraining their capex spending.

3. Adequate returns remain out of reach

Competition, service commoditization, and pro-consumer regulatory policies could preclude an adequate return on large investments. However, we see potential for more industry-supportive regulation and policy.

Sustained inflation and a prolonged recession could pressure earnings. Historically the telecom industry has been recession resistant, and consumers and businesses are still unlikely to reduce their connectivity in the event of an economic slowdown. However, a deeper and longer recession with rising interest rates could pressure earnings and cash flow. In mature markets, weaker subscriber trends could exacerbate the pressures from consumers deferring upgrades, migrating to less-expensive plans, or switching to value providers. Higher unemployment and reduced headcount could worsen subscriber metrics further and increase price sensitivity. Thus, despite the stable characteristics of the industry, in a deep recession, revenue and cash flow could decline.

Limited access to capital markets and a slowing M&A market could increase risk. Most telecoms refinanced aggressively in the past few years against a backdrop of near-zero interest rates; therefore, we view upcoming debt maturities to be manageable. However, elevated interest rates and a choppy capital market will pressure speculative-grade companies with already elevated leverage, significant floating rate debt exposure, and weaker liquidity cushions, which could put them at a high risk of downgrade. Rising interest rates and a slow capital market could also impact investment-grade companies as market conditions could reduce valuations for transactions (asset divestitures, JVs) and could restrain capex spending or growth opportunities.

Adequate returns remain out of reach. The industry continues to struggle to improve its return on capital. Pro-consumer regulatory policies have shaped the competitive dynamics in most jurisdictions over the past decade and have been a factor in our downgrades. Lower wholesale tariffs, network unbundling requirements, spectrum set-asides and caps, support for new entrants to spur competition, and a limited appetite for consolidation have hindered incumbents from achieving greater returns on their investments. Indeed, the return on capital across rated telcos has generally been declining, to less than 5% in 2022 from over 7% in 2012. However, we believe pandemic-related lessons have the potential to slightly shift policies, to promote sustained network investments that support network resilience and greater broadband access. This in turn could foster a more-profitable and credit-supportive environment. Ultimately, regulatory pressures, particularly around consolidation, could ease somewhat and lead to a more sustainable competitive environment. We have seen a few cases of this in Asia-Pacific already, and European regulators will be revisiting the subject in 2023. And of course, looser regulations create other uncertainties, and we do not believe a complete regulatory about-face is probable, given the customer protections that some regulations afford.

Industry Outlook: North America

Ratings trends and outlook

Overall, S&P Global Ratings believes U.S. and Canadian telecom and cable is well positioned to withstand current inflationary pressures and a shallow recession in 2023. We believe

consumers will continue to prioritize connectivity and issuers will be able to pass on higher costs, generally. We expect telecom operators in the investment grade will allocate cash flow to debt reduction and to reaching their leverage targets following several years of substantial debt-funded M&A, spectrum purchases, and network upgrades. In cable, despite slowing broadband subscriber growth due to increased competition, we expect solid free cash flow generation and credit metrics to remain steady.

In 2023 we expect rating trends will continue to skew to the negative across U.S. telecom and cable, although we anticipate rating actions will be concentrated among the lower-rated issuers with limited scale and pricing power, where weaker macroeconomic conditions and rising

interest rates will have the greatest impact. Many of these companies have capital structures with significant exposure to floating rate debt that could hurt interest coverage ratios, depress cash flow, and pressure liquidity, while a higher rate environment could make it more difficult to refinance upcoming maturities at similar or affordable rates. Among U.S. wirelines, fiber providers, and data center operators, execution will be critical in their ongoing expansion, and higher energy and labor costs, coupled with supply chain constraints, could hurt credit quality.

Main assumptions about 2023 and beyond

1. Shallow recession will constrain credit metric improvement

Despite the sector's resilience to macroeconomic pressures, persistently high inflation, a recession, elevated capex, and rising interest rates could limit leverage improvement for U.S. wireless operators following their aggressive spending in recent spectrum auctions. These headwinds could also reduce returns, push up the cost per home passed, and ultimately curtail FTTH deployments for the U.S. wireline operators in 2023. For incumbent cable providers, a weaker economy may hurt SMB customers (typically accounting for about 15%-20% of their revenue) and slow the pace of broadband ARPU growth if customers delay speed upgrades.

2. Convergence increases competitive intensity

Increasing competition in cable from fixed wireless access (FWA) providers will likely result in limited customer growth, while mature industry conditions and aggressive competition in mobile from the cable operators (who are bundling wireless service with in-home broadband) should constrain subscriber growth and margin expansion for U.S. telcos.

3. Capital spending remains elevated

While we expect significant reductions in capex for Verizon and T-Mobile, fiber builds for the wireline companies and AT&T Inc. combined with cable network upgrades will likely keep capex elevated for the sector as a whole. We expect government-subsidized rural broadband expansion to spur significant spending by cable and/or telcos in 2024 and beyond.

We expect modest earnings growth but limited credit metric improvement. U.S. telecom providers are poised to withstand a deteriorating macroeconomic environment and high interest rates given the increasing dependence of consumers and businesses on connectivity. Therefore,

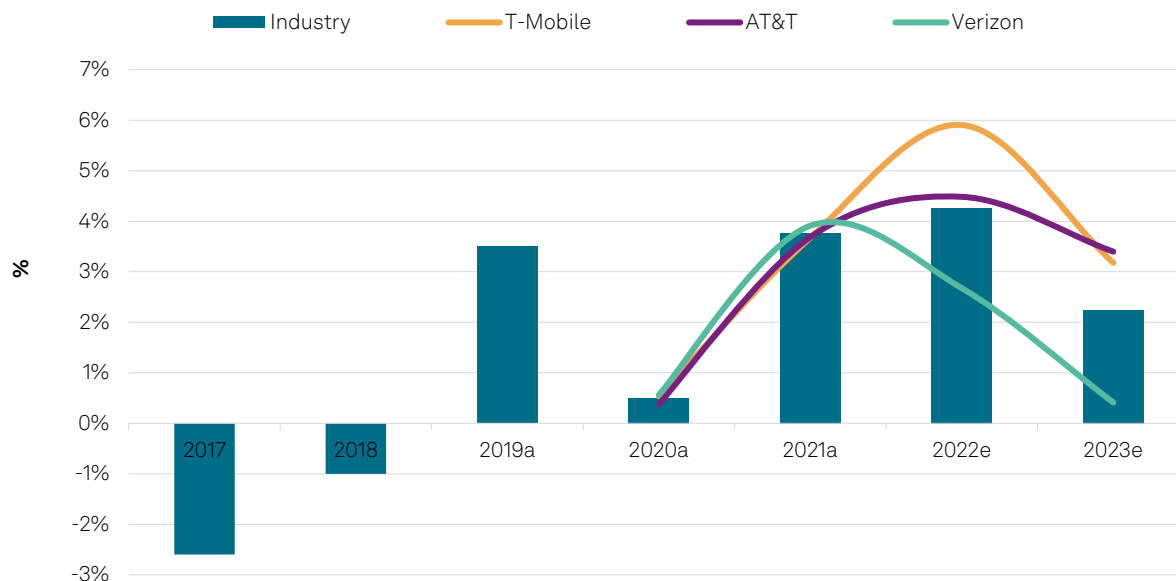
Industry Top Trends 2023: Telecoms

we do not expect any material degradation in credit quality. That said, leverage in the sector is already elevated while higher interest rates and capex will limit leverage improvement.

The U.S. wireless market remains very competitive with cable gaining market share. We expect industry service revenue growth to slow to around 2% in 2023 from around 4% in 2022 due to aggressive competition and weaker subscriber growth, despite rate hikes that passed along higher costs to customers (see chart 7). Further, all the carriers are offering aggressive promotions to upgrade subscribers to 5G handsets and higher-tier data plans, which hurts profitability. While capex will likely remain above historical levels as the mobile operators build out their 5G networks, we expect it to decline in 2023 relative to 2022, primarily due to lower spending by Verizon on its C-band spectrum deployment and T-Mobile on its 2.5 GHz spectrum, coupled with capex synergies from its acquisition of Sprint. As such, we expect free cash flow generation to improve in 2023, which should enable some leverage reduction.

Chart 7

U.S. Wireless Annual Service Revenue Growth (%)



a--Actual. e--Estimate. Source: S&P Global Ratings.

While the longer-term outlook for U.S. wirelines is more favorable, near-term headwinds could damage credit metrics. In the consumer business, building out FTTH across their footprint became more challenging in 2022 due to rising labor costs and supply chain constraints. While fiber returns on investment were good when the cost of capital was low, this may not be the case as interest rates rise and valuations decline. In addition, many of these companies are not fully funded for their build plan, which means they will need to access capital markets over the next couple of years. The rising cost of capital and a weakening economy could prompt some to scale back FTTH deployments to conserve cash flow. However, not building fiber is a lost opportunity that increases the risk of declining revenue and cash flow as they lose copper-based broadband customers to cable.

Similarly, business wireline services face secular industry pressures and technology shifts as business customers migrate to less expensive networking technologies. Large enterprise customers are focused on accelerating their digital transformation to reduce expenses in the face of a deteriorating economic conditions. This trend will extend revenue and EBITDA declines for U.S. wirelines over the next several years. While the SMB segment represents a lower percent of its revenue base than it did 10 years ago due to market share losses to cable, it is also at risk in

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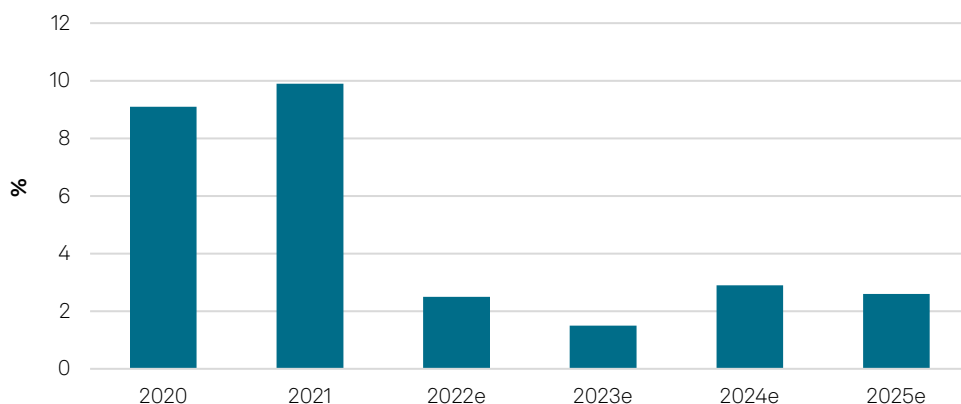
an economic downturn since many of these customers will scale back operations or go out of business altogether.

In cable, we expect that broadband subscriber trends will remain pressured in 2023 with FWA continuing to garner most of the industry net adds, with gradually intensifying FTTH competition. However, we believe the industry will achieve low-single-digit annual EBITDA growth for the foreseeable future driven by the following (see chart 8):

- Low-single-digit high-speed data (HSD) ARPU growth.
- Footprint edge-outs, potentially accelerated by government subsidies into areas where there isn't FTTH competition.
- Improving wireless economics. We expect that with greater scale and migration of traffic on-network, wireless can provide modest EBITDA growth over time.

Chart 8

Cable Industry EBITDA Growth (%)



e--Estimate. Source: S&P Global Ratings.

While we expect incumbent cable providers will continue to take share in the SMB segment, growth could stall in a recession in 2023.

In Canada, we expect wireless service revenue to show mid-single-digit growth. Roaming revenue is approaching pre-pandemic levels and consumers are continuing to migrate to higher-priced 5G plans. We also believe lower wireless penetration (compared to the U.S. and Europe) and increased immigration through 2025 will continue to support wireless revenue growth higher than recent years. As Telus and BCE essentially complete their FTTH and fixed wireless access to a significant part of their broadband footprint, we also expect growth in their wireline revenue in the low- to mid-single digits, supported by the bundling opportunities.

Convergence is increasing competitive intensity in the U.S. Heightened competition from FWA combined with lower family or household move activity and maturing market conditions caused cable broadband subscriber growth to stall across the industry, with Charter and Comcast each reporting roughly 1.5% growth in the third quarter of 2022, year-over-year, while some smaller operators have reported modest declines. We project relatively flat subscriber trends across the industry in 2023, with scaled operators offsetting the impact from modest share loss to FWA with edging out of existing footprint.

We expect that FWA will continue to gain market share with discounted service relative to cable, appealing to more price-sensitive customers that may be willing to compromise on speed and/or reliability compared with a wired cable connection. We believe many of these households subscribe to copper-based services and historically had converted to cable when copper

Industry Top Trends 2023: Telecoms

networks failed to meet their data requirements. Fixed wireless fills the gap between cable and copper, typically offering better speeds than copper at a lower price than cable.

In mobile, we expect U.S. cable operators will be more aggressive as their in-home broadband business faces greater competitive pressures from fixed wireless and FTTH. We believe this trend, coupled with mature industry conditions in the mobile market, will contribute to slower service revenue growth of around 2% in 2023 for the U.S. wireless operators compared with about 4% in 2022. We expect cable will take over 40% of postpaid net adds in 2023, up from around 30% in 2022.

Canadian carriers have benefited from the convergence approach, and we expect them to further integrate their services. With FTTH covering a significant portion (70%-80%) of Bell and Telus' broadband footprints, competitive intensity has increased significantly in the broadband space, with the telcos getting most of the net adds compared to the cablecos. The wireless space continues to be competitive, with the three incumbents still having close to 85% of market share.

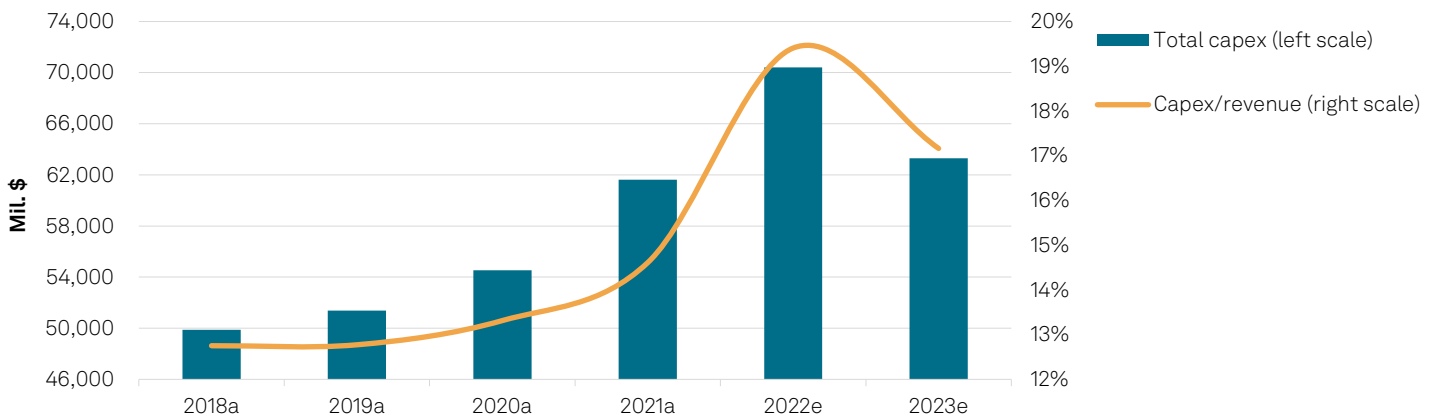
U.S. capex will remain elevated in 2023. We expect U.S. telco capex will decline in 2023 by around 10% but remain significantly above historical levels (see chart 9). We base our forecast on the following factors:

- With much of the C-band spend complete, we expect Verizon's capex to decline by around \$5 billion in 2023.
- As T-Mobile achieves network synergies from its acquisition of Sprint, we expect the company to realize procurement savings and greater 5G deployment efficiencies, which should result in an approximate \$2 billion to \$3 billion decline in capex in 2023.
- Conversely, we expect elevated levels of capex from wireline operators Lumen, Frontier, Consolidated, Zply Fiber (NW Fiber), and TDS Telecom.
- We also expect AT&T's capex to remain steady at around \$24 billion.

In line with the U.S., capex in the Canadian telco space is also expected to decline as both Telus and BCE complete their two-year accelerated capex plan starting in 2021. RCI capex, pro forma the Shaw acquisition, is likely to increase significantly but still stay within the usual capital intensity envelope. Overall, capital intensity in the Canadian space will remain in the 16%-18% range of telecom revenues. The C-band spectrum auction will be held towards the end of 2023; we forecast spending in C\$6 billion-C\$8 billion for the incumbents, although material cash payments are not due until the second quarter of 2024.

Chart 9

U.S. Telco Capital Expenditures



e--Estimate. Source: S&P Global Ratings.

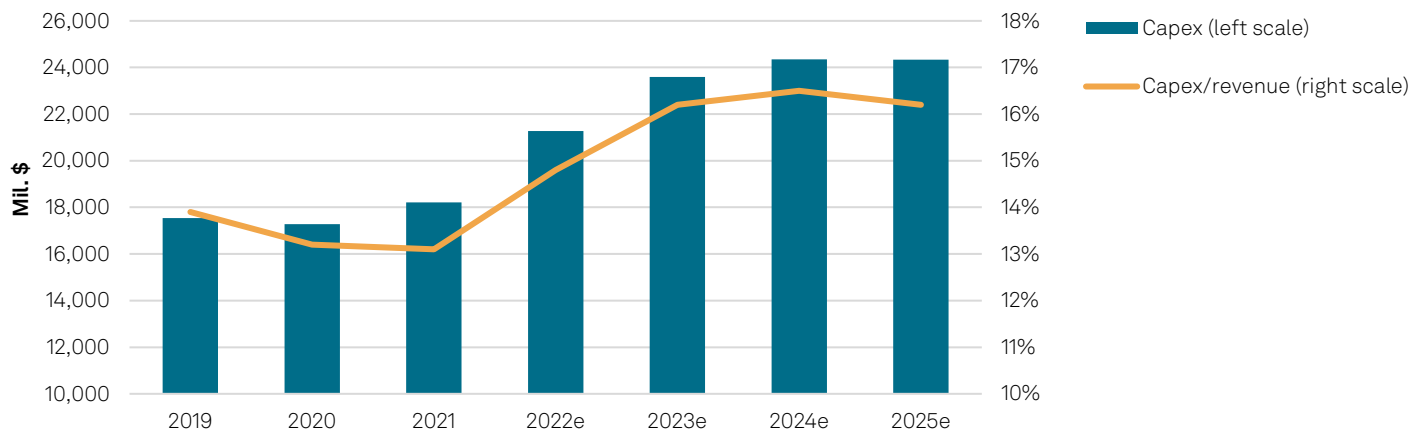
For the cable operators, we expect capex to accelerate over the next two to three years

although network investments will probably be funded with cash from operations (see chart 10). Comcast and Charter currently operate at their stated leverage targets so increased capital spending is likely to come at the expense of share repurchases. However, for certain highly leveraged operators that have operational challenges, such as Altice USA and Radiate, there is less financial flexibility to make these investments so the tradeoff of limited near-term cash generation (and leverage reduction) in exchange for a path towards to earnings growth is more nuanced.

Cable operators are taking different approaches to upgrading their existing networks, largely to protect existing market share, while also providing a path to long-term ARPU growth through significantly faster internet speeds. These different strategies will influence the timing and amount of capex and network capabilities in certain markets, but the trend is toward multi-gig download speeds and at least gigabit upload speeds. We believe upgrades to the existing hybrid fiber-coaxial (HFC) plant can largely be completed within historical capital spending envelopes of low-teens percent of revenue, on average (whereas conversion to FTTH will cost significantly more).

Chart 10

Rising Cable Capital Expenditures



e--Estimate. Source: S&P Global Ratings.

Credit metrics and financial policy

We do not expect a material degradation in credit quality among U.S. telecoms. In wireless, we expect modest leverage improvement due to lower capital spending and stronger free cash flow generation, partially offset by high interest rates and aggressive competition, which could limit earnings growth. While we expect these companies will work towards their leverage targets, pressure to return more money to shareholders or more aggressive capital spending could constrain credit metric improvement over the next couple of years.

Most cable providers still have financial flexibility from FOCF generation, combined with modest EBITDA growth. We project that, on average, incumbent cable operators can reduce leverage by about 0.2x-0.3x per year. This deleveraging ability is lower than it has been in recent years (at least 0.5x) due to slowing earnings growth, higher capital spending, and rising interest rates. Therefore, management teams may need to scale back on shareholder returns to maintain appropriate credit metrics for the existing ratings.

To the extent that business prospects weaken such that EBITDA growth turns sustainably negative, we could reevaluate our rating triggers. Therefore, we will be monitoring operating metrics such as HSD subscriber trends, HSD ARPU growth, and EBITDA per home passed.

Key risks or opportunities around the baseline

1. Rising interest rates, persistently high inflation, and deeper recession could pressure earnings and free cash flow

While our U.S. forecast calls for a shallow recession, a steeper economic downturn, coupled with persistent inflation and high interest costs could drive earnings lower and hurt free cash flow. To date, issuers have been able to pass along cost increases to consumers. However, if economic conditions deteriorate more than expected, customer churn, payment delays, and bad debt could increase, contributing to lower earnings and declining free cash flow. Most cable operators are also raising broadband prices, which could spur some lower-value customers to opt for cheaper FWA alternatives.

2. Wirelines could slow the pace of FTTH builds to conserve cash flow if supply chain challenges and high interest rates persist

While our forecasts do not assume any meaningful FTTH buildout delays in 2023, there could be headwinds if global supply chain, labor, and inflationary pressures persist. Since most of these issuers are rated in the speculative-grade category and are generating negative free cash flow, they are dependent on favorable credit market conditions. With interest rates likely to remain elevated, the wirelines may be forced to scale back their capital expenditures to conserve cash flow.

3. Shareholder returns

Given capital market conditions and currently low stock prices, we are already seeing hints that U.S. telecom providers will look to improve shareholder returns through stock buybacks or delay their plans for leverage reduction.

Rising interest rates, persistently high inflation, and deeper recession could pressure earnings and free cash flow. U.S. telecom and cable historically has been fairly recession resistant, and most consumer and business customers are unlikely to rid themselves of mobile and broadband service in the event of an economic downturn. However, we believe a deeper-than-expected recession, coupled with high interest rates and persistent inflation could pressure earnings and free cash flow for the sector. In wireless, with U.S. penetration levels above 100%, this scenario would likely result in even weaker subscriber trends, particularly in the business segment as companies reduce headcount to preserve margins. In the consumer segment, customers may migrate to less expensive data plans, or even prepaid services. Switching activity will also likely increase with value providers, including T-Mobile and cable operators Comcast Corp. and Charter Communications Inc., being the beneficiaries. We would also expect higher bad debt expense and churn levels. In cable broadband, ARPU growth could slow as customers defer plans to upgrade to faster, more expensive speed tiers, while bad debt expense could also increase.

U.S. wirelines could slow the pace of FTTH builds to conserve cash flow. U.S. wireline operators that are deploying FTTH have substantial return on capital hurdles to meet considering the significant upfront investments required for fiber. Ultimately, we believe FTTH will need to discount its internet service to attract new customers but the capital-intensive nature of fiber limits pricing flexibility to some degree. We believe this is especially true considering that the clearest pathway to adequate returns on FTTH investments is to monetize demand for faster

internet by increasing ARPU over time. And, higher interest costs are likely to make it challenging to meet these return thresholds.

While our forecasts do not assume any meaningful FTTH buildout delays in 2023, there could be some potential headwinds if global supply chain, labor, and inflationary pressures persist. At the same time, since most of these issuers are speculative grade, have significant exposure to floating rate debt, and are generating negative free cash flow, they are dependent on accommodative credit market conditions. Higher interest costs may force the wirelines to scale back their capex to conserve cash flow but not investing will leave their legacy copper-based broadband service exposed to ongoing market share losses. On the other hand, if capex remains elevated, FOCF deficits could be greater than anticipated over the next year, putting the most leveraged capital structures in a vulnerable position.

Capital allocation decisions are in the spotlight as stock market prices weigh on shareholder returns. US telcos are currently in the middle of a massive investment cycle with wireline companies deploying FTTH while wireless service providers are building out mid-band spectrum acquired in recent auctions. As a result, we expect the first priority for capital allocation in 2023 will be network investment. With leverage already elevated, we expect the U.S. telcos to allocate any excess cash flow to debt reduction. However, given capital market conditions and currently low stock prices, we are starting to see some hints that U.S. telecom providers will look to improve shareholder returns through stock buybacks or delay their plans for leverage reduction. While we expect the larger cable operators to allocate more money to capital expenditures, we also expect excess cash flow will go to shareholder returns rather than debt reduction. Some examples include:

- AT&T said it expects to achieve its net leverage target of 2.5x by 2025. Previously, management indicated it would reach its leverage target in 2023. While we don't expect the company to buy back stock, we believe capex will remain elevated, at around \$24 billion annually, for an extended period, which will limit leverage reduction.
- American Tower said on its 2022 third quarter conference call that it expects to opportunistically restart its share buyback program, although this will be partially offset by an additional \$570 million investment from Stonepeak in its data center business.
- In September 2022, Comcast Corp. announced it would increase its share repurchase authorization to \$20 billion, having bought back \$9 billion in 2022. Still, this was in-line with our expectations as the company will operate around 2.4x leverage.

Industry Outlook: EMEA

Ratings trends and outlook

We expect largely stable ratings in 2023, supported by resilient demand and operating fundamentals. Our base case is for modest revenue and EBITDA growth driven by higher pricing, and slightly lower capex. While a deep recession could expose the sector to downside risk from reduced consumer and enterprise spend, our current assumptions yield incremental deleveraging for the sector, though insufficient for material ratings upside.

We enter 2023 with negative outlooks and CreditWatch placements on 18% of our ratings (up from 10% a year ago), netting to a net negative bias of about 5%. While still a relatively modest negative bias, the increase is mainly due to growing liquidity and refinancing risks, a contributing factor in half of the negative outlooks and CreditWatch placements. The rest are due to operational challenges, and the consequences of potential M&A.

Positive outlooks have also increased slightly and are also driven by M&A and operational developments, and in one case by a management shift to more conservative financial policy. Of our European telecom ratings, 70% carried a stable outlook (compared with 85% a year ago).

Though 2022 downgrades outpaced upgrades 11-to-1, the ratio understates the sector's stability as the downgrades were largely driven by idiosyncratic rather than sectorwide operational factors. Seven were linked to sovereign downgrades: the four Russian telcos that we downgraded in March and subsequently withdrew (Veon, Rostelcom, MTS, and Megafon); Turkcell and Turk Telekom, which we downgraded twice; and VF Ukraine. Of the remaining three, two were driven by the financial consequence of strategic decisions (Proximus accelerating capex and Cyfrowy expanding into renewable energy), and only two reflected operational difficulties, both in the particularly challenging Italian market (Telecom Italia, which we downgraded twice, and Eolo). This was balanced by our upgrade on Telekom Austria after strong performance and continued deleveraging.

Main assumptions about 2023 and beyond

1. We expect modestly rising revenue and earnings despite macro and inflation headwinds

We expect revenue gains averaging 1.0%-1.5% over the next two years, driven by higher pricing as inflation is partially passed through to customers. At the same time, cost control from efficiency programs, realization of synergies, and energy cost mitigations (like hedging and power purchase agreements (PPAs)) can carve out additional margin to drive incremental EBITDA gains.

2. Capex for incumbent telcos is modestly declining despite inflation pressure

We think capex to support incumbent fiber and mobile rollouts has plateaued and is modestly declining. While ongoing next generation infrastructure deployment will keep capex intensity at 16%-18% of revenues, we believe the peak passed in 2020 at 19%, and modest declines will improve free operating cash flow (FOCF) and financial flexibility. Inflation is a concern, but we expect operators will, if needed, generally push capex into future periods to stay within their investment budgets.

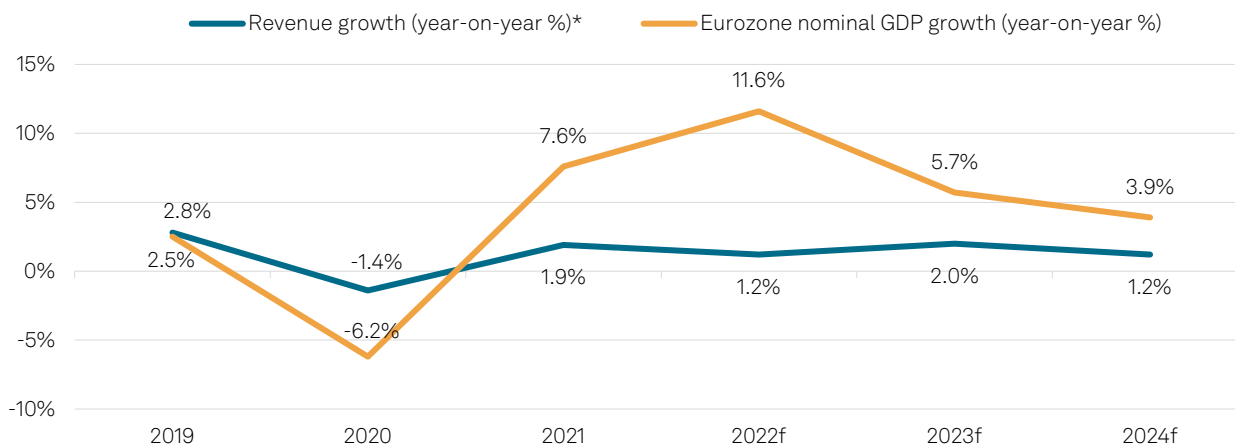
3. Credit ratios should remain stable with incremental improvements creating headroom

Despite the above, the sector positives are modest and credit improvement remains elusive for the sector. We do not expect indefinite inflationary price hikes, and hopes of revenue acceleration through more-for-more pricing have been repeatedly thwarted by competition. Stagnant revenue is unlikely to change with 5G until at least mid-decade, assuming compelling 5G-dependent use cases emerge.

We expect modest nominal revenue growth despite macro headwinds. The utility-like nature of telecom services and infrastructure should broadly protect the sector's credit quality. Under our base case of 5.7% nominal GDP growth in 2023 for the eurozone (zero real GDP growth), we expect about 2% revenue growth for the telecom sector (see chart 11). While positive in nominal terms, telecom growth lags inflation and will be negative in real terms.

Chart 11

Telcos And Cablecos Revenue Growth (%)



*Organic revenue growth based on local currency revenues. f--Forecast. Source: S&P Global Ratings.

Some markets have been quicker to raise prices (e.g. UK, BeNeLux, and the Nordics), while others have lagged due to high levels of competition and churn risk (e.g. Italy and Spain). Although

Industry Top Trends 2023: Telecoms

uneven in terms of timing and magnitude, we think price hikes are likely in 2023, with elevated labor, energy, and wholesale costs a rising tide for all operators that will help to push up revenues.

Operators in northern markets are likely to continue with price hikes, either on an ad hoc basis or automatically through CPI-plus contract terms, as in the U.K. In southern countries we expect prices will finally rise with the rest of the market. This has begun to happen in Italy for example, with selective price hikes from incumbent Telecom Italia amongst its peers. These moves should accelerate if wholesale costs increase, or as migration to fiber continues. We see a split wholesale pricing evolution emerging in markets like the U.K. and Italy as a positive influence on service revenues, with increasing copper and decreasing fiber access pricing accelerating customer conversion to higher-ARPU fiber products.

Within the Middle East and Africa (MEA), we expect telecom and tower operators in Africa, especially those with multi-country exposures such as MTN Group, will see revenue growth outpace European operators. This is driven by our expectation of continued demand growth for telecom infrastructure, resilience in voice revenue, and robust data revenue growth supported by increasing mobile and data penetration and strong demand for mobile financial services.

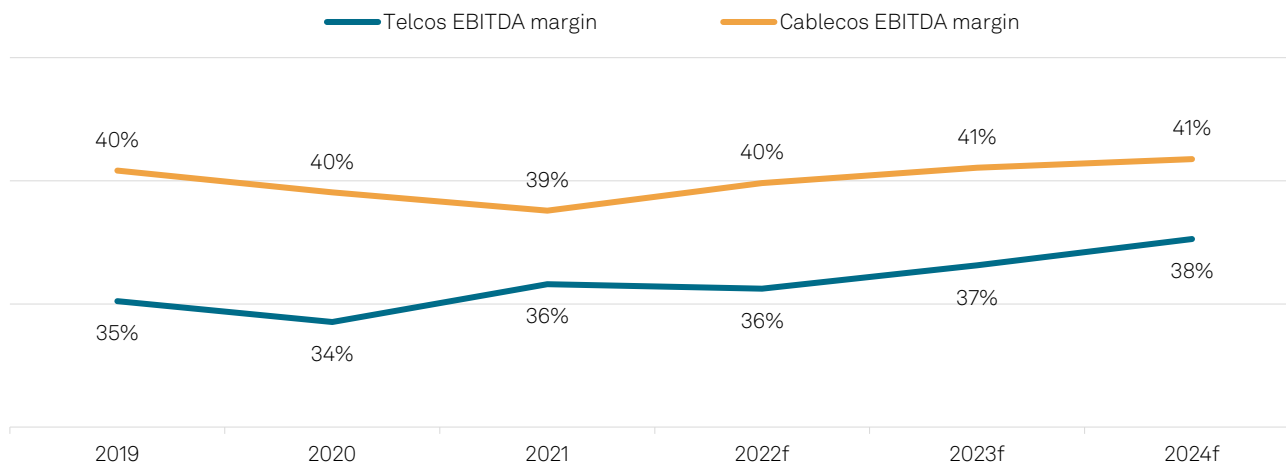
We also expect telcos in the Gulf Cooperation Council (GCC) to deliver steady performance in 2023 with a moderate 0%-2% growth in their mature domestic operations, with a stronger mid-single-digit growth rate expected for Saudi Telecom, driven by dynamic enterprise segment and stronger growth of non-telecom services in Saudi Arabia. GCC rated telcos benefit from leading market positions, allowing them to capture growth as they continue to innovate on product offerings and develop non-telecom services, including mobile money, ICT (information and communications technology), cyber, and cloud amongst others, while we expect the economies will continue to rebound, helped by high oil prices amid moderate inflationary pressures on consumers relative to other regions. The performance of their international subsidiaries though, particularly for Emirates Telecommunication (e&, UAE) and Ooredoo (Qatar), will remain sensitive to stiffer competition in emerging markets and foreign currency fluctuations, which may erode domestic growth.

Earnings and margin should rise, even with pressure from inflation. Telecom operators are not immune to inflation, but we assess their exposure as manageable. The cost component in Europe with the highest level of inflation is energy, but it typically only amounts to 2%-3% of telecom revenue. When unmitigated, there can be a tangible impact, though likely absorbable if temporary, and most European telcos have energy hedges and power purchase agreements that dampen energy price volatility, reducing the impact.

Labor is a more significant exposure at 15%-20% of revenue. But labor costs have lagged inflation so far. And when combined with long-standing efficiency programs that have been rationalizing costs for years, especially wages at incumbent operators, we expect durable margins, though perhaps not the originally intended efficiency gains (see chart 12). Combined with price hikes, we think telcos will be able to more than offset the effects of inflation and generate modestly higher adjusted EBITDA.

Chart 12

European Telecoms Average Margins (% Of Sales)



f--Forecast. Source: S&P Global Ratings.

Though there have been notable exceptions, like Telenor (where an absence of energy hedging eroded its 2022 EBITDA by about 3%), the sector is relatively well positioned. With average adjusted EBITDA margins high at 38% and 41% for telcos and cablecos, respectively, the sector is much better placed to absorb erosion than low-margin sectors like Retail, where a margin impact amounting to 2%-3% of revenue can reduce absolute EBITDA by a quarter to a half.

Meanwhile, tower companies like Cellnex, Vantage, and Inwit are particularly well placed with long-term contracted revenue certainty. With terms that include energy cost pass-throughs, they have lower-than-average exposure to cost inflation. And with automatic price escalators and sector trends driving colocation opportunities, they have a clear path for topline growth and margin expansion.

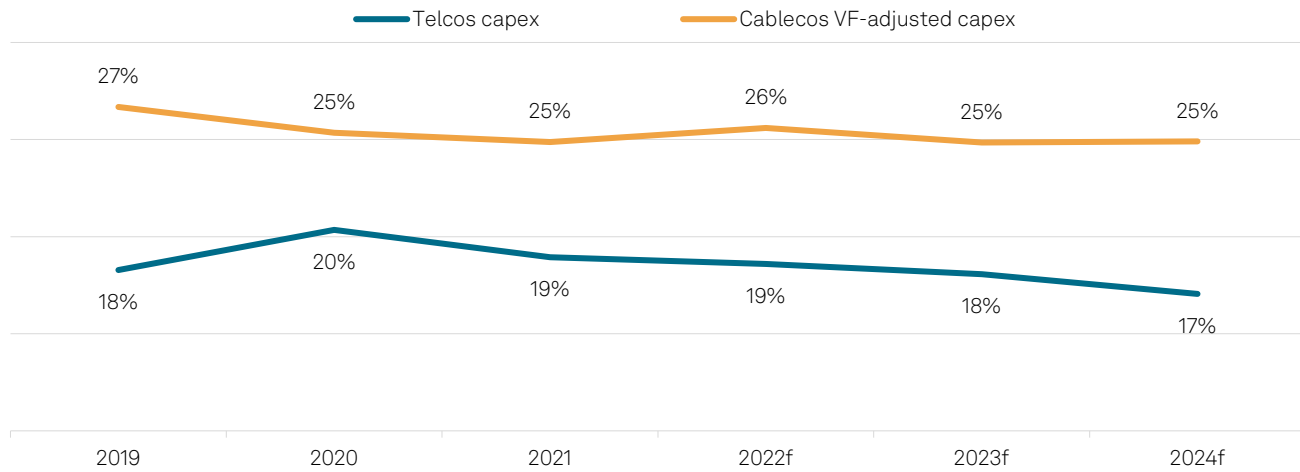
For MEA, we expect resilient EBITDA margins for most African operators. Even though we see some pressure from consumer affordability and regulatory price caps, increasing inflation and currency volatility, we expect ongoing expense efficiency programs, mostly targeting optimization of device, network and commission costs, as supportive mitigation.

In the GCC, focus on cost control will remain high, as the operators strive to sustain domestic profitability exceeding 40%-50% on a reported EBITDA basis. 5G infrastructure will support increasing data consumption, but we don't have sufficient evidence of its profitability as the operators generally don't disclose it. In their international businesses, which are mostly exposed to less profitable prepaid mobile revenue, operators will focus on passing on cost increases to offset higher inflation.

Capex for incumbent telcos is declining despite inflation pressure. Telco capex in Europe has been chronically elevated since 4G rollouts almost a decade ago, sustained by 4G densification, fiber, and 5G. But with fiber deployments in large markets like Spain and France winding down, and initial 5G coverage requirements largely met across many markets with low band frequency, we believe the peak has passed. We don't expect capex intensity to fall back to pre-4G levels of low-teens, but we expect lower levels of around 17%-18% over the next two years, down from 19% in 2020 (see chart 13). The still-high spending is needed to support fiber rollouts in the U.K. and Germany, and ongoing 5G implementation.

Chart 13

European Telecoms Average Capex (% Of Sales)



f--Forecast. Source: S&P Global Ratings.

Inflation has not only increased material and equipment costs but also the cost of labor, which can range from a third to 50% of capex. When faced with the prospect of raising investment budgets to maintain upgrade or greenfield programs, we expect most operators will push spending into future periods rather than raise spending and squeeze FOCF. With historically low return on capital levels and only modest 5G monetization prospects, we think high frequency densification of the 5G network is the most likely candidate for slower rollouts in order to control investment budgets.

In MEA, we anticipate high levels of capex in Africa to be sustained the given roll-out of network coverage infrastructure and network upgrades aimed at supporting robust growth in data services demand and expansion of fintech (mainly mobile money) platforms. This will result in reduced FOCF headroom especially for operators like Telkom, with an evolving business model toward new generation products.

Amongst GCC operators, capex will remain at 15%-17%, but this reflects two stories. Within domestic markets, mature telecom infrastructure and already-advanced 5G investments will lead to lower capex, averaging 10%-12% of revenue in 2023 and 2024, and translating into stronger free cashflow generation. Investments in the region will focus on maintenance and continued 5G and fiber rollout, particularly in Saudi Arabia, where the government’s Vision 2030 program targets broadband coverage of 90% in densely populated cities. Meanwhile, investments outside the region will be much higher at up to 20%-25% of revenue. This is required at international subsidiaries for 4G rollout, network expansion, and fiber.

Credit metrics and financial policy

We expect modest revenue, EBITDA, and FOCF gains will create headroom for ratings, but with the exceptions of DT, Cellnex, and VOD, we do not see metric improvement leading to positive ratings momentum. This is because revenue growth prospects are mainly due to inflation, which is not a reliable long-term driver, and a headwind to margin expansion efforts.

Consistent service revenue growth has been challenging for the sector in general, and for Europe in particular given high fragmentation and competition. Despite increased data traffic which has required sustained levels of relatively high operating expenditure (opex) and capex spend, operators have not been able to reliably raise prices through more-for-more offers, which has led to a long-term deterioration in return on capital.

With low growth prospects and equity values, operators have little financial flexibility to address their significant investment and shareholder return demands. We will therefore focus on financial policy and capital allocation decisions. With a tighter funding environment, we expect operators will continue to monetize tower assets. Fixed-line assets may also be sold down, as in the case of Telenor and Altice Portugal, though a company's competitive positions can weaken if taken too far. We also expect more off-balance-sheet financing for fiber projects, such as the joint ventures we have seen at Telefonica, Altice France, Proximus, KPN, and Bouygues, among others. Meanwhile, shareholder return policies could eat into any potential for increased headroom in credit ratios, and we will be on the lookout for aggressive returns.

In MEA, the recent deleveraging in African network and tower providers leads us to expect broadly stable credit metrics. However, higher levels of planned capex and resumption of shareholder dividends could squeeze both FOCF and DCF, potentially weighing on credit metrics. As a result, we expect limited upgrades. Corporate activity, through asset monetization and/or geographic diversification, remain an important potential driver of ratings in future given most African telco ratings are constrained by country risk and/or sovereign considerations.

Key risks or opportunities around the baseline

1. A more severe economic downturn could erode our telecom forecast into negative growth

If Europe dips into a deep recession rather than our zero-growth forecast, more pockets of rating pressure may emerge. We believe the exposure is highest in the most competitive markets, like Italy and Spain, where higher unemployment and falls in discretionary spending could increase price-sensitivity and competition, leading to higher churn and revenue declines.

