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Global reflation?

Flora Budianto, Giovanni Lombardo, Benoit Mojon and Daniel Rees

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Flora Budianto
flora.budianto@bis.org

Giovanni Lombardo
giovanni.lombardo@bis.org

Benoit Mojon
benoit.mojon@bis.org

Daniel Rees
daniel.rees@bis.org

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Key takeaways

- *Inflation has risen in many countries. In conjunction with a rebound in GDP growth and evidence of significant bottlenecks in some sectors, this has prompted concerns that the low inflation era of recent decades could be nearing its end.*
- *A closer look at the data reveals that the pickup in inflation can be ascribed largely to base effects, increases in the prices of a small number of pandemic-affected items and higher energy prices. A common thread through these causes is that their effect on inflation is likely to be temporary.*
- *A more persistent increase in inflation would likely require a material pickup in labour costs and an unmooring of inflation expectations. However, wage growth remains contained and the medium-term inflation expectations of professional forecasters and financial markets show little sign of de-anchoring. These developments are consistent with medium-term inflation moving towards central bank targets.*

Introduction

Inflation has picked up in a number of countries. Although some increase was expected as economies recover from the worst of the Covid-19 pandemic, the size of the rise and its cross-country scope have been larger than most forecasters had anticipated. Fingers have been pointed at the massive fiscal and monetary stimulus programmes underway in the United States and other economies, alongside signs of a broader rebound in demand. At the same time, production bottlenecks and disruptions to supply chains have been larger and more persistent than anticipated. These developments are fuelling concerns that inflation could overshoot central bank targets for an uncomfortably long time (Blanchard (2021), Summers (2021) and Wolf (2021)).

In this Bulletin, we review the evidence for a persistent resurgence of global inflation above central bank targets. We argue that the evidence for such a persistent resurgence is limited and does not warrant the concerns expressed in some recent public commentaries. We make three observations in support of our conclusions. First, although inflation has increased, it is overshooting central bank targets in only a few countries. Second, higher inflation largely reflects factors such as "base effects" in which prices that had declined early in the pandemic return to their previous levels; sharp increases in the prices of a small number of items affected by bottlenecks and supply disruptions; and higher energy prices. These factors are likely to affect inflation only temporarily. Third, there is little sign of the forces that are normally associated with a more persistent rise in inflation, most notably wage growth and medium-run inflation expectations.

Recent inflation developments

The current debate on a resurgence of inflation has centred on the United States where the economic rebound, against the backdrop of significant fiscal and monetary stimulus, is particularly strong. US consumer price index (CPI) inflation has increased considerably, reaching 5.0% in year-on-year terms in May 2021 (Graph 1, left-hand panel).[1] This is almost five percentage points above its trough of 0.2% in

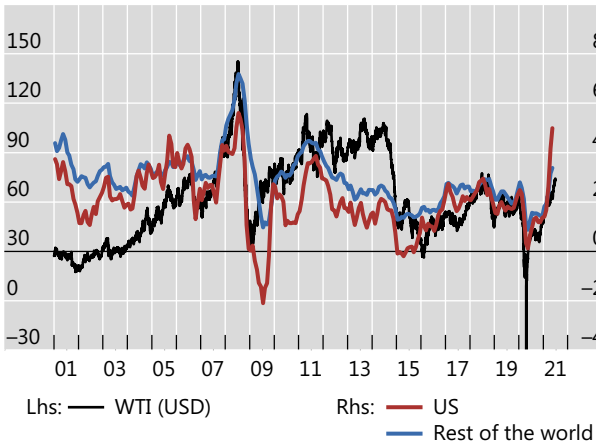
[1] We focus on CPI inflation for comparability across countries. Trends in US PCE inflation – the Federal Reserve's preferred inflation measure – are similar to those of US CPI inflation.

