

SUPPLY BOTTLENECKS AND THE INFLATION OUTLOOK

In countries where restrictions on mobility are lifted, demand picks up suddenly, causing an imbalance with supply, which takes more time to react, in particular when value chains are long and complex. In recent months, companies have been reporting longer delivery lags and rising input costs, but the historical experience in the US and the euro area shows that the impact on inflation should be temporary and limited. Nevertheless, in bond markets, break-even inflation has increased significantly in recent months, reflecting investor worries about the risk of upside surprises to inflation. Should supply-side pressures ease in coming months, one would expect break-even inflation to decline as well.

In most recessions, production declines due to a drop in demand. The pandemic-induced recession was different as the global economy was hit by a demand and supply shock. During the initial lockdown, restrictions on mobility brought production to a virtual halt in many sectors but also caused a decline in demand. The latter was, to a large degree, a consequence of the restrictions on mobility, rather than reflecting households being financially constrained. Household income, in the aggregate, was actually holding up quite well thanks to government measures in terms of temporary unemployment or income transfers.

Uncertainty about the economic outlook also played an important role in the behaviour of households, leading to precautionary savings. Businesses, faced with a drop in turnover and huge needs for cash, reacted by scaling back orders so as to minimise their working capital requirement and avoid a build-up of unwanted inventories. In such an environment, when restrictions are lifted, demand picks up suddenly as pent-up demand is unleashed and causes an imbalance with supply, which takes more time to react, in particular when value chains are long and complex. This is reflected in business surveys, which show longer delivery lags but also rising input costs. In theory, this should have a temporary impact on inflation.

This is also the view of central bankers. According to Philip Lane, chief economist of the ECB *"there is a nearly zero connection between any kinds of spikes in prices under the reopening of the economy and what goes into the inflation trend."*¹ This view is echoed by Lael Brainard, member of the Board of governors of the Federal Reserve, who argues that *"there are a variety of reasons to expect an increase in inflation associated with reopening that is largely transitory"*². Demand growth, which initially was explosive, will slow whereas supply will increase as production is gathering pace and hiring of new staff picks up. Moreover, the risk that the initial spike in inflation would trigger second round effects leading to inflation staying high for longer seems low due to labour market slack, well-anchored inflation expectations and competitive pressure.

1. Source: *ECB's Lane pushes back against talk of new era of inflation*, Reuters, 20 May 2021.
2. Source: *Patience and Progress as the Economy Reopens and Recovers*, Remarks by Lael Brainard, Member of the Board of Governors of the Federal Reserve System, 11 May 2021.

How does the historical experience compare with these theoretical considerations? Chart 1 shows, for the US, the relationship between core inflation and supply-side pressures. The latter are the average of the prices paid index and the supplier delivery times index from the Institute for Supply Management (ISM) survey for the manufacturing sector. Rising prices paid and lengthening delivery times are typical signs of supply-demand imbalances, i.e. supply bottlenecks. The relationship between the supply-pressure index and core inflation has evolved. In the 1960 and 1970s, rising pressures tended to be accompanied by an increase in core inflation. This changed during the 1980s, due to a strong disinflationary trend, which dominated the cyclical swings of inflation. Since the 1990s, spikes in manufacturing price pressures had limited impact on core inflation. This probably reflects the role of well-anchored inflation expectations as well as competitive pressures that make businesses, fearing a loss in market share, reluctant to raise their prices. For the euro area, the time series are shorter – data start in 1997 – but as in the US, the transmission of price pressures as reported in business surveys to core inflation is limited.

UNITED STATES: CORE PCE VERSUS ISM PRICE PRESSURES

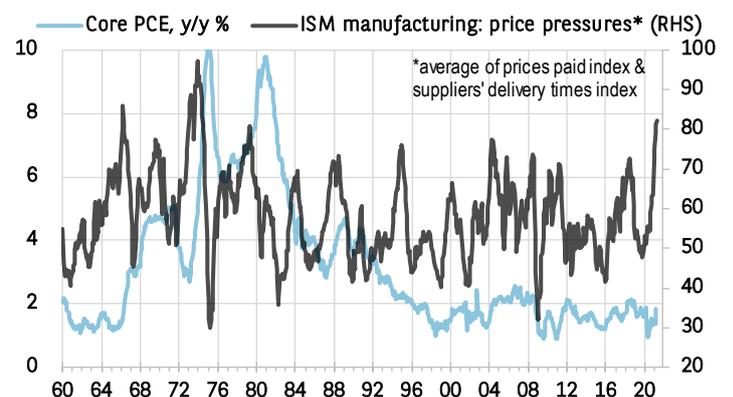


CHART 1

SOURCE: BEA, ISM, BNP PARIBAS

Based on theoretical arguments and the historical record, supply bottlenecks should only have a limited and temporary influence on inflation. There is however a close correlation between supply pressures and break-even inflation as priced in bond markets.