2. Prolonged inflation and high interest rates that constrain access to capital markets could punish high yield issuers with more leveraged capital structures

The sector's average debt maturity is long dated at over five years, with over 80% at fixed rates. But speculative-grade issuers with nearer term maturities face liquidity risks if capital market access tightens. For highly leveraged issuers where free cash flow generation and interest coverage are critical credit measures, higher interest rates could pressure ratings.

3. Transaction risks exist to both the upside and downside

Market consolidation remains an upside risk that could moderate competition and improve growth prospects. At the same time, asset sales, which have generated financial flexibility, may slow or yield lower valuation multiples in today's tighter funding environment.

A more severe economic downturn could erode our European telecom forecast, with the worst effects likely in Italy and Spain. We would expect the initial softening will come from the

enterprise customer base resulting from reduced headcount and project spending, particularly among SMBs. For retail consumers, deep falls in disposable income may not result in mass cord-cutting but it can increase consumer price sensitivity. Customers looking for better value are more likely to churn, incentivizing low-price competition by carriers. In such a scenario, we think the most vulnerable players are those in countries like Italy and Spain, with competitive market structures including challengers focused on growing to scale.

Even if the revenue tailwinds from inflation persist, we think price hikes could become untenable. Pushing all the costs to customers with reduced budgets could backfire, leading to consumer and regulatory pushback, and further opening the door to price competition by aggressive challengers. A backlash could lead to government intervention and undermine any regulatory appetite for in-market consolidation and lighter-touch wholesale regulation, topics that have or will have relevance for several markets, including the U.K. and Spain.

Prolonged inflation and high interest rates that constrain access to capital markets could punish speculative-grade issuers with more leveraged capital structures. Near-term telecom refinancing needs are modest after years of extending maturity walls in a near-zero interest rate environment. If capital markets remain choppy in 2023, our first concern is for liquidity, and that high yield issuers refinance opportunistically and early to avoid a maturity-driven crunch. Telecom Italia is an example where the potential refinancing risk of large 2024 maturities was one of the factors contributing to our negative outlook.

If protracted, high interest rates (currently 7%-8% annual yields) will work their way into capital structures, but as a ratings risk this pressure will build more slowly. For single 'B' category issuers like Altice, where we focus on free operating cash flow and interest coverage ratios, higher interest costs will eventually put pressure on metrics and ratings.

Transaction risks exist to both the upside and downside. Spanish regulators are considering market consolidation between Orange and Masmovil. Notable will be whether operators in Spain make significant inflationary price hikes before the mid-2023 decision, and if that affects the approval process. If approved with modest or no remedies, it would mark a shift in the regulatory posture. We think such an outcome could improve growth prospects by balancing the market more sustainably and rationalizing aggressive price competition. A positive outcome in Spain could also encourage deals in markets like the U.K. or Italy.

Numerous European telcos have sold off infrastructure assets to fund investments, debt reduction, and shareholder returns. But after five years of this, many tower portfolios have been sold down. In addition, high interest rates could erode peak valuation multiples of 30x for tower portfolios, and constrain purchase funding. We therefore expect a cooling of tower transactions, curbing one of the sector's financial levers. That said, we think prospective buyers and sellers remain incentivized, and that smaller fiber build transactions will remain active given the number of buildout projects, their more manageable size, and lower valuation multiples. This can help operators manage capex, but a decisive movement to asset-light models will have negative implications for business profiles as we view fiber networks as strategic to competitive profiles.

Asset monetization and the development of non-telecom services are high on the agendas of GGC telcos. Ooredoo recently announced plans to carve out and partially sell its 20,000 towers across the group, and Saudi sovereign investment fund PIF made an around \$3 billion offer to acquire 51% in Saudi Telecom Co.'s (stc's) over 15,500 towers in the country (see "[PIF's Offer for 51% Tower Stake Is Credit Neutral For stc](#)," published Nov. 22, 2022), after it completed the acquisition of 8,000 towers from Zain KSA (unrated). Ooredoo also intends to carve out and partly sell data centers. We think the asset monetization trend will continue across the region in 2023. Stc was one of the first operators to monetize its non-telecom assets, including the listing of its ICT business in 2021 and a partial sale in its fintech arm back in 2020. We think the proceeds from

Industry Top Trends 2023: Telecoms

assets monetization will be primarily reinvested in non-telecom services, as the telcos strive to create new growth avenues, including data centers, cyber, ICT, digital services, and fintech. Most of them pioneered in the region, offering the first licensed digital banks. Exceptional dividend distribution could be another use for excess cash, particularly in the absence of a clear external growth appetite, which would not immediately weaken the ratings given generally low leverage and sufficient headroom. That is with the exception of e& that recently bought an 11% stake in Vodafone PLC and made an offer to increase its stake in its Saudi associate Mobily for \$2.12 billion, which if successful could leave no headroom under the credit ratios. We think the development of non-telecoms services offers attractive growth rates, but meaningful contribution to profits will take years to materialize. Notwithstanding, it offers attractive monetization and value creation opportunities.

Industry Outlook: Latin America

Ratings trends and outlook

Rating performance in Latin America continues to improve. Credit quality has been restored to pre-pandemic levels and the negative rating bias is down to 10%, compared with the 17% negative bias from last year and close to 35% a couple of years ago. Absent the constraints that certain ratings have with respect to sovereign caps, we see a comfortable headroom for companies to cope with short-term risks stemming from inflation, high interest rates, and weak economic growth. However, almost 80% of our rated portfolio is in speculative-grade territory and could face restrictive conditions in an already tight financing environment.

Companies facing the more relevant downside risks are Axtel due to the continued weakening of its revenue base, and Oi S.A. considering a higher risk of a debt restructuring. In Argentina, credit quality for the sector is weighted by tight central bank regulations on accessing foreign exchange. The only rated investment-grade names are in Mexico and Chile: America Movil, Grupo Televisa, Telefonica Moviles Chile, and Entel benefit from leading positions in the segments and markets where they operate, as well as from stronger financial risk profiles and liquidity.

Main assumptions about 2023 and beyond

1. Unfavorable financing conditions will further induce discipline towards leverage

High financing costs coupled with low refinancing needs and limited access to capital market funding should continue to discourage the incremental use of debt and further contribute to a financial strategy that focuses on reducing leverage.

2. Healthy demand for data remains a key factor for top line performance

Increasing needs for remote connectivity and streaming entertainment are supportive of demand for broadband and wireless services.

3. Limited M&A activity would shift focus to other value opportunities

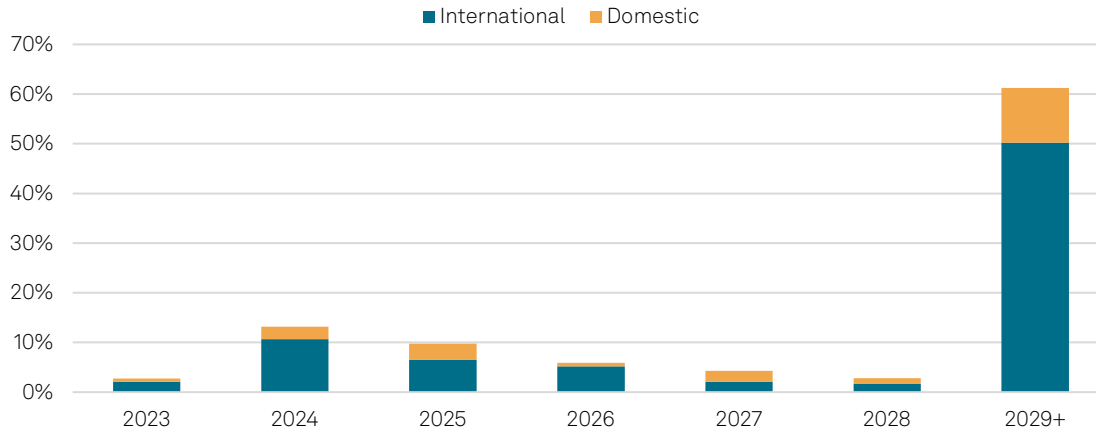
Regulatory restrictions and financial discipline will tend to limit M&A activity. Instead, telcos will pursue further organic growth through targeted capex, and could implement initiatives to unlock shareholder value.

Unfavorable financing conditions will further induce discipline towards leverage. The strong financial discipline by telcos in Latin America has not only kept leverage comparatively low with respect to U.S. and EMEA but has improved liquidity headroom to mitigate short-term risks. The proactive liability management to extend debt maturities in 2021 largely explains the relatively low refinancing risk that Latin American telcos face in 2023, as short-term market debt represents less than 3% of the total outstanding balance, both in local and foreign currencies (see chart 14).

If financing costs globally stay higher for longer than previously anticipated, with benchmark yields more than 100 basis points from a year ago, we expect telcos in the region to maintain a cautious approach towards the use of debt in the months to come, particularly for speculative-grade issuers. In addition to rising financing costs, access to capital market financing is still problematic, particularly for lower-rated issuers.

Chart 14

LatAm Debt Maturity Profile



Source: S&P Global Ratings

Healthy demand for data remains a key factor for top line performance. We expect data consumption will continue to grow in 2023, particularly because increasing needs for remote connectivity and streaming entertainment will support demand for fixed wireless and broadband services.

Mobile subscriber penetration remains relatively low in Latin America, slightly above 70%. We expect the increase in wireless coverage across most markets will drive higher data usage and revenue in the next few years. In 2022 we estimate the region reached the milestone of 460 million internet users, which represents a penetration rate of about 72%. For 2023, we expect internet subscriber growth in the low single-digit area. Corporate information technology (IT) and data communication penetration is still relatively low and we expect it to increase in coming years, underpinned by cloud and security services. Penetration growth, however, could be constrained by weak economic growth in the near term.

Limited M&A activity would shift focus to other value opportunities. In 2023 we're expecting limited M&A activity not only due to a regulatory environment that fosters competition but to financial discipline towards the use of debt. Instead, capital allocations will mostly focus on organic growth and customer retention. Larger participants will likely expand the fiberoptic business as well as the mobile networks to handle higher data demand, customer growth, and for the deployment of the new 5G network. For smaller players, we also expect increasing investments in the fixed network, home broadband, IT solutions, and the gradual development of digital services for SMBs and corporations.

We could also see the implementation of initiatives to unlock asset value. For instance, last year America Movil received regulatory approval for its joint venture with Chilean-based VTR, and the company also completed a spin-off of its telecom towers and other related passive infrastructure in Latin America.

Credit metrics and financial policy

In tandem with the generally stronger macroeconomic performance in the region, the financial performance of Latin America's telcos still shows resilience across most markets. During 2022 credit metrics were mostly aligned with those of 2021 or even improved. Leverage remains under control, with debt to EBITDA broadly lower compared to telcos in developed markets. For 2023 we expect companies to continue posting healthy earnings, and weaker economic conditions

would have only a mild impact on credit quality. We expect debt to EBITDA generally below 3.0x and FFO to debt of about 30%.

In the last three years, financial discipline has been essential to protect credit quality. As we continue to expect difficult business conditions in the near term due to weak economic activity, high interest rates, and persisting inflationary pressures, we don't believe telcos would normalize shareholder returns, but would prioritize the prudent use of debt and keep an ample liquidity headroom.

Considering that short-term buffers--i.e., low leverage and liquidity headroom--will remain in place, supported by an extended debt maturity profile that limits refinancing risk, we also expect companies will continue to manage foreign exchange exposure to address the mismatch between local currency-denominated revenues and foreign currency debt. Sovereign ceilings or parent company rating caps are still relevant factors that could weigh on a few names within our rated portfolio.

Key risks or opportunities around the baseline

1. A sharp recession could further weigh on credit metrics

Our base-case considers a shallow recession in the U.S. as well as low single-digit growth in the region. A deeper and extended recession with implications on top-line performance could ultimately increase pressure on credit metrics.

2. A stronger dollar could pressure leverage

There's still a mismatch between local currency revenue generation and foreign currency debt, and the potential depreciation of major currencies could have repercussions on leverage.

3. Increasing requirements for 5G infrastructure will require sizable multiyear capex allocations

The rapid adoption of 5G is shaping the capex profile for the sector, and financial risks could emerge if carriers increase the use of debt to fund these investments.

A sharp recession could further weigh on credit metrics. We expect low-single-digit GDP growth in countries like Argentina, Brazil, Mexico, Chile, and Colombia. Such weak growth in the region is mainly explained by the fading post-pandemic catch-up/recovery momentum, weakened demand from key major trading partners, still-elevated prices eating into disposable income growth, and the lag from policy rate hikes holding back consumption and investments.

In recent years, the telecom sector has been highly resilient to difficult economic and business conditions, and we've seen companies coping by ramping up broadband services, paid-TV, and mobile connectivity. However, a sharp or prolonged economic dip in 2023 could weigh on the sector's operating and financial performance. The uncertainty over the magnitude and duration of a recession is a key factor for short-term growth prospects and for the timing for executing capital investments. In a scenario where revenues grow below inflation due to pressures on ARPU and where input costs don't normalize, telcos could face a slight drop in margins. In our view, lower-than-expected EBITDA and high working capital requirements from lower receivables could result in weaker leverage metrics that ultimately pressure credit quality.

A stronger dollar could pressure leverage. Foreign currency-denominated debt for telcos in Latin America represents close to two thirds of total indebtedness for the sector, and America Movil is the largest issuer accounting for more than 50% of total outstanding market debt from rated entities. Such exposure to exchange rate volatility--to a mismatch between local currency-denominated revenues and foreign currency debt obligations--remains an important risk for telco

Industry Top Trends 2023: Telecoms

operators in Latin America. Persisting inflationary pressures in the U.S. that result in a tighter monetary policy could trigger a significant currency depreciation in some countries in Latin America, and potentially take a toll on cash flows on a dollar basis and hurt credit metrics. The currency mismatch continues at about 25% of foreign currency debt, and we estimate a 10% currency depreciation could increase leverage between 0.1x and 0.2x.

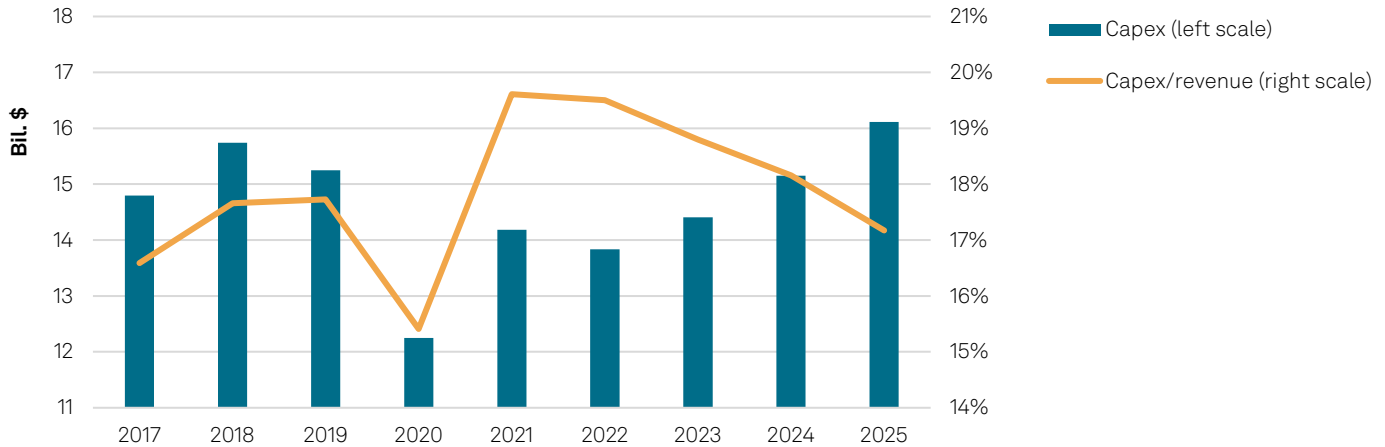
Increasing requirements for 5G infrastructure will require sizable multiyear capex allocations.

The footprint of 5G technology in the region is still insignificant at less than 25 million subscriptions, but leading carriers continue to push forward on its deployment. We expect 5G investments to account for up to 25% of the capex budget within the next couple of years, a dramatic uptick from 2021 where 5G allocations represented less than 10% of capex.

Despite the high capex requirements for 5G infrastructure and spectrum auctions we don't see major risks from a financial risk profile standpoint because we expect telcos to follow the historical trend of keeping total capex below 19% of revenues (see chart 15).

Chart 15

LatAm Capex Profile



Source: S&P Global Ratings.

However, leverage risks could emerge if we see capital investments consistently trending close to 20% of revenue without being accompanied by incremental cash flow generation that limits the use of debt. This is particularly important within the context of legacy capex requirements to enhance networks, increase installed capacity, and for maintenance purposes, on top of spectrum acquisitions.

Industry Outlook: Asia-Pacific

Ratings trends and outlook

Asia-Pacific's (APAC's) telecom sector net rating bias has improved to neutral, compared to about negative 20% a year ago. Divestment-driven deleveraging underpinned the improvement. For example, we revised the outlooks of Singapore Telecommunications Ltd. and its subsidiary Singtel Optus Pty Ltd., as well as that of Hong Kong Telecommunications (HKT) Ltd, to stable from negative; we also placed Voyage Digital (NZ) Ltd. on Credit Watch with positive implications. These rating actions were catalyzed by divestments, including the sale and leaseback of key passive mobile network infrastructure. Similar actions by other telcos, while not having resulted in positive rating actions, provided them with more rating cushion.

Compared to the current bias, the net rating bias was in negative territory since 2016. Leverage pressure had built up as telcos faced steep 5G and fiber capex needs, while struggling to achieve earnings growth. Entities have also been investing in areas adjacent to the traditional connectivity business, such as in ICT services and data centers.

Ratings of APAC telcos should be broadly stable in 2023. We expect a modest EBITDA growth despite macroeconomic and inflationary headwinds. Demand for faster speeds, higher data consumption, and some return of roaming revenues will spur earnings. There's also fast-growing fixed broadband adoption in some South and Southeast Asian markets when penetration remains low.

Proactive balance sheet management, including continued divestments of non-strategic assets, supports the broadly stable outlook. There is some divergence of capex risks across markets, hinging on the progress of 5G rollout. Sporadic 5G spectrum auctions could weigh on leverage.

Main assumptions about 2023 and beyond

1. Mildly rising earnings spurred by rising connectivity demand

Telcos' earnings will benefit from rising mobile data traffic, wireline adoption, and the return of roaming revenues.

2. Capex intensity should ease slightly

We believe average capex intensity (capex as a proportion of revenue) will decline from 28% in 2021, as telcos in markets such as Japan, Korea, and Taiwan have passed their initial upfront capex hump and have started reaping benefits of these investments. Average capex will nonetheless remain high, with intensity at 20%-24% through 2024, as investments into 5G and fiber continue to support increasing adoption.

3. Infrastructure assets and business structure reevaluation amid M&A

APAC telcos will continue reevaluating their ownership of passive infrastructure assets. Monetization of these assets could ease balance sheet pressure arising from 5G capex and other M&A activities. Investments adjacent to the traditional connectivity business should continue as telcos seek new growth engines.

Earnings will rise mildly despite inflationary pressures. We expect telcos' earnings to benefit from the return of roaming revenues as international travel picks up. The rising demand for faster and more data will spur upgrades to higher-priced mobile tariff plans, which may be for more-advanced networks or higher data allowances.

Migration to 5G services also supports earnings in some markets. Telcos have divergent pricing strategies for 5G mobile services. Some operators, such as China Mobile Ltd., are charging a premium while others, such as India's Bharti Airtel, are not. For telcos that choose not to charge a premium on 5G, ARPU and earnings could still benefit because data use typically rises with migration to 5G.

At the same time, the pandemic has increased online collaboration with a permanent shift toward a hybrid work model. This will support increasing adoption of fixed-line broadband. This trend is especially prevalent in markets where fixed-line broadband remains underpenetrated, such as in the Philippines and Thailand.

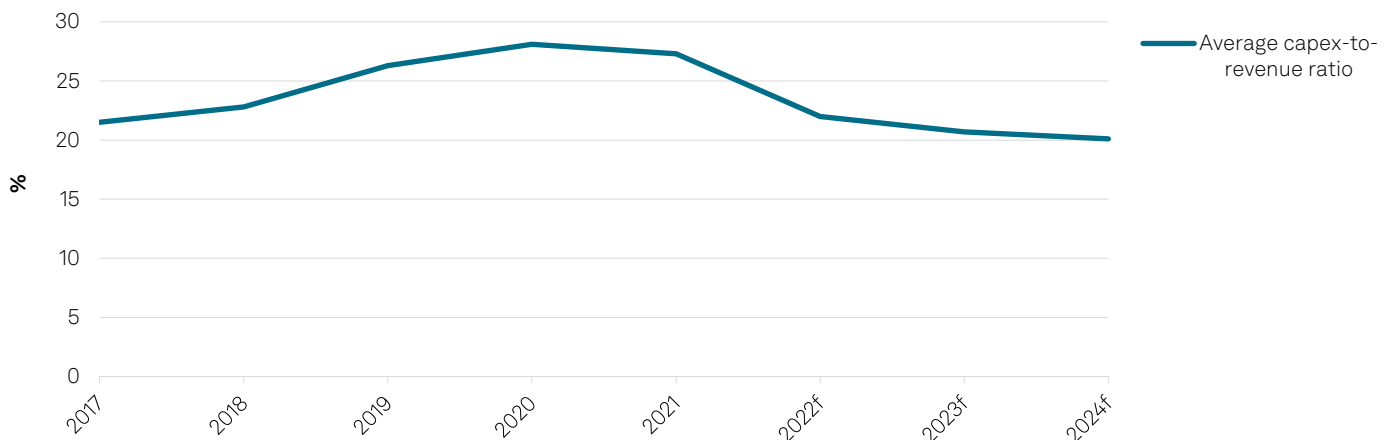
The advent of 5G has raised the viability of fixed-wireless broadband as an alternative to fixed-line alternative. This can boost the earnings of telcos in markets such as Australia and New Zealand, as fixed-wireless broadband allows them to bypass low-margin reselling of national fixed-broadband networks.

Cost-cutting measures will blunt the impact of inflation-driven cost increases, but some pressure from higher energy and labor costs remains inevitable. Price hikes in some markets, such as Australia, will help to counter these pressures. However, in markets where competition makes price hikes difficult or where consumers are price-sensitive, margins will narrow. That said, we expect any softening of consumer spending to be mild and temporary. This is given the sector's utility-like demand characteristics.

Average capex intensity should ease but will remain high. The first wave of high 5G spending has passed for majority of the rated APAC telcos, but high capital investments remain--albeit in a disciplined manner (see chart 16). We expect telcos to continue to improve their 5G and fiber networks based on adoption rates and the success of 5G industrial use-cases.

Chart 16

APAC Telcos' Capex Intensity Should Ease, But Remain High



Note: Excluded Summit Digital Infrastructure Ltd. because of its exceptionally high capex intensity at inception in 2019. f--Forecast. Source: S&P Global Ratings.

Industry Top Trends 2023: Telecoms

The balance sheets of telcos will continue to diversify away from traditional connectivity operations. This is to boost long-term earnings potential. For example, Thailand's Advanced Info Service Public Co. Ltd. and Korea's SK Telecom Co. Ltd. and KT Corp. are investing in data centers. Others, such as China Mobile and Singapore Telecommunications Ltd. (Singtel), are putting money into cloud services and information and communications technology.

Asset sales to fund M&A and capex. We expect telcos will continue to reevaluate infrastructure asset portfolios and business structures. Tower sell-downs by telcos will likely continue because towers are passive and not key to network advantage. They are also relatively mature and accessible on a third-party basis. The recent spate of tower transactions has afforded telcos some financial flexibility (see table 1). Proceeds from monetizing such assets that are not key to the telcos' competitiveness can create funding capacity for their capex and other growth engines.

Table 1

Three Examples Of Deleveraging Following The Sale Of Tower Assets In APAC

	Debt	EBITDA	Debt/EBITDA (x)
Telstra Corp. Ltd. (Mil. A\$)*			
Adjusted amounts (A)	13,574	6,569	2.07
Cash proceeds from sale	(2,800)	-	
Incremental lease liability	898	-	
Adjusted for tower sale transaction (B)	11,672	6,569	1.78
Net deleveraging (A-B)			0.29
Singapore Telecommunications Ltd. (Mil. S\$)§			
Adjusted amounts (A)	12,333	5,020	2.46
Cash proceeds from sale	(1,850)	-	
Incremental lease liability	1,217	-	
Adjusted for tower sale transaction (B)	11,700	5,020	2.33
Net deleveraging (A-B)			0.13
PLDT Inc. (Mil. PHP)†			
Adjusted amounts (A)	258,737	97,403	2.66
Cash proceeds from sale	(77,000)	-	
Incremental lease liability	27,500	-	
Adjusted for tower sale transaction (B)	209,237	97,403	2.15
Net deleveraging (A-B)			0.51

Note: We illustrate the deleveraging impact using adjusted figures from the fiscal year right before tower sale transaction. *Fiscal year ended June 30, 2021. §Fiscal year ended March 31, 2021. †--Fiscal year ended December 31, 2021. A\$--Australian dollar. S\$--Singapore dollar. PHP--Philippine peso. Sources: Company disclosures, S&P Global Ratings.

If telcos were to monetize other infrastructure assets, especially active assets, it could weigh on their business strength. In determining the implications for the telcos' credit profiles, we will consider, among other factors, the extent to which the assets drive the telcos' competitive advantage, the level of control retained in these assets, and the change to leverage.

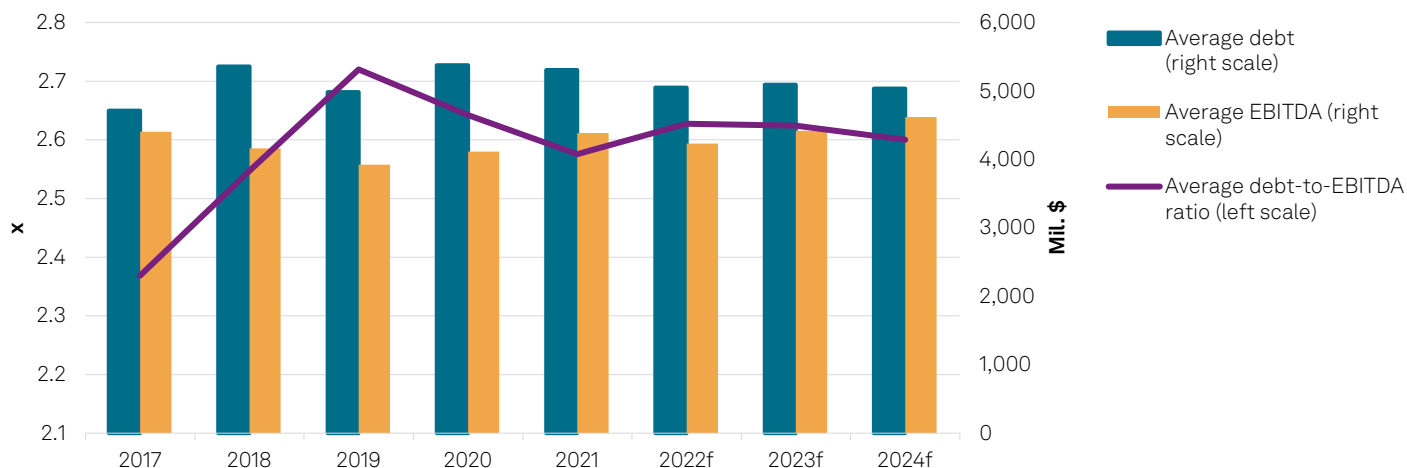
We believe telcos will be strategic about investments that are not key to competitive advantage, to preserve their balance sheets. This could mean divesting such business segments, as Hong Kong Telecommunications Ltd.'s disposal of data center assets. It could also mean entering such businesses with a partner, as Singtel is doing with its digital bank business.

Credit metrics and financial policy

We expect leverage to remain largely stable over the next two years. We estimate debt-to-EBITDA ratio of APAC telcos to remain 2.5x-2.7x, from 2.6x in 2021 (see chart 17).

Chart 17

APAC Telcos' Leverage To Remain Largely Stable



Note: Excluded Nippon Telegraph and Telephone Corp., PT. Profesional Telekomunikasi Indonesia, Summit Digital Infrastructure Ltd. and Voyage Digital (NZ) Ltd. due to acquisition-led debt increases or high inception leverage. f--Forecast. Source: S&P Global Ratings.

We expect telcos to manage leverage carefully to fund capex and investments, with asset divestments as one of the key funding levers. Debt has crept up with each iteration of mobile network and fixed broadband, while the resultant earnings benefits have fallen short. Therefore, as spending remains elevated, we expect telcos to create the necessary funding capacity from divesting assets that are not a competitive advantage. Resultant cash proceeds from asset divestments can be put toward capex and investments. Some telcos may also use asset divestments to support shareholder returns, as the traditional connectivity business has struggled to achieve strong earnings growth and new growth engines take time to develop.

Key risks or opportunities around the baseline

1. Prolonged recession could weaken consumer sentiment

Consumers' spending power could dip and slow upgrades to higher-priced services and newer devices. This could be protracted in the event of a deep recession. Bad debt could rise and working capital cycles could lengthen, weighing on telcos' cash flows and leverage.

2. Competition could ease in some markets but rise in others

Markets such as Taiwan and New Zealand could see competitive pressures abate with consolidation, while markets with new entrants, such as in Philippines (Dito Telecommunity Corp.), could face more intense wireless competition than in the past.

3. Investments could weigh on leverage due to lag in payback

Telcos must make upfront 5G network and spectrum investments. Yet, meaningful monetization from industrial-use cases ranging from self-driving cars to smart factories remains distant. Expensive--but necessary--spectrum purchases could stretch the telcos' balance sheets. Telcos' investments into new growth engines have been on a rise, in a bid to boost long-term earnings potential. Such investments, if debt-funded, can erode rating headroom.

A prolonged recession could dent telcos' earnings. While we expect telcos to be resilient, a deep recession can still lead to a prolonged dial-back in spending on telco services. Consumers will delay more discretionary upgrades. For example, migration to 5G, where 5G-enabled devices are required, will moderate. Some consumers may even trade down. Telcos with a high proportion of prepaid subscribers will be hit the hardest, as consumers can easily scale back spending.

Severe currency depreciation in weaker Asia-Pacific economies could exacerbate the situation. The costs of imported handsets and network equipment will increase. This can further weaken consumer demand for handset upgrades, as well as increase the capex burden for telcos.

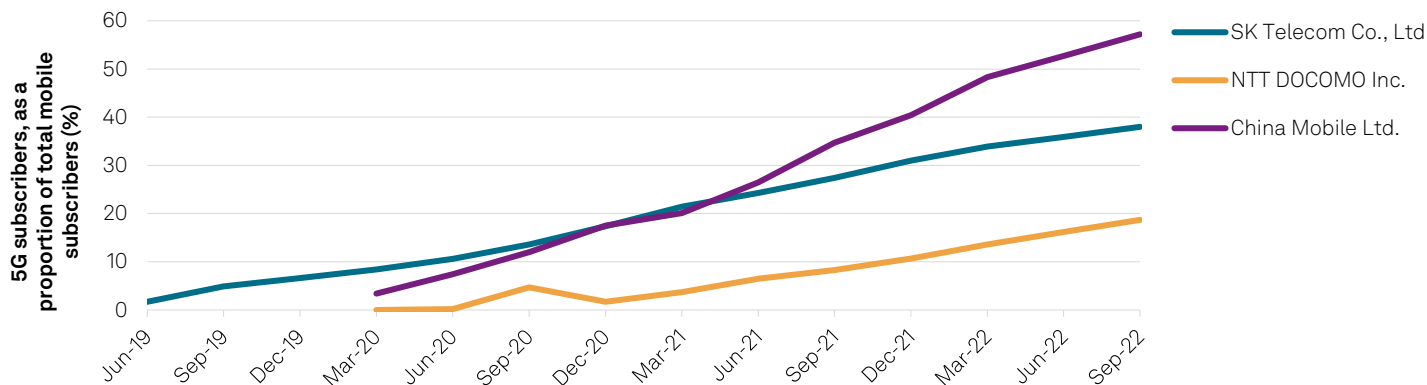
Consolidation and new entrants could change competitive pressures. Assuming the regulatory anticompetitive hurdles are cleared, consolidation typically results in stronger players, more rational pricing, and lower risk of a new player entering the market. Indeed, after the merger of TPG Telecom and Vodafone Hutchison Australia, ARPU's have risen in Australia over the past two years. On the other hand, telcos in markets with new entrants may face earnings and balance sheet risks. For example, PLDT has incurred much higher capex over the past two years partly in anticipation of the new competition in both mobile and fixed line. The heightened competition also limits the ability of incumbents to raise prices. For example, Dito's wireless plans are priced below the market to attract subscribers.

Heavy upfront investments could weigh on leverage as payback takes time. Telcos are making substantial investments into 5G, ranging from network equipment to spectrum, and these costs may continue to be elevated even for telcos that have already adopted 5G, to increase capacity and coverage. They may also be necessary as telcos that previously adopted non-stand-alone 5G models move toward stand-alone 5G models. Sporadic spectrum auctions, such as in Taiwan and Thailand, where timing is uncertain, could lead to deviations from our base case.

The potential uses of 5G networks goes far beyond mobile devices. By extension, the monetization opportunities for telcos will too. However, significant returns are unlikely to come soon. For now, 5G will likely be used to offer consumers faster mobile and fixed-wireless access. And this migration will depend on the availability and uptake of 5G-enabled devices, which remains limited. In early 5G-adopter markets such as Korea, China, and Japan, 5G adoption only reached an average of about a quarter of the subscriber base after two years (see chart 18).

Chart 18

5G Adoption Will Be Gradual, As Seen In Early Adopters



Sources: Companies' filings, S&P Global Ratings.

Rising investments into new growth engines could also stretch telcos' balance sheets. While they may boost long-term earnings potential, incremental earnings take time to ramp up. When

further away from the familiar connectivity business, such investments could translate into higher execution risks too.

Related Research

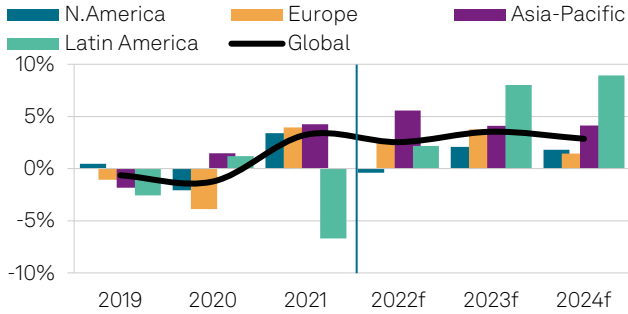
- [Telecom Tower Operators Show Their Mettle](#), Jan. 18, 2023
- [Assessing The Impacts Of Higher Interest Rates On 'B-' Rated U.S. Telecom And Cable Issuers](#), Jan. 11, 2023
- [U.S. Telecom And Cable Sector Will Remain Calm Amid A Sea Of Recession Uncertainty In 2023](#), Jan. 9, 2023
- [Asia-Pacific's Stretched Telcos Turn To Tower Sales](#), Nov. 21, 2022

Industry Forecasts

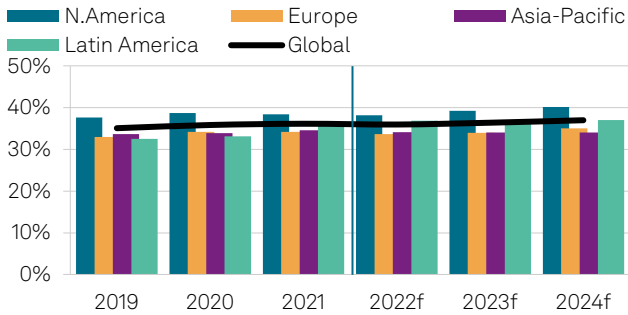
Telecoms - Fixed and Wireless

Chart 19

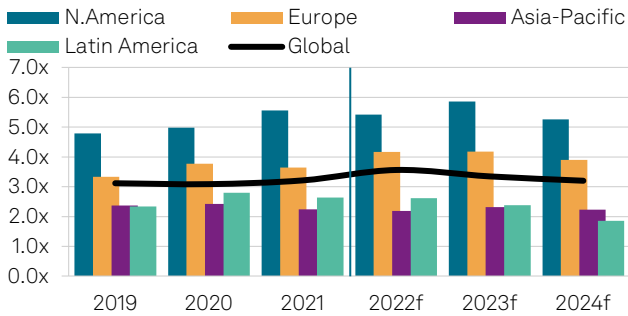
a) Revenue growth (local currency)



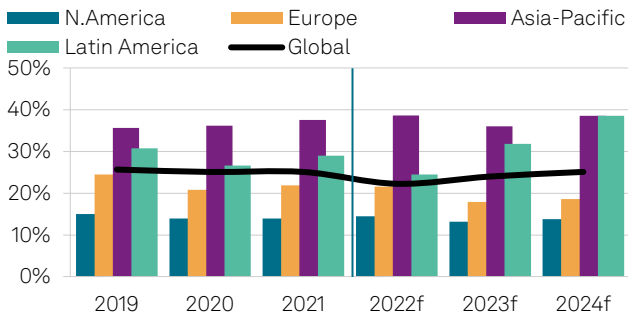
b) EBITDA margin (adjusted)



c) Debt / EBITDA (median, adjusted)



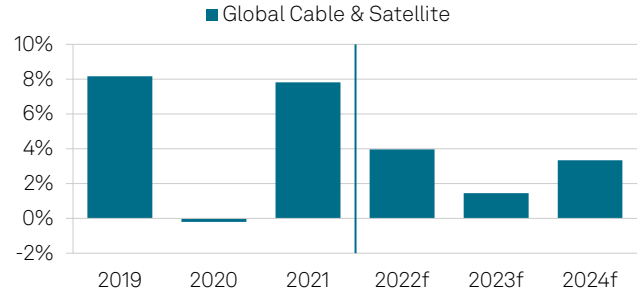
d) FFO / Debt (median, adjusted)



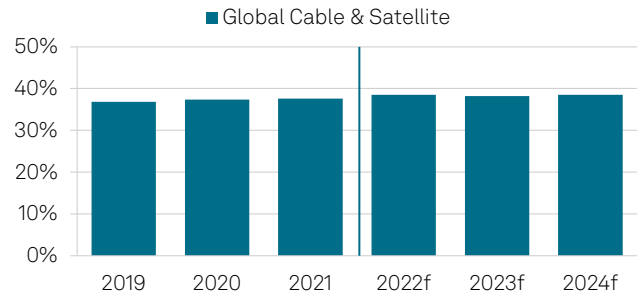
Cable and Satellite

Chart 20

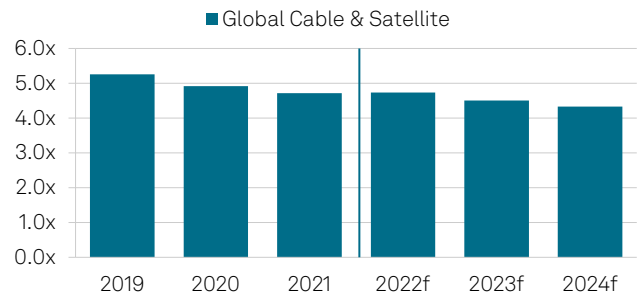
a) Revenue growth (local currency)



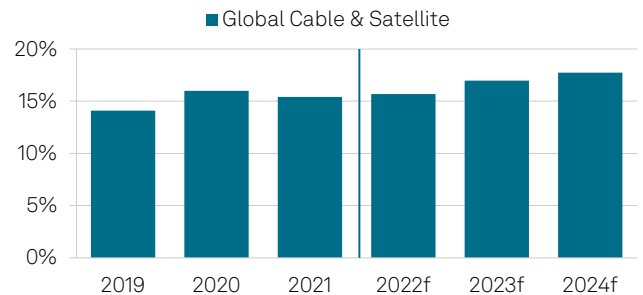
b) EBITDA margin (adjusted)



c) Debt / EBITDA (median, adjusted)



d) FFO / Debt (median, adjusted)



Source: S&P Global Ratings. f = Forecast.

Revenue growth shows local currency growth weighted by prior-year common-currency revenue share. All other figures are converted into U.S. dollars using historic exchange rates. Forecasts are converted at the last financial year-end spot rate. FFO—Funds from operations.

