

## Bond Basics

October 2007

### Currency Market Basics: How the Global Currency Markets Work

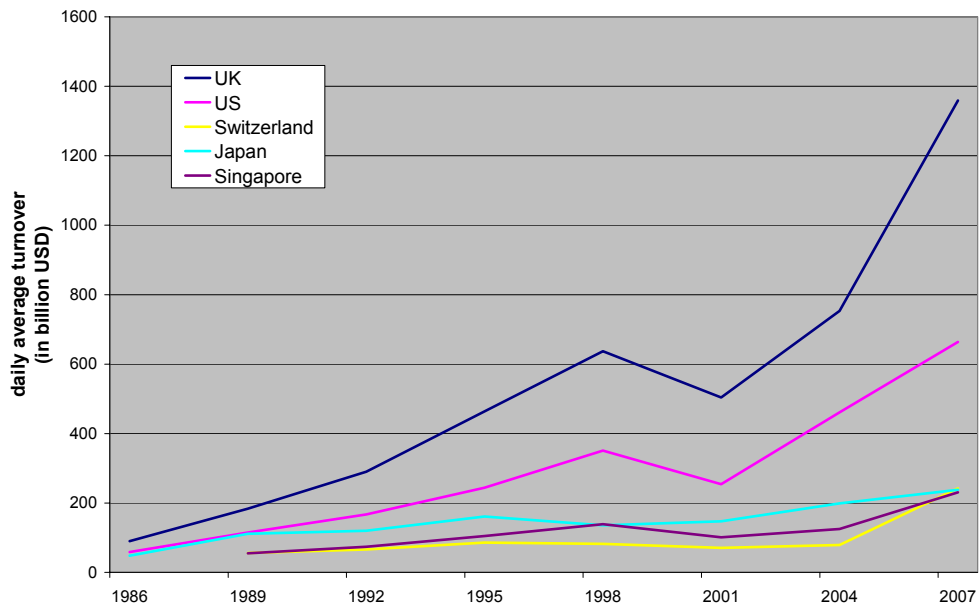
The currency market is the largest and most liquid financial market in the world, but also one of the least known. Currencies like the U.S. dollar, the euro and the yen trade in the foreign exchange (FX) market 24 hours a day across national borders. This article will explain the basics of FX markets, currencies and their role in investing.

#### Overview of the Global Currency Markets

Currency in its simplest form describes the money or official means of payment in a country or region. The best known currencies include the U.S. dollar, euro, yen, British pound and Swiss franc. A commonly used currency symbol exists for many currencies, for example \$, £ or €. FX markets, however, use so called ISO codes, for example USD for U.S. dollar, GBP for the British pound and EUR for the euro.

Every day more than U.S. \$3 trillion<sup>1</sup> in currencies change hands in a highly professional interbank market, in which electronic trading platforms link currency traders from banks across the world directly. FX markets are effectively open 24 hours a day thanks to global cooperation among currency traders. At the end of each business day in Asia, traders pass their open currency positions on to their colleagues in Europe, who – at the end of their business day – pass their open positions on to American traders, who just begin their working day and pass positions on to Asia at the end of their business day. And there, the circle begins anew. This makes FX truly global and very liquid.

**Chart 1: Turnover in the Five Biggest FX Markets 1986 - 2007**



Source: BIS.

<sup>1</sup> BIS Triennial Central Bank Survey, September 2007, p. 9.

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Around the turn of the century, trading volumes increased dramatically, as Chart 1 shows. The Bank for International Settlement (BIS) identified several factors responsible for the increase in currency trading at the time. First, higher volatility and clear trends in FX markets made currency a potentially attractive investment. Second, interest rate differentials between countries were prompting market participants to exploit these differentials with different strategies. The most famous of these strategies has become the Carry trade, which we will explain in more detail later. Third, the global search for yield was boosting interest in FX as an alternative to stocks and bonds.

### What determines exchange rates?

The exchange rate gives the relative value of a currency against another currency. An exchange rate GBP/USD of 2, for example, indicates that 1£ will buy 2 U.S. dollars. The U.S. dollar is most commonly used as reference currency, which means currencies are usually quoted against the U.S. dollar and indeed the majority of FX trades.

What determines the exchange rate between free floating currencies? The most common theory to explain the relationship between two currencies is the Purchasing Power Parity theory (PPP), which is also illustrated in the “Big-Mac-Index”. In a perfect world, a Big Mac should – using the exchange rate – cost the same everywhere in the world, regardless of the local currency. In a simplified example where the exchange rate GBP/USD is 2, the price of a Big Mac in the U.K. could then be £2.50 and should be 5\$ in the U.S. If the purchasing power in the U.K. increases relative to the U.S., the exchange rate has to adjust with the GBP buying now more USD than before or else consumers will start to buy equal goods in the relatively cheaper country.

A similar principle applies when we look at money itself and consider interest as the price for money. If the real return on a financial asset differed from one country to another, investors would flock to the country with the relatively higher returns. Interest rates have to change to stop this movement and rebalance the markets. The theory behind this relationship is called the interest rate parity theory. When looking at interest rates it is important to distinguish between real rates and nominal rates, with the difference reflecting inflation. The higher the (expected) inflation in a country, the more compensation will investors demand when investing in a particular currency.

