

Foreign Exchange— The Fastest Growing Market of Our Time

The foreign exchange market is the largest and fastest growing market in the world. Traditionally, it is the platform through which governments, businesses, investors, travelers, and other interested parties convert or “exchange” currency. At its most fundamental level, the foreign exchange market is an over-the-counter (OTC) market with no central exchange and clearing house where orders are matched. FX dealers and market makers around the world are linked to each other around-the-clock via telephone, computer, and fax, creating one cohesive market. Through the years, this has changed with many institutions offering exchange traded FX instruments, but all of the prices are still derived from the underlying or spot forex market.

In the past two decades, foreign exchange, also known as *forex* or *FX*, became available to trade by individual retail investors, and this access caused the market to explode in popularity. In the early 2000s, the Bank of International Settlements reported a 57% increase in volume between April 2001 and 2004. At the time more than \$1.9 trillion were changing hands on a daily basis. After the financial crisis in 2008, the pace of growth eased to a still-respectable 32% between 2010 and 2013, but the actual volume that changed hands was significantly larger at an average of \$5.3 trillion per day. To put this into perspective, it is 50 times greater than the daily trading volume of the New York Stock Exchange and the NASDAQ combined.

While the growth of the retail foreign exchange market contributed to this surge in volume, an increase in volatility over the past few years also made investors more aware of how currency movements can impact the equity and bond markets. If stocks, bonds, and commodity traders want to make more educated trading decisions, it is important for them to also follow forex movements. What follows are some of the examples of how currency fluctuations impacted stock and bond market movements in past years.

■ EURUSD and Corporate Profitability

For stock market traders, particularly those who invest in European corporations that export a tremendous amount of goods to the United States, monitoring exchange rates are essential to predicting earnings and corporate profitability. Throughout 2003 and 2004, European manufacturers complained extensively about the rapid rise in the euro and the weakness in the U.S. dollar. The main culprit for the dollar's selloff at the time was the country's rapidly growing trade and budget deficits. This caused the EURUSD exchange rate to surge, which took a significant toll on the profitability of European corporations because a higher exchange rate makes the goods of European exporters more expensive to U.S. consumers. In 2003, inadequate hedging shaved approximately EUR\$1 billion euros from Volkswagen's profits, while DSM, a Dutch chemicals group, warned that a 1% move in the EURUSD rate would reduce profits by EUR\$7 million to EUR\$11 million. Unfortunately, inadequate hedging is still a reality in Europe, which makes monitoring the EURUSD exchange rate even more important in forecasting the earnings and profitability of European exporters.

■ Nikkei and U.S. Dollar

Traders exposed to Japanese equities also need to be aware of the developments that are occurring in the U.S. dollar and how that affects the Nikkei rally. Japan recently came out of 10 years of stagnation. During this time, mutual funds and hedge funds were grossly underweight Japanese equities. When the economy began to turn around, global macro funds rushed to make changes to their portfolios in fear of missing out on a great opportunity to take advantage of Japan's recovery. Hedge funds borrowed significant amount of dollars to pay for increased exposure, but the problem was that their borrowings were very sensitive to U.S. interest rates and the Fed's monetary policy tightening cycle. Increased borrowing costs for the dollar could derail the Nikkei's rally because higher rates will raise the dollar's financing costs. Yet with the huge current account deficit, the Fed might need to continue raising rates to increase the attractiveness of dollar-denominated assets. Therefore, continual

rate hikes, coupled with slowing growth in Japan, may make it less profitable for funds to be overleveraged and overly exposed to Japanese stocks. As a result, how the U.S. dollar moves also plays a role on the future direction of the Nikkei.

