Foreign exchange market

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The **foreign exchange** (**currency** or **forex** or **FX**) **market** exists wherever one currency is traded for another. It is by far the largest financial market in the world, and includes trading between large banks, central banks, currency speculators, multinational corporations, governments, and other financial markets and institutions. The average daily trade in the global forex and related markets currently is over US$ 3 trillion.[1]

Foreign Exchange

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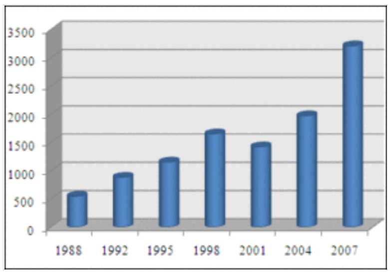
Market size and liquidity

The foreign exchange market is unique because of

- its trading volumes,
- the extreme liquidity of the market,
- the large number of, and variety of, traders in the market,
- its geographical dispersion,
- its long trading hours: 24 hours a day (except on weekends),
- the variety of factors that affect exchange rates.
- the low margins of profit compared with other markets of fixed income (but profits can be high due to very large trading volumes)

As such, it has been referred to as the market closest to the ideal perfect competition. According to the BIS,[1] average daily turnover in traditional foreign exchange markets is estimated at $3.21 trillion. Daily averages in April for different years, in billions of US dollars, are presented on the chart below:



Foreign exchange market turnover, 1998 - 2007, measured in billions of USD.

This $3.21 trillion in global foreign exchange market "traditional" turnover was broken down as follows:

- $1,005 billion in spot transactions
- $362 billion in outright forwards
- $1,714 billion in forex swaps
- $129 billion estimated gaps in reporting

In addition to "traditional" turnover, $2.1 trillion was traded in derivatives.

Exchange-traded forex futures contracts were introduced in 1972 at the Chicago Mercantile Exchange and are actively traded relative to most other futures contracts. Forex futures volume has grown rapidly in recent years, and accounts for about 7% of the total foreign exchange market volume, according to The Wall Street Journal Europe (5/5/06, p. 20).

Average daily global turnover in traditional foreign exchange market transactions totaled $2.7 trillion in April 2006 according to IFSL estimates based on semi-annual London, New York, Tokyo and Singapore Foreign Exchange Committee data. Overall turnover, including non-traditional foreign exchange derivatives and products traded on exchanges, averaged around $2.9 trillion a day. This was more than ten times the size of the combined daily turnover on all the world's equity markets. Foreign exchange trading increased by 38% between April 2005 and April 2006 and has more than doubled since 2001. This is largely due to the growing importance of foreign exchange as an asset class and an increase in fund management assets, particularly of hedge funds and pension funds. The diverse selection of execution venues such as internet trading platforms has also made it easier for retail traders to trade in the foreign exchange market. [2]

Because foreign exchange is an OTC
market where brokers/dealers negotiate directly with one another, there is no central exchange or clearing house. The biggest geographic trading centre is the UK, primarily London, which according to IFSL estimates has increased its share of global turnover in traditional transactions from 31.3% in April 2004 to 32.4% in April 2006. RPP

The ten most active traders account for almost 73% of trading volume, according to The Wall Street Journal Europe, (2/9/06 p. 20). These large international banks continually provide the market with both bid (buy) and ask (sell) prices. The bid/ask spread is the difference between the price at which a bank or market maker
will sell ("ask", or "offer") and the price at which a market-maker will buy ("bid") from a wholesale customer. This spread is minimal for actively traded pairs of currencies, usually 0–3 pips. For example, the bid/ask quote of EUR/USD might be 1.2200/1.2203 on a retail broker. Minimum trading size for most deals is usually 100,000 units of currency, which is a standard "lot".

These spreads might not apply to retail customers at banks, which will routinely mark up the difference to say 1.2100 / 1.2300 for transfers, or say 1.2000 / 1.2400 for banknotes or travelers' checks. Spot prices at market makers vary, but on EUR/USD are usually no more than 3 pips wide (i.e. 0.0003). Competition is greatly increased with larger transactions, and pip spreads shrink on the major pairs to as little as 1 to 2 pips.

