S&P Global Ratings

# Supply-Chain Risk Trends – A Credit Perspective Update

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*This report does not constitute a rating action.*



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## Key Takeaways

- As supply-chain risks have abated from their highs during the COVID pandemic, so too have supply-chain-related negative rating actions.
- The consumer products, capital goods/machines, and equipment sectors make up 45% of the ratings that were affected by supply-chain problems since 2020.
- Key supply-chain uncertainties include new global trade tariffs and trade protectionism, volatility from geopolitical rivalry and conflict, and lingering disruptions. While the effects of these uncertainties are difficult to predict, they will likely impact at some point the economics of established supply-chains and could affect creditworthiness.

# Supply-Chain State Of Play And Rating Actions

In the past two years, supply-chain pressures have continued to diminish from their highs, helping to generally soften inflation levels. The GEP Global Supply-Chain Volatility Index[1] has been below 0.0 for most of the past two years, indicating existing supply-chain lines have been under-utilized, reducing supply-chain volatility (chart 1). However, it remains to be seen what impact the recent global tariff announcements will have on economic and supply-chain uncertainty. Generally, we expect the recently announced tariffs to increase volatility, signaling greater disruptions and uncertainty in global trade moving forward and leading to a new wave of supply chain pressures. This can cause input shortages, delivery delays, rising costs and inventory buildup further causing cash-flow disruptions and higher leverage.

Along with the April 2nd, 2025 tariffs, significant corporate commitments which focused on U.S. manufacturing investments were also announced. Some of these commitments predated recent changes in trade policy and the timeframes for the investments vary, however such supply chain shifts become more likely in the face of high and persistent tariff rates. Substantial supply chain changes can require billions of dollars of investments and take years to complete.  This means that any company considering such an investment must be sufficiently certain that the current state of global trade will persist. Additionally, necessary inputs must be available at affordable prices, and a supportive U.S. market is required unless exports remain profitable despite any reciprocal tariffs.

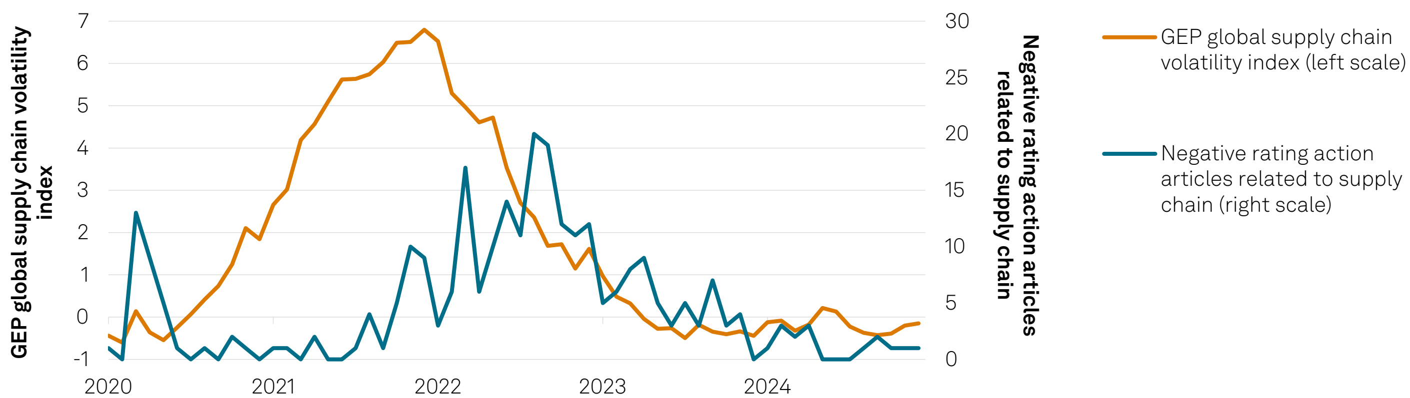
This research underscores how supply chain pressures could impact creditworthiness and lead to ratings actions by surveying past trends in supply chain disruptions related to the COVID stress period.

