INVESTMENT

Inflation and Currency

As inflation has surged worldwide, investors are questioning its effects upon markets and investments globally. With the war in Ukraine and the Russian sanctions pushing energy prices to record high levels, the inflation rate in the Eurozone registered at 7.4% year-over-year in March 2022, the highest on record, more than three times above the European Central Bank (ECB) target of 2%. As global economies remain highly interconnected, the relationship between inflation and FX markets is an important consideration within portfolios. This article breaks down the influence of inflation on currency exchange rates, how the behavior manifests across time horizons, and how central bank policy plays a major role in spot rate movements.

WRITTEN BY UTO SHINOHARA, CFA, MANAGING DIRECTOR & SENIOR INVESTMENT STRATEGIST

In Theory

When examining the relationship between inflation and currency, purchasing power parity (PPP) is commonly used as an economic theory for the determination of exchange rates. Absolute PPP is guided by the law of one price, assuming price levels between two countries should be equal. When comparing exact baskets of goods across countries, absolute PPP suggests the exchange rate will change over time until the baskets are of equal value due to international arbitrage.

$$S = \frac{P_a}{P_b}$$

where S = spot rate, P = price of basket in country a | b

The Big Mac Index, published since 1986 by The Economist, became a popular and easy-to-understand comparison tool for currencies, using principles of absolute PPP, since the Big Mac is universally known and made to the same specifications in all geographies. However, the simplicity of absolute PPP has shortcomings as it fails to consider the existence of inflation and consumer spending, as well as barriers to trade such as transportation costs, taxes, tariffs, and other transaction costs.

Relative PPP addresses the effect of inflation on exchange rates by suggesting a negative correlation between inflation and spot rates – higher inflation will reduce the purchasing power of a currency in the future.

$$S_1 = S_0 \frac{(1 + inf_a)}{(1 + inf_b)}$$

where S = spot rate at year #, inf = annual inflation rate in country a | b

The theory behind relative PPP logically deduces that when inflation is high, expensive items are less in demand, which means that the currency required to purchase those items is also less in demand, leading to depreciation. The concept is rational within a frictionless, efficient global market.

Source: Mesirow, Bloomberg

In Practice

To understand the effect of inflation on currencies, we looked back over 50 years to include the high inflationary periods of the 1970s, as well as more recent periods. Since EUR was not in existence until the late 1990s, we analysed USD over earlier periods, followed by EUR over more recent ones.

The Great Inflation of the 70s and 80s reached double-digits, peaking multiple times before receding into the mid-80s. During major inflation spikes in the US, the US Dollar Index (DXY) depreciated until inflation peaked and reversed, lending support to the theory behind relative PPP.

However, over recent decades, relative PPP has not held. When studying the behavior of EUR against USD, overlapped with the inflation differential between the Eurozone and the US, the currency movements have behaved in the opposite manner. When the inflation differential was positive in the direction of the Eurozone, EUR has appreciated against USD although inflation was higher.

Insights & Outlook

Possible explanations of this stark difference in behavior begin with the magnitude of inflation. While inflation is currently high relative to the compressed inflation environments over the past few decades, the levels are dwarfed by the historical highs in the 70s and 80s. The higher magnitudes in the past could have brought higher influence relative to other factors at the time, thus following the behavior theorized by relative PPP. Developed markets inflation is currently still less than half of the peak levels of the 70s and 80s.

While relative PPP has held during episodes of double-digit inflation, more recent behavior has not supported the view that higher inflation leads to currency depreciation. Recent price action has been heavily influenced by central bank policy in response to inflation. Interest rate hikes are a part of the central bank toolbox employed to maintain price stability and to manage economic fluctuations. Policy changes to combat inflation, or even the anticipation of such policy changes, can move markets. Interest rate hikes often lead to currency appreciation since investor funds flow into the country to take advantage of the attractive interest rate. Thus, in the short-term, rising inflation can lead to central banks raising interest rates, which can lead to currency appreciation, running counter to relative PPP. Although inflation has reached record highs in Europe, the inflation differential is negative when compared to higher US inflation. EUR has been under intense pressure against USD since the start of 2021, with the ECB lagging other major central banks' hawkish policies, as the divergence between a very hawkish Fed and a more dovish ECB remains wide.

Source: Mesirow, Bloomberg

Source: Mesirow, Bloomberg, OECD

For European investors with international portfolios, currency exposure returns are dependent upon the euro's future trajectory, with its path going forward highly dependent upon the timing of ECB policy. As the ECB closes the policy gap vs. the Fed, EUR should be more supported, all else being equal.

However, unexpected events can affect trajectory and policy across regions. As the ECB began tilting towards more hawkish behavior to rein in surging inflation, the Russia-Ukraine crisis escalated, delaying ECB tightening as supplies became even more constrained and Europe's dependence on Russian energy became a focal point. While an ECB tilt towards hawkish behavior is expected as inflation persists, the timing of a policy change remains uncertain, balancing the crisis in Ukraine, raging inflation, and Europe's growth prospects. With FX volatility rising in 2022 from policy divergence and the Russia-Ukraine crisis, a currency hedging policy with a dynamic, active element can help navigate uncertain waters by adapting to the changing market backdrop. With EUR reaching lows rarely seen over the past twenty years against USD, actively monitoring undervaluation levels can help manage long-term hedge positions as the euro looks for support over the coming year.

Country	Policy Rate	Implied Policy Rate				
		3M	6M	1Y	2Y	3Y
United States	0.38	1.7	2.42	3.03	2.94	2.7
Eurozone	-0.5	-0.38	0.05	0.87	1.45	1.35

Source: Bloomberg as of April 26, 2022

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