■ George Soros

Known as “the man who broke the Bank of England,” George Soros is one of the most well-known traders in the FX market. We discuss his adventures in more detail in Chapter 2, but in a nutshell, in 1990, England decided to join the Exchange Rate Mechanism (ERM) system because it wanted to take part in the stable and low-inflation environment created by the Bundesbank, the central bank of Germany. This alliance tied the pound to the deutschmark, which meant that the United Kingdom was subject to the monetary policies enforced by the Bundesbank. In the early 1990s, Germany aggressively increased interest rates to avoid the inflationary effects related to German reunification. However, national pride and the commitment of fixing exchange rates within the ERM prevented England from devaluing the pound. On Wednesday, September 16, also known as *Black Wednesday*, George Soros leveraged the entire value of his fund (\$1 billion) and sold \$10 billion worth of pounds to bet against the ERM. This essentially “broke” the Bank of England and forced it to devalue the pound. In a matter of 24 hours, the British pound fell approximately 5%, or 5000 pips. The Bank of England promised to raise rates in order to tempt speculators to buy pounds. As a result, this caused tremendous volatility in the bond markets, with 1-month UK LIBOR rates rising 1% and then retracing those gains over the next 24 hours. If bond traders were completely oblivious to what was going on in the currency markets, they would have probably found themselves dumbstruck in face of such rapid gyrations in yields.

■ Chinese Yuan Revaluation and Bonds

For Treasury traders, there’s another currency-related issue that is important to follow and that is the gradual revaluation of the Chinese yuan. For most of its history, the yuan or renminbi (RMB) was pegged to the U.S. dollar. In the 1980s, the RMB was devalued to promote growth in China’s economy, and between 1997 and 2005 the People’s Bank of China artificially maintained a USDRMB rate of 8.27. At the time, it received significant criticism because keeping the peg meant that the Chinese government would artificially weaken its currency to make Chinese goods more competitive. To maintain the band, the Chinese government had to sell the yuan and buy U.S. dollars each time their currency appreciated above the band’s upper limit. These dollars were then used to purchase U.S. Treasuries, and this practice turned

China into the world's largest holder of U.S. Treasuries. In 2005, however, China ended its dollar peg and linked the value of the yuan to a basket of currencies and allowed it to fluctuate within a narrow band that was reset every day. While the exact percentage of the basket is unknown, it is largely dominated by the U.S. dollar and includes other currencies such as the euro, Japanese yen, South Korean won, British pound, Thai baht, Russian ruble, and Australian, Canadian, and Singapore dollar.

Through the years China has gradually widened the band that the yuan can trade in, but if China were to end the float and allow the RMB to trade freely on the global foreign exchange market, the impact on the fixed-income markets would be significant because it would reduce the government's need to purchase Treasuries and other fixed-income securities. An announcement of this sort would send yields soaring and prices tumbling. While it could be years before this happens, it will be important for bond investors to follow these developments if they want to effectively manage the risk.

■ Comparing the FX Market with Futures and Equities

The foreign exchange market has not always been a popular market to trade because for many decades, it was restricted to hedge funds, commodity trading advisers who manage large amounts of capital, major corporations, and institutional investors due to regulation, capital requirements, and technology. Yet it was the market of choice for many of these large players because the risk was fully customizable. Trader A could use a 50 times leverage, and Trader B could trade cash on cash. When the market opened up to retail traders, many brokerage firms swept in to provide leveraged trading along with free instantaneous execution platforms, charts, and real-time news. This access to low-cost information helped foreign exchange trading surge in popularity, increasing its attractiveness as an alternative asset class to trade.

Many equity and futures traders also turned to currencies, adding the asset class to their trading portfolios. Before you choose to do so, however, it is important to understand some of the key differences between the forex and equity markets.

Characteristics of FX Markets

1. It is the largest market in the world with growing liquidity.
2. The market is open 24 hours, 5.5 days a week for trading.
3. Profits can be made in both bull and bear markets.
4. There are no trading curbs, and short selling is permitted without an uptick.
5. Instant executable trading platform minimizes slippage and errors.
6. Leverage can be extremely high, which can magnify profits as well as losses.

Characteristics of Equities Market

1. There is decent market liquidity, but that can depend on a stock's daily volume.
2. The market is only available for trading 9:30am to 5pm NY Time, with limited after-hours trading.
3. The existence of exchange fees results in higher costs and commissions.
4. There is an uptick rule to short stocks, which many day traders find frustrating.
5. The number of steps involved in completing a trade can increase slippage and error.

As one of the most liquid markets in the world, the volume and liquidity present in the FX markets has allowed traders to access a 24-hour market with low transaction costs, high leverage, the ability to profit in both bull and bear markets, minimized error rates, limited slippage, and no trading curbs or uptick rules. Oftentimes, traders can use the same strategies for analyzing the equity markets in the FX market. Fundamental traders will find that countries can be analyzed like stocks. Technical traders will find that the FX market is perfect for their style of analysis because of the abundance of tick data and because it is already one of the most commonly used analysis tools by professional traders. Now let's take a closer look at the individual attributes of the FX market to really understand why this is such an attractive market to trade!

