

Currency questions for global investors

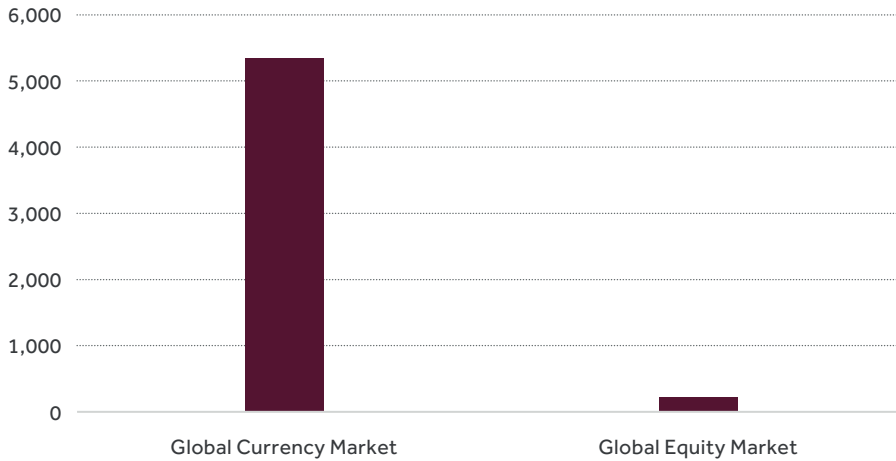
Recent volatility in the value of the euro, Swiss franc and Japanese yen suggest that risk in global currency markets may be on the rise. The currency market is the world's largest financial market and, with the ongoing globalization of portfolio exposures, is becoming an increasingly important component of investors' returns. However, if investors share their currency exposures with those implicit in their equity, fixed income or other benchmarks, they may be setting their currency policy unconsciously, rather than consciously. In this *paper* we define the currency market's size, explore the risks associated with exposure to foreign currencies and illustrate the implicit currency exposures of leading equity and bond indexes.

The world's largest financial market

Measured by activity, the foreign exchange (or currency) market is the largest financial market in the world by an order of magnitude.

For example, daily turnover in the global currency market averaged US\$5.3 trillion a day during 2013, whereas electronic order book trading in the 64 global equity markets represented by the World Federation of Exchanges averaged US\$217 billion a day in the same year.

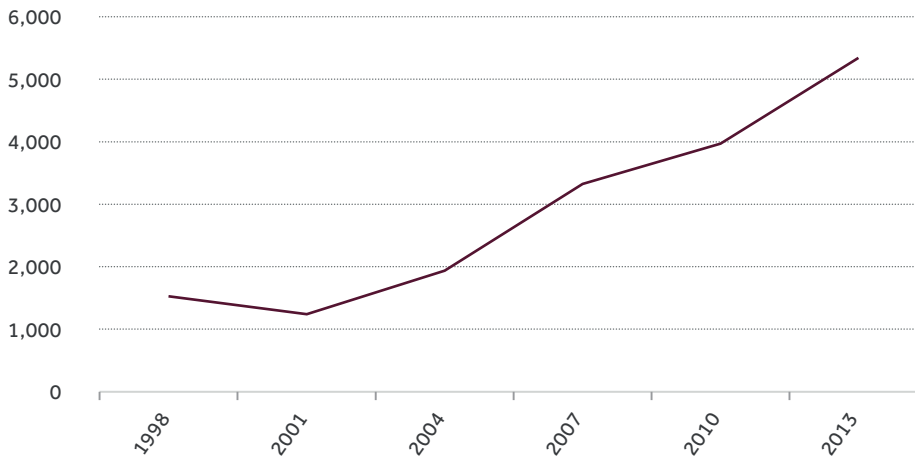
Comparative daily turnover (US\$bn)



Source: BIS Triennial Central Bank Survey 2013, World Federation of Exchanges (WFE).

