

## Aerospace and Defense

Commercial aerospace gains altitude, but risk of turbulence remains

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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

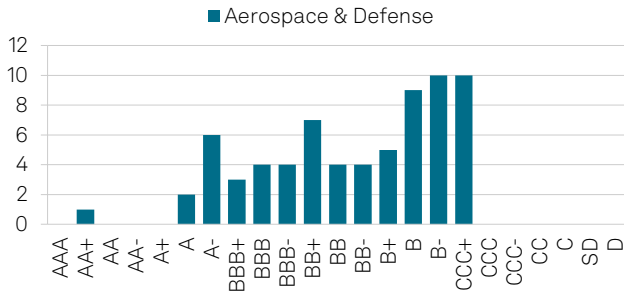


Chart 2  
Ratings distribution by region

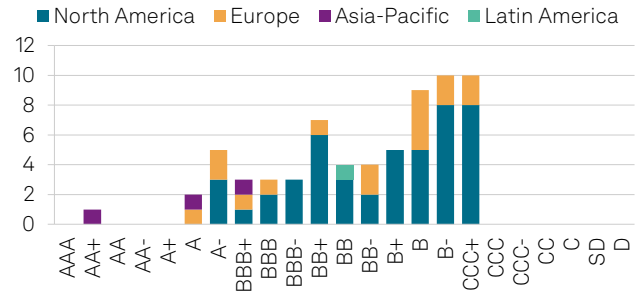


Chart 3  
Ratings outlooks

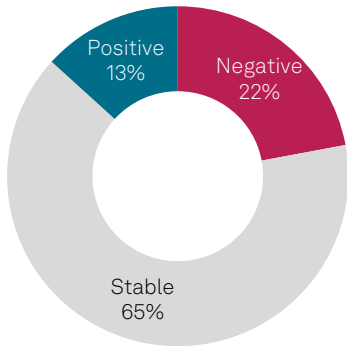


Chart 4  
Ratings outlooks by region

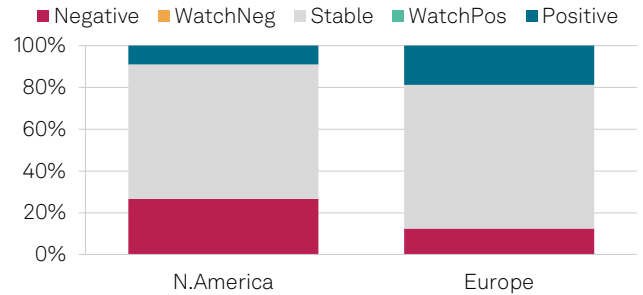


Chart 5  
Ratings outlook net bias

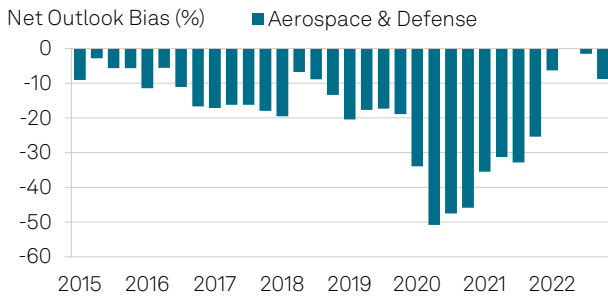
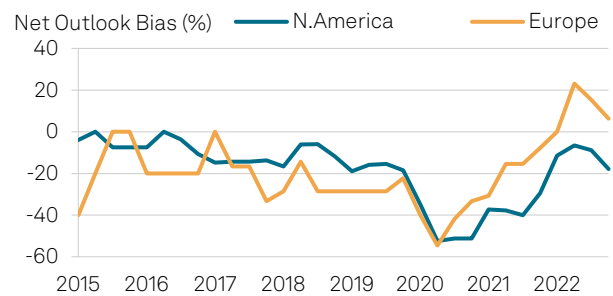


Chart 6  
Ratings net outlook bias by region



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

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)

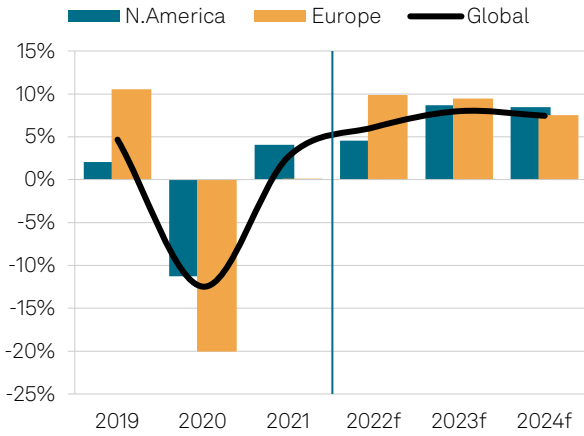


Chart 8  
EBITDA margin (adjusted)