24-Hour Market

One of the primary reasons why the FX market is popular is because for active traders, it is the ideal market to trade. It's 24-hour nature offers traders instant access to the markets at all hours of the day for immediate response to global developments. This characteristic also gives traders the added flexibility of determining their own trading day. Active day traders no longer have to wait for the equities market to open at 9:30am NY Time to begin trading. If there is a significant announcement or development either domestically or overseas between 4pm NY Time and 9:30am NY Time, most day traders will have to wait for the exchanges to open at 9:30am to place trades. In all likelihood, by that time, unless you have access to electronic communication networks (ECNs) such as Instinet for premarket trading, the market would have gapped up or gapped down against your favor. This is particularly frustrating when important data are released at 8:30am NY Time, such as nonfarm payrolls. Professionals would have already priced in the outcome before the average trader can even access to market.

In addition, many people who want to trade also have a full-time job during the day. The ability to trade after hours makes the FX market a much more convenient market for all traders. Different times of the day will offer different trading opportunities, as the global financial centers around the world are all actively involved in foreign exchange. With the FX market, trading after hours with a large online FX broker provides the same liquidity and spread as any other time of day.

As a guideline, at 5pm Sunday NY Time, trading begins as the markets open in Sydney, Australia. Then, the Tokyo markets open at 7pm NY Time. Next, Singapore and Hong Kong open at 9pm NY Time followed by the European markets in Frankfurt (2am) and then London (3am). By 4am the European markets are in full swing, and Asia has concluded their trading day. The U.S. markets open first in New York around 8am Monday as Europe winds down. By 5pm, Sydney is set to reopen once again.

The majority of trading activity happens when the markets overlap; for example, Asia and Europe trading overlaps between 12am to approximately 2am, Europe and the United States overlaps between 8am to approximately 12pm NY Time, while the United States and Asia overlap between 5pm and 9pm. During New York and London hours, all currency pairs trade actively. During the Asian hours, however, the trading activity for pairs such as the GBPJPY and AUDJPY tend to peak.

Lower Transaction Costs

Lower transaction costs also makes forex an attractive asset class to trade. In the equity market, traders must pay a spread and/or a commission and with online equity brokers, commissions can run upwards of \$20 per trade. This means that for positions of \$100,000, average roundtrip commissions could be as high as \$120. The over the counter (OTC) structure of the FX market eliminates exchange and clearing fees, which, in turn, lowers transaction costs. Costs are further reduced by the efficiencies created by a purely electronic market place that allows clients to deal directly with the market maker, eliminating both ticket costs and middlemen. Because the currency market offers round-the-clock liquidity, traders receive tight competitive spreads day and night. Equity traders are more vulnerable to liquidity risk and typically receive wider dealing spreads, especially during after-hours trading.

Low transaction costs make online FX trading the best market to trade for short-term traders. For an active equity trader who typically places 30 trades a day, at \$20 commission per trade, you would have to up to pay \$600 in daily transaction costs. This is a significant amount of money that could take a large cut out of profits or deepen losses. The reason why costs are so high is because there are a lot of people involved in an equity transaction. More specifically, for each trade, there is a broker, the exchange, and the specialist. All of these parties need to be paid, and their payment comes in the form of commission and clearing fees. In the FX market, because it is decentralized with no exchange or clearinghouse (everything is taken care of by the market maker), these fees are not applicable.

Customizable Leverage

Even though many people realize that higher leverage comes with risks, traders are humans, and few of them find it easy to turn away the opportunity to trade on

someone else's money. The FX market caters perfectly to these traders by offering the highest leverage available for any market. Most online currency firms offer 50 times leverage on regular-sized accounts and up to 200 times leverage on miniature accounts (abroad leverage can be as high as 400 times). Compare that to the 2 times leverage offered to the average equity investor and the 10 times capital that is typically offered to the professional trader, and you can see why many traders have turned to the foreign exchange market. The margin deposit for leverage in the FX market is not seen as a down payment on a purchase of equity, as many perceive margins to be in the stock markets. Rather, the margin is a performance bond, or good-faith deposit, to ensure against trading losses. This is very useful to short-term day traders who need the enhancement in capital to generate quick returns. For the more risk-averse investor, leverage is completely customizable, which means that if they only feel comfortable with 10 or 20 times leverage or no leverage at all, they can elect to do so. It is extremely important to understand that leverage is a double-edged sword—it can magnify profits but also losses.