We have observed that when supply-chain pressures have eased so have the number of associated negative rating actions (i.e., downgrades or negative outlook revisions related to supply-chain issues).  The opposite is true when supply-chain pressures increase. This is illustrated in chart 1 where we have observed rating changes from supply-chain effects which have been steadily decreasing since early 2023 vs prior years.

[1] The GEP Global Supply Chain Volatility Index is derived from S&P Global's PMI™ surveys, sent to companies in over 40 countries, totaling around 27,000 companies

Chart 1

Supply chain-related rating actions have eased in line with reduced supply-chain pressures



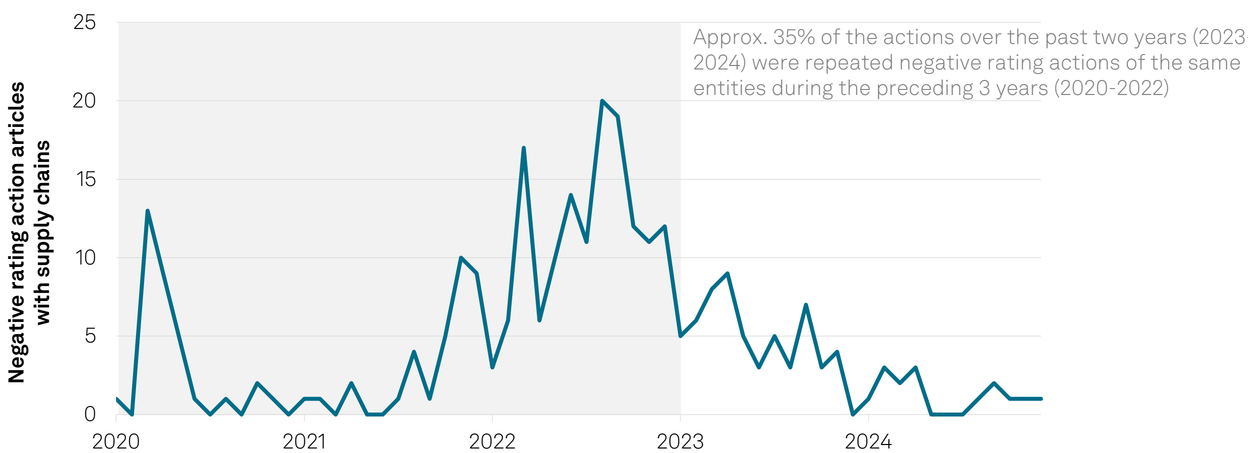

Source: S&P Global Ratings and GEP.

# Some Industries And Companies Continue To Struggle

Despite easing supply-chain pressures, the performance of some companies--on which we previously took associated negative rating actions--have continued to deteriorate due to supply-chain related bottlenecks. Approximately 35% of the rated entities that were affected by supply-chain disruptions since January 2020 have faced additional pressures during the past two years as well (chart 2). Supply-chain related increased costs and delays have been amplifying strains on these companies.