April 2020. While this increase is large relative to the generally stable inflation outcomes of recent decades, it is comparable to increases in the aftermath of previous episodes of significant economic distress. For example, as the US economy emerged from the GFC, inflation rose by 470 basis points, from a trough of -1.9% in July 2009 to a peak of 2.8% in January 2010. That increase, however, was quickly unwound. By November 2010, US inflation had declined to 1.1% and remained low for most of the subsequent decade, due in part to low or declining oil and energy price inflation.

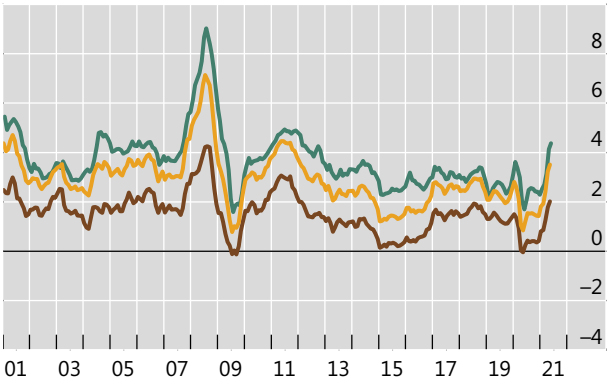
Global inflation

Per cent — Graph 1

CPI inflation in the United States vs rest of the world, and oil prices



Inflation in advanced and emerging market economies



Note: In the left-hand panel, the blue line shows the first principal component of 31 advanced and emerging market countries. In the right-hand panel, the yellow line shows the first principal component of 32 countries, the brown line shows the first principal component of 12 advanced economies and the green line shows the first principal component of 20 emerging market economies. The principal components are rescaled by adding the mean of inflation during the period 2001–21 for the respective country groups and multiplying by the standard deviation of inflation over the same period. The principal components are highly correlated with cross-country averages of inflation for the respective country groups.

Sources: OECD; authors' calculations.

Signs of a turn-around in inflation are also apparent in several other countries. A measure of global inflation based on a principal component analysis that extracts the component of inflation rates that is common across a sample of 31 countries (excluding the United States) has ticked up in recent months, although less strongly than in the United States (Graph 1, left-hand panel).[2] By this measure, global inflation is only marginally above its pre-pandemic level. The pickup in inflation has been similar across advanced economies (AEs) and emerging market economies (EMEs), where only the level of inflation differs (Graph 1, right-hand panel). At the same time, the common global trend masks heterogeneity in the extent of the inflationary impulse. While inflation has risen above central bank targets in some countries, it remains close to or below target in others.

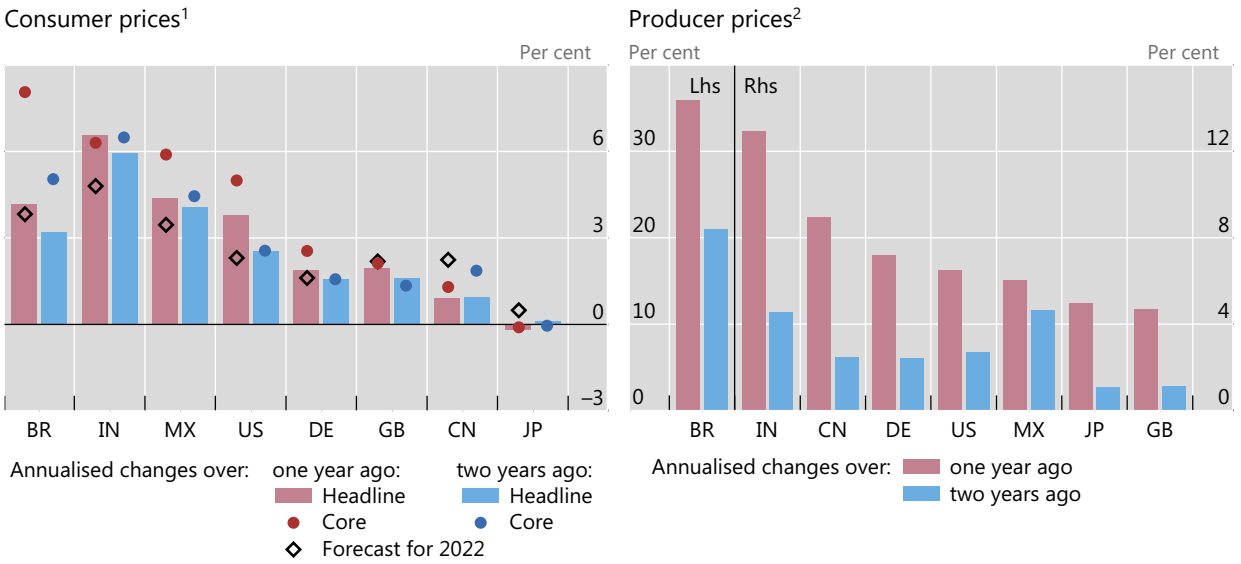
A deeper dive into the numbers reveals that the rise in inflation can be ascribed in large part to "base effects", as prices that declined early in the pandemic bounce back. One can compensate for these base effects by measuring inflation over a longer window to "look through" the price declines of early 2020.[3] In many countries, annualised price changes over the past two years are noticeably lower than the latest year-on-year figures, which compare current prices with the depressed ones of 12 months ago (Graph 2,

