

From NICE to VILE—The Future of Inflation

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- After the recent surge in inflation blindsided many investors, they are keen to avoid similar shocks going forward. Hence, this paper explores the type of inflationary environment that we might expect across developed markets in the future and its potential effect on global asset prices.
- Investors' inflation surprise arrived after a series of distinct regimes. The recent experience of excessively high global inflation looks radically different compared to the so-called NICE decade—Non-Inflationary, Consistent Expansion—that predated the global financial crisis of 2008/09. And it stands in even sharper contrast to the recently concluded period of “too-low” inflation that came after.
- Considering these developments, should we expect a return to the benign inflation environment of the last several decades? Or should we expect a world that is better described as VILE—Volatile Inflation, Less Expansionary?
- Surely, it's a complex question that aligns with [a global paradigm rife with complexities](#). Therefore, in an attempt to organize our views, we consider how changes in inflation targets, relative price shocks, and relative price trends may affect the pricing dynamics to come. Each of the three factors carry important consequences for inflation and the horizon over which central banks can steer inflation back to target—that is, the future inflation regime.

CHANGES TO THE INFLATION TARGET

The [concept of dispersion](#) has become a hallmark of the emerging macroeconomic and market paradigm, and that concept may apply to inflation in the future as well. Indeed, there is no compelling theoretical or empirical case for a 2% inflation target, which is, in large part, a consequence of historical accident.

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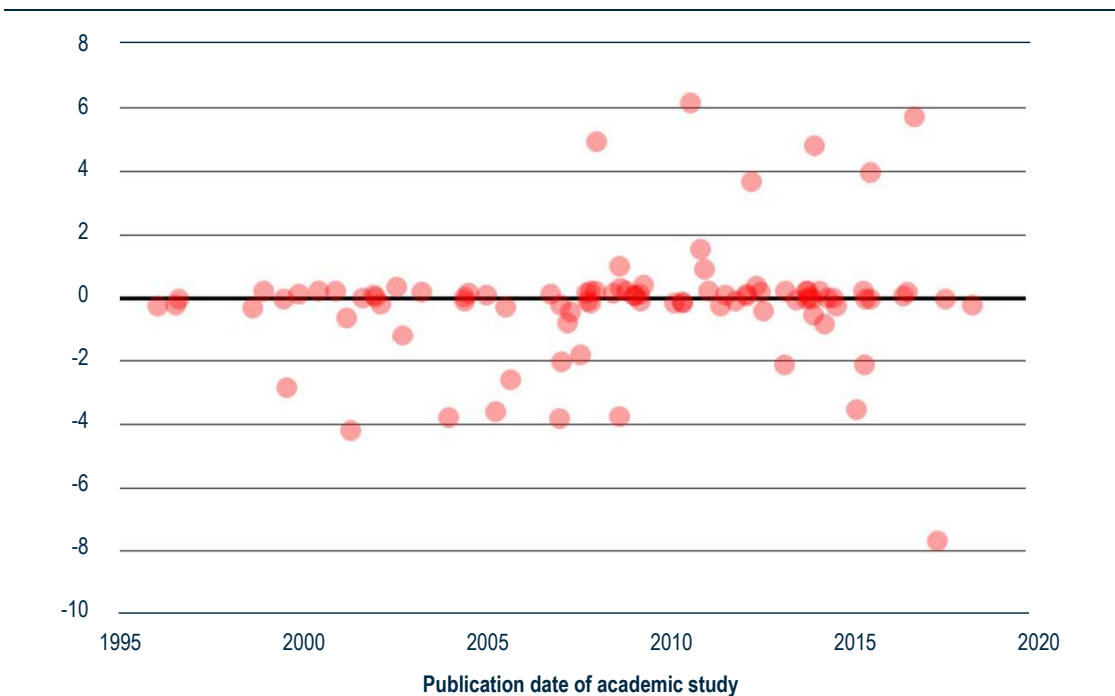
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The Federal Reserve research cited in Figure 1 shows how academic thinking regarding the “optimal” level of inflation shifted away from the classic Friedman rule of slightly negative inflation to an even more negative skew in the early 2000s.¹ However, in the years since the global financial crisis, a number of papers find optimal inflation to be above zero (and significantly so in some cases). The punchline is that the number of papers advocating for a higher positive level of inflation increased in recent years, largely reflecting prior anticipation and concern about the effects of policy rates at the zero lower bound during the pre-COVID period of “too low” inflation.

