Currency Exchange Rates and U.S. Dollar Strength

A key factor driving international asset returns in 2018 has been the strength of the U.S. dollar relative to currencies of other developed nations and especially emerging markets. The MSCI EAFE index, representing non-U.S. developed countries, returned 1.38% in local terms but -1.43% after conversion to U.S. dollars as of the end of September 2018. Currency effects can have a large impact on the returns of international stocks for investors measuring their wealth in dollars. As shown in *Figure 1*, before returns are translated to dollars, the MSCI EAFE index has shown lower volatility than the S&P 500 index and emerging markets stocks have the same volatility as the S&P 500 index but adding currency effects results in an entirely different picture.

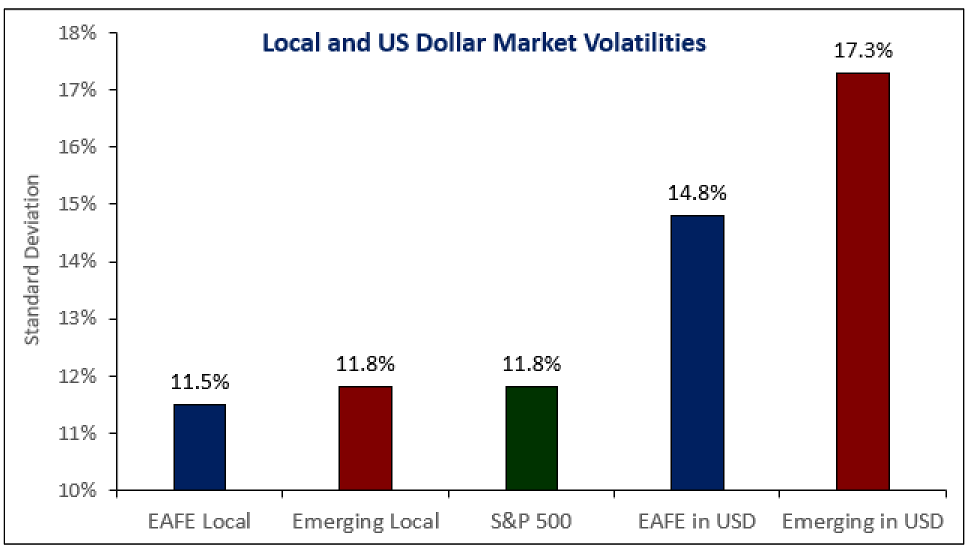

Figure 1: Currency Effects Drive Volatility in International Stocks
Source: GMO Letter Q2-2018, MSCI, S&P

This paper aims to provide readers with an understanding of key drivers of currency fluctuations and the investment implications of currency fluctuations.

The Bretton Woods system of managed, or fixed, exchange rates was implemented in the aftermath of WWII. Under this system, all currencies were convertible to U.S. dollars at a fixed rate and central banks could convert dollars to gold. President Nixon unilaterally ended the convertibility of dollars to gold in 1971 in an event referred to as the "Nixon Shock". Most currencies became free-floating by 1973, their value determined relative to one another in currency markets.

Key Drivers

The key drivers of changes in exchange rates are trade flows, investment and portfolio flows, and the influence of safe haven currencies in times of crisis.

When a Japanese company sells products internationally, the foreign exchange dollars must be converted to Yen for disbursement to employees, suppliers, bondholders, and shareholders. *Ceteris paribus*, increased (decreased) exports of goods and services generally lead to a currency appreciating (depreciating) against its major trading partners. Any depreciation of a country's currency makes its exports more competitive and foreign products less attractive to domestic consumers; with their exports more competitively priced on world markets, large companies tend to benefit from domestic currency weakness. As *Figure 2* (below) shows, this export-driven dynamic explains the inverse relationship between stock prices and currency movements observed in most developed countries, while in emerging markets the correlation is reversed. Correlation, between -1 representing a perfectly inverse relationship, and 1 showing a perfect positive relationship, measures the degree to which the returns tend to move together.

The theory of purchasing power parity assumes prices for the same goods should be roughly equal across nations. Products from countries with overvalued (undervalued) currencies will appear overpriced (underpriced), leading to changes in international trade; the dynamics of price equilibrium and purchasing power parity leads to trade flows serving as a long-term self-correcting mechanism for exchange rates.

Foreign investment, whether directly through the purchase of land, factories, and raw materials, or the securities channel of listed investments, results in currency appreciation. For example, buying shares on a foreign stock exchange either directly or through a mutual fund or ETF results in selling dollars to purchase foreign currency. If a nation becomes a more attractive investment destination due to greater political stability, economic growth, or other developments, the currency appreciates as investors rush to invest in that country. If a flood of "hot money" in portfolio investments enters a country, it can result in rapid currency and stock market appreciation. This can presage a crisis forming if these portfolio investments can be withdrawn just as rapidly. Countries with small domestic markets and trade relative to securities investment are especially vulnerable in this respect.