[2] The global inflation measure accounts for roughly 60% of the variation in national inflation rates, indicating significant international inflation co-movement. This co-movement has several intuitive explanations, including that the business cycle is itself global, that economic and financial integration implies strong cross-country spillovers (Landau (2011)) and similarities in monetary policy regimes across countries (Ciccarelli and Mojon (2010)).

[3] In some months of 2020, items equivalent to over 20% of the US CPI and 30% of the euro area CPIs showed price declines in year-on-year terms, compared with an average of a little over 10% in the years leading up to the pandemic.

left-hand panel).[4] In Brazil and the United States, annualised inflation calculated over the past two years was some 2 percentage points below the latest year-on-year figures. Similar patterns are observed in other countries, such as Mexico and Germany. Base effects are even more noticeable for producer price inflation (Graph 2, right-hand panel), and are apparent in countries such as China, India and the United Kingdom, where the increase in CPI inflation has so far been contained.

The base effect on inflation — Graph 2



[1] Headline and core inflation as of May 2021 and forecasts as of June 2021. [2] As of May 2021.

Sources: Consensus Economics; Datastream; national data; BIS calculations.

Base effects have operated differently across sectors. They have been particularly large for items such as hotels and airfares that were severely affected by the pandemic. More recently, production bottlenecks have also fed through into large increases in the prices of a small number of goods, used cars in the United States being a leading example. The highly concentrated nature of price increases is indicated by trimmed mean inflation measures, which exclude items with the highest or lowest price changes. In May 2021, the US trimmed inflation[5] was 2.37% lower than headline CPI inflation, the largest gap in the last 10 years. This is another indication that the higher inflation rates we currently observe may be driven largely by sectoral relative-price increases and not by a truly generalised price increase.

Commodity prices, and in particular energy prices, are typically key drivers of inflation in a number of countries. As shown in the Appendix, this also appears to be the case this time around. For example, US inflation predicted by energy prices alone would be even higher than that observed. It is in part held back by residual slack in domestic activity. The impact of higher commodity prices has been felt particularly keenly in EMEs, where food and energy account for a large share of consumption baskets. As well as their direct effects, higher commodity prices also raise price growth for other goods through second round effects. Part of the rise in commodity prices reflects base effects, as many of these prices fell sharply early in the pandemic. Accordingly, the difference between one- and two-year average inflation rates is smaller for core inflation than for headline inflation (Graph 2, left-hand panel). However, the rise in commodity prices has also been fuelled by stronger demand as economic growth in China, the United States and other

[4] Another reason to consider inflation measures calculated over a longer window is that the difficulty of measuring prices during the strict lockdowns of mid-2020 makes price indices in those months less reliable (ECB 2020).

[5] Here we refer to 16% trimmed-mean CPI: leaving out the lowest and highest 8% of the distribution of price increases of CPI components. In May 2021, trimmed inflation in the US was 2.6%.