### A Brief History of Currency Systems

Trading in currencies has not always been that lively, mainly because exchange rates between two currencies were not flexible or “free floating” as most major currencies are today. In the 19<sup>th</sup> century, national currencies started to be backed by a government’s gold reserves and the price of a currency was fixed against a certain amount of gold. This gold parity gave citizens confidence both in a currency and its stability in terms of value. The U.K. first introduced the “gold standard” in 1821 and by the beginning of the 20<sup>th</sup> century most major players in world trade had followed.

Under the gold standard, a government or central bank has to maintain enough gold reserves to match money supply in a country and ensure full convertibility of currency against gold at all times. In times of war or crisis, maintaining sufficient gold reserve levels can be difficult. During World War I many countries had to abandon the gold standard. In the late 1920s a “gold exchange standard” was introduced that allowed the exchange of a local currency against gold or currencies from countries like the U.K. and the U.S. that were still backed by gold – and thus the first “reserve currencies” were

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born. The economic crisis that began in 1929 took its toll, though, and in 1931 the U.K. suspended the gold standard and many other countries followed.

At the end of World War II, another system of fixed – but adjustable – exchange rates was born with the Bretton Woods agreement between 40 nations, which tied their currencies to the U.S. dollar. The U.S. in return agreed to maintain a gold standard. Bretton Woods suffered a similar fate like the gold standard when it was abandoned in the 1970s after the U.S. gave up the gold standard.

Fixed rates can still be found today, with the Chinese Yuan pegged against the U.S. dollar as one of the most prominent examples. But most major economies today have free floating currencies, which allow exchange rates to adjust to economic and market relevant developments automatically. The emergence of floating currencies is often credited for improving financial stability worldwide. In many countries, independent central banks like the Fed in the U.S. or the Bank of England in the U.K. watch over the stability of the nation's currency.

**Chart 2: Countries of the Euro Zone**



Source: ECB; <http://www.ecb.int/bc/intro/html/map.en.html>

A common monetary union, like in the case of the euro zone, offers another way to promote financial stability in a wider region. Countries of the now European Monetary Union agreed over the course of several decades to create a common economic area with one common currency. In January 1999, the exchange rates to the new currency, the euro, were irrevocably fixed for 11 participating countries and the euro began its life as an accounting currency before euro coins and notes replaced the Deutsche Mark, the French Franc and the Italian Lira – to name just a few – in 2002. The European Central Bank (ECB) is responsible for the monetary policy in the entire euro zone and still has to consider the varying degree of economic development in the euro zone countries. However, it doesn't have to juggle any exchange rates, neither internally nor externally.

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### Who are the Players in the FX Market?

The weight of the players in the FX market has shifted over the years. Traditionally, the most important players in the FX markets were importers and exporters of goods who traded currencies through their banks. Their international trade relationships were driving demand and supply for currencies, and these flows still influence FX markets today, as market movements show, for example, when new statistical data is released for the balance of trade or the current account of the balance of payments between a country and the rest of the world. However, over the years the importance of trade relationships has continually lost in importance as financial investors became more and more active in FX markets.

The driving force behind this transition from a market dominated by importers and exporters to a market dominated by investment flows were investors increasingly looking abroad for investment opportunities. A British investor buying equities in the U.S. takes on a currency risk by holding shares in U.S. dollars, though. He may therefore want to hedge this risk to insulate profits from any impact from adverse movements in the exchange rate.

Only more recently have investors discovered currencies as an asset class and, potentially, an additional source of income. Lower returns of the more traditional asset classes – like equities and bonds – and a mismatch between assets and future liabilities of pension funds have led investors to seek new, uncorrelated sources of return as investment alternatives in their asset mix. Currencies not only offer diversification but also allow the extraction of returns due to inefficiencies in the FX market.

Financial institutions have become the biggest players in the FX market. Interbank business accounts for just about half of the FX turnover<sup>2</sup>, but the group with the strongest growth are other financial institutions like insurance companies, pension funds, hedge funds, asset managers and most of all central banks.

### Approaches to Investing in Currencies

Even though currencies are considered an asset class an investor cannot simply invest in, for example, U.S. dollars or Swiss francs. An investment requires a second currency to make a pair. An investor is therefore investing into the exchange rate movements of the U.S. dollar against the Swiss franc and requires taking a view of relative valuations and market trends.

Several approaches exist to invest in currencies, although the Carry trade has clearly made the most headlines over the last years. The carry approach – also known as forward rate bias – takes advantage of different interest rate levels in two countries. An investor will borrow money in a low-interest rate currency and invest in a higher yielding currency. Companies and investors often use a so called fundamental approach to determine the fair value of a currency. This approach is based on fundamental analysis

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<sup>2</sup> BIS Triennial Central Bank Survey, September 2007, p. 6. While interbank trades continue to represent the largest segment of FX trades, the share of interbank trading has fallen continuously from 64% in 1998 to 43% in 2007. According to the BIS, the “shrinking interbank market might reflect the continuing consolidation in the banking industry”.

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where an investor or company tries to identify the fair value of a currency and from it a future price movement. The wide range of users makes it one of the most common FX approaches in practice.

### Conclusion

Currencies have developed over centuries and most major currencies have free floating exchange rates today, which help increase financial stability. Globalisation in trade and later in services increased the exposure to other than the home currency among global market participants. Thus, investors became aware of the highly liquid and global FX market and over time came to regard currencies as an asset class with diversification benefits. The market's biggest players are financial institutions, which actively use exchange rate movements to generate returns rather than to simply hedge currency exposure.

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