The past, present, and future of inflation

Samir Taghiyev, Portfolio Manager
January 2022

MAWER
Be Boring. Make Money.™

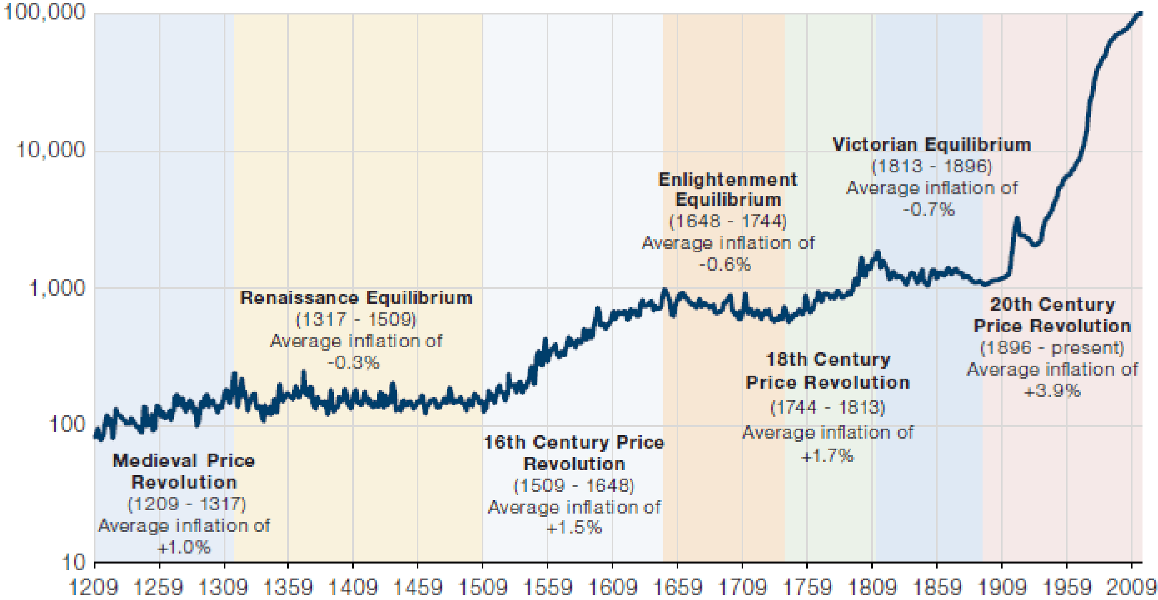
Inflation and interest rates were likely the most important and hotly debated investment themes in 2021. 2022 appears to be no different. In the past few months, inflation in the U.S. and other counties reached levels unseen since the early 1980s, central banks have reframed their policies with multiple rate hikes now expected over the coming year, and inflation expectations have impacted the returns of various securities, both for the worse (many technology companies) and the better (banks, energy producers).

Complicating matters, the majority of market participants today haven't experienced a period of elevated inflation in their investing careers. As long-term investors, and recognizing that the probabilities with respect to the inflationary regime may be shifting, we thought a deep dive into one of the most macro of topics—inflation—may provide us with better context and awareness in conducting bottom-up investment work on behalf of our clients. What can we learn from past inflationary cycles? What are the main drivers of inflation today? And as investors, what should we do as the world continues to evolve?

The past

We begin by looking to the past, specifically how inflation has evolved in the U.K. where we have eight centuries of data.

Figure 1: Inflation in the UK since the Middle Ages



Source: Exhibit 1: The Price of Consumables in England (1200 – Present, Indexed at 100,000 in 2015). Reprinted from "Inflation Regime Roadmap" by Teun Draaisma, Ben Funnell and Henry Neville, 2020, page 3. 2020 by "Man Institute".

What's clear, in reviewing this time series, is that there are distinct—and often very long-lasting—cycles of more inflationary and disinflationary periods. Notably, the disinflationary cycles tend to be more stable, while the inflationary periods tend to be more volatile. While there are many potential reasons for this, a simple one may be that higher food and energy prices tend to hurt the less socioeconomically advantaged segments of the population more than the prosperous, which has historically (and even today … see the current protests in Kazakhstan) resulted in greater political and social instability.

A deeper-dive on the two most recent long-term cycles—the Victorian Era and the 20th century—are helpful in understanding some of the underlying drivers of inflation.