AEs gathers momentum. Indeed, oil prices are now above pre-pandemic levels, while the prices of many food items and metals have soared and are at their highest levels in several years.

A common thread that runs through these causes of higher inflation is that they are likely to be temporary. Base effects naturally represent a one-off shift in the price level. Localised supply bottlenecks have shown up, but have so far been resolved swiftly. Further, commodity prices have risen substantially on several occasions in recent decades without triggering a sustained rise in inflation.

What could trigger a more persistent rise in inflation?

Historically, persistent inflationary episodes have been associated with three factors, individually or jointly: (i) sustained demand in excess of supply; (ii) sustained wage increases in excess of labour productivity growth, reflecting changes in the bargaining power of workers and employers; and (iii) de-anchoring of inflation expectations. It can be argued that the first is the least worrisome from a policy perspective, as aggregate demand could easily be slowed down by appropriate monetary and fiscal policy interventions. This is especially true at the current economic juncture, as aggregate demand is supported in good part by temporary fiscal packages and supply shortages are primarily the consequence of lockdown measures. The other two factors might respond less or less quickly to policy actions, especially once ingrained.

Considering these factors in turn, there are indeed a few signs of accelerating wage growth – with the caveat that labour cost measures are hard to interpret because of large pandemic-induced shifts in labour force composition. That said, labour compensation per employee – a broad measure of wages – remains in line with its pre-pandemic trend in most economies, and is somewhat below it in Korea, the euro area and Japan (Graph 3, left-hand panel). An exception is the United States, where labour compensation per employee is more than 6 percentage points above its pre-pandemic trend. This, however, seems to reflect changes in labour force composition. A concentration of job losses among low-income workers, as occurred in the pandemic, mechanically raises this wage measure, even if those who remain employed experience only modest wage growth. The US Employment Cost Index wage measure, which controls for changes in labour force composition, gives no indication of an acceleration in wage growth.[6]

Even if improving labour market conditions did lead to higher wage growth, the rise in inflation would likely be moderate based on Phillips curves estimated over recent decades. As is well known, the sensitivity of inflation to capacity pressures has been remarkably low, particularly in AEs. This may reflect structural developments. Globalisation of product and labour markets has lessened local constraints on production and eroded the bargaining power of workers.[7] This, in turn, has reduced the likelihood and intensity of wage-price spirals.[8] In this regard, it is notable that inflation in China, which as the marginal producer in many goods markets exerts a major influence on global inflation, remains contained.

Possibly the most pernicious driver of sustained rises in inflation is the unmooring of inflation expectations. An instance of this could be an increased sensitivity of expectations to recent large increases in inflation. To give a sense of magnitude, if inflation expectations become as "backward-looking" as they were in the 1970s and 1980s, such that increases in inflation become embedded in inflation expectations, a given tightening of the output gap would deliver twice as much inflation as more recent estimates imply (Graph 3, right-hand panel).[9]

However, there are few indications of a de-anchoring of inflation expectations, at least over the medium-term. Market commentators and economists expect inflation to be closer to target in most countries in 2022 than in 2021, including the United States and EMEs where inflation is currently elevated.[10] Financial market-based measures also point to stable expectations. In major AEs, the term structure of

[6] Composition adjusted wage measures, such as the Employment Cost Index, are available for only a few countries.

[7] See Auer et al (2017). Relatedly, Forbes (2019) presents evidence that globalisation has flattened the domestic Phillips curves.

[8] See Lombardi et al (2020).

[9] At the same time, backward-looking inflation expectations reinforce low inflation when output falls short of its potential level.

[10] See Graph 2 (left-hand panel) and Graph I.10 in BIS (2021).