After a small decline at the beginning of the new millennium, daily currency market turnover has risen strongly during the last decade. According to the 2013 BIS Triennial Central Bank Survey, average daily turnover in the foreign exchange markets increased over fourfold between 2001 and 2013.

Currency market daily turnover (US\$bn)



Source: BIS Triennial Central Bank Survey 2013.

During the last decade, there has also been a significant rise in foreign exchange reserves at the world's central banks and in assets held by sovereign wealth funds, which are typically invested internationally and in a variety of asset classes and currencies.

According to an analysis by BNY Mellon, global central bank foreign currency reserves increased from US\$2.8 trillion to US\$11.8 trillion between 2003 and 2014¹. Aggregate sovereign wealth fund assets have risen from US\$3.05 trillion in 2008 to US\$6.31 trillion in March 2015².

¹ https://www.bnymellon.com/_global-assets/pdf/our-thinking/business-insights/central-bank-foreign-exchange-reserve-accumulation-slows.pdf

² Data from www.preqin.com

Globalization of portfolio exposures

The number of countries considered by the average portfolio investor has increased greatly during recent decades, reflecting an increasingly globalized outlook.

According to the Coordinated Portfolio Investment Survey (CPIS) of the International Monetary Fund (IMF), the average non-domestic allocation of a US institutional equity portfolio was only 21% in 1997. By 2013, 49% of the average equity portfolio was invested outside the US³.

In its 2014 CPIS, the IMF reports that total cross-border portfolio investment holdings of equities and bonds rose from US\$12.7 trillion in December 2001 to US\$46.6 trillion in December 2013, an increase of 266%⁴.

According to a 2014 survey by the Organization for Economic Cooperation and Development (OECD), 36.6% on average of the assets of large pension funds and public pension reserve funds is now invested in foreign markets⁵.

Managing currency risks

Since 1971 and the end of the post-World War II Bretton Woods system of near-fixed exchange rates, the world has operated under a floating (or “fiat”) currency regime. Fiat currencies have no formal backing and their value depends on market participants’ trust in the ability of governments (and their agents, central banks) to maintain their purchasing power.

The post-Bretton Woods era has been characterized by widespread currency instability. Under a fiat money regime, investors face different types of currency risk, notably:

- **Volatility**, i.e. a temporary loss of purchasing power as a result of unpredictable movements in foreign exchange rates, threatening a shortfall if investors hold foreign assets to match domestic liabilities;
- **Long-run loss of value**, i.e. a permanent decline in wealth resulting from holding a depreciating currency over time;
- **Inflation**, i.e. the risk that the return (such as the interest rate) on assets held in a particular fiat currency will fail to match the inflation rate, generating losses in real terms.

For example, short- and medium-term currency volatility has been evident in the euro/US dollar foreign exchange rate since the euro’s introduction on January 1, 1999, despite a limited overall change in the rate when measured over the whole 1999-2015 period.

³ IMF Coordinated Portfolio Investment Surveys, 1997, 2013

⁴ IMF Coordinated Portfolio Investment Surveys, 2001, 2013

⁵ OECD Annual Survey of Large Pension Funds and Public Pension Reserve Funds 2014.

EUR/USD spot rate



Source: FTSE Russell, WM/Reuters, January 1, 1999 – April 28, 2015

The sterling/Swiss franc exchange rate provides an example of the long-run loss of value that can be suffered by an investor in a foreign currency: over the period between December 1969 and April 2015 sterling depreciated by more than 85% in Swiss franc terms.

