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Inflation: The great debate

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The future of inflation is uncertain.

Expert opinions about the future inflation trajectory are divided.

There are highly regarded market commentators that are convincingly arguing that deflation (falling price levels) is more likely than inflation. Other equally highly regarded commentators have been cautioning that higher inflation in the future is more likely. Some have even argued that, with US inflation being at about 2% for so long, inflation is no longer an interesting economic indicator to monitor and discuss.

What we know

1. **We have seen more inflation in the 20th century than ever before.**

Nothing in economic history could or would have prepared the world for the persistent inflation of the last century, and nothing in economic theory predicts inflation as a necessary/logical part of ordinary economic activity.

2. **Inflation can rise even when nobody expects it to.**

The data in Figure 1 supports this conclusion. It took 400 years for the price series in Figure 1 to grow from 100 to 1,000, representing an annual inflation rate of 0.6%. From this new price level of 1,000, it took only 300 years to increase to 10,000, representing an annual inflation rate of 0.8%. Then, at the turn of the last century, the price level increased a 100-fold, an inflation rate of 4.7%. Some of this increase is the result of inclusion of more

economies with higher average inflation rates. However, this trend is evident in all economies – even those we associate today with lower average inflation rates.

Figure 1: Inflation over the past nine centuries – as shown by the global median price index series (log scale)

Sources: Deutsche Bank, and Global Financial Data (GFD)

This series compiles the median price level for around 100 countries over time. At first, only the UK had available data, with Sweden next to join in 1290, followed by the rest.

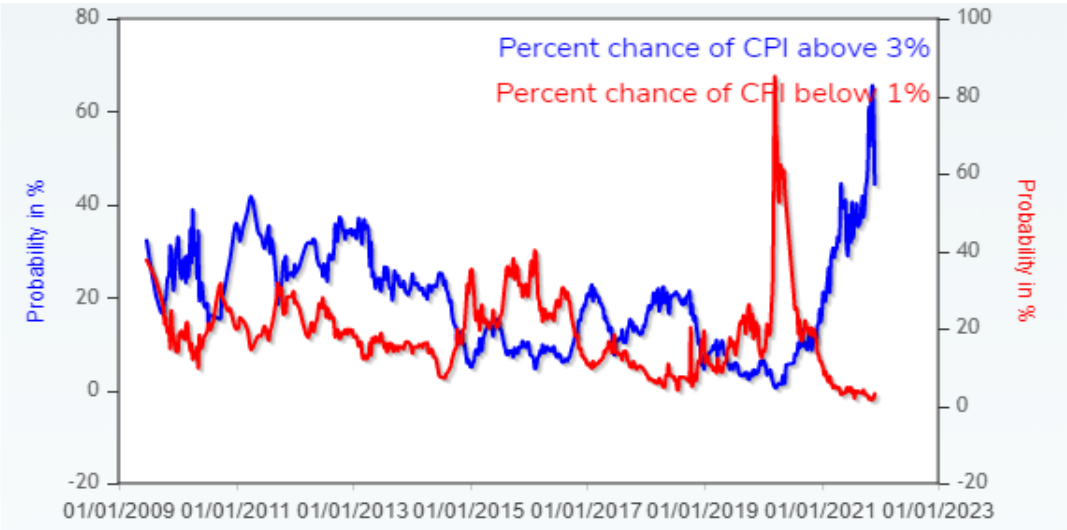
Shaded areas highlight where fiat money prevailed in one important country (light grey) or on a more global basis (darker grey).

3. Market expectations are leaning towards inflation increasing rather than decreasing.

The Federal Reserve Bank (Fed) of Minneapolis maintains a database of market expectations of US inflation. The tool allows one to understand the range of outcomes expected by and priced into fixed income markets. Figures 2 and 3 summarise market expectations about potential US inflation outcomes.

Figure 2 shows the history of what the Minneapolis Fed calls 'extreme' inflation outcomes. It shows that markets are far more concerned about the risk of higher inflation (40% chance that inflation will exceed 3%) than about lower inflation (less than 5% chance that inflation will be below 1%). Although the risk of higher inflation is not unprecedented, it is almost at the highest it has been in the last decade.

Figure 2: Market expectations of 'extreme' US inflation outcomes over the next five years



Source: Federal Reserve Bank of Minneapolis, 9 December 2021

What is concerning is the narrow range of expected US inflation outcomes and the market's certainty about these.

Market expectations can pose risks to asset values.

Market expectations change rapidly as news becomes available and policy interventions change, and these changes (or surprises) can pose risks to asset values. Below, we look at past inflation outcomes and explain why early December expectations pose a risk to asset values.