Market participants

Top 10 Currency Traders

Rank	Name	Volume
1	Deutsche Bank	19.30%
2	UBS AG	14.85%
3	Citi	9.00%
4	Royal Bank of Scotland	8.90%
5	Barclays Capital	8.80%
6	Bank of America	5.29%
7	HSBC	4.36%
8	Goldman Sachs	4.14%
9	JPMorgan	3.33%
10	Morgan Stanley	2.86%

Unlike a stock market, where all participants have access to the same prices, the forex market is divided into levels of access. At the top is the inter-bank market, which is made up of the largest investment banking firms. Within the inter-bank market, spreads, which are the difference between the bid and ask prices, are razor sharp and usually unavailable, and not known to players outside the inner circle. As you descend the levels of access, the difference between the bid and ask prices widens (from 0-1 pip to 1-2 pips for some currencies such as the EUR). This is due to volume. If a trader can guarantee large numbers of transactions for large amounts, they can demand a smaller difference between the bid and ask price, which is referred to as a better spread. The levels of access that make up the forex market are determined by the size of the "line" (the amount of money with which they are trading). The top-tier inter-bank market accounts for 53% of all transactions. After that there are usually smaller investment banks, followed by large multi-national corporations (which need to hedge risk and pay employees in different countries), large hedge funds, and even some of the retail forex market makers. According to Galati and Melvin, “Pension funds, insurance companies, mutual funds, and other institutional investors have played an increasingly important role in financial markets in general, and in FX markets in particular, since the early 2000s.” (2004) In addition, he notes, “Hedge funds have grown markedly over the 2001–2004 period in terms of both number and overall size” Central banks also participate in the forex market to align currencies to their economic needs.

Banks

The interbank market caters for both the majority of commercial turnover and large amounts of speculative trading every day. A large bank may trade billions of dollars daily. Some of this trading is undertaken on behalf of customers, but much is conducted by proprietary desks, trading for the bank's own account.

Until recently, foreign exchange brokers did large amounts of business, facilitating interbank trading and matching anonymous counterparts for small fees. Today, however, much of this business has moved on to more efficient electronic systems. The broker squawk box lets traders listen in on ongoing interbank trading and is heard in most trading rooms, but turnover is noticeably smaller than just a few years ago.

Commercial companies

An important part of this market comes from the financial activities of companies seeking foreign exchange to pay for goods or services. Commercial companies often trade fairly small amounts compared to those of banks or speculators, and their trades often have little short term impact on market rates. Nevertheless, trade flows are an important factor in the long-term direction of a currency's exchange rate. Some multinational companies can have an unpredictable impact when very large positions are covered due to exposures that are not widely known by other market participants.

Central banks

National central banks play an important role in the foreign exchange markets. They try to control the money supply, inflation, and/or interest rates and often have official or unofficial target rates for their currencies. They can use their often substantial foreign exchange reserves to stabilize the market.
Milton Friedman
argued that the best stabilization strategy would be for central banks to buy when the exchange rate is too low, and to sell when the rate is too high — that is, to trade for a profit based on their more precise information. Nevertheless, the effectiveness of central bank "stabilizing speculation" is doubtful because central banks do not go bankrupt if they make large losses, like other traders would, and there is no convincing evidence that they do make a profit trading.

The mere expectation or rumor of central bank intervention
might be enough to stabilize a currency, but aggressive intervention might be used several times each year in countries with a dirty float currency regime. Central banks do not always achieve their objectives. The combined resources of the market can easily overwhelm any central bank.[4] Several scenarios of this nature were seen in the 1992–93 ERM collapse, and in more recent times in Southeast Asia.

Investment management firms

Investment management firms (who typically manage large accounts on behalf of customers such as pension funds and endowments) use the foreign exchange market to facilitate transactions in foreign securities. For example, an investment manager with an international equity portfolio will need to buy and sell foreign currencies in the spot market in order to pay for purchases of foreign equities. Since the forex transactions are secondary to the actual investment decision, they are not seen as speculative or aimed at profit-maximization.

