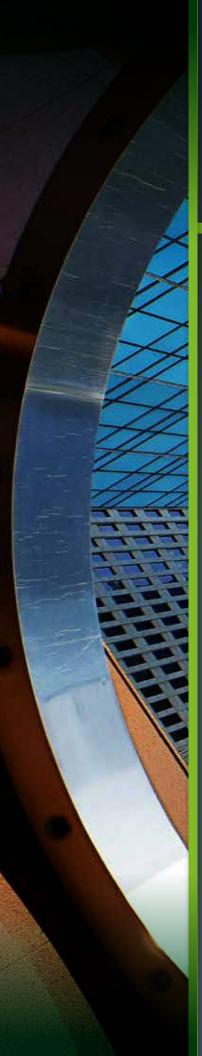
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INFLATION UPDATE RIDE THE DOWNSIDE BUT DON'T EXPECT CENTRAL BANKS TO DECLARE VICTORY

FEBRUARY 2023



EXECUTIVE SUMMARY

In the late summer we outlined how several global factors had switched from inflationary to disinflationary forces; arguing that inflation was in the process of peaking globally. These disinflationary forces have gained momentum, and inflation is likely to moderate relatively rapidly as a result.

As inflation falls back, celebrations are likely to start, and markets have already started to anticipate the start of the easing cycle. In our view, the period of stubbornly low inflation that has characterized recent decades is over and a more challenging period for central bankers lies ahead. As a result, central banks are likely to be more cautious than many expect.

THE PRICE SURGE FROM THE WAR IN UKRAINE HAS DISSIPATED, AND COVID-RELATED BOTTLENECKS ARE LARGELY BEHIND US #3

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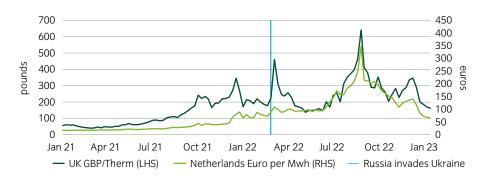
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CONCLUSION #11

THE PRICE SURGE FROM THE WAR IN UKRAINE HAS DISSIPATED

Although the war in Ukraine continues, the inflationary impact is diminishing. European gas prices have dropped to below the levels they were trading at before the invasion. After scouring the world for alternative sources of supply, European countries entered the winter with storage close to capacity, only to find themselves amidst one of the warmest winters on record. Although the risk of future energy spikes is far from over, the huge inflationary impulse from the war in Ukraine has dissipated for now, and energy prices are likely to be a disinflationary force within CPI statistics in the months ahead as the year-on-year price changes turn negative. A similar picture can be seen for the prices of other commodities impacted by the invasion including food and fertilizer.

Figure 1: Gas prices have returned to pre-invasion levels1



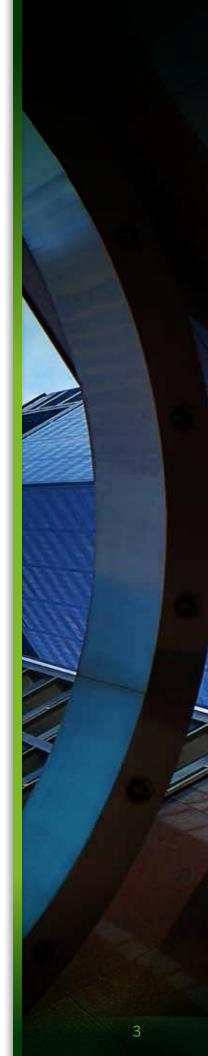
COVID-RELATED BOTTLENECKS ARE LARGELY BEHIND US

Supply chain constraints had a significant impact on inflation

Analysis from the New York Fed² suggests that US inflation would have been three percentage points lower in 2021 without the supply bottlenecks that the world faced as the world reopened after the pandemic. Between December 2019 and December 2021, the New York Fed estimates that around 40% of US inflation can be explained by supply shocks. Of course, normalizing global supply chains already explain some of the easing in inflationary pressures into the end of 2022, but this disinflationary force is likely to grow stronger over 2023 as supply chains continue to loosen, putting downward pressure on margins.



Between December 2019 and December 2021, the New York Fed estimate that around 40% of US inflation can be explained by supply shocks.



¹ Source: Insight and Bloomberg. Data as of December 31, 2022.

