

Supply chain pressures: Taking stock of the outlook

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Summary

For the global economy, 2021 was defined by the recovery from severe lockdowns during the early part of the Covid-19 pandemic and the litany of supply chain pressures which arose from this. Perhaps the most prominent factor behind the disruptions has been a surge in demand as economies re-opened, with spending tilted towards goods and away from services. This has been exacerbated by a number of covid/recovery-related global production and transport issues, such as shipping delays, port congestions and labour shortages.

These disruptions have led to shortages of materials and components for manufacturers, subdued output and growing backlogs of work, impacting on product availability for consumers. Supply chain issues have also led to significant input cost increases for manufacturers, which is feeding through to higher consumer prices.

In December, we asked companies if they were experiencing significant supply chain disruptions and if so, how long they expected these to last. Only 10% of distribution firms and 13% of manufacturers were not facing substantial impacts, along with half of services firms.

Of those that were disrupted, over half of firms expected this to last until at least the second half of 2022 (58%), with over a quarter (28%) expecting disruptions to continue into 2023 or later. A further 16% were unsure about when disruptions would end. The range of responses likely reflects the uncertain outlook but also the multifaceted nature of the current spate of issues, with different firms facing a different set of circumstances.

Encouragingly, there are tentative signs that some aspects of supply chain pressure may be easing or at least stabilising. The number of job advertisements for drivers stabilised over the Autumn and fell sharply in the new year, delivery times are no longer lengthening, and input purchases are growing.

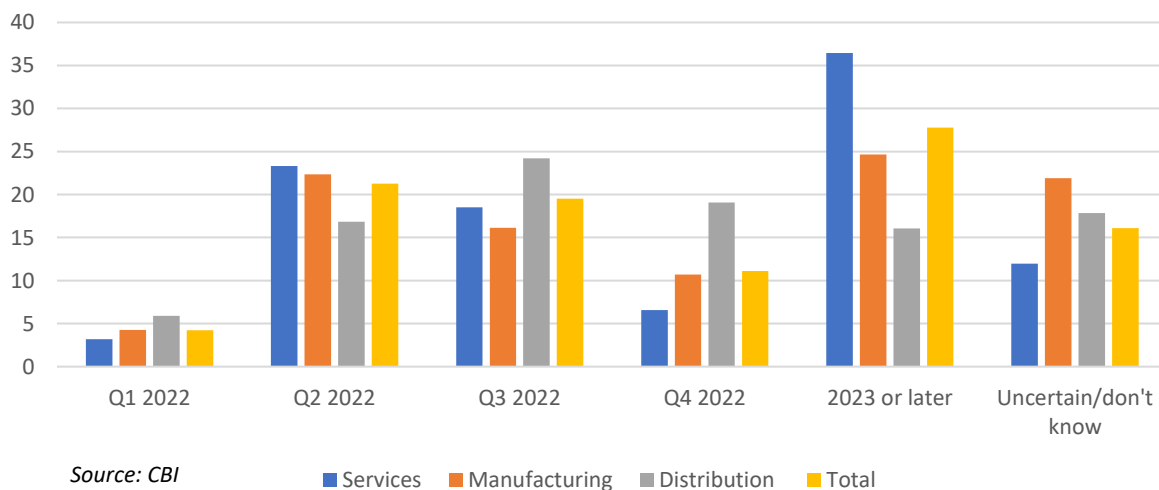
Conditions are expected to improve throughout 2022 as progress in combatting the virus improves demand for consumer services and the pace of goods demand growth eases back to more normal levels, supported by the usual post-Christmas and Chinese New Year lull, and the ongoing cost of living squeeze.

However, conditions are unlikely to return to pre-pandemic norms any time soon. Goods demand is expected to remain elevated at least while Covid remains a threat, but will probably be permanently higher in some industries. Some aspects of supply chain pressures will require the addition of new capacity even with a demand renormalisation, such as in the semiconductor industry which faces an accelerating growth trend. Even when all of these issues are solved, the large backlog of work that has accrued over the past year will take some time to work through.

So, supply chain disruptions are likely to remain with us in some form for the duration of 2022. However, the risks to this outlook are large in both directions. With supply chains stretched to capacity, any new disruption could cause headwinds to strengthen again and slow progress. By contrast, if goods demand growth slows faster than expected or even falls, this would ease pressure significantly. This could happen if inventories are wound down, the health situation improves faster than expected or consumer spending takes a downturn.

Below this article explores in more detail some of the various factors behind supply chain pressures, followed by some discussion around the impacts of these disruptions. Each section will consider the origins of these disruptions and the outlook over 2022.

How long firms facing significant supply chain disruption expect it to persist (%)



Factors behind supply chain pressures

Demand

Perhaps the most important aspect of the current supply chain disruption has been the surge in global demand for goods throughout the pandemic, requiring a higher level of output from producers in order to meet it.

The initial period of the global pandemic saw overall demand levels in the global economy fall, particularly for consumer services. Consumers were inhibited in their ability to spend by lockdowns and deterred by a combination of health and economic concerns. Firms, faced with unprecedented uncertainty, significantly cut back capital investment.

As economies re-opened throughout the second half of 2020 and into 2021, demand levels began to recover. The composition of demand remained in favour of goods, however, as consumer services continued to face the largest legal and voluntary restrictions on activity. In late 2021, US goods consumption was 14% above its pre-pandemic trend, while (as the below chart shows) goods consumption in the UK was 4% higher than pre-pandemic levels in Q3 2021, with services spending remaining 5% below pre-pandemic levels.

Goods demand will likely remain elevated while the pandemic continues. UK spending data from Barclays¹ transport and hospitality spending fell in mid-December as Omicron concerns became widespread, while spending in many goods-oriented sectors did not, indicating that consumers will continue to shift their consumption patterns depending on the current health situation.

Moreover, some of the changes in consumer behaviour are likely to persist. Anecdote and survey data indicates that hybrid working models will become the new norm for a large proportion of firms, bringing with it permanently lower transport and hospitality spending, and higher spending on home office equipment and in supermarkets. Research from McKinsey² also indicates that the amount that people consume live entertainment, flights and gyms may never fully readjust to pre-pandemic times. This may lead to a more permanent increase in demand for substitute goods, such as TVs, gaming consoles and treadmills.