Some investment management firms also have more speculative specialist currency overlay operations, which manage clients' currency exposures with the aim of generating profits as well as limiting risk. Whilst the number of this type of specialist firms is quite small, many have a large value of assets under management (AUM), and hence can generate large trades.

Hedge funds

Hedge funds
have gained a reputation for aggressive currency speculation since 1996. They control billions of dollars of equity and may borrow billions more, and thus may overwhelm intervention by central banks to support almost any currency, if the economic fundamentals are in the hedge funds' favor.

Retail forex brokers

There are two types of retail broker: brokers offering speculative trading and brokers offering physical delivery i.e. the bought currency is delivered to a bank account.

Retail forex brokers or market makers handle a minute fraction of the total volume of the foreign exchange market. According to CNN, one retail broker estimates retail volume at $25–50 billion daily, which is about 2% of the whole market. Retail traders (individuals) are a small fraction of this market and may only participate indirectly through brokers or banks, and might be subject to forex scams[5] [6].

Trading characteristics

There is no unified or centrally cleared market for the majority of FX trades, and there is very little cross-border regulation. Due to the over-the-counter (OTC) nature of currency markets, there are rather a number of interconnected marketplaces, where different currency instruments are traded. This implies that there is not a *single* dollar rate but rather a number of different rates (prices), depending on what bank or market maker is trading. In practice the rates are often very close, otherwise they could be exploited by arbitrageurs instantaneously. A joint venture of the Chicago Mercantile Exchange and Reuters, called FxMarketSpace opened in 2007 and aspires to the role of a central market clearing mechanism.

The main trading centers are in London, New York, Tokyo, Hong Kong and Singapore, but banks throughout the world participate. Currency trading happens continuously throughout the day; as the Asian trading session ends, the European session begins, followed by the North American session and then back to the Asian session, excluding weekends.

There is little or no 'inside information' in the foreign exchange markets. Exchange rate fluctuations are usually caused by actual monetary flows as well as by expectations of changes in monetary flows caused by changes in GDP growth, inflation, interest rates,

Most traded currencies[1]
Currency distribution of reported FX market turnover

Rank	Currency	ISO 4217 code (Symbol)	% daily share (April 2004)
1	United States dollar	USD ($)	88.7%
2	Euro	EUR (€)	37.2%
3	Japanese yen	JPY (¥)	20.3%
4	British pound sterling	GBP (£)	16.9%
5	Swiss franc	CHF (Fr)	6.1%
6	Australian dollar	AUD ($)	5.5%
7	Canadian dollar	CAD ($)	4.2%
8	Swedish krona	SEK (kr)	2.3%
9	Hong Kong dollar	HKD ($)	1.9%

budget and trade deficits or surpluses, large cross-border M&A deals and other

Other	15.5%
Total	**200%**

macroeconomic conditions. Major news is released publicly, often on scheduled dates, so many people have access to the same news at the same time. However, the large banks have an important advantage; they can see their customers' order flow.

Currencies are traded against one another. Each pair of currencies thus constitutes an individual product and is traditionally noted XXX/YYY, where YYY is the ISO 4217 international three-letter code of the currency into which the price of one unit of XXX is expressed (called base currency). For instance, EUR/USD is the price of the euro expressed in US dollars, as in 1 euro = 1.3045 dollar. Out of convention, the first currency in the pair, the base currency, was the stronger currency at the creation of the pair. The second currency, counter currency, was the weaker currency at the creation of the pair.

The factors affecting XXX will affect both XXX/YYY and XXX/ZZZ. This causes positive currency correlation between XXX/YYY and XXX/ZZZ.

On the spot market, according to the BIS study, the most heavily traded products were:

- EUR/USD: 28 %
- USD/JPY: 18 %
- GBP/USD (also called *sterling* or *cable*): 14 %

and the US currency was involved in 88.7% of transactions, followed by the euro (37.2%), the yen (20.3%), and the sterling (16.9%) (see table). Note that volume percentages should add up to 200%: 100% for all the sellers and 100% for all the buyers.

Although trading in the euro has grown considerably since the currency's creation in January 1999, the foreign exchange market is thus far still largely dollar-centered. For instance, trading the euro versus a non-European currency ZZZ will usually involve two trades: EUR/USD and USD/ZZZ. The exception to this is EUR/JPY, which is an established traded currency pair in the interbank spot market.