² https://libertystreeteconomics.newyorkfed.org/2022/08/how-much-did-supply-constraints-boost-u-s-inflation/

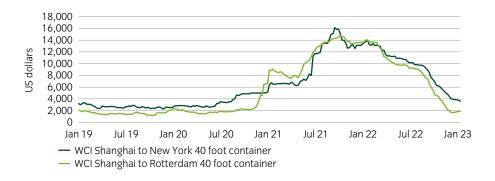


One industry that was particularly impacted by the pandemic was shipping

A heavy dependence on crew from the developing world, where vaccination rollouts were slow, resulted in staff shortages and a steep rise in global shipping costs. Businesses reliant on bulk orders of goods shipped from Asia and sold on low margins in the West found themselves faced with no choice but to raise prices.

As the impact of the pandemic faded, and newer variants weakened, so the supply of crew increased, and shipping costs started to decline. The cost of a container from Shanghai to the US and Europe peaked in October 2021 and fell extremely sharply in the autumn of 2022. Shipping rates to Europe have returned to pre-pandemic levels, and shipping rates to the US are now only marginally higher than before the pandemic (see Figure 2). This provides considerable relief to global supply chains and goods prices.

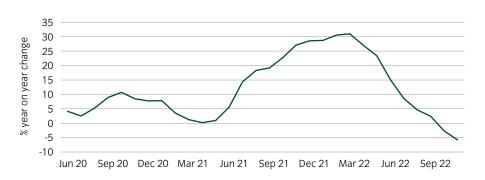
Figure 2: Container prices have normalized – and that should take pressure off goods prices³



PRICE PREMIUMS IN KEY SECTORS, SUCH AS AUTOS, ARE DISAPPEARING

The global chip shortage, which restricted the supply of a range of high-tech goods and autos, is yet to disappear entirely, but the worst of the bottlenecks are starting to ease. In certain economies such as the UK and US, production shortages in the auto industry drove up the prices of second-hand vehicles. Although a relatively minor component of inflation, the increase in prices was sufficient to have a meaningful impact. A similar story was apparent across a range of consumer electronics, with those able to get supply often able to resell well above the retail price. With prices normalizing, this will likely be another source of disinflation in 2023 (see Figure 3).

Figure 3: UK used car prices are now declining⁴



³ Source: Insight and Bloomberg. Data as of December 31, 2022.

⁴ Source: Insight and Bloomberg. Data as of December 31, 2022.

Changing CPI methodology will exacerbate the disinflationary impact in the US

Inflation baskets are updated periodically to reflect changing consumption patterns and to ensure they better reflect household costs. In the US, the Bureau of Labor Statistics is updating its methodology, switching to an annual rather than biannual update from January 2023, and with weights based on the consumption expenditure of two years prior. Although this may make sense in the long term, the starting point for this change is an interesting one: as the initial reset will be based on consumption data from the early period of COVID, an extraordinary period for consumption patterns. Notably, the weight of goods prices within the inflation basket will rise and the weight of services will fall. Pantheon Macroeconomics estimate that this will result in the weight of used auto prices increasing by 0.4% to 1.6% and new autos by 0.2% to 2.3%. So, just as auto prices start to rapidly decline, the weight they have within CPI calculations is going to increase, exacerbating the disinflationary impact.

More broadly, as inflation baskets evolve at the start of 2023 to reflect changes in consumption expenditure, a number of forecasters expect large increases in the weights of segments such as utilities or transportation. The impact of this will vary between countries but, for those countries where the weights increase, it will likely compound the disinflationary impact as energy prices fall.

Price pressures have peaked in the manufacturing sector

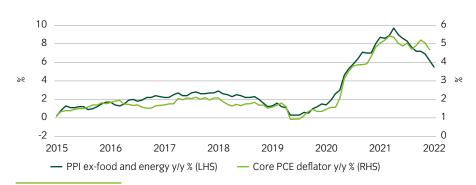
Declining transportation costs, and an easing in supply bottlenecks, is gradually feeding into the manufacturing sectors of major economies. Survey data shows a clear peak in manufacturing price pressures during 2022 (see Figure 4). In the US, survey data from the Institute for Supply Management suggests the majority of manufacturers are now experiencing declining input costs. In Europe, the energy crisis has delayed the impact, but survey data from the ifo Institute show the number of German companies planning to raise prices is now in decline. A similar trend is apparent across the eurozone.

Figure 4: Manufacturing companies are telling us that prices are falling⁵



As a result of this, producer prices are expected to trend lower through 2023, and key measures of inflation are likely to follow (see Figure 5).

