GEP Global Supply Chain Volatility Index

GLOBAL SUPPLY CHAINS NOW HAVE SPARE CAPACITY FOR THE FIRST TIME SINCE JUNE 2020 AS 10 MONTHS OF SUBDUED DEMAND, INVENTORY DE-STOCKING AND HIGH INTEREST RATES BITE

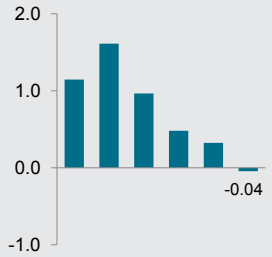
-0.04

GEP GLOBAL SUPPLY CHAIN VOLATILITY INDEX, APR '23

GEP Global Supply Chain Volatility Index

Nov '22 - Apr '23

+ = stretched, - = underutilized capacity



Although global demand remains subdued, there has been a pickup since December's trough, while trend actually improved slightly in North America in April, indicating some economic resilience

Excess supply chain capacity also driven by global organizations' drawdown of their safety stocks, which have fallen below their historic average for the first time in three years

Supply chain pressures in Asia ease as the economic rebound from China's reopening peters outs

Commenting on the latest results, Volker Roelofsen, vice president, supply chain consulting, GEP, said:

"After months of companies aggressively destocking, there is now excess capacity in the world's supply chains, providing buyers with greater leverage to extract favourable prices and terms for the second half of 2023 and into 2024. The good news is that companies' demand for components and raw materials, while subdued, is holding steady, indicating that central banks are, at least for now, successfully engineering a measured slowdown."

GEP Global Supply Chain Volatility Index

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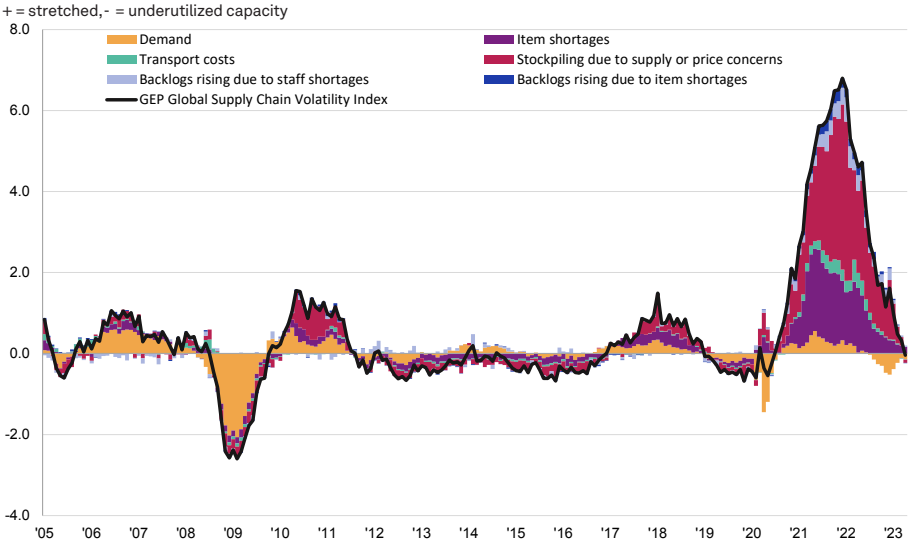

Sources: GEP, S&P Global.

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Overview

The GEP Global Supply Chain Volatility Index—a leading indicator tracking demand conditions, shortages, transportation costs, inventories and backlogs — shows that for the first time since June 2020, global supply chain capacity is now underutilized, indicating a shift to a buyers' market.

Following inventory drawdowns (which are still ongoing) and 10 months of depressed global demand, the GEP Global Supply Chain Volatility Index fell below zero in April to -0.04, from 0.32 in March, a striking contrast from the picture year ago when GEP's index stood at 4.61, one of the highest levels of volatility in the 20 years of data.