Perhaps reflecting this dispersion—as well as the more recent experience of sticky, above-target inflation—calls have mounted for changes to inflation targets. Former IMF Chief Economist Olivier Blanchard has prominently advocated for changes, although his views have recently moderated to increasing the target to 3%, rather than 4%.²

Figure 1: The recent increase in optimal inflation rates cited in academic research
(Diercks (2017) list of optimal inflation rates from academic studies; %)



Source: PGIM Fixed Income and the Federal Reserve. Of the 160 existing studies on optimal monetary policy, 100 provide quantitative values for the optimal inflation rate. They are marked by red dots in Figure 1, according to the year they were published and their suggested optimal average inflation rate.

Considering the prevailing trend and supporting arguments, the following points summarize our views on potential adjustments to inflation targets:

- When inflation is *below* target, it does not make sense to raise the target and put the central bank even further away from its goal;
- When inflation is *above* target, it is not a good idea to raise the inflation target and risk de-anchoring inflation expectations;

¹ The Friedman Rule finds that optimal inflation -4% assuming that $\pi^* = \beta - 1$ with $\beta = 0.99$, annualised into percentage change. From around 2000 (eg Woodford 2003), optimal inflation rises to around 0 due to the presence of downward price rigidities.

² See Financial Times OpEd by Blanchard (November 2022), “It is time to revisit the 2% inflation target,” and Blanchard, Dell’Ariccia and Mauro (2010), “Rethinking macroeconomic policy,” IMF Staff Position Note SPN/10/03.

There is no compelling theoretical or empirical case for a 2% inflation target, which is, in large part, a consequence of historical accident.

- When inflation is *at* target, it does not make sense to make a relatively small change, which invites the view that central banks have precision-like control in steering inflation;
- similarly, a *band* around 2% suffers the combined problem of each of the preceding points: when inflation is too low, the risk is that the central bank gets stuck at the bottom of the band; when inflation is too high, inflation may get stuck at the top of the band; and the existence of the band itself invites observers to believe that the central bank can precisely control small deviations in inflation around 2%.
- Finally, these potential ramifications also raise the concept of *abandoning* current targets altogether. However, this has drawbacks as well as it could conceivably lead to a de-anchoring of inflation expectations, particularly in an environment prone to shocks, such as the one we currently find ourselves in.

An inflation targeting regime does not mean that inflation is at target at all times. Indeed, when an economy is hit by significantly large, exogenous shocks, deviations from target are expressly embedded within flexible inflation targeting regimes. Furthermore, the optimal timeframe for inflation to return to target has likely extended given the challenging nature of price movements, which we discuss in the following section. In short, we are likely stuck with inflation targets in the 2% area—at least for the foreseeable future—as changes would place a notable dent in central banks’ policy credibility.³

While the status quo may not allude to significant inflation ramifications, policymakers’ increased patience for deviations from target and persistent challenges to targeting frameworks indicates mounting tolerance for higher inflation.⁴ In itself, this shift in sentiment adds to the inflation-risk premium on long-dated fixed income assets, which, all else being equal, could maintain upward pressure on long-term rates. Therefore, from the perspective of monetary policy, investors might assume a higher level of long-term, market-determined rates for a given monetary policy interest rate.