Against this background, one wonders why bond markets have been so jittery in recent months. In the US, since the trough in nominal yields last year, 10 year break-even inflation – the yield difference between a 10 year Treasury note and an inflation-linked Treasury note of the same maturity- has increased about 150 basis points. This represents the bulk of the increase in nominal bond yields – real yields did not change that much – and reflects rising inflation expectations of investors. In Germany, since the low point of nominal bond yields in the spring of 2020, break-even inflation has increased about 100 basis points, which is more than the rise in nominal yields and implies that real yields have actually declined. Clearly, bond markets seem to be more nervous about the inflation outlook than central bankers. A possible interpretation is that investors think that the relationship between survey-based price pressure gauges and observed inflation may change, whereby rising pressures would generate more inflation than seen in recent decades. Another explanation would be that investors focus on inflation in the short run. They may be worried about the upside risk to inflation in the near term and this pushes up break-even inflation, even for longer-dated bonds. To explore this further, chart 3 and 4 take a longer perspective for the US and the euro area³.

Three conclusions can be drawn. Firstly, there is a positive and close relationship between survey-based price pressures and break-even inflation. Secondly, the relationship exists, irrespective of the level of the price pressures. Thirdly, when price pressures ease, break-even inflation declines. This last point is particularly important for the development of bond yields in coming months. Should, as expected by the Fed and the ECB, supply bottlenecks ease – reflected in reduced price pressures in the business surveys-, one would expect a decline in break-even inflation, in line with the historical experience. Whether this would cause nominal yields to decline then depends on what happens to real bond yields and hence the outlook for growth.

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EUROZONE: CORE HICP VERSUS PMI PRICE PRESSURES

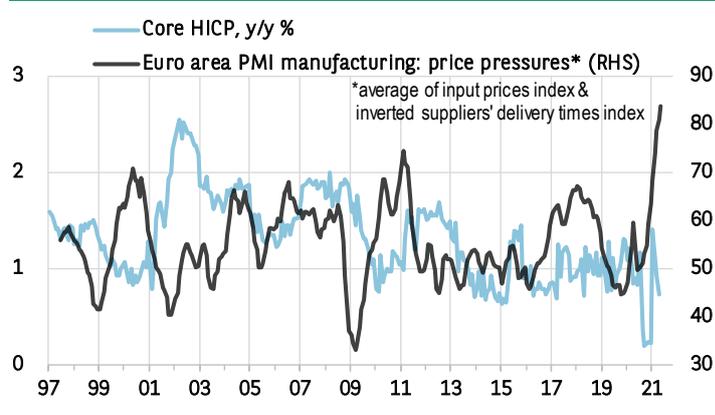


CHART 2

SOURCE: EUROSTAT, IHS MARKIT, BNP PARIBAS

UNITED STATES: BREAK-EVEN INFLATION AND ISM PRICE PRESSURES

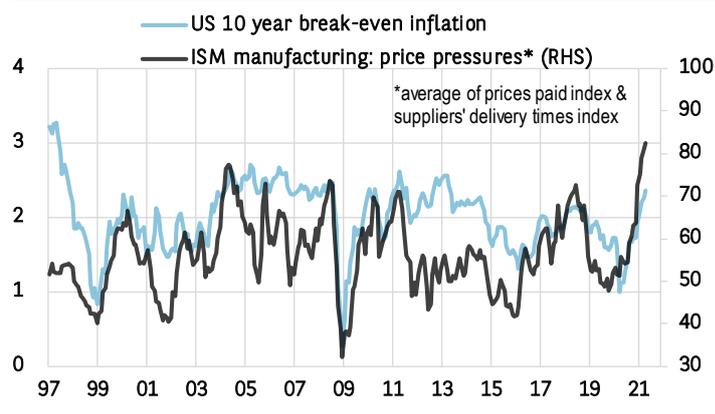


CHART 3

SOURCE: REFINITIV, ISM, BNP PARIBAS

EUROZONE: BREAK-EVEN INFLATION AND PMI PRICE PRESSURES

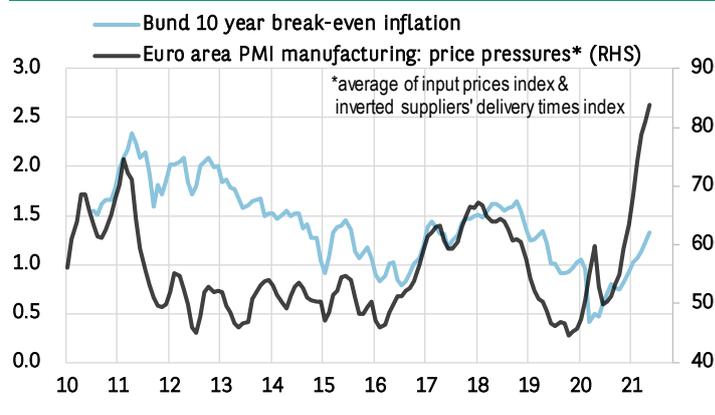


CHART 4

SOURCE: REFINITIV, IHS MARKIT, BNP PARIBAS

3. Chart 4 shows the PMI data for the euro area. The yield on Bunds is used rather than e.g. a GDP-weighted average bond yield because the latter could be biased by fluctuations in the pricing of sovereign risk.