Chart 2

Supply chain-related negative rating actions since 2020

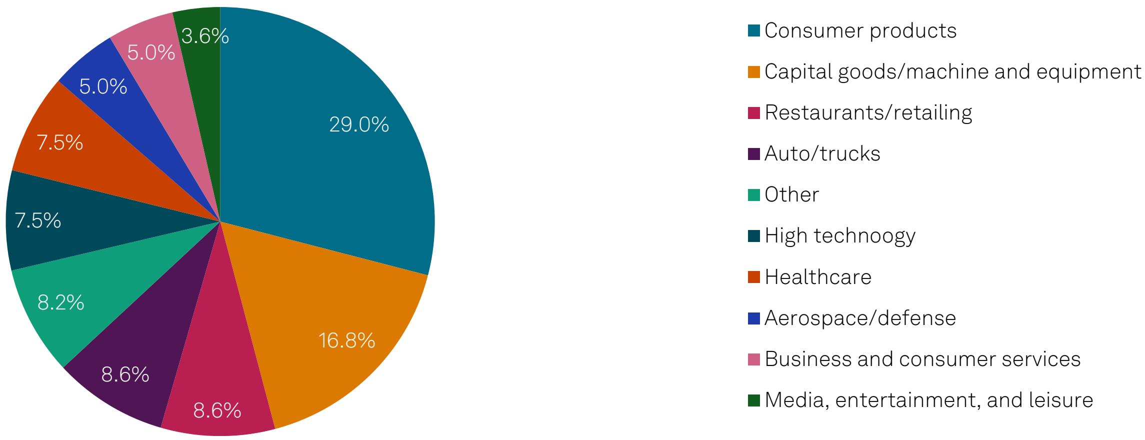



Source: S&P Ratings.

Since our last review of negative rating actions stemming from supply-chain woes, a similar group of large industries remain vulnerable (chart 3). Consumer products, capital goods/machines, and equipment make up approximately 45% of the ratings that have continued to be impacted by supply-chain problems.