The 19th century saw a prolonged period of general price declines; in fact, during this time, prices fell by roughly 40%. This was a period of relative stability globally (fewer wars) and one that benefitted from a significant expansion in the amount of productive land, especially with the western expansion of the United States. In concert, significant technological advancements such as the development of railroads, communication technologies, and agricultural practices enabled this greater production capacity to be more effectively integrated with the overall economy. This was a period of decreasing inequality, with rising real wages and generally falling yields.

The pattern of price levels seen in the 19th century is consistent with economist John Maynard Keynes' theory of inflation. Keynes viewed inflation as a price level determined by aggregate demand and aggregate supply in the economy. Even though the world's population grew from 1 billion to 1.6 billion in the 19th century, the increase in aggregate demand was outweighed by a larger shift outward in aggregate supply, with the two curves ultimately intersecting at a lower price level.

By contrast, the 20th century was a more volatile period in which price levels increased thirty-fold at an annual rate of approximately 4%, with several major inflationary forces at play:

- The world's population climbed at a much higher rate than seen previously, from 1.6 billion in 1900 to 6.8 billion in 2000
- There were much larger wars—perhaps both a cause and effect of higher inflation
- The role of government expanded significantly with the introduction and institutionalization of social welfare programs, health care, and an expansion in the education system—all adding to aggregate demand
- The gold standard was abandoned

This last bullet point introduces a competing theory of inflation to the Keynesian view. In 1963, Milton Friedman stated that "inflation is always and everywhere a monetary phenomenon in the sense that it is and can be produced only by a more rapid increase in the quantity of money than in output." This monetarist theory of inflation can be condensed to the following equation:

> $MV = PQ$; or
>
> (Money supply in circulation) x (Velocity of money, or how often a given dollar is spent) = (Price level) x (Quantity of goods and services)

This formula posits that inflation—or the price level—is positively correlated with increasing money supply, velocity, and inversely correlated with the amount of goods and services available. The abandonment of the gold standard allowed governments to print an unlimited amount of money, whereas they were previously constrained in increasing the money supply by their holdings of physical metals.

The incumbent regime: 1990–present

As Figure 1 suggests, the 20th century was certainly an inflationary one. But looking back at the past 30 years, several major deflationary forces have been at play.

- Similar to the U.S.'s impact in the 1800s, the integration of global markets in the late 20th century has been a driver of lower inflation. Perhaps most notable was China acceding to the World Trade Organization, adding roughly a billion people to the global economy, with significant production capacity shifting away from the U.S. and other developed markets to China.
- Relatedly, from a demographic perspective, the world saw an influx of labour. Beyond the addition of Chinese labour at large, internal immigration policies shifted within China, while immigration policies in the U.S. and the European Union allowed for greater mobility and efficiency in labour supply.

- There has been a global savings glut. This may simply be a shifting preference for savings over consumption. It is also possible that we have reached "peak capital," a concept introduced by Thomas Piketty suggesting that many of the endeavours that require significant infusions of capital have already been built (railroads, factories, etc.).
- Major technological innovations (e.g., the internet) have been deflationary, and the comparisons are not always like-for-like. The original iPhone that was released in 2007 cost $500 (roughly $700 today). But the cheapest iPhone on the market now, which also happens to cost $700, is a much better product than its predecessor.

All of which have contributed to a period of rather tame inflation, lower bond yields, higher returns on capital, increasing asset prices, and growing inequality. And all this despite a significant increase in the money supply, highlighting that neither the Keynesian nor the monetarist theories of inflation alone perfectly capture what plays out in the real world.

The present and future

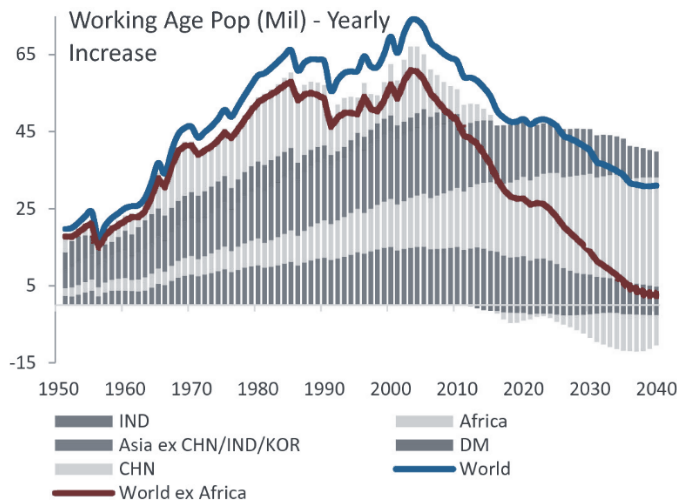
The COVID-19 pandemic has coincided with, and likely accelerated, several inflationary themes that have been building. From a monetarist's view, the sheer degree of fiscal and monetary stimulus has increased the supply of money in the economy. From a Keynesian perspective, this stimulus has served to increase aggregate demand, while at the same time supply-chain bottlenecks have impacted the supply of goods and services.