The global goods demand spike would be enough to put pressure on supply chains alone, without the spate of disruptions that came with it, including the impact of lower investment on new capacity. One prime example of this is the semiconductor industry, which was already experiencing a secular increase in demand. Global sales of semiconductors in the quarter to November 2021 were 35% higher than the same period two-years ago. However, Goldman Sachs analysis³ indicates that Capex has only recently returned to 2019 levels and given the long lead time before new equipment and plants become operable, capacity is only expected to grow by 5-10% over the next couple of years. So, the semiconductor challenge is expected to remain severe during the first half of 2022 at least, and perhaps even longer if goods demand remains elevated.

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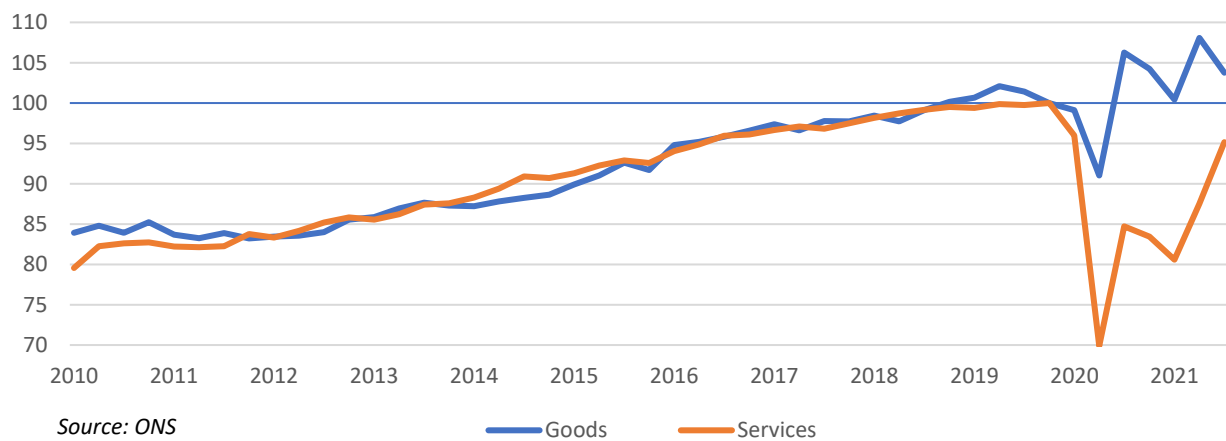
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² <https://www.mckinsey.com/industries/consumer-packaged-goods/our-insights/the-consumer-demand-recovery-and-lasting-effects-of-covid-19>

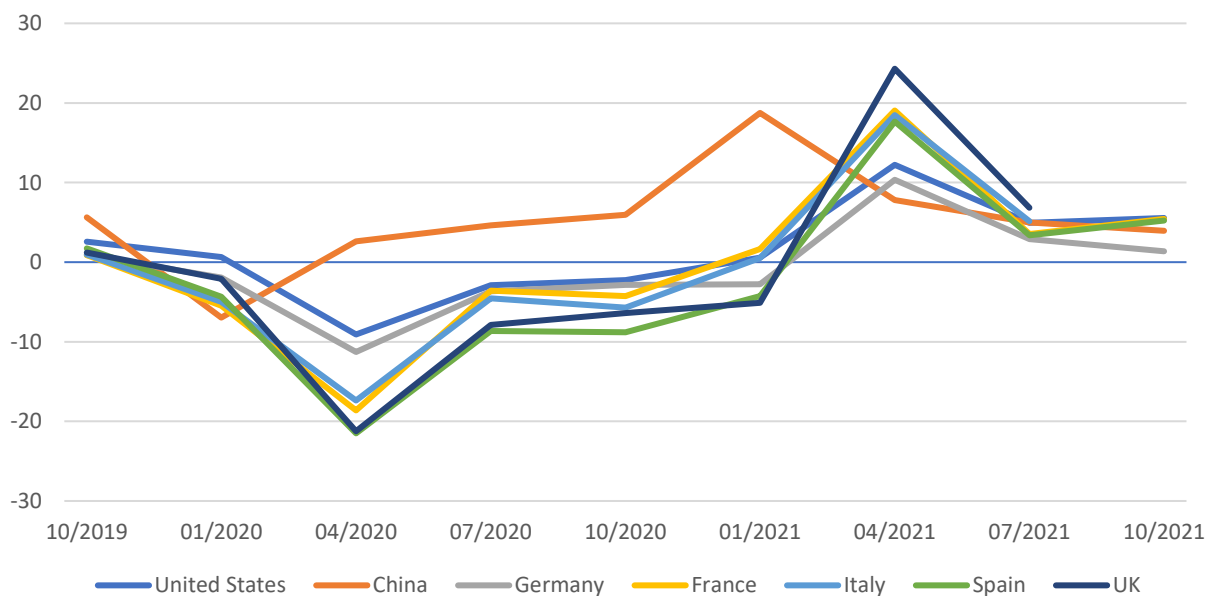
³ *Goldman Sachs*, 2021. Track My Package: A Roadmap for Supply Chain Normalization.

A normalisation of goods and services demand represents the fastest way to ease supply chain pressures. While spending patterns are unlikely to fully revert to pre-pandemic trends, the pace of global growth is slowing and should stabilise closer to more normal levels over the next year or so, allowing supply chains an opportunity to catch up. However, this outlook is highly uncertain with risks on both sides. The current wave of inflation in many countries may slow goods demand growth quicker than anticipated, while the degree to which spending patterns will normalise further could be overestimated.

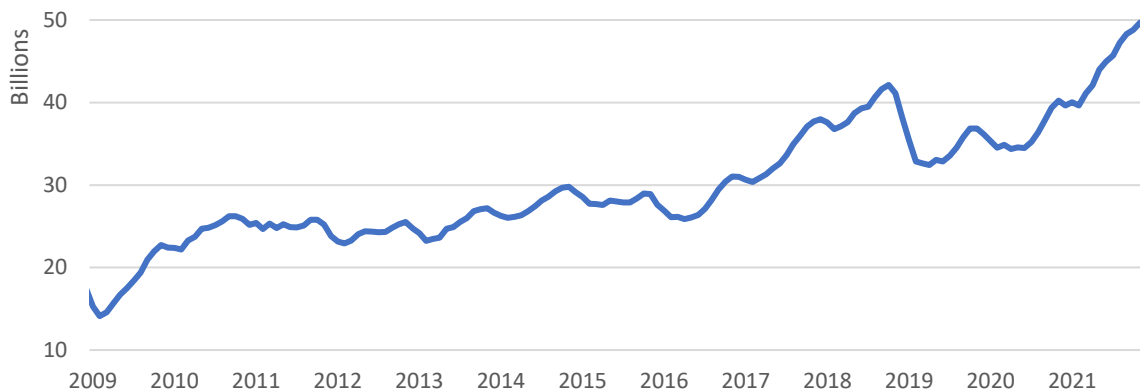
UK Household spending (2019 Q4=100)



Real GDP Growth (SA, y/y%)



Global semiconductor sales (3mma \$)



Source: Semiconductor Industry Association

Shipping

Growth in global demand for goods has strained the shipping industry, leading to significant delays. Capacity growth for container ships has been slow for a few years as the pandemic followed a period of trade uncertainty caused by geopolitical frictions, leading to subdued global exports and production. As global demand has recovered, shipping firms have delayed or reversed the planned retirement of cargo ships as a short-term reprieve, but this hasn't been enough to meet demand.