Profit in Both Bull and Bear Markets

In the FX market, profit potentials exist in both bull and bear markets. Since currency trading always involves buying one currency and selling another, there is no structural bias to the market. Therefore, if you are long one currency, you are at the same time short another. As a result, equal profit potential exists in both upward-trending and downward-trending markets. This is different from the equities market, where most traders go long instead of short stocks, so the general equity investment community tends to suffer in a bear market.

No Trading Curbs or Uptick Rule

The FX market is the largest market in the world, forcing market makers to offer very competitive prices. Unlike the equities market, there is never a time in the FX markets when trading curbs would take into effect and trading would be halted, only to gap when reopened. This eliminates missed profits due to archaic exchange regulations. In the FX market, traders would be able to place trades 24 hours a day with virtually no disruptions.

One of the biggest annoyances for day trades in the equity market is the fact that traders are prohibited from shorting a stock in a downtrend unless there is an uptick. This can be very frustrating as traders wait to join short sellers, but are only left with continually watching the stock trend down before an uptick occurs. In the FX market, there is no such rule. If you want to short a currency pair, you can do so immediately; this allows for instant and efficient execution.

Online Trading Reducing Error Rates

A shorter trade process minimizes errors. Online currency trading is typically a three-step process. A trader would place an order on the platform, the FX dealing desk would automatically execute it electronically, and the order confirmation would be posted or logged onto the trader's trading station. Typically, these three steps would be completed in a matter of seconds. For an equities trade on the other hand, there is generally a five-step process. The client would call his broker to place an order, the broker sends the order to the exchange floor, the specialist on the floor tries to match up orders (the broker competes with other brokers to get the best fill for the client), the specialist executes the trade, and the client receives a confirmation from the broker. The elimination of a middleman minimizes the error rates in currency trades and increases the efficiency of each transaction.

Limited Slippage

Unlike the equity markets, many online FX market makers provide instantaneous execution from real-time, two-way quotes. These quotes are the prices where the firms are willing to buy or sell the quoted currency, rather than vague indications of where the market is trading, which may or may not be honored. Orders are executed and confirmed within seconds. Robust systems would never request the size of a trader's potential order, or which side of the market he's trading, before giving him a bid/offer quote. Inefficient dealers determine whether the investor is a buyer or a seller, and shade the price to increase their own profit on the transaction.

The equity market typically operates under a "next best order" system, under which you may not get executed at the price you wish, but rather at the next best price available. For example, let's say Microsoft is trading at \$52.50. If you enter a buy order at this rate, by the time it reaches the specialist on the exchange floor, the price may have risen to \$53.25. In this case, you will not get executed at \$52.50; you will get executed at \$53.25, which is essentially a loss of $\frac{3}{4}$ of a point. The price transparency provided by the some of the better market makers assures that traders always receive a fair price.

Perfect Market for Technical Analysis

For technical analysts, currencies rarely spend much time in tight trading ranges and have the tendency to develop strong trends. Over 80% of volume is speculative in nature and as a result, the market frequently overshoots and then corrects itself. Hence, technical analysis works well for the FX market, and a technically trained trader can easily identify new trends and breakouts, which provide multiple opportunities to enter and exit positions. Charts and indicators are used by all professional FX market traders, and candle charts are available on most charting packages. In addition, the most commonly used indicators such as Fibonacci retracements, stochastics,

MACD, moving averages, RSI, and support/resistance levels have proven valid in many instances.

In the USDJPY chart shown in Figure 1.1, it is clear that Fibonacci retracements, moving averages, and stochastics have at one point or another given successful trading signals. For example, the 61.8% retracement level served as resistance for USDJPY in December 2014, January 2015, and February 2015. The moving-average crossovers of the 10- and 20-day simple moving averages also successfully forecasted the rally in USDJPY in late October, along with the decline in early January. Equity traders who focus on technical analysis have the easiest transition, since they can implement the same technical strategies that they use in the equities market into the FX market.