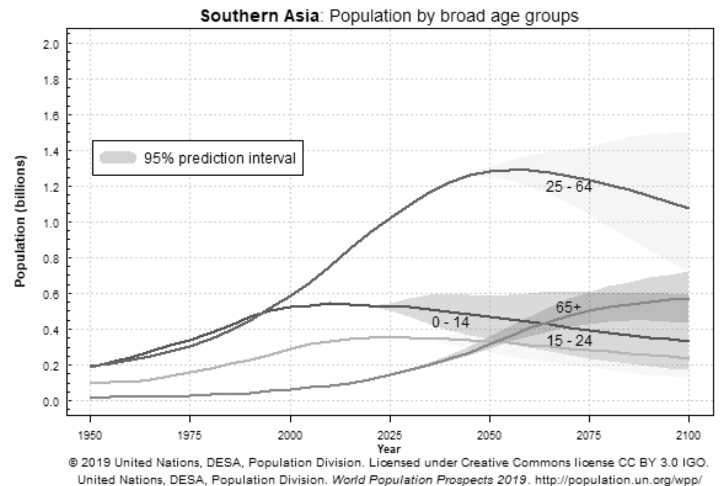
Another important feature of inflation is that it is reflexive and involves a psychological component. If I believe that the cost of purchasing a car will rise significantly in the future, I may hasten my purchase, contributing to higher inflation. Conversely, if I believe that the price of a new appliance will decline, I may delay my purchase thereby reinforcing a deflationary trend.

Yet, while the pandemic will hopefully soon be behind us, many underlying inflationary forces may persist:

- Government spending is on a clear uptrend. Incredibly, there are twice as many U.S. dollars in circulation today versus the beginning of 2020, and there are several large spending projects (e.g., infrastructure) planned for the long-term.
- The trend in globalization may reverse with more trade barriers introducing greater friction, the labour pool less mobile, and the onshoring of supply chains. The benefits of more localized supply chains may reduce the risks that led to problems during the pandemic but may not come at the same cost or efficiency of production.
- The energy transition will be inflationary. Throughout the 20th century, we have accumulated environmental debt through the use of cheap fossil fuels. This off-balance sheet debt will need to be repaid going forward—with increasing urgency—and the shift to a greener economy through greater electrification and use of renewable energy sources requires a duplication of investments and a constraining of the existing infrastructure.
- Demographics are evolving too. As the world's population continues to age, demand patterns of consumption may shift (e.g., toward health care), but it's unclear that older segments of the population spend less than the working age population. Crucially though, an aging population may imply greater scarcity in labour supply, especially if immigration policies become less accommodative.

Figure 2: An aging population





Source: Figure 2. Working age populations falling globally – Africa is the key exception, and India to a lesser extent. Reprinted from "The Great Demographic Reversal: Ageing Societies, Waning Inequality, and an Inflation Revival," by C.A.E Goodhart and M. Pradhan, 2020, SUERF Policy Note, Issue No 197. 2020 by "SUERF".

Of course, though recent inflation data may support the notion that we are at an inflection point, there are certainly scenarios in which deflationary forces prevail. Though monetary policy has been quite accommodative over the past decade, the Fed could take a much more aggressive stance against inflation; "don't fight the Fed" has generally been good advice. As Figure 2 suggests, India and Africa may represent the next leg of demographic deflation, with younger working age populations. And continued technological advancements remain a powerful source of deflationary pressure.

So what?

If we are indeed at a longer-term inflection point with respect to the inflationary outlook, what should investors be prepared for?

First, and connected to many of the points raised above, we may need to be prepared for greater rigidity, which implies greater volatility. Increased tariffs, the potential for greater political instability, and an evolving labour supply may increase the potential for setbacks that the economy is less prepared to withstand.

