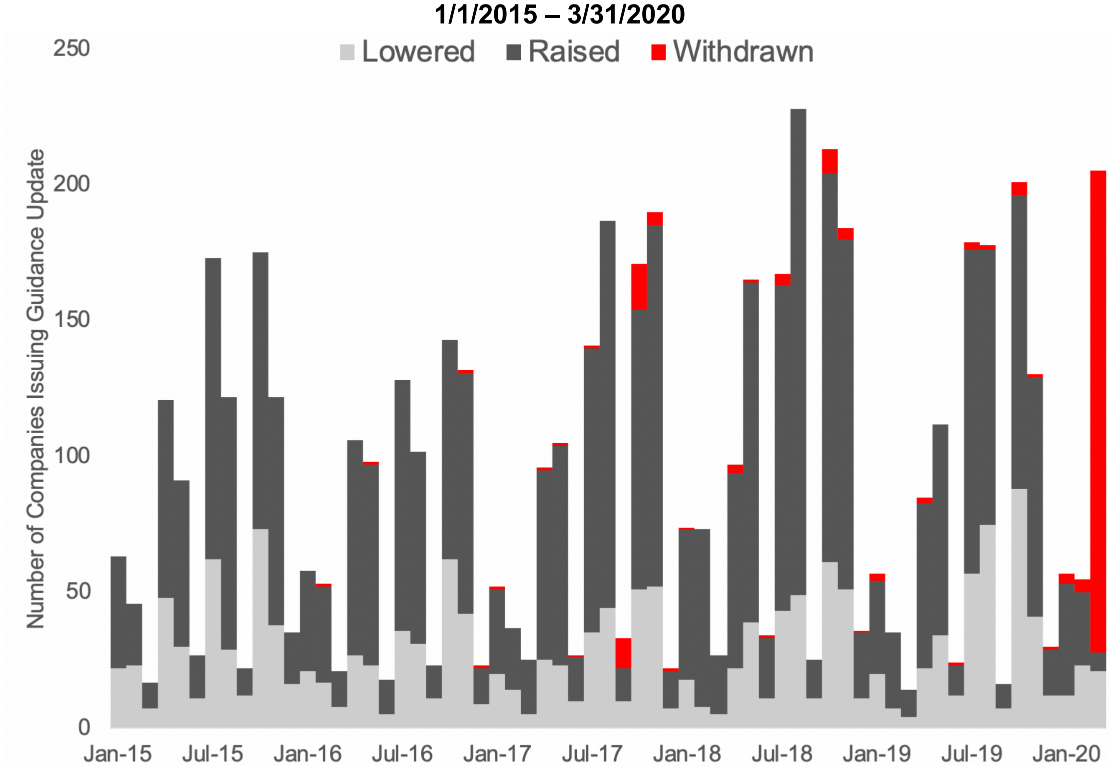
Cold Turkey: Navigating Guidance Withdrawal with Supply Chain Data

Authors
Eric Oak
Quantamental Research
(857) 275 0591
eric.oak@spglobal.com

A recent surge in corporate earnings guidance withdrawals has left decision-makers missing a wrench in their toolbox. Corporate guidance was already declining, in 2018, the number of companies in the Russell 3000 providing guidance peaked at 1,721, dropping 6.9% year over year in 2019 to 1,632 companies. Guidance has been further impacted by the Coronavirus pandemic, 173 companies withdrew their previous guidance in the first quarter (Figure 1). This leaves decision-makers looking for alternative forward-looking information on a company's prospects.

Figure 1: Corporate Earnings Guidance Changes; Russell 3000 1/1/2015 – 3/31/2020



Source: S&P Global Market Intelligence Quantamental Research. Data as of 4/8/2020