Figure 5: As input prices moderate, so key measures of inflation are likely to follow⁶



⁵ Source: Insight and Bloomberg. Data as of December 31, 2022.



⁶ Source: Insight and Bloomberg. Data as of December 31, 2022.

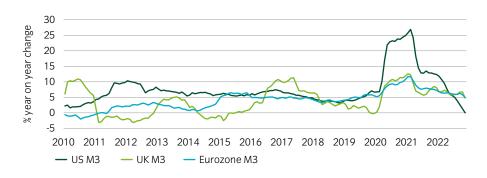


EXCESS LIQUIDITY IS BEING WITHDRAWN

We have previously highlighted the way that central banks, especially the US Federal Reserve, reacted to the pandemic by following the same game plan they used for the global financial crisis. Expecting a collapse in aggregate demand, quantitative easing was reintroduced at an unpreceded scale and money supply surged as a result (see Figure 6). But, with the pandemic causing severe disruptions to global supply chains, both supply and demand contacted at the same time, leaving output gaps largely unchanged. Effectively, the vast amounts of injected money were used to finance increases in government spending, boosting demand in economies with little spare capacity and squeezing prices higher.

With global central banks scrambling to regain credibility in 2022, monetary policy has been tightened considerably, and quantitative easing has become quantitative tightening as balance sheets are wound down. Money supply growth in the US has trended down to zero and is likely to contract in 2023. With central banks no longer underpinning fiscal excess, governments are likely to be more cautious in the years ahead, especially following events in the UK where gilt yields spiked upwards following an attempted fiscal easing.

Figure 6: US money supply growth is likely to turn negative in 20237





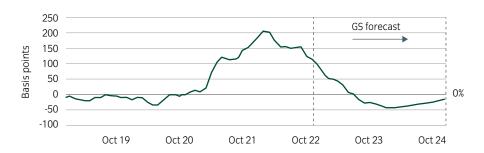
With central banks no longer underpinning fiscal excess, governments are likely to be more cautious in the years ahead, especially following events in the UK where gilt yields spiked upwards following an attempted fiscal easing.

⁷ Source: Insight and Bloomberg. Data as of December 31, 2022.

THE BATTLE BETWEEN GOODS AND SERVICE INFLATION WILL BE KEY

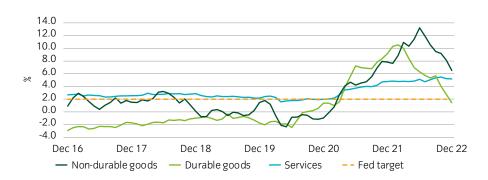
The factors we have outlined so far all suggest that goods price inflation is headed downwards, and this trend is likely to gather pace in early 2023. Analysis from Goldman Sachs suggests that core US goods prices inflation could shift into negative territory by mid-2023 and remain negative through 2024 (see Figure 7).

Figure 7: Goldman Sachs expect US core goods inflation to turn negative in 20238



Although a moderation in goods inflation will be welcomed by many central banks, there is little sign of relief within the service sector (see Figure 8). Whereas goods inflation is largely driven by transportation costs, input costs and the status of supply chains, service inflation is largely driven by wages and the inflation expectations that households have when demanding future wage rises. Labor markets are firm in many developed markets, and workers have a degree of pricing power that they haven't enjoyed for many years. Although service inflation may gradually start to subside, it is likely to remain above historical trends for some time. If goods prices decline, as we expect, then inflation is likely to moderate at a rapid pace, even with this sticky underling service inflation.

Figure 8: US service sector inflation remains elevated9



Although central banks are likely to be focused on core inflation, a decline in headline levels of inflation could bring inflation expectations downwards, relieving pressure on wages.

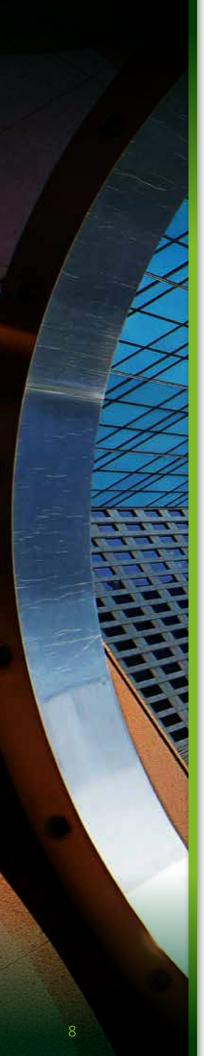
Labor shortages are not easy to fix – which will likely make service inflation sticky

Unfortunately, wage inflation may be more complex to resolve than just via inflation expectations alone. A problem that followed the pandemic was an unexpected shortage of labor. Large numbers of workers left the workforce during COVID and didn't come back, taking the opportunity to retire, or to change their role entirely. Participation rates continue to be problematic – in the US, participation rates remain well below pre-pandemic levels, and significantly below historical levels (see Figure 9). There is no easy fix to this problem, and many industries and individuals are still in an adjustment phase as they adapt to the post pandemic world, trying to find a balance between the return to office environments



⁸ Source: Department of Commerce, Goldman Sachs Global Investment Research.