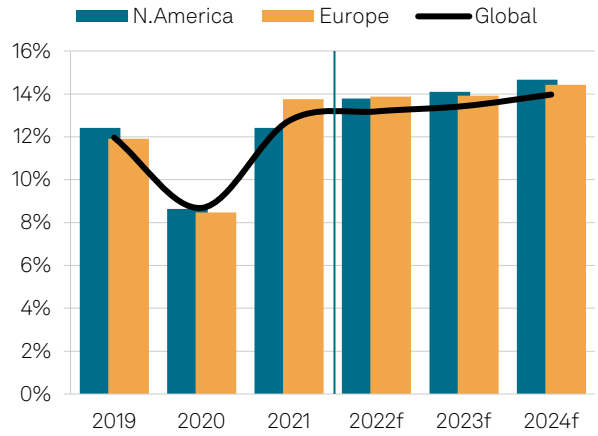


Chart 9  
Debt / EBITDA (median, adjusted)

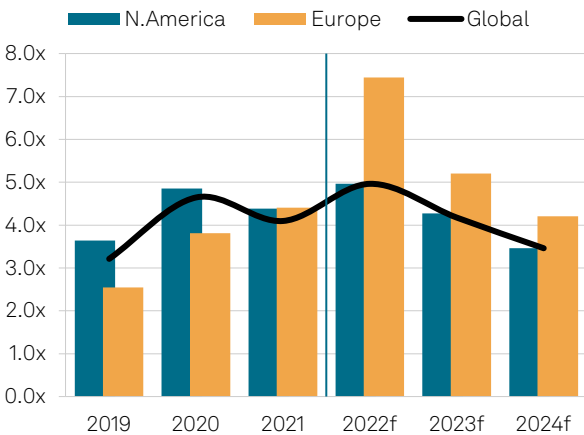
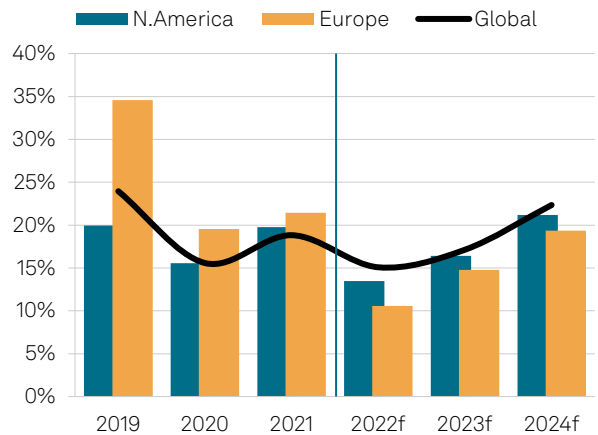


Chart 10  
FFO / Debt (median, adjusted)



