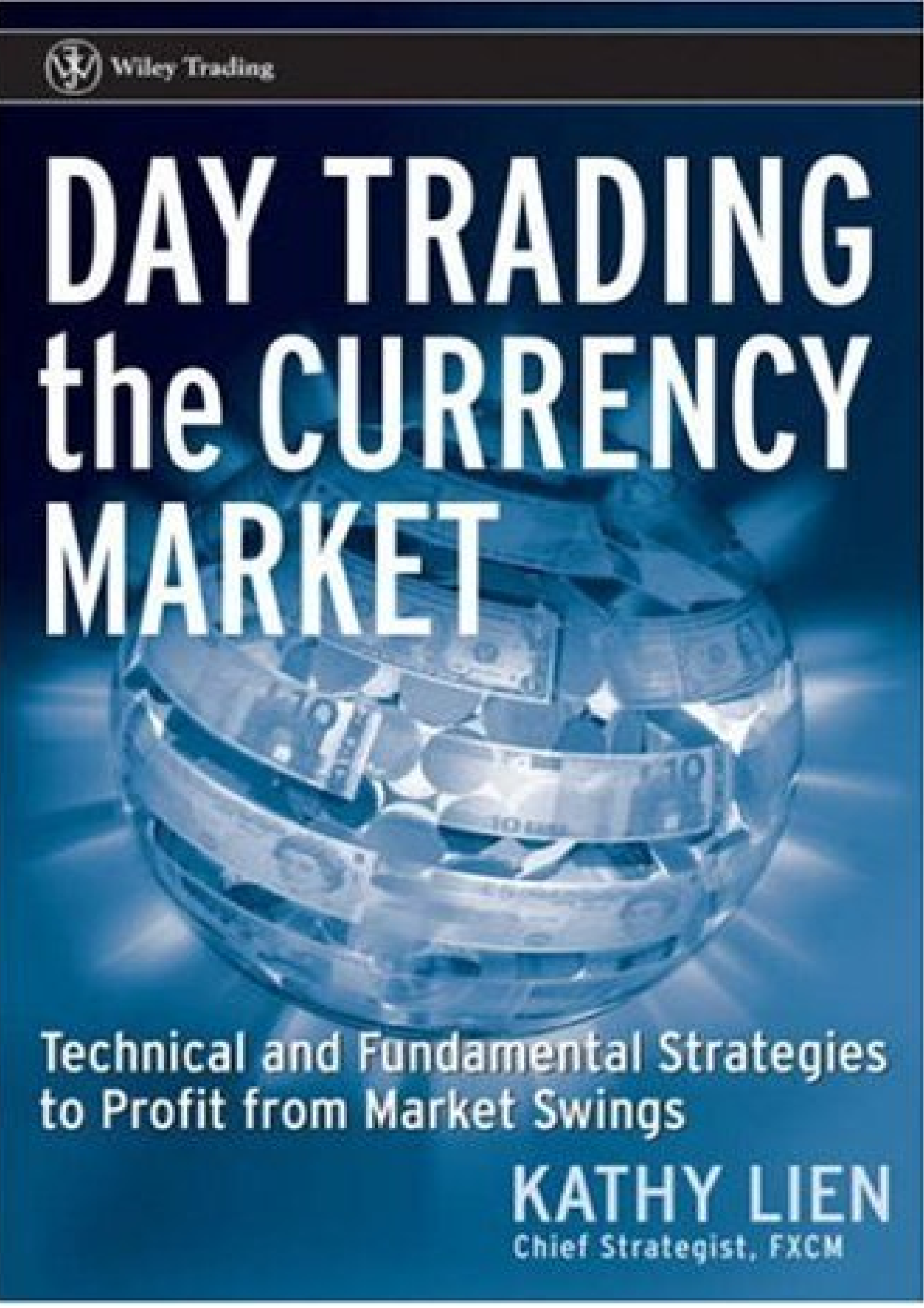
Wiley Trading

DAY TRADING the CURRENCY MARKET



Technical and Fundamental Strategies to Profit from Market Swings

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Foreign Exchange — The Fastest-Growing Market of Our Time

The foreign exchange market is the generic term for the worldwide institutions that exist to exchange or trade currencies. Foreign exchange is often referred to as "forex" or "FX." The foreign exchange market is an over-the-counter (OTC) market, which means that there is no central exchange and clearinghouse 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.

Over the past few years, currencies have become one of the most popular products to trade. No other market can claim a 57 percent surge in volume over a three-year time frame. According to the Triennial Central Bank Survey of the foreign exchange market conducted by the Bank for International Settlements and published in September 2004, daily trading volume hit a record of $1.9 trillion, up from $1.2 trillion (or $1.4 trillion at constant exchange rates) in 2001. This is estimated to be approximately 20 times larger than the daily trading volume of the New York Stock Exchange and the Nasdaq combined. Although there are many reasons that can be used to explain this surge in activity, one of the most interesting is that the timing of the surge in volume coincides fairly well with the emergence of online currency trading for the individual investor.

EFFECTS OF CURRENCIES ON STOCKS AND BONDS

It is not the advent of online currency trading alone that has helped to increase the overall market's volume. With the volatility in the currency markets over the past few years, many traders are also becoming more aware of the fact that currency movements also impact the stock and bond markets. Therefore, if stocks, bonds, and commodities traders want to make more educated trading decisions, it is important for them to follow the currency markets as well. The following are some of the examples of how currency movements impacted stock and bond market movements in the past.

EUR/USD 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 sell-off at the time was the country's rapidly growing trade and budget deficits. This caused the EUR/USD (euro-to-dollar) 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 1 billion euros from Volkswagen's profits, while Dutch State Mines (DSM), a chemicals group, warned that a 1 percent move in the EUR/USD rate would reduce profits by between 7 million and 11 million euros.