Factors affecting currency trading

See also: Exchange rates

Although exchange rates are affected by many factors, in the end, currency prices are a result of supply and demand forces. The world's currency markets can be viewed as a huge melting pot: in a large and ever-changing mix of current events, supply and demand factors are constantly shifting, and the price of one currency in relation to another shifts accordingly. No other market encompasses (and distills) as much of what is going on in the world at any given time as foreign exchange.

Supply and demand for any given currency, and thus its value, are not influenced by any single element, but rather by several. These elements generally fall into three categories: economic factors, political conditions and market psychology.

Economic factors

These include economic policy, disseminated by government agencies and central banks, economic conditions, generally revealed through economic reports, and other economic indicators.

Economic policy comprises government fiscal policy (budget/spending practices) and monetary policy (the means by which a government's central bank influences the supply and "cost" of money, which is reflected by the level of interest rates).

Economic conditions include:

Government budget deficits or surpluses: The market usually reacts negatively to widening government budget deficits, and positively to narrowing budget deficits. The impact is reflected in the value of a country's currency.

Balance of trade levels and trends:
The trade flow between countries illustrates the demand for goods and services, which in turn indicates demand for a country's currency to conduct trade. Surpluses and deficits in trade of goods and services reflect the competitiveness of a nation's economy. For example, trade deficits may have a negative impact on a nation's currency.

Inflation levels and trends: Typically, a currency will lose value if there is a high level of inflation in the country or if inflation levels are perceived to be rising. This is because inflation erodes purchasing power, thus demand, for that particular currency. However, a currency may sometimes strengthen when inflation rises because of expectations that the central bank will raise short-term interest rates to combat rising inflation.

Economic growth and health: Reports such as gross domestic product (GDP), employment levels, retail sales, capacity utilization and others, detail the levels of a country's economic growth
and health. Generally, the more healthy and robust a country's economy, the better its currency will perform, and the more demand for it there will be.

Political conditions

Internal, regional, and international political conditions and events can have a profound effect on currency markets.

For instance, political upheaval and instability can have a negative impact on a nation's economy. The rise of a political faction that is perceived to be fiscally responsible can have the opposite effect. Also, events in one country in a region may spur positive or negative interest in a neighboring country and, in the process, affect its currency.

Market psychology

Market psychology and trader perceptions influence the foreign exchange market in a variety of ways:

Flights to quality: Unsettling international events can lead to a "flight to quality," with investors seeking a "safe haven". There will be a greater demand, thus a higher price, for currencies perceived as stronger over their relatively weaker counterparts.

Long-term trends: Currency markets often move in visible long-term trends. Although currencies do not have an annual growing season like physical commodities, business cycles do make themselves felt. Cycle analysis looks at longer-term price trends that may rise from economic or political trends. [7]

"Buy the rumor, sell the fact:"
This market truism can apply to many currency situations. It is the tendency for the price of a currency to reflect the impact of a particular action before it

occurs and, when the anticipated event comes to pass, react in exactly the opposite direction. This may also be referred to as a market being "oversold" or "overbought".[8] To buy the rumor or sell the fact can also be an example of the cognitive bias known as anchoring, when investors focus too much on the relevance of outside events to currency prices.

Economic numbers: While economic numbers
can certainly reflect economic policy, some reports and numbers take on a talisman-like effect: the number itself becomes important to market psychology and may have an immediate impact on short-term market moves. "What to watch" can change over time. In recent years, for example, money supply, employment, trade balance figures and inflation numbers have all taken turns in the spotlight.

Technical trading considerations:
As in other markets, the accumulated price movements in a currency pair such as EUR/USD can form apparent patterns that traders may attempt to use. Many traders study price charts in order to identify such patterns. [9]

Algorithmic trading in forex

Electronic trading is growing in the FX market, and algorithmic trading is becoming much more common. According to financial consultancy Celent estimates, by 2008 up to 25% of all trades by volume will be executed using algorithm, up from about 18% in 2005.