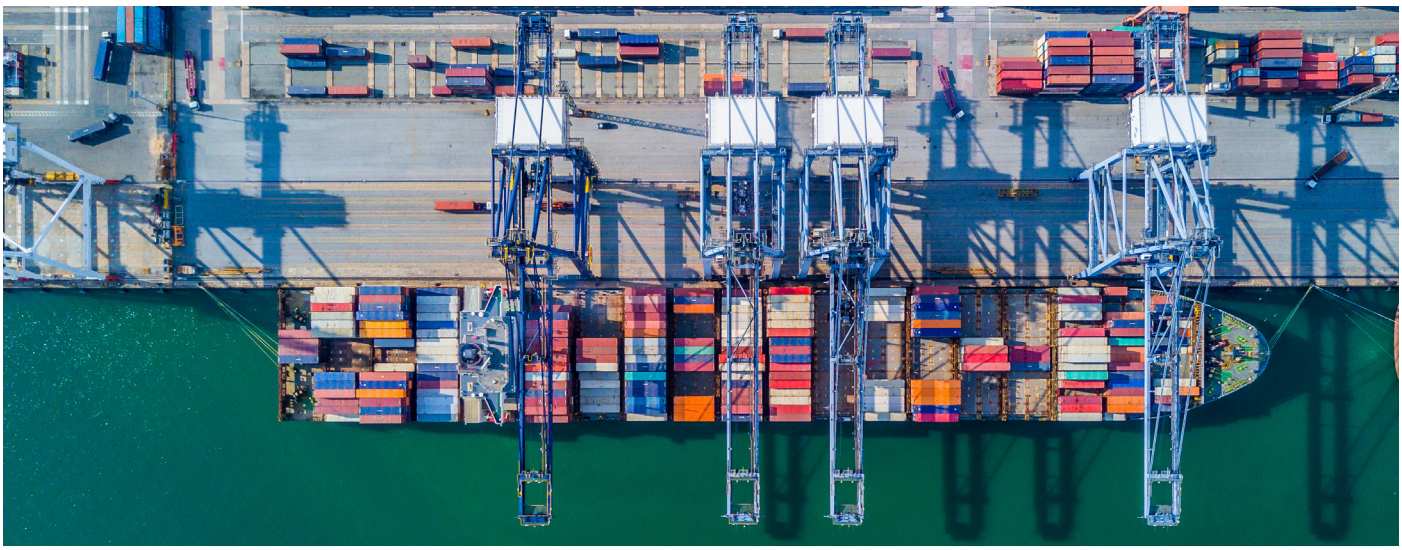
While global demand for raw materials, commodities and components remains subdued, it is much improved from the trough in December 2022, indicating some stability in the face of consistently high interest rates and a global manufacturing sector under intense pressure.

Lower global input demand is in large part due to companies' drawdown of their inventories and safety stocks. Companies' reports of stockpiling items due to price or supply fears are now running below historic norms, indicating that firms' concerns towards inflation and supplier delivery times have alleviated.

The receding of these concerns partly reflects greater item supply levels. Shortages of critical raw materials and components are at their lowest since September 2020, with availability continuing to improve.

Evidence of spare capacity can also be seen in backlogs data, which showed the absence of pressure on firms' output requirements arising from either a lack of inputs or staff.

Additionally, global transportation costs remained anchored around levels typically seen on average, further highlighting more efficiently operating supply chains as congestion across critical transportation routes has eased. This contrasts markedly with the picture a year ago, where transportation costs hit record levels (since data were available in 2005).



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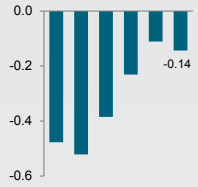
Demand, shortages and transport costs

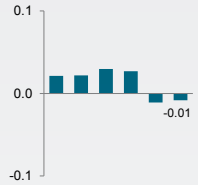
Demand
Nov '22 - Apr '23
Index, + = above average



Item Shortages
Nov '22 - Apr '23
Index, + = above average



Transport Costs
Nov '22 - Apr '23
Index, + = above average



Demand for raw materials, components and commodities

Global demand for inputs remains depressed. That said, the trend has improved notably in 2023, especially in North America, with the downturn appearing to have bottomed out in December last year. There was a worsening of demand conditions across Europe in April, while purchasing activity across Asia also eased as China's post-lockdown rebound fades.