Unfortunately, inadequate hedging is still a reality in Europe, which makes monitoring the EUR/USD 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 they affect the Nikkei rally. Japan has recently come out of 10 years of stagnation. During this time, U.S. mutual funds and hedge funds were grossly underweight Japanese equities. When the economy began to rebound, these funds rushed in to make changes to their portfolios for fear of missing a great opportunity to take advantage of Japan's recovery. Hedge funds borrowed a lot of dollars in order to pay for increased exposure, but the problem was that their borrowings are very sensitive to U.S. interest rates and the Federal Reserve'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 in the future direction of the Nikkei.

George Soros

In terms of bonds, one of the most talked-about men in the history of the FX markets is George Soros. He is notorious for being "the man who broke the Bank of England." This is covered in more detail in our history section (Chapter 2), but in a nutshell, in 1990 the U.K. decided to join the Exchange Rate Mechanism (ERM) of the European Monetary System in order to take part in the low-inflationary yet stable economy generated by the Germany's central bank, which is also known as the Bundesbank. This alliance tied the pound to the deutsche mark, which meant that the U.K. 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 the U.K. from devaluing the pound. On Wednesday, September 16, 1992, 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 Exchange Rate Mechanism. This essentially "broke" the Bank of England and forced the devaluation of its currency. In a matter of 24 hours, the British pound fell approximately 5 percent or 5,000 pips. The Bank of England promised to raise rates in order to tempt speculators to buy pounds. As a result, the bond markets also experienced tremendous volatility, with the one-month U.K. London Interbank Offered Rate (LIBOR) increasing 1 percent and then retracing the gain over the next 24 hours. If bond traders were completely oblivious to what was going on in the currency markets, they probably would have found themselves dumbstruck in the face of such a rapid gyration in yields.

Chinese Yuan Revaluation and Bonds

For U.S. government bond traders, there has also been a brewing issue that has made it imperative to learn to monitor the developments in the currency markets. Over the past few years, there has been a lot of speculation about the possible revaluation of the Chinese yuan. Despite strong economic growth and a trade surplus with many countries, China has artificially maintained its currency within a tight trading band in order to ensure the continuation of rapid growth and modernization. This has caused extreme opposition from manufacturers and government officials from countries around the world, including the United States and Japan. It is estimated that China's fixed exchange rate regime has artificially kept the yuan 15 percent to 40 percent below its true value. In order to maintain a weak currency and keep the exchange rate within a tight band, the Chinese government has to sell the yuan and buy U.S. dollars each time its currency appreciates above the band's upper limit. China then uses these dollars to purchase U.S. Treasuries. This practice has earned China the status of being the world's second largest holder of U.S. Treasuries. Its demand has kept U.S. interest rates at historical lows. Even though China has made some changes to their currency regime, since then, the overall revaluation was modest, which means more is set to come. More revaluation spells trouble for the U.S. bond market, since it means that a big buyer may be pulling away. An announcement of this sort could send yields soaring and prices tumbling. Therefore, in order for bond traders to effectively manage risk, it is also important for them to follow the developments in the currency markets so that a shock of this type does not catch them by surprise.

COMPARING THE FX MARKET WITH FUTURES AND EQUITIES

Traditionally FX has not been the most popular market to trade because access to the foreign exchange market was primarily restricted to hedge funds, Commodity Trading Advisors who manage large amounts of capital, major corporations, and institutional investors due to regulation, capital requirements, and technology. One of the primary reasons why the foreign exchange market has traditionally been the market of choice for these large players is because the risk that a trader takes is fully customizable. That is, one trader could use a hundred times leverage while another may choose to not be leveraged at all. However, in recent years many firms have opened up the foreign exchange market to retail traders, providing leveraged trading as well as free instantaneous execution platforms, charts, and real-time news. As a result, foreign exchange trading has surged in popularity, increasing its attractiveness as an alternative asset class to trade.

Many equity and futures traders have begun to add currencies into the mix of products that they trade or have even switched to trading currencies exclusively. The reason why this trend is emerging is because these traders are beginning to realize that there are many attractive attributes to trading FX over equities or futures.

FX versus Equities

Here are some of the key attributes of trading spot foreign exchange compared to the equities market.

FX Market Key Attributes

- Foreign exchange is the largest market in the world and has growing liquidity.
- There is 24-hour around-the-clock trading.
- Traders can profit in both bull and bear markets.
- Short selling is permitted without an uptick, and there are no trading curbs.
- Instant executable trading platform minimizes slippage and errors.
- Even though higher leverage increases risk, many traders see trading the FX market as getting more bang for the buck.

Equities Market Attributes

- There is decent market liquidity, but it depends mainly on the stock's daily volume.
- The market is available for trading only from 9:30 a.m. to 4:00 p.m. New York time with limited after-hours trading.
- The existence of exchange fees results in higher costs and commissions.
- There is an uptick rule to short stocks, which many day traders find frustrating.
- The number of steps involved in completing a trade increases slippage and error.

The volume and liquidity present in the FX market, one of the most liquid markets in the world, have 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. Traders can implement in the FX market the same strategies that they use in analyzing the equity markets. For fundamental traders, countries can be analyzed like stocks. For technical traders, the FX market is perfect for technical analysis, since it is already the most commonly used analysis tool by professional traders. It is therefore important to take a closer look at the individual attributes of the FX market to really understand why this is such an attractive market to trade.

Around-the-Clock 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. Its 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 trading day. Active day traders no longer have to wait for the equities market to open at 9:30 a.m. New York time to begin trading. If there is a significant announcement or development either domestically or overseas between 4:00 p.m. New York time and 9:30 a.m. New York time, most day traders will have to wait for the exchanges to open at 9:30 a.m. to place trades. By that time, in all likelihood, 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 you. All of the professionals would have already priced in the event before the average trader can even access the market.