1. **The market expects a narrow range of US inflation outcomes.**

Ten years ago, the markets expected annual inflation over five years to average 1.95% – as can be seen from Table 1. Today, the mean inflation expectation is 2.91% per year.

Table 1: Recent statistics show that at the end of 2021, the market expected higher average inflation over the following five years than it did in 2011

	Expected CPI over 5 years	
	Week of 1 December 2021	Week of 15 December 2011
Mean	2.91%	1.95%
10th percentile	1.71%	-0.22%
90th percentile	4.13%	4.35%
Standard deviation*	1.06%	1.69%

**(In this case, it is a measure of how disperse/varied the views about expected CPI were: a higher figure means a more varied range of views)*

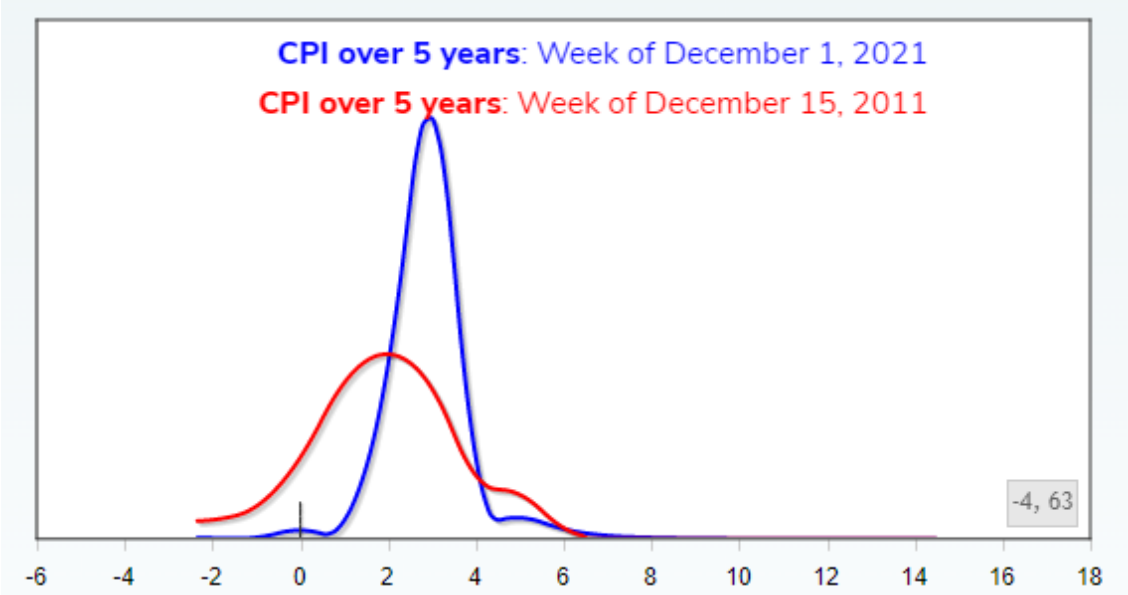
Source: Federal Reserve Bank of Minneapolis

2. **The market is also attaching much more certainty to the expected outcome.**

Apart from the mean expectation being nearly a percent higher, the much more interesting observation is how much more certainty the market attaches to the expected outcome (as shown in Figure 3 below).

Figure 3 compares the probability of market expectations today and a decade ago. The vertical axis represents the likelihood of the outcome along the horizontal axis. In 2011, there was a relatively wide range of potential outcomes, as can be seen from the flatter curve. Today, the market is much more certain (as shown by the much higher probability attached to the mean), with the range of possible outcomes a lot smaller. In December 2011, the market was 80% certain that inflation would be between -0.22% and 4.35% per year, representing a spread of ~4.6%. Today, the market thinks there's an 80% chance that annual inflation will be between 1.71% and 4.13% over the next five years, a spread of ~2.4%.

Figure 3: According to the market, there is less uncertainty about US inflation outcomes