Analyze Stocks Like Countries

Trading currencies is not a big challenge for fundamental traders either, because countries can be analyzed like stocks. For example, if you analyze growth rates of stocks, you can use gross domestic product (GDP) to analyze the growth rate of countries. If you analyze inventory and production ratios, you can follow industrial production (IP) or durable goods data. If you follow sales figures, you can analyze retail sales data. As with a stock investment, it is better to invest in the currency of a country that is growing faster and fund it with a currency of a country that is growing slower. Currency prices reflect the balance of supply and demand for currencies. Two of the primary factors affecting supply and demand of currencies are interest rates and the overall strength of the economy. Economic indicators such as GDP, foreign investment, and the trade balance reflect the general health of an economy and are therefore responsible for the underlying shifts in supply and demand for that currency. There is a tremendous amount of data released at regular intervals, some of which are more important than others. Data related to interest rates and international trade is the most closely followed.

If there is uncertainty regarding the direction of interest rates, any bit of news on monetary policy can directly affect how the currency trades. Traditionally, if a country raises its interest rate, the currency of that country will strengthen in relation to other countries as investors shift assets to that country to gain a higher return. In contrast, an interest rates hike is generally bad news for stocks because it means that borrowing costs have risen. In response, some investors will transfer money out of a country's stock market when interest rates are increased, causing the country's currency to weaken. Determining which effect dominates can be tricky, but generally there is an advance consensus on how interest rates will move. Indicators that have the biggest impact on interest rates are producer prices, consumer prices, employment, spending, and GDP. Most of the time monetary policy announcements are known in advance with meeting dates by the Bank of

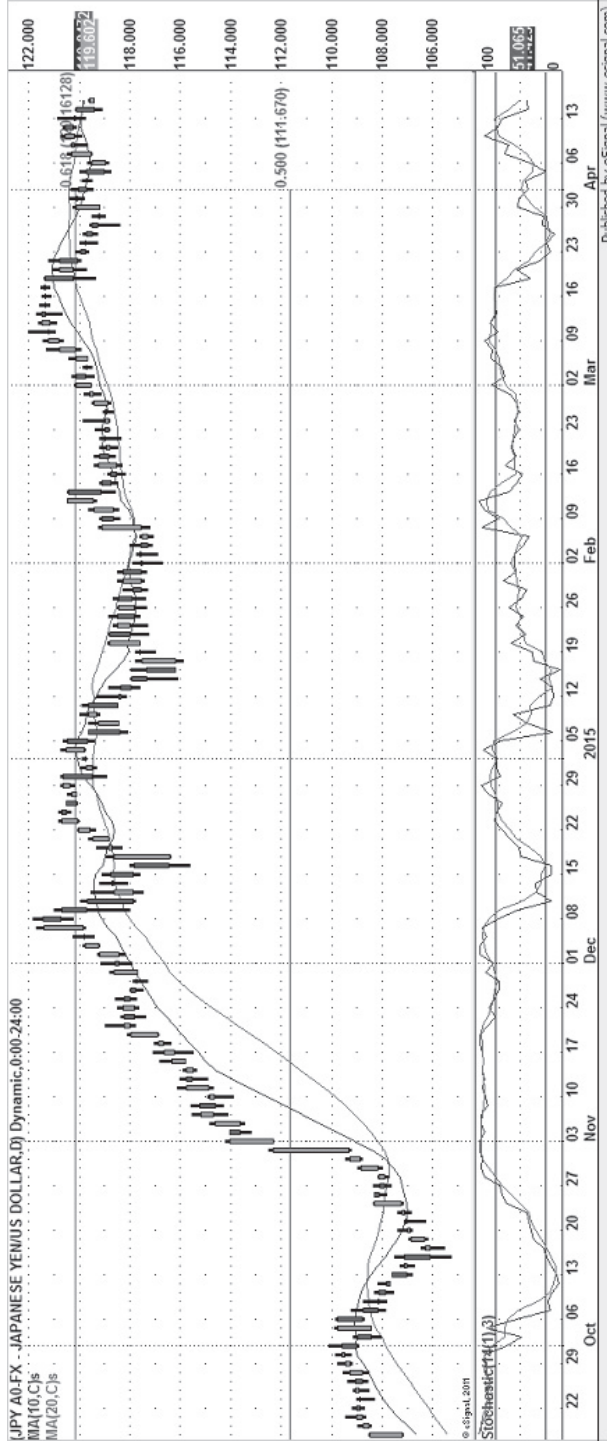


FIGURE 1.1 USDJPY Chart

Source: eSignal

England (BoE), the Federal Reserve (FED), European Central Bank (ECB), Bank of Japan (BoJ), and other central banks posted on their respective websites.