Cash, Debt, And Returns: Telecoms

Chart 21

Cash flow and primary uses

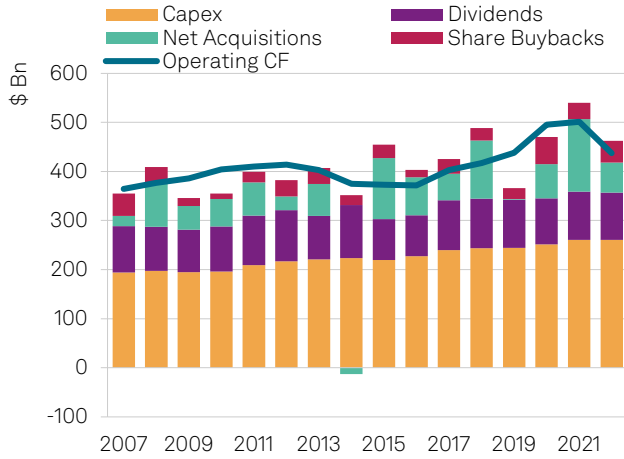


Chart 22

Return on capital employed

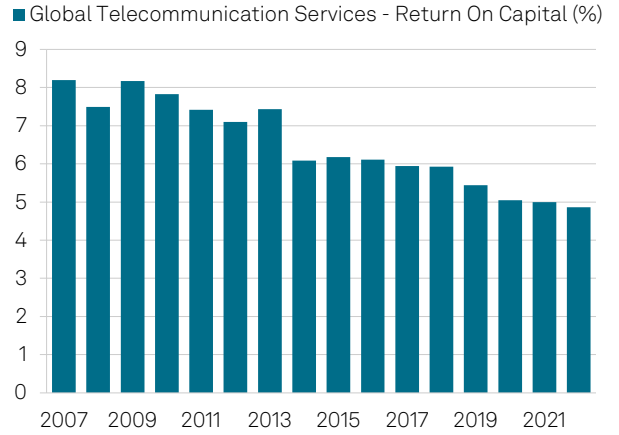


Chart 23

Fixed- versus variable-rate exposure

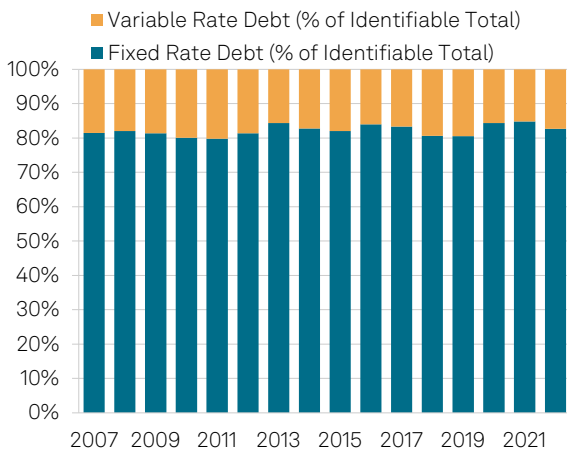


Chart 24

Long-term debt term structure

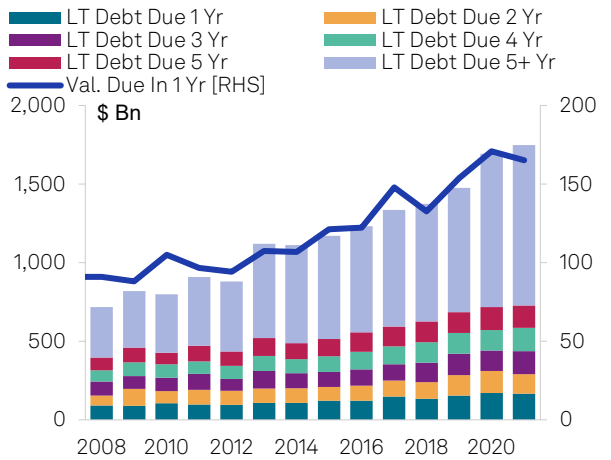


Chart 25

Cash and equivalents / Total assets

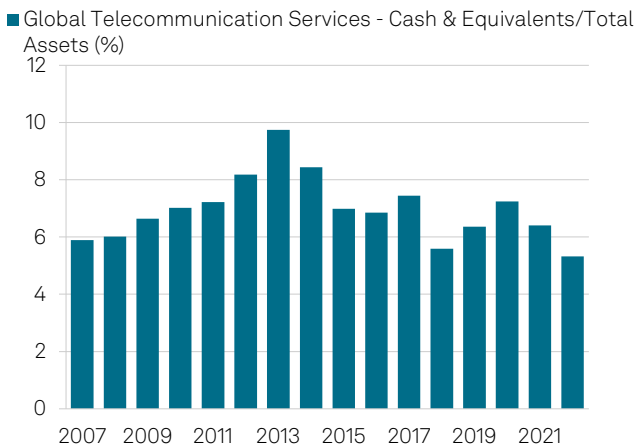
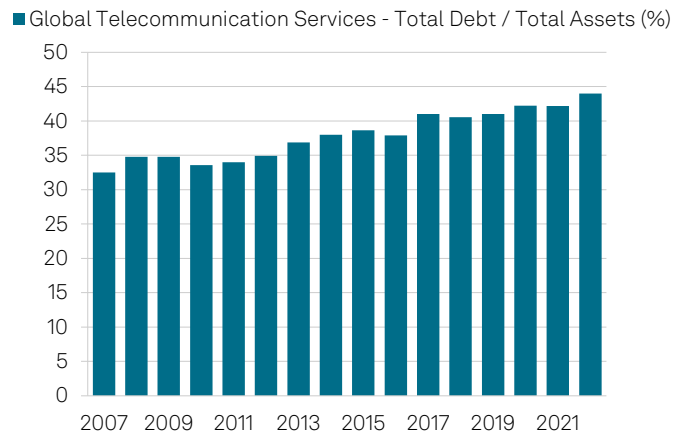


Chart 26

Total debt / Total assets



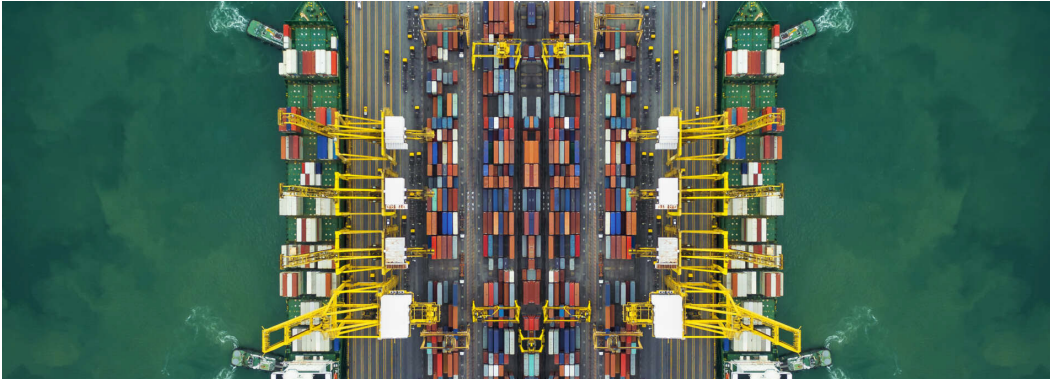
Source: S&P Capital IQ, S&P Global Ratings calculations. Most recent (2022) figures use the last 12 months' data.

Transportation

Recession risks rise for global transportation companies

January 23, 2023

This report does not constitute a rating action



What's changed?

A slowing global economy will weigh on demand. Freight transportation, which boomed from H2 2020 through H1 2022, is seeing lower pricing--from record levels--and softer demand.

Airlines should weather a softer economy but are not immune. Lifted COVID-19 restrictions and pent-up demand keep fares high. Although demand could cool, air travel recovery continues.

Much higher interest rates will squeeze some companies. Low-rated companies that need to refinance will face more costly and limited options.

What are the key assumptions for 2023?

The U.S. and much of Europe will enter a shallow recession. Higher interest rates and energy costs will depress demand, but services, including transportation, should hold up.

Oil prices should ease from 2022 peaks but remain high for a recession. Disruptions from the Russia-Ukraine conflict raised oil prices and volatility. Uncertainty remains high.

Labor inflation will further pressure costs. Recruitment issues and wage negotiations will likely persist for companies that cut staff and reduced salaries during the pandemic.

What are the key risks around the baseline?

A shallow recession could evolve into something worse. Excessive tightening from central banks or an energy shock in Europe could trigger a deeper economic downturn.

Geopolitical crises could send energy prices back up. Airlines are most exposed to higher prices, but most transportation companies would suffer from the resulting weaker economy.

COVID-19 could still upset recovery. China's easing of pandemic restrictions led to a surge in cases and testing requirements. New viruses or strains anywhere could set back air travel again.

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Ratings Trends: Transportation

Chart 1
Ratings distribution by region

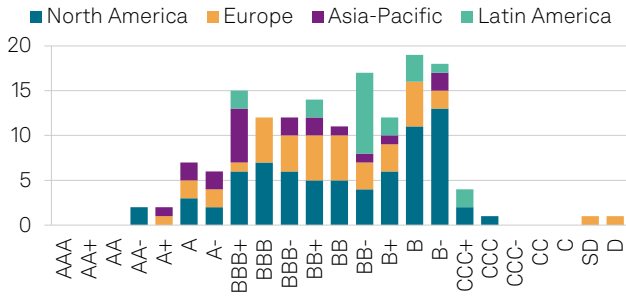


Chart 2
Ratings distribution by subsector

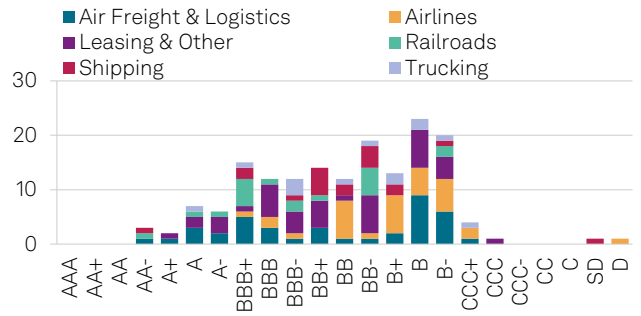


Chart 3
Ratings outlooks by region

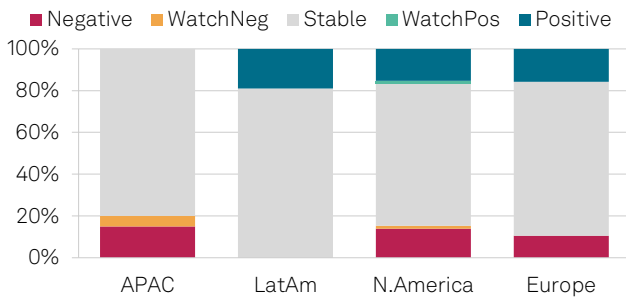


Chart 4
Ratings outlooks by subsector

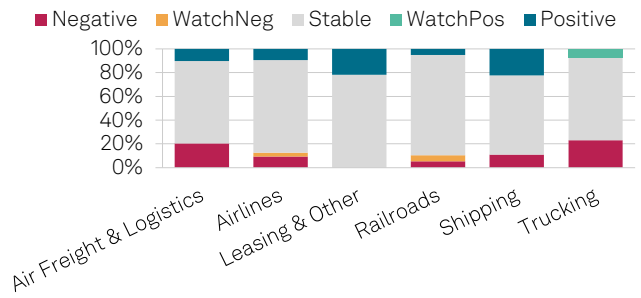


Chart 5
Ratings outlook net bias by region

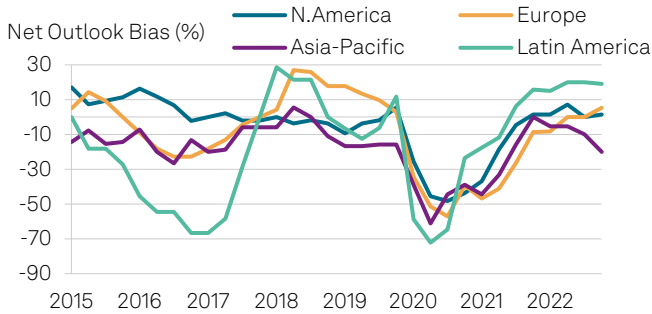


Chart 6
Ratings net outlook bias by subsector

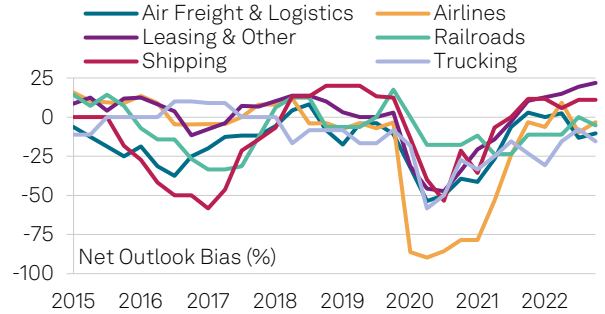


Chart 7
Ratings outlooks

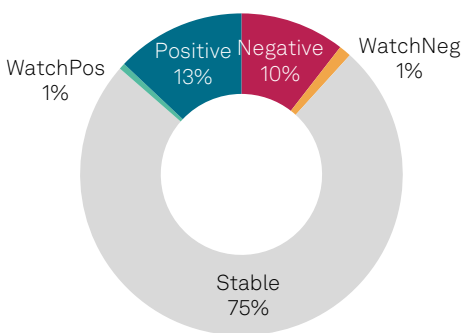
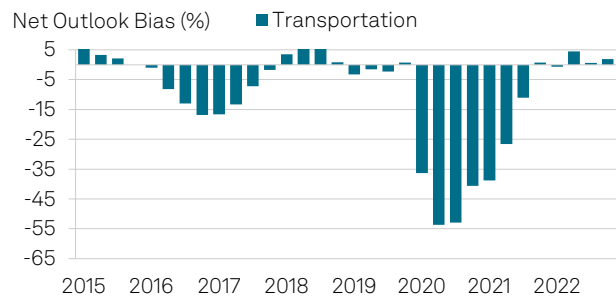


Chart 8
Ratings net outlook bias



Source: S&P Global Ratings. Ratings data measured at quarter-end.

Industry Outlook: Airlines

Ratings trends and outlook

Airline ratings bottomed out in 2020, and the strong though uneven recovery of air travel since then has mostly stabilized ratings and allowed for selected upgrades. However, further progress is facing global headwinds. The strong U.S. dollar and higher interest rates are squeezing some developing-world airlines, such as those in Latin America. China's abrupt move away from its lengthy zero-COVID-19 strategy has led to a rise in cases, and some countries announced testing requirements for flights arriving from China. The resurgence--or appearance--of a more dangerous variant in any part of the world could set back normalization of air travel. That said, there is also opportunity for growth given the huge pent-up demand for international travel from China, particularly for visiting friends and family, following years of stringent COVID-19 rules.

Main assumptions about 2023 and beyond

1. Revenues increase, but at a slower rate

Although there is considerable uncertainty, air travel trends appear to have sufficient momentum to support some year-over-year gains (aided by weak comparisons against the omicron-affected first quarter of 2022), even in a shallow recession. Airlines will deploy more capacity and ticket prices may soften as they seek to fill seats.

2. Oil prices moderate

We expect global oil prices to pull back somewhat from 2022 peaks but remain higher than normal for a recession, with continued, wide crack spreads for jet fuel. Whether airlines give back some of the lower prices will depend on the strength of demand and competitive dynamics in each market.

3. Labor costs trend upwards

Many labor contracts remained unresolved through the pandemic, but airline unions want a share of airlines' improving earnings and compensation for the difficult working conditions of the past few years. Whether new and costlier contracts affect an airline's competitive cost position will depend partly on if airline labor talks in a country or region follow "pattern bargaining," with resulting similar pay scales across comparable airlines.

The outlook for 2023 is uncertain. First quarter year-over-year revenue and earnings comparisons should be easy, as the omicron outbreak heavily influenced January and February of 2022 (this comparison assumes any COVID-19 increase for the remainder of this winter will be less severe). With our assumed recession underway in the U.S. and some European countries, year-over-year comparisons for the rest of 2023 will be more difficult. However, it's worthwhile to remember that some international markets opened partway through 2022 and business travel trended up through the year, helping year-over-year comparisons.

Demand for passenger transportation remained strong as 2022 ended. In the U.S., planes were packed over the late-November Thanksgiving holiday, and airlines reported solid forward bookings. In Europe, leading airlines claim customer bookings are following a normal seasonal pattern. However, there is mounting evidence that (particularly large) corporations are beginning to trim travel spend in response to the impending economic downturn, and visibility (over bookings) is low.

We expect U.S. airlines to add some capacity (since they did not fly as much during the summer as they would have liked) as they receive new aircraft deliveries and deploy more pilots. European airlines have scaled back and are still not deploying their full pre-pandemic capacity in many cases. Latin American airlines will likely add capacity during 2023 as both corporate and international travel was well below pre-pandemic levels during 2022 (with omicron affecting the first quarter and high season). Asia-Pacific (APAC) airlines will continue closing the recovery gap with other regions in 2023, especially since most Northeast Asian countries have gradually eased border restrictions. We expect some airlines in Southeast Asia that suffered bankruptcies to emerge in stronger financial positions following a restructure.

As macroeconomic uncertainty remains high, we also expect uneven capacity additions across markets and airlines, and financing constraints and strong liquidity management could prevent faster capacity deployment. Ticket prices could remain relatively high where there are capacity constraints, particularly if new aircraft deliveries continue to be delayed, and high inflation (particularly for fuel and labor) that operators will hope to pass on to customers. That said, we may see prices soften in certain regions given the weak macroeconomic outlook, particularly for tickets aimed at more price-sensitive leisure travelers.

Overall, we forecast somewhat higher revenues for global airlines in 2023, and they should also benefit from a slight pullback in crude oil (and thus jet fuel) prices. Our energy team assumes a full-year average price of \$85 per barrel for West Texas Intermediate (WTI) and \$90 per barrel for Brent crude oil. That is lower than the 2022 average but higher than normal in a recession, reflecting disruptions caused by the Russia-Ukraine conflict and capacity constraints by OPEC and other major producers.

A more gradual but lasting cost pressure is rising labor costs. Major U.S. airlines are close to new contracts with their pilot unions, with impending substantial pay raises. This will filter down as other labor groups negotiate with airlines. Most European airlines are also under pressure to rebuild both staff and salaries to avoid the operational issues they experienced over the summer of 2022. China's reopening may further strain staffing, especially within APAC, if airlines are not prepared for a surge in Chinese travelers. South American airlines have also experienced strikes by pilots and flight attendants in the past couple of months and agreed on increased pay and benefits. To some extent, airlines should be able to pass these higher costs through to passengers, but a soft economy may limit this ability somewhat.

Environmental regulations are picking up pace, particularly in Europe, where France is in the process of banning certain short-haul domestic flights where there is a suitable rail alternative. Initially this will only impact three routes, but it is expected to expand. Furthermore, the proposed EU regulation "Fit For 55" targets a 55% reduction in carbon emissions by 2030, from 1990 levels. The proposals plan to phase out free allowances for airlines under the EU Emissions Trading System (ETS) to zero by 2026, introduce a minimum amount of Sustainable Aviation Fuel usage for flights departing from EU airports, and may even introduce a tax on jet fuel. This could put further pressure on ticket prices--and eventually demand--over the medium term.

Airlines in Europe, as well as Latin America, and APAC, face an added risk in the form of the strong U.S. dollar. This pushes up lease rentals and fuel costs, both usually denominated in dollars. The extent of the vulnerability depends on how much of these airlines' revenues are denominated in dollars or other hard currencies that do not deviate markedly from the dollar (though the yen, euro, and pound sterling have all weakened appreciably against the dollar in 2022).

Credit metrics and financial policy

We lowered our ratings on all airlines by at least one notch (and often more) during 2020. Even at this low point, our ratings factored in a forecast recovery, as a continuation of losses at that rate would have bankrupted almost all. Since then, recovery of demand and, in many cases, substantial government support have enabled airlines to gradually restore credit measures, at least to some degree. In most cases, ratios entering 2022 supported current ratings, but some permitted selected upgrades or positive outlooks. The weakening global economy and high oil prices have somewhat stalled the positive credit trend, so further rating progress may require more clarity on the economic downturn in 2023. **We expect most airlines' liquidity and improved operating results should enable them to weather the effects of the recession, unless it is materially worse than we currently anticipate.**

Airlines preserved liquidity during 2020 and 2021 using government grants and massive borrowing to raise cash. With improving industry prospects and internal cash flow, many airlines have begun to pay down debt while still maintaining cash and borrowing capacity well above pre-COVID-19 levels. Others needing to invest in new aircraft, following several years of reduced capital expenditure (capex) during the pandemic, may be unable to meaningfully reduce debt for several years. Airline management teams are looking toward longer-term liquidity targets that are likely more cautious than previously, but lower than current levels. **Rising interest rates are not a major concern, as most airline debt is fixed rate and long term. However, these higher rates will gradually raise interest expense as airlines finance new aircraft deliveries or refinance debt.** This is particularly an issue for Brazilian airlines as we forecast cash flow deficits during 2023 (amid larger leasing payments following deferrals during the pandemic) and higher capex needs (following postponed maintenance and fleet renewals). Higher dividends or new share buybacks are off the table for almost all airlines because of competing liquidity and balance sheet needs, and, in some cases, outright government restrictions or a desire to avoid a political backlash to such moves.

Key risks or opportunities around the baseline

1. The economic downturn is worse than we expect

From an operational perspective, airlines appear mostly better positioned to weather this economic storm than going into past recessions. However, that depends crucially on how severe the recession or slower growth is as many balance sheets are more debt leveraged than normal. A further question is if consumers' pivot from goods to services will continue, allowing the travel industry to hold up better than other sectors.

2. Oil prices could be a risk or opportunity

We expect oil prices to pull back somewhat from 2022 levels but remain higher than normal for a recession. Disruptions from the Russia-Ukraine conflict or a rapid recovery in Chinese economic growth as it repeals COVID-19 restrictions could send prices higher. Conversely, a worse-than-expected global slowdown could push prices below our current forecasts, helping cushion the effect of likely weaker air travel.

3. Don't forget COVID-19

The virus appears to have evolved to more transmissible but less deadly variants. Most countries have at varying paces, relaxed COVID-19 restrictions to reflect this and allay popular weariness against such constraints. However, China's recent relaxation of rules has led many countries to increase testing requirements for flights arriving from China. A more dangerous variant anywhere in the world could set back the recovery in air travel, though we do not expect a return to the widespread stringent lockdowns, outside an extreme downside scenario.

Industry Top Trends 2023: Transportation

Airlines operate in a notoriously highly cyclical industry, so any expectation of improving operating results in 2023 requires justification:

- **First, our current forecast is for a shallow recession in the U.S. and some European countries** (though we also see only a tepid recovery). Reduced consumer spending will likely fall more heavily on goods than services, continuing a recent trend.
- **The momentum behind recovering air travel demand as COVID-19 restrictions ease has likely not run its full course.** During the peak 2022 summer travel season, limited airline capacity because of labor and aircraft shortages could not satisfy all consumer demand as those who flew did so in crowded planes and at expensive fares. Total annual traffic was still below 2019 levels in most cases, despite larger economies in some countries (such as the U.S.) as compared with 2019.
- **Airlines should be able to deploy more flights this year**, and likely lower fuel prices and consumer price sensitivity mean passengers may fly at somewhat lower fares. Many airlines hired employees and added fixed costs to support greater capacity than they could deploy in 2022, so these costs should be spread over more flying this year.
- **Lastly, airlines have become more capable of varying their cost structure in response to weaker demand**, having faced the ultimate test to do so in 2020. Despite downside risks to this outlook, as we identify above, airlines have a chance to fare better than in past downturns, particularly in North America.

Industry Outlook: Container Shipping

Ratings trends and outlook

The global container shipping industry boomed starting in the second half of 2020 through the first half of 2022, with container liners and containership tonnage providers alike posting record results, leading to several upgrades. This was principally driven by elevated freight and charter rates on the back of strong demand for tangible goods due to the pandemic-related restrictions (as demand for services dipped). Congestion in major maritime ports and supply chain disruptions further drove the boom as they tied up containership capacity. Although we had anticipated shipping rates to normalize from late 2022, **the correction has been faster and steeper than we expected**. As worldwide trade volumes shrunk and supply chain pressures eased, shipping rates plummeted abruptly in September-October 2022, albeit from record highs. Despite this, following a few years of extraordinary results, **credit metrics remain much stronger than before the-pandemic**.

Main assumptions about 2023 and beyond

1. Hefty vessel orderbooks strain shipping rates

Accelerating containership supply growth on the back of the current massive orderbook (accounting for 29% of the total global fleet as compared with an all-time low of 8% in October 2020, according to Clarkson Research) will likely surpass demand growth in the coming quarters. Macroeconomic headwinds and the expected sluggish global container trade will aggravate the overcapacity situation.

2. Container freight rates stabilize at profitable levels

After plunging from all-time highs during late 2022, average freight rates in 2023 might stabilize at levels above the pre-pandemic base, allowing container liners to (at least) recover operating costs that have escalated since 2019. Our base case accounts for industry players implementing timely and sufficient capacity-containing measures.

3. High operating costs burden profits as inflation lingers

Container liners have reported up to a 30% rise in average (excluding fuel) operating expenses in 2022, significant compared with 2019. Given the inflationary environment, we expect operating costs per container shipped to stay elevated the next quarters.

The most recent industry indicators and financial reporting by leading container liners indicate a sharper-than-expected demand erosion weighing on freight rates. As such, we revised our base case to incorporate negative industry trends that continued in fourth-quarter 2022. According to Clarkson Research forecasts, year-on-year trade volumes (as measured in containers shipped) fell about 3% in 2022 and might expand less than 1% this year. That said, there could be variations in trading patterns and freight rates across different destinations for various reasons, as we observed during 2022 with transpacific and Asia-Europe destinations more significantly affected than intraregional traffic and other global routes. There are certainly downside risks to this outlook in light of lingering macroeconomic and geopolitical uncertainties.

On the supply side, maritime port congestion has eased substantially, freeing up ship capacity in the market. A spike in containership deliveries means that the likely demand-and-supply imbalance (supply growth surpassing demand growth) expected in 2023 will weigh on freight rates. That said, we believe the industry will be more disciplined in managing excess supply, with

Industry Top Trends 2023: Transportation

tested tools such as blank sailings, slow steaming, rerouting, and swift capacity reallocation, and perhaps some potential deferral of new vessel deliveries.

Container freight rates have tumbled across most trade lanes in late 2022. According to Clarkson Research, the Shanghai Containerized Freight Index (SCFI) reached only close to 1,100 points as of Dec. 30, 2022, which is 3.0x-3.5x lower than the elevated averages of 3,410 in 2022 and 3,750 points in 2020, but still above the pre-pandemic full-year average of 810 points for 2019. At the same time, the weekly weighted freight rate per 40-foot container, according to the World Container Index (assessed by Drewry Supply Chain Advisors), crashed to near-pre-pandemic levels of \$2,100 from a high of \$10,400 in September 2021. Asia-Europe and transpacific main lanes drag on indices while transatlantic and Europe-South America routes hold up relatively well, so far. Meanwhile, period tonnage markets followed suit, with one-year time charter rates dropping significantly and abruptly across all vessel classes in late 2022.

Sharply corrected freight rates will hamper this year's operating profits. What's more, we expect operating costs to stay inflated at 2022 rates, with any potential efficiency improvements largely wiped away by general cost inflation. Although the bunker price might ease from mid-2022 highs, we forecast future bunker cost changes (typically linked to crude oil price movements) are either passed through or returned to customers through respectively adjusted freight rates with a time lag of a few months. In general, we think that the significant consolidation of the container shipping industry over the past several years and larger contribution from longer-term contracts with shippers could soften the impact of plunging rates on top-line revenue in 2023.

Credit metrics and financial policy

Container liners and containership tonnage providers have been subject to multiple upgrades and positive outlook revisions in 2021-2022, as record-high shipping rates translated into strong financial performance and exceptional levels of free cash flow generation. Although some companies used that cash for mergers and acquisitions and shareholder returns, **most have significantly reduced debt leverage and built headroom under the ratings** for unexpected adverse developments. However, in many cases, a lack of track records or affirmed commitment to maintaining this low level of debt leverage prevents further upgrades.

Key risks or opportunities around the baseline

1. The economic downturn is worse than we expect

Lower-than-expected global trade volumes, a key engine of shipping growth, would damage the container shipping industry as it struggles to balance demand and supply.

2. Freight rates fall more severely absent capacity cuts or surprise in a positive way

Sluggish demand and a surge in new-build deliveries threaten capacity utilization, calling the industry for swift corrective measures. Compared with previous downturns, container liners mostly appear in a much better shape (from a debt-leverage and liquidity perspective) to weather this overcapacity, but if liners prioritize market share wins ahead of profit protection, they risk further destabilizing fragile demand-and-supply conditions. Conversely, stringent industrywide capacity withdrawals could push rates above our current forecasts, softening the impact of likely weak consumer activity.

3. Counterparties fail to deliver on charter agreements

Significantly longer time-charter profiles at attractive rates prompted our most recent upgrades of containership tonnage providers, assuming counterparties (mainly container liners) are able and willing to honor their multiyear commitments. Unexpected amendments or nonpayment under the charter agreements could materially weaken ship lessors' credit measures and liquidity.

Global container shipping demand will remain subdued in 2023 on the back of macroeconomic challenges, such as energy and other cost inflation, hikes to interest rates, and dwindling disposable incomes. Geopolitical risks and uncertainties remain given the ongoing conflict in Ukraine and the surge in COVID-19 cases in China following an abrupt end to its zero-COVID-19 policies. Sluggish commodity imports and consumption from China could cause additional harm to capacity utilization rates.

Buoyant container shipping industry conditions in 2020-2021 pushed charter rates and durations higher, benefiting ship owners that prioritized gaining visibility and secure cash flows. A shift towards multiyear contracts has contributed to our positive rating actions on containership tonnage providers. Long- to medium-term time-charter profiles comprising noncancellable and fixed-price contracts at attractive rates normally help to mitigate inherent industry volatility. This works if charterers (typically container liners) deliver on their commitments, which we incorporated in our base-case scenarios. The **counterparty risk rises when the industry cools off and rates fall far below those in existing contracts**; if container liners' credit quality weakens, this increases the possibility of amendments to existing contracts, delayed payments, or nonpayment under the charter agreements. Some rated shipping companies were forced to amend charter terms or faced defaults under charters during the last cyclical downturns.

Industry Outlook: Railroads

Ratings trends and outlook

Our ratings and outlooks on large North American railroads remain mostly stable. Weakening economic conditions pose some risk to demand over the next year. However, the large North American railroads haul a diverse mixture of goods, some of which are less exposed to macroeconomic volatility, such as grain, or are difficult to move by alternative means, such as chemicals. Additionally, recovering service quality should allow U.S. railroads to meet demand that went unfulfilled in 2022 and support improved operating efficiency. We anticipate debt-financed share repurchases will remain high, offsetting any improvement to credit metrics, but anticipate a decrease in buybacks if economic conditions decline more than we currently expect.

Main assumptions about 2023 and beyond

1. Larger workforce supports improved service quality

Following a protracted bargaining process with labor unions, we expect recent agreements will support U.S. railroads' continued hiring efforts. We also expect the productivity of recent hires will increase as they complete mandatory training. In turn, higher train and engine headcount should allow railroads to optimize their available capacity, leading to more efficient operations and greater ability to meet customer demand.

2. Intermodal volumes remain challenged

Weaker consumer spending, lower container imports, and elevated retail inventory levels will likely contribute to lower demand for goods that railroads transport via intermodal shipments. Additionally, truck pricing continues to normalize following record-high levels over the past two years, which will make rail less price competitive on certain routes, pressuring volumes.

3. Pricing gains should help offset potentially lower volumes for package express companies

We expect 2023 volumes to be more representative of overall economic conditions, after the surge of e-commerce activity in 2020-2021 during the pandemic. Announced parcel rate increases should enable revenue growth to outpace GDP, with the potential of further consumer spending rebalancing as inflation provides a moderate headwind to volumes.

U.S. railroads continued to experience service disruptions in 2022 due to an insufficient workforce within train- and engine-related positions. This prompted railroads to impose embargoes on certain shipments and divert resources to prioritize critical shipments, such as fertilizer. As a result, railroads could not meet customer demand, and some customers chose other means of transportation, especially with shipments that compete closely with truck, such as intermodal. Headcount has improved in recent months but remains below pre-pandemic levels. Therefore, **we expect railroads will continue to hire new employees and work to increase the productivity of new hires.** A worse-than-expected recession could lead railroads to curtail some hiring. However, given the difficulty in hiring and retaining new workers following the pandemic, we believe railroads may be more hesitant to furlough workers or reduce staffing levels than in past downturns.

Higher headcount should allow railroads to take advantage of available capacity and improve operating efficiency in 2023. Although a weaker macroeconomic environment will lead to lower demand for transportation of certain goods, we believe railroads have opportunities to grow carload volumes. Industrial production, particularly related to automobiles, will likely improve

Industry Top Trends 2023: Transportation

somewhat as supply chain conditions ease and semiconductor availability increases. These factors should support higher volumes related to input materials as well as finished goods, particularly cars. Improved service quality will also allow customers to return some shipments to rail that they had diverted to other transportation modes.

Service quality should also improve for intermodal shipments. U.S. ports have largely worked through container backlogs amassed during the pandemic, thanks to generally lower demand for goods and improved labor availability. Moreover, higher overall headcount at railroads, as well as improved chassis and drayage availability (which are involved in the trucking of shipping containers to and from rail facilities), should lead to more reliable intermodal shipments and allow railroads to increase capacity on key routes, such as Southern California to Chicago. Nonetheless, we believe intermodal faces near-term challenges from moderating consumer spending, reduced restocking activity, and lower spot-market pricing for truck capacity. Over the longer term, however, we believe intermodal represents a growth opportunity for railroads and offers diversification away from declining coal shipments. Therefore, we expect continued investment in equipment and terminals.

We believe parcel volumes could stay relatively flat in 2023, having somewhat normalized in 2022, though this would depend on how inflation is addressed along with the length and depth of a possible recession. Parcel volumes in 2022 compared with 2021 and 2020 are down, as the prior periods set all-time highs because of associated robust e-commerce activity emerging during the pandemic. Nevertheless, parcel volumes in calendar-year 2022 were still strong, and we expect both UPS and FedEx to be above pre-pandemic levels. The 2022 volume declines were largely in line with our expectations as consumer spending began to normalize, with customers returning to stores and spending more on services, such as travel. However, the currently high inflation environment exacerbated normalization in 2022, reducing consumer discretionary spending while China's zero-COVID-19 policies hindered supply chains.

UPS and FedEx announced parcel rate increases across various delivery segments starting in 2023, which should mitigate inflationary and recessionary risks to volumes. On an aggregated basis, we expect revenue for package express providers to increase 3%-5% in 2023, with expected FFO growth at both companies. We also expect e-commerce trends will continue to enable revenue growth slightly above long-term GDP levels for parcel providers. This should support the current ratings despite higher possible net debt arising from shrinking cash balances. Both UPS and FedEx are sitting on larger-than-usual cash balances due to the strong e-commerce activity over the past several years. We expect cash balances to decline from increased levels of share repurchases. Regardless, we believe both companies have more-than-sufficient cushion at their current ratings to absorb larger-than-anticipated macroeconomic shocks.

Credit metrics and financial policy

Credit metrics will likely remain stable in 2023. Railroads face higher labor-related costs following the conclusion of union negotiations, but we believe they can absorb most of these increases through higher pricing. Railroads also face some cost inflation for materials used in maintaining track and equipment, likely leading to higher capital spending in absolute terms. On the other hand, improved network efficiency resulting from higher headcount should allow for lower costs related to leased equipment and purchased services. We continue to expect financial policy will prioritize share repurchases in 2023, assuming a shallow recession, and incremental debt will offset any improvement in credit metrics that would come from higher earnings or cash flow.

Logistics providers and trucking companies enter 2023 with the prospects of significantly lower spot-market pricing and weaker demand conditions. Following two years of favorable conditions, the market now faces lower volumes and added incremental trucking capacity compared with the beginning of the pandemic. Smaller logistics companies with capital structures largely consisting of floating-rate debt also face rising interest rates, which could weaken cash flows and credit metrics. Companies that provide less-than-truckload (LTL) shipping will likely benefit from the less-fragmented nature of the sector and its more-stable pricing compared to truckload (TL). Nonetheless, lower retail and industrial demand will likely pressure volumes and could weaken credit measures for some LTL providers. Niche-focused logistics companies and truckers, such as those involved in flatbed and hazardous goods transportation, should fare better than those participating in more commoditized spaces, given more limited competition and more specialized requirements.

Key risks or opportunities around the baseline

1. Workforce levels do not adequately improve

Railroads encountered difficulty in hiring new workers following the pandemic. Contentious contract negotiations, the intervention of the federal government, and the loss of paid sick leave could make railroad jobs less attractive to prospective workers, making hiring more difficult or leading to higher-than-expected attrition. The protracted negotiations could also deteriorate the relationship between railroads and unions.

2. Regulatory scrutiny increases

In response to reduced service quality, the railroad industry's main federal regulator, the Surface Transportation Board (STB), stepped up its oversight by instituting additional disclosure requirements and held hearings on measures to improve service. These efforts could increase if service takes longer to improve. The STB is also set to rule on other issues aimed at increasing rail competition, including the merger between Canadian Pacific and Kansas City Southern.

3. A deeper recession leads to lower industrial production and more shifts in consumer spending

We believe improving supply chain conditions within the manufacturing sector and order backlogs could help support rail transportation demand in 2023, even if overall macroeconomic demand falters. However, if higher interest rates cause companies to cancel equipment orders, demand for freight transportation could weaken more than we currently expect. Similarly, we also believe if consumer spending shifts further than expected towards services from goods, volume levels for package express companies could underperform our expectations.

Negotiations between labor unions and railroads ended in 2022 only after Congress and the president imposed an agreement after months of contentious bargaining. While the end of negotiations provides more visibility to companies and better pay and benefits to workers, the difficult process or the lack of certain worker-friendly provisions (i.e., paid sick leave) could hamper railroads' efforts to increase headcount or lead existing employees to resign. While we view this as somewhat unlikely, **continued labor disruptions would likely delay sustained improvement in service and operating results.**

The STB used its oversight powers in 2022 to mandate additional reporting and hold public hearings related to railroads' efforts to improve service quality. Slower-than-expected improvement in service, lagging headcount, or continued shipper complaints could prompt the

Industry Top Trends 2023: Transportation

STB to take additional, more-forceful actions. We also expect the STB will continue to evaluate whether to mandate reciprocal switching in areas where limited rail competition exists, which could lead to reduced network efficiency, decreased train speeds, and more competitive pricing on affected routes. Lastly, a final decision on the merger of Canadian Pacific and Kansas City Southern is due in the first quarter of 2023. Approval is unlikely to lead to additional large mergers in our view, given the stringent regulatory hurdles larger railroads would face.

Finally, a greater-than-expected reduction in industrial demand would likely lead to lower demand and weaker operating performance, especially for railroads. Weaker-than-expected consumer spending on goods would likely greatly hurt package express companies. However, financial policy remains a key factor in our ratings for companies in both sectors. We expect railroads to reduce debt-funded share repurchases in a significant downturn, in line with actions taken during the pandemic and in the 2008-2009 recession. Likewise, parcel providers would also look to curtail share repurchases. However, we could consider negative rating actions if debt-financed repurchases outpace improved operating efficiency or cash flow generation.

Industry Outlook: Transportation Equipment Leasing

Ratings trends and outlook

Transportation equipment lessors' ratings mostly remained stable in 2022, a trend we expect to continue in 2023, despite weaker economic conditions and rising interest rates. Free cash flow generated by these companies tends to be countercyclical; when demand weakens, they typically reduce capital spending but continue to generate strong cash flow due to the long-term nature of their contracts with customers (typically 5-7 years, but 10-12 in some cases). This means less need for borrowing, and lessors often use free cash flow to pay down debt. We have already seen some reduced capital spending in the second half of 2022 due to reduced demand, particularly for marine cargo container lessors. Although demand remains strong for new planes, aircraft lessors' capital spending has been below previous expectations because of the continued delays in receiving new aircraft from manufacturers. We expect these trends to continue well into 2023.

Main assumptions about 2023 and beyond

1. Volume and pricing weaken for freight transportation equipment lessors

Transportation equipment lessors benefited significantly from the supply chain shortages that began in mid-2020 and lasted through mid-2022. With equipment shortages, especially at ports, these companies experienced record use and pricing. However, as the shortages ease, we expect these companies to have excess capacity and lower pricing on new contracts.

2. Demand for leased aircraft remains strong

For the most part, global airline traffic has rebounded since early 2022, particularly in short-haul leisure markets. This, alongside continued delays new aircraft deliveries from manufacturers, has resulted in a shortage of capacity. Most large aircraft lessors have order books for new deliveries that stretch out many years, so we expect they will continue to be one of the few sources of available aircraft for the foreseeable future.

3. Rising interest rates unevenly influence the cost of and availability of capital

Many transportation equipment lessors have large percentages of floating-rate debt in their capital structures. As a result, their interest costs could increase sharply as rates rise. In addition, some companies might have less access to capital, a particular concern for those with large refinancing requirements.

Transportation equipment lessors are a diverse group that includes leasing aircraft, railcars, short-term car rentals, trucks, marine cargo containers, chassis, and portable storage units. Lessors involved with the freight sector experienced record use and pricing from mid-2020 through mid-2022 due to well-known supply chain issues. By contrast, the steep decline in airline travel during the pandemic resulted in aircraft lessors having to restructure aircraft leases, defer payments, and repossess aircraft from hard-pressed airline customers. However, that trend has since reversed; airline traffic has rebounded, especially for short-haul leisure traffic, and demand for goods has receded as consumers pivot to spending on services rather than goods. We expect these trends to continue even in a weaker economy, as pent-up demand for travel continues, particularly in Asia-Pacific and China now that COVID-19 restrictions have been virtually eliminated. Aircraft lessors have seen increased demand, especially for narrowbody aircraft used on shorter haul flights. Demand for widebody aircraft has only recently started to recover as

Industry Top Trends 2023: Transportation

long-haul international traffic recovers, particularly on transatlantic routes. Even before the pandemic, aircraft manufacturers saw constrained capacity from delivery delays, and the trend will likely continue, albeit at a lesser rate. We don't expect production to ramp up sufficiently to fully meet demand over the foreseeable future, especially for aircraft with newer fuel-efficient technology that meet increasingly stringent environmental requirements.

Car renters also benefited from demand and supply imbalances due to manufacturing constraints on new vehicle production while travel demand was high. As a result, overall operating performance for car renters has been at record highs due to historically elevated rental rates and historically low vehicle costs (based on lower depreciation rates). However, used car prices have pulled back in recent months as manufacturers produce more new vehicles, and we expect rental rates to return to normal levels.

Many of these companies, particularly aircraft lessors, took advantage of the strong capital markets since mid-2020 to issue new debt and refinance maturities at record-low rates. The aircraft lessors' average cost of capital is still relatively low, and they maintain strong liquidity with access to credit facilities and term loans from banks while carrying mostly fixed-rate debt. However, substantial debt maturities and capital spending (even with manufacturer delays) will require refinancing in 2023, and their blended cost of capital will increase somewhat. Additionally, many speculative-grade issuers have large amounts of floating-rate debt in their capital structures; we expect their interest costs to increase, at times significantly. Within this group, we expect interest expense for car renters and chassis-and-portable-storage lessors to increase the most.

Credit metrics and financial policy

Strong operating performance since mid-2020 has largely offset capital spending and its associated debt. As such, credit metrics for freight transportation equipment lessors have been relatively flat. These companies will likely reduce capital spending, and we therefore anticipate credit metrics to remain relatively consistent for those with mostly fixed-rate debt. In contrast, higher interest expense could weaken metrics and reduce liquidity for lessors with high levels of floating-rate debt.

Car renters' credit metrics improved significantly over this period, primarily due to strong operating performance, which included record gains on used-vehicle sales. Correspondingly, most renters also significantly increased share repurchases. Although gains on sale are declining, so is capital spending, and we expect renters to continue directing free cash flow to dividends and share repurchases.

Credit metrics for the aircraft lessors have been depressed, first due to reduced revenues from lease restructurings and payment deferrals, and then to large charges taken on from aircraft stranded in Russia. Even so, we maintained ratings at pre-pandemic levels for most and revised rating outlooks back to stable in 2021. We expect credit metrics to improve somewhat as lease rates increase to cover higher interest expense and demand continues to exceed supply for new aircraft.