⁹ Source: Insight and Bloomberg. Data as of December 31, 2022. Shows PCE Deflators.



and working remotely. The European Union is taking a more proactive approach to the problem, launching a Labor Migration Platform¹⁰, which will seek to attract skilled and talented people from third party countries. Elsewhere, higher rates and slower growth may solve the problem more naturally.

Figure 9: The US labor participation rate remains well below historical levels¹¹



SOME UNCERTAINTIES REMAIN IN THE SHORT TERM

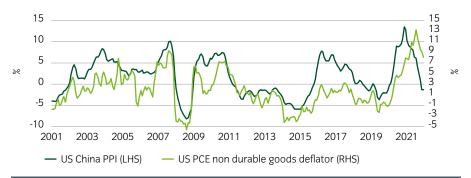
China's reopening could be both disinflationary and inflationary, and it's unclear which will be the greatest force

After three years China has abandoned its zero-COVID approach, where it attempted to eradicate COVID entirely by isolating infected citizens, and with it all border restrictions and lockdowns.

Disinflation: Reopening supply chains

Strict COVID lockdowns in key cities such as Shenzhen, Guangzhou and Dalian saw millions of workers confined in their homes, causing production problems across a range of industries, from high tech to consumer goods. As factories reopen, major corporations will have greater visibility on supply and a new wave of disinflation driven by low-cost Chinese exports should sweep around the world. As we can see in Fig 10, there is a close correlation between China's producer price inflation and US non-durable goods prices.

Figure 10: Chinese PPI has historically been a key driver of US non-durable goods prices¹²



Inflation: Increases global demand

Although an important source of global goods exports, China has also become a significant source of global demand, both in consumer goods and commodities. As it reopens, so Chinese consumers and industry could start to draw in global resources and add to price pressures.



As it reopens, so Chinese consumers and industry could start to draw in global resources and add to price pressures.

¹⁰ Source: https://ec.europa.eu/commission/presscorner/detail/en/ip_23_103

¹¹ Source: Insight and Bloomberg. Data as of December 31, 2022.

¹² Source: Insight and Bloomberg. Data as of December 31, 2022.

THE COMMODITY CYCLE REMAINS A WILDCARD

Oil could be the commodity to monitor

Commodity prices may yet play an important role in where inflation settles over the years ahead. Several key commodity prices have declined through the second half of 2022, and commodities are no longer a significant source of inflationary pressure. In part, this can be explained by a softening global economic outlook and the unwinding of the impact from events in Ukraine. However, in global oil markets another factor has been in play, with the US drawing down its strategic petroleum reserves (SPR) to exert downward pressure on prices and put political pressure on Russia. In December, the US Department of Energy announced that it would reverse this policy, with the SPR to start to repurchase oil in 2023¹³.

Figure 11: Oil prices have declined, but could they resume an upward trend in 2023?14



With the Chinese economy reopening after its most recent pandemic-related lockdown, the International Energy Agency have increased their forecasts for oil demand growth in 2023 to 1.9m b/d . At the same time, they expect global supply to grow by just 1m b/d 15 . If the US SPR becomes a marginal buyer rather than a marginal seller, and global economic growth is a little firmer than expected, it could underpin another upward leg in oil prices.

Future supply could be a broader problem for commodity prices

Many energy and mining companies are reacting to higher prices very differently than they have in the past. Debt repayment and cash returns to shareholders are being prioritized over investment in new capacity, especially in industries such as energy where there is pressure to replace fossil fuels with renewables (see Figure 12). More broadly, although long-term demand is expected to continue to grow, projections for supply are now flatlining, or even declining for some commodities such as copper (see Figure 13), leading to growing long-term supply gaps. Unless there is a dramatic change in corporate investment activity, it is difficult to see how this problem can be solved other than through higher prices.