Another piece of data that can impact how currencies move is the trade balance, which shows the net difference over a period of time between a nation's exports and imports. When a country imports more than it exports, the trade balance will show a deficit, which is generally considered unfavorable. For example, if U.S. dollars are sold for other domestic national currencies (to pay for imports), the flow of dollars outside the country will depreciate the value of the dollar. Similarly, if trade figures show an increase in exports, dollars will flow into the United States and appreciate the value of the dollar. From the standpoint of a national economy, a deficit in and of itself is not necessarily a bad thing. If the deficit is greater than market expectations however, it can trigger a negative price movement.

■ FX versus Futures

Trading spot forex is also different from trading futures, and like equity traders, many futures traders have also added currency spot trading into their portfolios. We know that the spot forex market has the following attributes:

Characteristics of FX Markets

1. It is the largest market in the world with growing liquidity.
2. The market is open 24 hours, 5.5 days a week for trading.
3. Profits can be made in both bull and bear markets.
4. There are no trading curbs and short selling is permitted without an uptick.
5. Instant executable trading platform minimizes slippage and errors.
6. Leverage can be extremely high, which can magnify profits as well as losses.

Characteristics of Futures Markets

1. There is limited market liquidity depending on the month of contract trades.
2. The presence of exchange fees results in more costs and commissions.
3. Market hours for futures trading are much shorter than spot and are dependent on the product traded; each product may have different open and closing hours, and there is limited after-hours trading.
4. Futures leverage is higher than equities, but still only a fraction of the leverage offered in FX.
5. There tends to be prolonged bear markets.
6. Pit trading structure increases error and slippage.

Like in the equities market, traders can implement the same strategies they use in analyzing the futures markets in the FX market. Most future traders are technical traders, and the FX market is perfect for technical analysis. In fact, it is the most popular analysis technique used by professional FX traders. Taking a closer look at how the futures market stacks up, we see the following.

Comparing Market Hours and Liquidity

The volume traded in the FX market is estimated to be over five times that of the futures market. The FX market is open for trading 24 hours a day, but the futures market has confusing market hours which vary based on the product traded. For example, if you traded gold futures, it is only open for trading between 7:20am and 1:30pm on the COMEX. If you traded crude oil futures on the New York Mercantile Exchange, trading would only be open between 8:30am. and 2:10pm. These varying hours not only create confusion but also makes it difficult to act on breakthrough announcements throughout the remainder of the day.

In addition, if you have a day job and can only trade after hours, futures would be a very inconvenient market product to trade. You would basically be placing orders based on past prices that are not current market prices. This lack of transparency makes trading very cumbersome. In addition, each time zone has its own unique news and developments that could move specific currency pairs, and with futures it can difficult to act on breaking overnight news.

Low to Zero Transaction Costs

In the equity market, traders must pay a spread and/or a commission. With future brokers, average commissions can run close to \$160 per trade on positions of \$100,000 or greater. The OTC structure of the FX market eliminates exchange and clearing fees, which can in turn lowers transaction costs. Costs are further reduced by the efficiencies created by a purely electronic market place that allows clients to deal directly with the market maker, eliminating both ticket costs and middlemen. Because the currency market offers round-the-clock liquidity, traders receive tight, competitive spreads day and night. Futures traders are more vulnerable to liquidity risk and typically receive wider dealing spreads, especially during after-hours trading.

Low to zero transaction costs make online FX trading the best market to trade for short-term traders. If you are an active futures trader who typically places 20 trades a day, at \$100 commission per trade, you would have to pay \$2,000 in daily transaction costs. A typical futures trade involves a broker, a future commissions merchant (FCM) order desk, a clerk on the exchange floor, a runner, and a pit trader. All of these parties need to be paid, and their payment comes in the form of commission and clearing fees, whereas the electronic nature of the market minimizes these costs.