An interlinked issue, also caused by the goods demand surge, has been congestion at several major ports across the western world. This exacerbates the shipping problem, with one member stating in November around 12% of global capacity was waiting outside ports at any one time. It is difficult to know the exact reasons behind the delays, but anecdote suggests a lack of drivers with the specific qualifications needed to work within ports is playing a major role.

Currently, GoComet data points to delays in UK ports of around 3 – 25 days, which includes both the time that ships wait outside the port and time for the containers to be cleared from the port once the ship has arrived. ONS data suggests ship visits to UK ports dropped off over Christmas, but swiftly recovered in mid-January to levels seen throughout the autumn of 2021.

The outlook for UK port congestion will be linked heavily to the outlook for UK goods demand, which is discussed in more detail above. If goods demand remains elevated, port congestions may require productivity gains to be found. This may include hiring of more drivers at ports, or investment into port infrastructure. Fortunately, recent data from the British Ports Association⁴ points to port investment in 2021 surpassing pre-pandemic levels.

The outlook for the global shipping sector will depend on global goods demand levels, as well as port congestions across the world. US ports in particular remain a challenge, with 22% of shipping capacity waiting to berth globally at LA/Long Beach alone on 4 January⁵. GoComet data points to a

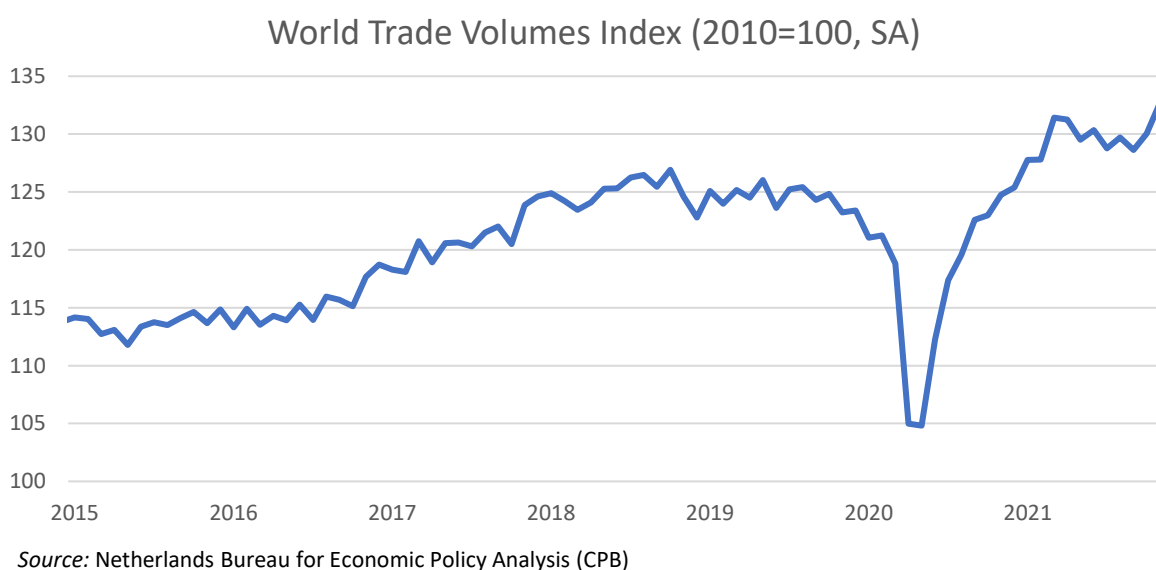
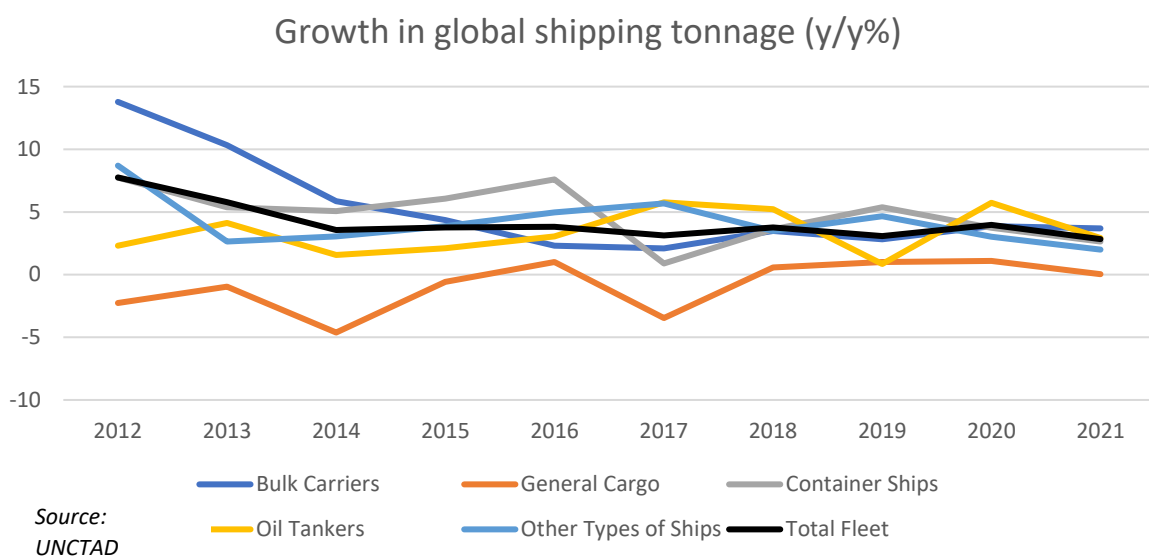
⁴ <https://www.britishports.org.uk/uk-port-investment-roars-past-pre-pandemic-levels-as-many-cargo-sectors-return-to-growth/>

⁵ <https://www.ft.com/content/21242e3b-298b-4a6f-a35f-32fdde905952>

significant easing in delays across US ports in the past month or so, however this data is volatile and might be reflecting the post-Christmas lull rather than an easing of longer term pressures.