Chart 3

## Sectors experiencing downward rating pressures due to supply-chain issues

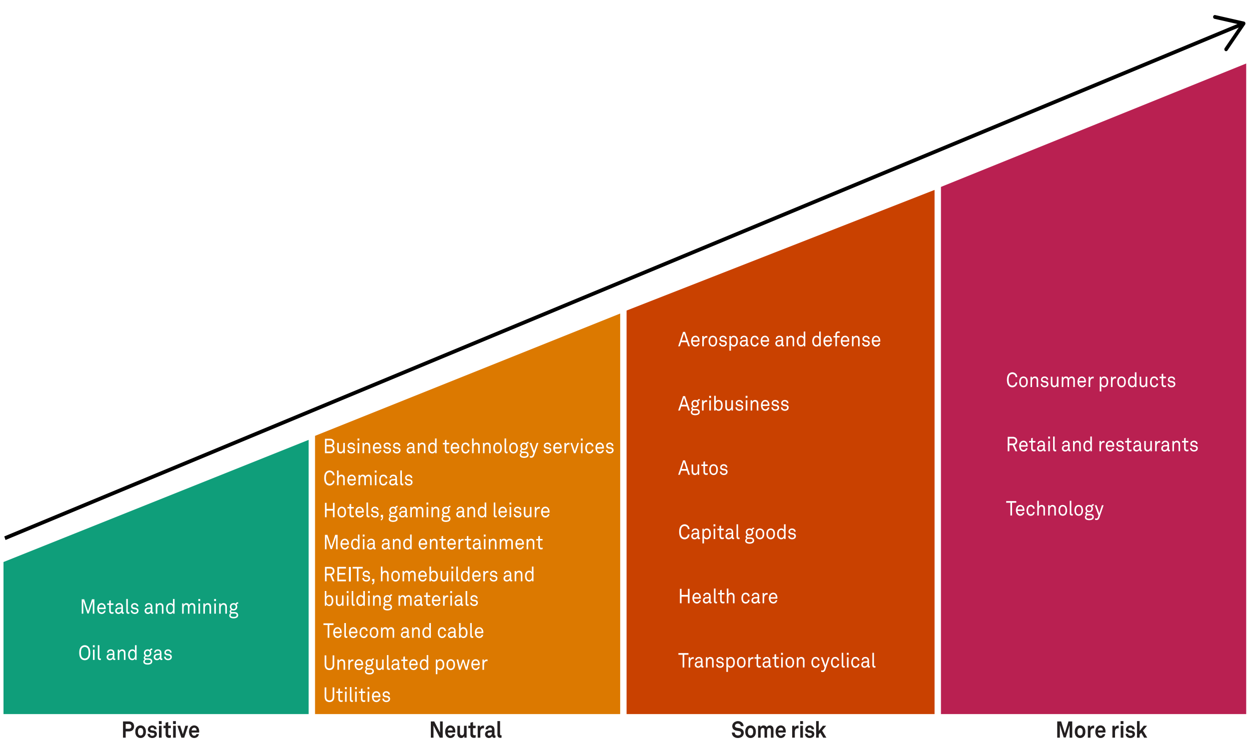



Source: S&P Global Ratings

Evolving risks in North American corporate ratings echo similar sentiment, given that consumer products, retail/restaurants, and technology are sectors that are assessed as having "more risk" vis-à-vis supply chains (see chart 4). This assessment indicates that we expect supply-chain risks to have a negative impact on credit ratings by weakening profits and increasing debt levels, or that we expect these risks would alter the competitive balance among direct competitors, suppliers, and customers.

Chart 4

## Industry ranking impact in North America




Source: S&P Global Ratings.

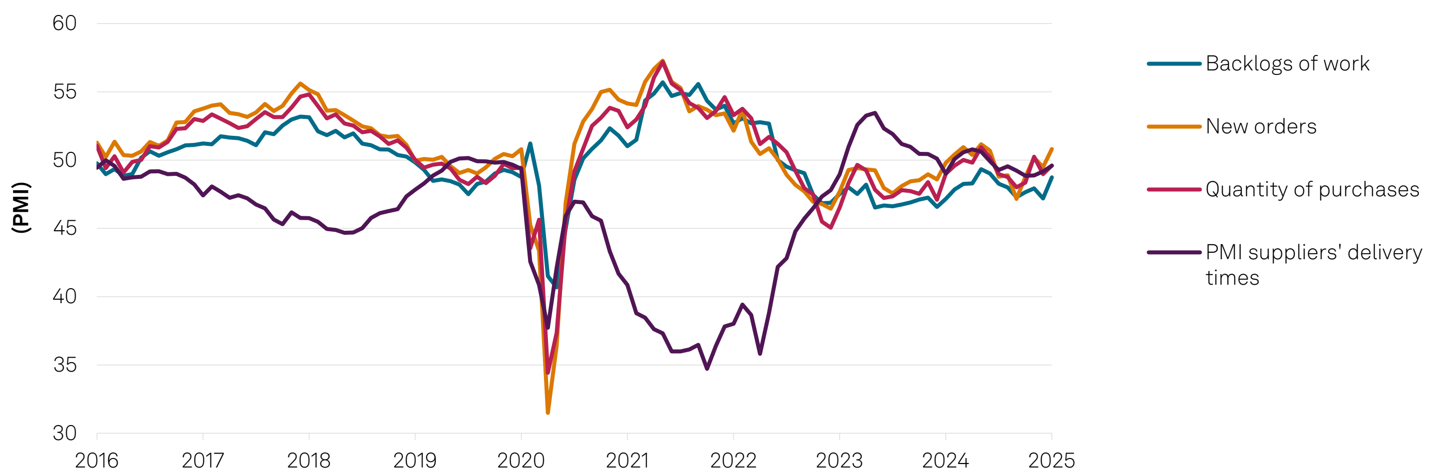
# Linking Supply-Chain Indices to Credit Risk

A useful indicator to measure supply-chain risk are the S&P Global Purchasing Managers' Indices (PMI)[2] (chart 5), which show that the PMI indices increased immediately after COVID due to increased demand, a substantial rebound in consumer and business activity, restocking, and positive market sentiment. This was followed by an increase in inflation and interest rates which cooled consumer and business spending, led to tighter money and to a contraction of the indices. Thus, an improvement in supply-chain activity post 2023 is driven in part by a slowdown in demand. This, along with backlogs remaining low, continues to impact purchases, suggesting that manufacturers still may have to cut activity to manage stock levels.