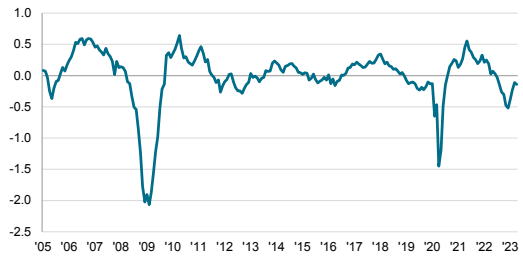
Item shortages

Availability of critical components moved across supply chains, including foodstuff, metals and chemicals continues to improve. Shortages of these items are at their lowest since September 2020 as reduced demand has eased bottlenecks and enabled suppliers to restock. According to underlying data, supply for cyclical components such as metals has improved drastically, but shortages are still historically high for semiconductors.

Transport costs

Global transportation costs remain anchored around historically normal levels, reflecting the normalisation of global supply chains and the marked easing of strain on freight capacity. This contrasts markedly to the situation a year ago when global logistics costs had reached record levels (since data were available in 2005).

Demand
Supplier capacity, + = stretched, - = underutilized



Item Shortages
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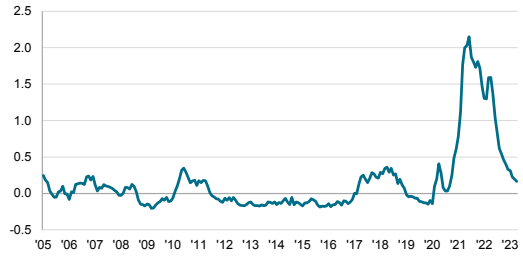
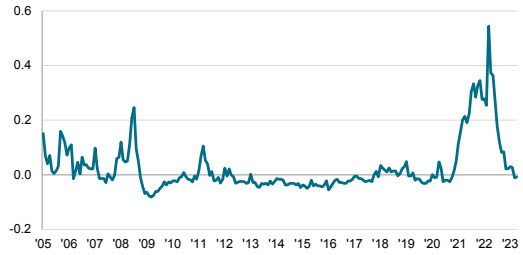
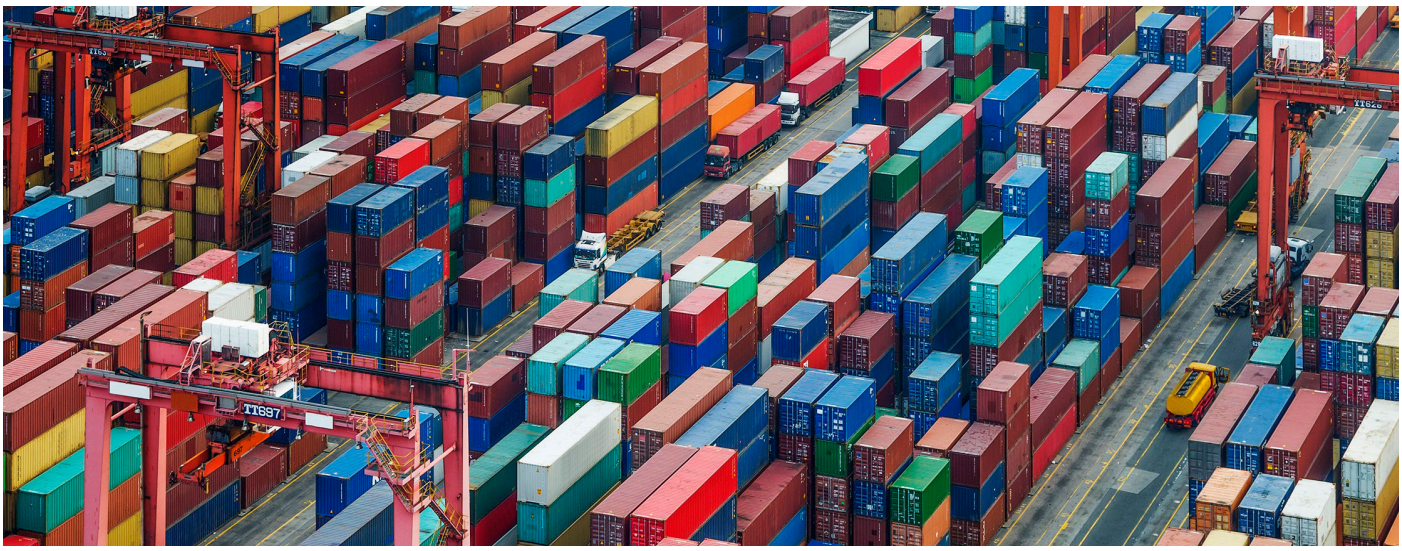