Source: Federal Reserve Bank of Minneapolis

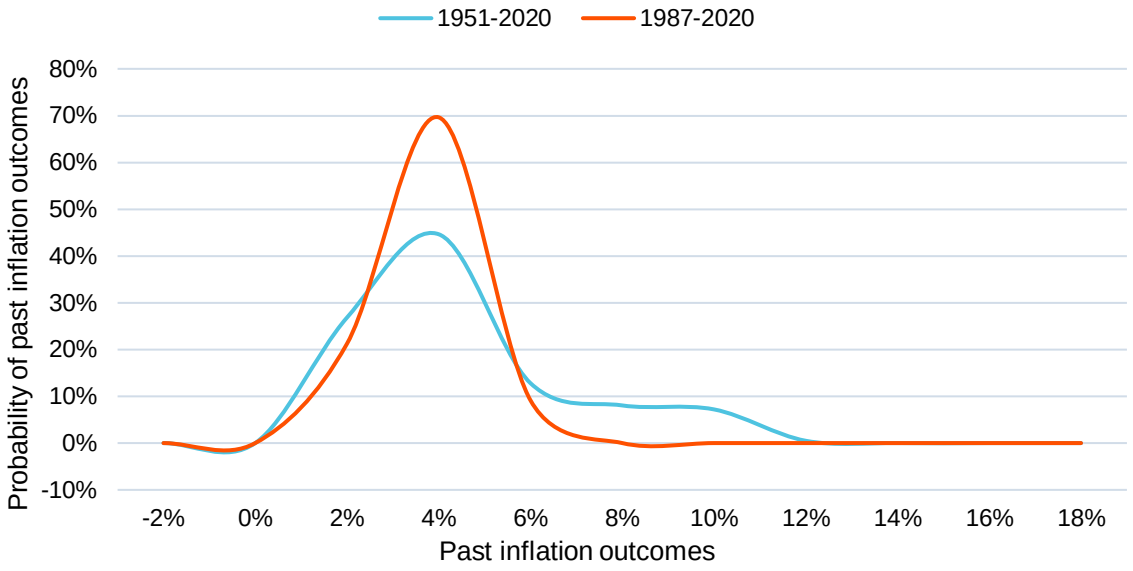
Historic evidence supports a wider range of outcomes.

Historical actual inflation outcomes show that inflation has not averaged below 0% over a five-year period, but there have been extended periods of time during which inflation has averaged above 6%.

In Figure 4, the blue line shows the percentage of the time that five-year inflation was between 2-4% (in blue). It averaged about 45% of the time over the last 70-years. The orange line shows how this increased to 70% of the time from 1987-2020 after the Federal Reserve, under former Chairman Paul Volcker, changed their policy to raise interest rates to contain the inflation of the late 1970s. Inflation, in the years before Volcker, rose unexpectedly and persistently. Ending inflation required higher interest rates, two painful recessions and wide-ranging tax, spending and regulatory reform.

What you should note is the very fat right-hand tail – i.e., inflation has not (over this 70-year period) averaged below 0% over a five-year period, but there have been extended periods of time that inflation averaged above 6% – i.e., the right-hand side of the chart is 'fat'.

Figure 4: Historical actual annualised inflation rates over five-year periods



Source: Federal Reserve Economic Database (FRED) and Denker Capital calculations

In a nutshell: surprising outcomes always move markets and asset prices

In December 2021, the market was thinking that the inflation trajectory would be unlikely to be similar to the experiences of the 1970s/80s.

The continued low inflation post Volcker has persuaded markets that inflation is not likely to be a persistent problem. The market isn't pricing in any serious persistent inflation risks and in December agreed with the Fed that inflation would be 'transitory'. As Oscar Wilde said of second marriages – 'the triumph of hope over experience'.

It is much easier for there to be a surprise when there is a narrower range of potential outcomes.

It is easier to surprise the market when the market expects a very narrow range of potential outcomes since what constitutes a surprise is anything outside of that narrow range. Investors trying to protect themselves against surprising outcomes should heed the warning that asset prices will react to surprisingly high inflation, or inflation that turns out not to be 'transitory'.

Persistent inflation is a risk worth hedging.

Given the narrow range of very benign inflation outcomes currently priced in bond markets we believe it prudent that investors should hedge their portfolios against higher inflation rates than those currently expected. Lower inflation is not a risk to the purchasing power of savings per se. In addition, lower inflation that is currently priced in bond markets is (over the last century) unprecedented (see Figure 1). Unexpectedly higher inflation, persistently so, would erode the real value of assets and pose a substantial risk to investors.

Glacier Research would like to thank Madalet Sessions for her contribution to this week's *Funds on Friday*.

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Madalet co-manages the Denker SCI Balanced Fund and Denker SCI Stable Fund with Jan Meintjes.

Madalet started her investment career at Investec Securities as a research assistant to top-rated investment strategist, Brian Kantor. In 2008, she joined Element Investment Managers as an analyst responsible for fixed income, money market and property investments. From there, she moved on to Nedgroup Investments in 2010, where she was responsible for managing the Nedgroup Private Wealth Bond and Property Funds. She joined Denker Capital in 2016 to establish the business' range of multi-asset class funds.