Key risks or opportunities around the baseline

1. The economic downturn is worse than we expect

Poorer conditions will likely result in lower demand, utilization, pricing, revenues, and cash flow. However, for most of these sectors (except for aircraft), the lead time to order new equipment is relatively short, so companies can reduce capital spending fairly quickly to meet weaker demand without incurring incremental debt to finance investment.

2. Access to liquidity becomes constrained

For the most part, investment-grade transportation equipment lessors have strong liquidity with access to credit facilities and term loans. They also have mostly unencumbered assets, which could be used for secured financing, if necessary. However, weaker credits could constrain access to capital if operating performance softens while refinancing.

3. The recovery in airline travel stalls

A global recession, a COVID-19 resurgence, or a geopolitical event such as the Russia-Ukraine conflict could stall the recovery in airline traffic. If so, the airline sector could face another stressful period, resulting in airlines requesting lease restructurings, lease payment deferrals, or repossessions, hindering aircraft lessors' revenues and operating performance.

If the global economic downturn is worse than we expect, demand, pricing, utilization, revenues, and cash flow would also correspondingly weaken. However, we would also expect lower capital spending, resulting in less need for incremental debt to finance these investments, which would then offset lower levels of earnings and cash flow. Therefore, while this combination could weaken credit metrics, we do not expect it to deteriorate enough to significantly hurt ratings for many transportation equipment lessors.

On the other hand, the environment could constrain liquidity for lower-rated (non-investment grade) credits, especially if their operating performance weakens or their interest costs increase. This could make it more difficult and costly for lower-rated companies to refinance maturities or access credit facilities limited by covenant restrictions.

Finally, while we still expect airline travel to continue to recover, a global economic downturn could significantly constrain discretionary spending on travel, as could a new or more-dangerous strain of COVID-19, or geopolitical events such as the Russia-Ukraine conflict. These events could hinder demand for aircraft.

Related Research

- [Europe's Remarkable Air Passenger Traffic Recovery Faces A Trickier 2023](#), Nov. 21, 2022

We would like to recognize **Philip Baggaley** for his significant contributions to this report.

Industry Forecasts: Transportation

Chart 9
Revenue growth (local currency)

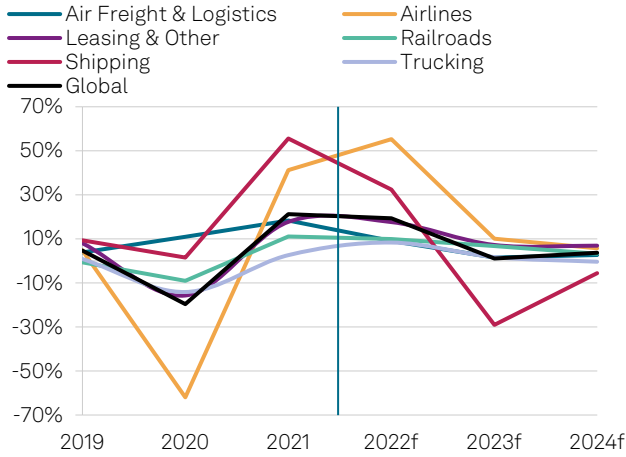


Chart 10
EBITDA margin (adjusted)

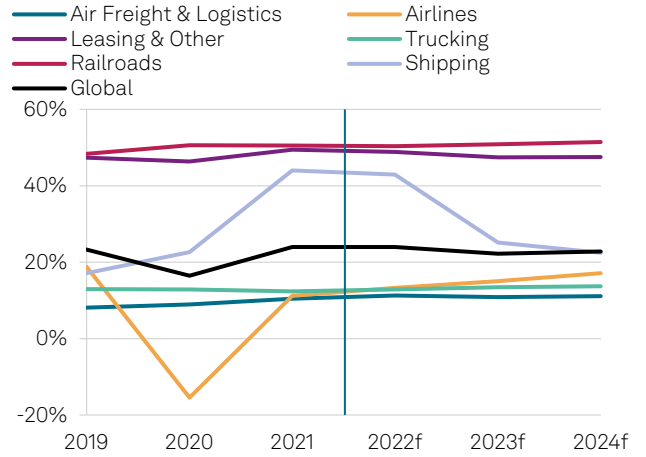


Chart 11
Debt / EBITDA (median, adjusted)

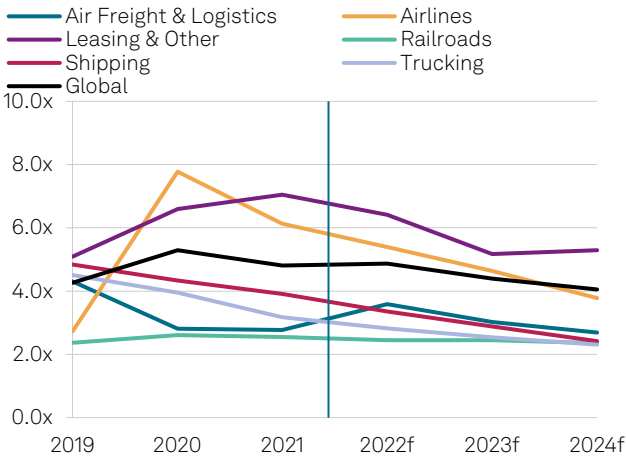
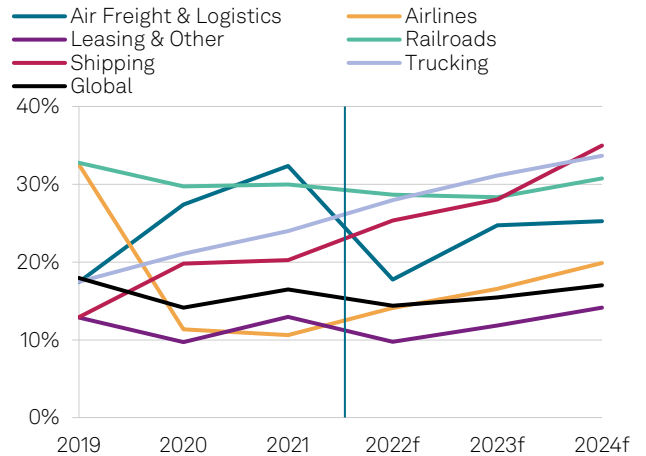


Chart 12
FFO / Debt (median, adjusted)



Source: S&P Global Ratings. f = Forecast.
Revenue growth shows local currency growth weighted by prior-year common-currency revenue share. All other figures are converted into U.S. dollars using historic exchange rates. Forecasts are converted at the last financial year-end spot rate. FFO—Funds from operations.

Cash, Debt, And Returns: Transportation

Chart 13

Cash flow and primary uses

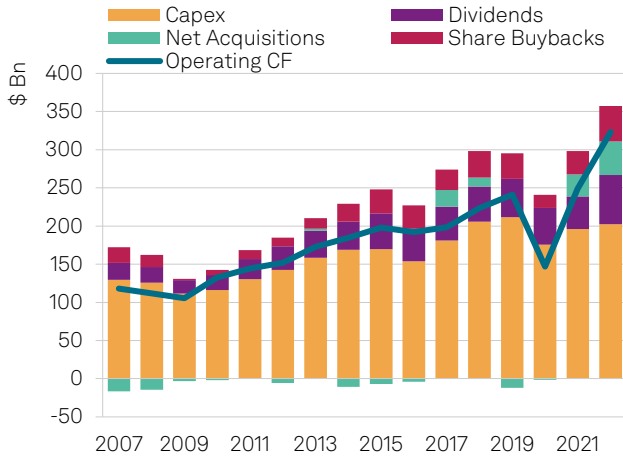


Chart 14

Return on capital employed

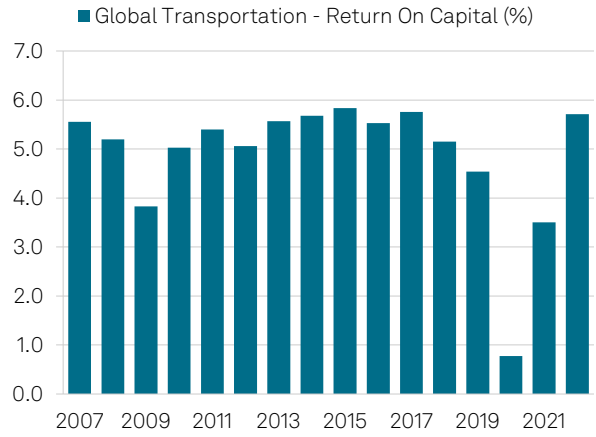


Chart 15

Fixed- versus variable-rate exposure

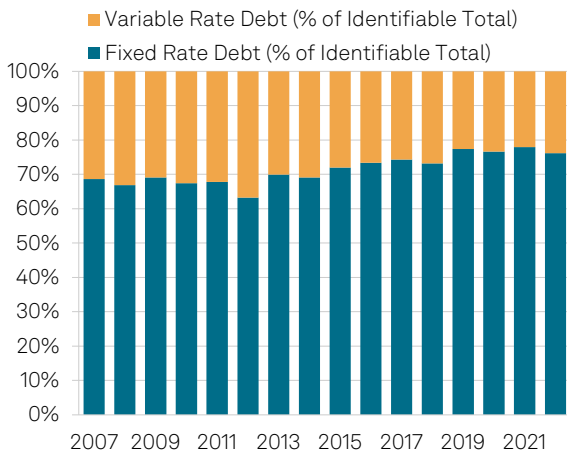


Chart 16

Long-term debt term structure

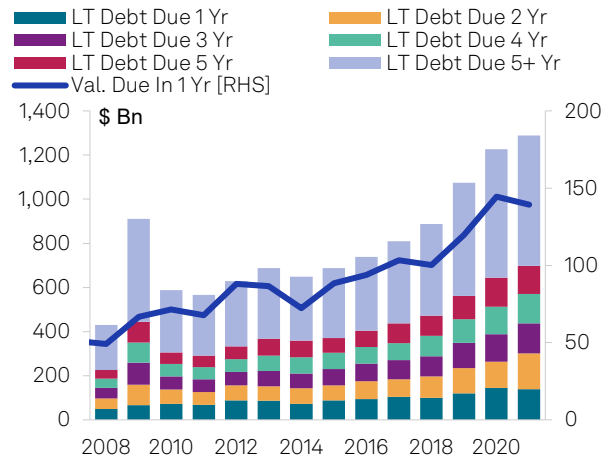


Chart 17

Cash and equivalents / Total assets

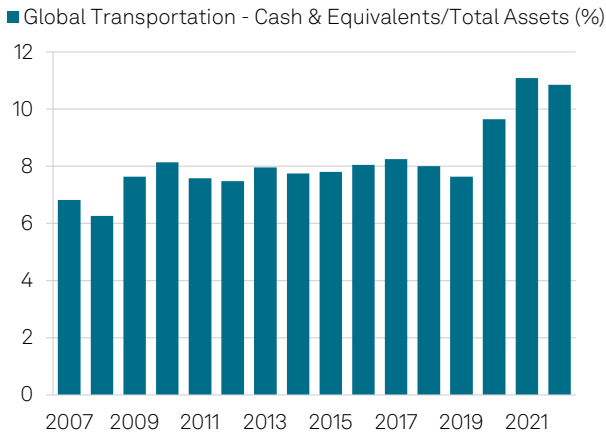
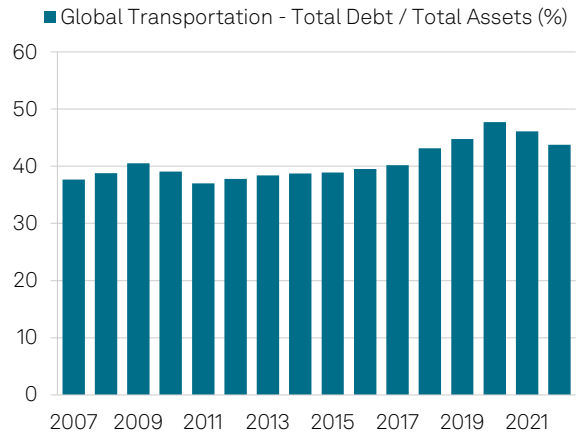


Chart 18

Total debt / Total assets



Source: S&P Capital IQ, S&P Global Ratings calculations. Most recent (2022) figures use the last 12 months' data.

EMEA Utilities

Credit resilience amid stormy waters

January 23, 2023

This report does not constitute a rating action



What's changed?

High prices for longer. Potentially losing four-fifths of imports from Russia aggravates the European gas market's underlying imbalances. We expect prices to stay elevated and volatile.

Diverging credit paths. Regulated networks and low-cost generators with high availability should continue the resilience they showed in 2022. Gas importers and power utilities short of supply still face greater earnings and liquidity pressure.

Overall ratings stability across Europe, the Middle East, and Africa (EMEA). We expect a continuation of 2022 rating transition patterns, where no downgrade exceeded one notch.

What are the key assumptions for 2023?

Continuingly high and volatile gas and power prices, despite price caps. In our base-case scenario, low Russian gas supplies require continued lower demand, as achieved in fourth-quarter, allowing prices to return to summer 2021 levels.

Maxed-out investments to accelerate the energy transition. For many utilities, we expect capital expenditure (capex) to rise over 10%--up to 50% for some power networks--over 2023-2025.

Reduced ratings headroom. Balance sheets are still solid but capex will somewhat erode them, government measures to support affordability, and inflation could pressure ratings.

What are the key risks around the baseline?

Price volatility. While stand-alone liquidity arrangements and government schemes should preserve liquidity for investment-grade utilities, market behavior is untested under price caps.

Political and regulatory risks. Pressures to accelerate the energy transition and affordability measures could weigh on ratings if they result in higher debt and lower earnings.

Large-scale maneuvers. Race for size, competition with integrated oil companies, and pursuing green or portfolio reshuffling could mean higher acquisition prices and unexpected transactions.

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Ratings Trends: EMEA Utilities

Chart 1
Ratings distribution

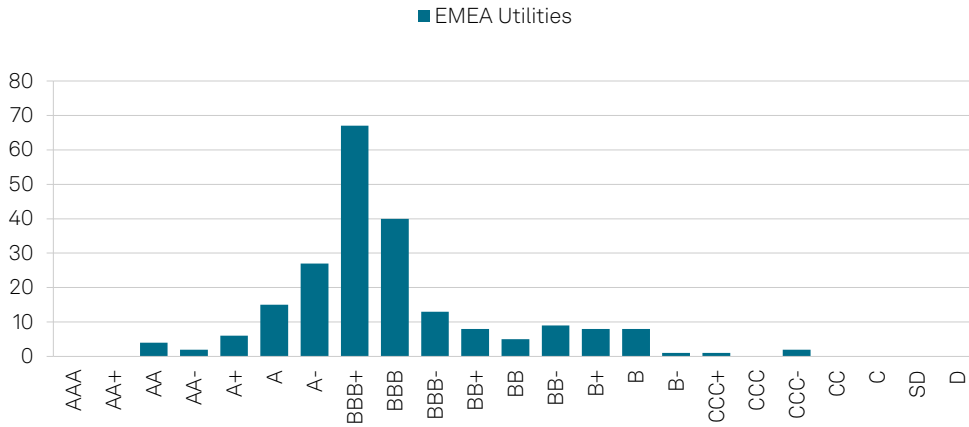


Chart 2
Ratings outlooks

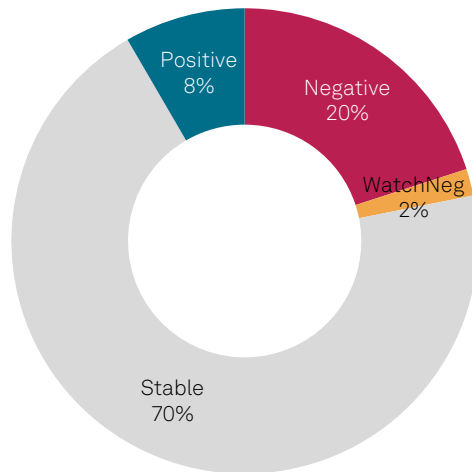
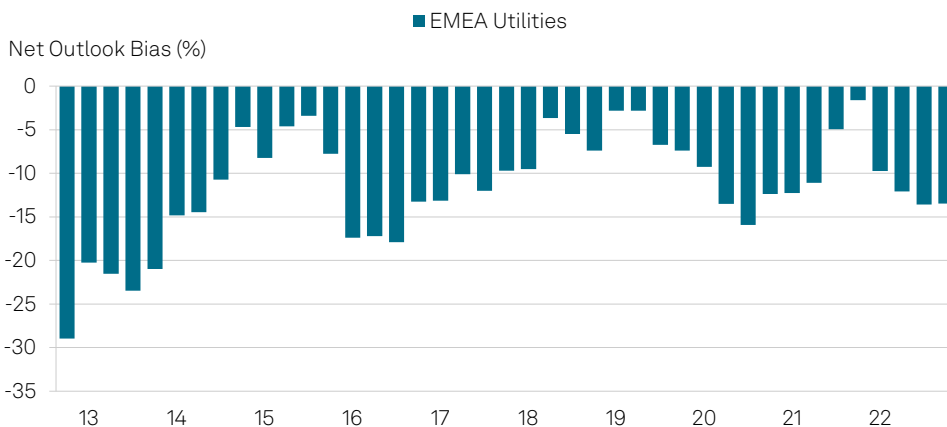


Chart 3
Ratings outlook net bias



Source: S&P Global Ratings. Ratings data measured at quarter-end.

Industry Outlook

Ratings trends and outlook

The outlook on EMEA utilities reflects gas and power price risks as well as, for networks, risks of a delay for the weighted-average cost of capital (WACC) to reflect higher refinancing rates, notably in less-supportive regulatory frameworks in Eastern Europe. Our negative outlooks are spread across the portfolio and notably reflect power networks with stepped-up capex plans; U.K. water utilities with significant inflation-linked debt; and power generators whose continuingly negative discretionary cash flow (DCF) weighs on debt metrics. Therefore, our overall net negative bias stands at a five-year high (except for third-quarter 2020, at the height of the pandemic) and reflects sectorwide external risks on earnings and liquidity as well as heavy shareholder distributions amid a higher investment cycle.

Still, three-quarters of EMEA utilities have a stable outlook, underpinned by solid fundamentals and medium-to-long-term business prospects as Europe accelerates its energy transition for both environmental and security of supply reasons. The very volatile power market in 2022 was to some extent offset by political intervention supporting the most affected issuers.

Western European wind and solar capacities are set to more than double and triple to 368 and 451 gigawatts (GW) this decade, respectively according to Standard & Poor's Commodity Insights (SPCI). The acceleration of the energy transition gained prominence in 2022 as Europe generated record amounts of wind power (up 8% to 450 terawatt-hours [TWh]) and solar power, and accelerated its capacity buildup in a context of the acute priority for security of supply. We view the EU council of ministers' December rejection of the European Commission's proposal to raise to 45% from 40% renewables' share of the energy mix as a pragmatic call rather than a retreat from decarbonization objectives. The acceleration is particularly notable in offshore and in solar over 2022-2025.

Against this background, we anticipate capex, and to a lesser degree EBITDA, to steadily increase across EMEA's unregulated and regulated utilities, reflecting new asset commissioning and credit-supportive network regulations. We will monitor the extent to which higher interest rates get passed onto WACCs.

Europe's high prices support earnings for fixed-cost power generators to the degree they are exposed to merchant activities or have rolled over hedges at increasingly favorable prices, even despite price caps that could continue beyond June 2023. Risk to earnings might come from delays on investments; weather-related renewables generation shortfalls; or negative regulatory developments. We believe utilities can generally manage any deviations through remedial measures on their balance sheets: asset disposals, hybrid capital, or equity-raising are often available options. Financial policy and credit rating commitments support many stable outlooks, with the mid to high 'BBB' rating band appearing to be managements' preferred territory. We thus expect our ratings to continue to cluster between 'BBB' and 'A-', levels at which market access is typically available and related sovereign ratings have little impact, except possibly in Italy (unsolicited; BBB/Stable/A-2). Outside Hungary and Turkey, we expect limited rating impact from foreign-exchange fluctuations beyond the U.S. dollar-driven cost of gas imports.

Main assumptions about 2023 and beyond

1. Continuingly high gas and power prices

Through the next two winters, Europe's gas and power markets will remain tight, resulting in still record high and volatile power prices.

2. Heavier investments

Based on recent strategic updates, we see capex over 2023-2025 increasing about at least 5% over the next three years, mostly to accelerate the energy transition by expanding renewables and upgrading power networks.

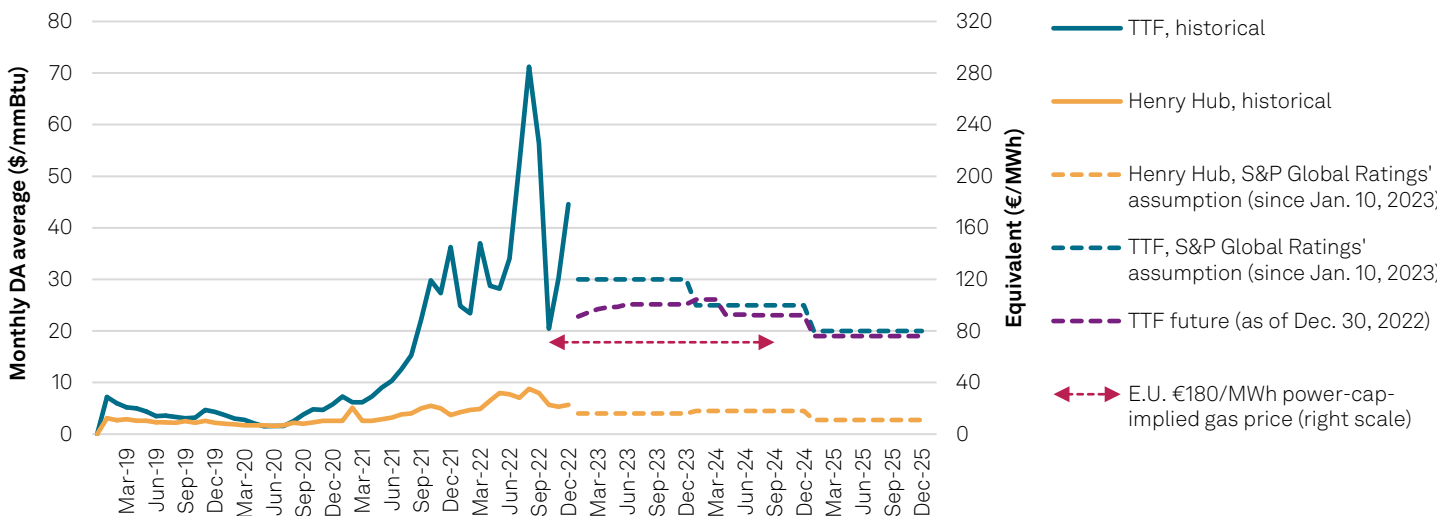
3. Financial policy is key given current uncertainty

Despite much higher investment plans and energy market uncertainty, the sector generally has fairly solid balance sheets, asset sale flexibility, and access to capital. Therefore, metrics within expectations at the current ratings are mostly predicated on financial policy.

We expect gas prices to remain high and volatile in 2023 due to supply-demand tightness (see chart 4). Since Jan. 10, 2023, we have been using European Title Transfer Facility (TTF) price assumptions of \$30 per million Btus (/mmBtu), \$25/mmBtu, and \$20/mmBtu for 2023, 2024, and 2025 (see "[S&P Global Ratings Lowers 2023 European And U.S. Gas Price Assumptions On More Balanced Supply And Demand](#)," published Jan. 10, 2023). While we see continuing gas supply-demand tightness at least through spring 2025, we expect less price volatility than in summer 2022, notably supported by reduced demand, down by 20.1% in the EU over August-November 2022 relative to 2017-2021. Although we now view mandatory physical curtailment risk as remote, gas supply-demand tightness is front-loaded until a buffer is reconstituted, thanks to major global liquefied natural gas (LNG) capacity additions (in the U.S. and Qatar in 2025-2026); European demand reduction; and further renewables capacity ramp-up. This underpins our view of continued backwardation towards the \$20-25/mmBtu range, a "sweet spot" in which Europe attracts sufficient spot LNG, its overall consumption continues to erode, and demand from Asia-Pacific, notably South Asia, is kept low.

Chart 4

Until 2025, EU Gas Prices Remain Multiple Times Higher Than 2019 And U.S. Levels



/mmBtu--Per million British thermal units. /MWh--Per megawatt hour. Source: S&P Global Ratings. Source of historical data: Platt's Dimension Energy price portal. Source of TTF forwards: Platt's Dimension ST f'c data sheet (2025 from daily EGD).

Industry Top Trends 2023: EMEA Utilities

We estimate Gazprom's exports to Europe halved to about 70 billion cubic meters (bcm) in 2022 while Europe imported about 55 bcm more LNG. Lower consumption of 50 bcm offset the missing volumes plus the rebuilding of storage, which was very low early 2022.

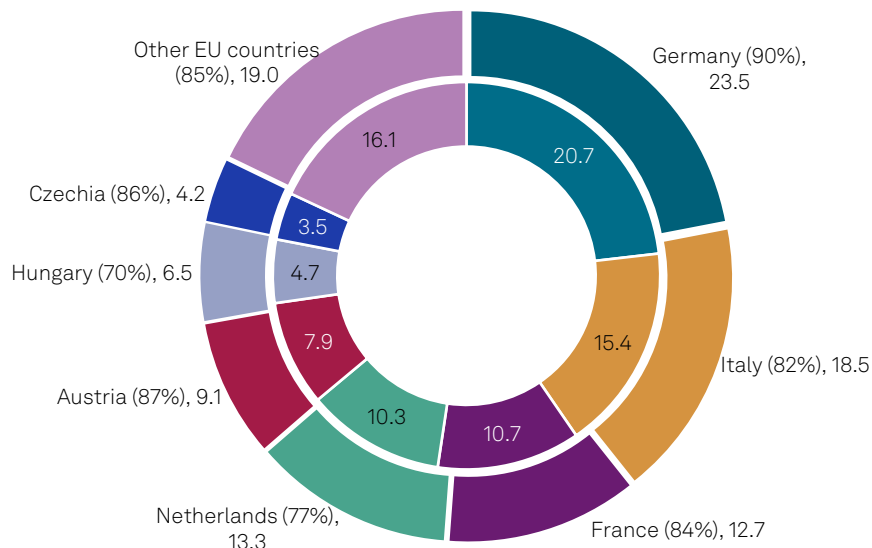
Nevertheless, we estimate that Europe needs to replace, or reduce consumption by a further 40 bcm, assuming that the Ukraine and LNG routes supplies Europe at the same pace in 2023 as in fourth-quarter 2022. This is because we are estimating a full-year loss of Russian piped gas of nearly 120 bcm in 2023 from 2021 levels. The key to balance the physical market is sustained demand reduction, to avoid too-aggressive storage drawdown so as to mitigate interruption risks for the following winter. This, in our view, won't prevent Europe from reaching its goal of independence from Russian gas imports by 2027.

We see physical cut risk for this winter as significantly more remote than we did six months ago mainly because, since September 2022, higher prices have lowered demand from industrial to residential and commercial use. This is a key support for the winter balance, despite the much stronger demand many expected a few quarters ago. In addition, LNG imports remain sustained. Substantial new capacity from the Floating Storage and Regasification Unit is confirmed to start ramping up from January, providing an annual 25 bcm direct feed capacity into Germany, Finland, and the Baltics. This supplements the Netherlands' doubling of its regasification capacity to 24 bcm in September 2022. Also, storage is now above seasonal norms after ending 2022 at 83% (see chart 5), boding well for filling levels to exceed 40% and possibly 50% through April, ahead of the refilling season. Importantly, CEE storage enters 2023 on a high note.

Chart 5

A Mild Winter To Date Meant EU Gas Storage Remained High (83%) At Year-End 2022

EU countries' current storage (inner ring) versus capacity (outer ring)

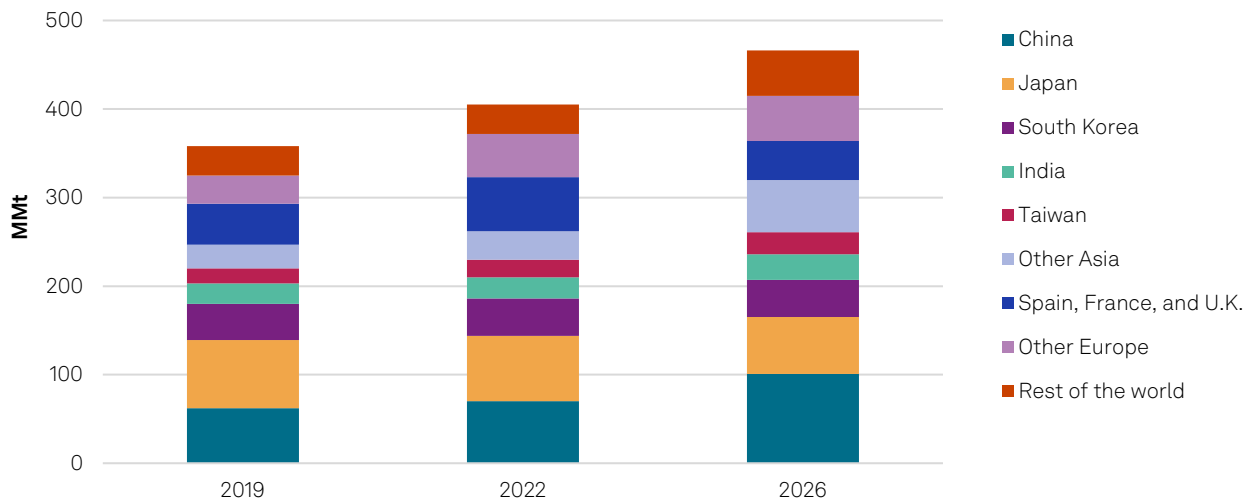


Figures in billion cubic meters (bcm) as of Dec. 31, 2022; includes countries with 4 bcm+ working storage capacity. Source: AGSI GIE and S&P Global Ratings calculations.

The key risks on Europe's 2023 physical gas balance are adverse weather boosting demand while weighing on renewables generation; and LNG import, which we assume as a steady, if costly, supply of some 150 bcm per year, despite a low share of long-term contracts (see chart 6, and for more information see ["Europe's LNG Focus Can Bring Pain As Well As Gain For Utilities,"](#) published Nov. 9, 2022).

Chart 6

Asia Pacific Will Continue To Dominate LNG Imports Despite Europe's Growth



MMt--Million metric tons. Source: IHS LNG briefing, Sept. 15, 2022.

TTF's divergence with LNG benchmarks has considerably decreased, especially those in markets with meaningful LNG regasification capacity. This divergence, very pronounced in third-quarter 2022, prompted the EU to set a wholesale gas price capping mechanism up that should activate with a TTF price above €180 per megawatt-hour (/MWh) over the 12 months from Feb. 15, 2023, as long as it exceeds a synthetic global LNG price Index by at least €35/MWh. This scheme doesn't cap the TTF price itself, but rather the EU's premium over the U.K., APAC, and other markets.

European power prices also to remain high and volatile, and increasingly driven by regulation.

Despite a significant and broad-based power demand decline in 2022 and a further slight erosion in 2023, we view the long-term fundamentals as supporting prices. This is because of Europe's intended electrification boost and the consequent supply-demand imbalance. We believe that power demand could pick up again from 2024. From the supply side, according to SPCI, annual solar and wind capacity additions of some 40GW in the 10 largest Western European markets (E-10), while sustained, remain significantly less than RePowerEU's aspiration to add 600 GW over 2021-2030. Wind generation will remain dominant, growing (for E-10) from 43 GW in 2022 (equivalent to 377 TWh) to 49 GW in 2023 and 54 GW in 2024, almost double solar's; together, they will increase their contribution to the power mix to 34% in 2024 from 26% in 2022.

Unless a major market redesigned occurred, tight gas markets and continued marginal cost setting of power prices should keep them at or above €200/MWh in 2023 and 2024 and €130 in 2025. However, from a utilities rating perspective, the key factor for 2023 revenue dynamics is the shift to inframarginal rent capture schemes that occurred in late 2022 both in the U.K. and in many EU member states (up to June 2023 in the EU) and windfall taxes (running often several years out at each member state's discretion, and up to 2028 in the U.K.). These schemes act like synthetic price cap, but with, in some countries, utilities retaining 10% upside (30% in the U.K.). In our view, they provide a reasonable balance between governments' needs to finance affordability and preserving sufficient profits to power generators. For example, in our Nov. 22, 2022, bulletin "U.K. Electricity Generator Levy Improves Visibility For The Sector," we stated that the levy alone is unlikely to lead to any negative rating actions for our rated entities. EU member states' caps observed to date cluster within €100/MWh-130/MWh, leading in our view to comparable outcomes to the U.K.'s. Essentially, regulations that merely remove excess cashflows that we did not factor in our rating base case do not overly weigh on credit quality.

Unintended consequences could weigh on credit quality, however. At a high level, political intervention in prices could have unexpected ramifications for market functioning. We will see whether hedges in place, at levels well below current forwards, are appropriately factored into cap and tax mechanisms. What's more, schemes differ significantly across countries, which may prompt arbitrages. Especially absent windfall taxes, some governments may be tempted to extend inframarginal rent capture schemes beyond the EU's mid-2023 guidance. Finally, regulatory and fiscal uncertainty can reduce investor appetite for adding renewable, gas, and nuclear capacity, and slow the energy transition somewhat. Overall, we expect gas-to-power to play a decreasing role, loosening power's price dependence on gas while lower demand compresses gas prices.

Security of supply adds to the impetus to accelerate the energy transition, but whether EMEA utilities can finance and execute is unclear. Investment needs to accelerate the energy transition are continuously increasing for both renewable capacity additions and network upgrading. We consider the next few years as critical for network operators, particularly gas, to gain balance-sheet headroom ahead of major shifts, which might not be consistent with often-high shareholder distributions. In 2023 and beyond, we will closely follow their financial policies.

We see the credit impact of investment for renewables as more near-term than for nuclear generation and even more than for hydrogen production, which we do not expect to achieve utility scale before 2030. While doubling renewables capacity by 2030 entails high execution risks given supply bottlenecks, local permitting issues, and higher equipment, installation, and financing costs, we expect capex up at least 5%--for some power networks, 50%--from 2023-2025 based on sustained level of activity and cost inflation. For example, SPCI anticipates the cost of solar activities to increase by about 4% this year after rising about 8% in 2022, with greater increases more in key European markets like Germany (20% after 10%) and Spain. Similarly in wind, Nordex reported an average onshore wind turbine selling price up 32% year-on-year for its third-quarter 2022. We will monitor the execution of development plans within capex budgets, or whether financial policies evolve to accommodate any sharp capex increase.

Green lights for previously stalled nuclear projects and temporary coal and gas restarts are needed to meet U.K. and EU decarbonization targets while balancing the gas and power systems. Nuclear technology was included last winter in the EU's green taxonomy. We will review whether 2022 progress on projects (with major announcements in France, the U.K., Czech Republic, Poland, and the Netherlands) will continue in 2023 and beyond. This is all evidence of a renewed willingness, in many countries, to build nuclear capacity to largely offset significant capacity retirement. By end-2023, Western Europe's nuclear capacity will have decreased by a net 15 GW over three years to 80 GW. However, execution--including setting appropriate remuneration mechanisms for these massive, risky newbuilds--will be key well beyond 2023, and the record of delays on all three plants under construction or commissioning (the U.K., France, and Finland) suggests caution.

Credit metrics and financial policy

We anticipate debt growth for the sector based on high and increasing capex and continually negative DCF. We estimate an annual increase in total adjusted debt approaching 10% over the next three years for the largest rated companies, with a significant dispersion between those increasing debt over 10%, notably networks, and those which used most of their rating headroom in 2022 but that we now expect to stabilize metrics. At the same time economic recovery from third-quarter 2023, higher power prices and new capacity commissioning will support earnings growth. We assume that growth will enable utilities to pilot credit metrics within bands consistent with respective ratings, to the extent financial policies are supportive. Beyond ongoing earnings,

utilities can pilot their balance sheets through asset disposals, hybrid capital, or common equity. We expect access to hybrid issuance to be more continuous in 2023 than it was at the height of energy market disturbances over June-November 2022. While growth ambitions are significant as Europe accelerates its energy transition, some issuers enjoy some capex flexibility to adapt to changing energy market conditions, inflation, interest rates, and constraints on Investment (supply chains and permitting notably). In “[EMEA Utilities | Regulation And High Prices Offset Affordability And Dividend Risks](#),” published Nov. 14, 2022, we discussed the impacts of inflation and interest rates, including long-term yields outpacing inflation lightening pension and (absent significant related asset buildup) asset-retirement burdens. Ultimately, financial policies underpin our ratings.

We therefore do not see much improvement in credit metrics for the sector--apart from select fixed-cost power generators--or much deterioration. Earnings upside would likely finance organic or external growth. Our base-case scenario incorporates no major shift in shareholder stance like increased pressures on management for growth, notably via debt-financed mergers and acquisitions (M&A), or higher shareholder distributions. Another possible risk relates to increased shareholder activism, which could disrupt strategic plans and swing financial equilibria in a more shareholder-friendly way.

Key risks or opportunities around the baseline

1. Oversized price volatility crushing liquidity

While stand-alone liquidity and government schemes should preserve adequate liquidity for investment-grade utilities, market behavior is hard to predict, particularly with new wholesale price caps.

2. Political and regulatory risks and opportunities along the energy transition

Pressure to accelerate the energy transition and affordability measures could weigh on utility ratings. Conversely, governments could directly support strategic utilities' credit quality.

3. Large-scale maneuvers and opportunities

Race for size, competition with cash-rich oil companies and catching up on green or portfolio reshuffling could lead to higher asset acquisition prices and costly, unanticipated large-scale transactions. On the other hand, earnings from fixed-cost merchant power generation could support credit quality.

EU and U.K. strategic decisions to accelerate the energy transition could facilitate governments directly supporting certain utilities' credit quality. This can occur under the EU state-aid framework or as liquidity provision on derivative energy markets. We believe that EU authorities might view state aid to strategic energy utilities more favorably than previously if aimed at preserving energy or financial market functioning for key utilities and based on reasonable concessions. This was illustrated by the EU's Dec. 20 approval of the German government's massive rescue package to Uniper and SEFE (not rated) for more than €40 billion combined. We also believe that many national governments stand readier than until 2021 to support strategic energy utilities, including some whom we previously saw as “non-interventionist” like the U.K., Switzerland, or Finland, which rapidly set liquidity-support schemes early September.

New risks emerged in 2022 that could lead to mult notch rating transitions. As for many other corporate sectors, rating cliff risk often relates to liquidity. Last August, both day- and month-ahead TTF gas prices reached €320/MWh, over 10x prices prevailing up to mid-2021. Both before

and after these extreme market price and margin-call variations on European energy derivative markets, we revised down our liquidity assessments for several EMEA utilities. We also reviewed their arrangements to assess the degree to which they can respond to oversized cash margin calls on exchange-traded and OTC, if price gyrations occurred again at similar levels. For some companies, the liquidity buffer stands very close to our minimal expectation, a tightness we reflect both in our liquidity and in our management and governance analysis. For most, we found that public quantitative disclosures and management discussions could be significantly improved to support transparency. In 2023, company efforts to boost liquidity and government schemes should keep investment-grade utilities' liquidity assessment at adequate or, in rare cases, stronger. We will continue to monitor liquidity because market behavior is hard to predict and is wholly untested under wholesale price caps that will take initial effect. Still, we expect the price cap mechanism to lead to less volatility in power markets than in third-quarter 2022.

Affordability measures could lead to a gradual erosion of credit quality. Notably, pressure to accelerate the energy transition and affordability measures including price caps and windfall taxes, could weigh on utility ratings if they result in higher debt and lower earnings on existing and new assets. Besides accelerating the energy transition, affordability is a cornerstone of Europe's REPowerEU strategy and Fair Transition Plan. We therefore believe that protecting purchasing power will remain high on political agendas as energy bills were already much higher in 2021 in Europe than, for instance, North America, just as capex accelerate for the energy transition.

Another factor for potential rating erosion or improvement is the ever-faster race for size, notably in renewables, and strategic refocus away from gas networks. Utilities' race for renewables occurs amid stiff competition from cash-rich and strong-DCF oil and gas companies, notably Europe-based integrated oil companies (IOCs) which also intend to benefit from renewables' scalability when it comes to procurement, asset management, and the ability to offer global decarbonization products to large customers--a significant fit with IOCs' existing businesses. Generally, acquirors catching up on their green or portfolio reshuffling could lead to higher asset acquisition prices and prompt further costly (above €1 billion apiece) and unanticipated large-scale transactions by utilities, beyond the expectations built into our ratings. Sustained M&A activity from IOCs like Shell, TotalEnergies, BP, Repsol and Equinor came in 2022 across wind, solar, biogas, and hydrogen, both in Europe and the U.S., European utilities' typical core markets. We anticipate that beyond 2022, utilities might continue to sell minority stakes, often worth over €2 billion each, in power and gas networks.

On the other hand, some utilities might enjoy additional earnings from fixed-cost merchant power generation--even under the caps effective until at least mid-2023 in the EU or after windfall taxes. Additional earnings could support positive rating actions to the extent they apply to sustainably reduce debt or to finance judicious and business- or credit-metric-enhancing acquisitions. In both cases, we could review the utility's financial policy to assess the sustainability of such a credit improvement, which could ultimately lead to positive outlook revisions (as for Verbund, KELAG, and SSE in second-half 2022) or even upgrades (as for Statkraft and SMAT).

Our review would also look at less typical aspects like: any geographic rebalancing away from riskier markets (notably Latin America) into more credit-supportive and transition-intended Europe and North America markets; and greater group complexity from increasing minority interests at underleveraged, fully consolidated subsidiaries or offshore wind partnerships that, while positive if spreading large-project risks across several investors, increase analytical complexity when they lead us to focus on pro rata credit metrics versus "flattering" reported metrics.