In addition, most 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 at any other time of day.

As a guideline, at 5:00 p.m. Sunday, New York time, trading begins as the markets open in Sydney, Australia. Then the Tokyo markets open at 7:00 p.m. New York time. Next, Singapore and Hong Kong open at 9:00 p.m. EST, followed by the European markets in Frankfurt (2:00 a.m.) and then London (3:00 a.m.). By 4:00 a.m. the European markets are in full swing, and Asia has concluded its trading day. The U.S. markets open first in New York around 8:00 a.m. Monday as Europe winds down. By 5:00 p.m., Sydney is set to reopen once again.

The most active trading hours are when the markets overlap; for example, Asia and Europe trading overlaps between 2:00 a.m. and approximately 4:00 a.m., Europe and the United States overlap between 8:00 a.m. and approximately 11:00 a.m., while the United States and Asia overlap between 5:00 p.m. and 9:00 p.m.. During New York and London hours all of the currency pairs trade actively, whereas during the Asian hours the trading activity for pairs such as the GBP/JPY and AUD/JPY tend to peak.

Lower Transaction Costs The existence of much lower transaction costs also makes the FX market particularly attractive. In the equities market, traders must pay a spread (i.e., the difference between the buy and sell price) and/or a commission. With online equity brokers, commissions can run upwards of $20 per trade. With positions of $100,000, average round-trip commissions could be as high as $120. The over-the-counter 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 marketplace that allows clients to deal directly with the market maker, eliminating both ticket costs and middlemen. Because the currency market offers around-the-clock liquidity, traders receive tight competitive spreads both intraday and at night. Equities 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 a $20 commission per trade you would have to pay up to $600 in daily transaction costs. This is a significant amount of money that would definitely take a large cut out of profits or deepen losses. The reason why costs are so high is because there are several 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 100 times leverage on regular-sized accounts and up to 200 times leverage on the miniature accounts. 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. Leverage is actually customizable, which means that the more risk-averse investor who feels comfortable using only 10 or 20 times leverage or no leverage at all can elect to do so. However, leverage is really a double-edged sword. Without proper risk management a high degree of leverage can lead to large losses as well.

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 also short another. As a result, profit potentials exist equally 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 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 traders 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 Reduces Error Rates In general, 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 on 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 or her 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. As a result, in currency trades the elimination of a middleman minimizes the error rates 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 at which the firms are willing to buy or sell the quoted currency, rather than vague indications of where the market is trading, which aren't 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 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 price, 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 three-quarters of a point. The price transparency provided by some of the better market makers ensures 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 percent of volume is speculative in nature, and as a result the market frequently overshoots and then corrects itself. 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 traders, and candlestick charts are available in most charting packages. In addition, the most commonly used indicators—such as Fibonacci retracements, stochastics, moving average convergence/divergence (MACD), moving averages, (RSI), and support/resistance levels—have proven valid in many instances.

Figure 1.1 GBP/USD Chart

(*Source:* eSignal. www.eSignal.com)

In the GBP/USD chart 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 50 percent retracement level has served as support for the GBP/USD throughout the month of January and for a part of February 2005. The moving average crossovers of the 10-day and 20-day simple moving averages also successfully forecasted the sell-off in the GBP/USD on March 21, 2005. Equity traders who focus on technical analysis have the easiest transition since they can implement in the FX market the same technical strategies that they use in the equities market.

Analyze Stocks Like Countries

Trading currencies is not difficult for fundamental traders, either. Countries can be analyzed just like stocks. For example, if you analyze growth rates of stocks, you can use gross domestic product (GDP) to analyze the growth rates of countries. If you analyze inventory and production ratios, you can follow industrial production 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 is in a better economic condition than other countries. 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 is more important than others. Data related to interest rates and international trade is looked at the most closely.

If the market has uncertainty regarding interest rates, then any bit of news relating to interest rates can directly affect the currency market. 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. Hikes in interest rates are generally bad news for stock markets, however. Some investors will transfer money out of a country's stock market when interest rates are hiked, causing the country's currency to weaken. Determining which effect dominates can be tricky, but generally there is a consensus beforehand as to what the interest rate move will do. Indicators that have the biggest impact on interest rates are the producer price index (PPI), consumer price index (CPI), and GDP. Generally the timing of interest rate moves is known in advance. They take place after regularly scheduled meetings by the Bank of England (BOE), the U.S. Federal Reserve (Fed), the European Central Bank (ECB), the Bank of Japan (BOJ), and other central banks.

The trade balance 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, then it will trigger a negative price movement.

FX versus Futures

The FX market holds advantages over not only the equity market, but also the futures market. Many futures traders have added currency spot trading to their portfolios. After recapping the key spot foreign exchange attributes, we compare the futures attributes.

FX Market Key Attributes

- It is the largest market in the world and has growing liquidity.
- There is 24-hour around-the-clock trading.
- Traders can profit in both bull and bear markets.
- Short selling is permitted without an uptick, and there are no trading curbs.
- Instant executable trading platform minimizes slippage and errors.
- Even though higher leverage increases risk, many traders see trading the FX market as getting more bang for the buck.

Futures Attributes

- Market liquidity is limited, depending on the month of the contract traded.
- The presence of exchange fees results in more costs and commissions.
- dependent on the product traded; each product may have different opening and closing hours, and there is limited after-hours trading.
- Futures leverage is higher than leverage for equities, but still only a fraction of the leverage offered in FX.
- There tend to be prolonged bear markets.
- Pit trading structure increases error and slippage.