We also looked at the S&P Global PMI suppliers' delivery times index (PMI delivery times[3]). It is notable that this index indicated slower delivery times after the pandemic for several years, while the PMI index has shown economic recovery since Q3 2020. This is expected because the two indices reflect distinct aspects of supply-chain dynamics. When the economy is expanding and manufacturing activity increases, demand goes up as well, causing the PMI index to rise, while putting more pressure on delivery times and thus causing the PMI delivery times to fall.

Chart 5

### Various PMI indices had recovered quicker after COVID-19, while the PMI suppliers' delivery times lagged recovery until 2023




Source: S&P Global Market Intelligence.

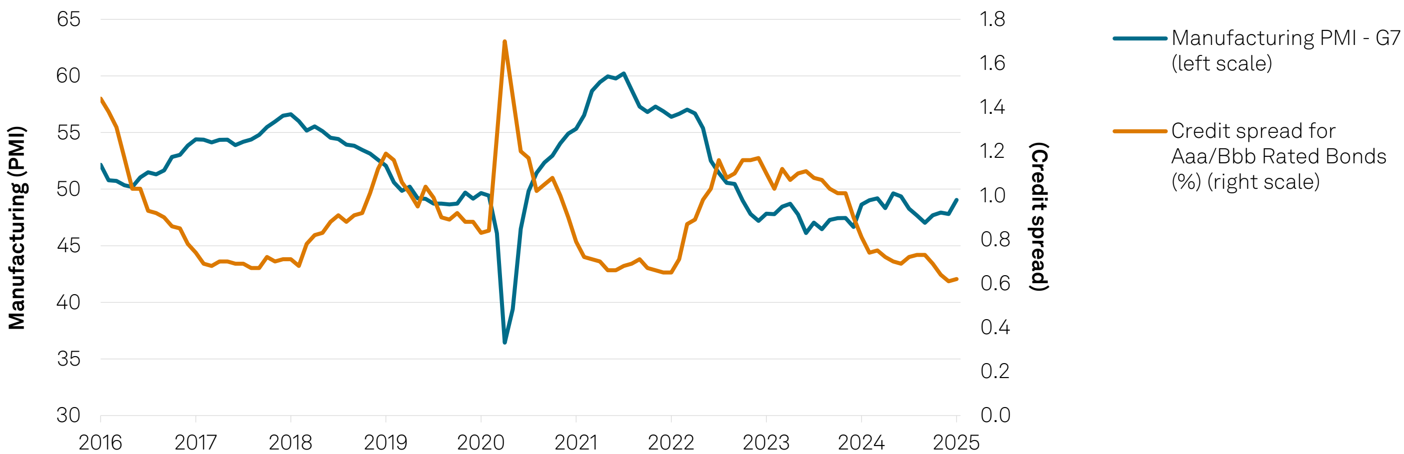
[2] PMI indices are based on monthly surveys of supply chain managers for several hundred companies across many industries, covering both upstream and downstream activity. These surveys include questions about business conditions on areas such as new orders, inventory levels, production, supplier deliveries and employment. A value of the PMI index higher than 50, indicates expansion while a value lower than 50 indicates contraction. A PMI Backlog of orders index above 50 indicates backlog growth (higher demand or slower production), while below 50 shows contraction (lower demand or faster production). A PMI New orders index above 50 (below 50) indicates growth (decrease) in demand while a PMI Quantity of purchases index above 50 (below 50) shows that businesses are increasing (reducing) their purchases of raw materials, components, or goods from suppliers compared to the previous month.

[3] The S&P Global PMI suppliers' delivery times index (PMI delivery times) depicts readings of 50 as no change in delivery times on the prior period, readings above 50 indicating that delivery times have improved (become shorter) and readings below 50 indicating that delivery times have deteriorated (become longer).

The PMI index, overlaid with credit spread indices[4] (chart 6), can provide a useful barometer of market sentiment on higher default risk for lower rated bonds relative to higher rated bonds.
In periods of lower economic activity or a downturn, chart 6 illustrates the opposite directional relationship between PMI and credit spreads (i.e., PMI index declines while credit spread widens). The correlation between PMI and credit spreads is -0.6.