Increasing frustration with the pace of organic renewable capacity additions could lead to further M&A. A factor for additional M&A could be the difficulty in building new capacity, relative to very ambitious aspirations. We expect supply chain and execution tension to worsen in 2023. SPCI expects Europe's annual solar capacity additions to reach successive records from 30 GW in 2022 (helping raise generation 16% in the top five economies) up to about 40 GW in 2025, notably in the two key solar markets representing nearly half of current EU solar capacity, Germany (whose generation could grow by some 70% over 2023-2027) and Spain (an increase of about 100%), reaching some 175 TWh combined. In 2022, Germany enshrined into law the objective to raise its 2030 renewables share of the power mix to 80% from 65%. This was 47% in 2022, so we anticipate the country would need to double renewable production in just eight years, and wind and solar alone by 2.5x (1.8x over 2014-2022). Italy, Spain, and the Netherlands have similar aspirations, at 70%-74% renewable share.

These ambitious targets increasingly pressure supply chains and heighten execution risks. Meanwhile, renewables supply chains are already struggling to keep up with the required pace of development, competing with very dynamic domestic demand in China and, increasingly, the U.S. since the Inflation Reduction Act was approved. Thus, an increasing number of renewable auctions remain undersubscribed, such as by 30-40% for German solar since second-quarter 2022, as well as Spain's fourth Renewable Energy Economic Regime auction in November (1.4% subscribed).

The risk of security of supply that heightened considerably on natural gas since Russia's invasion of Ukraine also extends to capital goods. Europe's electrification objectives increase its dependency on China for a large number of strategic parts and resources notably for solar panels--a situation that we do not think will change significantly over the next few years in the utility sector, and which could add execution risks. Beyond dependency on China, the European supply chain needs to scale up in cadence with growth in investment and demand, which takes time and heavy investment. However, we understand that the largest renewables European players might have better procurement access than smaller ones; and many expand well beyond Europe, like Iberdrola in the U.S. Some, like Enel, might even become more selective on non-European growth. Finally, as stated by the E.U. Commission's President at Davos in January 2023, the EU has realized the need to expand its homegrown equipment supply chains.

Beyond supply chains, permitting is a risk to the pace and cost of the renewable buildup, notably for onshore wind. While 2022 illustrated security of supply needs, it did not result in significantly faster permitting, in our view, particularly for wind. The confirmation of the U.K.'s near-standstill on onshore wind is just an extreme example of broader European slowness relative to aspirations. This is despite a number of countries following the EU's prompt to reserve large swathes of land for solar or accelerate administrative permitting procedures based on projects' public policy role, and despite recent U.K. government efforts to rekindle onshore wind development. We also understand these behavioral shifts could take time to become ingrained in complex administrative processes at the various organizational levels (the E.U., national governments, regions/Länder, and municipalities) occur and tangibly accelerate project execution.

Related Research

Sectorwide research:

- [EMEA Utilities: Regulation And High Prices Offset Affordability And Dividend Risks](#); Nov. 14, 2022
- [Europe's LNG Focus Can Bring Pain As Well As Gain For Utilities](#), Nov. 9, 2022
- [Utilities Handbook 2022: Western Europe Regulated Gas](#), Nov. 4, 2022
- [What Europe's Energy Redesign Might Mean For Its Power And Gas Markets](#), Sept. 13, 2022
- [Nord Stream 1 Shutdown: Will Utilities And Markets Freeze This Winter?](#), Sept. 6, 2022
- [The Dash For Gas Fuels Risks For European Utilities, Slows Energy Transition](#), June 29, 2022

Energy Transition research:

- [Energy Transition: Developing Markets Are Still Fueling Demand For Oil](#), July 20, 2022
- [Energy Transition: Gas' Role Varies By Sector And Region Amid Security Of Supply Concerns](#), July 20, 2022
- [Energy Transition: Renewables Remain The Cornerstone Of Future Power Generation](#), July 20, 2022

Other research:

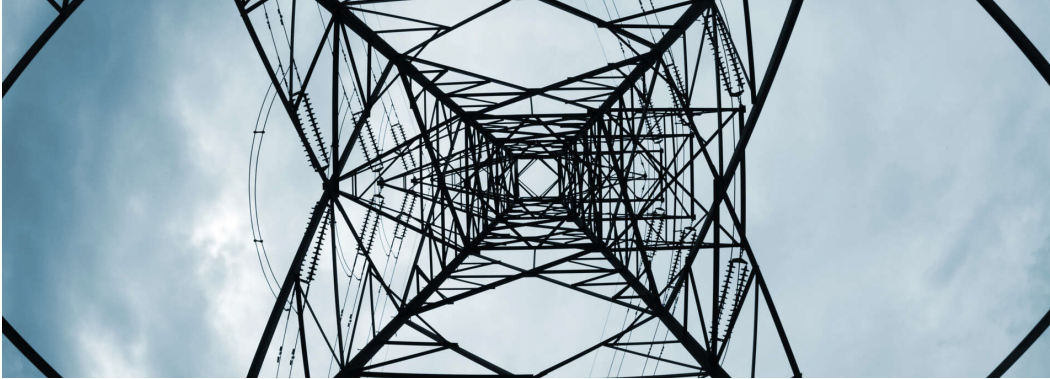
- [Spanish Electricity And Gas Regulatory Frameworks: Mostly Supportive](#), Jan. 12, 2023
- [S&P Global Ratings Lowers 2023 European And U.S. Gas Price Assumptions On More Balanced Supply And Demand](#), Jan. 10, 2023
- [Eastern European Utilities Handbook 2023](#), Jan. 5, 2023
- [High Level Of Index-Linked Debt Exacerbates Effect Of Inflation On U.K. Water Companies](#), Dec. 1, 2022
- [Central And Eastern Europe: Growth Freezes, Risks Mount](#); Nov. 10, 2022
- [U.K. Utilities Handbook 2022](#); March 15, 2022

Latin America Utilities

Cushion to withstand high inflation and low growth

January 23, 2023

This report does not constitute a rating action



What's changed?

We expect marginal growth in electricity demand, given subdued economic activity in 2023.

Capex levels. Despite record-high capital spending among the largest integrated utilities, they can slow the pace. This would allow them to preserve liquidity and credit quality despite high inflation and interest rates.

What are the key assumptions for 2023?

Slim electricity demand growth. After demand recovered from the pandemic-induced shock, we expect subpar growth of the region's six largest economies to curtail it this year.

Renewables growth. We expect non-conventional renewables to account for the bulk of new capacity. Chile is ahead of the region's other countries in energy transition.

Hydrology and oil prices drive electricity prices. Adverse weather and volatile oil prices will keep spot prices volatile, partly offsetting weaker electricity demand in Argentina, Chile, and Mexico.

What are the key risks around the baseline?

Stagflation could erode credit metrics. It will also hamper the utilities' ability to pass on costs to ratepayers, increasing regulatory risk.

Interest rates. Additional hikes or slower monetary policy easing could reduce cash flows.

Sovereign risk. The ratings on most of utilities are either linked to or limited by sovereign risk. While we don't expect Brazil's new administration to make considerable regulatory changes, we will monitor developments there and in Colombia and Peru.

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Ratings Trends: Latin American Utilities

Chart 1
Ratings distribution (including project financing)

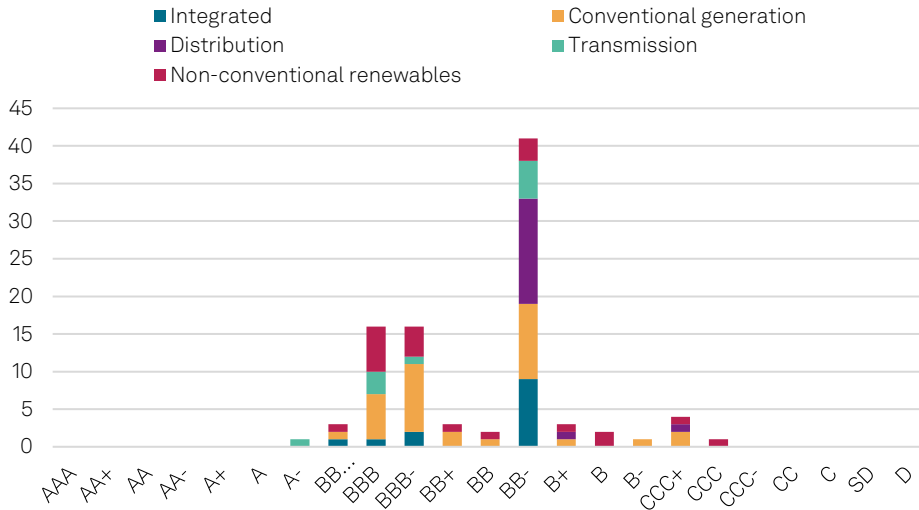


Chart 2
Ratings outlooks (including project financing)

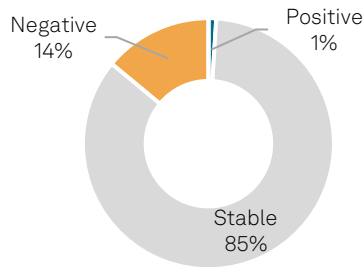


Chart 3
Ratings outlook net bias



Source: S&P Global Ratings. Ratings data measured at quarter-end.

Industry Credit Metrics: Latin America Utilities

Chart 4
Debt / EBITDA (median, adjusted)

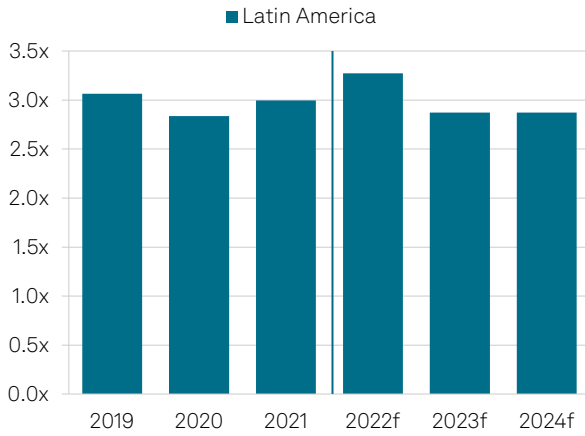


Chart 5
FFO / Debt (median, adjusted)

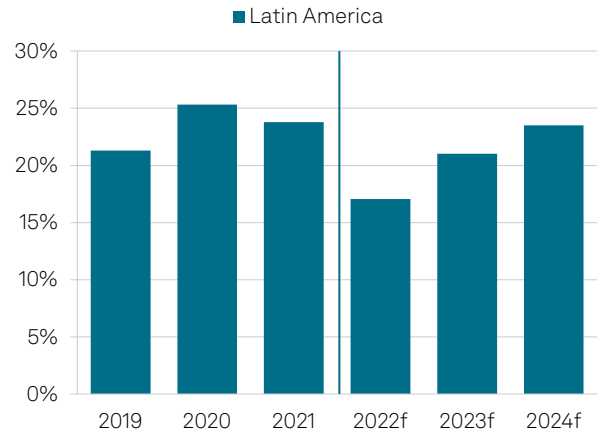


Chart 6
Cash flow and primary uses

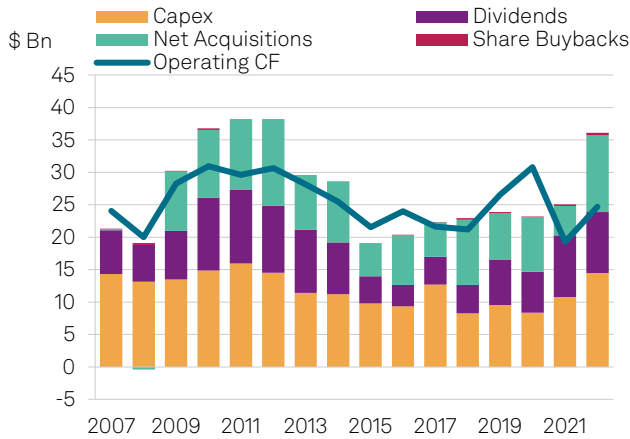
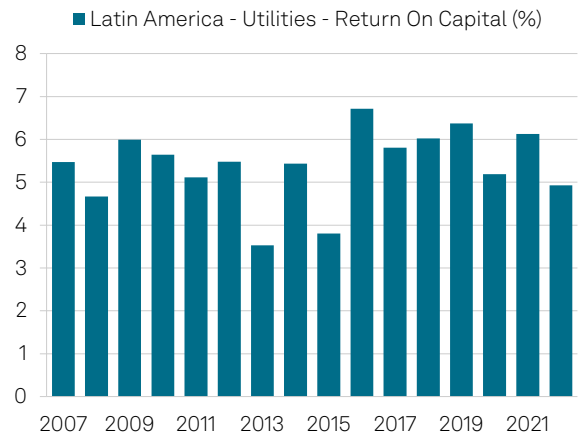


Chart 7
Return on capital employed



Source: S&P Global Ratings, S&P Capital IQ.

Revenue growth shows local currency growth weighted by prior-year common-currency revenue share. All other figures are converted into U.S. dollars using historic exchange rates. Forecasts are converted at the last financial year-end spot rate. FFO—Funds from operations. Most recent (2022) figures for cash flow and primary uses and return on capital employed use the last 12 months' data.

Industry Outlook

Ratings trends and outlook

Since 2020, Latin American utilities have preserved their stand-alone credit quality, and most of the rating actions were related to sovereign outlook changes or downgrades, such as the ones on Argentina, Colombia, and Peru. Currently, about 85% of the Latin American utilities have a stable outlook, as sovereign ratings continue to determine ratings on the region's largest regulated utilities. Given that about 14% of ratings on the industry players have a negative outlook and only about 1% have a positive outlook, it's likely that downgrades will continue to outpace upgrades in 2023.

Main assumptions about 2023 and beyond

1. A slight increase in demand as GDP growth slows

We estimate that electricity demand in Latin America grew 2%-3% in 2022 and will rise 1% or less this year, given sluggish growth in the region's largest economies.

2. High interest rates pressure financial metrics

While inflationary pressures may start dissipating in mid-2023, general prices should remain high over the next couple of years, preventing a sharp drop in interest rates. As a result, debt service should continue to consume a large portion of operating cash flows, weighing particularly on the companies that rely on floating-rate debt.

3. Additional capacity coming mainly from renewables

Although high interest rates could trim returns on long-term infrastructure projects, we still expect additional capacity to come on line at a fast pace, with non-conventional renewables to continue representing the bulk of incremental generation capacity over the next few years. An exception is Mexico, given its plans to prioritize fossil-fuel sources.

Electricity demand recovered from the pandemic-induced drop relatively fast during 2021 and 2022, but our forecast of slow economic growth in Latin America should crimp demand in 2023 (see table 1). Nevertheless, persistently high inflation will require central banks to maintain tight monetary policies, and as a result, debt service payments will continue to consume a significant portion of utilities' operating cash flows. For example, Brazil's interest rates jumped from 2% in 2020 to 9.3% in 2021 and 13.8% in 2022, and we project them to be about 10.8% at the end of 2023 and 7.5% at the end of 2024.

In addition, rising electricity bills could impede the utilities' ability to consistently pass on higher costs to ratepayers, denting the industry's ability to manage regulatory risk. At the same time, regulatory frameworks in the region's largest economies were overall favorable for credit quality, especially on network operations, except in Argentina, onerous and unpredictable regulations of which remain an obstacle in attracting new investments. Mexico's regulatory framework could weaken as the federal government aims to increase Comisión Federal de Electricidad's (CFE's) share of the domestic generation sector, prioritizing the state-owned utility dispatch order, among other initiatives.

High inflation could scale back access to global capital markets, while the industry is undertaking large investments to expand renewables capacity. We continue to expect governments to keep fostering green energy. Chile, for instance, has a plan to generate 70% of electricity from clean

Industry Top Trends 2023: Latin America Utilities

energy sources by 2030. The number of new solar plants in the region has risen dramatically, despite the recent volatility in exchange rates and global supply-chain problems that increased costs and delayed the delivery of imported equipment.

Table 1

Macroeconomic Outlook For Latin America

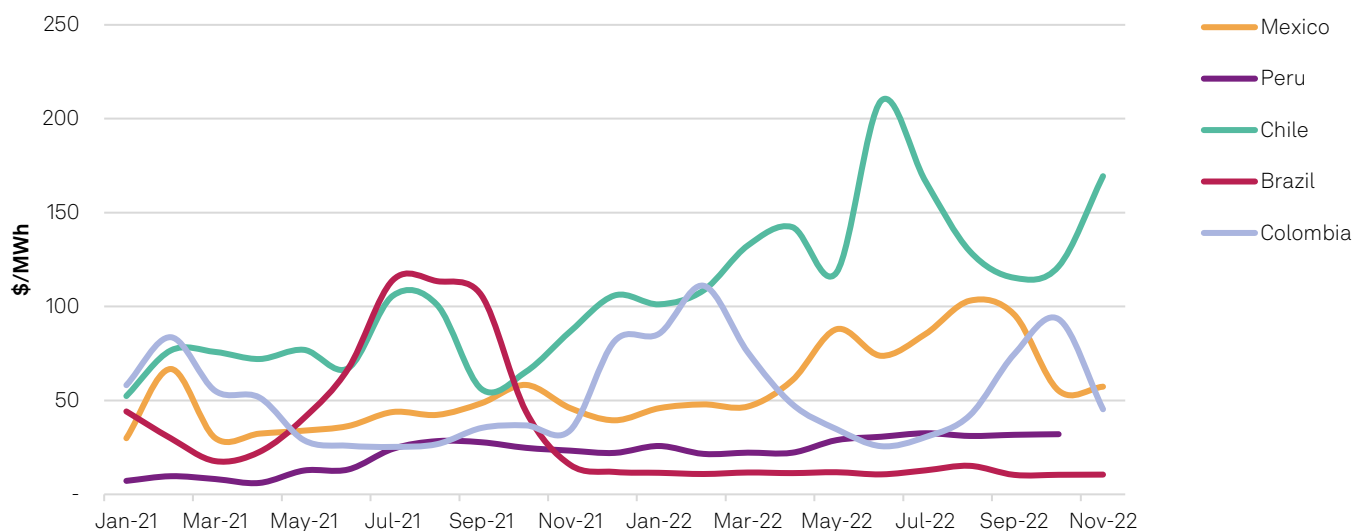
%	2021			2022f			2023f			2024f			2025f		
	GDP growth	CPI inflation	Interest rate	GDP growth	CPI inflation	Interest rate	GDP growth	CPI inflation	Interest rate	GDP growth	CPI inflation	Interest rate	GDP growth	CPI inflation	Interest rate
Argentina	10.4	48.4	38.0	4.6	71.0	80.0	0.5	95.0	70.0	2.3	76.0	55.0	2.0	50.0	45.0
Brazil	4.9	8.3	9.3	2.9	9.3	13.8	0.5	4.3	10.8	2.0	4.2	7.5	2.2	3.4	7.5
Chile	11.9	4.5	4.0	2.5	11.5	11.3	(0.4)	7.9	8.5	2.9	4.2	6.5	2.8	3.0	4.5
Colombia	10.7	3.5	3.0	7.7	10.0	11.5	1.1	6.7	9.0	3.0	3.6	6.0	3.3	3.0	5.5
Mexico	5.0	5.7	5.5	2.6	7.9	10.5	0.8	5.8	8.5	2.0	3.7	6.5	2.3	3.2	6.0
Peru	13.5	4.0	2.5	2.2	7.8	7.5	2.5	5.0	6.0	3.1	2.8	4.5	3.3	2.3	3.0
Latam 6	6.7	-	-	3.4	-	-	0.7	-	-	2.2	-	-	2.4	-	-

CPI inflation data are annual averages. Interest rates are central bank policy interest rates at year-end. f--Forecast.
Source: S&P Global Ratings Economics.

As a result and despite the green energy's increasingly competitive prices, hydrology will continue driving spot prices in most of the region's largest economies (see chart 8). Argentina and Mexico are exceptions, given that their generation mix relies more on fossil-fuel powered thermal plants, which tend to generate volatility in prices amid rising geopolitical risks and falling local currencies. Our 2023 pricing assumptions for WTI and Henry Hub are \$85 per barrel and \$5.25 per million British thermal units, respectively. Water reservoirs in Brazil and Colombia are at above-average levels, which could maintain a lid on electricity prices, while Chile is recovering from last year's drought.

Chart 8

Energy Spot Prices In Latin America



Source: S&P Global Ratings.

Credit metrics and financial policy

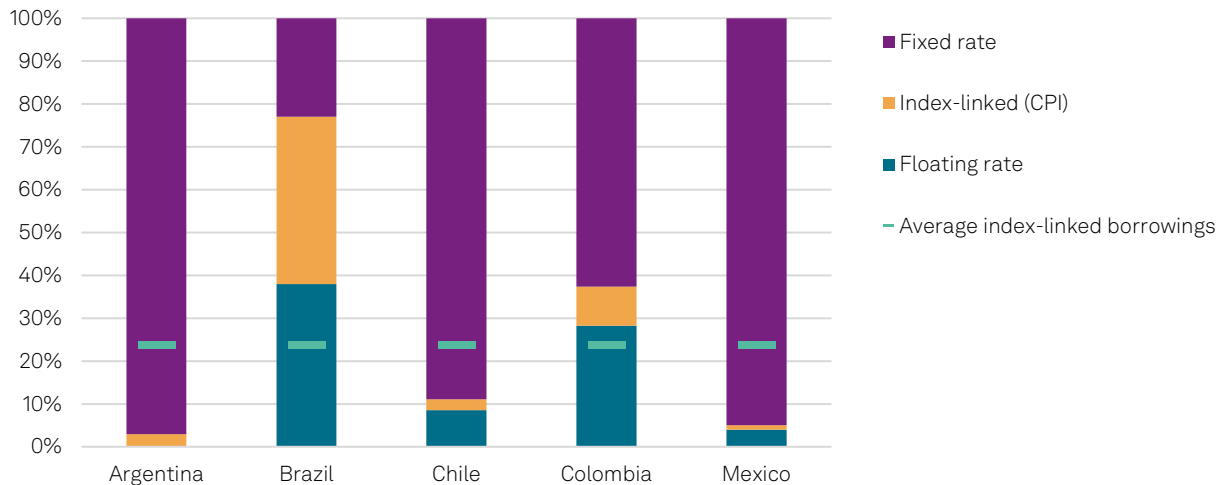
While we project monetary policies in the region to ease in 2023 following a sharp tightening last year, average interest rates should remain high this year, given persistently high inflation. Therefore, borrowing costs are unlikely to come down soon.

Overall, we don't expect credit metrics to deteriorate, but high funding costs could take hit hard companies that rely on floating-rate debt, as the region's largest rated integrated groups post free operating cash flow shortfalls, given their heavy investments in renewables. This is particularly the case for Brazil's utilities that tap the domestic credit market, issuing 75%-80% of their debt pegged to either floating rates (CDI; the interbank rate) or to inflation (IPCA; the Brazilian equivalent to the CPI) (see chart 9).

We still view the utilities' liquidity as comfortable, as issuers refinanced their maturing debt in 2022. In general, we don't forecast major refinancing needs for most rated entities in 2023. Finally, companies have flexibility to postpone expansionary investments.

Chart 9

Debt Composition For Latin American Utilities



Source: S&P Global Ratings.

Key risks or opportunities around the baseline

1. A recession and high inflation could take a toll on credit quality

We expect electricity demand to grow slightly this year, given the forecasted deceleration of Latin America's main economies, after having recovered from the pandemic in 2021-2022. Demand in the region historically moves in line with GDP growth, and we have revised down our macroeconomic expectations for the region over the past few quarters, and now expect the six largest economies to grow just 0.7% in 2023, and 2.0%-2.5% in the next few years. If the economies fall into recession, the industry's margins could suffer because its operating leverage is relatively high.

2. Electricity bills are becoming less affordable

Low economic growth and high inflation could raise working capital needs for the utilities, given the regulatory lag in cost recoveries. This, combined with the lower disposable income, could not only reduce consumption but also increase customer delinquency and energy theft in some concession areas. Also, as rates are generally linked to local inflation, the issue of electricity affordability can amplify political pressure on regulators, especially in less mature jurisdictions. Overall, we don't forecast government interventions, we consider regulations in the region to be generally supportive of the utilities' credit quality. We expect continuity of the regulatory framework in Brazil, despite the new administration taking office this year, but Argentina should remain an exception, given the track record of ad-hoc rate adjustments.

3. Hydrology and oil prices

Both factors heavily influence electricity prices in the region. Given that hydropower represents the bulk of generation in Brazil, Colombia, and Peru, we don't expect prices to jump in these countries thanks to heavy rainfall in 2022. Although the expansion of renewable energy sources in Chile will restrain long-term prices, the drought last year drained reservoirs levels, while insufficient wind conditions and transmission curtailment bring some volatility. In countries where thermal plants play an important role, such as Argentina and Mexico, geopolitical concerns, such as the Russian-Ukraine war, can maintain electricity prices at high levels.

Country Highlights

Argentina

We expect Argentina's regulatory framework to remain weak. Since April 2020, rate adjustments for the entire utilities chain have been discretionary. We expect this trend to continue, but we're uncertain over timing and amounts, although it's likely that they will remain below inflation level. Therefore, our base-case assumptions exclude any rate hikes until they're formally approved.

Rates for power generation are in the domestic currency, the ad-hoc adjustments for which were 30%, 10%, and 30% in February, July and December 2022, respectively, which are lower than inflation rate. Distribution companies only received an 8% ad-hoc adjustment in 2022. In order to cover their operating and financial needs, companies paused payments to the wholesale market administrator, Compañía Administradora del Mercado Mayorista Eléctrico (CAMMESA).

A weak Argentine peso was--and will continue to be--a considerable issue for utilities, given that their debt is mostly in dollars while they generate cash flows in the domestic currency. We expect the peso's value to plunge 83% in 2023 and 25% in 2024. The central bank also limited access to

Industry Top Trends 2023: Latin America Utilities

the foreign exchange market in the past three years, and further restrictions in 2023 would hamper the companies' capacity to service their debt.

We believe that corporate issuers face huge obstacles in refinancing their outstanding bonds, given uncertainties stemming from the country's long history of macroeconomic instability and sharp changes in economic and industry policies. In addition, primaries and national elections are less than a year away, which also increase short-term uncertainties.

Brazil

After a drought in 2021, the country's main water reservoirs recovered in 2022 thanks to high rainfall, reducing spot prices to about R\$55 per megawatt hour (MWh) for most of the year. Considering our expectation of favorable hydrology conditions for 2023, we assume prices will remain low at R\$90/MWh - R\$100/MWh. That should offset the impact of inflation on the distribution companies' rates this year, while helping to steady working capital needs. In addition, we believe rates can benefit from Itaipu Binacional S.A.'s lower energy costs, given that one of the rate components was servicing the loan that funded the construction of the company's dam, which should be amortized in full this year.

Regarding generation companies, favorable hydrology should boost hydro plants' cash generation through greater energy deliveries, while having a negative impact on thermal plants because they're the last ones in the dispatch order. We expect the integrated energy groups to maintain sizable capex in the next couple of years, which should lead to negative free cash flows. In addition, still high interest rates will continue consuming part of the companies' cash flows.

Energy demand in Brazil grew only 0.3% in 2022, below our expectation of GDP growth of 2.9% for the year. Mild growth in energy consumption, coupled with the startup of new capacity, should continue depressing energy prices in the next couple of years. On the supply side, the decentralized energy segment (distributed generation) reached roughly 5 gigawatts (GW) of installed capacity in 2022, having added about 2.5 GW of capacity last year thanks to tax incentives that ended on Jan. 6, 2023. Nevertheless, we believe that solar capacity will continue expanding in the next few years given accessible and commercially proven technology, and Brazil benefits from plenty of solar irradiation.

We don't expect disruption in the energy segment during Lula's third term, given that concession contracts were honored in his previous administrations. In addition, we expect the industry regulator, ANEEL, to maintain its independence. In our view, we believe the new government will foster investments in energy transition, while establishing the legal and regulatory frameworks for the liberalization of the energy market, given that the Ministry of Mines and Energy commissioned in September the migration of all high voltage clients to the free market. In addition, we assume the rated distributors will be able to renew their concessions, similar to those of Cemig Distribuicao S.A. and some of distribution companies of CPFL Energia S.A. and Energisa S.A., which renewed their contracts between 2015 and 2017.

Brazilian Water Utilities

Since the regulatory framework was amended in July 2020, major auctions have taken place, including large concessions in the states of Rio de Janeiro, Ceará, Amapá, Alagoas, Mato Grosso do Sul, and Rio Grande do Sul. Through these auctions, private players increased their share to about 9% from 6%.

Based on the latest available data from Sistema Nacional de Informações sobre Saneamento, the average water services coverage in Brazil was 84.2% in 2021, up 10 basis points (bps) from 2020.

Industry Top Trends 2023: Latin America Utilities

Water losses were at 40.3%, a slight increase from 40.1% in 2020. In terms of sewage services coverage, figures are lower, with the national average of 55.8% (up 80 bps year over year).

Considering the opportunities to expand coverage, there's a considerable pipeline of new sanitation projects, and the ones structured by Banco Nacional de Desenvolvimento Econômico e Social (global scale: BB-/Stable/--; national scale: brAAA/Stable/--) are at advanced stage and include those in the states of Rondônia, Sergipe, and Paraíba.

The Provisional Measure 1154 (MP 1.154/2023), which the new administration enacted in January 2023, caused some stir because the federal regulator, Agência Nacional de Águas, would be transferred from the Ministry of Regional Development to the Ministry of Environment and Climate Change. It wasn't clear whether there would be any change in the agency's role in setting guidelines and standards for basic sanitation, which was one of the hallmarks of the regulatory framework approved in 2020. In our view, the absence of a single and experienced regulator for the sanitation services is a weakness of the water utility sector's regulatory framework in comparison with that for electric utilities.

Chile

We expect high fuel prices--stemming from the Russia-Ukraine conflict--dry conditions, and intermittent wind source to continue generating volatility in the Chilean energy generation sector in 2023. We expect companies, which need to buy energy in the spot market, to meet their contractual commitments.

Nevertheless, higher snowmelt in the summer months, combined with the use of water stored in reservoirs, could boost hydro-power generation, steadying the national grid's performance. In addition, we expect the flow of natural gas from Argentina would strengthen the system and reduce the need for diesel generation.

As of December 2022, 36.5% of the system's capacity came from non-conventional renewable sources and 455 projects (about 5.7 GW) were under construction, which supports plans to achieve carbon neutrality by 2050. Chile's large power players (Enel Chile S.A., AES Andes S.A., Engie Energia Chile S.A., and Colbun S.A.) will continue to build the majority of the new capacity for the next three years. Despite additional renewable capacity, the effect on spot prices will also depend on the expansion of transmission lines and battery storage projects. This is because new assets are located either in the country's north or south, while most of the consumption is in the center, around Santiago. We expect transmission capacity constraints to remain until the Kimal-Lo to Aguirre transmission line is completed by the end of 2028. Meanwhile, we expect the regulator to implement measures to alleviate the transmission congestion, including additional capacity between the southern and central parts of the country.

The Chilean generator companies are currently not collecting the entire amount defined by their regulated contracts. The new stabilization mechanism (PEC 2) to recover the uncollected amounts is under process and its related law might get approved during the first quarter of the year. Once that occurs, the companies will start to collect pending amounts. This, in our view, would alleviate working capital pressures.

Colombia

There's still uncertainty over the new administration's energy policies. We currently forecast GDP growth of 1.1% in 2023 as robust domestic demand growth of the past two years is starting to weaken, given that the impact of the pandemic-related stimulus is fading.

We expect energy demand to remain weak in 2023 as cooling global growth weakens confidence, while inflation is likely to remain high at 12%-14% mainly due to rising food import costs. Given favorable hydrology in 2022, electricity spot prices dropped to \$45/MWh. While the 2.4 GW hydro plant Ituango entered operations in 2022, we expect demand to continue to grow in the 3%-4% range and spot prices to recover to the \$65/MWh area. Prices should react to the new long-term power purchase agreements (PPAs) at higher prices amid normal hydrological conditions (absent El Niño or La Niña climatic phenomenon).

We don't expect any material impact on the rated utilities after the tax reform goes into effect in January 2023.

Comision de Regulacion de Energia y Gas, a regulator, recently published new guidelines. Resolution 101-027 temporarily modifies the indexation factors of the distribution and transmission charge since September 2022. Resolution 101-029 allows distribution companies to defer up to 20% of payment obligations generated in the wholesale market between September 2022 and December 2022. The repayment period of deferred obligations would be 18 months starting in January 2023 and subject to a maximum interest rate. Finally, Resolution 101-028 provides greater flexibility in the dispatch of thermal units through the offer of various configurations for combined-cycle thermal power plants.

In terms of rates, distribution companies are receiving full payments from final consumers. The economic relief, implemented at the beginning of the pandemic that included frozen rates, has been phased out. It had no significant impact on the electricity sector's working capital needs and cash flows.

Mexico

Although the proposed electricity sector reform, which intended to strengthen the role of the state-owned utility, CFE, didn't pass in Congress, we believe that one of the main risks for the Mexican power market is the weakening of the regulatory framework. This is because the federal government continues to aim for increasing CFE's footprint in the generation sector and prioritizing the state-owned utility dispatch order, among other initiatives. We will continue to evaluate the government measures and their potential impact on the market.

Given that a sizable portion of electricity generation comes from natural gas-fired combined-cycle plants, prices increased to about \$60/MWh during 2022 because of the Russia-Ukraine conflict from an average of \$40/MWh in 2021. Although we expect natural gas prices to decrease in 2023, we don't project rates to drop to 2021 levels in the next 12 months. We continue to expect the rate-setting mechanisms to provide a pass-through of inflation and energy-related costs. This will be the case for CFE's commercial and industrial clients, but the rate adjustment for residential clients is significantly lower, denting the company's cash flows.

Renewable capacity continues increasing year-over-year, although at a sluggish pace because of the government's reluctance to encourage the development of green energy sources. Renewable generation edged up to about 25% in 2022 from 24% in 2021. We continue to expect that renewable capacity will be added to the system mainly through private companies in the next 12-14 months, while the bulk of CFE's investments will be for combined-cycle power plants.

Peru

After the removal of President Pedro Castillo from the office in December, the current President Dina Boluarte announced several measures, including early elections, which will have to be agreed upon with Congress. Although the country enjoys solid economic fundamentals, political volatility limits government capacity to promote growth and tackle long-standing structural productivity issues, such as infrastructure investment.

Still, we expect electricity demand for 2023 to grow in line with our assumptions for Peru's GDP growth of 2.5%. As of Nov. 30, 2022, hydro power represented 40% of the total 12.9 GW installed capacity and supplied 64% of energy consumption.

Given that PPA contracts are usually three to four years long, we expect cash flows and profitability margins of those generators that are net buyers to slip until contracts are renegotiated, while the operating performance of generators with low contracted positions and higher exposure to sales on the spot market should improve.

We currently don't forecast political and economic changes to weaken the industry players' credit quality. Although Orazul Energy Peru S.A. and Fenix Power Peru S.A. are net sellers in the spot market, both companies are highly contracted. While Nautilus Inki Holdings SCS (through Kallpa) is a net buyer, impact shouldn't be material given its large scale, and geographic and asset diversification.

Related Research

- [Inflation Pass-Through Poses Greater Risks For LatAm Toll Roads And Mass Transit Than For Utilities, Airports, And Ports](#), Nov. 22, 2022

Midstream Energy

In a position of strength during uncertain times

January 23, 2023

This report does not constitute a rating action



What's changed?

Russia-Ukraine conflict. The conflict has disrupted the global energy supply, resulted in significant price increases and volatility, and highlighted the importance of energy security.

Infrastructure constraints. Natural gas pipeline constraints in Appalachia, the Permian Basin, and crude oil takeaway capacity to the Texas Gulf present opportunities for the industry.

Increasing focus on exports. Midstream companies will continue to develop export capabilities for natural gas liquids, natural gas, and crude oil to help balance global markets.

What are the key assumptions for 2023?

Focus on Permian and Texas Gulf Coast. Much of the industry's growth spending will be for additional infrastructure to move commodities out of West Texas to domestic and global markets.

Creditor/shareholder balance. We expect companies to maintain a balance of strong credit profiles and shareholder rewards.

Energy transition opportunities. The Inflation Reduction Act provides incentives for companies to become more active in the energy transition.

What are the key risks around the baseline?

Increased price volatility. Price uncertainty could influence production growth and midstream investment decisions.

Recession risk. We do not think a recession will materially impact ratings.

Regulation and energy transition. More stringent regulation or a faster transition could be a headwind.

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Industry Outlook

Ratings trends and outlook

The North American midstream energy industry's credit quality continued to strengthen in 2022 and showed its resilience in the face of a volatile year for global commodity markets. Armed conflict between Russian and Ukraine and the global supply/demand imbalance of crude oil and natural gas that resulted caused problems for Europe and prices. It also highlighted the value of the industry's assets and capabilities. Energy security remains top of mind in 2023 and the continent's energy infrastructure will be an important link for global markets in the midst of continued economic uncertainty.

Currently about 81% of midstream rating outlooks are stable, 4% are positive, and about 14% are negative. Several companies crossed over to investment grade, mainly due to improved credit profiles related to strong prices and demand, coupled with meaningful debt reduction. The sector's ratings and outlooks slightly improved from 2022, when 75% of ratings were stable, 9% were positive, and 16% were negative.

We expect increased price volatility but think prices for crude oil, natural gas, natural gas liquids (NGLs), and liquified natural gas (LNG) will remain supportive for midstream credit quality. Midstream companies are generally well contracted and have solid financial positions, which we believe will enable them to withstand temporary price volatility and any decrease in demand due to global or economic turmoil.

Capacity constraints in the Permian and Appalachian basins present potential challenges for downstream demand centers and price stability, but also opportunities for midstream growth. Appalachian production will remain constrained with the Mountain Valley Pipeline in perpetual limbo, but we believe initiatives to build pipeline infrastructure in Texas and the Gulf Coast area to move natural gas and crude oil to export markets is likely in the next 12-18 months. Pipeline take-or-pay contract structures provide a level of cash flow certainty, and Federal Energy Regulatory Commission (FERC)-based contracts and most gathering contracts have inflation escalation clauses that protect midstream cash flows.

Main assumptions about 2023 and beyond

1. Permian basin and Texas Gulf Coast will drive growth

We expect most of the industry's growth capital will be geared towards addressing capacity bottlenecks in West Texas and more development in the Gulf Coast area to expand export capabilities.

2. Companies will balance financial discipline and shareholder returns

Most midstream companies will continue to generate discretionary cash flow after capital spending and dividends. We think financial policies will remain somewhat conservative with companies looking to maintain balance sheet strength before returning excess cash flow to shareholders. We believe credit ratios could show more improvement if companies consider repaying rather than refinancing upcoming debt maturities with interest rates at their highest levels in decades. We expect companies to stay the course and not sacrifice credit quality when making capital allocation decisions.

3. Energy transition opportunities could accelerate

The passage of the Inflation Reduction Act (IRA) in August 2022 will likely accelerate the move into renewable energy and help reduce greenhouse gas (GHG) emissions. The IRA earmarks about \$390 billion of spending on energy and climate change projects, which includes investment tax credits that could help make some of these investments attractive for market participants. Midstream companies are already making investments in projects that capture carbon, and in renewable natural gas, and could evaluate hydrogen projects in the next few years.

Permian basin and Texas Gulf Coast will drive growth. We expect most of the industry's growth capital to address capacity bottlenecks in West Texas and expand export capabilities in the Gulf Coast area. We believe Permian natural gas production will top 17 billion cubic feet per day (Bcf/d), which will fill the new pipeline expansions out of the region scheduled to come on later this year. While there is excess crude oil capacity out of the Permian, capacity to Corpus Christi is also near capacity, which will compete for barrels going to Houston. We also believe increased wet gas production will result in new processing capacity, all of which means spending increases after a few lean years.

Companies will balance financial discipline and shareholder returns. The U.S. midstream energy sector continued to exhibit credit strength and resiliency throughout 2022. Most companies used free discretionary cash flow to make new organic investments, repay debt, and return money to shareholders. There was also some industry consolidation, mainly larger companies acquiring smaller peers that had strategic assets that were cheaper to acquire than build. While we do not believe merger activity will pick up in 2023, there could be more energy transition investments, including carbon capture projects, small nascent hydrogen partnerships, and investments in renewable natural gas. There's also potential for wind and solar investments among the larger Canadian diversified energy companies, who have been in these businesses for years. We are therefore forecasting only a modest increase in capital spending for 2023, but the rate of growth is down from 2022, which was preceded by significant spending reductions during the COVID years of 2020-2021. We believe the industry will continue to generate discretionary free cash flow and project that the industry's average debt to EBITDA ratio will fall below 4x for the first time, which we view as a positive credit milestone.

In some respects, 2022 was a transition year for the Canadian midstream industry. Many companies reduced growth capital spending after several years of record levels. We believe this

decrease in spending will provide companies with the opportunity to naturally deleverage their balance sheets as cash flow increases from the projects that are beginning to come on line. For example, Enbridge Inc., the largest North American midstream company, is now targeting debt to EBITDA between 4.5x and 5.0x while maintaining a more measured capital growth program; and TC Energy Inc. is targeting debt to EBITDA of 4.75x by the end of 2023, albeit in conjunction with a significant asset sale process. Canadian companies with active marketing businesses were also helped by robust commodity prices that existed through much of the year, enabling them to capture significant upside and increase marketing margins for the second consecutive year. While our ratings reflect a longer-term midcycle trend in marketing margins, we recognize that the boost in cash flow from marketing activity does provide those companies with increased financial flexibility. Ultimately our ratings will reflect this benefit based on a company's capital allocation decisions and long-term financial policy.

Energy transition opportunities could accelerate. As we look to 2023, we do not forecast significant increases in organic capital spending. However, what is likely to characterize 2023 is increased investment in smaller energy transition projects. The seeds of such investments are already visible in carbon capture, renewable natural gas, and hydrogen. We think such investments will begin to grow and comprise a more significant portion of spending as the “winners” in the various transition alternatives emerge and economic commercialization of projects become more viable.

The U.S. LNG sector has experienced a dramatic reversal in 2022. The year began on a relatively muted note, but the Russia-Ukraine conflict and the subsequent disruption of the European gas supply and the spike in global prices thrust energy security to the forefront and highlighted the importance of U.S. LNG exports to the global market. As the market moved sharply into deficit through 2026, North American LNG becomes key for supply/demand dynamics, reinforcing North America's position as one of the world's three largest sources of LNG supply. North American (mostly U.S) LNG supply accounted for 43% of the capacity that took final investment decisions in the last decade (2010-19) and is forecast to account for about 25% of global supply by 2040 (on a steady state basis). U.S long-term contracting continues to lead, with 70% of the total long-term contracts signed in 2022, followed by Qatar with 15% and Mexico at about 10%. U.S LNG pricing has now evolved from being exclusively domestically linked to Henry Hub, to also include contracts with linkages to international price indices such as JKM and TTF. We view these contracts as riskier.