Like they can in the equities market, traders can implement in the FX market the same strategies that they use in analyzing the futures markets. Most futures traders are technical traders, and as mentioned in the equities section, the FX market is perfect for technical analysis. In fact, it is the most commonly used analysis tool by professional traders. Let's take a closer look at how the futures market stacks up against the FX market.

Comparing Market Hours and Liquidity The volume traded in the FX market is estimated to be more than 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 that vary based on the product traded. For example, trading gold futures is open only between 7:20 a.m. and 1:30 p.m. on the New York Commodities Exchange (COMEX), whereas if you trade crude oil futures on the New York Mercantile Exchange, trading is open only between 8:30 a.m. and 2:10 p.m. These varying hours not only create confusion, but also make it difficult to act on breakthrough announcements throughout the remainder of the day.

In addition, if you have a full-time job during the day and can trade only after hours, futures would be a very inconvenient market product for you to trade. You would basically be placing orders based on past prices and not current market prices. This lack of transparency makes trading very cumbersome. With the FX market, if you choose to trade after hours through the right market makers, you can be assured that you would receive the same liquidity and spread as at any other time of day. In

addition, each time zone has its own unique news and developments that could move specific currency pairs.

Low to Zero Transaction Costs In the futures market, traders must pay a spread and/or a commission. With futures brokers, average commissions can run close to $160 per trade on positions of $100,000 or greater. The over-the-counter 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 marketplace that allows clients to deal directly with the market maker, eliminating both ticket costs and middlemen. Because the currency market offers around-the-clock liquidity, traders receive tight, competitive spreads both intraday and at 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 Futures Commission 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 FX market minimizes these costs.

No Limit Up or Down Rules/Profit in Both Bull and Bear Markets There is no limit down or limit up rule in the FX market, unlike the tight restriction on the futures market. For example, on the S&P 500 index futures, if the contract value falls more than 5 percent from the previous day's close, limit down rules will come in effect whereby on a 5 percent move the index is allowed to trade only at or above this level for the next 10 minutes. For a 20 percent decline, trading would be completely halted. Due to the decentralized nature of the FX market, there are no exchange-enforced restrictions on daily activity. In effect, this eliminates missed profits due to archaic exchange regulations.

Execution Quality and Speed/Low Error Rates The futures market is also known for inconsistent execution in terms of both 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 then be executed at a price that may be 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 prices for fills on market orders are 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 or her broker and places a 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 additional parties involved in a futures trade increases the speed of the FX trade execution and decreases errors.

In addition, the futures market typically operates under a "next best order" system, under which traders 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 five March Dow Jones futures contracts at 8800 with a stop order at 8700; if the price falls to this level, the order 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, in contrast, execution is uncertain because all orders must be done on the exchange, creating 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 FX 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 over-the-counter (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, in contrast, operate in a completely different fashion; the New York Stock Exchange (NYSE), 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*, while *market makers* is the term used in reference to decentralized marketplaces. (See Figures 1.2 and 1.3.) Since the NYSE is a centralized market, a stock traded on the NYSE can have only 1 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. Let's look at 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. If, for example, the market is filled with sellers from whom the specialists must buy but no prospective buyers on the

other side, the specialists will be forced to buy from the sellers and be unable to sell a commodity that is being sold off and hence falling in value. In such a situation, the specialist may simply widen the spread, thereby increasing the cost of the trade and preventing additional participants from entering the market. Or specialists can simply drastically alter the quotes they are offering, thus manipulating the price to accommodate their own needs.

Figure 1.2 Centralized Market Structure

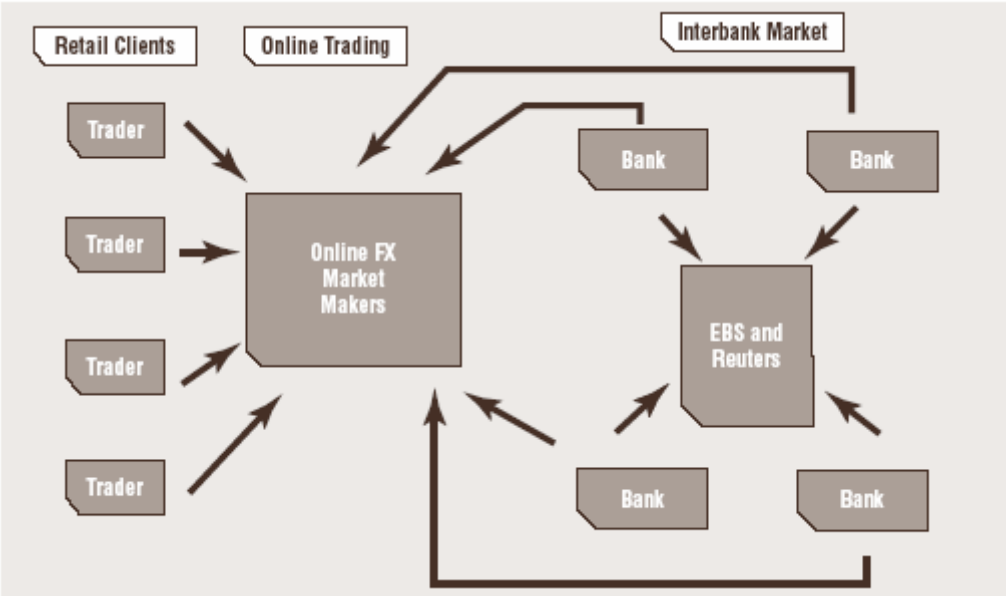

Figure 1.3 Decentralized Market Structure

Hierarchy of Participants in Decentralized Market

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 in the market.

At the top of the food chain is the interbank market, which trades the highest volume per day in relatively few (mostly G-7) currencies. In the interbank market, the largest banks can deal with each other directly, via interbank brokers or through electronic brokering systems like Electronic Brokering Services (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. All the banks can see the rates everyone is dealing at; however, each bank must have a specific credit relationship with another 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 commercial banks.