Chart 6

### Manufacturing PMI is inversely related to credit spreads




Sources: S&P Global Market Intelligence and FRED.

Another useful credit risk overlay is the relationship between the PMI index and credit volatility indices (chart 7). The Credit Volatility Indices, or Credit VIX Indices, aim to track the implied volatility in credit markets over various time horizons. Specifically, these indices measure the probable range of movement in the spreads of the underlying CDX and iTraxx indices[5], as implied by the index options. High volatility typically reflects stress and uncertainty in the credit markets, often associated with economic downturns.

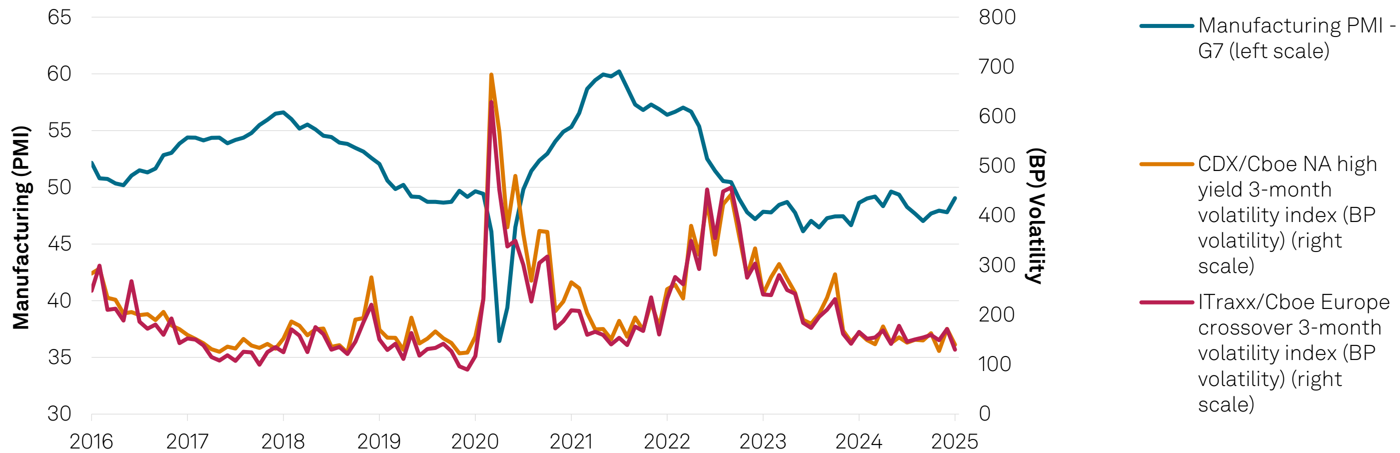
A high PMI index, which is associated with economic expansion and high investor confidence, means lower default risk and credit VIX volatility. Conversely, in economic downturns, as investor confidence drops, there is an increased demand for protection against defaults (using credit default swaps), which in turn causes credit spreads and their volatility to soar. The monthly PMI index is inversely related to the prior end-of-month credit VIX indices with a correlation of almost 0.4.

[4] Credit spread indices measure the difference in yields between corporate bonds of varying credit qualities and risk-free government securities. The wider the spread, the more concerned the investors become about the risk of default in the corporate bond market which happens during economic downturns and financial stress. We used the difference between Aaa and Baa Corporate Bond Yield Relative to Yield on 10-Year Treasury Constant Maturity (FRED).

[5] The CDX/Cboe NA High Yield 3-Month Volatility Index (BP Volatility) seeks to track the market's expectation of the range of movement in the CDX North American High Yield Index five-year spreads over the next three months. The iTraxx/Cboe Europe Crossover 3-Month Volatility Index (BP Volatility) seeks to track the market's expectation of the range of movement in the iTraxx Europe Crossover Index five-year spreads over the next three months.