Transport Costs
Supplier capacity, + = stretched, - = underutilized





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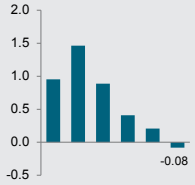
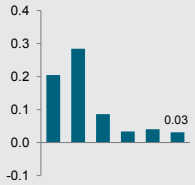
Stockpiling and manufacturing backlogs

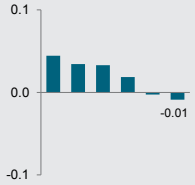
Stockpiling due to supply or price concerns
Nov '22 - Apr '23
Index, + = above average



Backlogs rising due to staff shortages
Nov '22 - Apr '23
Index, + = above average



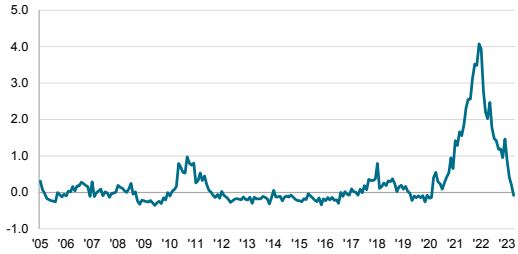
Backlogs rising due to item shortages
Nov '22 - Apr '23
Index, + = above average



Stockpiling due to supply or price concerns

For the first time since the start of the pandemic in February 2020, global business reports of stockpiling due to future price and supply concerns are running below typical levels. Firms are continuing with their efforts to offload surplus stock accumulated over the past couple of years to reduce costs and align their warehouses with the weakened economic outlook.

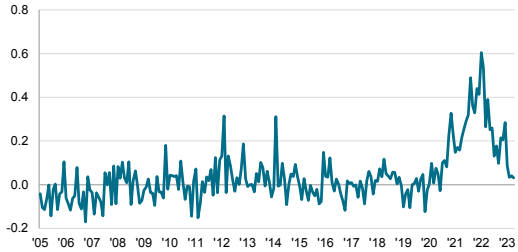
Stockpiling due to supply or price concerns
Supplier capacity, + = stretched, - = underutilized



Backlogs rising due to staff shortages

Further evidence of underutilized supplier capacity was seen in employment data, with reports of higher backlogs due to insufficient workforce numbers continuing to run broadly in line with historically normal levels. This suggests that suppliers have adequate staffing capacity to process their workloads.

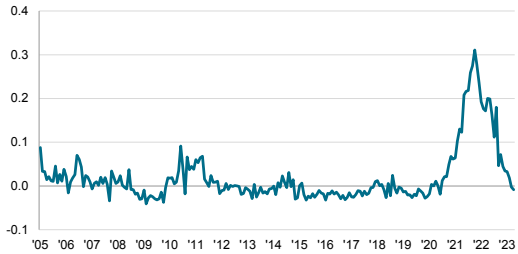
Backlogs rising due to staff shortages
Supplier capacity, + = stretched, - = underutilized



Backlogs rising due to item shortages

The recovery in global item supplies has withdrawn a significant amount of pressure on capacity as firms are able to source the inputs they require to provide their goods and services. Reports of backlogs rising due to item shortages are trending just below historically normal levels for the second month running.