Many banks (small community banks, 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 small participants to deal through just one bank for their foreign exchange needs, and often 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 exchange agencies.

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, the online trading platform serves as a gateway to the liquid FX market. Average traders can now trade alongside the biggest banks in the world, with 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 opportunity abounds for aspiring online currency traders.

Dealing Stations—Interbank Market The majority of FX volume is 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 either EBS or Reuters D3000. These two companies are continually trying to capture each other's market shares, but as a guide, here is the breakdown of which currencies are most liquid over the individual platforms:

EBS	Reuters
EUR/USD	GBP/USD
USD/JPY	EUR/GBP
EUR/JPY	USD/CAD
EUR/CHF	AUD/USD
USD/CHF	NZD/USD

Cross-currency pairs are generally not traded over either platform, but instead are calculated based on the rates of the major currency pairs and then offset using the "legs." For example, if an interbank trader had a client who wanted to go long AUD/JPY, the trader would most likely buy AUD/USD over the Reuters D3000 system and buy USD/JPY over EBS. The trader would then multiply these rates and provide the client with the respective AUD/JPY rate. These currency pairs are also known as synthetic currencies, and this helps to explain why spreads for cross currencies are generally wider than spreads for the major currency pairs.

Historical Events in the FX Market

Before diving into the inner workings of currency trading, it is important for every trader to understand a few of the key milestones in the foreign exchange marker, since even to this day they still represent events that are referenced repeatedly by professional forex traders.

BRETTON WOODS: ANOINTING THE DOLLAR AS THE WORLD CURRENCY (1944)

In July 1944, representatives of 44 nations met in Bretton Woods, New Hampshire, to create a new institutional arrangement for governing the international economy in the years after World War II. After the war, most agreed that international economic instability was one of the principal causes of the war, and that such instability needed to be prevented in the future. The agreement, which was developed by renowned economists John Maynard Keynes and Harry Dexter White, was initially proposed to Great Britain as a part of the Lend-Lease Act—an American act designed to assist Great Britain in postwar redevelopment efforts. After various negotiations, the final form of the Bretton Woods Agreement consisted of several key points:

1. The formation of key international authorities designed to promote fair trade and international economic harmony.
2. The fixing of exchange rates among currencies.
3. The convertibility between gold and the U.S. dollar, thus empowering the U.S. dollar as the reserve currency of choice for the world.

Of the three aforementioned parameters, only the first point is still in existence today. The organizations formed as a direct result of Bretton Woods include the International Monetary Fund (IMF), World Bank, and General Agreement on Tariffs and Trade (GATT), which are still in existence today and play a crucial role in the development and regulation of international economies. The IMF, for instance, initially enforced the price of $35 per ounce of gold that was to be fixed under the Bretton Woods system, as well as the fixing of exchange rates that occurred while Bretton Woods was in operation (and the financing required to ensure that fixed exchange rates would not create fundamental distortions in the international economy).

Since the demise of Bretton Woods, the IMF has worked closely with another progeny of Bretton Woods: the World Bank. Together, the two institutions now regularly lend funds to developing nations, thus assisting them in the development of a public infrastructure capable of supporting a sound mercantile economy that can contribute in an international arena. And, in order to ensure that these nations can actually enjoy equal and legitimate access to trade with their industrialized counterparts, the World Bank and IMF must work closely with GATT. While GATT was initially meant to be a temporary organization, it now operates to encourage the dismantling of trade barriers—namely tariffs and quotas.

The Bretton Woods Agreement was in operation from 1944 to 1971 when it was replaced with the Smithsonian Agreement, an international contract of sorts

pioneered by U.S. President Richard Nixon out of the necessity to accommodate for Bretton Woods' shortcomings, unfortunately, the Smithsonian Agreement possessed the same critical weakness: while it did not include gold/U.S. dollar convertibility, it did maintain fixed exchange rates—a facet that did not accommodate the ongoing U.S. trade deficit and the international need for a weaker U.S. dollar. As a result, the Smithsonian Agreement was short-lived.

Ultimately, the exchange rates of the world evolved into a free market, whereby supply and demand were the sole criteria that determined the value of a currency. While this did and still does result in a number of currency crises and greater volatility between currencies, it also allowed the market to become self-regulating, and thus the market could dictate the appropriate value of a currency without any hindrances.

As for Bretton Woods, perhaps its most memorable contribution to the international economic arena was its role in changing the perception regarding the U.S. dollar. While the British pound is still substantially stronger, and while the euro is a revolutionary currency blazing new frontiers in both social behavior and international trade, the U.S dollar remains the world’s reserve currency of choice, for the time being. This is undeniably due lately in part to the Bretton Woods Agreement: by establishing dollar/gold convertibility, the dollars role as the world's most accessible and reliable currency was firmly cemented. And thus, while Bretton Woods may be a doctrine of yesteryear, its impact on the U.S. dollar and international economics still resonates today.

END OF BRETTON WOODS: FREE MARKET CAPITALISM IS BORN (1971)

On August 15, 1971, it became official: the Bretton Woods system, a system used to fix the value of a currency to the value of gold, was abandoned once and for all. While it had been exorcised before, only to subsequently emerge in a new form, this final eradication of the Bretton Woods system was truly its last stand: no longer would currencies be fixed in value to gold, allowed to fluctuate only in a 1 percent range, but instead their fair valuation could be determined by free market behavior such as trade flows and foreign direct investment.

While U.S. President Nixon was confident that the end of the Bretton Woods system would bring about better times for the international economy, he was not a believer that the free market could dictate a currency's true valuation in a fair and catastrophe-free manner. Nixon, as well as most economists, reasoned that an entirely unstructured foreign exchange market would result in competing devaluations, which in turn would lead to the breakdown of international trade and investment. The end result, Nixon and his board of economic advisers reasoned, would be global depression.