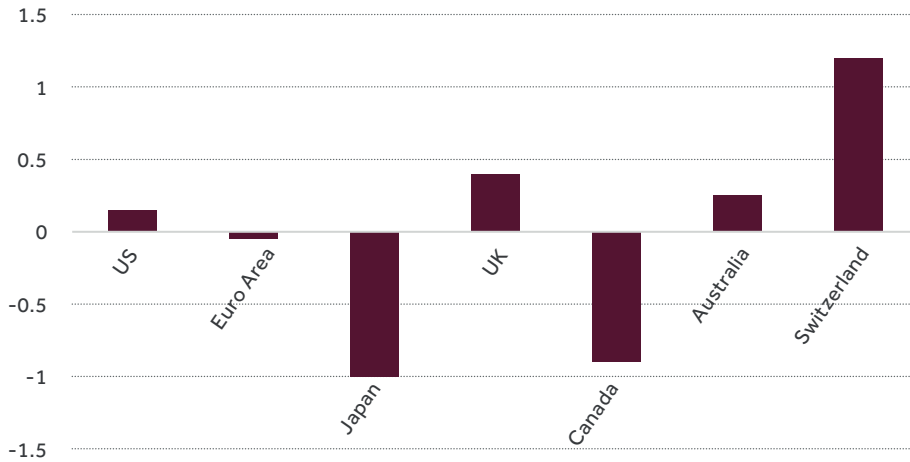
GBP/CHF spot rate



Source: FTSE Russell, WM/Reuters, December 31, 1969 – April 28, 2015

As a result of falls in official interest rates since the financial crisis, investors across a broad range of global markets currently received limited protection against inflation risk. As at April 2015, real (inflation-adjusted) official interest rates were near or below zero in several leading economies.

Real short-term interest rate (%)



Source: FTSE Russell, IMF, as at April 29, 2015, calculated as the difference between official interest rates and forecast 2015 inflation. Official interest rates are the Fed Fund target rate (US), Euro Refi rate, Japan O/N target rate, UK base rate, Canada bank rate, Reserve Bank of Australia official cash rate, Switzerland prime rate. Inflation rates are the forecast 2015 average annual change in consumer price inflation, IMF April 2015 World Economic Outlook.

From an investment perspective, certain individual asset classes are associated with particular risk premia. For example, equities offer a long-term risk premium as compensation for bearing the risk of a relatively subordinated claim on companies' assets. Fixed income securities offer risk premia to investors for bearing exposure to credit and interest rate risk.

However, as an asset class, currency offers no risk premium. And the risk associated with holding foreign currencies can be substantial and meaningful when compared with the risk in other asset classes.

During the five years from 2010–2014, for example, a US dollar-based investor faced annualized monthly currency volatility of 10.3% when holding the Euro, 8.2% in the pound sterling, 9.1% in the Japanese Yen, 11.5% in the Swiss Franc and 13.3% in the Australian Dollar⁶. Over the same five year period, the annualized monthly volatility of the FTSE All-World Index of global equities was 14.6%⁷.

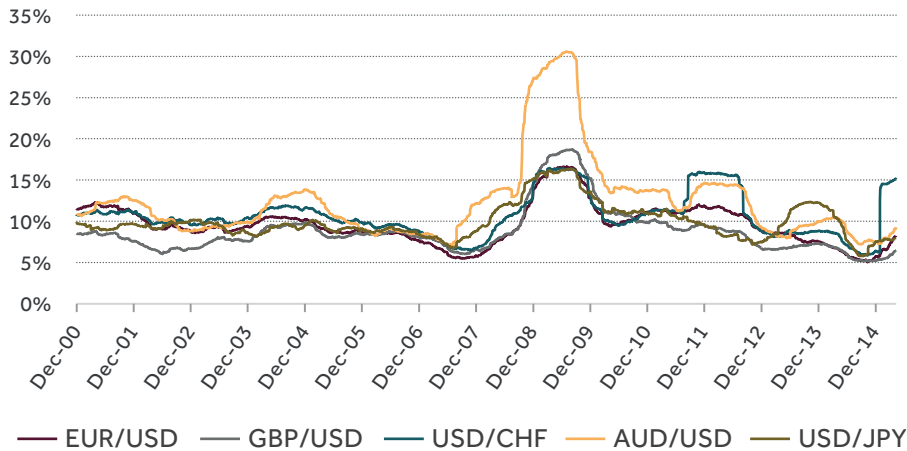
Periodically, volatility in individual currency pairs has spiked to higher levels: for example, the annualized volatility of the Australian dollar/US dollar rate exceeded 30% in 2009, while more recently the volatility of the Swiss franc/US dollar rate has jumped to over 15%, reflecting the Swiss central bank's decision to abandon its currency's peg against the euro in January 2015⁸.