LARGER, MORE FREQUENT RELATIVE PRICE SHOCKS

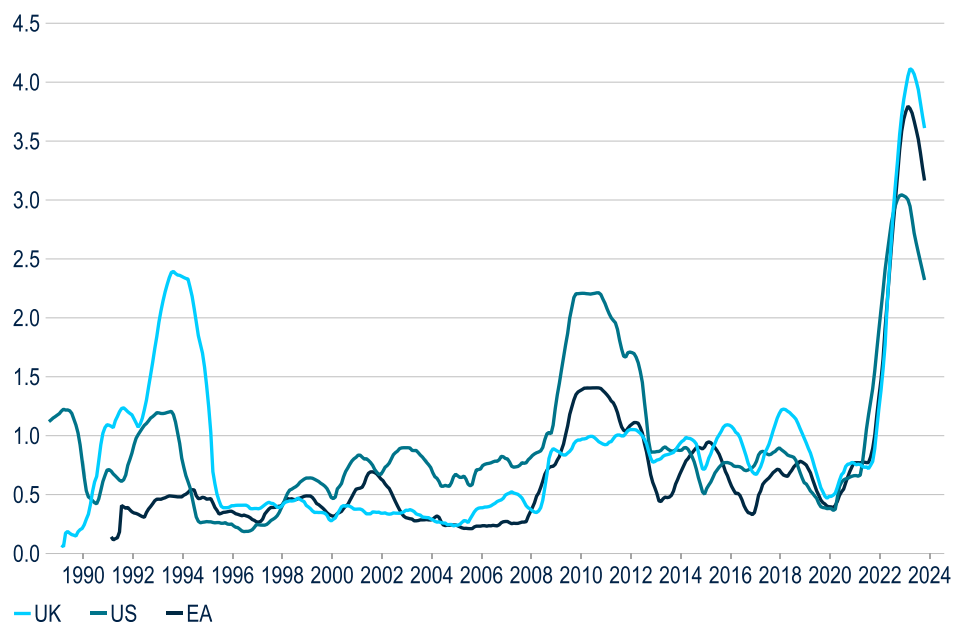
Earlier decades were characterised by relatively small and infrequent relative price shocks. A rolling measure of the volatility of headline inflation in Figure 2 highlights the change over time, with inflation unusually stable and mostly below 2% in earlier decades. This contrasts the large relative price moves in energy, food, and goods experiencing COVID-related supply chain disruptions over the last few years.

³ Perhaps more important than changing the target number is to ensure that CPI is reflective of the goods and services that people buy, e.g., by including owner occupied housing as is currently being explored by the ONS in the UK and Eurostat in the EU.

⁴ See Pittaway and Smith (October, 2023), Built to Last: towards a sustainable macroeconomic policy framework for the UK, Resolution Foundation for a timely example calling for an increase in the target.

Policymakers’ increased patience for deviations from target and persistent challenges to targeting frameworks indicates mounting tolerance for higher inflation.

Figure 2: The bygone years of stable inflation
(rolling 3-year standard deviation of headline inflation; %)



Source: PGIM Fixed Income and Macrobond. As of 2 November 2023.

Looking forward, it seems plausible that we could continue to see larger and higher frequency relative price shocks, especially in food, energy, and items with supply chain disruptions due to climate events, the energy transition, and/or geopolitical shocks.⁵ Such shocks may be persistent but are ultimately temporary and distinct from relative price trends, which we discuss in the next section.

Nevertheless, such shocks can and do lead to prolonged periods of above-target inflation due to several factors, including their potential size, their importance in the consumption basket (for example, food makes up nearly 20% of the CPI basket in the euro area), the potential for serially correlated shocks, and the presence of price rigidities.

Figure 3 indicates the quantitative impact that such shocks could have on headline inflation within a few months of onset as well as the required reduction in other prices in order to offset the shock and keep inflation at target.⁶ In practise, such declines in other goods and services is completely unrealistic. For example, CPI ex-energy in the UK has never fallen into negative territory over the inflation-targeting period. This explains why central banks favour “looking through” such shocks and allowing inflation to deviate from target. Figure 3 also establishes the persistence of the shock on headline inflation based on past estimates. So, whilst the boost to inflation is temporary, significant pressure can last for several months and even quarters, posing a challenge to central bank communications.