Many of the contracting challenges that U.S.-based projects were confronted with at the start of 2022 began to change after the global supply was interrupted. The LNG market continues to commoditize, with growing levels of spot/short-term trade, and more LNG being contracted on a free-on-board (FOB) rather than delivered ex-ship (DES) basis. North American LNG lifted FOB has no destination restrictions, making it more attractive to portfolio players and utilities. Portfolio players (who optimize portfolios of LNG bought and sold under a range of tenors and pricing arrangements) increasingly dominate the global market. LNG providers have also benefited, marketing excess cargoes priced off of a TTF benchmark, which is well in excess of prices sold under long-term contracting arrangements. That said, **we view longer-term contracts as key to maintaining credit stability and investment-grade ratings over time.** Sales and purchase agreement tenors are increasingly getting longer, with over 80% in 2022 signed in the 16 to 20 year range, which we view as credit supportive. We continue to believe that the majority of North American long-term contracting will continue to be gas-linked.

Credit metrics and financial policy

The aphorism "a rising tide lifts all boats" is befitting for what happened to the midstream industry in 2022. The disruption to natural gas and crude oil supply to Europe combined with a general strengthening in global demand caused commodity prices to skyrocket. At the same time, North American producers maintained financial discipline, lived within cash flow, and kept tight control of supply. Therefore, it is not a surprise that companies closest to the wellhead with some commodity exposure showed the most significant credit improvement during the year.

Gathering and processing companies exhibited significant credit improvement, responding to the growing demand for more processing capacity and increased NGL volumes. For example, Targa Resources Corp. and DCP Midstream L.P. both crossed over to investment grade based on these strong fundamentals and meaningful debt repayment. We believe **many midstream companies will continue to generate positive discretionary cash flow, which will give the industry a lot of financial flexibility** to make future capital allocation decisions without sacrificing credit quality.

Single-asset pipelines' credit quality is still a bit mixed. Existing assets in locations with strong demand and good interconnections are becoming increasingly more valuable, particularly when others remain in regulatory limbo and greenfield builds will be difficult in all but a few areas of the U.S. That said, 2023 could be the year where new development occurs, particularly to ease constraints in West Texas. We think competition will heat up to move crude between Corpus Christi and the Houston ship channel, and there will be more projects to move more natural gas from the Permian basin to the Gulf Coast. We believe the larger, diversified energy companies are the best positioned to manage future infrastructure needs and provide long-term solutions for traditional hydrocarbons as well as participate in the energy transition. These companies will use their vast and diverse networks of pipelines and storage assets to capitalize on the global need for commodity exports and are in the best position to address supply constraints in our view.

Key risks or opportunities around the baseline

1. Recession risk that hurts demand

The risk of a global recession remains a possibility, which would likely lead to lower demand and lower volumes for some midstream companies.

2. Increased regulation and an accelerated energy transition

Increased government regulation remains the most significant headwind facing the industry.

3. The industry's strong financial position is an advantage amidst global uncertainty

The midstream industry has delivered several consecutive years of credit improvement, which we believe will continue in 2023. The combination of strong balance sheets and ample liquidity give companies significant financial flexibility to react to adverse industry conditions and to capitalize on opportunities that play to their specific strengths.

Recession risk that hurts demand. The risk of a global recession remains a possibility, which would likely lead to lower demand and could harm volumes for some midstream companies. An escalation in the Russia-Ukraine conflict could result in additional supply shocks and price volatility, creating more uncertainty for energy companies generally.

Increased regulation and an accelerated energy transition. Increased government regulation remains the most significant headwind facing the industry, although the impacts of such policies may be several years away. In the near term, energy security and global efforts to decarbonize

Industry Top Trends 2023: Midstream Energy

seem to be competing for global attention, but we expect the industry to remain committed to reducing emissions and embracing transition initiatives in the future.

The industry's strong financial position is an advantage amidst global uncertainty. The midstream industry has delivered several consecutive years of credit improvement, which we believe will continue in 2023. The North American midstream energy industry has been a beacon of stability for the last several years. Companies were generally very resilient through the COVID pandemic and shifted to a self-funding model, which has given them significant flexibility to adapt to the risks and uncertainties in the global energy markets. We believe there is significant financial cushion in most company's credit measures to withstand a U.S. recession or significant shock without significantly impacting ratings. While recent legislation to promote renewables and the energy transition could be a long-term headwind for the industry, we believe it also presents the industry with an opportunity to adapt and be part of the solution to address climate change and decarbonize. We expect midstream companies to keep the "credit ship" steady in 2023 despite challenges related to shifting demand patterns and the long-term risk that climate change presents.

Related Research

- [S&P Global Ratings Lowers 2023 European And U.S. Gas Price Assumptions On More Balanced Supply And Demand](#), Jan. 10, 2023
- [The Credit Implications Of Canada's Senior Oil Sands Producers' Ambitious Efforts To Reduce Emissions](#), Dec. 14, 2022
- [For North American Midstream And Refining Companies, Refinancing Risk Is Increasing](#), Nov. 7, 2022
- [The Inflation Reduction Act: Our Views From The Midstream Energy Perspective](#), Oct. 11, 2022

Industry Forecasts: Midstream Energy

Chart 4
Debt growth (adjusted)

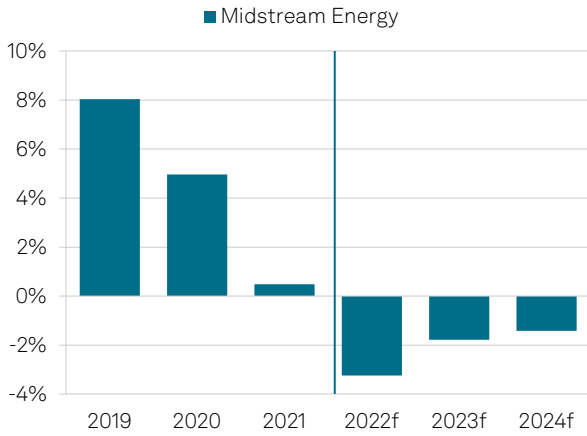


Chart 5
Capex Growth (adjusted)

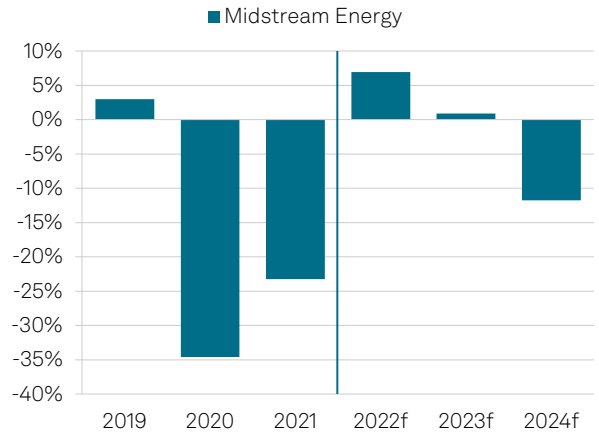


Chart 6
Debt / EBITDA (median, adjusted)

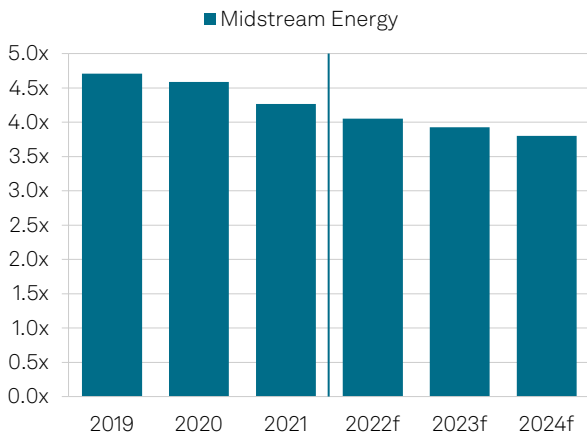
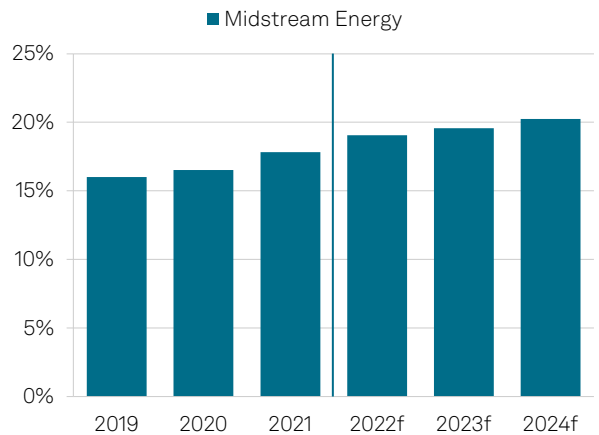


Chart 7
FFO / Debt (median, adjusted)



Source: S&P Global Ratings.
Revenue growth shows local currency growth weighted by prior-year common-currency revenue share. All other figures are converted into U.S. dollars using historic exchange rates. Forecasts are converted at the last financial year-end spot rate. FFO—Funds from operations.

Cash, Debt, And Returns: Sector

Chart 8
Cash flow and primary uses

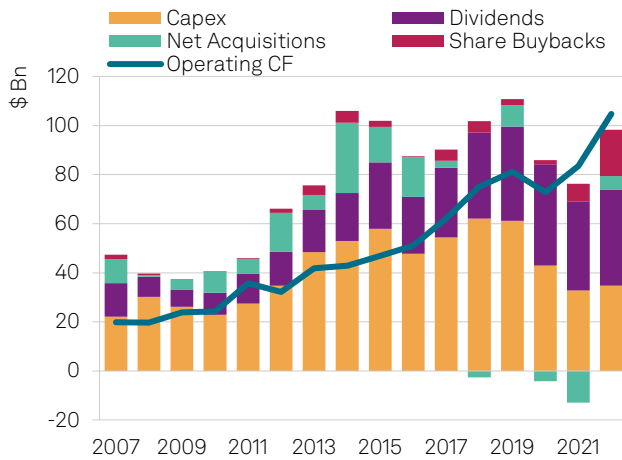


Chart 9
Return on capital employed

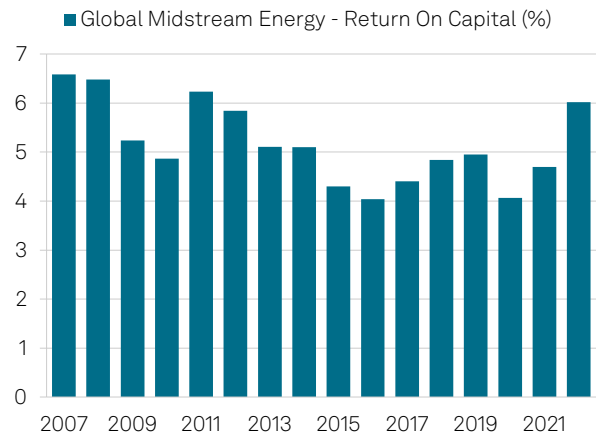


Chart 10
Fixed- versus variable-rate exposure

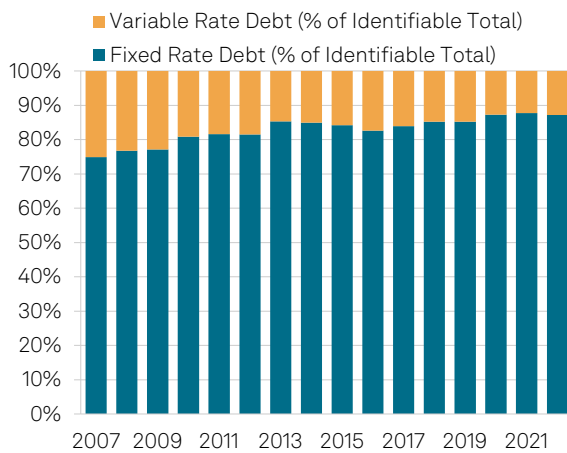


Chart 11
Long-term debt term structure

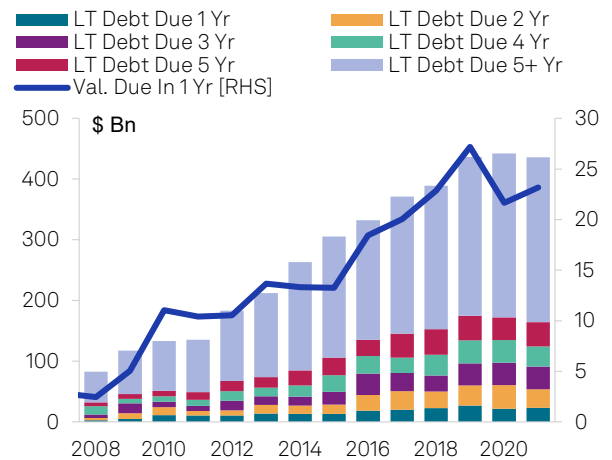


Chart 12
Cash and equivalents / Total assets

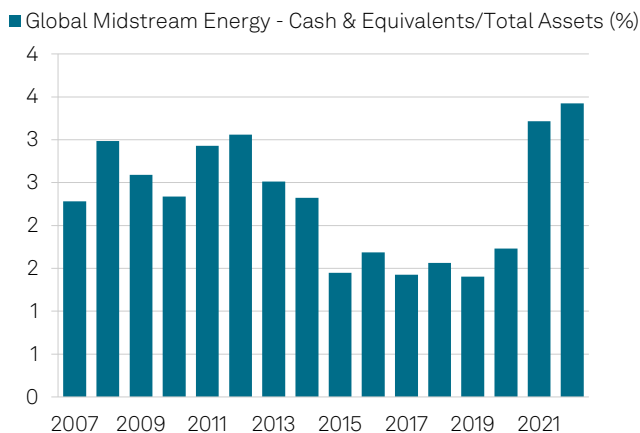
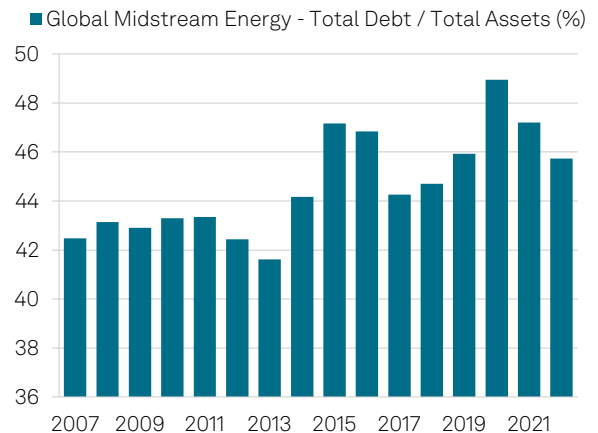


Chart 13
Total debt / Total assets



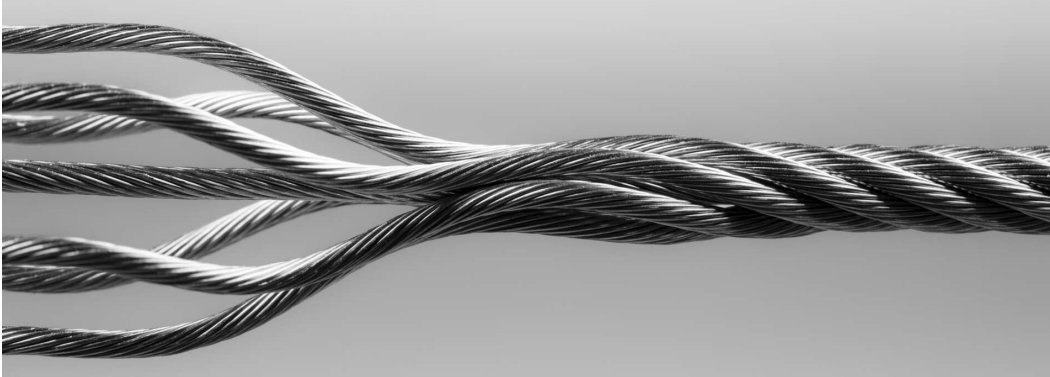
Source: S&P Capital IQ, S&P Global Ratings calculations. Most recent (2022) figures use the last 12 months' data.

North America Merchant Power

The Inflation Reduction Act turbocharges renewables

January 23, 2023

This report does not constitute a rating action



What's changed?

Renewables acceleration. Treasury is due to finalize the implementation of the Inflation Reduction Act (IRA) this year, and we are monitoring rules around hydrogen power purchase agreements (PPA) and the definition of gross receipts for nuclear production tax credits.

Nuclear makes a comeback. The IRA highlights nuclear's role in successful decarbonization.

Power prices come off their highs in line with declining natural gas prices. Supply response from the Permian and milder winters bring down natural gas prices, and power prices follow gas down. Most companies were heavily hedged and were unaffected.

What are the key assumptions for 2023?

Accelerated decarbonization. The IRA approval for nuclear production tax credits (PTC), stand-alone batteries, hydrogen, and a significant boost to the beleaguered offshore wind sector should spur strong spending.

Continuing coal plant retirements. Despite temporary delays due to resiliency concerns, structural factors and economics weigh heavily against the coal fleet.

Stable ratings profile. Power companies have significant excess cashflow and high cashflow conversions. Some are transitioning and may underperform if strategies go awry.

What are the key risks around the baseline?

Grid resiliency. With baseload supply shrinking and electric vehicle fueling demand, renewables/storage additions will need to scale up quickly to preserve reliability.

Battery and hydrogen scaling. Subsidies should lead to a meaningful scaling in California and Texas, and dampen expectations for scarcity prices, although implementation concerns persist.

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Industry Credit Metrics: North America Merchant Power

Chart 4
Debt / EBITDA (median, adjusted)

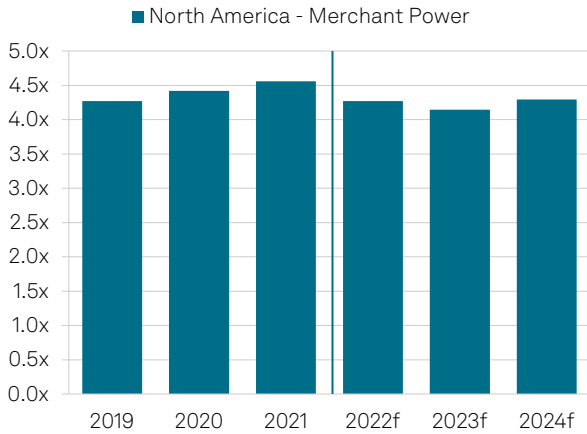


Chart 5
FFO / Debt (median, adjusted)

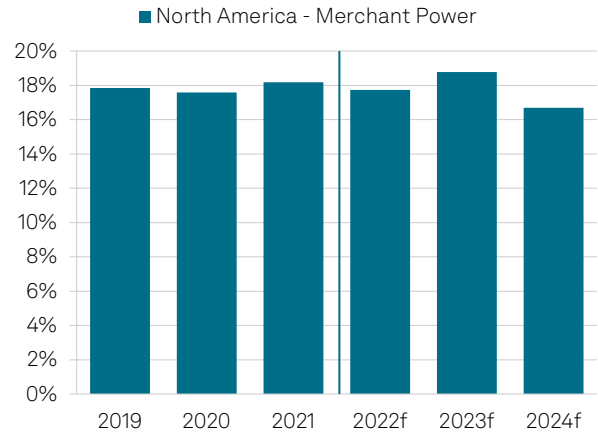


Chart 6
Cash flow and primary uses

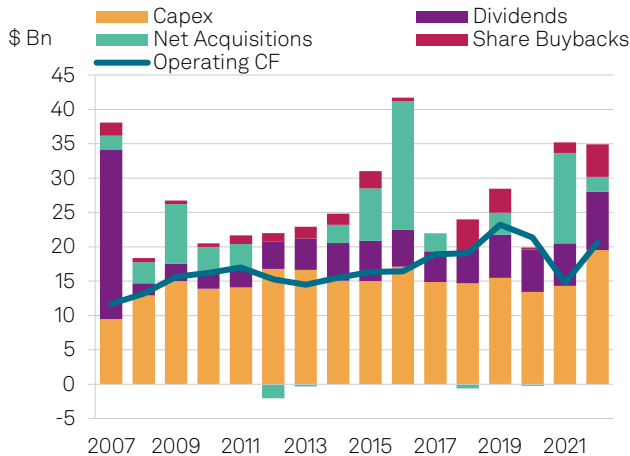
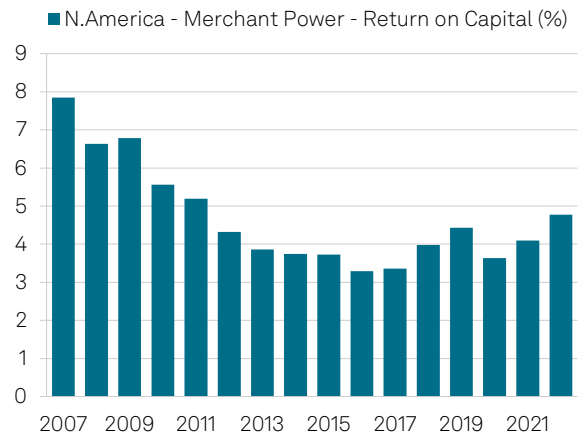


Chart 7
Return on capital employed



Source: S&P Global Ratings, S&P Capital IQ. Revenue growth shows local currency growth weighted by prior-year common-currency revenue share. All other figures are converted into U.S. dollars using historic exchange rates. Forecasts are converted at the last financial year-end spot rate. FFO—Funds from operations. Most recent (2022) figures for cash flow and primary uses and return on capital employed use the last 12 months' data.

At the start of 2022, we expected financial ratios to marginally deteriorate even as companies were focusing on shedding debt concomitant with expected declines in future cash flows. Partly contributing to this is the impact of winter events that slowed deleveraging efforts of major independent power producers (IPPs) in 2020. Subsequent to the adverse impact of winter storm Uri, some IPPs have slowed their investment-grade aspirations, choosing instead to reallocate excess cashflow to share buybacks and/or acquisitions. We note that debt reduction remains the stated objective for a number of IPPs. Two years ago, expectations for aggregate debt/EBITDA and funds from operations (FFO) to debt were above 4.0x and 15%, respectively, but the trend was of a declining leverage profile. We see that as stagnating. Fully or largely contracted companies (such as Yieldco's still-target 5.0x debt/EBITDA) distort the overall averages. Most IPPs have targets of adjusted debt/EBITDA in the 2.5x-2.75x range and adjusted FFO to debt above 25%. However, the timeline to get to these levels is delayed to beyond 2024.

Industry Outlook

Ratings trends and outlook

About 95% of our IPP or merchant generators have stable outlooks. This compares with just 78% last year and just 70% two years ago. While larger IPPs have shown greater stability, the smaller ones with no retail operations are having negative credit trends. The business outlook still reflects a secular decline in demand because of energy efficiency, behind-the-meter solar and distributed generation.

Main assumptions about 2023 and beyond

1. Divergence in strategies

We see an emerging pure-play theme, with companies increasingly diversifying to gain exposure to electrification, retail, hydrogen, or renewables. We see some companies pivoting away from generation while others are doubling down on emission-free generation.

2. Supply chain bottlenecks to ease and also domesticate

Solar panel imports were delayed by geopolitical tensions and the implementation of the Withhold Release Order (WRO), the anti-dumping/countervailing duties tariffs (AD/CVD) and the Uyghur Forced Labor Prevention Act (UFLPA). In 2023, we expect the supply chain for solar panels, inverters, batteries, etc. to start to domesticate given the favorable subsidies.

3. Path of renewable proliferation dominates power market forwards

Renewable proliferation continues to have two drivers: 1) The need for energy to replace uneconomic fossil plants retiring; and 2) increasingly competitive cost of energy as the cost curve declines, with full-subsidy wind and solar approaching the mid-\$20/MWh area.

The nuclear renaissance is here to stay. The IRA introduced nuclear PTCs, which supports nuclear power prices and plant economics thru 2032, mitigating the risks that nuclear plant value will return to uneconomic levels when power prices eventually decline. It was only three years ago that nuclear plants were economically beleaguered and retirements were being announced. We see the PTC provisions as a gamechanger for merchant nuclear power, changing the model for unregulated nuclear power generators from a merchant business to a nine-year contracted business, with floor pricing of \$40/MWh to \$44/MWh (see sidebar).

Potential Uplift In Nuclear Generators' Cash Flows

Per the terms in the IRA, the full PTC is \$15/MWh, which essentially breaks out as a \$3 base credit and a 5x multiplier for domestic content.

$$\text{Effective PTC} = \text{Full PTC credit} - \max(\text{gross receipts} - \text{baseline price}, 0) * 80\%$$

To illustrate these terms, let's assume the gross receipts price (i.e., hedged price + capacity prices) is \$30/MWh and the baseline price is \$25/MWh for 2024. We calculate it as \$15 - max(gross receipts - \$25, 0) * 80%, or \$15 - max(\$30 - \$25, 0) * 80% = \$11/MWh. The total price to the generator is \$30/MWh gross receipts + \$11 PTC = \$41/MWh.

We're still awaiting final terms of legislation (e.g., the questions of whether hedges are included in gross receipts revenues). If those are the nuclear generators' actual receipts, the credit would be a function of hedged and market power/capacity prices. But if they are based on prevailing market prices then the credit would be lower, or zero, if market prices are higher than the

Industry Top Trends 2023: North America Merchant Power

\$40/MWh to \$44/MWh floor. The outcome will have significant implications for 2024 profitability for companies, many of which have hedged well below the \$44/MWh baseline level.

We see consolidation of nuclear assets as a major theme in 2023 and see Energy Harbor as a prime example. Consolidation appears to be a potential capital allocation avenue for companies that are generating significant free cash. We still see Energy Harbor's fleet, PSEG's fleet, Dominion's Millstone, and Talen's Susquehanna as acquisition targets.

We expect U.S. solar installations to recover, despite supply chain constraints. We expect a 40% increase in solar installations in 2023 compared to 2022. We estimate solar installations aggregated about 18.6 GW in 2022, a decline of as much as 23% year-on-year. A combination of higher polysilicon and steel prices--that nearly doubled and tripled, respectively--an anti-dumping investigation by the Department of Commerce (DoC), and the implementation of the Uyghur Forced Labor Prevention Act all contributed to stymie growth in 2022. However, the passage of the Act provides a further impetus to the declining levelized cost of electricity from solar. While module prices are still a concern, we expect them to remain stable--and even decline--as global polysilicon production capacity increases by 70%. We also expect imports that were detained by U.S. Customs (because of contested Chinese polysilicon use) to be released during the first half of 2023. On the demand side, corporate and utility demand will accelerate because of pressure to meet emissions reduction targets and/or ESG mandates.

We note that renewable PPAs appear to be relatively sticky at their higher levels. Solar and wind PPAs both showed higher contracting prices last year to reflect the twin impacts of higher costs (labor, panels) as well as meaningfully higher interest rates. Also, with the IRA expanding tax incentives, we expect some shift to solar 10-year PTC over investment tax credits. This will be dictated by the capacity factor of the development project. In particular, projects with weaker economics could continue to utilize investment tax credits (ITCs). For example, if a project has a relatively high capital cost and low capacity factor, the ITC would be more economical.

We expect some carbon capture projects to take off in 2023. We've typically considered carbon sequestration potential in the power sector as a temporary band-aid to the larger objectives of emission reduction. Moreover, the commercial experience since the 45Q credits (U.S. tax credits for carbon dioxide sequestration) were instituted in 2018 underscores how inefficient those tax credits were to drive the adoption of carbon dioxide sequestration in the power sector. The IRA increases the value for dedicated storage of CO₂ in the power industry to \$85/ton, up from \$50/ton. The lower capture thresholds--18,750 tons/year instead of 500,000 tons--will also expand the number of projects eligible for the tax credits. Importantly, the direct pay and expanded transferability features would substantially increase the cash flows and obviate the need for complex tax equity structuring.

After a flurry of announcements recently, companies will kick off major projects in carbon capture utilization and storage (CCUS) in 2023. But more than fossil power projects, we think the potential is greater for those projects that provide the infrastructure for multiple emitters to transport and store captured carbon dioxide at scale.

A tightening electric grid will increasingly value resiliency. We see reliability risks as renewables transition accelerates. While supply chain and tariff uncertainty resulted in solar installation delays, we see a major influx of new renewable capacity coming, particularly post-IRA. We'll be watching grid reliability, particularly areas that are relying on offshore wind, like New York/New England, where baseload supply has shrunk dramatically.

We've seen reliability issues in California (Cal-ISO) and Texas (ERCOT) each year since 2020. This is happening because baseload plants have been retired and replaced with intermittent renewables. In a recent analysis, the Cal-ISO pointed to the potential for 1.7 GW-1.8 GW supply

shortage across 2022-2025 in extreme load scenarios even when accounting for the 11.5 GW new resource target. On Sept. 7, Cal-ISO declared a regional transmission grid emergency at level EE 3, which indicates high likelihoods of blackouts. Temperatures soared above 110 degrees but blackouts were avoided with help from demand response as the state experienced a load of 52 GW. In response to the increasing baseload shortage, California has pushed out the closure of the Diablo Canyon nuclear plant by five years from its previously planned shutdown of 2024-2025.

Similarly, in ERCOT, we saw a July heatwave and pre-Christmas cold front that tested the grid, which appears to be tight going into 2023. ERCOT is also in the midst of implementing grid reliability reforms and had discussed a performance credit mechanism (PCM) back in November 2022. After hearings at both the Texas House and Senate committees, the momentum seems to have slowed but we expect the commission to take some action in the first half of 2023.

The focus on grid reliability is likely to feature prominently and expand its scope beyond Texas. We perceive the growing focus after Winter Storm Elliott in December in PJM (the grid operator for a large block of the east coast) where the grid operator declared a resource contingency, and a number of unavailable plants are likely facing non-performance penalties.

Bottom-line, with baseload supply shrinking and electric vehicle adoption driving demand, renewables/storage additions will need to scale up quickly to preserve reliability.

Coal-fired generation got a reprieve but we expect further retirements in 2023. Increasing tightness of generation supply has pressured utilities in the Midwest-ISO (MISO) to extend the retirement dates for several coal plants. NiSource Inc., Alliant Energy, WEC Energy Group Inc., and the Omaha Public Power District have all announced delays in closures. MISO is traditionally a bastion of surplus capacity but higher load and more retirements has eroded surplus. The tightness was reflected in market signals with MISO capacity auction clearing at \$237/MW-day, up from \$5/MW-day last year.

Coal-fired generation offers reliability in the short-term (e.g., Alliant's Edgewater and Columbia and WEC Energy's Oak Grove retirements were pushed to 2025/2026) but it's increasingly uneconomical. No incumbent utility or power generator is investing new money in coal generation units or coal mines, coal units are increasingly under-maintained, and eastern coal prices are moving higher. The economics of coal-fired generation is deteriorating. Rising labor wages, property tax bills, and still lofty coal prices in the East point to a retirement dynamic that could reinitiate this month as PJM announces new retirements in its still-pending 2024/2025 capacity auction result. Also, with effluent limitations guidelines (ELG) and coal combustion residuals (CCR) regulations to follow, and with 30% of the coal fleet in affected states not controlled for selective catalytic reduction (SCR) equipment, we think a large wave of coal-fired retirements by 2027 is likely.

Hydrogen could both complement and compete with batteries. Provisions relating to Hydrogen are perhaps the most significant provision of the IRA. We think it accelerates the economics of hydrogen a decade ahead, which will both compete with and complement batteries.

- Starting January 2023, low-carbon hydrogen production facilities can use a PTC for the first 10 years that the facility is in operation.
- The PTC would be applicable for all facilities in construction by year-end 2032. The PTC earned depends on whether it meets prevailing wage requirements and how much carbon is reduced.

Facilities with a CO₂ footprint of less than 0.45 kg CO₂/kg H₂ (i.e., approximately 95.5% reduction in CO₂) would get the maximum \$3/kg credit, which would apply to most electrolyzers. For 85%-

Industry Top Trends 2023: North America Merchant Power

95% reductions the PTC would scale down to \$1/kg; for 75%-85% reductions the PTC would be \$0.75/kg; and for 60%-75% reductions the PTC would be \$0.60/kg.

If we assume a polymer exchange membrane (PEM) electrolyzer can be built for \$650/kW-\$750/KW (i.e., producing equivalent fuel to run a power plant this size) and has a power contract at about \$40/MWh, the levelized cost of generating hydrogen is about \$3.75/kilogram (Kg) to \$3.85/Kg before the PTC. With a \$3/Kg PTC benefit, the net cost is about \$0.8/Kg, or equivalent to about \$7.25 per thousand cubic feet of natural gas. The tricky part here is one of hydrogen transportation as it is unclear how that infrastructure will develop. However, if we assume transport costs of about \$1.00/Kg to get to a facility, it would likely mean green hydrogen (which has no GHG emissions) would still be competitive with gray hydrogen (with some GHG emissions).

A \$1.0/Kg (or lower) price for hydrogen created at the site of renewable generation and used by a nearby combustion turbine would be an economical long-duration storage solution. There will be incremental opportunities for renewables too. The U.S. currently uses a significant amount of hydrogen mainly for refinery use and ammonia/fertilizer production. This would instantly become open to green status and could require well over 50 GW of electrolyzers and backup renewables. Importantly, the IRA allows green hydrogen to benefit from both the green hydrogen PTC and a PTC from wind and solar.

Constellation Energy and Energy Harbor have been involved in hydrogen pilots and we are looking for the first large scale partnership announcement in 2023. Constellation has committed to an update in the first half of 2023 around its commercialization strategy, where we expect the company to utilize a partnering strategy similar to the one that AES Corp. and Air Products And Chemicals Inc. announced recently.

Offshore wind has seen a tough environment. Offshore has been a better news story than an economics story. We see offshore wind as still challenged in the U.S. due to inflation and supply chain pressures and high cost relative to legacy generation. The industry markers we are monitoring in 2023 are the potential for utility sponsors exiting (PSEG), progress on frontrunning projects (AvanGrid's Vineyard Wind), and attempts to restructure contracts that were struck in the 2018-2020 timeframe.

Siting and permitting for existing offshore wind projects were on track both at the federal and state levels. Construction of the Eversource/Ørsted 132 MW South Fork unit in New York is making good progress, and Avangrid's 800 MW Vineyard Wind 1 project in Massachusetts is scheduled to go online in 2024. Some states are on their third round of solicitations, with New York currently conducting a 2 GW request-for-proposals, and New Jersey preparing for 1.2 GW to 4.0 GW solicitation.

Still, the industry is facing inflation and supply chain pressures, as well as the higher levelized cost of generation relative to current power costs in the U.S. Citing worsening economics, some developers have even attempted renegotiating contracts or are negotiating to prevent cost caps. The projects most susceptible are those that were awarded contracts in the 2018-2020 period, which coincided with declining auction prices.

Stronger regulatory support in Canada could help reach target emissions reductions. The government of Canada has increased its targeted GHG emissions reduction to 40%-45% from 2005 levels by 2030, which will likely result in additional policies besides the outstanding framework. As an example, the latest federal budget included 30% ITCs for renewable energy generation and storage, which should support broader renewable penetration.

The government is also funding a wide range of technologies, including CCS, nuclear small modular reactors (SMRs), and hydrogen. Diverse solutions are likely required to support each province's decarbonization efforts given their varied generation profile. As an example, Alberta

could need to rely on natural gas fueled baseload generation for longer, as the province doesn't have Quebec's hydropower or Ontario's nuclear resources. Several meaningful initiatives are advancing, including Capital Power LLC (CPC)'s CCS project and Ontario Power Generation Inc.'s SMR project.

Power prices continue to be very high in Alberta, with an average power price of C\$150/MWh for 2022 compared to about C\$100/MWh in 2021. This was largely due to a combination of factors, including lower supply due to offline facilities, elevated natural gas prices, rising carbon pricing and load's growth. As the province's largest IPPs, CPC and TransAlta Corp. benefited from those prices and were able to hedge at attractive rates for 2023. However, prices by mid-decade should moderate as some large and efficient facilities, including CPC's repowered Genesee units, are projected to come online.

The Ontario power market is facing some challenges, giving diminished supply due to ongoing nuclear refurbishments at the Bruce Power and Darlington units. The provincial government is also exploring a potential extension at the Pickering station, which was set to shut down by 2025. However, some of projected needs are expected to be met through the capacity market, with the last auction having robust results.

Credit metrics and financial policy

We expect ratios to be weaker than levels we expected in 2022 and 2021, partly because several companies have endured weather events that slowed deleveraging plans. However, we note that debt reduction is still a stated objective for a number of IPPs. Two years ago, expectations for aggregate debt/EBITDA and FFO to debt were above 4.0x and 15%, respectively. Now, some IPPs have targets of adjusted det to EBITDA in the 2.5x-2.75x range and adjusted FFO to debt above 25%, on a sustained basis. However, the timeline has slipped to 2024 or later.

Key risks or opportunities around the baseline

1. Excess cash allocation to acquisitions or organic growth

We see companies deploying significant proportion of excess cash to organic investments and acquisitions as the IRA provides avenues. We see many even suspending share buybacks to do so. Decelerating is unlikely unless there are prior commitments.

2. Inflation and interest rates will still present a challenging environment

Many companies successfully kept operating and maintenance costs flat or down in recent years with labor attrition and technology advances offsetting inflation. However, as materials costs stay elevated these pressures will influence margins in 2023.

3. Focus on cost reductions anew, especially after acquisitions

With inflationary pressures and interest costs high, focus will be on other avenues of cost reduction. We expect companies that seek to improve their credit profile to cut costs.

We expect lower power prices in 2023 compared to 2022, but most companies are heavily hedged. After spot natural gas prices touched \$10/MMBtu in the second quarter of 2022, prices dramatically declined by the end of the fourth quarter. The prompt-month contract is now at sub-\$4 for the first time since last February 2022. The entire forward curve has fallen too, with calendar 2023 declining by 20%, while 2024 forwards are down 10%. We now see some contango in the curve because of expectations of warmer winters and continued delays in Freeport LNG returning--a 2 billion cubic feet per day swing factor. Moreover, return of associated gas

Industry Top Trends 2023: North America Merchant Power

production is likely going to result in record inventories before new LNG demand takes hold in 2024-2025.

There is some spark spread expansion and power is not as significantly down as gas, with PJM 2023 prices down about 20% since Sept. 2022 but 2024 only modestly down. Even as companies hedge much of their economic generation, most have some operating length open (to cushion for operational outages). A few leave shoulder months unhedged. As a result, we expect companies like Vistra Corp. and Constellation Energy to still see some cashflow weakness compared to their mark-to-market positions at the end of third quarter 2022.

Related Research

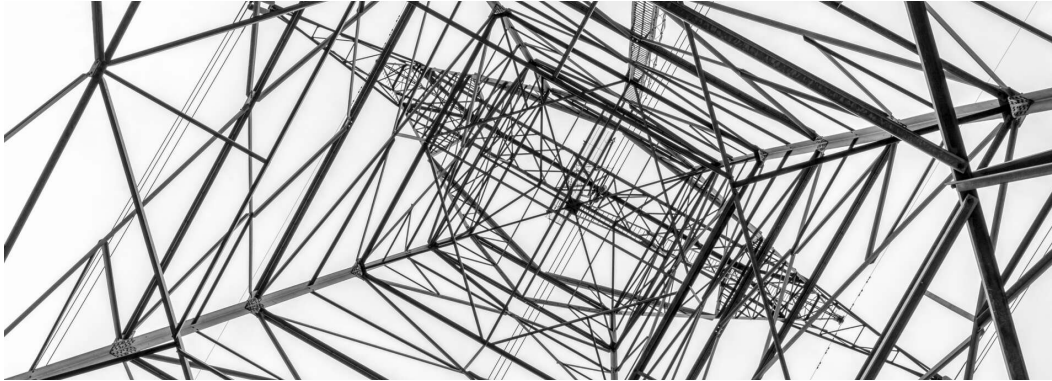
- [Inflation And High Yields: N.A. Power & Utilities: Inflation Could Create Some Pressure For Utilities](#), Nov. 29, 2022
- [Inflation Reduction Act Update: Between Cheap, Firm, And Clean Power--Pick Any Two](#), Sept. 8, 2022
- [Power Markets Update: PJM's Capacity Market Auction Lays Another Egg](#), July 12, 2022
- [Hedged U.S. Unregulated Power Generators: No Rest For The Weary](#), May 11, 2022

North America Regulated Utilities

The industry's outlook remains negative

January 23, 2023

This report does not constitute a rating action



What's changed?

Credit Quality. For the third consecutive year, downgrades outpaced upgrades and the industry's median rating fell to 'BBB+' from 'A-'.

Interest rates. Interest rates increased by about 400 basis points during 2022, pressuring the industry's financial performance.

Securitization. In 2022, the industry benefited from the issuance of about \$15 billion in securitization bonds, recovering storm, hurricane, and wildfire costs.

What are the key assumptions for 2023?

Inflation decreases. S&P Global's economist expects consumer price index (CPI) to decrease to below 4% by year-end 2023.

Robust capital spending. The industry's 2022 capital spending was at an all-time high of more than \$190 billion and we expect it will be even higher in 2023.

Increasing asset sales. To support the funding of the industry's capital spending, we expect sales of minority interests in utilities and sales of non-utility assets to exceed \$20 billion in 2023.

What are the key risks around the baseline?

Commodity prices. Natural gas prices remain significantly above their pre-inflation price of about \$2.50/mmBTU, pressuring the customer bill.

Regulatory risk. The customer bill is increasing, which could pressure the industry's ability to effectively manage regulatory risk.

Physical risks. Recovery of severe winter storms, hurricanes, tornadoes, and wildfires may become increasingly challenging as the pace of such incidents appear to be intensifying.