For this reason, governments in developing countries and international development organizations such as the World Bank tend to look more favorably upon foreign direct investments in factories and other productive assets, as these cannot be withdrawn as rapidly as portfolio investment. Countries such as China impose capital controls, including restrictions on foreigners investing in their stock markets, to avoid a currency crisis caused by the "hot money" phenomenon.[1]

[1] *China steps up capital controls with overseas withdrawal cap, Charles Clover and Tom Mitchell, FT*

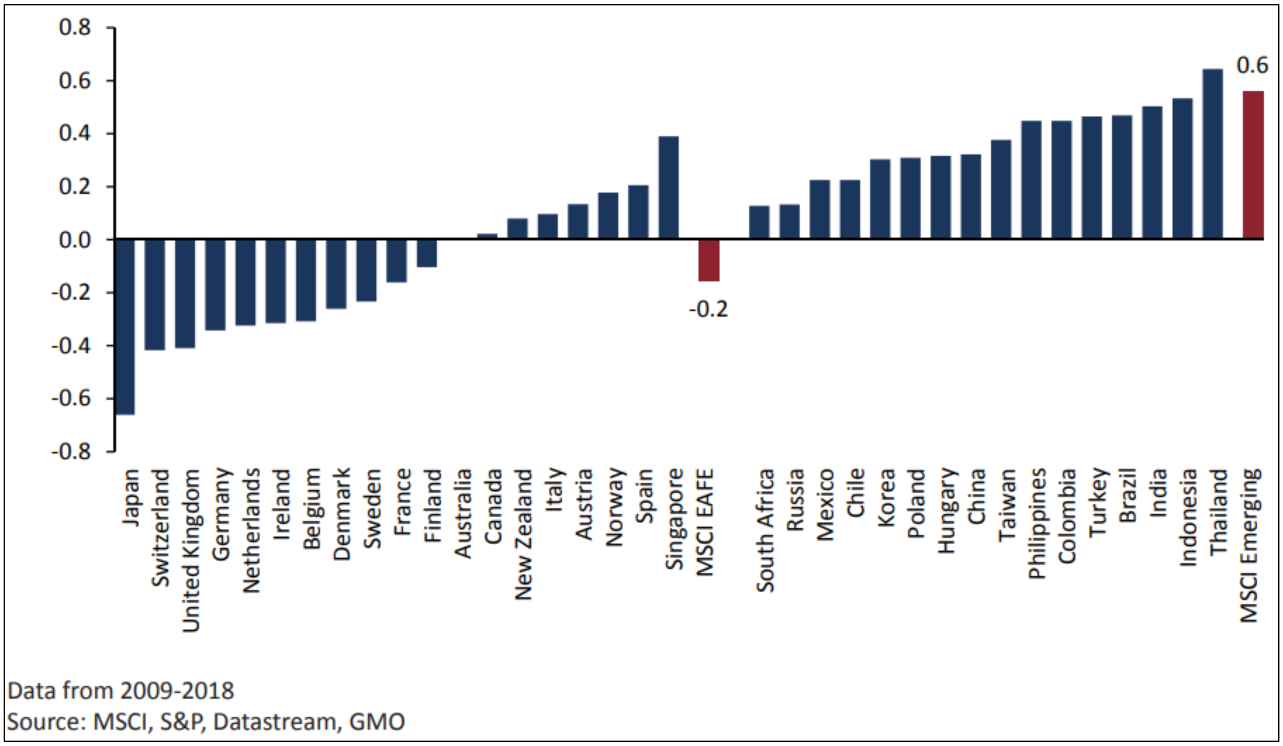

Figure 2: Correlation between Currency and Local Stock Market, ex S&P 500 Beta Impact

Source: GMO Letter Q2-2018

Another important driver of foreign exchange rates is the "safe-haven" investment effect. Like the above portfolio flow effects, safe-haven effects impact exchange rates. Some currencies such as the U.S. dollar and Japanese Yen tend to serve as relative "safe-havens" during financial market selloffs, bear markets, and crises. As investments in these countries are perceived as safer, investors tend to withdraw money from other countries, especially emerging markets, shifting wealth to safe-haven countries.[2] As shown in *Figure 2*, the "safe-haven" effect results in the currencies of emerging markets tending to fall in tandem with their stock markets, even if a particular emerging market is relatively unaffected by factors precipitating the decline.

Investment Implications

Currency effects are a large driver of both returns and the volatility of international investments.