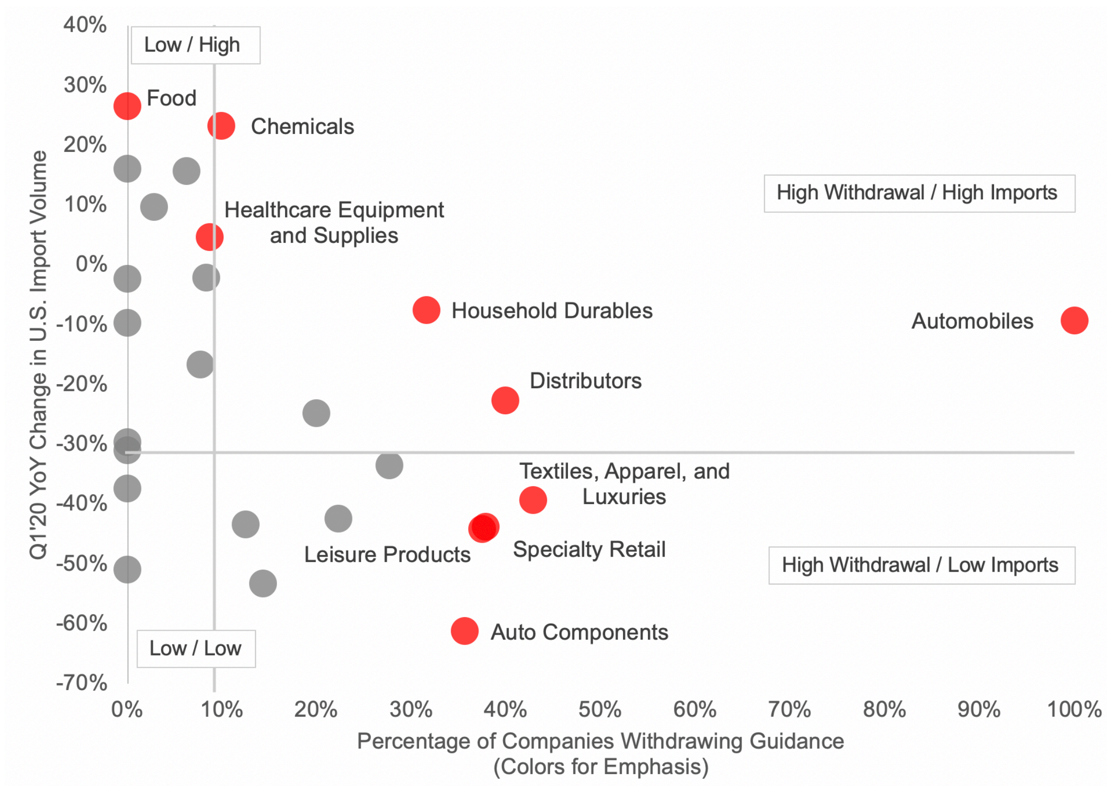
Shipping data can provide a near real time view into a firm's activities.[1] Declines in shipping activity could indicate the rate at which a company's underlying business is slowing. Alternatively, if shipments remain largely unchanged a company's underlying health may also be unchanged. Increased international trade activity could indicate an increase in corporate inventories and associated activity. A buildup in inventories often occurs as firms hope to turn imports into sales, or plan for an anticipated supply disruption[2]. Firms and industries that show a decrease in international trade may suggest **1)** inventory levels are over-stocked **2)** demand

[1] U.S. import data has a 4-7 day lag from shipment arrival.
[2] Stockpiling before Section 301 tariffs on Chinese goods is a recent example.

forecasts are unfavorable, or **3)** significant supply chain shifts are underway[3]. Finally, it is important to contextualize shipment and supply chain data within the business functions that generate it. A generalized firm places orders based on management's balancing of sales forecasts and lead times. Shipment data allows an investor to see a snapshot of that equation (Appendix 2) before results are announced.

U.S. import activity associated with companies in the Russell 3000 indicates that industries with the greatest guidance withdrawals also tended to see a decrease in year over year shipment volume (TEU[4]) in the first quarter (Figure 2). Until corporate guidance for those firms resume, shipment data provides an indication of industry activity and corporate outlook.