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Ratings Trends: North America Regulated Utilities

Chart 1
Ratings distribution

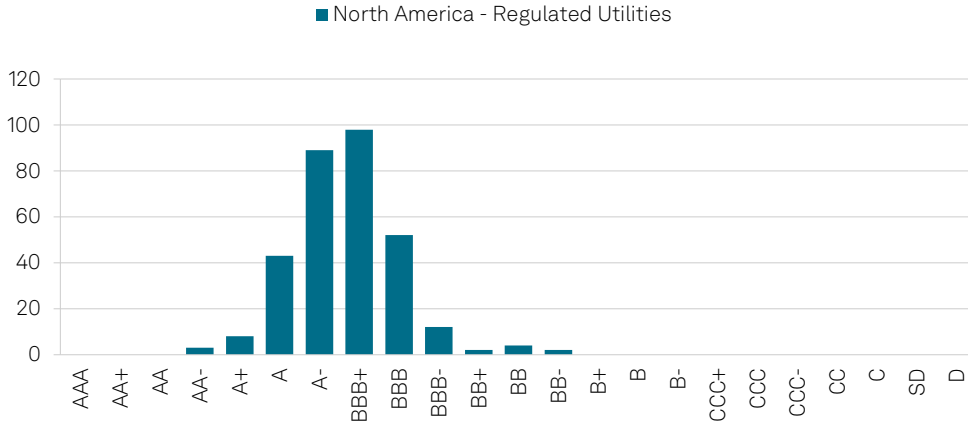


Chart 2
Ratings outlooks

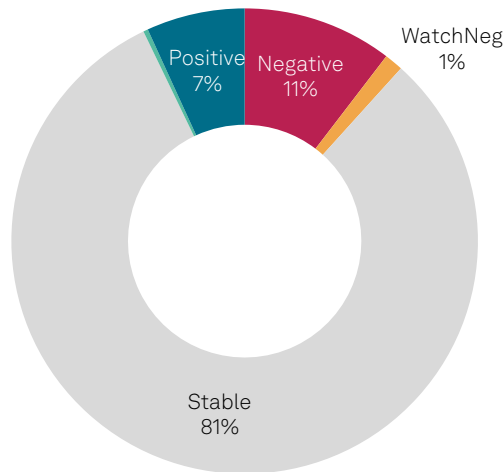
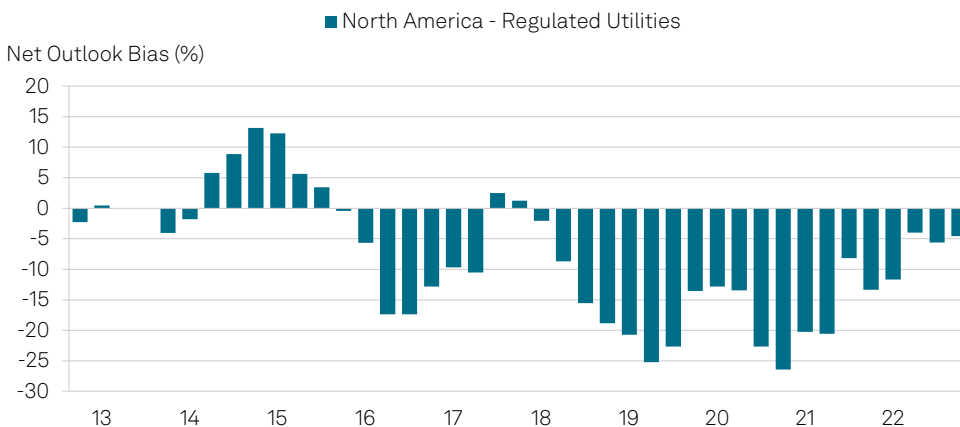


Chart 3
Ratings outlook net bias



Source: S&P Global Ratings. Ratings data measured at quarter-end.

Industry Credit Metrics: North America Regulated Utilities

Chart 4
Debt / EBITDA (median, adjusted)

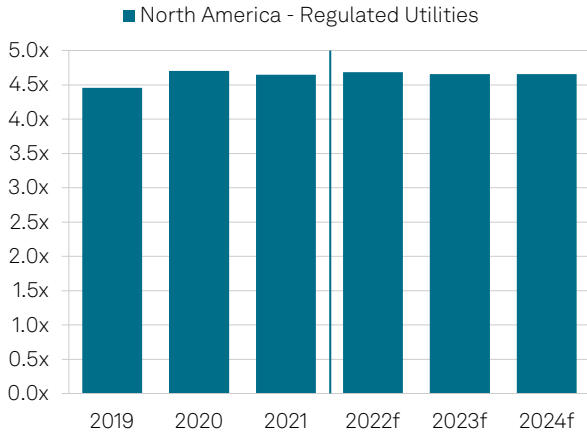


Chart 5
FFO / Debt (median, adjusted)

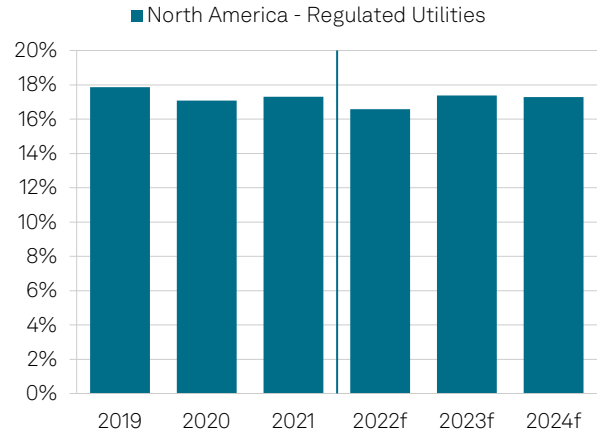


Chart 6
Cash flow and primary uses

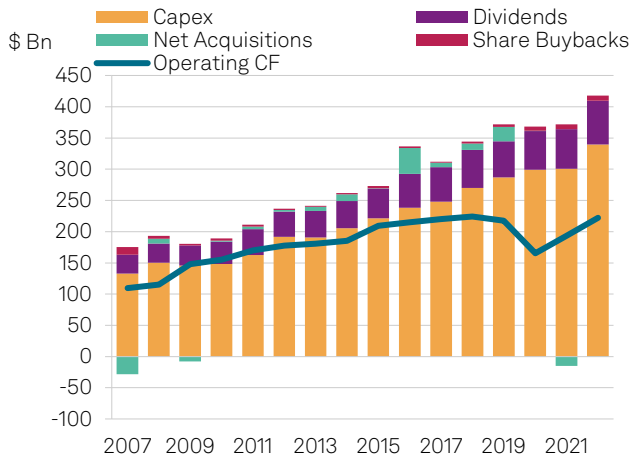
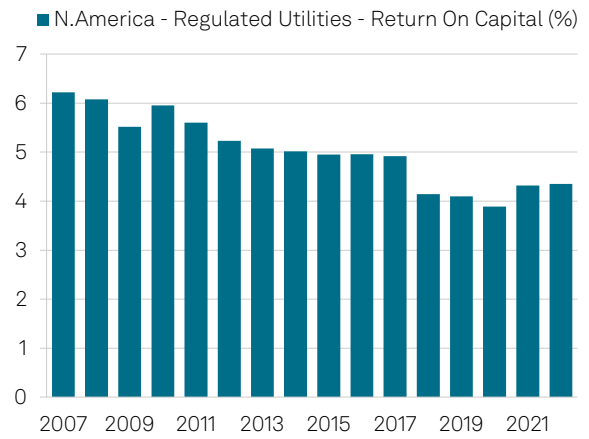


Chart 7
Return on capital employed



Source: S&P Global Ratings, S&P Capital IQ.
Revenue growth shows local currency growth weighted by prior-year common-currency revenue share. All other figures are converted into U.S. dollars using historic exchange rates. Forecasts are converted at the last financial year-end spot rate. FFO—Funds from operations. Most recent (2022) figures for cash flow and primary uses and return on capital employed use the last 12 months' data.

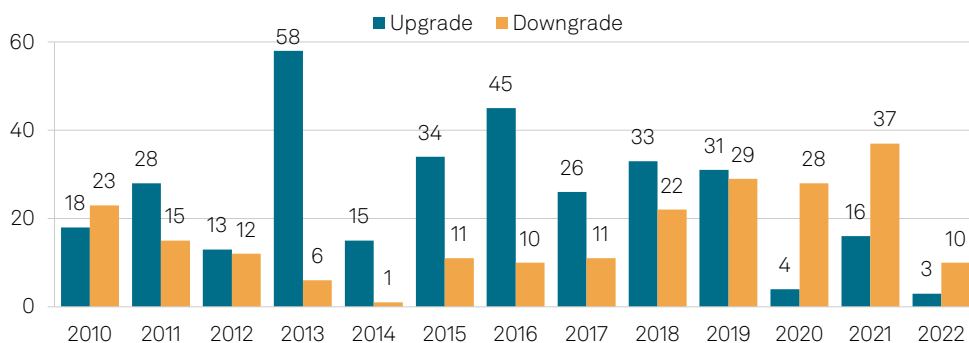
Industry Outlook

Ratings trends and outlook

The industry outlook remains negative and has been negative since early 2020. Over this timeframe downgrades have outpaced upgrades by more than 3:1 (see chart 8). While the industry's percentage of negative outlooks has decreased to about 15% from 35% at year-end 2020, prolonged inflationary risks or a deeper-than-expected recession could harm the industry's credit quality in 2023.

Chart 8

North America Regulated Utilities Upgrades And Downgrades



Data as of Jan. 11, 2023. Source: S&P Global Ratings.

Main assumptions about 2023 and beyond

1. Minimal financial cushion

More than 40% of the industry is strategically managing their financial performance with only minimal financial cushion, reflecting funds from operations (FFO) to debt that is less than 100 basis points above the downgrade threshold. Because utility cash flows are typically more stable than those of many other industries, this strategy of limiting excess credit capacity works well under ordinary conditions. However, when unexpected risks occur or base case assumptions deviate from expectations, the utility's credit quality can weaken, as we've seen over the past three years.

2. Consistent access to the capital markets

Because of the industry's high capital spending and consistent dividends, negative discretionary cashflow is regularly more than \$100 billion annually. To fund this large deficit, the industry requires consistent access to the capital markets. Rising interest rates, decreasing equity prices, and inflation could hamper consistent access the capital markets, potentially pressuring credit quality. Typically, most of the funding of negative discretionary cashflow is from new debt issuance with the balance from common equity, hybrid securities, and asset sales. For 2023, we expect the industry will rely on a lower percentage of common equity compared to prior years and instead rely on a higher percentage of asset sales.

3. Energy transition

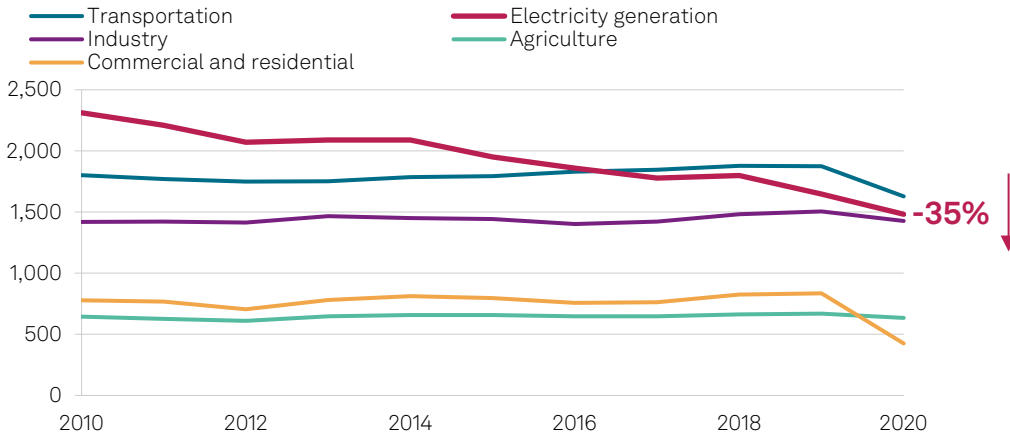
Over the past decade, the utility industry reduced its reliance on coal-fired generation by more than 50% and more than doubled its generation from renewable energy. We expect that by the end of the decade it will reduce coal-fired generation by about another 50% and will fully phase out coal by about 2040.

Industry Top Trends 2023: North America Regulated Utilities

The industry is aggressively reducing its greenhouse gas (GHG) emissions. Over the past decade, the industry reduced its GHG emissions by about 35%, mostly by replacing coal-fired generation with natural-gas-fired generation, which has about half the carbon emissions (see chart 9). However, we expect that during this decade GHG emissions will decrease by closer to 50% because the remaining coal closures will mostly be replaced with renewable generation and batteries.

Chart 9

Greenhouse Gas Emissions By Economic Sector (2010-2020)

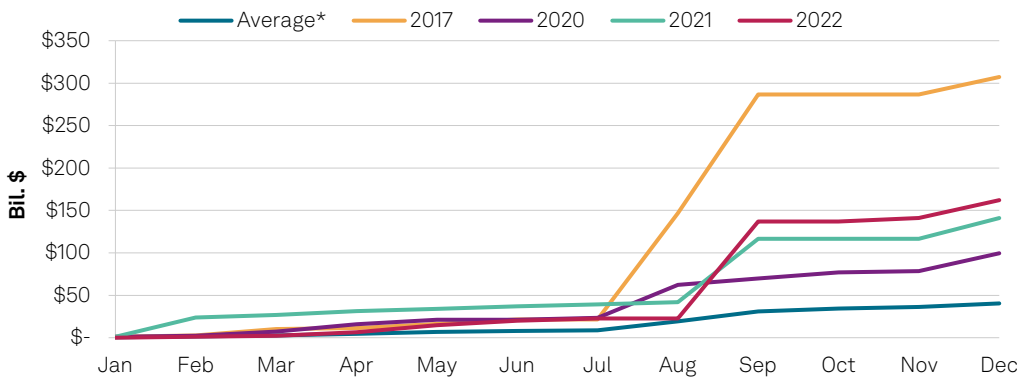


Source: U.S. Environmental Protection Agency.

Physical risks appear to be continuing at a record pace. During the past several years, the U.S. has experienced record levels of damages from storms and hurricanes, driving costs up for utilities (see chart 10). Accordingly, we downgraded several utilities when these rising costs led to higher leverage and weakening financial measures. Downgrades would have been substantially higher if not for regulators permitting the use of securitization, which we view as credit-supportive. For 2023, we again expect that the industry will significantly rely on securitization to recover more than \$5 billion of storm related costs.

Chart 10

U.S. Weather And Climate Billion Dollar Disaster Cost

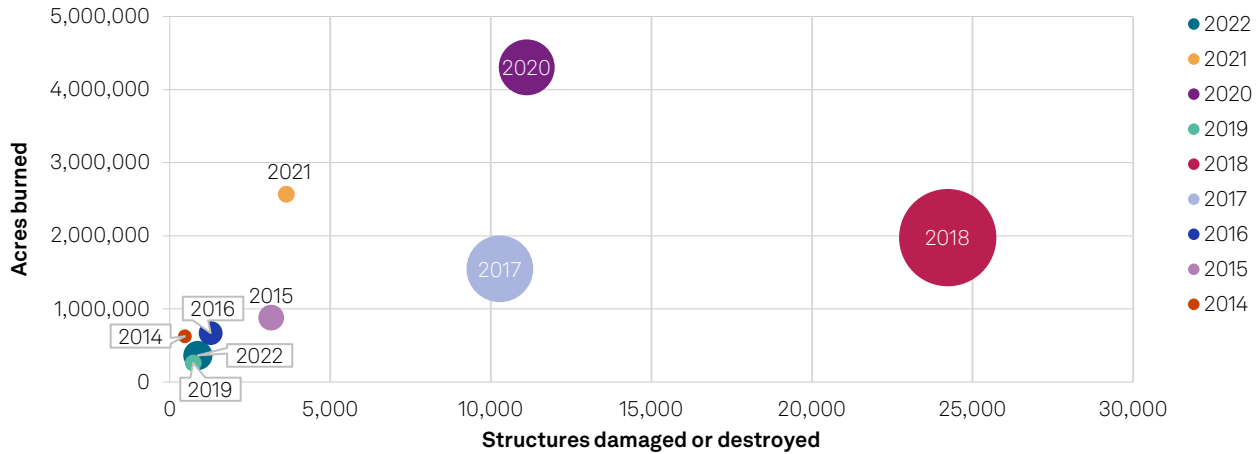


*1980-2022 average. Source: National Oceanic and Atmospheric Administration.

California Wildfires. While other physical risks (such as severe storms) affected many utilities during 2022, California wildfires were less destructive for the second consecutive year (see chart 11). California utilities are most exposed to wildfire risks because of climate change and inverse condemnation. During the past several years California utilities have been proactively reducing their risks by investing in technology and system hardening. The technology helps the utility to predict the timing and location of a high-wind event, and utilities have found that proactively shutting down parts of their system is an effective way to avoid a catastrophic wildfire.

Chart 11

California Annual Wildfire Activity



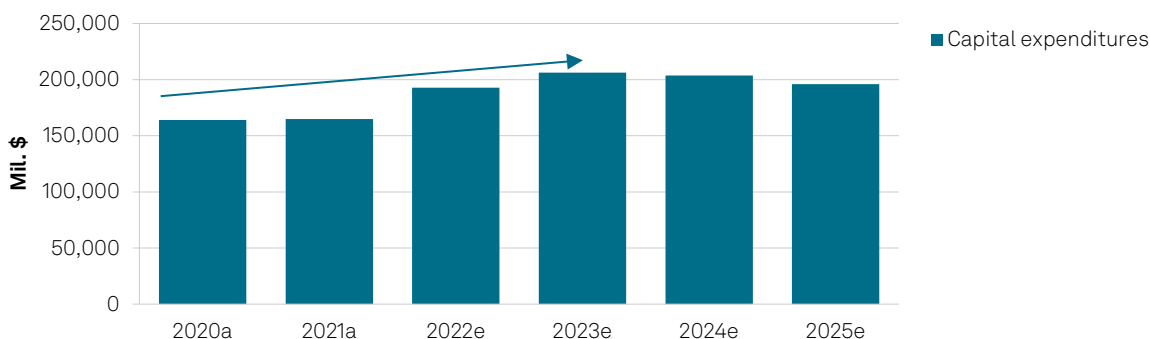
Bubble size represents number of fatalities. Source: The California Department of Forestry and Fire Protection.

Net-zero goals could be delayed. Most of the industry is committed to a net-zero emissions date between 2030 and 2050. As customer bill pressure increases, the industry may be forced to slow the pace of the energy transition, delaying the timeframe to reach net zero carbon emission.

Large projects could become more challenging. We expect the industry's 2023 capital spending to reach a record of more than \$200 billion, but given the macro risks large projects--including offshore wind--could become increasingly challenged (see chart 12). Supply chain delays and rising interest rates increase the probability that projects are not completed on time and on budget. While these risks affect all projects, larger and more complex projects are disproportionately affected, increasing the probability that some of these projects could be delayed or even canceled.

Chart 12

North America Regulated Utilities Rising Capital Expenditures



Data as of Jan. 11, 2023. Capital expenditures represent North American investor-owned electric, gas, and water utilities. a--Actual. e--Estimate. Source: S&P Global Ratings.

Credit metrics and financial policy

Over the past decade the industry's financial measures have weakened from a combination of rising capital spending, regulatory lag, and lower authorized return on equity (ROE). The industry's return on capital was about 6% a decade ago and today is closer to 4%. More recently, we have seen instances where not only is the authorized ROE lowered but also the equity ratio is lowered. These results have weakened the industry's financial measures, pressuring credit quality. Under our base case of moderating inflationary risks during 2023, we expect the industry's credit measures to generally remain flat. However, if inflationary risks persist, it may further pressure the customer bill, potentially decreasing the level of regulatory credit support, weakening the industry's financial performance.

Key risks or opportunities around the baseline

1. Inflation reduction act (IRA)

While this legislation will benefit much of the industry, there are aspects of the law that will be detrimental to a few companies. The key benefits are the expansion of tax credits and the transferability of these credits. The legislation provides long-term tax credits for renewables, batteries, nuclear power, and hydrogen. We expect the use of these credits will significantly increase because of the relatively easy transferability of these tax credit. Conversely, the IRA also establishes an alternative minimal tax, which we expect will increase taxes for large transmission and distribution holding companies, pressuring their financial measures.

2. Recession

S&P Global's economists forecast the likelihood of a 2023 recession at greater than 50%. Should the recession be more severe than expected, unemployment could rise faster than expected, increasing the industry's uncollectibles and pressuring its financial measures.

3. Affordability of customer bill

Customer bills may become less affordable because of rising commodity prices, interest rates, inflation, and capital spending. During 2022, Henry Hub natural gas prices, the U.S. benchmark, peaked at about \$9 per mmBTU. Although prices have since retreated to about \$4/mmBTU and the forward curve reflects \$3.50-\$4.50/mmBTU, they remain substantially higher than pre-inflation levels, pressuring the customer bill. While we estimate the industry's average electric bill represents only about 2.5% of after-tax household income, sharp increases and bill volatility often results in increasing customer dissatisfaction that can ultimately heighten regulatory scrutiny and constrain the industry's ability to effectively manage regulatory risk.

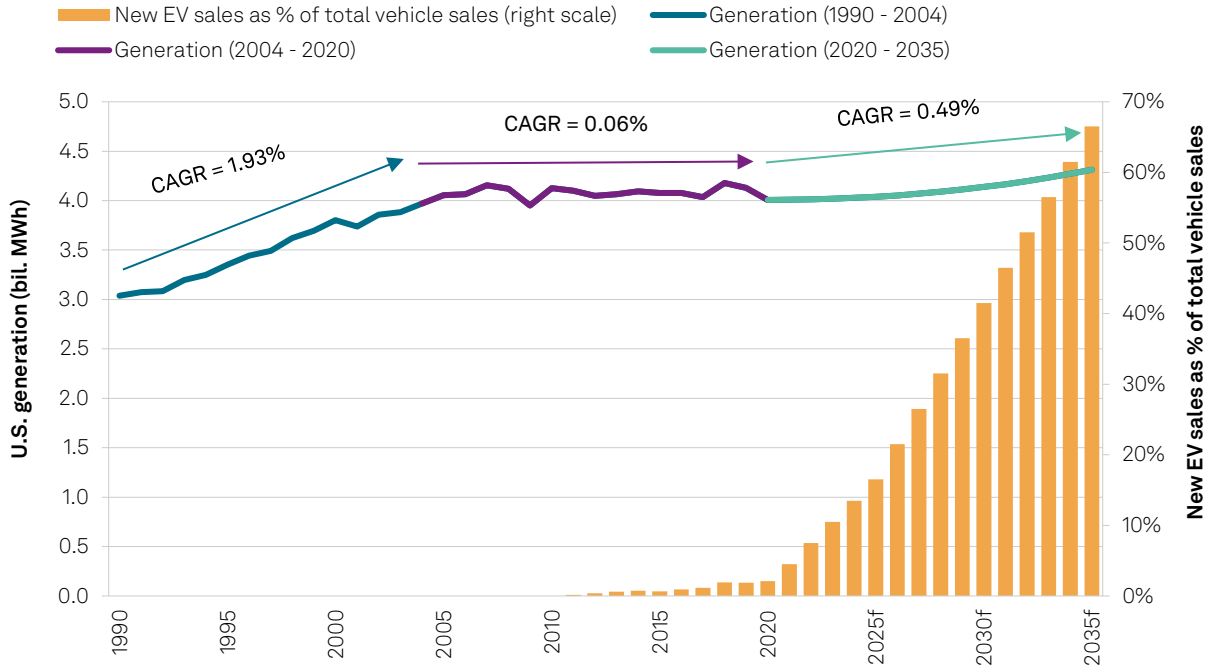
Political interference could increase. As the customer bill continues to increase, the industry could experience increasing political interference, which we view as negative for credit quality. Most recently, the Canadian province of Nova Scotia enacted an amendment to the Public Utilities Act that overrode the regulatory process of the Nova Scotia Utility and Review Board, limiting rate increases. We viewed this as political interference that will undermine the regulatory construct, materially weakening the regulatory jurisdiction's predictability, and increase the uncertainty for its utilities and stakeholders. As such, we downgraded Nova Scotia Power Inc. by two notches.

Growth of electric vehicles. While electric vehicles represented only about 6% of new U.S. car sales in 2022, we expect that by 2025 they will represent 15%-20%, leading to higher electricity sales (see chart 13). Should this growth trend persist, it is likely that by the next decade electric

vehicles will materially contribute to the industry's sales growth, despite our expectations for continued conservation, which is the driver for flat sales growth over the last decade and a half.

Chart 13

U.S. Electric Vehicle Growth: Poised To Boost Demand



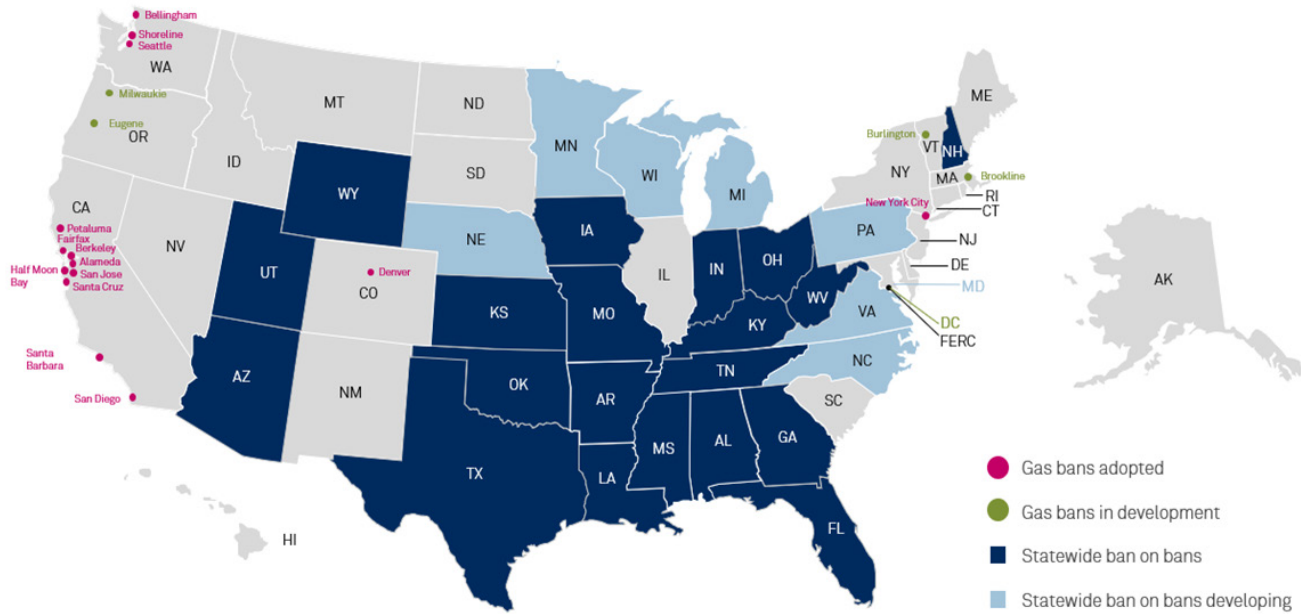
f--Forecast. CAGR--Compound annual growth rate. Sources: EIA, Alternative Fuels Data Center, S&P Global Ratings.

New technologies to reduce GHG emission. We believe an additional benefit of the IRA is it encourages further investments in carbon-free technologies. We expect the industry will continue to invest in hydrogen and renewable natural gas, and that these technologies will blend within the natural gas distribution system and account for up to 5% of the electric generation portfolio by 2040.

Rising risks for the natural gas local distribution industry. The industry's sales growth is becoming more challenging, with several cities banning new gas connections (see chart 14). While all industries typically require growth to increase valuations, credit quality could be preserved if this regulated industry can consistently reduce its regulatory lag and maintain regulatory support for its existing assets, despite its growth challenges.

Chart 14

Ban On New Gas Connections



Data as of Nov. 1, 2022. Source: S&P Global Ratings.

Security. The 2021 breach of the Colonial Pipeline highlights the cybersecurity risks facing critical infrastructure assets. More recently, the shooting attack on Duke Energy’s North Carolina substation that caused more than 45,000 customers to be without power underscores the industry’s ongoing physical security risks. Overall, the industry’s ongoing vigilance in these areas is critical to maintaining its credit quality.

Related Research

- [North American Utility Regulatory Jurisdictions Update: Nova Scotia Assessment Revised Downward Again After Passage Of Bill 212](#), Dec. 1, 2022
- [Inflation And High Yields: N.A. Power & Utilities: Inflation Could Create Some Pressure For Utilities](#), Nov. 29, 2022
- [Although Not Immune, North American Investor-Owned Utilities Are Still Well-Positioned To Handle Inflation](#), Aug. 18, 2022
- [Constructive Financial Policy Is Determining Credit Quality--Not Equity Pricing--For N.A. Regulated Utilities](#), June 8, 2022
- [Utilities' Early Retirement Of Coal Generation Increases Uncertainty Over Recouping Stranded Investments](#), April 11, 2022

Transportation Infrastructure

Mobility transition comes amid tough economic prospects

January 23, 2023

This report does not constitute a rating action



What's changed?

Rising yields and inflation test the resilience of infrastructure ratings. Companies will need to manage inflation and higher financing costs while sluggish economies hinder mobility prospects.

The Mobility Transition. The Energy Transition, combined with the energy crisis in Europe, has increased pressure to decarbonize transportation and decrease fossil fuel reliance in Europe.

Rising construction and funding risk. Prospects for a recession and rapid acceleration of construction costs and interest rates could be a disincentive to invest in capital projects.

What are the key assumptions for 2023?

Modest volume growth with recession looming. Prevailing strong labor markets and residual savings should offset expected lower disposable income of citizens at least in the near term.

Substantial inflation linked revenue increase. We expect toll roads to be the better-performing asset, thanks to stronger capacity to pass through inflation into their tariffs.

Operating margins will remain stable despite significant cost pressure, except for railways. Higher power prices and a limited ability to raise tariffs will weigh on railways' margins.

What are the key risks around the baseline?

Affordability risks overriding inflation-led tariff increases. Affordability of tariffs is a strong social factor beyond the purely contractual/regulatory consideration for public service.

More severe recession. The negative impact on disposable income on air traffic, lower activity in transporting goods, and unemployment's impact on mass transit demand could hinder growth.

Worsening geopolitical tensions. An escalation of the Russia-Ukraine war or China-U.S. tensions could weigh on global trade, commodity prices, and consumer sentiment to travel.

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Cross-Sector Outlook

We expect most rated infrastructure issuers to pass through inflation into their tariffs

following their contractual or regulatory frameworks, which would likely be positive for their operating margins. This might not be the case for mass transit assets because of the social importance of affordability for citizens, as well as permanent loss of commuters after the implementation of hybrid and remote work arrangements accelerated by the pandemic.

The pandemic sparked structural changes that have affected mobility patterns, such as remote working or fewer business trips. Apart from Asia-Pacific (APAC), where China is reopening, we are not assuming assets will recover easily to 2019 levels if they haven't already.

Many private- and public-sector **infrastructure entities took advantage of lower interest rates and extended maturities, lowered debt-servicing costs, or, in some cases, deleveraged** in 2022. This has somewhat bolstered their capacity to withstand tough near-term economic prospects.

Industry Outlook: Airports

Ratings trends and outlook

The stable outlooks are driven by improving credit metrics and aeronautical rate increases or ongoing passenger recovery--with Asia-Pacific travel starting to pick up as well. Still, ratings on European airports are on average one or two notches below pre-pandemic levels, and most of them still carry a negative outlook or a CreditWatch negative placement. Rather than a sector view, this reflects the tight financial headroom resulting from the slow recovery over the past two years, coupled with margin pressure from high inflation and still-pending regulatory decisions on aeronautical caps.

Growth in passenger traffic volumes could decelerate in 2023, as disposable incomes and savings amassed over the pandemic diminish, inflation takes its toll, and high airfares continue (see table 1). These, together with increased geopolitical uncertainty, could influence consumers and companies. Also, business travel will likely remain substantially down affected by virtual meetings and cost savings. As recovery continues to vary across regions, a lot will depend on an individual airport's traffic mix between international and domestic-short-haul passengers.

Table 1

Airports Total Traffic Recovery In Different Regions (Passenger Volume)

Calendar year	U.S.	Canada	Europe	Asia-Pacific	India	Latin America
From 2019 baseline, %						
2022e	95	65-70	75-80	50-55	85-90	85
2023f	100	80-85	75-85	70-85	95-100	90-95
2024f	100	90-95	80-95	85-95	105-110	100

e--Estimate. f--Forecast. Source: S&P Global Ratings.

Prospects for **European** rated airports are better than 12 months ago as they benefit from pent-up demand. Traffic and bookings remain solid and point toward the recovery continuing at the start of 2023. Nevertheless, cost-of-living inflation (including the impact of Europe's power and gas crisis), continued high air fares, and rising interest rates are increasingly weighing on consumer confidence and disposable income. This could also affect travelers' spending at airports. Moreover, some regulated European airports are setting charge caps for the next

Industry Top Trends 2023: Transportation Infrastructure

regulatory period. Regulators aim to balance passenger volumes not returning to 2019 levels with the more challenging economic outlook and airports' affordability for passengers, and airports' ability to finance the capital expenditure requirements or debt refinancing. We also monitor closely how regulators and governments incorporate the Mobility Transition into their decarbonization plans. Recently, France approved a ban on short-haul routes between Paris Orly airport and three French cities that can be done through rail travel in 2.5 hours, while the Netherlands imposed a cap on flight movements to Schiphol airport. Furthermore, the EU's Emissions Trading System proposes to phase out free allowances for airlines--starting with 25% reduction in 2024, increasing to 50% in 2025 and 100% in 2026--which could significantly increase the costs of the scheme and push ticket prices up further. Under current economic prospects, European airports are more likely to keep focusing their investment plans on maintenance rather than expansion. We expect airports to consolidate the recovery of their operational capabilities throughout 2023, which will allow them to fully benefit from the recovery and avoid the difficulties some airports faced, particularly related to border security and luggage handling.

In the **U.S.**, the aviation sector and public transit providers received a combined \$170 billion in federal COVID-19 operating assistance. As many airports have used their respective share of this assistance, we have raised 75% of U.S. public airport ratings to or above their pre-pandemic level, and 19% of senior-lien ratings have a positive outlook as airports expect to spend their remaining federal assistance by 2024. Without substantive federal support, Canadian airport authorities raised aeronautical rates, which only now are positively affecting coverage and debt metrics as passenger volumes recover. As a result, barring significant rate reductions and if current passenger trends continue, outlooks and ratings could improve in the next 12-24 months (For more information, see "[U.S. Transportation Infrastructure Airport Update And Medians: Sector View Is Now Stable After Historic Disruption](#)," published Dec. 8, 2022).

In **Asia Pacific**, rated airports in Hong Kong and Incheon, South Korea, will see accelerating traffic recovery in 2023, as travel restrictions are removed and COVID-related disruptions subside. In the case of Hong Kong International Airport (HKIA), looser cross-border restrictions by mainland China will be a key accelerator as the Greater China market (including Taiwan) represented about 30% of pre-COVID passenger volume, with a substantial portion being transfers and transits. We estimate passenger traffic will recover to 60%-70% of pre-pandemic levels in 2023 and 80%-90% in 2024.

Australian and New Zealand airports are performing to our expectations so far in fiscal 2023 (ending June 30): 75%-90% of pre-pandemic traffic for domestic and 50%-70% for international, although some airports might outperform our assumptions. As airlines have increased capacity steadily and despite the high fares to date, travel demand has been strong. We expect a further increase in airline capacities and reduction in airfares, which could keep demand going over the next 6-8 months. Nevertheless, consumer spending and the impact of inflation are unpredictable risks. Consumers have shown strong propensity to spend recently with pandemic-era savings; it is unclear if this will continue affecting travel spending. On the other hand, the recent opening of the Chinese market could also boost travel across the region depending on testing requirements and demand over the next 6-12 months.

In **Latin America**, overall passenger recovery was about 85% of 2019 levels in 2022, with 80% in Brazil lagging full recovery in Mexico and the Caribbean, boosted by domestic and short-haul demand to and from the US. This supported improvements in airports' stand-alone credit profiles and stable outlooks. We believe the recovery could be softened by inflation and a recession in the region, as disposable income is historically more volatile in Latin American countries than in the U.S., for example--offsetting customers' willingness to travel. As a result, we expect a relative flat recovery of 90%-95% of 2019 levels for 2023 in the region.

Main assumptions about 2023 and beyond

1. On average, the U.S. will enjoy stronger recovery with APAC lagging

As disposable incomes diminish and airfares continue to be expensive, consumers may reconsider their travel plans, which together with still-lagging business travel volumes, could decelerate airports' growth. Overall, competitive domestic airports and those with high short-haul traffic volumes should continue to outperform those that depend more on long-haul and business traffic.

2. Revenue's recovery will continue varying, especially among regions

The pace will depend on the consumer confidence and disposable income in each region and passengers that are travelling to visit friends and relatives, those travelling for leisure, origin and destination (O&D), and short-haul traffic shall remain the primary driver of volume growth. Non-aeronautical revenues (like retail and car parking) will be linked to passenger volume growth, and should face more difficulties to recover given the prospects of recession

Credit metrics and financial policy

The recovery of airports' profitability to pre-pandemic levels rely not only on higher passenger volumes, but the ability to increase charge caps to offset higher operating expense. Airports issued debt in 2020 and 2021 to fund their cash burns, so we don't expect credit metrics to return to pre-pandemic levels in the next two years.

Airports are facing higher interest costs on refinancing or new debt. If this is not adequately captured under regulatory frameworks, such that costs of capital are properly remunerated, credit metrics could weaken. Investment plans and timing flexibility for execution will also play an important role in airports' cash outflows. Many airports deferred investment at the pandemic's start. Those with investment plans more focused on airport maintenance rather than expansion should generally have greater financial flexibility, while those with a less flexible time horizon to deliver on investment committed during the regulatory period will be under greater pressure.

Key risks or opportunities around the baseline

1. Ramp-up of airline capacity

Our base-case scenario includes the expectation that airlines will deploy more capacity and ticket prices might soften as they seek to fill seats, which might be at risk depending on economic conditions, and as airlines' yield management could result in lesser capacity. The slow return of business travelers and high ticket prices could also dampen recovery.

2. Regulatory stability remains a key issue to watch for many of our rated European airports

We expect airports operating under regulations that allow the pass-through of inflation via higher tariffs will be better placed to withstand macroeconomic headwinds, allowing airports to maintain their operating margins. However, with high inflation, regulators are under more pressure to reconcile airports' affordability with their financial ability to cover investment.

3. New coronavirus variants and geopolitical events

Waves of COVID resurgence could also somewhat disrupt the recovery, even if China seems to have permanently loosened travel restrictions. Last year, China's strict lockdowns caused passenger volume to slump by about 40% year over year from January-October 2022, following a small recovery of 6% in 2021 (and a 37% decline in 2020). Finally, a worsening of the Russia-Ukraine war or other geopolitical events could affect international travel.

Ratings Trends: Airports

Chart 1
Ratings distribution

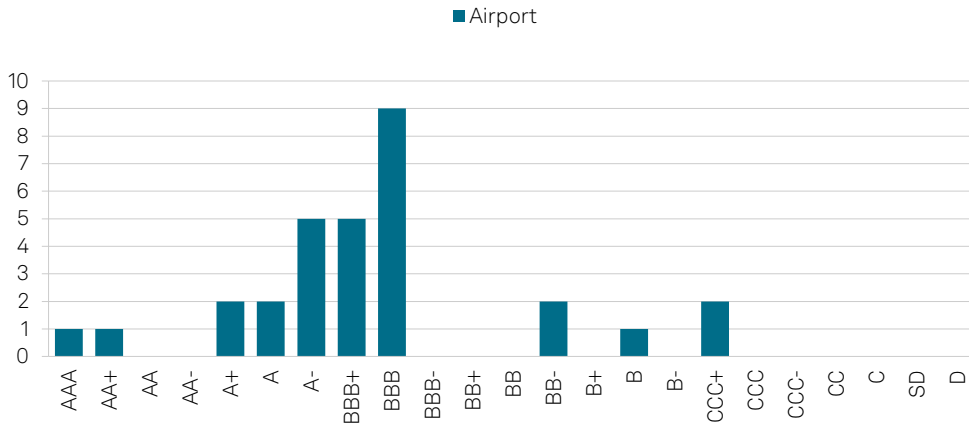


Chart 2
Ratings outlooks

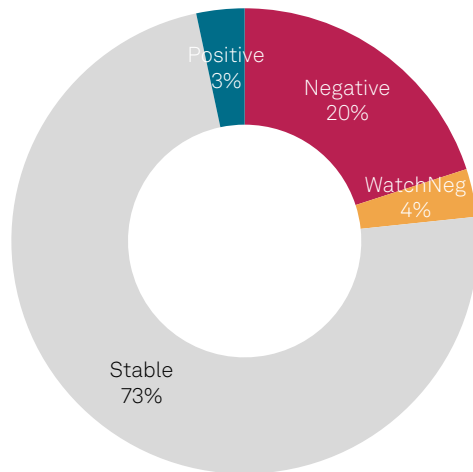
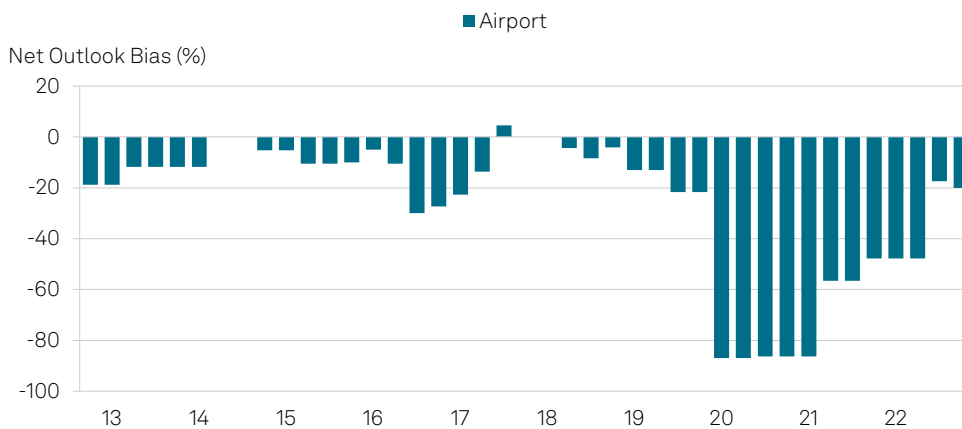


Chart 3
Ratings outlook net bias



Source: S&P Global Ratings. Ratings data measured at quarter-end.