Financial instruments

Spot

A spot transaction is a two-day delivery transaction, as opposed to the futures contracts, which are usually three months. This trade represents a “direct exchange” between two currencies, has the shortest time frame, involves cash rather than a contract; and interest is not included in the agreed-upon transaction. The data for this study come from the spot market. Spot has the largest share by volume in FX transactions among all instruments.

Forward

One way to deal with the Forex risk is to engage in a forward
transaction. In this transaction, money does not actually change hands until some agreed upon future date. A buyer and seller agree on an exchange rate for any date in the future, and the transaction occurs on that date, regardless of what the market rates are then. The duration of the trade can be a few days, months or years.

Future

Foreign currency futures are forward transactions with standard contract sizes and maturity dates — for example, 500,000 British pounds for next November at an agreed rate. Futures are standardized and are usually traded on an exchange created for this purpose. The average contract length is roughly 3 months. Futures contracts are usually inclusive of any interest amounts.

Swap

The most common type of forward transaction is the currency swap. In a swap, two parties exchange currencies for a certain length of time and agree to reverse the transaction at a later date. These are not standardized contracts and are not traded through an exchange.

Option

A foreign exchange option
(commonly shortened to just FX option) is a derivative where the owner has the right but not the obligation to exchange money denominated in one currency into another currency at a pre-agreed exchange rate on a specified date. The FX options market is the deepest, largest and most liquid market for options of any kind in the world.

Exchange Traded Fund

Exchange-traded funds (or ETFs) are Open Ended investment companies that can be traded at any time throughout the course of the day. Typically, ETFs try to replicate a stock market index such as the S&P 500
(e.g. SPY), but recently they are now replicating investments in the currency markets with the ETF increasing in value when the US Dollar weakness versus a specific currency, such as the Euro. Certain of these funds track the price movements of world currencies versus the US Dollar, and increase in value directly counter to the US Dollar, allowing for speculation in the US Dollar for US and US Dollar denominated investors and speculators.

Speculation

Controversy about currency speculators
and their effect on currency devaluations and national economies recurs regularly. Nevertheless, many economists (e.g. Milton Friedman) have argued that speculators perform the important function of providing a market for hedgers and transferring risk from those people who don't wish to bear it, to those who do. Other economists (e.g. Joseph Stiglitz) however, may consider this argument to be based more on politics and a free market philosophy than on economics.

Large hedge funds and other well capitalized "position traders" are the main professional speculators.

Currency speculation is considered a highly suspect activity in many countries. While investment in traditional financial instruments like bonds or stocks often is considered to contribute positively to economic growth by providing capital, currency speculation does not; according to this view, it is simply gambling
that often interferes with economic policy. For example, in 1992, currency speculation forced the Central Bank of Sweden to raise interest rates for a few days to 150% per annum, and later to devalue the krona. Former Malaysian Prime Minister Mahathir Mohamad is one well known proponent of this view. He blamed the devaluation of the Malaysian ringgit in 1997 on George Soros and other speculators.[10]

Gregory Millman reports on an opposing view, comparing speculators to "vigilantes" who simply help "enforce" international agreements and anticipate the effects of basic economic "laws" in order to profit.

In this view, countries may develop unsustainable financial bubbles
or otherwise mishandle their national economies, and forex speculators made the inevitable collapse happen sooner. A relatively quick collapse might even

be preferable to continued economic mishandling. Mahathir Mohamad and other critics of speculation are viewed as trying to deflect the blame from themselves for having caused the unsustainable economic conditions. Given that Malaysia recovered quickly after imposing currency controls directly against IMF advice, this view is open to doubt.

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See also

- Balance of trade
- Bretton Woods system
- Currency pair
- Forex scam
- Retail forex
- Foreign exchange reserves
- Special Drawing Rights
- World currency
- Forex swap
- Foreign currency mortgage
- Tobin Tax
- Foreign Exchange Hedge
- Major brokers: EBS, Reuters

External links

- Benchmark Currency Rates (http://www.bloomberg.com/markets/currencies/fxc.html) from Bloomberg
- Federal Reserve Bank of New York (http://www.newyorkfed.org/markets/foreignex.html) Foreign Exchange and related material.