⁵ The resurgence in great power competition suggests we should expect the unexpected, as geopolitical shocks keep on coming. [Click here for more on the structural anchors](#) that we increasingly see giving way.

⁶ See The transition to net zero: a challenge for central banks https://cdn.pfcdn.com/cms/pgim-fixed-income/sites/default/files/The-Transition-to-Net-Zero-A-Challenge-for-Central%20Banks-Final_2.pdf

Larger and more frequent relative price shocks will add to inflation volatility and contribute to prolonged periods of above-target inflation.

Figure 3: Price shocks can add up to 4 percentage points (pp) to inflation, require an offset of up to 2.2% in other prices to remain at target, and can persist for up to 8 months.⁷

	Plausible relative price shock	Contribution to headline inflation	Other goods and services inflation needed to keep inflation at target	Persistence of shock on headline inflation
Energy	40% YoY (EA 2022)	4pp	-2.2%	6-8 months
Food	13% YoY (Norway 2022)	1.6pp	0.5%	6-8 months
Supply chain disruption	10% YoY (U.S. 2021)	3pp	-1.5%	1-2 months

Source: PGIM Fixed Income.

The bottom line is that larger and more frequent relative price shocks in food, energy, and items with supply chains affected by climate change, the energy transition, and geopolitical tensions will add to inflation volatility and contribute to prolonged periods of above-target inflation. As observed during the latest cycle, prolonged stretches of off-target inflation pose a challenge to central banks' credibility and communications.

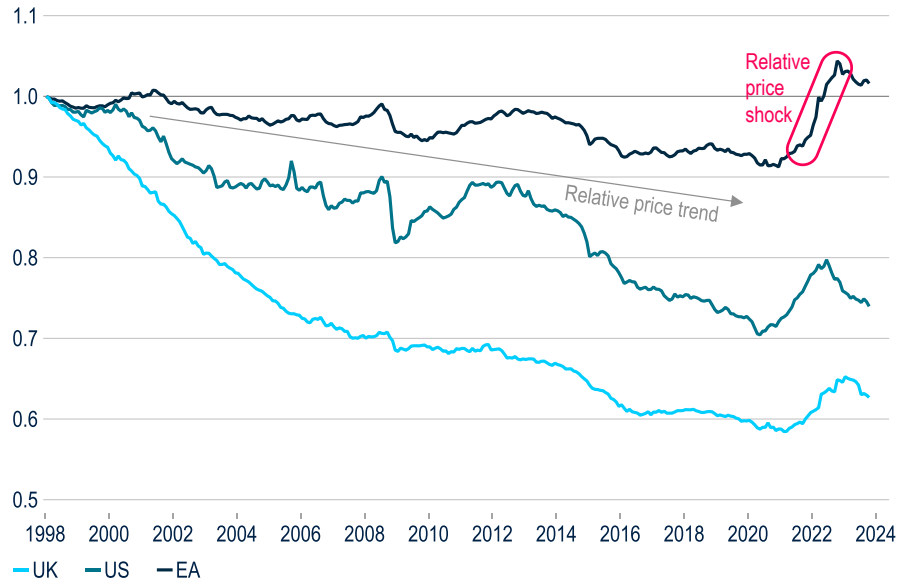
UNFAVOURABLE RELATIVE PRICE TRENDS

The past several decades reflected the favourable direction of relative price trends. Demographics, globalisation, technological advancements, productivity improvements, and relative global geopolitical stability meant that western economies benefited from low goods and import price inflation (Figure 4). That enabled central banks to run relatively loose monetary policies at home to achieve their inflation targets. In other words, globalisation meant that developed market economies, such as the UK and the U.S., were essentially importing inflation as low inflation on goods prices, particularly those from China, allowed domestic monetary policy to run at a more stimulative clip than would otherwise have been possible.