If global goods demand fails to fully normalise, there is a risk that the current level of shipping capacity will not be enough, even when port congestions ease. While there are reports that orders for new ships have increased⁶, it is likely to take several years for many of these to sail, while anecdote suggests that some carriers are not yet ordering new ships due to long-term demand uncertainty.

The situation regarding shipping delays should improve gradually throughout 2022, supported by a slowdown in global goods demand growth. Port congestion across the world is likely to ease, due to both reduced trade volumes, easing driver shortages and efficiency gains.



⁶ <https://www.seatrade-maritime.com/shipyards/china-shipyards-newbuild-orderbook-183-end-nov>

Labour shortages

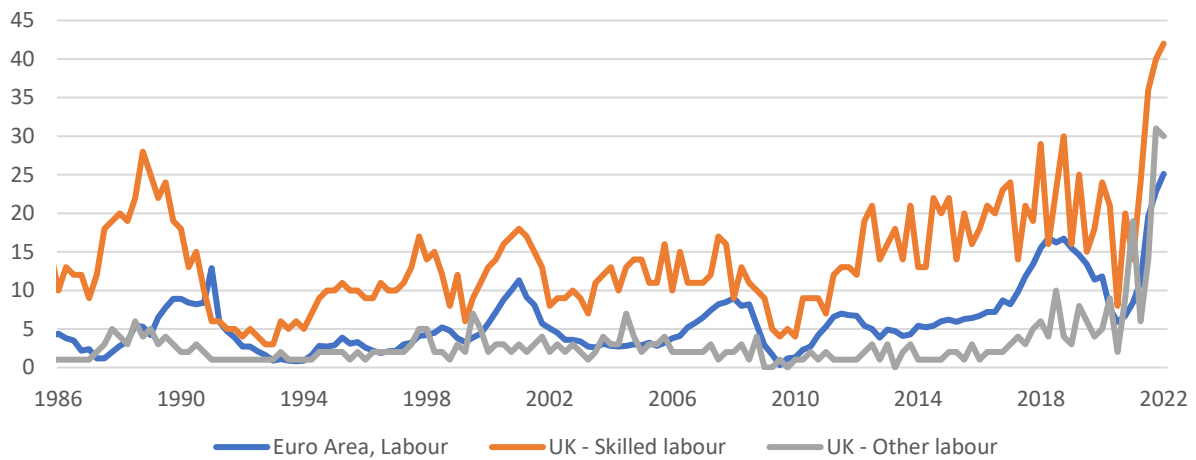
Labour shortages became apparent across the UK economy as social restrictions eased and activity recovered throughout the second half of 2021. Furthermore, the ending of the Job Retention Scheme has not yet brought much extra slack to the labour market as many had hoped. PAYE data shows that the number of paid employees increased by around 1.3m in the year to December. The number of vacancies grew to a record 1.2m in the three-months to December, while the unemployment rate fell further in the three-months to November (4.1% from 4.5% three months earlier).

Tightening labour market conditions, combined with the rapid increase in hiring activity, have led to bottlenecks across the economy. These labour shortages have added to supply chain disruptions, not only in the UK but in the US and across Europe too. Anecdotes suggest that key roles such as drivers and factory operatives have been impacted further in the UK by a reported net emigration of EU nationals during the pandemic. The net result of this has been limited manufacturing output and historically poor delivery times, both of which can be seen in the below graphs.

Anecdotes point to driver shortages continuing to cause delays, although the rate of new job postings seems to be stabilising (as the below chart shows). This has been supported by increased training capacity and higher wages being offered by many firms. This alone may not be enough to solve the driver shortage in its entirety, however, given that the occupation faced structural difficulties before the pandemic and the number of vacancies is estimated to sit at around 100,000 in the UK.

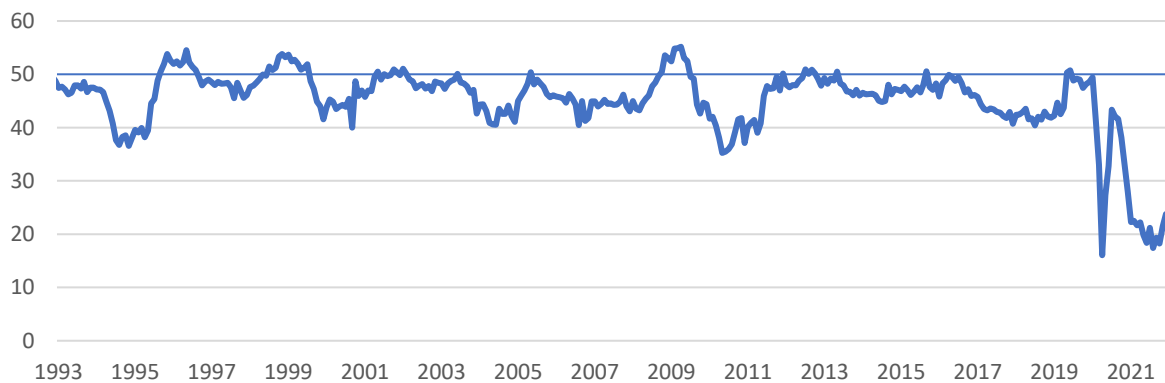
It is expected that wider labour shortages will gradually ease throughout 2022, supported by lower rates of absenteeism, as bottlenecks gradually dissipate. Indeed, the employment rate remains lower than before the pandemic, and the inactivity rate remains higher, indicating that some slack remains. There is a risk that inactive individuals do not return to the labour market as expected, with the percentage who state they want a job currently lower than it was before the pandemic. In this case, it may require higher wage growth or an improvement in the health situation (due to shielding) to coax people back into work. There is also the risk that the degree of skills mismatch in the labour market has risen during the pandemic (a concept that is very difficult to measure in real-time), with potential solutions to this (training and reskilling) likely to require a longer time frame and perhaps government intervention to realise results.