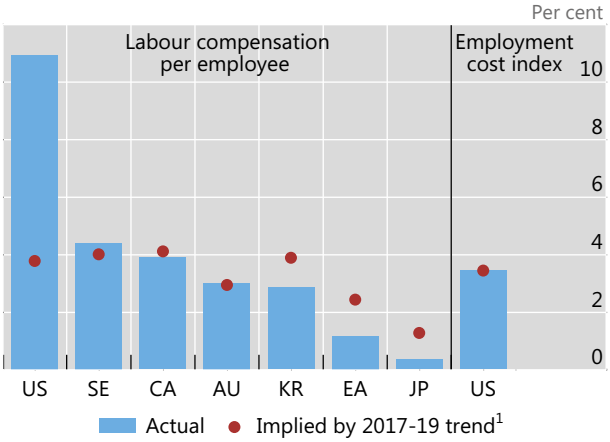
inflation expectations has recently shifted up, but also inverted (Graph 4, left-hand and middle panel). Investors anticipate higher inflation in the short run, but expect it to decline again over the medium-term. Starting at levels of around 3% for 1-year contracts, US inflation swaps in June are approaching levels close to the Federal Reserve's inflation goal for longer maturities. Market-based inflation expectations for the euro area are even lower; the whole term structure remains below 2%, reaching 1.5% at the longer end.[11] Thus, the recent increase in medium-term inflation expectations seems better described as a normalisation in response to an improved economic outlook, with large relative price changes, rather than a sustained pickup in trend inflation.

In addition, the pass-through of current inflation shocks to medium-term inflation expectations has remained stable. We evaluate this sensitivity by the effects of changes in 1-year inflation expectations on 5-year forward inflation expectations (ie financial market-based expectations of inflation 6–10 years in the future). We report these estimates and their change over time for the US and the euro area (Graph 4, right panel). Since 2011, a change in 1-year inflation expectations has typically been associated with a change in 5-year 5-year forward inflation expectations of 0.2 to 0.4 times as large. This sensitivity has not increased since the start of the pandemic and has actually declined in the United States since late 2020.

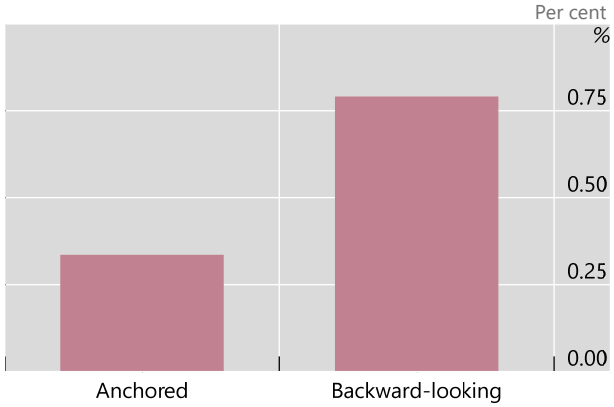
Labour costs and Phillips curves

Graph 3

Wage growth remains in line with pre-pandemic trends[1]



Inflation will increase more if expectations de-anchor[3]



[1] Per cent increase in each measure of labour costs between Q4 2019 and Q1 2021. [2] Per cent increase in measure of labour costs implied by extrapolating the linear trend of each series calculated between January 2017 and December 2019 to the latest observation. [3] Long-run response of inflation to a permanent 1 percentage point increase in the output gap. Estimates based on the model $\pi_{it} = \alpha_i + \beta_1 \pi^{ye}_{i,t-1} + \beta_2 gap_{i,t-1} + \varepsilon_{i,t}$, where $\pi_{i,t}$ is quarterly CPI inflation in country i in quarter t, $\pi^{ye}_{i,t}$ is year-on-year inflation and $gap_{i,t}$ is the output gap, measured using an HP filter with $\lambda = 1600$. The model is estimated on an unbalanced panel of 14 AEs over two samples: (i) Q1 1970–Q4 1989; and (ii) Q1 1990–Q4 2019. The "Anchored" expectations bar is calculated using the coefficients of the later sample. The "Backward-looking" expectations bar is calculated using the estimate of β_2 from the later sample and the estimate of β_1 from the earlier sample.