No Limit Up or Down Rules/Profit in Both Bull and Bear Markets

Unlike the tight restriction on the futures market, there is no limit down or limit up rule in the FX market. For example, on the S&P index futures, if the contract value falls more than 5% from the previous day's close, limit down rules will come

in effect, whereby on a 5% move, the index would only be allowed to trade at or above this level for the next 10 minutes. For a 20% decline, trading would be completely halted. Due to the decentralized nature of the FX market, there are no exchange-enforced restrictions on daily activity, which can help eliminate missed opportunities caused by archaic exchange regulations.

Execution Quality and Speed/Low Error Rates

The futures market is also known for inconsistent execution, both in terms of pricing and execution time. Every futures trader has, at some point in time, experienced a half hour or so wait for a market order to be filled, only to find that the order has been executed at a price far away from where the market was trading when the initial order was placed. Even with electronic trading and limited guarantees of execution speed, the price for fills on market orders is far from certain. The reason for this inefficiency is the number of steps that are involved in placing a futures trade. A futures trade is typically a seven-step process:

1. The client calls his broker and places his trade (or places it online).
2. The trading desk receives the order, processes it, and routes it to the FCM order desk on the exchange floor.
3. The FCM order desk passes the order to the order clerk.
4. The order clerk hands the order to a runner or signals it to the pit.
5. The trading clerk goes to the pit to execute the trade.
6. The trade confirmation goes to the runner or is signaled to the order clerk and processed by the FCM order desk.
7. The broker receives the trade confirmation and passes it on to the client.

An FX trade in comparison is typically only a three-step process. A trader would place an order on the platform, the FX dealing desk would automatically execute it electronically, and the order confirmation would be posted or logged on the trader's trading station. The elimination of the involvement of these additional parties increases the speed of the trade execution and decreases errors.

In addition, the futures market typically operates under a "next best order" system, under which your trades frequently do not get executed at the initial market order price, but rather, at the next best price available. For example, let's say a client is long 5 March Dow Jones futures contracts at 8800. If the client enters a stop order at 8700, when the rate reaches this level, the client will most likely be executed at 8690. This 10-point difference would be attributed to slippage, which is very common in the futures market.

On most FX trading stations, traders execute directly off of real-time streaming prices. Barring any unforeseen circumstances, there is generally no discrepancy between the displayed price and the execution price. This holds true even during

volatile times and fast-moving markets. In the futures market, execution is uncertain because all orders must be done on the exchange. This creates a situation where liquidity is limited by the number of participants, which, in turn, limits quantities that can be traded at a given price. Real-time streaming prices ensure that market orders, stops, and limits are executed with minimal slippage and no partial fills.

■ Who Are the Players in the FX Market?

Since the foreign exchange market is an OTC market without a centralized exchange, competition between market makers prohibits monopolistic pricing strategies. If one market maker attempts to drastically skew the price, then traders simply have the option to find another market maker. Moreover, spreads are closely watched to ensure market makers are not whimsically altering the cost of the trade. Many equity markets, on the other hand, operate in a completely different fashion; the New York Stock Exchange, for instance, is the sole place where companies listed on the NYSE can have their stocks traded. Centralized markets are operated by what are referred to as specialists. *Market makers*, on the other hand, is the term used in reference to decentralized marketplaces. Since the NYSE is a centralized market, a stock traded on the NYSE can only have one bid–ask quote at all times. Decentralized markets, such as foreign exchange, can have multiple market makers—all of whom have the right to quote different prices. Here is an illustration of how both centralized and decentralized markets operate.

Centralized Markets

By their very nature, centralized markets tend to be monopolistic: With a single specialist controlling the market, prices can easily be skewed to accommodate the interests of the specialist, not those of the traders (see Figure 1.2). If, for example, the market is filled with sellers that the specialists must buy from but no prospective buyers on the other side, the specialist may simply widen the spread, thereby



FIGURE 1.2 Centralized Market Structure

increasing the cost of the trade and preventing additional participants from entering the market. Or, specialists can drastically alter the quotes they are offering, thus manipulating the price to accommodate their own risk tolerance.