Figure 2: Guidance Withdrawals vs U.S. Import Change; Russell 3000 1/1/2020 – 3/31/2020



Source: S&P Global Market Intelligence Quantamental Research. Data as of 4/8/2020

The Textiles, Apparel, and Luxury Goods industry saw a 39.3% year over year decline in U.S. imports by volume in the first quarter – this industry has been affected by stay at home orders issued across several states. Specialty Retail and Leisure Products are also impacted by stay

[3] Reshoring production from China to the U.S. would result in a decrease in international trade
[4] TEU: Twenty-foot equivalent unit is a standardized way of talking about container sizes; a 40 ft container is 2 TEU.

at home orders, seeing year over year decreases in U.S. seaborne imports by 43.9% and 44.1% respectively. Guidance withdrawal rates of 37.8% and 37.5% in those industries show severe disruption in industries that managed to escape the brunt of the U.S. China trade war.[5]

Automotive and Auto Components have been hit as well; in the Automotive industry both Ford and GM withdrew[6], while components had 35.7% of firms withdraw. Quantamental Research went deeper into the automotive industry with Jan 11th's Ship to Shore Mapping the Global Supply Chain with Panjiva Shipping Data in Xpressfeed™[7].

Panjiva shipping data also shows industries that have been booming during the crisis. The Airfreight and Logistics industry (not pictured in Figure 2) have seen a shipping volume increase of 131.8% year over year in the first quarter, and none of the six firms in the industry have withdrawn their guidance. Logistics firms have become critical partners for states and organizations that need to source personal protective equipment. For a broader overview of Coronavirus impacts in trade, both up and down, see March 25th's Long Road to Recovery: Coronavirus Lessons from Supply Chain and Financial Data[8].

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[5] Consumer goods were not affected until List 4A, which was relaxed somewhat in the Phase 1 agreement.

[6] These are the only two firms in the industry to issue guidance in Q1 2020

[7] Tortoriello, R., Oyeniyi, T., Yang, Z., Oak, E. "*Ship to Shore Mapping the Global Supply Chain with Panjiva Shipping Data in Xpressfeed™*" (2020)

[8] Rogers, C., Oak, E. "*Long Road to Recovery: Coronavirus Lessons from Supply Chain and Financial Data*" (2020)

Appendix 1: Industry Scatter Plot Underlying Data

Simple Industry	Q1'20 Year Over Year U.S. Import Change	% of Companies Issuing Guidance that Withdrew
Aerospace and Defense	-37.4%	0.0%
Air Freight and Logistics	131.8%	16.6%
Auto Components	-61.3%	35.7%
Automobiles	-9.3%	100.0%
Beverages	-53.2%	14.3%
Chemicals	23.3%	10.0%
Commercial Services and Supplies	-2.0%	8.3%
Communications Equipment	-2.3%	0.0%
Containers and Packaging	-50.9%	0.0%
Distributors	-22.7%	40.0%
Electrical Equipment	15.8%	6.3%
Electronic Equipment, Instruments and Components	9.7%	2.9%
Food Products	26.5%	0.0%
Food and Staples Retailing	-42.4%	22.2%
Healthcare Equipment and Supplies	4.6%	8.7%
Household Durables	-7.6%	31.6%
Household Products	-31.0%	0.0%
Industrial Conglomerates	16.2%	0.0%
Leisure Products	-44.1%	37.5%
Machinery	-33.6%	27.7%
Metals and Mining	-29.5%	0.0%
Paper and Forest Products	-9.6%	0.0%
Personal Products	-24.8%	20.0%
Semiconductors and Semiconductor Equipment	-43.4%	12.5%
Specialty Retail	-43.9%	37.8%
Technology Hardware, Storage and Peripherals	-16.7%	7.7%
Textiles, Apparel and Luxury Goods	-39.3%	42.9%

Source: S&P Global Market Intelligence Quantamental Research. Data as of 4/8/2020

Appendix 2: Abstract Supply Chain Equation

When considering shipment data in a business context, it is important to understand where in a supply chain shipment data is recorded. Generally:

$$\begin{aligned}
&Revenue\ Lead\ Time \\
&\qquad = Manufacturing\ Time + Transit\ Time + Procurement\ Time \\
&\qquad + \ Inventory\ Days
\end{aligned}$$

Manufacturing time is defined as the time it takes to produce the good. Transit time is defined as the time the good spends moving to its destination. Procurement time accounts for purchasing operational overhead. Inventory days is average inventory over COGS divided by days.

Recasting this in the context of U.S. import data, the business decision that created the shipment was at least $Manufacturing + Transit + Procurement$ prior to the shipment record, and the goods in that shipment are roughly $Inventory\ Days$ away from being converted into revenue. Investors will note that this revenue still has to wait a number of reporting days before an earnings release is filed.