⁷ Persistence of shock on headline inflation estimated via a range of time series models with varying specifications

Figure 4: As part of the new paradigm, the decades-long slide in relative prices may have concluded. (Consumer Price Index, goods to services ratio; 1998 January = 100 for both goods and services)

Less favourable trends would mean that prices for other goods and services will need to grow more slowly, or possibly fall, in order to keep inflation at target.



Source: PGIM Fixed Income and Macrobond. As of 21 September 2023.

Looking ahead, less favourable trends coming from demographics and globalisation, as well as the bumpy transition from fossil fuel energy to renewables, would mean that prices for other goods and services will need to grow more slowly, or possibly fall, in order to keep inflation at target. Finally, low and stable inflation became self-reinforcing with stronger central bank credibility, anchored inflation expectations, and limited real-wage resistance—factors now facing more questions and potential reversals. Figure 5 provides estimates of the contribution from these favourable trends to past inflation and what they may imply about future inflation.

Figure 5: Extrapolating the effect of various factors on future inflation

Factor	Observed past trend	Illustrative future trend	Rule of thumb
Globalisation / demographics	Deepening of global trade integration and the partial globalisation of the labour market allowed for cheaper imported goods	Friend-shoring or near-shoring supply chains will likely increase the relative cost of goods	Every 1pp increase in goods inflation (ex-energy) requires a 1pp decrease in services inflation to offset
Energy policy	Steady supply of energy sources with elastic supply	Bumpy and expensive transition to renewable energy sources	A 1pp increase in energy price inflation needs a 0.1pp reduction in non-energy inflation
Anchored inflation expectations	Anchored inflation expectations and small relative price shocks led to limited real-wage resistance/rigidity ⁸	Larger inflation shocks and/or de-anchored inflation expectations drive increased real-wage resistance	50% of real income shocks could be offset by higher wages ⁹

Source: PGIM Fixed Income

⁸ See Layard, Nickell and Jackman (1991), Unemployment: Macroeconomic performance and the labour market, and Broadbent (2022) <https://www.bankofengland.co.uk/speech/2022/october/ben-broadbent-speech-at-imperial-college-the-inflationary-consequences-of-real-shocks>.

⁹ Op cit.

CONCLUSION

Prior to the pandemic, the inflation environment was one that was generally described as being either benign or “too low.” It was much to the chagrin of monetary policy officials who took a variety of unprecedented measures in an effort to lift prices. It’s a sharp contrast to the current predicament and begs the question of which environment investors might encounter in the future. Therefore, our assessment of a future inflation state focuses on three key parameters and how they may develop going forward.

Outright **changes to the inflation target** seem unlikely to us, at least for the foreseeable future. That said, increased tolerances for deviations from target and challenges to inflation targeting frameworks may persist.

Therefore, in moving to the next factor, the size and frequency of **relative price shocks**—i.e., those that are temporary in nature—are likely to increase, translating into greater inflation volatility. It’s possible that less favourable relative price shocks could add an average of ~0.2pp to inflation over prolonged periods.

Relative price trends—i.e., those that persist over a number of years—may also be less favourable, requiring prices of all other goods and services to either rise at a slower rate, or fall. Given downward nominal rigidities, this too could give rise to “sticky inflation” and add ~0.5pp to domestic inflationary pressures. We also place real wage resistance within the relative price category, and the difficulty of lowering them could add about 20 bps to real wage costs.

When combined, these effects could add ~1pp to inflation over prolonged periods. A VILE outcome—along with the potential to pressure asset prices via higher nominal yields—may not overly excite investors. However, as they adjust to a world with higher, more volatile inflation, they may also grow accustomed to the types of returns that they might generate amidst these evolving conditions. Indeed, the future inflation regime will become another part of a new paradigm that also consists of higher interest rates, opportunities to generate alpha across shifting yield curves, and disperse opportunity sets from which to select credits.

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Source(s) of data (unless otherwise noted): PGIM Fixed Income as of November 2023.

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