Labour shortages as a factor to limit production in the next three months (% of manufacturers)



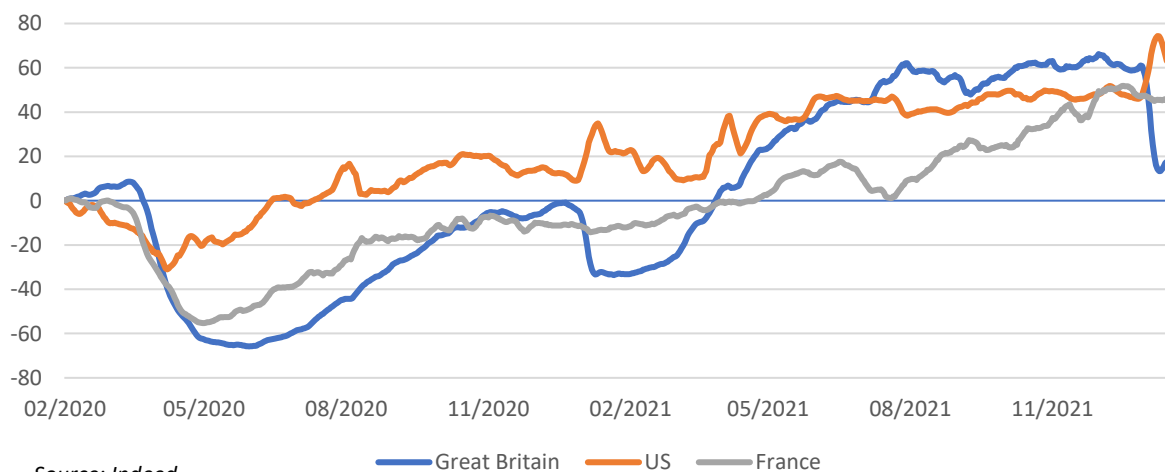
Source: CBI, European Commission

UK Manufacturing suppliers' delivery times (index, <50 = lengthening)



Source: IHS Markit

Change in driver job postings since 01/02/2020 (SA, %)



Source: Indeed

International restrictions

The first phase of the pandemic in spring 2020 was the most disruptive for the global supply chain, with severe lockdowns shutting down manufacturing and construction sites across the world. With subsequent waves of coronavirus cases, lockdown measures have tended to become less severe. This is especially true for measures pertaining to the workplace, which have increasingly focused on working from home where possible as opposed to broad closures of businesses.

However, that is not to say that health and safety measures are not impacting on production, with ONS BICS data⁷ suggesting that over half (55%) of UK manufacturers are continuing to enforce social distancing rules. It is hard to ascertain the impact this may be having on output or capacity, which is possibly being masked by other issues such as skills shortages. Bank of England DMP data from December⁸ does find that firms estimated the impact of health & safety measures to increase average unit costs by 7.3% throughout Q1 2022.

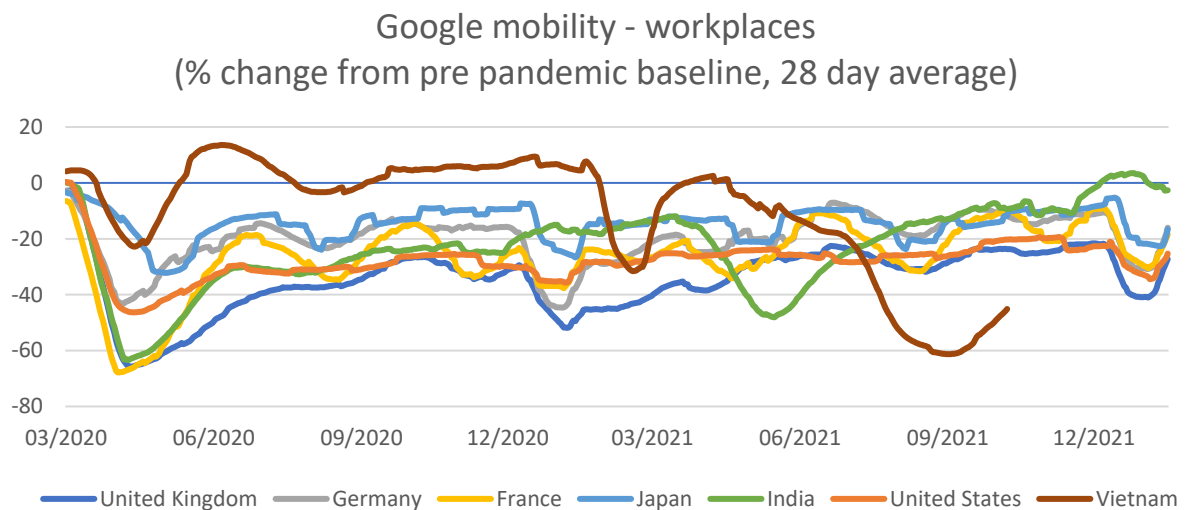
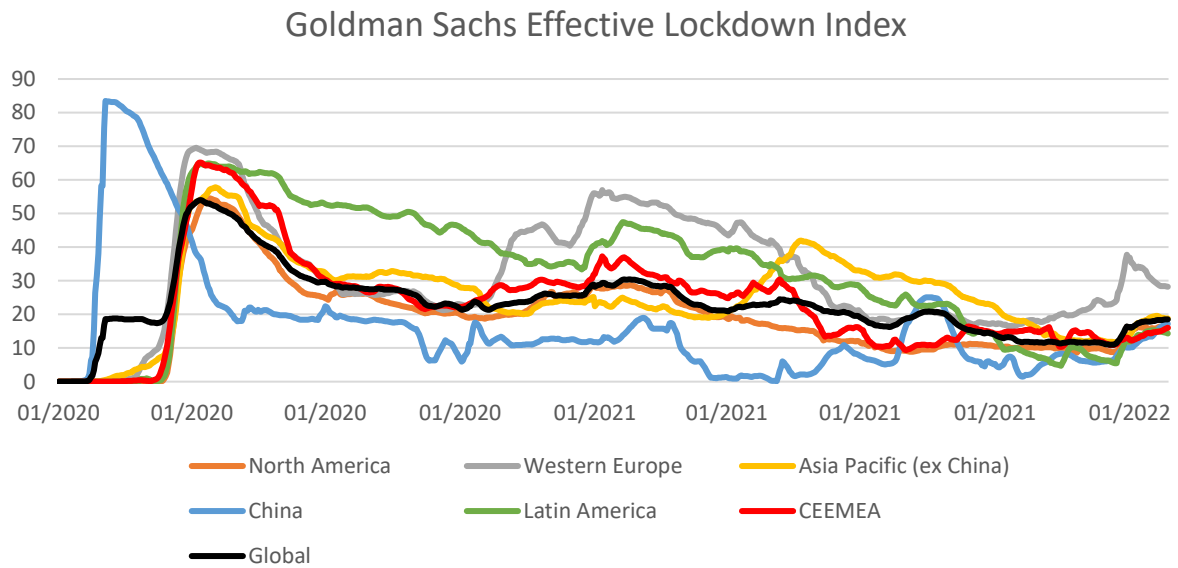
While Covid-19 continues to play an increasingly minor direct role in supply chain, there have been some recent incidences of severe lockdowns in Asian countries such as Vietnam which was, until recently, continuing to pursue a zero-tolerance policy to Covid. China is now the only major country left with this approach, partially shutting down the world's third largest port in August over a single covid case. The city of Xi'an was under lockdown for the majority of January, exacerbating the global chip shortage due to some large manufacturing plants in the city.