Accordingly, a few months later, the Smithsonian Agreement was introduced. Hailed by President Nixon as the "greatest monetary agreement in the history of the world," the Smithsonian Agreement strived to maintain fixed exchange rates, but to do so without the backing of gold. Its key difference from the Bretton Woods system was that the value of the dollar could float in a range of 2.25 percent, as opposed to just 1 percent under Bretton Woods.

Ultimately, the Smithsonian Agreement proved to be unfeasible as well. Without exchange rates fixed to gold, the free market gold price shot up to $215 per ounce. Moreover, the U.S. trade deficit continued to grow, and from a fundamental standpoint, the U.S. dollar needed to be devalued beyond the 2.25 percent parameters established by the Smithsonian Agreement. In light of these problems the foreign exchange markets were forced to close in February 1972.

The forex markets reopened in March 1973, and this time they were not bound by a Smithsonian Agreement: the value of the U.S. dollar was to be determined entirely by the market, as its value was not fixed to any commodity, nor was its exchange rate fluctuation confined to certain parametric. While this did provide the U.S. dollar, and other currencies by default, the agility required to adapt to a new and rapidly evoking international trading environment, it also set the stage for unprecedented inflation. The end of Bretton Woods and the Smithsonian Agreement, as well as conflicts in the Middle East resulting in substantially higher oil prices, helped to create stagflation—the synthesis of unemployment and inflation—in the U.S. economy. It would not be until later in the decade, when Federal Reserve Chairman Paul Volcker initiated new economic policies and President Ronald Reagan introduced a new fiscal agenda, that the U.S. dollar would return to normal valuations. And by then, the foreign exchange markets had thoroughly developed, and were now capable of serving a multitude of purposes: in addition to employing a laissez-faire style of regulation for international trade, they also were beginning to attract speculators seeking to participate in a market with unrivaled liquidity and continued growth. Ultimately, the death of Bretton Woods in 1971 marked the beginning of a new economic era, one that liberated international trading while also proliferating speculative opportunities.

PLAZA ACCORD—DEVALUATION OF U.S. DOLLAR (198S)

After the demise of all the various exchange rate regulatory mechanisms that characterized the twentieth century—the gold standard, the Bretton Woods standard, and the Smithsonian Agreement—the currency market was left with virtually no regulation other than the mythical "invisible hand" of free market capitalism, one that supposedly strived to create economic balance through supply and demand. Unfortunately, due to a number of unforeseen economic events—such as the Organization of Petroleum Exporting Countries (OPEC) oil crises, stagflation throughout the 1970s, and drastic changes in the U.S. Federal Reserve's fiscal policy—supply and demand, in and of themselves, became insufficient means by which the currency markets could be regulated. A system of sorts was needed, but not one that was inflexible. Fixation of currency values to a commodity, such as gold, proved to be too rigid for economic development, as was also the notion of fixing maximum exchange rate fluctuations. The balance between structure and rigidity was cute that had plagued the currency markets throughout the twentieth century, and while advancements had been made, a definitive solution was still greatly needed.

And hence in 1985, the respective ministers of finance and central bank governors of the world's leading economies—France, Germany. Japan, the United Kingdom, and the United Slates—convened in New York City with the hopes of arranging a diplomatic agreement of sorts that would work to optimize the economic

effectiveness of the foreign exchange markets. Meeting at the Plaza Hotel, the international leaders came to certain agreements regarding specific economies and the international economy as a whole.

Across the world, inflation was at very low levels. In contrast to the stagflation of the 1970s where inflation was high and real economic growth was low—the global economy in 1985 had done a complete 180-degree turn, as inflation was now low but growth was strong.

While low inflation, even when coupled with robust economic growth, still allowed for low interest rates—a circumstance developing countries particularly enjoyed—there was an imminent danger of protectionist policies like tariffs entering the economy. The United States was experiencing a large and growing current account deficit, while Japan and Germany were facing large and growing surpluses. An imbalance so fundamental in nature could create serious economic disequilibrium, which in turn would result in a distortion of the foreign exchange markets and thus the international economy.

The results of current account imbalances, and the protectionist policies that ensued, required action. Ultimately, it was believed that the rapid acceleration in the value of the U.S. dollar, which appreciated more than 80 percent against the currencies of its major trading partners, was the primary culprit. The rising value of the U.S. dollar helped to create enormous trade deficits. A dollar with a lower valuation, on the other hand, would be more conducive to stabilizing the international economy, as if would naturally bring about a greater balance between the exporting and importing capabilities of all countries.

At the meeting in the Plaza Hotel, the United States persuaded the other attendees to coordinate a multilateral intervention, and on September 22, 1985, the Plaza Accord was implemented. This agreement was designed to allow for a controlled decline of the dollar and the appreciation of the main antidollar currencies. Each country agreed to changes to its economic policies and to intervene in currency markets as necessary to gel the dollar down. The United Slates agreed to cut its budget deficit and to lower interest rates. France, the United Kingdom, Germany, and Japan all agreed to raise interest rates, Germany also agreed to institute tax cuts while Japan agreed to let the value of the yen "fully reflect the underlying strength of the Japanese economy." However, the problem with the actual implementation of the Plaza Accord was that not every country adhered to its pledges. The United Stales in particular did not follow through with its initial promise to cut the budget deficit. Japan was severely hurt by the sharp rise in the yen, and its exporters were unable to remain competitive overseas, and it is argued that this eventually triggered a 10-year recession in Japan. The United Slates, in contrast, enjoyed considerable growth and price stability as a result of the agreement.