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

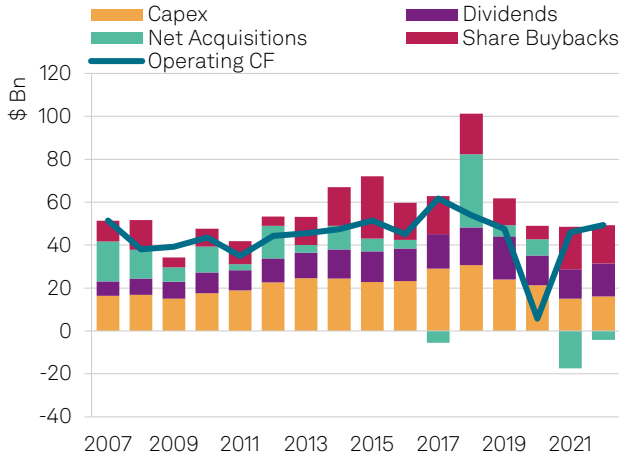


Chart 12  
Return on capital employed

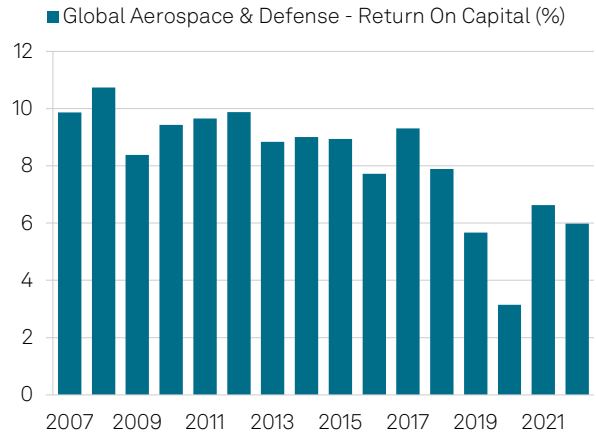


Chart 13  
Fixed- versus variable-rate exposure

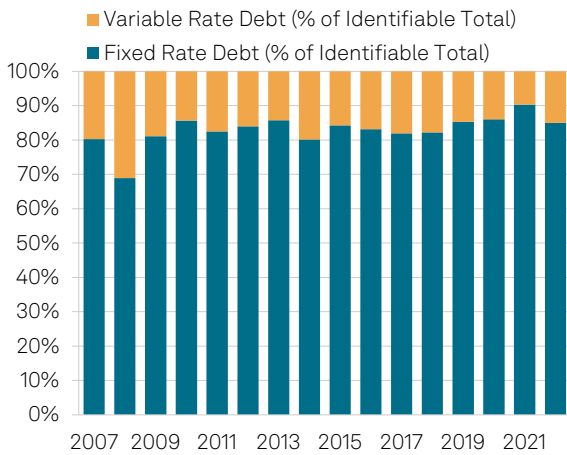


Chart 14  
Long-term debt term structure

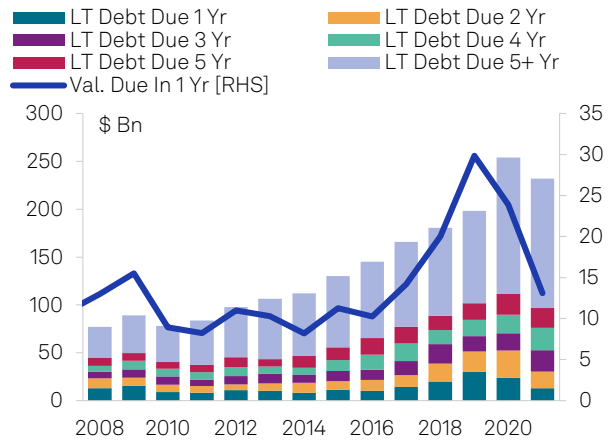


Chart 15  
Cash and equivalents / Total assets

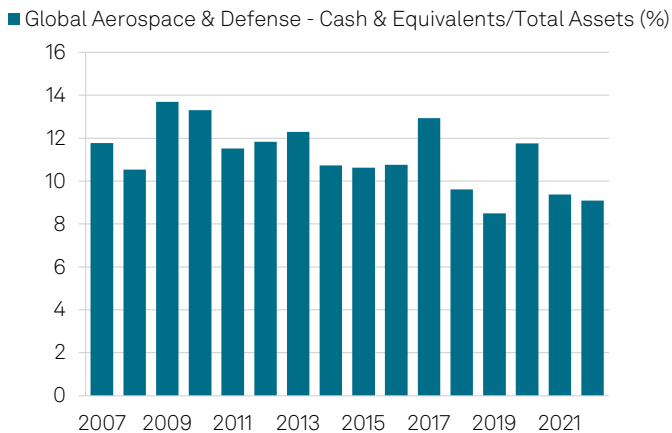
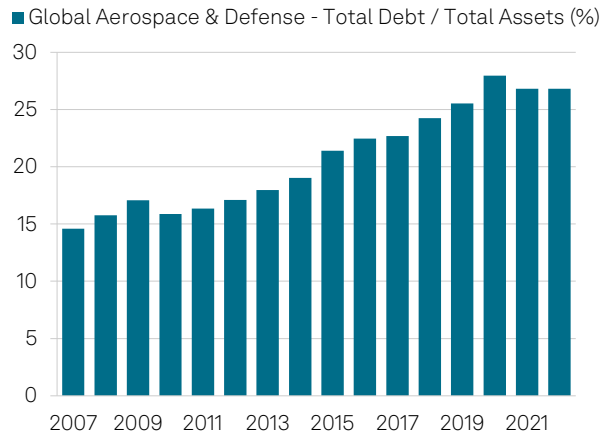


Chart 16  
Total debt / Total assets



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

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