Second, the pattern of behaviour for asset class returns may look different going forward. A review of returns during shorter-term inflationary periods in the past 80 years suggests that commodities typically do well in inflationary environments. While the stock prices of commodity producers tend to outperform the broader market, their returns are unspectacular, and equities more generally have exhibited negative returns in real terms. Fixed income investors also tend to be hurt during inflationary periods. It is difficult to diversify away from a rise in discount rates.

Figure 3: Equity returns in inflationary environments

	Specific Inflation Regimes								Combined Regimes				
	US Enters WW2	**End of WW2**	**Korean War**	**Ending of Bretton Woods**	**OPEC Oil Embargo**	**Iranian Revolution**	**Reagan's Boom**	**China Demand Boom**	**Inflation (19%)**	**Other (81%)**	**All (100%)**	**Hit Rate**	***t*-Stat**
Start Month	April 1941	March 1946	August 1950	February 1966	July 1972	February 1977	February 1987	September 2007					
End Month	May 1942	March 1947	February 1951	January 1970	December 1974	March 1980	November 1990	July 2008					
Total Price Level Change	15%	21%	7%	19%	24%	37%	20%	6%					
Strategy	**Real Return (total)**								**Real Return (ann.)**				
Consumer Nondurables	–24%	–24%	11%	5%	–56%	–15%	42%	–7%	–6%	11%	8%	38%	–3.7
Consumer Durables	–16%	–32%	24%	–30%	–62%	–27%	–28%	–36%	–15%	13%	7%	13%	–5.0
Manufacturing	–23%	–23%	27%	–9%	–52%	–12%	–2%	–15%	–8%	11%	7%	13%	–3.7
Energy	–14%	–10%	25%	–19%	–19%	31%	31%	2%	1%	8%	6%	50%	–1.4
Chemicals	–25%	–17%	27%	–23%	–37%	–24%	9%	2%	–6%	11%	8%	38%	–3.5
Bus. Equip. (tech)	–26%	–34%	19%	37%	–58%	–11%	–29%	–15%	–9%	12%	8%	25%	–3.9
Telecoms	–32%	–25%	3%	–19%	–15%	–24%	41%	–27%	–7%	9%	6%	25%	–4.1
Utilities	–43%	–20%	12%	–24%	–38%	–22%	8%	–3%	–9%	10%	6%	25%	–4.5
Retail	–25%	–24%	19%	14%	–64%	–27%	6%	–15%	–9%	12%	8%	38%	–3.9
Health	–18%	–8%	18%	25%	–42%	–2%	43%	–6%	–1%	11%	9%	38%	–2.2
Financials	–20%	–29%	18%	23%	–53%	–5%	–24%	–35%	–9%	11%	7%	25%	–3.7
Other	–20%	–36%	25%	–12%	–62%	7%	–4%	–21%	–10%	8%	5%	25%	–3.1

Source: Exhibit 7: U.S. Performance in inflationary regimes. Reprinted from "The Best Strategies for Inflationary Times" by Henry Neville, Teun Draaisma, Ben Funnell, Campbell R. Harvey, and Otto Van Hemert, 2021, page 12. 2021 by "Man Institute".

In looking at individual investments, pricing power, cost exposure, and duration may become crucial to understand. Pricing power typically comes from the mission-criticality of a company's product or services to their customers and the inability for customers to defer purchases into the future (i.e., less discretionary demand). On the cost side, businesses with higher profit margins may be better equipped to absorb cost increases versus those whose margins are razor thin. And the pattern of future cash flows—or duration—may make certain investments relatively more or less exposed to changes in discount rates.

Finally, and perhaps most importantly, if periods of higher inflation are indeed generally more volatile, the risk of behavioral errors becomes more acute. Human beings are not wired to think in consistently Bayesian terms, nor are base rates always well understood. Faced with a potentially changing landscape, the urge may be to do something, to take heroic action, to make big bets. More often than not, such bravery can result in capital impairment. A clear investment process, along with a team and culture that can help mitigate any individual behavioral tendencies, may be more important than ever.

Disclaimer

Mawer Investment Management Ltd. provides this publication for informational purposes only and it is not and should not be construed as professional advice. The information contained in this publication is based on material believed to be reliable at the time of publication and Mawer Investment Management Ltd. cannot guarantee that the information is accurate or complete.

References to specific securities are presented for informational purposes only. Information relating to investment approaches or individual investments should not be construed as advice or endorsement. Any views expressed were prepared based upon the information available at the time and are subject to change. All information is subject to possible correction. In no event shall Mawer be liable for any damages arising out of, or in any way connected with, the use or inability to use this information appropriately.