Chart 7

Manufacturing PMI is inversely related with CDX/ITraxx volatility indices

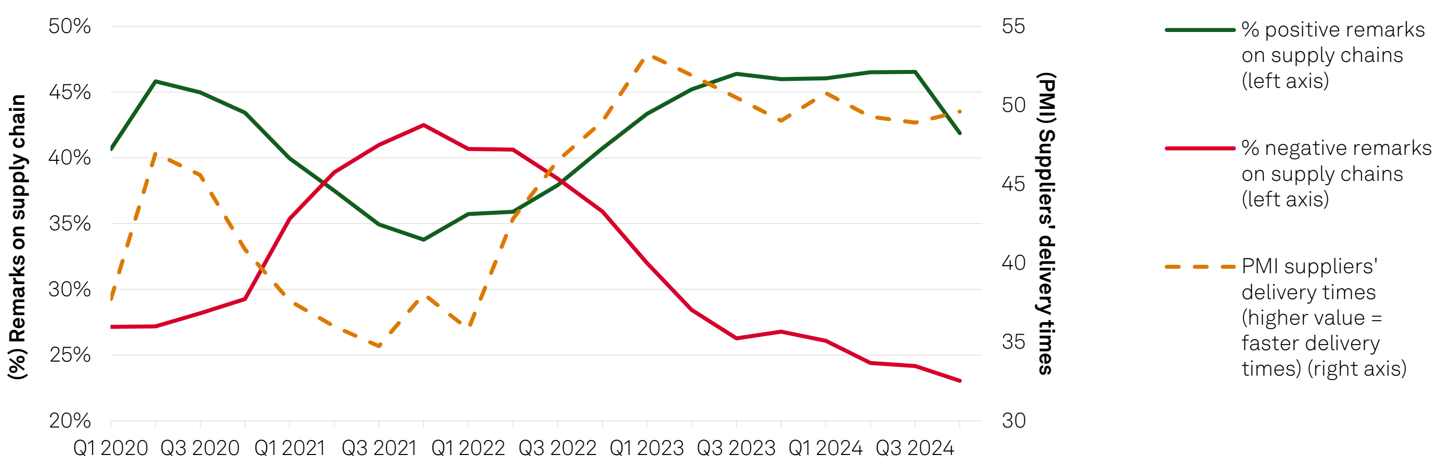



Sources: S&P Global Market Intelligence and S&P Global Dow Jones Indices.

We have also examined sentiment during corporate earnings calls related to supply-chains[6] and physical supply delivery times. We found that the PMI suppliers' delivery times index is positively correlated with the % positive remarks on supply-chain with a correlation of .75, and that it is also inversely correlated with the % negative remarks on supply-chain with a correlation of .65. We found each of these three metrics have been improving (% positive remarks on supply-chain and PMI delivery times have been improving, while the % negative remarks on supply-chain have declined) since the end of 2022 (chart 8). In addition, the COVID-19 related shocks to global supply-chains during 2020-2022 have largely reversed and have again trended toward pre-pandemic levels.

Chart 8

Corporate earnings calls' positive sentiment about supply chains have again outpaced negative sentiment, in line with faster delivery times since the end of 2022




Source: S&P Global Market Intelligence, ProntoNLP.