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[2] *Portfolio rebalancing in times of stress, Andreas Fischer, Rafael Greminger, Christian Grisse, Swiss National Bank*

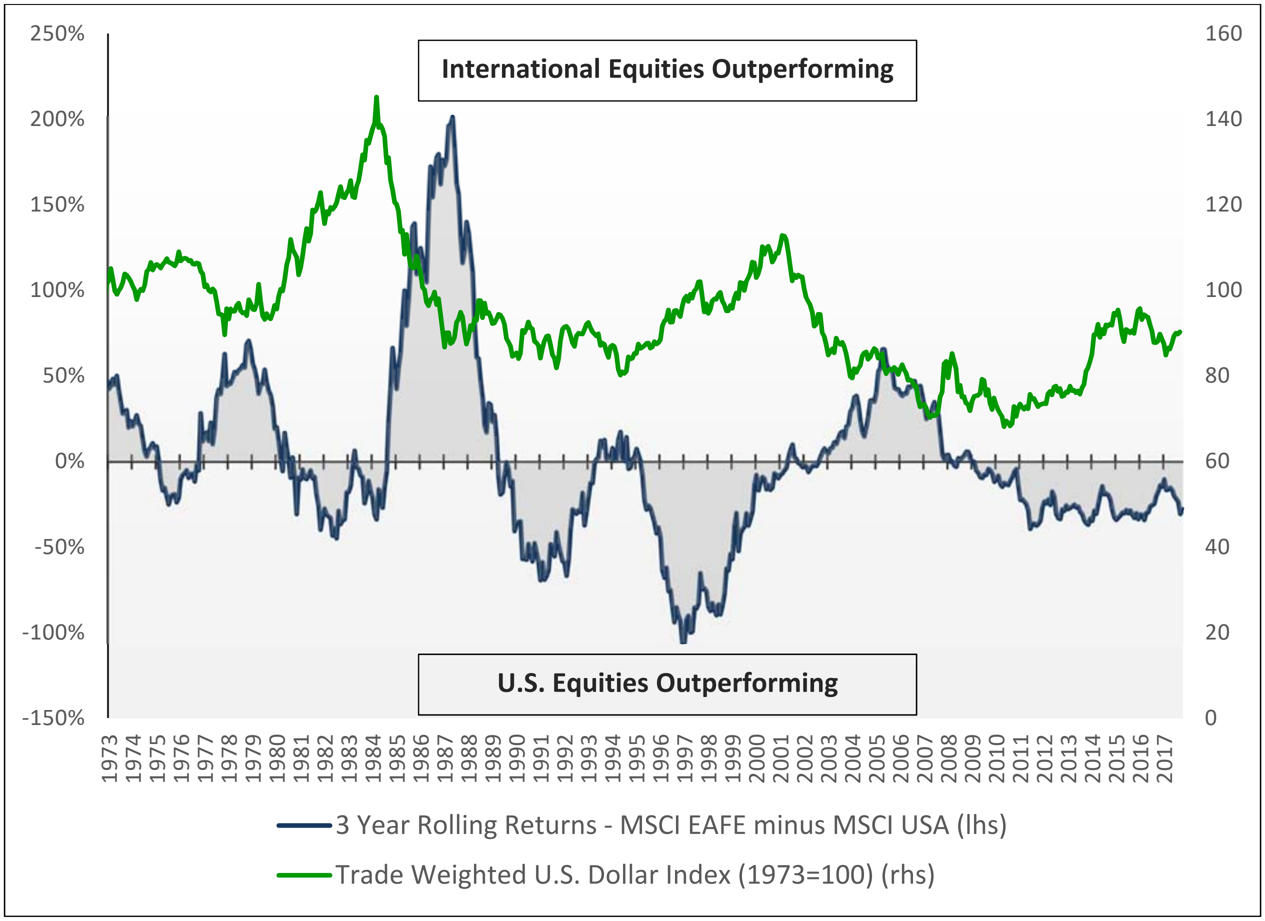

Figure 3: MSCI EAFE vs USA Rolling Performance

Source: FRED - U.S. Federal Reserve, MSCI Net Total Return Indices via Bloomberg

As *Figure 3* shows, the current degree of U.S. dollar strength and underperformance of international equities is not an extraordinary event compared to history. Periods of dollar strength and weakness occur in cycles. Patience is key with international investments, as it typically takes many years for periods of undervaluation and overvaluation to correct themselves. For long term investors, we believe the soundest approach is driven by diversification by currency and consideration of fundamental valuations. While investment managers may hedge currency translation risk as a matter of policy, or to reduce volatility, such hedging is expensive and sacrifices long term returns for a reduction in volatility.

The key takeaway regarding foreign currency movements and international investing is the need for patience to offset the impact of currency movements. Please feel free to reach out to your consultant or our research team regarding any questions or concerns.