⁶ Source: FTSE World Parity Unit (WPU) Factsheet, 31 December 2014.

⁷ Source: FTSE All-World Index Factsheet, 31 December 2014.

⁸ Source: FTSE, WM/Reuters, 31 December 1999 – 28 April 2015, annualised volatility of change in daily closing FX rate, measured over rolling 252-day year.

Rolling one-year currency volatility



Source: FTSE Russell, WM/Reuters, December 31, 1999 – April 28, 2015, annualized volatility of change in daily closing FX rate, measured over rolling 252-day year.

Diversification helps to reduce the risk of exposure to any one currency. In fact, diversification is arguably a more reliable approach in the currency markets than in other asset classes: in a market crisis different equity markets may all fall at the same time, but currencies cannot all depreciate simultaneously (since exchange rates are relative prices, if one currency is depreciating another must be appreciating).

Further, for reasons of liquidity, investors are typically constrained to a substantial allocation to the seven major currencies, which account for 87% of all currency trading⁹.

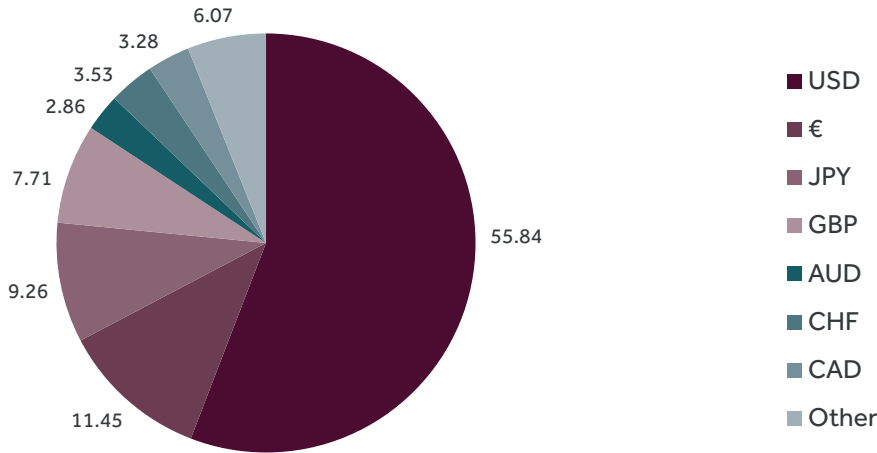
What is an appropriate currency benchmark?

Diversification therefore seems a useful way to manage currency risk. But what is an appropriate benchmark?

Many investors inherit their currency exposures by default from their allocations to global equity or bond markets. For example, an investor using the capitalization-weighted FTSE Developed Index as a benchmark or as the underlying reference point for an index-tracking financial product would, as at the end of March 2015 by value, witness currency exposure of 55.84% to the US dollar, followed by the euro (11.45%), the Japanese yen (9.26%) and pounds sterling (7.71%).

⁹ According to the BIS Triennial Central Bank Survey 2013, the seven largest world currencies (USD, euro, yen, Pound sterling, Australian dollar, Swiss franc, Canadian dollar) account for 87% of all currency trading.