Backlogs rising due to item shortages
Supplier capacity, + = stretched, - = underutilized





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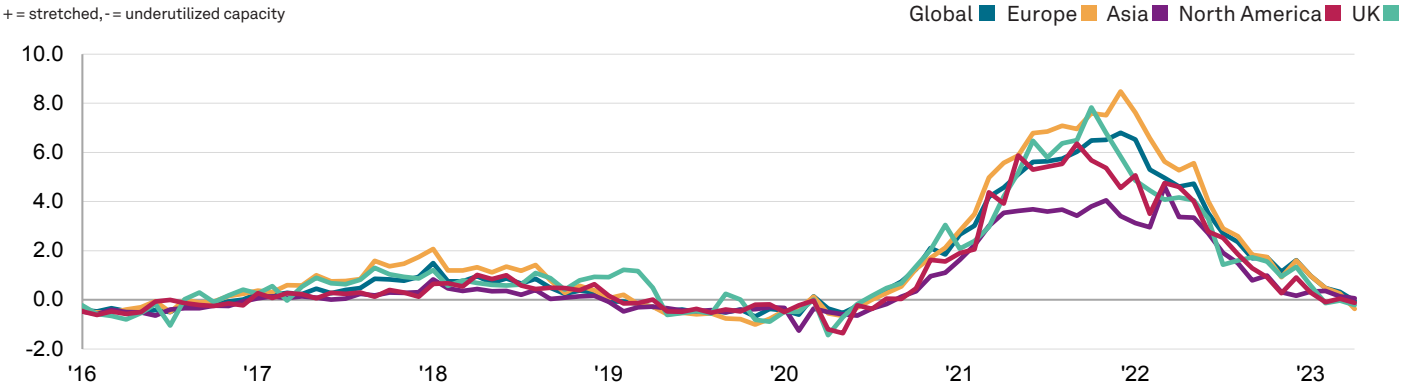
Regional trends

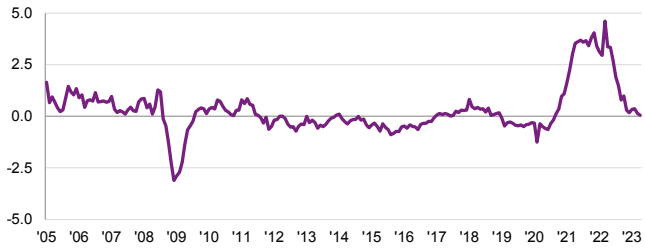
Supply Chain Volatility Index
+ = stretched, - = underutilized capacity



Europe Supply Chain Volatility Index
+ = stretched, - = underutilized capacity



Asia Supply Chain Volatility Index
+ = stretched, - = underutilized capacity



UK Supply Chain Volatility Index
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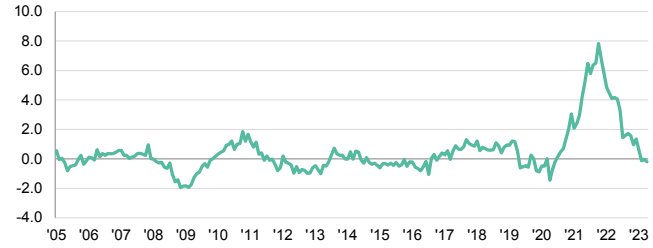

North America Supply Chain Volatility Index
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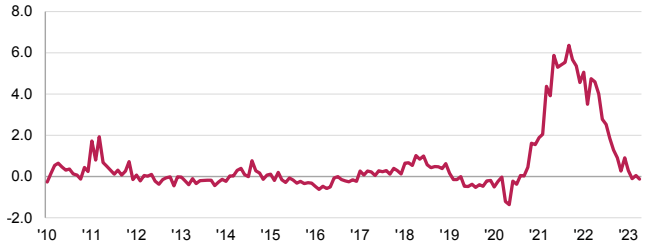



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Methodology

The GEP Global Supply Chain Volatility Index is produced by S&P Global and GEP. The GEP Global Supply Chain Volatility Index is derived from S&P Global's PMI™ surveys, sent to companies in over 40 countries, totalling around 27,000 companies. These countries account for 89% of global gross domestic product (GDP) (source: World Bank World Development Indicators).