Appendix 3: Removed Industries

The following industries were removed from the analysis for having less than 25% of constituent companies showing imports in the first quarter of 2020 and 2019.

Airlines; Banks; Biotechnology; Building Products; Constructions Materials; Construction and Engineering; Consumer Finance; Diversified Consumer Services; Diversified Telecommunications Services; Electric Utilities; Energy Equipment and Services; Entertainment; Health Care Technology; Healthcare Providers and Services; Hotels, Restaurants and Leisure; IT Services; Insurance; Life Sciences Tools and Services; Marine; Media; Multiline Retail; Oil, Gas Consumable Fuels; Pharmaceuticals; Professional Services; Road and Rail.

Appendix 4: SQL Queries Using S&P Global Market Intelligence Xpressfeed™

Retrieve Panjiva U.S. shipment data associated with Russell 3000 companies:

```
WITH r3k AS (
SELECT DISTINCT cs.companyid, si.simpleIndustryDescription
FROM ciqindexconstituent cic
JOIN ciqtradingitem cti
  ON cic.tradingitemid = cti.tradingitemid
JOIN ciqsecurity cs
  ON cs.securityid = cti.securityid
JOIN ciqcompany co ON co.companyid = cs.companyid
JOIN ciqSimpleIndustry si ON si.simpleIndustryId = co.simpleIndustryId
WHERE indexid = 2668795 --russell3
  AND cic.todate is NULL
), imports AS (
SELECT * FROM XFL_PANJIVA.dbo.panjivaUSImport2016
UNION ALL
SELECT * FROM XFL_PANJIVA.dbo.panjivaUSImport2017
UNION ALL
SELECT * FROM XFL_PANJIVA.dbo.panjivaUSImport2018
UNION ALL
SELECT * FROM XFL_PANJIVA.dbo.panjivaUSImport2019
UNION ALL
SELECT * FROM XFL_PANJIVA.dbo.panjivaUSImport2020
)
SELECT datepart(year, arrivalDate) AS yr, datepart(month, arrivalDate) AS mo,
  sum(volumeTEU) AS teu, r3k.companyid, r3k.simpleIndustryDescription
FROM imports
JOIN XFL_PANJIVA.dbo.panjivaCompanyCrossRef ccr
```

```
  ON ccr.identifierValue = imports.conPanjivaId
JOIN ciqcompanyultimateparent ult
  ON ult.companyId = ccr.companyId
JOIN r3k
  ON r3k.companyid = ult.companyId
GROUP BY datepart(year, arrivalDate), datepart(month, arrivalDate),
  r3k.companyid, r3k.simpleIndustryDescription
```

Retrieve Russell 3000 Guidance:

```
SELECT situation, announcedDate, keydevEventTypeName, co.companyId,
  companyName, country, si.simpleIndustryDescription, kd.keyDevId
FROM ciqKeyDevToObjectToEventType kdo
JOIN ciqKeyDev kd
  ON kd.keyDevId = kdo.keyDevId
JOIN ciqKeyDevObjectRoleType kdr
  ON kdr.keyDevToObjectRoleTypeId = kdo.keyDevToObjectRoleTypeId
JOIN ciqKeyDevEventType kde ON kde.keyDevEventTypeId = kdo.keyDevEventTypeId
JOIN ciqCompany co ON co.companyId = kdo.objectId
JOIN ciqCountryGeo cty ON cty.countryId = co.countryId
JOIN ciqSimpleIndustry si ON si.simpleIndustryId = co.simpleIndustryId
WHERE kde.keyDevEventTypeId IN (26, 27, 29, 49, 225)
  AND announcedDate >= '2018-01-01'
```

Our Recent Research

March 2020: Long Road to Recovery: Coronavirus Lessons from Supply Chain and Financial Data

COVID-19 continues to disrupt global supply chains in unprecedented ways. Leveraging maritime shipping data from Panjiva, this report includes a review of trade and financial data to analyze the impact of the SARS-CoV-2 / COVID-19 coronavirus outbreak.