The effects of the multilateral intervention were seen immediately, and within two years the dollar had fallen 46 percent and 50 percent against the deutsche mark (DEM) and the Japanese yen (JPY), respectively. Figure 2-1 shows this depreciation of the U.S. dollar against the DEM and the JPY. The U.S. economy became far more export-oriented as a result, while other industrial countries like Germany and Japan assumed the role of importing. This gradually resolved the current account deficits for the time being, and also ensured that protectionist policies were minimal and

nonthreatening. But perhaps most importantly, the Plaza Accord cemented the role of the central banks in regulating exchange rate movement: yes, the rates would not be fixed, and hence would be determined primarily by supply and demand; but ultimately, such an invisible hand is insufficient, and it was the right and responsibility of the worlds central banks to intervene on behalf of the international economy when necessary.

Figure 2.1 Plaza Accord Price Action

GEORGE SOROS—THE MAN WHO BROKE THE BANK OF ENGLAND

When George Soros placed a $10 billion speculative bet against the U.K. pound and won, he became universally known as "the man who broke the Bank of England." Whether you love him or hate him, Soros led the charge in one of the most fascinating events in currency trading history.

The United Kingdom Joins the Exchange Rate Mechanism

In 1979, a Franco-German initiative set up the European Monetary System (EMS) in order to stabilize exchange rates, reduce inflation, and prepare for monetary integration. The Exchange Rate Mechanism (ERM), one of the EMS's main components, gave each participatory currency a central exchange rate against a basket of currencies, the European Currency Unit (ECU). Participants (initially France, Germany, Italy, the Netherlands, Belgium, Denmark, Ireland, and Luxembourg) were then required to maintain their exchange rates within a 2.25 percent fluctuation band above or below each bilateral central rate. The ERM was an adjustable-peg system, and nine realignments would occur between 1979 and 1985.

While the United Kingdom was not one of the original members, it would eventually join in 1990 at a rate of 2.95 deutsche marks to the pound and with a fluctuation band of +/- 6 percent.

Until mid-1992, the ERM appeared to be a success, as a disciplinary effect had reduced inflation throughout Europe under the leadership of the German Bundesbank. The stability wouldn't last, however, as international investors started worrying that the exchange rate values of several currencies within the ERM were inappropriate. Following German reunification in 1989, the nation’s government spending surged, forcing the Bundesbank to print more money. This led to higher inflation and left the German central hank with little choice but to increase interest rates. But the rate hike had additional repercussions—because it placed upward pressure on the German mark. This forced other central banks to raise their interest rates as well, so as to maintain the pegged currency exchange rates (a direct application of Irving Fishers interest rate parity theory). Realizing that the United Kingdom's weak economy and high unemployment rate would not permit the British government to maintain this policy for long, George Soros stepped into action.

Soros Bets Against Success of U.K. Involvement in ERM

The Quantum hedge fund manager essentially wanted to bet that the pound would depreciate because the United Kingdom would either devalue the pound or leave the ERM. Thanks to the progressive removal of capital controls during the EMS years, international investors at the time had more freedom than ever to take advantage of perceived disequilibriums, so Soros established short positions in pounds and long positions in marks by borrowing pounds and investing in mark-denominated assets. He also made great use of options and futures. In all, his positions accounted for a gargantuan $10 billion. Soros was not the only one: many other investors soon followed suit. Everyone was selling pounds, placing tremendous downward pressure on the currency.

At first, the Bank of England tried to defend the pegged rates by buying 15 billion pounds with its large reserve assets, but its sterilized interventions (whereby the monetary base is held constant thanks to open market interventions) were limited in their effectiveness. The pound was trading dangerously close to the lower levels of its fixed band. On September 16, 1992, a day that would later be known as Black Wednesday, the bank announced a 2 percent rise in interest rates (from 10 percent to 12 percent) in an attempt to boost the pound’s appeal. A few hours later, it promised to raise rates again, to 15 percent, but international investors such as Soros could not be swayed, knowing that huge profits were right around the corner. Traders kept selling pounds in huge volumes, and the Bank of England kept buying them until, finally, at 7:00 p.m. that same day, Chancellor Norman Lamont announced Britain would leave the ERM and that rates would return to their initial level of 10 percent. The chaotic Black Wednesday marked the beginning of a steep depreciation in the pounds effective value.

Whether the return to a floating currency was due to the Soros-led attack on the pound or because of simple fundamental analysis is still debated today. What is certain, however is that the pound's depreciation of almost 15 percent against the deutsche mark and 25 percent against the dollar over the next five weeks (as seen in

Figure 2.2 and Figure 2.3) resulted in tremendous profits for Soros and other traders. Within a month, the Quantum Fund rushed in on approximately $2 billion by selling the now more expensive deutsche marks and buying back the now cheaper pounds. “The man who broke the Bank of England” showed how central banks can still be vulnerable to speculative attacks.