Hierarchy of Participants

While the foreign exchange market is decentralized, and hence employs multiple market makers rather than a single specialist, participants in the FX market are organized into a hierarchy; those with superior credit access, volume transacted, and sophistication receive priority pricing in the market (see Figure 1.3). At the top of the food chain is the interbank market, which trades the highest volume per day in relatively few currencies. In the interbank market, the largest banks can deal with each other directly, via interbank brokers, or through electronic brokering systems like EBS or Reuters. The interbank market is a credit-approved system, where banks trade based solely on the credit relationships they have established with one another. The banks can see the rates everyone is dealing at, but each bank must have a specific credit relationship with that bank in order to trade at the rates being offered. Other institutions such as online FX market makers, hedge funds, and corporations must trade FX through these banks, although some have created their own liquidity pools through the years. Many banks (e.g., small community banks or banks in emerging markets), corporations, and institutional investors do not have access to these rates because they have no established credit lines with big banks. This forces smaller participants to deal through just one bank for their

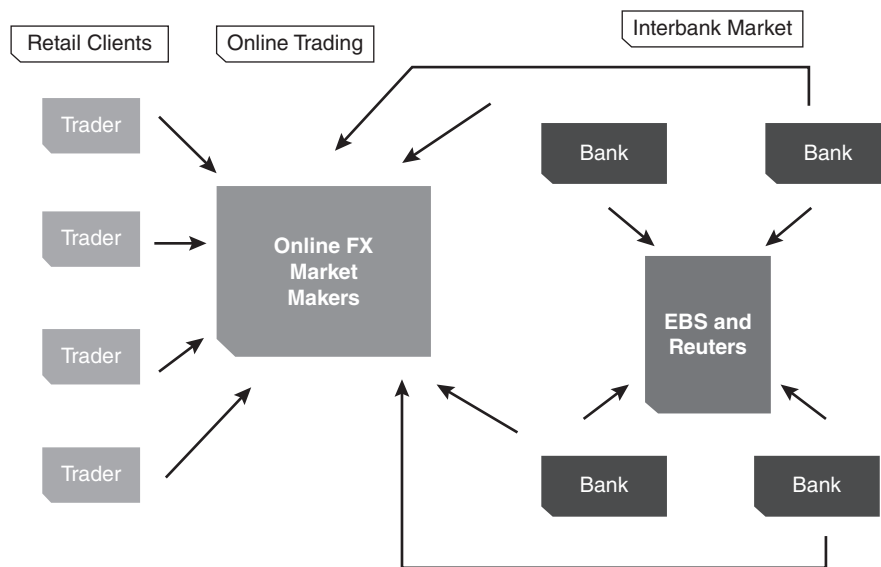


FIGURE 1.3 Decentralized Market Structure

foreign exchange needs, and oftentimes this means much less competitive rates for the participants further down the participant hierarchy. Those receiving the least competitive rates are customers of banks and physical currency exchange companies. Recently, technology has broken down the barriers that used to stand between the end-users of foreign exchange services and the interbank market. The online trading revolution opened its doors to retail clientele by connecting market makers and market participants in an efficient, low-cost manner. In essence, online trading platforms serve as a gateway to the liquid FX market. Average traders can now trade alongside the biggest banks in the world, with virtually similar pricing and execution. What used to be a game dominated and controlled by the “big boys” is slowly becoming a level playing field where individuals can profit and take advantage of the same opportunities as big banks. FX is no longer an old boys club, which means opportunities abound for aspiring online currency traders.

Dealing Stations—Interbank Market

For serious traders who want to know more about the interbank market, the majority of FX volume is actually transacted primarily through the interbank market. The leading banks of the world trade with each other electronically over two platforms—the EBS and Reuters, dealing 3000-spot matching. Both platforms offer trading in the major currency pairs; however, certain currency pairs are more liquid and generally more frequently traded over one versus the other. Some cross-currency pairs are traded over these platforms as well, but others are calculated from the rates of the major currency pairs and are then offset using the “legs.” For example, if an interbank trader had a client who wanted to go long NZDCAD, the trader would most likely buy NZDUSD and USDCAD separately. The trader would then multiply these rates and provide the client with the respective NZDCAD rate, creating a synthetic quote and trade.