Industry Credit Metrics: Airports

Chart 4
Debt / EBITDA (median, adjusted)

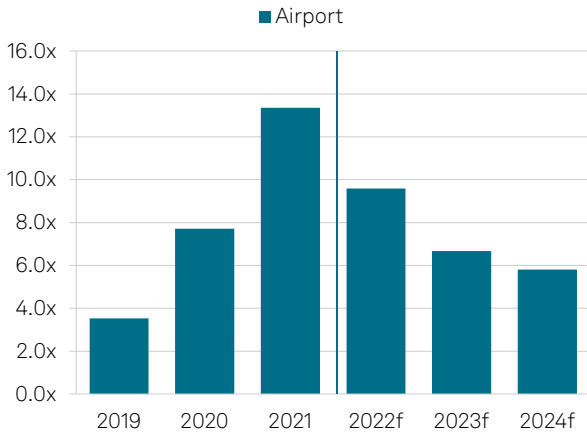


Chart 5
FFO / Debt (median, adjusted)

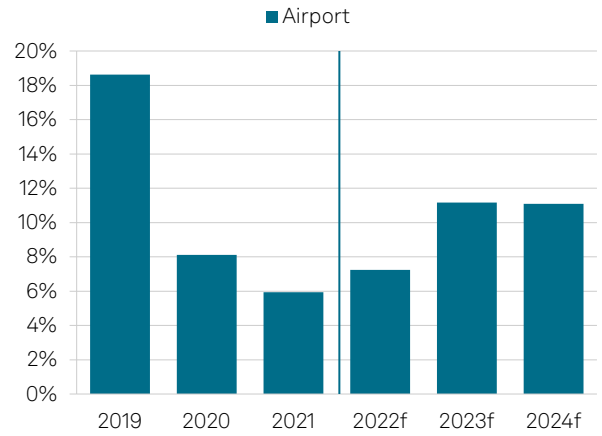


Chart 6
Cash flow and primary uses

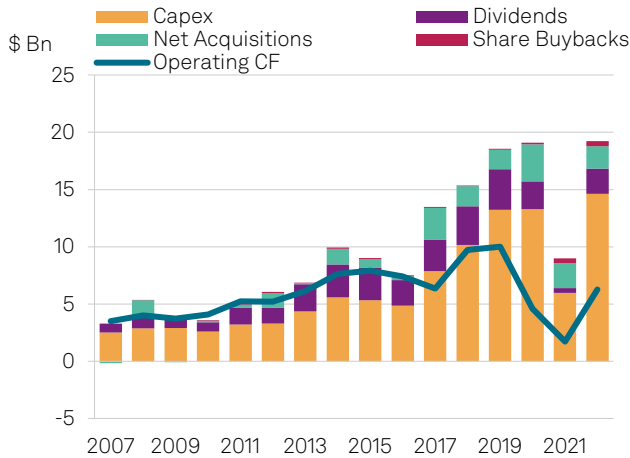
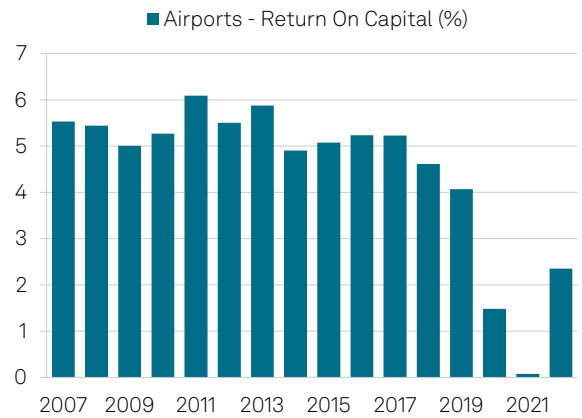


Chart 7
Return on capital employed



Source: S&P Global Ratings, S&P Capital IQ.
Revenue growth shows local currency growth weighted by prior-year common-currency revenue share. All other figures are converted into U.S. dollars using historic exchange rates. Forecasts are converted at the last financial year-end spot rate. FFO—Funds from operations. Most recent (2022) figures for cash flow and primary uses and return on capital employed use the last 12 months' data.

Industry Outlook: Ports

Ratings trends and outlook

The generally stable outlooks are underpinned by port operators' satisfactory business resilience, sufficient credit buffers, and good financing access. This offsets subsiding global trade momentum weighing on throughput given a global economic slowdown, U.S.-China trade tensions, and high energy prices and inflation.

Main assumptions about 2023 and beyond

1. Global trade downward cycle could encumber throughput

In 2023, China's port throughput growth is likely to decelerate from 2022. The global economic slowdown and subsiding overseas demand will be the primary factors. Global growth is likely to decelerate in 2023 under tight monetary policy and financing conditions. China's major trading partners, the U.S. and Europe, are tackling elevated inventory level and likely upcoming recessions. These could further hit China's export in the next couple of years.

In **China**, volumes are under pressure, mainly due to the global economic slowdown and subsiding overseas demand. Major trading partners, namely the U.S. and Europe, are tackling elevated inventory levels and likely upcoming recessions. The removal of COVID-19 restrictions in China should boost domestic demand for throughput, as production and logistics recover gradually. For the first 11 months of 2022, Chinese container throughput growth was resilient (4.2%), even against flattish total cargo throughput and a 2.5% drop in foreign trade cargo throughput. As for rates, the China Containerized Freight Index dropped by 50% from February-December 2022, indicating that freight market is stabilizing. Still, we do not expect freight rates to decline to pre-pandemic levels as the previous two years' inflation have been priced into future freight rates. During the pandemic, most port operators benefited from high freight rates to absorb higher operations costs. However, demand stabilization will likely lead them to reevaluate shipping rates upward based on current inflation and interest rates. The continued policy-driven consolidation of port assets will help enhance the overall efficiency of port operations and port asset use.

The **Australian** port sector should emerge resilient despite some softening in volumes. Container and car volumes are likely to support overall trade volumes, as also increases in fuel transport. Earnings stability also comes from a relatively large proportion of port-related property assets that contribute 25%-45% of income. Flexibility on capital outlay and long-term debt structure reduces financing risk.

In **Europe**, we expect that volumes at risk in relation to the Russia-Ukraine conflict for essential commodities such as agribulk will be sourced from alternative markets. Commodities such as coal, steel and wood products could experience a slowdown in demand from 2023 onward, while essential commodities such as sugar and agribulk should remain more resilient. Therefore, ports with a diversified commodity exposure will compete better.

Many **North American** ports continued with record levels of containers and cargo imports in 2022. The rapid growth of import volumes in recent months is slowing, likely due to the increasing likelihood of a recession in 2023. The largest categories of U.S. imports and exports in terms of value include oil, gas, liquefied natural gas (LNG), and passenger vehicles, which are exposed to market volatility. The key near-term challenge for U.S. and Canadian ports will be managing economic, trade policy, supply chain, and labor issues for U.S. West Coast ports. The logistical

Industry Top Trends 2023: Transportation Infrastructure

bottlenecks that the ports of Los Angeles and Long Beach have been since 2020 will likely revert to lower, more typical operations in 2023. However, backlogs and uncertainty related to possible labor issues could accelerate the shift of import container traffic from the West Coast to the East Coast. Ports are inherently exposed to volatility due to normal business and economic cycles but benefit from very strong enterprise risk profiles and exhibit strong financial metrics--particularly debt service coverage and low debt levels (see "[U.S. Transportation Infrastructure Port Sector Update And Medians: Ports Are Resilient In Shifting Tides](#)," published Dec. 13, 2022).

Similarly, **Latin America's** record level of containers and general cargo in 2022 was boosted by exports of agricultural, proteins, and pulp and paper, while imports of agricultural machinery boosted volumes. 2023 imports could be weaker given reduced 0.7% GDP growth, while we continue to expect exports to sustain the majority of volumes handled in the region.

Key risks or opportunities around the baseline

1. Drastic slowdown of global trade demand growth

S&P Global Ratings forecasts global real GDP growth to drop to 2.2% in 2023, from 3.4% in 2022, with stagnation or recessions in Europe and the U.S.

2. Prolonged recovery of production and logistics bottlenecks

Disruptions in the global supply chain should ease with China's policy to lockdowns loosening. A new wave of COVID-19 and strict lockdown measures is therefore seen as more unlikely, although still highly disruptive. A more protracted recovery could negatively influence global trade volumes.

3. Trade disputes, security of supply, and environmental trends toward deglobalization

An escalation of U.S.-China tensions over Taiwan could be damaging to global economics and trade, with some companies reconfiguring supply chains. Long-term trends to increase security of supply and decarbonization may also lead to more localized production.

Industry Credit Metrics: Ports

Chart 11

Debt / EBITDA (median, adjusted)

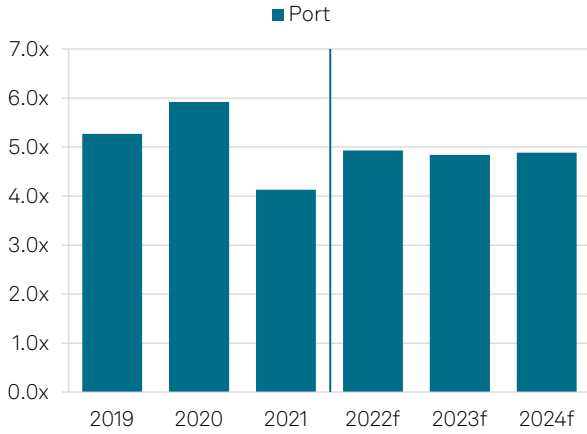


Chart 12

FFO / Debt (median, adjusted)

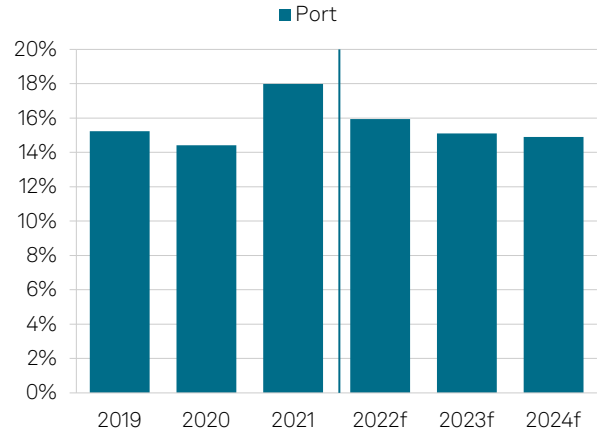


Chart 13

Cash flow and primary uses

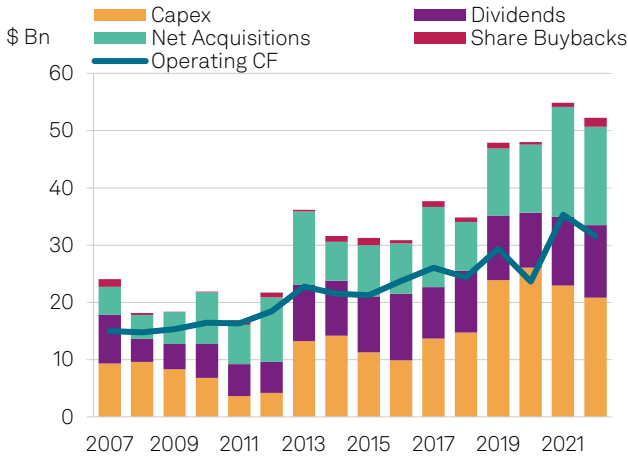
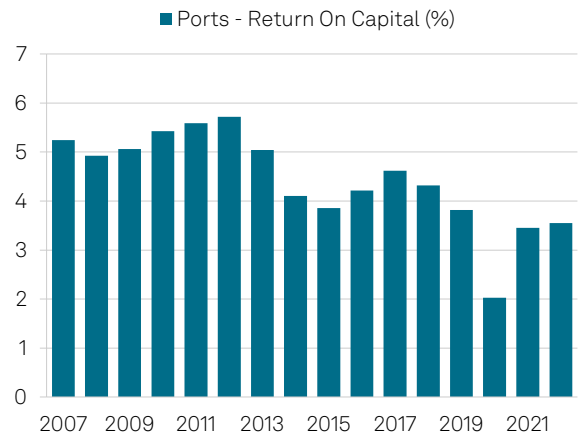


Chart 14

Return on capital employed



Source: S&P Global Ratings, S&P Capital IQ.

Revenue growth shows local currency growth weighted by prior-year common-currency revenue share. All other figures are converted into U.S. dollars using historic exchange rates. Forecasts are converted at the last financial year-end spot rate. FFO—Funds from operations. Most recent (2022) figures for cash flow and primary uses and return on capital employed use the last 12 months' data.

Industry Outlook: Roads

Ratings trends and outlook

The overall sector outlook is stable, as roads were relatively resilient assets to the pandemic, and volumes have fully recovered to or above pre-pandemic levels in most countries. We expect China's traffic demand to recover rapidly after the removal of COVID-19 restrictions in January 2023.

Revenue performance will also depend on operators' ability to increase tariffs in line with inflation, as usually included under the contractual concession framework. We anticipate social pressure on affordability could lead some governments to resist higher tariffs, even if historically regulators have approved tariff increase with a link to inflation, or compensated operators to alleviate pressure on consumers. Therefore, we do not expect contractual terms to be broken.

Main assumptions about 2023 and beyond

1. 2023 toll revenue to be boosted by toll tariffs increase in line with inflation

This reflects contractual frameworks that generally include inflation-linked indexation among rated issuers. So far governments have generally allowed tariff increases in line with inflation, or enacted mechanisms enacted to mitigate stress on consumers, as in Spain, Brazil, and Chile.

2. Prospect of recession could slow traffic growth

We expect the prospect of recession in many regions, persistent inflation, and less disposable income could flatten traffic momentum in 2023. Heavy traffic, in particular, is generally closely linked to economic activities, and usually contributes with higher margins. Traffic could also be flattened by increasing fuel costs and consolidation of working-from-home practices.

3. Investment will depend on asset maturity and is exposed to inflation and supply chain risk

We expect increased raw material costs to translate into increased capex for toll road operators, particularly for companies due to execute large investments under their concessions and with no fixed-price contracts. As a result, operating margins will be under pressure.

In **Europe**, the outlooks on rated operators are generally stable, reflecting headroom in their financial metrics and our expectation that tariff increase mitigates traffic risk. The outlooks on car park operators are generally positive and it signals the path to recovery to pre-pandemic metrics. Heavy traffic volumes are more exposed to the economic downturn, bearing in mind they usually contribute with higher tariffs--for example, it represents 15%-30% of total traffic but contributes to 25%-40% of toll road operators' revenue. Nevertheless, we expect French toll road operators entering the last 10 years of their concessions to progressively reduce leverage on their balance sheet, repaying debt by the concession's end. The need for related asset replacement continues to stimulate acquisition appetite at their parent companies, such as Abertis and Vinci.

In Europe, tariff relief programs may be created, such as in Spain on the concessions awarded by the central government, where the total increase (8.4%) will be only partially applied to final consumers (4.0% in 2023), while the grantor will assume the remaining from 2023-2026. For assets under regulated base schemes, such as in Italy, the tariff might not be increase in line with inflation, because it is reset every five years.

Industry Top Trends 2023: Transportation Infrastructure

In the **U.S.**, given that public-private-partnership (P3) concession agreements typically allow inflation-linked tariff increases, we expect most rated volume-exposed P3 road projects to see material top-line growth, because we anticipate a largely inelastic reaction even in a moderately weaker travel environment. In the U.S. many public-sector road and bridge operators have implemented tariff increases since 2001. However, those with CPI-linked toll-setting policies may not increase to maximum rates because of affordability issues. During the great recession, toll roads demonstrated resilience even in cases with large tariff increases. For example, in **Canada**, 407 ETR's traffic declined 1.7% in 2009 but toll revenue still increased by 2.5% from an 8.1% rise in toll rates.

We expect persistent, high inflation to accelerate a shift in risk sharing following several large cost overruns on fixed-price contracts. A shortage of labor, or significant price increases of materials or equipment that cannot be hedged, affected contracts' profitability and weakened construction contractors' or subcontractors' creditworthiness. Megaprojects are being procured under new approaches, such as progressive design-build predevelopment agreements, and alliance contracts, along with traditional P3s. While these contracts can lower risks for contractors, they can increase credit risk for projects. For example, the construction risk transfer on recent mega airport P3s was weaker than for a traditional full date and price-certain engineering, procurement, and construct contract. We have also seen shifts in risk transfer between the public and private sector, with the former retaining greater risk, particularly during the construction period. For example, the Ontario Line subway P3 in Toronto included protection against a material increase in inflation, which somewhat mitigated inflation price risk for P3 bidders. The recent extreme spikes in inflation will accelerate this change, notably if higher inflation persists. On the other hand, prospects for a recession and rapid acceleration of construction costs and interest rates could be a disincentive for state and local governments to invest in capital projects. Bearing in mind that project debt is recognized on the balance sheet by public entities for availability based projects, we could also see a shift to more volume-exposed projects, since these are not accounted for on the balance sheet. For example, Georgia's SR400 project is now being procured as a volume- and revenue-risk P3 after availability-based P3 bids were much higher than anticipated.

With respect to U.S. not-for-profit toll road ratings, the outlooks largely remain stable given the almost-complete rebound in traffic during 2022 supported by continued commercial vehicle traffic and toll rate increases from many operators. Of the 15 largest U.S. toll-backed issuers as measured by debt outstanding, 12 raised toll rates since January 2020, which in some instances compensated for weaker passenger vehicle traffic. We expect the recovery in traffic and revenue to be accompanied by increased operations and maintenance expense and a return to capital program spending to expand capacity and continue the conversion to all-electronic toll collection, which accelerated in 2020-2021 (see "[U.S. Transportation Infrastructure Toll Sector Update And Medians: Rebounding Traffic And Toll Increases Are Key Ingredients For Credit Strength And Stability](#)," published Nov. 17, 2022).

Our revised baseline activity estimates that U.S. parking operators face the longest recovery compared with other U.S. transportation subsectors, reaching 85% in 2023, with activity potentially returning to or near pre-pandemic levels in fourth-quarter 2025 for most parking operators (95% for full-year 2025).

In **China**, we are likely to see robust traffic recovery (from lows in 2022 with severe lockdowns) in 2023, resulting from economic rebound in 2023 following recent removal of stringent COVID restrictions. Infrastructure spending is likely to stay high as China enters 2023, with momentum prevailing before the economy truly stabilizes. Policy-driven toll-road expansions are largely debt-funded--nearly 70% of investment is financed by debt. Per China's 14th Five-Year-Plan

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(ending 2025), the compounded annual growth rate of highway operational mileage will dip to about 3.0% in 2021-2025, well below 5.5% in 2016-2020 and nearly 10% in 2011-2015.

Given the economic headwinds, regulators in China have few incentives to raise highway tariffs significantly, despite waning investment returns. The impact of ad-hoc toll fee waivers (such as the 10% discount on truck fees in fourth-quarter 2022) will be smaller as the economy rebounds later in 2023. The rapid lockdown relaxation should eventually mean stronger economic activity later in 2023, but the effect is likely to be modest in the first several months. Assuming economic activities are mostly back to normal in second-quarter 2023, it is highly likely that toll revenue in 2023 can exceed 2021 levels, as severe lockdowns negatively affected 2022 results.

Australia's over 7% inflation is pressuring toll fares, which are under scrutiny of policymakers due to the high increases allowed under the concession contracts. This could push users to avoid toll roads under prolonged inflation, affecting volumes for the next two years.

In **Latin America**, our outlook for toll roads is stable with most of the rated portfolio has seen volumes recovered to pre-pandemic levels or above, as transport of goods remains essential, also considering the fact that roads is the main transportation mean for goods in the region. We expect real traffic growth elasticity of 1x-2x GDP growth--lower than the historical 3x-4x, considering lower economic activity and the impact of higher tariffs in 2023 across the region. There is high potential risk of government intervention on tariffs (given the track record in Brazil and Chile), which have received tariff adjustments by inflation according to its contracts, vis-a-vis history of protests to toll roads tariffs adjustments in the region.

Credit metrics and financial policy

Credit metrics in 2023 will recover moderately from 2022 when average reductions of about 200 basis points in FFO-to-debt ratios are likely for most Chinese issuers mainly affected by COVID lockdowns. Operators more exposed to light traffic (versus trucks) could lose more operating cash flow. Still, the credit buffer is largely adequate.

Capital expenditure growth might ease but continued investment could push debt up, particularly in regions with large and key projects.

In Europe, we anticipate metrics will remain solid in 2023, supported by inflation-linked tariffs. We expect mature concessionaires such as rated French operators to progressively reduce leverage on their balance sheet as concessions are due within the next 10 years. At the same time, we expect operators due to deliver large investment plan such as Italian operator Autostrade per l'Italia to maintain negative discretionary cash flow, depending on timeline of investment and financial policy. We expect dividend distributions to remain high in Europe, on average calibrated in line with the previous year's net income.

Many private- and public-sector infrastructure entities took advantage of lower interest rates and extended their maturities, lowered debt-servicing costs, or, in some cases, deleveraged. Only about 6% of the North American transportation infrastructure projects' bullet debt maturities are coming due over the next two years. With material revenue growth, the project's debt service coverage ratios will increase materially, so we expect some toll road operators could raise leverage to make distributions and maintain their credit metrics in line with the rating.

We do not forecast large refinancing needs for roads operators in Latin America, as most operators performed liability management programs to both lower the cost of debt and extend tenor back in 2021 when market financial conditions were favorable. In addition, over 70% of debt of toll roads debt operators in Brazil, Chile, and Mexico are either fixed-rate or indexed to inflation, so we do not forecast debt service pressure from higher interest rates.

Key risks or opportunities around the baseline

1. Concession maturities in Europe require asset deleveraging and acquisition opportunities

In Europe, mature assets need to prepare reducing their leverage as their concession tail shortens (2032-2036), which could decrease dividends. As a result, global operators with large subsidiaries exposed to concession maturities continue to seek for acquisition opportunities to replenish cash flow, in a context of increasing cost of funding and expensive asset prices.

2. Electrification and governments decarbonization targets might offer opportunities

Potential opportunities from electrification and decarbonization targets set by governments could result in investment opportunities for toll road operators. Nevertheless, we do not integrate these projects or related compensations into our base-case scenario because of the lack of visibility and because we expect potential extensions to be limited.

Ratings Trends: Roads

Chart 15

Ratings distribution

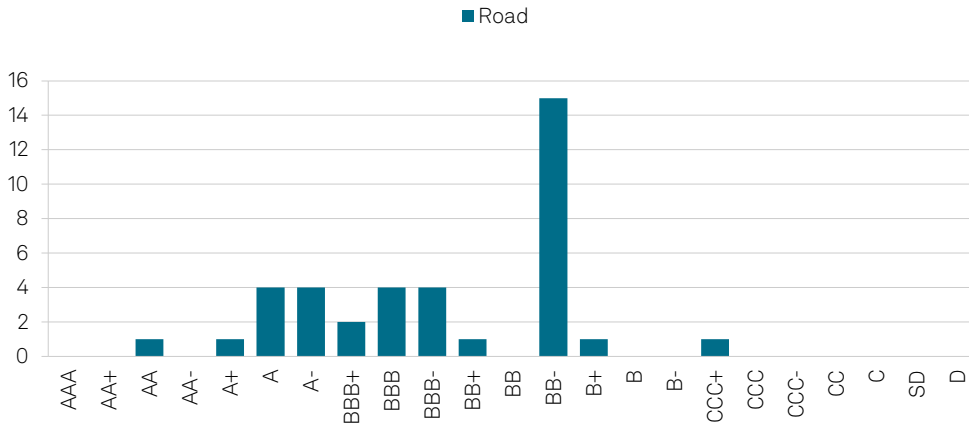


Chart 16

Ratings outlooks

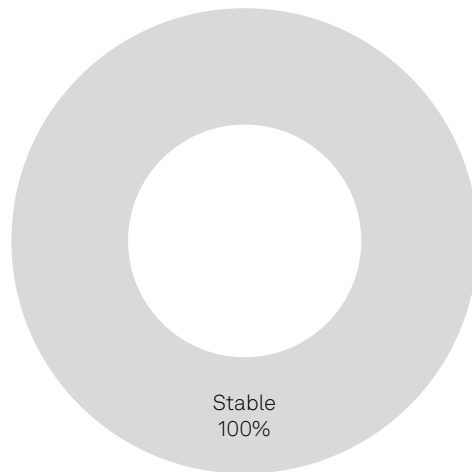
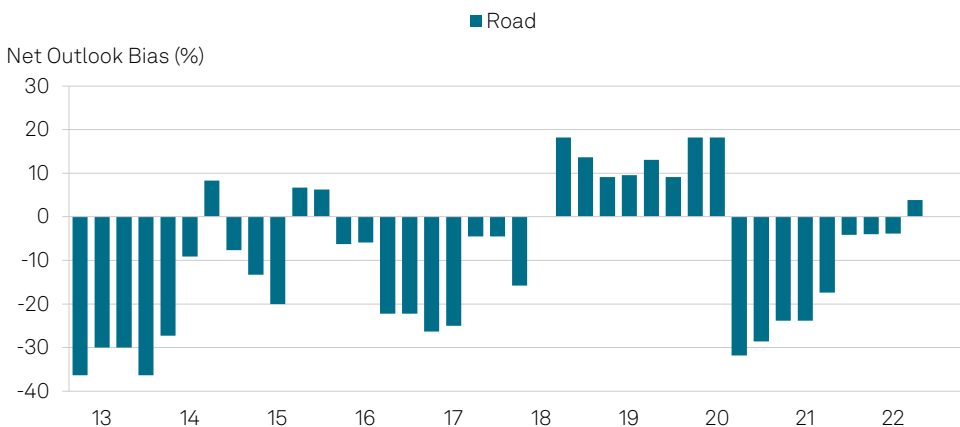


Chart 17

Ratings outlook net bias



Source: S&P Global Ratings. Ratings data measured at quarter-end.

Industry Credit Metrics: Roads

Chart 18
Debt / EBITDA (median, adjusted)

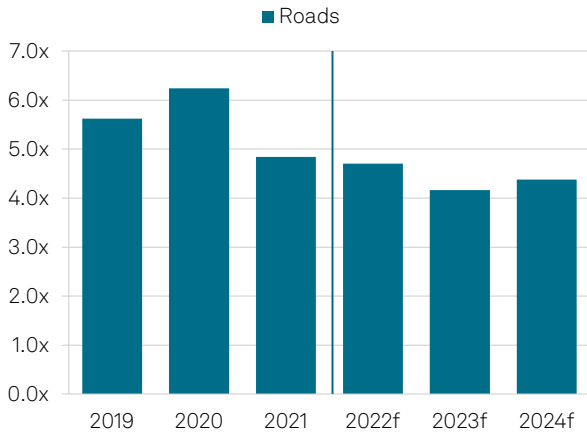


Chart 19
FFO / Debt (median, adjusted)

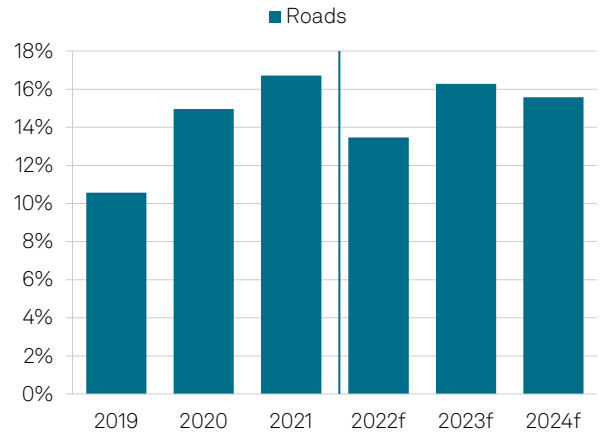


Chart 20
Cash flow and primary uses

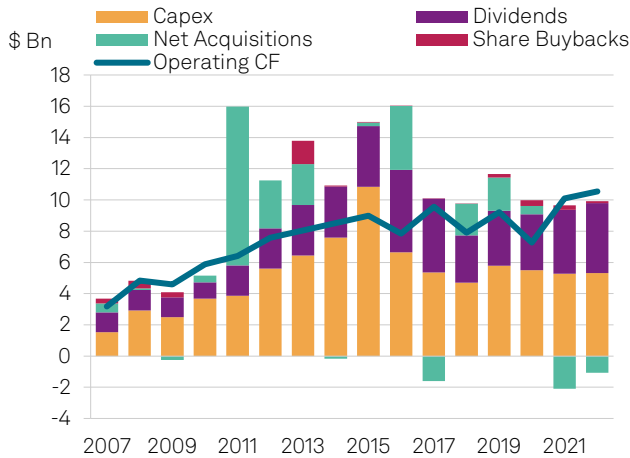
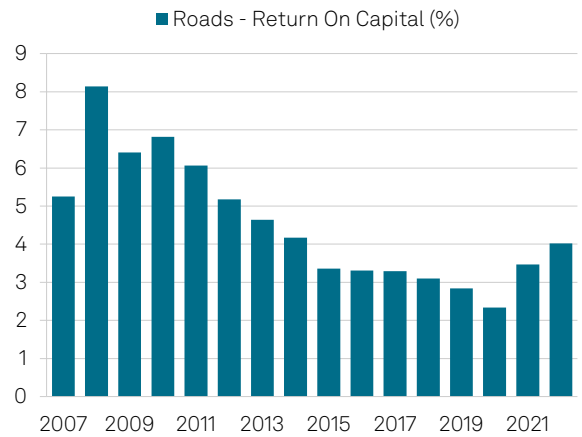


Chart 21
Return on capital employed



Source: S&P Global Ratings, S&P Capital IQ. Revenue growth shows local currency growth weighted by prior-year common-currency revenue share. All other figures are converted into U.S. dollars using historic exchange rates. Forecasts are converted at the last financial year-end spot rate. FFO—Funds from operations. Most recent (2022) figures for cash flow and primary uses and return on capital employed use the last 12 months' data.

Industry Outlook: Railways And Mass Transit

Full-year 2022 volume are 60%-70% of 2019 levels, as permanent loss from hybrid and remote work arrangements, and a portion of commuters still concerned with health and safety switch to roads from trains and public transportation. Starting from the new baseline, we forecast organic growth aligned with historical averages. Alongside toll roads, affordability concerns could hinder the ability to pass-through inflation and utilities' costs to end users' tariffs, as governments could use it as a countercyclical measure to alleviate social unrest.

Main assumptions about 2023 and beyond

1. Organic growth from 2022 baseline.

Organic growth pattern should drive demand for rail & mass transit, aligned with historical average for each region, as we don't forecast full recovery from pre-pandemic level for most of the countries - except Europe.

2. Operating margins with cost pressure.

Railway companies will see significant pressure on margins given their sensitivity to higher power prices and lesser ability to raise tariffs.

In **Asia Pacific**, China's mass transit passenger volume will catch up in 2023, following the removal COVID restrictions. Due to the severe lockdowns in 2022, China's urban mass transit passenger volume dropped 18% from 2021, when volume largely resumed to pre-COVID levels-- but we do not expect volume to hit the pre-COVID-19 levels due to commuting patterns. Constrained by affordability consideration, tariff increase (if any) will be marginal and the financial impact limited.

An exception to global trend, we believe some **European** railway companies could reach pre-pandemic numbers in 2023, consolidating the recovery of transported passenger levels in 2022 of 75%-90% of 2019's levels for the rated portfolio. The key watch points for European rail include not only how well passenger volumes will recover, but also the impact of high inflation on salaries and the soaring cost of energy in Europe, both accounting for 50% and 10%, respectively, of operating expense for rated issuers. Railway companies can pass through inflation into their market-based services, such as high-speed railway aiming to compensate the increase in costs. However, most of their services in Europe relate to generally loss-making public interest transportation services, which could limit price increases because of its social nature and the capacity of companies to pass-through of inflation into their revenue. This would in turn, increase their reliance on government support to cover deficits. Positively, rail's lower greenhouse gas emissions compared with other forms of transportation positions the sector well to benefit from the mobility transition and European countries' efforts to lower dependence on fossil fuels.

The recovery in public mass transit will continue to materially lag all other **U.S.** transportation infrastructure asset classes due to a slow or partial return to office commuting patterns. The prospect of a continued or permanent shift by some workers to remote or hybrid work arrangements and continued growth in online shopping could, in our opinion, limit the recovery in transit ridership. Our revised baseline activity estimate for transit shows 80% by 2025 and 85% by 2026.

In **Latin America**, where affordability is a key factor, we will monitor the impact of contracted inflation adjustments in each concession contract, as the region has a history of protests to tariff increases that weighs on the household budget of an already-low income levels for most of the

region's population. Traffic volume in 2022 recovered to 65%-70% of 2019 levels, and we estimate this will reach 80%-85% in 2023 considering the permanent loss of some passengers.

Key risks or opportunities around the baseline

1. Affordability concerns could override inflation-led tariff increases.

Generally, mass transit and rail assets perform well as inflation rises, since they can recoup higher costs by raising tariffs under their contractual or regulatory frameworks. Yet, when inflation is exceptionally high and prolonged amid a weaker economic environment, passing on higher costs could give rise to social opposition and political intervention related to affordability concerns.

2. Mobility transition

Regulatory measures are expected to continue to pick up pace in countries across Europe, such as the banning of very short-distance flights, and the push to increase use of railways as a more environmentally friendly mode of transport. Also outside Europe, it will remain to be seen how decarbonization efforts could boost rail new investments.

Ratings Trends: Railways And Mass Transit

Chart 22

Ratings distribution

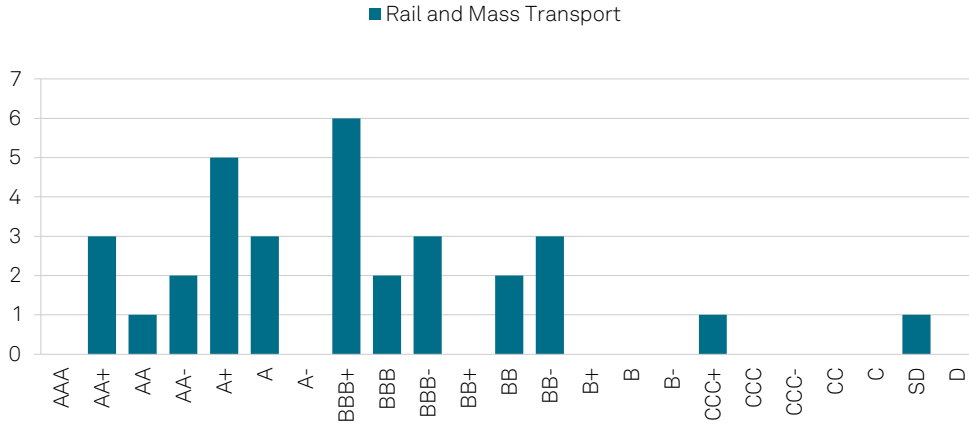


Chart 23

Ratings outlooks

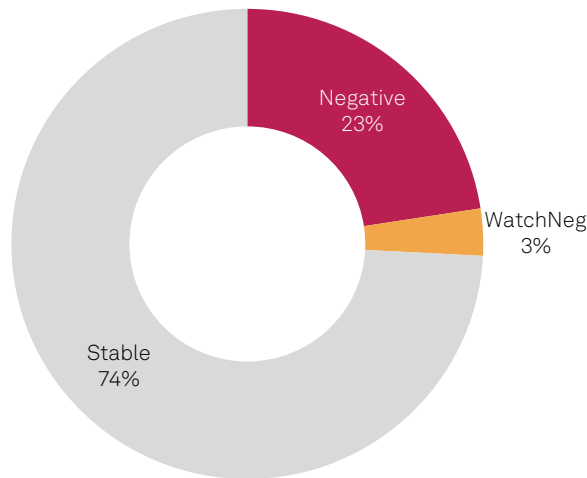
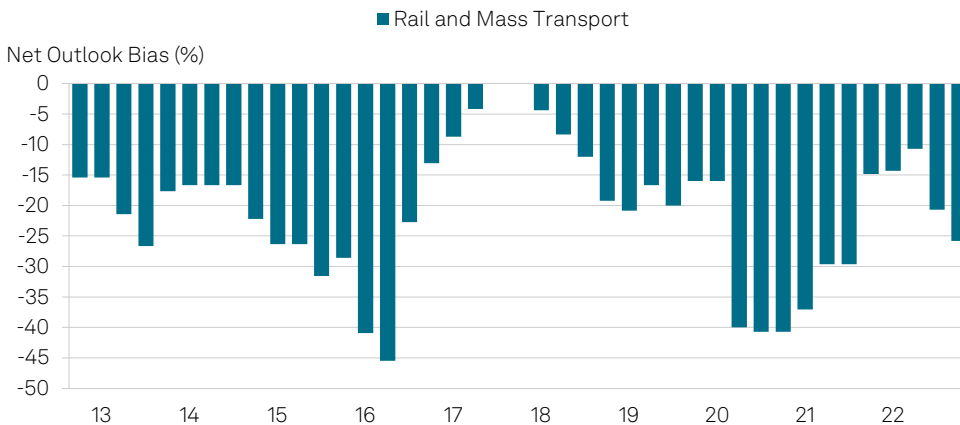


Chart 24

Ratings outlook net bias



Source: S&P Global Ratings. Ratings data measured at quarter-end.

Industry Credit Metrics: Railways And Mass Transit

Chart 25

Debt / EBITDA (median, adjusted)

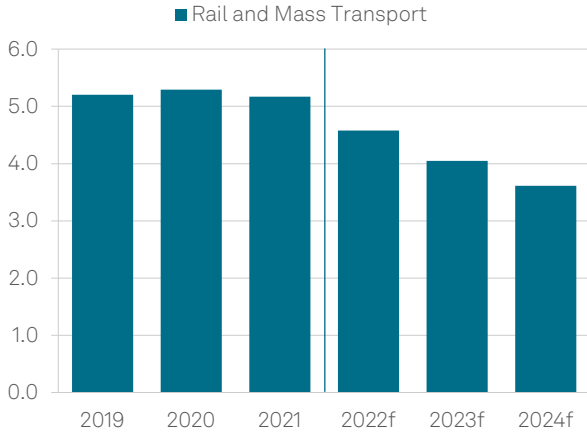


Chart 26

FFO / Debt (median, adjusted)

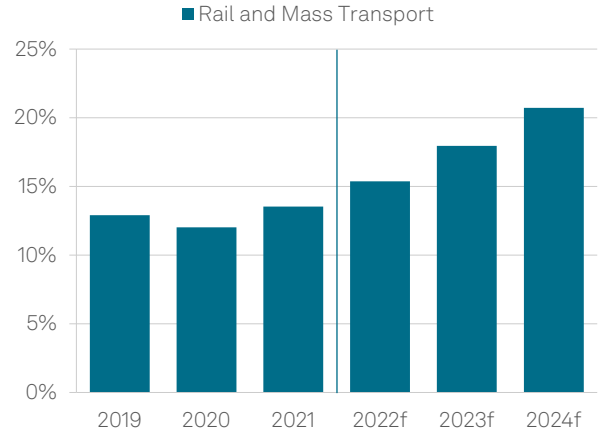


Chart 27

Cash flow and primary uses

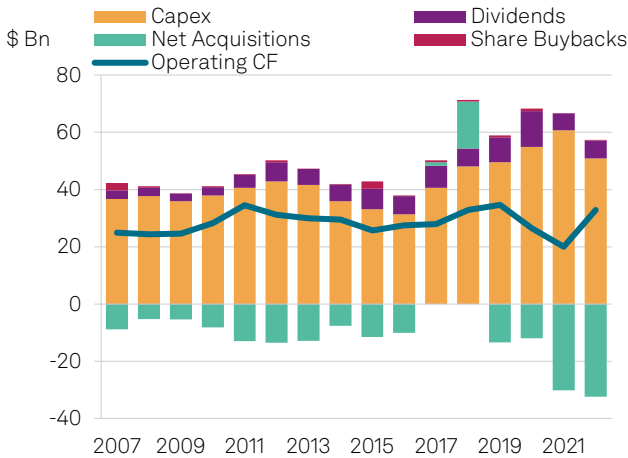
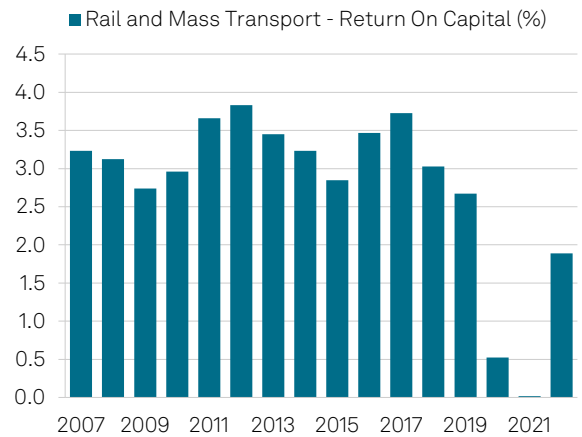


Chart 28

Return on capital employed



Source: S&P Global Ratings, S&P Capital IQ.

Revenue growth shows local currency growth weighted by prior-year common-currency revenue share. All other figures are converted into U.S. dollars using historic exchange rates. Forecasts are converted at the last financial year-end spot rate. FFO—Funds from operations. Most recent (2022) figures for cash flow and primary uses and return on capital employed use the last 12 months' data.

Related Research

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- [China's COVID Wave: Q1 2023 Will Be Critical](#), Dec. 22, 2022
- [Airport Authority HK 'AA+' Rating Affirmed. Outlook Stable; SACP Revised Up To 'bbb+' On Likely Faster Traffic Recovery](#), Dec. 20, 2022
- [U.S. Transportation Infrastructure Airport Update And Medians: Sector View Is Now Stable After Historic Disruption](#), Dec. 8, 2022
- [Saudi Arabia's Vision 2030: Some Likely Winners](#), Dec. 5, 2022
- [Chinese Toll Roads--Tariff Increases Far From Keeping Pace With Costs](#), Nov. 29, 2022
- [Inflation And Rising Yields: N.A. Transport Infra: Essentiality Outweighs Affordability As Counterparty Risks Loom](#), Nov. 29, 2022
- [European Rail Looks To Ride The Energy Transition](#), Nov. 28, 2022
- [Inflation And Rising Yields: EMEA Infrastructure: Well Positioned To Pass On Higher Costs Through Tariffs](#), Nov. 23, 2022
- [Inflation Pass-Through Poses Greater Risks For LatAm Toll Roads And Mass Transit Than For Utilities, Airports, And Ports](#), Nov. 22, 2022
- [Europe's Remarkable Air Passenger Traffic Recovery Faces A Trickier 2023](#), Nov. 21, 2022
- [U.S. Transportation Infrastructure Toll Sector Update And Medians: Rebounding Traffic And Toll Increases Are Key Ingredients For Credit Strength And Stability](#), Nov. 17, 2022
- [Industry Report Card: Global Toll Road Industry](#), Oct. 11, 2022
- [Concession Expiry Clock Is Ticking For China's Listed Toll Road Operators](#), Oct. 10, 2022
- [Australian And New Zealand Airports Plot A Cautious Path To Recovery](#), Aug. 2, 2022

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