This report takes two approaches to analyzing the fallout from the SARS-CoV-2 / COVID-19 coronavirus outbreak on global trade and corporate supply chains. The first part of the report identifies 11 themes emerging on an event-driven basis from over 50 Panjiva Research reports. The second section considers the impact of exposures to Asia in firms' U.S. supply chains on sector-neutral stock returns since the start of 2020.

Findings include:

- Second-order supply chain effects are also emerging with the apparel industry now seeing a shortage of materials globally due to earlier outages in China.
- Retailers including Costco and Target are gaining from increased sales of health- and personal care products. Yet, supply shortages are rapidly emerging in part due to medical supply export restrictions in several countries.
- There is a notable, but not statistically significant, relationship with firms with higher exposure to Asia having seen a weaker sector neutral stock price performance.

February 2020: Ship to Shore: Mapping the Global Supply Chain with Panjiva Shipping Data in Xpressfeed™

World merchandise trade accounted for an estimated $19.7 trillion in 2018, about 90% of which is by sea. While financial data tells us "how a company has done in the past," shipping data provides a closer-to-real time indicator of "what a company is doing now." Panjiva's shipping data allows investors to track trends, identify anomalies, and assess risks for companies engaged in international trade. This paper illustrates how to find investment insights in Panjiva's US seaborne and Mexican datasets using the US auto parts industry as a case study.

Findings include:

- Shipment trends often lead fundamentals: Rising shipments amid flat or declining fundamentals may signal future financial trend reversal
- Growth in the number of a company's suppliers and in the types of products it imports may signal strengthening demand and/or product line diversification.
- Tracking industry-level product-line trends can help identify companies with significant exposure to rising or declining product lines.

January 2020: Natural Language Processing – Part III: Feature Engineering Applying NLP Using Domain Knowledge to Capture Alpha from Transcripts

Unstructured data is largely underexplored in equity investing due to its higher costs. As a result, the information content remains largely untapped and offers an investment edge for investors. One particularly valuable unstructured data set is S&P Global Market Intelligence's machine readable earnings call transcripts. This newest publication, the third in the series (NLP I, NLP

II), introduces new stock selection ideas in the areas of I) Topic identification, II) Call transparency and III) Call sentiment using more advanced NLP techniques.

- Topic Identification – Firms that referenced the most positive descriptors around their financials outperformed historically.
- Transparency – Firms that provided greater call transparency exhibited by executives' behaviors and decisions outperformed historically.
- Weighted Average Sentiment – Quantifying call sentiment using a weighted average construct led to better returns and less volatility historically.
- Additive Forecasting Power – The newly introduced signals demonstrated additive forecasting power above commonly used alpha and risk signals historically.

December 2019: The "Trucost" of Climate Investing: Managing Climate Risks in Equity Portfolios

Does sustainable investing come at a "cost", and is the fear of investors around the performance concessions of "green" portfolios warranted? Our latest research suggests investors' fears are misplaced – carbon-sensitive portfolios have similar returns and significantly better climate characteristics than portfolios constructed without carbon emission considerations. Other findings include:

- Highly profitable firms are likely to be leaders in reducing their carbon emission levels.
- There is no degradation in fundamental characteristics for the carbon-sensitive portfolios compared to the baseline portfolio, even though the difference in constituents can be as high as 20%.
- Carbon-sensitive portfolios were observed as having significant reductions in water use, air pollutants released and waste generated.

October 2019: #ChangePays: There Were More Male CEOs Named John than Female CEOs

This report examines the performance of firms that have made female appointments to their CEO and CFO positions. Our research finds that firms with female CEOs and/or CFOs:.

- Are more profitable and generated excess profits of $1.8 trillion over the study horizon.
- Have produced superior stock price performance, compared to the market average.
- Have a demonstrated culture of Diversity and Inclusion, evinced by more females on the company's board of directors.

June 2019: Looking Beyond Dividend Yield: Finding Value in Cash Distribution Strategies

Examines the relationship between yield-oriented strategies (dividend yield, buyback yield, and combined shareholder yield) and future stock return, across multiple countries/regions. Also provides insights into two additional topics:

- Which company fundamental characteristics support and enhance future shareholder payouts?
- Under which interest rate environment should investors favor yield-oriented strategies?