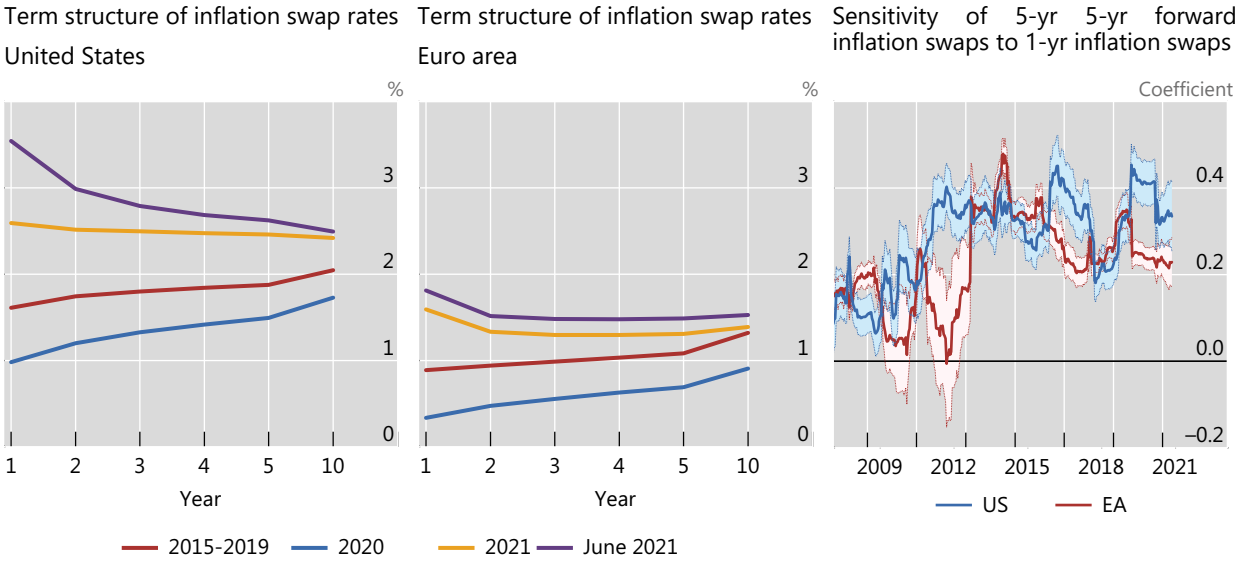
Sources: Federal Reserve Bank of St Louis, FRED; OECD, *Main Economic Indicators*; Datastream; national data; BIS calculations.

Conclusion

In the past 12 months, the debate on the inflation outlook has turned by 180 degrees. From a search for "missing inflation", markets and observers are now more concerned about the prospects of a prolonged increase in inflation. This Bulletin has argued, however, that these concerns appear to be overstated. The rise in inflation has, to date, been concentrated in a small number of items, many of them affected by the pandemic, and most of which appear temporary. Forces that could generate a more persistent rise in inflation appear well contained.

[11] Admittedly, these expectations reflect the views of financial market participants rather than those of price and wage setters.

Medium-run inflation expectations show limited signs of de-anchoring Graph 4



Notes: The right-hand panel shows the time-varying effects of changes in 5-year 5-year forward inflation-linked swap rates (ILS) in the US and euro area to changes in 1-year inflation swaps, based on 1-year rolling window regressions of the model: $\Delta ILS_t^{5y5y,i} = \alpha_\tau + \beta_{1\tau}\Delta ILS_t^{1y,i} + \beta_{3\tau}\Delta lq_t^i + \epsilon_t$, where i denotes either US or EA. lq_t^i is a country specific Bloomberg market liquidity measure. The shaded areas show two standard error bands.

That said, a more persistent pickup in inflation cannot be excluded. Intensifying supply-side disruptions, especially related to global supply chains, could lead to further price increases. Covid and post-Covid adjustments, against the background of social tensions, may lead to higher wages or higher fiscal deficits which may in turn put pressure on inflation. In EMEs where inflation has risen to high levels in 2021, sudden capital outflows and exchange rate depreciation could feed more persistent increases in inflation.

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