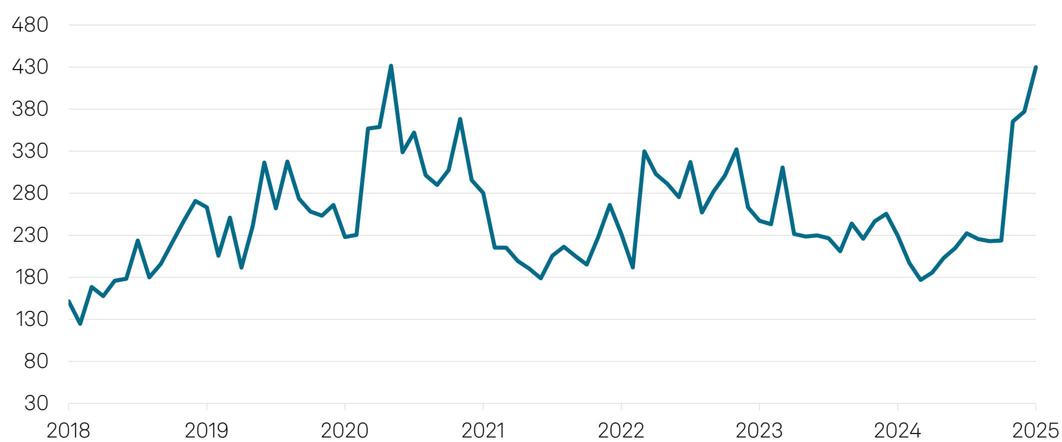
[6] ProntoNLP analyzes the sentiment of corporate earnings calls and categorizes phrases of the earnings calls into either positive or negative related remarks.

# Uncertainties Remain

Supply-chain uncertainties in 2025 include the spreading of trade protectionism including tariffs, volatility from past disruptions, and geopolitical rivalry and conflict. Trade protectionism will likely shape supply-chain decisions, redirecting trade flows, impacting delivery times, and decisions on container equilibrium shipping capacity. These uncertainties may be further complicated by the complexities and interconnectivity (direct and indirect) of supply-chains, including the transmission of increased costs. Such transmission costs will likely occur with varying speed depending on inventory levels, competitive landscapes, sourcing options, and the elasticity of demand and supply. Trade protectionism will likely shape supply-chain decisions, potentially redirecting trade flows. For example, international trade policies in the U.S. have become stricter, while other countries are retaliating with their own duties and other trade-restricting measures. A tangible example of such trade policy escalation includes the imposition of import duties on electric vehicles from mainland China by countries including the U.S., Canada, Brazil, Turkey, and those in the EU. These measures are already re-routing global trade patterns and may lead to increased costs in countries that apply the tariffs. Chart 9 shows that the Global Economic Policy Uncertainty[7] values are comparative with those during the pandemic, reflecting the degree of unpredictability in the macroeconomic environment often influenced by policy shifts and market volatility.

Chart 9

### Global Economic Policy Uncertainty Index reached pandemic levels in January 2025




Source: Economic Policy Uncertainty

As geopolitical tensions continued to increase in the past two years, seaborne cargo has been diverted from the Red Sea area toward South Africa via the Cape of Good Hope. Before the attacks on seafaring traffic began in late 2023, 12% of global trade came through the Suez Canal. Shipping traffic via the canal has plummeted by nearly 70% at its peak. Similar obstacles such as these are likely to remain in place if geopolitical shocks escalate.

[7] The Global Economic Policy Uncertainty (GEPU) Index is a measure that tracks uncertainty related to economic policy across major economies.

Companies will likely reassess their supply-chain strategies in response to trade protectionism. Firms must balance the additional costs of stockpiling and supplier diversification against the risk to market share of raising prices or squeezing suppliers.

Lastly, investments in technology will remain a critical tool for supply-chain efficiency and resilience through rising investment and development of AI. Digital tools for procurement and inventory management will continue to help companies to improve their ability to respond to disruptions and mitigate geographic risks.

For further details of these uncertainties please see the reports by S&P Global Market Intelligence, a division of S&P Global, The Big Picture 2025: Supply Chain, Feb. 5, 2025, and Supply Chain Q1'25 Outlook: Reactions and Remedies, Jan. 7, 2025.

# Additional Research:

- Credit Conditions Asia-Pacific Special Update: U.S.-China Ties In Uncharted Territory, Apr. 15, 2025
- Global Credit Conditions Special Update: Ongoing Reshuffling, Apr. 15, 2025
- Credit Conditions Emerging Markets Q2 2025: The Tariff Storm, Mar. 26, 2025
- Global Credit Conditions Q2 2025: Data Companion, Apr. 2 ,2025

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