Figure 12: In sectors such as oil, cashflows are not being reinvested into new capacity as they have been historically¹⁶

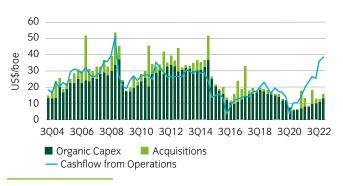
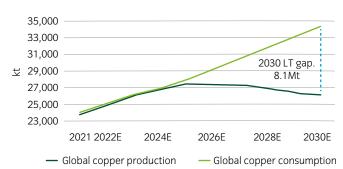


Figure 13: It's unclear where supply is going to come from in key markets such as copper¹⁷



¹³ https://www.energy.gov/articles/doe-announces-repurchase-oil-strategic-petroleum-reserve



¹⁴ Source: Insight and Bloomberg. Data as of December 31, 2022.

¹⁵ https://www.iea.org/reports/oil-market-report-january-2023

¹⁶ Source: Company reports, Bernstein analysis, Bloomberg.

¹⁷ Source: Woodmac, Goldman Sachs Global Investment Research.

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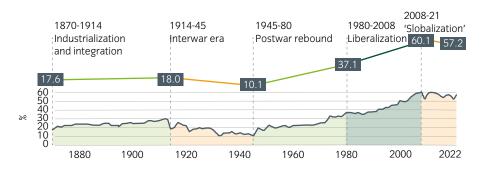
DEGLOBALIZATION IS A LONGER-TERM PROBLEM FOR INFLATION

A reassessment of globalization started under President Trump, who used tariffs as a tool to incentivize corporations to prioritize domestic production. This had limited success, with multinational corporations more likely to shift production out of China to another low-cost country than back to the US.

However, the rapid breakdown of global supply chains that occurred during the pandemic, and the realignment of global politics after the invasion of Ukraine has resulted in a deeper re-assessment of production models. At the same time, a focus on decarbonization and more sophisticated assessments of corporate carbon footprints, are likely to put increasing pressure on corporates relying on long-distance transportation for goods in future. The world appears to have entered a period of deglobalization, potentially reversing a key source of global disinflation that has been in play since China's acceptance to the World Trade Organization in 2001 (see Figure 14).

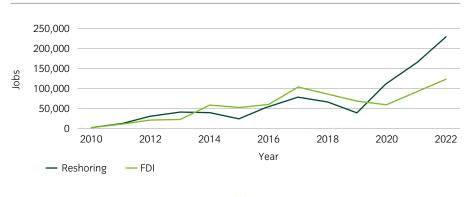
Figure 14: Globalization is in retreat for the first time since the Second World War¹⁸

World Bank trade openness index, 1870 - 2021



The reshoring of corporate supply chains to the US appears to be accelerating Although the pandemic clearly kickstarted a major acceleration in the reshoring of production to the US, President Biden's Inflation Reduction Act has provided a further boost, providing financial incentives for corporates to shift production back to the US. 2022 is expected to the third year in a row that jobs created by reshoring are greater than jobs created by inward foreign direct investment to the US (see Figure 15).

Figure 15: US reshoring is accelerating sharply¹⁹



The world appears to have entered a period of deglobalization, potentially reversing a key source of global disinflation.

https://reshorenow.org/content/pdf/2022_Q3_data_report.pdf

¹⁸ Source: Piie Charts (piie.com/research/piie-charts

¹⁹ Source: Reshoring Initiative, Q3 2022:

CONCLUSION

As we move further into 2023, we believe inflation data is likely to prove encouraging, with markets growing increasingly confident that the peak in inflation is firmly in the past. If goods prices fall rapidly, it is possible that inflation may converge with central bank targets more quickly than currently expected, and this would likely result in calls for the easing cycle to start.

In our view, such calls would be misplaced and, unless economic activity deteriorates significantly, major central banks are likely to take a cautious view. As such, although the pace of tightening has decelerated as interest rates have become more restrictive to growth, we believe that cuts are still some way off. We believe that central banks will need to see clear evidence that service sector inflation has started to moderate before having the confidence to ease policy. This is unlikely to occur until the end of 2023 at the earliest. If inflation does moderate more rapidly than currently expected, and consensus forecasts are dragged downwards, we may even see an increasingly hawkish message, as policy makers struggle to prevent markets from effectively easing for them via lower bond yields.

Over the longer term, as the disinflationary impulse from goods prices fades, central banks could face a far more challenging environment than the one seen over recent decades. The impact of deglobalization could be significant, and the commodity cycle may be paused rather than over.

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