However, as long as supply chains are stretched to capacity, the effects of black swan events will likely be greater than otherwise would have been the case. Take the Suez Canal blockage in March 2021 as an example, which Maersk estimated at the time would deplete capacity by 20-30%. The blockage led to further port congestions as a greater number of ships turned up in a smaller period of time than would be the case, while also delaying the return of empty containers to Asia. Several geopolitical and weather-related events have also impacted the global supply chain over the past year, particularly for energy supply, with global gas reserves depleted this winter compared to usual.

⁷

<https://www.ons.gov.uk/economy/economicoutputandproductivity/output/datasets/businessinsightsandimpactontheukconomy>

⁸ <https://www.bankofengland.co.uk/decision-maker-panel/2021/december-2021>



Impacts of supply chain disruptions

Goods shortages and backlogs

The litany of supply chain disruptions discussed above has led to manufacturers lacking the materials and components needed to produce finished goods, an issue which 55% of CBI ITS respondents in January said would impact output in the next three months. This is a particularly acute issue for sectors that rely on semiconductors (such as motor vehicle and electronic goods manufacturers).

As a result, output in the UK and around the world has been outpaced by growth in orders. Stocks of finished goods within the manufacturing sector have been depleted, with the output that has been produced used to fulfil orders instead. However, the combination of subdued production and logistics delays has also led to inadequate levels of stocks for wholesalers and retailers.

Inputs shortages have also resulted in increasing backlogs of work within the manufacturing sector, which is evident across the world. Order books have grown and delivery quotes have lengthened, with some CBI members being told they may have to wait for over a year for orders to be fulfilled. Others have seen suppliers set allocations or simply focus on their most valued customers.

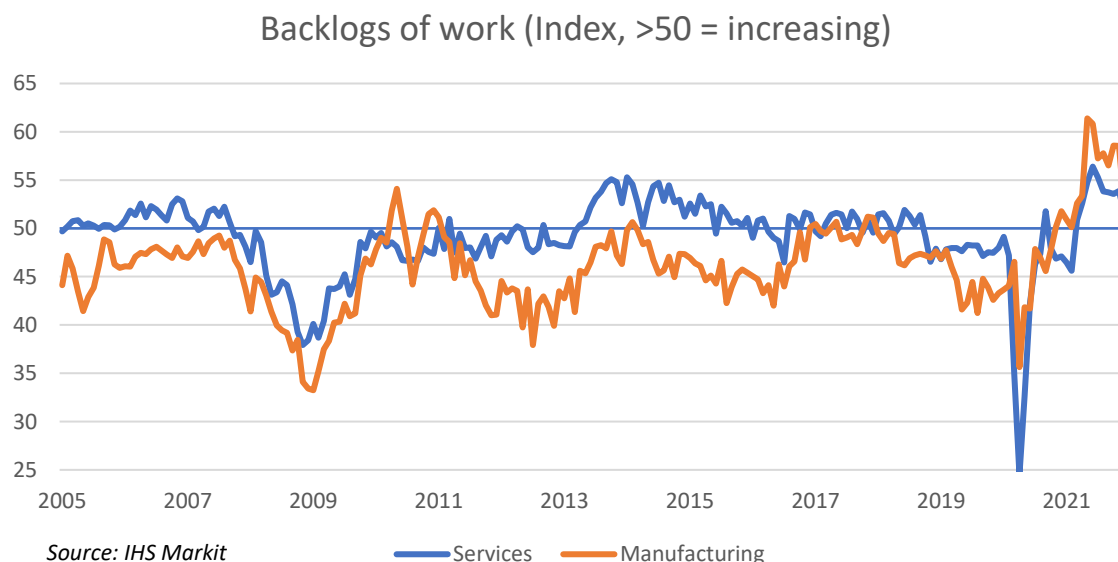
There are tentative signs that the situation has started to ease, with CBI data showing that volumes of raw material stocks grew in the three months to January, at the fastest pace since the three months to April 2019. The aforementioned 55% of manufacturers with materials/components shortage concerns is also lower than when the question was previously asked in October (64%).

Member anecdotes reveal the significant effort that has been put into stock building by firms across the economy. For many, the aim of the game has become to buy in inputs/products as much as possible, foregoing any previous inventory strategy. Many firms have looked to diversify their list of suppliers, as well as making orders in larger quantities and further ahead of schedule than usual.

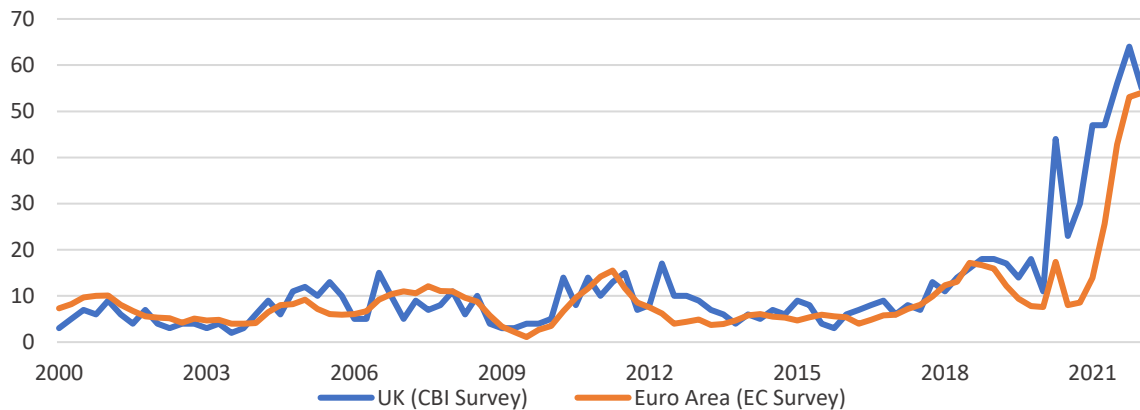
It seems that the increase in manufacturing input purchases is not yet enough to turn the tide of goods shortages, with CBI data finding that stocks of finished goods within the manufacturing and distribution sectors remained inadequate in January. Flash PMI data also points to backlogs of work continuing to grow in both manufacturing and services in January.