The headline figure is the GEP Global Supply Chain Volatility Index. This a weighted sum of six sub-indices derived from PMI data, PMI Comments Trackers and PMI Commodity Price & Supply Indicators complied by S&P Global.

The GEP Global Supply Chain Volatility Index is calculated using a weighted sum of the z-scores of the six indices. Weights are determined by analyzing the impact each component has on suppliers' delivery times through regression analysis.

The six variables used are 1) JP Morgan Global Quantity of Purchases Index, 2) All Items Supply Shortages Indicator, 3) Transport Price Pressure Indicator, and Manufacturing PMI Comments Tracker data for 4) stockpiling due to supply or price concerns, and backlogs rising due to 5) staff shortages and 6) item shortages.

A value above 0 indicates that supply chain capacity is being stretched and supply-chain volatility is increasing. The further above 0, the greater the extent to which capacity is being stretched.

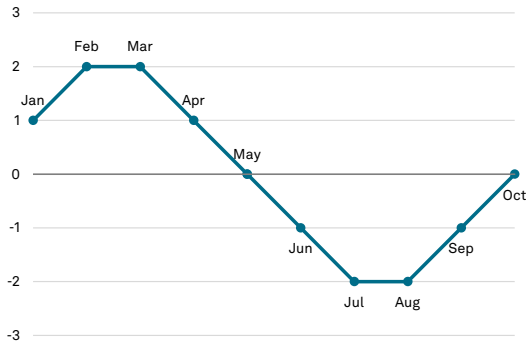
A value below 0 indicates that supply chain capacity is being under-utilised, reducing supply-chain volatility. The further below 0, the greater the extent to which capacity is being underutilized.

A Supply Chain Volatility Index is also published at a regional level for Europe, Asia, North America and the UK. The regional indices measure the performance of supply chains connected to those parts of the world.

For more information on PMI surveys, PMI Comments Trackers and PMI Commodity Price & Supply Indicators, and the GEP Supply Chain Volatility Index methodologies, please contact economics@spglobal.com.

Index interpretation

GEP Supply Chain Volatility Index, + = stretched, - = underutilized capacity



Month	Index	Interpretation
Jan	1	Supplier capacity being stretched
Feb	2	Supplier capacity being stretched to a greater degree than last month
Mar	2	Supplier capacity being stretched, but to same degree as last month
Apr	1	Supplier capacity being stretched, but to lesser degree than last month
May	0	Neutral, no change threshold
Jun	-1	Supplier capacity underutilized
Jul	-2	Supplier capacity underutilized to a greater degree than last month
Aug	-2	Supplier capacity underutilized, but to same degree as last month
Sep	-1	Supplier capacity underutilized, but to lesser degree than last month
Oct	0	Neutral, no change threshold

Data

Index, + = stretched, - = underutilized capacity

	Global Supply Chain Volatility Index	Demand	Item Shortages	Transport Costs	Stockpiling due to supply or price concerns	Backlogs rising due to...		Supply Chain Volatility Index			
						...staff shortages	...item shortages	Europe	Asia	UK	North America
Nov-22	1.15	-0.48	0.40	0.02	0.95	0.20	0.04	0.92	0.31	0.95	0.27
Dec-22	1.61	-0.52	0.33	0.02	1.46	0.28	0.03	1.60	0.17	1.34	0.91
Jan-23	0.97	-0.38	0.32	0.03	0.89	0.09	0.03	0.97	0.34	0.58	0.29
Feb-23	0.48	-0.23	0.23	0.03	0.41	0.03	0.02	0.48	0.36	-0.13	-0.10
Mar-23	0.32	-0.11	0.20	-0.01	0.21	0.04	0.00	0.26	0.14	-0.04	0.05
Apr-23	-0.04	-0.14	0.17	-0.01	-0.08	0.03	-0.01	-0.37	0.06	-0.21	-0.12

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