June 2019: The Dating Game: Decrypting the Signals in Earnings Report Dates

The first part of this report focuses on companies that deviate from a historical reporting pattern, while the second part examines a related topic – the market's reaction to companies that postpone a previously scheduled (announced) earnings release date.

- "Advancers" (companies that advance their earnings report date by at least 6 days) are likely to report improving year-year on sales, better earnings surprises, and more positive conference call sentiment readings than their industry group peers and "delayers" (companies that delay their earnings report date by at least 6 days).
- Advancers outperform delayers by over 7% on an annualized basis (Russell 3000). This return rises to 8.80% (Russell 2000) and falls to 2.21% (Russell 1000).
- The annualized return to stocks identified as buy candidates and tagged as advancers is 10.77%, compared to 6.29% for buy candidates tagged as delayers.
- Companies that postpone a previously announced earnings release date underperform the broad market by 2.44% in the 3 days surrounding the announcement. These companies are also likely to report deteriorating fundamentals.

May 2019: Bridges for Sale: Finding Value in Sell-Side Estimates, Recommendations, and Target Prices

February 2019: U.S Stock Selection Model Performance Review

February 2019: International Small Cap Investing: Unlocking Alpha Opportunities in an Underutilized Asset Class

January 2019: Value and Momentum: Everywhere, But Not All the Time

November 2018: Forging Stronger Links: Using Supply Chain Data in the Investing Process

September 2018: Their Sentiment Exactly: Sentiment Signal Diversity Creates Alpha Opportunity

September 2018: Natural Language Processing – Part II: Stock Selection: Alpha Unscripted: The Message within the Message in Earnings Calls

July 2018: A Case of 'Wag the Dog'? - ETFs and Stock-Level Liquidity

June 2018: The (Gross Profitability) Trend is Your Friend

May 2018: Buying the Dip: Did Your Portfolio Holding Go on Sale?

March 2018: In the Money: What Really Motivates Executive Performance?

February 2018: The Art of the (no) Deal: Identifying the Drivers of Canceled M&A Deals

January 2018: U.S Stock Selection Model Performance Review

September 2017: Natural Language Processing - Part I: Primer

July 2017: Natural Language Processing Literature Survey

June 2017: Research Brief: Four Important Things to Know About Banks in a Rising Rate Environment

April 2017: Banking on Alpha: Uncovering Investing Signals Using SNL Bank Data

March 2017: **Capital Market Implications of Spinoffs**

January 2017: **U.S. Stock Selection Model Performance Review 2016**

November 2016: **Electrify Stock Returns in U.S. Utilities**

October 2016: **A League of their Own: Batting for Returns in the REIT Industry - Part 2**

September 2016: **A League of their Own: Batting for Returns in the REIT Industry - Part 1**

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July 2016: **Preparing for a Slide in Oil Prices -- History May Be Your Guide**

June 2016: **Social Media and Stock Returns: Is There Value in Cyberspace?**

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December 2015: **Equity Market Pulse – Quarterly Equity Market Insights Issue 6**

November 2015: **Late to File - The Costs of Delayed 10-Q and 10-K Company Filings**

October 2015: **Global Country Allocation Strategies**

September 2015: **Equity Market Pulse – Quarterly Equity Market Insights Issue 5**

September 2015: **Research Brief: Building Smart Beta Portfolios**

September 2015: **Research Brief – Airline Industry Factors**

August 2015: **Point-In-Time vs. Lagged Fundamentals – This time i(t')s different?**

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July 2015: **Research Brief – Liquidity Fragility**

June 2015: **Equity Market Pulse – Quarterly Equity Market Insights Issue 4**

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March 2015: **Equity Market Pulse – Quarterly Equity Market Insights Issue 3**

February 2015: **U.S. Stock Selection Model Performance Review - The most effective investment strategies in 2014**

January 2015: **Research Brief: Global Pension Plans - Are Fully Funded Plans a Relic of the Past?**

January 2015: **Profitability: Growth-Like Strategy, Value-Like Returns - Profiting from Companies with Large Economic Moats**

November 2014: **Equity Market Pulse – Quarterly Equity Market Insights Issue 2**

October 2014: **Lenders Lead, Owners Follow - The Relationship between Credit Indicators and Equity Returns**

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