The situation is expected to gradually improve over 2022 as demand growth eases and challenges related to labour shortages and logistics improve. As firms continue to find success in accruing inventories at an aggregate level, it is likely that eventually their stock building endeavours will become less aggressive. This should ease pressure at ports and on logistics firms further. This may not help with shortages of specific items that remain constrained by industry-specific factors, such as semiconductors.

Members are also highlighting the risk that a lack of available warehouse space in the UK becomes an exacerbating factor, with Cushman & Wakefield (a firm that collect data on available warehouse space) believing there could be a shortfall by the second half of 2022.

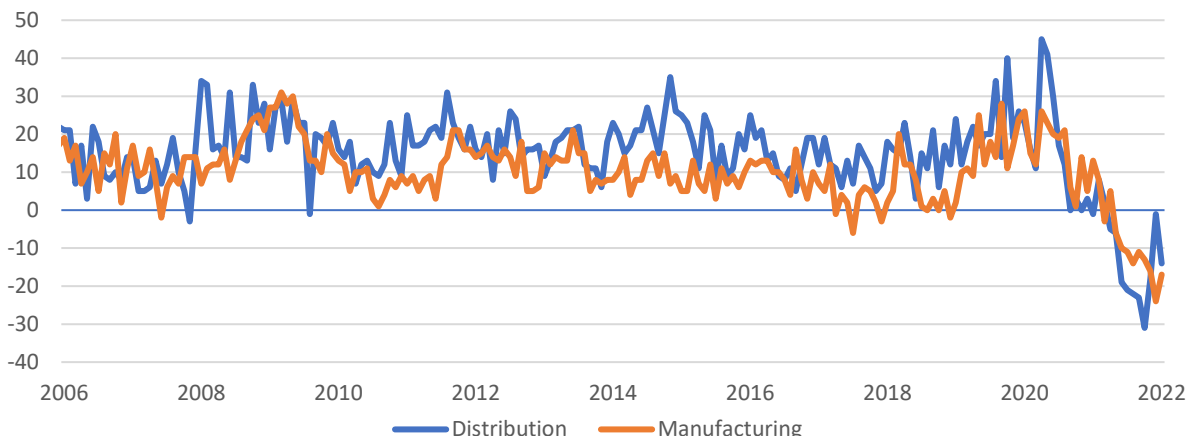


Manufacturing Firms Reporting Input/Equipment Shortages Affecting Production (% of manufacturers)



Source: CBI, European Commission

CBI stock adequacy (% balance*)



*Weighted % of firms who view stocks as more than adequate minus weighted % of firms who view stocks as inadequate

Inflation

A lack of availability of materials and components have led to an increase in costs for manufacturers, with official data pointing to a 14% increase in input prices in the year to December. The composition of this price pressure has changed throughout the past year, with HWWI data showing that non-energy commodities such as metals and timber were driving price growth in the spring but peaked in May and began to fall back down. Energy prices continued to rise beyond this and have peaked twice in recent months, in October and again in December.

Official input price data doesn't include shipping costs, which have also risen sharply. The closely watched Baltic Dry Index indicates that the cost of shipping peaked last year at over three times the 2019 average. The true cost is likely to be greater, as anecdote suggests that many firms are having to pay for more shipping at spot rates (which are generally much higher) rather than contract rates due to a lack of availability of the latter, with shipping indices unlikely to reflect this compositional effect. Port congestions and tight shipping capacity is also leading to some cargo being sent to

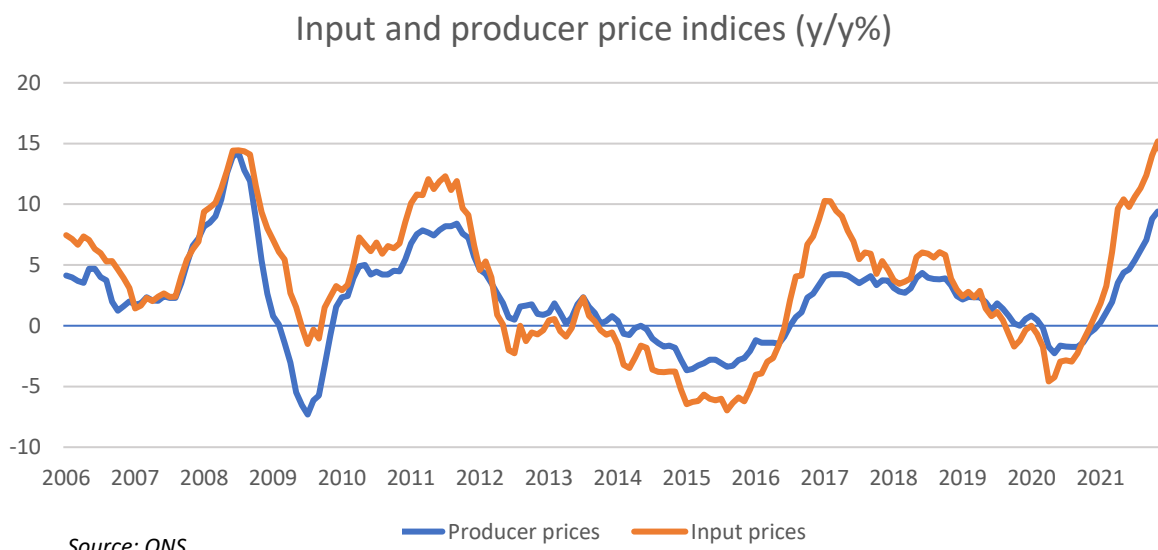
Rotterdam or elsewhere instead, requiring smaller ships to transport containers to the UK, increasing the total cost. Indeed, some firms talk about their shipping costs increasing 4 or 5-fold during the pandemic.