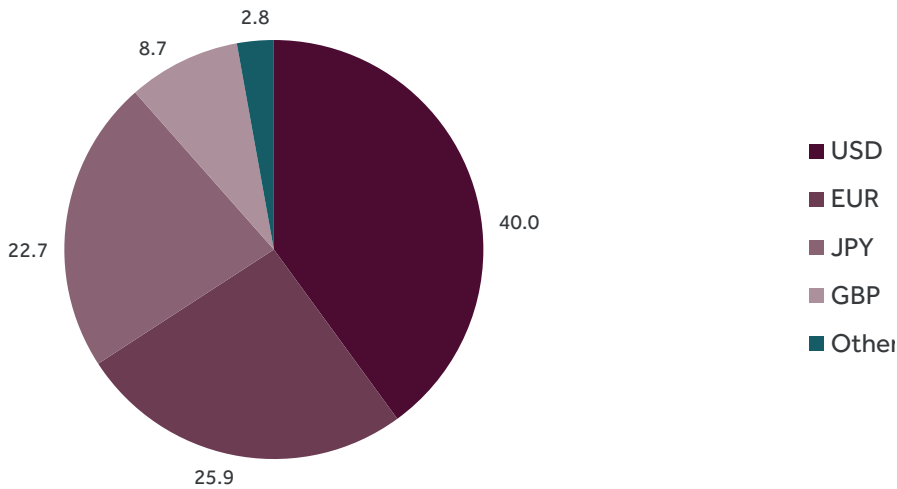
Currency exposure – FTSE developed (%)



Source: FTSE Russell, as at March 31, 2015.

By comparison with a capitalization-weighted global equity index, in March 2015 the market value-weighted FTSE Global Bond Index, which consists of fixed rate government bonds issued by 22 governments, had a combined exposure of over 97% to the same four currencies, but this time with a lower US dollar weighting (40%) and a higher allocation to the Euro (25.9%) and the Japanese yen (22.7%).

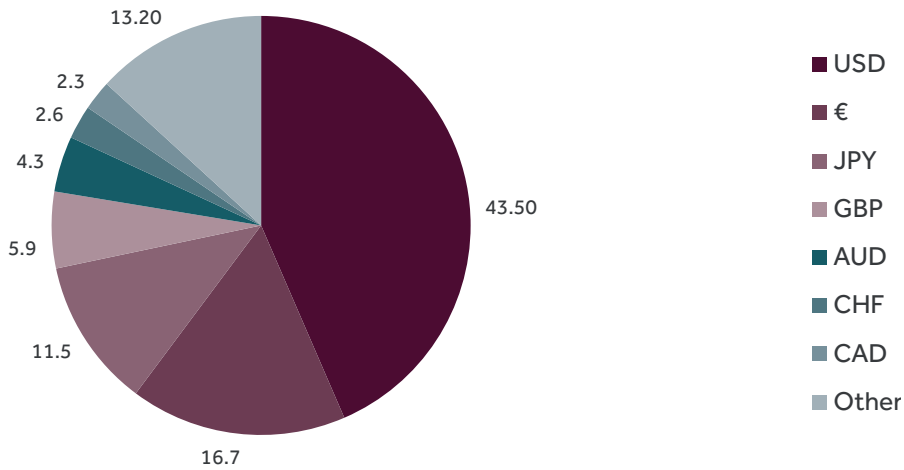
Currency exposure – FTSE global bonds (%)



Source: FTSE Russell, as at March 31, 2015.

A third approach—weighting currencies according to their share of trading volumes in the global FX market—results in another set of exposures, with the US dollar exposure lying between that of the global equity and bond indexes. Using this methodology produces an exposure to the “tail” of currencies outside the top seven that is higher than in the equity and bond benchmarks described above.

Share of global FX market turnover (%)



Source: BIS Triennial Central Bank Survey 2013, Table 2, p.10.

In a separate FTSE Russell Insight, we examine the question of how one might arrive at a suitable global currency benchmark from a theoretical, top-down perspective, by considering index solutions to the three risks highlighted earlier.

Summary

While currency is the world's largest financial market and portfolios are becoming increasingly globalized, foreign exchange instability has been a fact of life since the end of the Bretton Woods system over forty years ago and currency risks may be on the rise. Investors often derive their currency exposures by default from their allocations to global equity, fixed income and other asset markets. A conscious, top-down policy of determining a more diversified exposure to global currency markets may therefore be a sensible alternative.

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