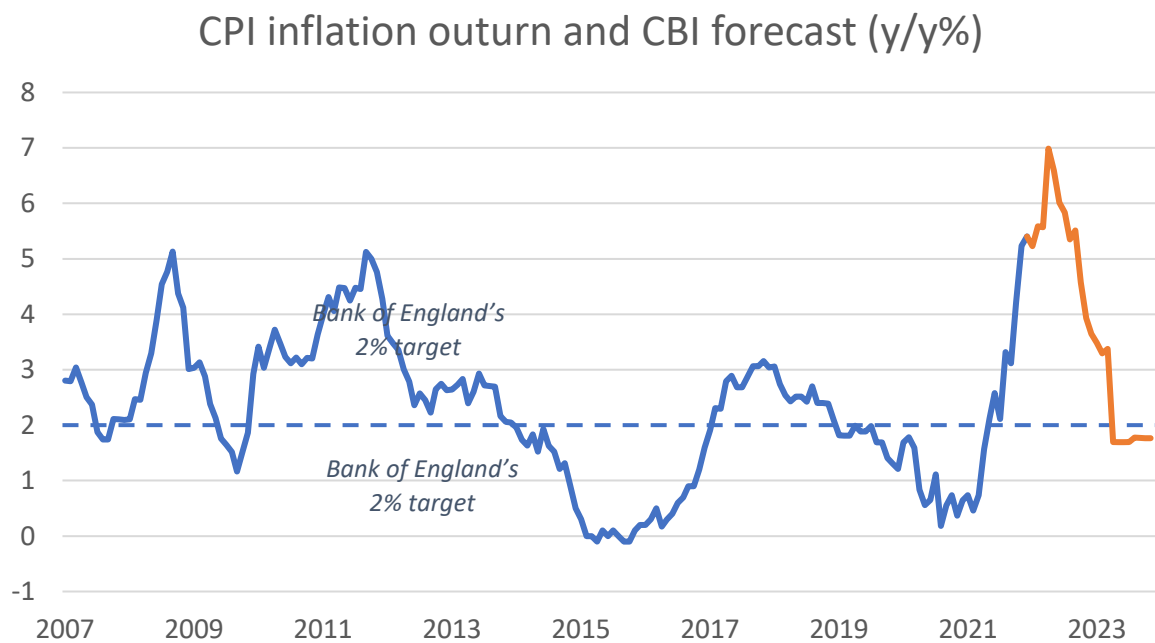
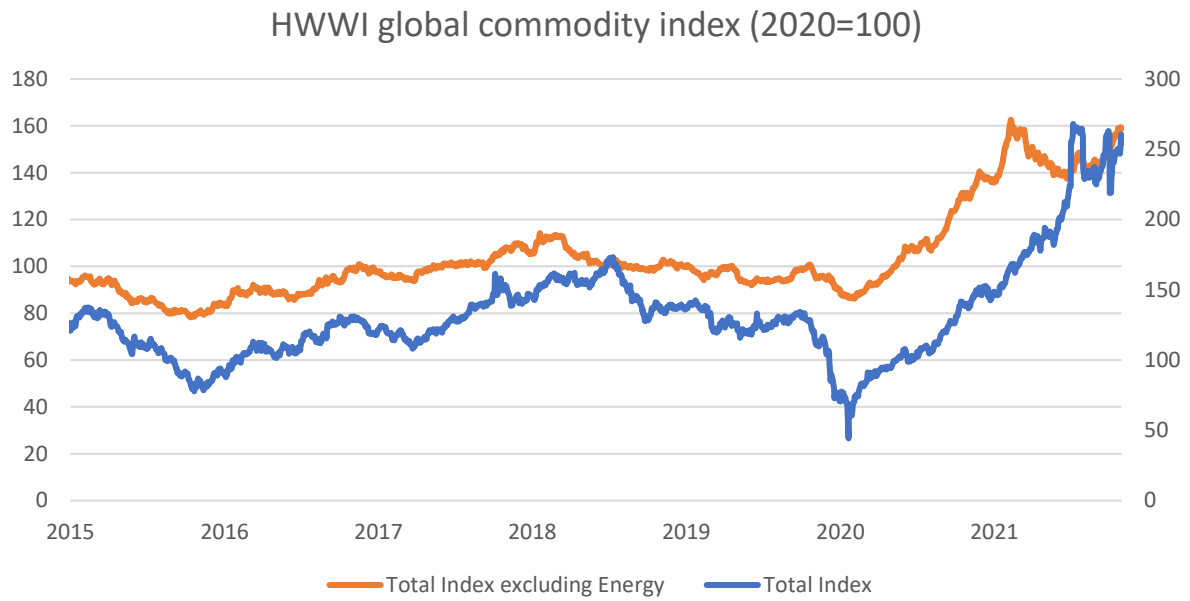
Cost pressures have partially passed through the supply chain, with producer output prices increasing by 9% in the year to December, and consumer prices increasing by 5.4%, the latter marking the fastest rate of growth since 1990. Member anecdote suggests that many firms have been holding off on price increases as much as possible, with some instead looking to cut costs or improve revenues/margins elsewhere in order to do so. However, the longer that cost pressures persist, the more that business resistance to price increases will be tested.

Currently, the trend of global price pressures is difficult to read. Both energy and non-energy commodity prices seem to be on the rise once again, the former hindered by a cold snap across Europe and geopolitical issues, while shipping price indices have diverged in recent months. The labour market picture seems to be clearer, with survey data and anecdotes suggesting that firms have increased wages more significantly for some critical roles (such as drivers) but wider salary increases have been, and are expected to remain, more subdued (CBI Q4 surveys pointed to expected private sector wage growth in the next 12 months of 2.8 to 3.1%)

Most economists expect that global price growth will peak around Q1 this year. UK inflation is expected to peak in April, when the next Ofgem price cap change comes into effect and brings further increases in energy bills. CPI inflation is then expected to gradually ease and return to the Bank of England's 2% target a year later.

This outlook is highly uncertain, however, and depends on global developments. A number of factors - including demand, weather and geopolitics - could lead to the situation failing to improve as expected. However, price pressures could dissipate more quickly than expected. This may happen if consumer spending growth slows due to rising energy bills, or if global goods demand levels fall due to an improvement in the health situation or a larger than expected slowdown after Christmas and the Chinese New Year.





Source: CBI, ONS