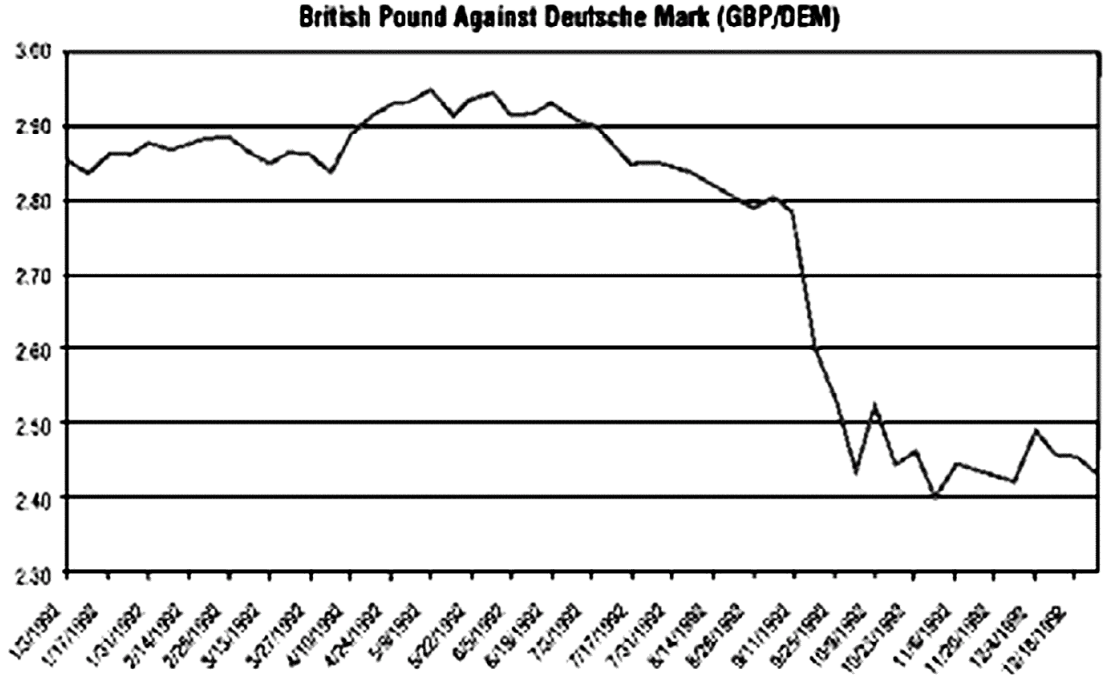

Figure 2.2 GBP/DEM After Soros

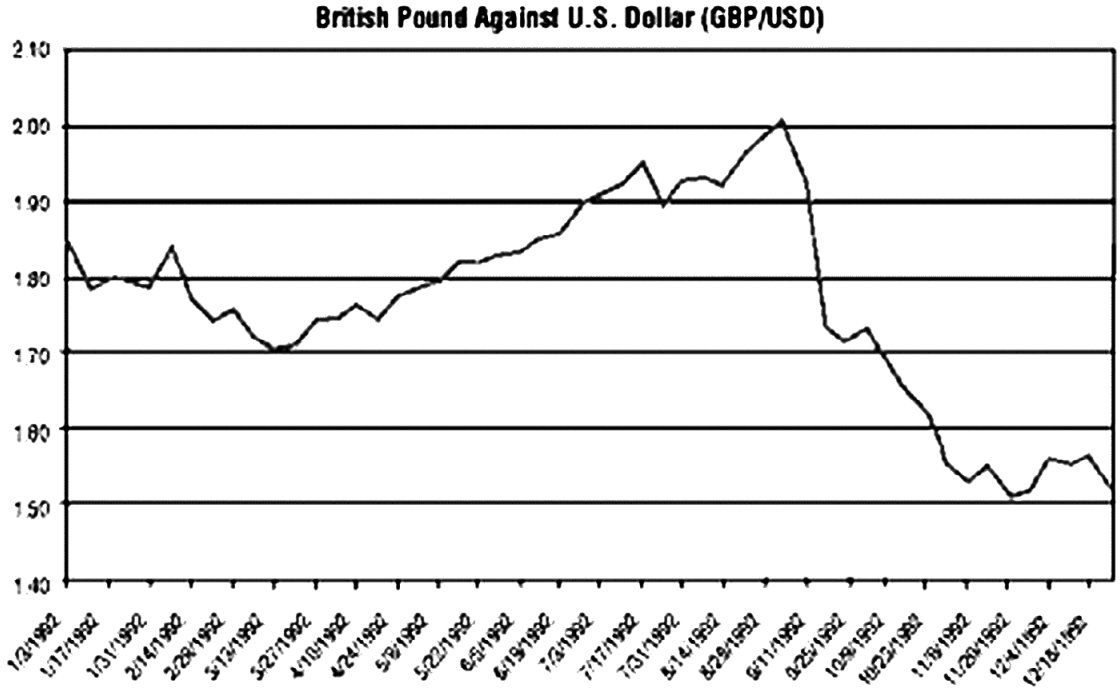

Figure 2.3 GBP/USD After Soros

ASIAN FINANCIAL CRISIS (1997-1998)

Falling like a set of dominos on July 2, 1997, the relatively nascent Asian tiger economies created a perfect example in showing the interdependence of global capital markets and their subsequent effects throughout international currency forums. Based on several fundamental breakdowns, the cause of the contagion stemmed largely from shrouded lending practices, inflated trade deficits, mid

immature capital markets. Added together, the factors contributed to a "perfect storm" that left major regional markets incapacitated and once-prized currencies devalued to significantly lower levels. With adverse effects easily seen in the equities markets, currency market fluctuations were negatively impacted in much the same manner during this time period.

The Bubble

Leading up to 1997, investors had become increasingly attracted to Asian investment prospects, focusing on real estate development and domestic equities. As a result, foreign investment capital flowed into the region as economic growth rates climbed on improved production in countries like Malaysia, the Philippines, Indonesia, and South Korea. Thailand, home of the baht, experienced a 13 percent growth rate in 1988 (falling to 6.5 percent in 1996). Additional lending support for a stronger economy came from the enactment of a fixed currency peg to the more formidable U.S. dollar. With a fixed valuation to the greenback countries like Thailand could ensure financial stability in their own markets and a constant rate for export trading purposes with the world's latest economy. Ultimately, the regions national currencies appreciated as underlying fundamentals were justified, and speculative positions in expectation of further climbs in price mounted.

Ballooning Current Account Deficits and Nonperforming Loans

However, in early 1997, a shift in sentiment had begun to occur as international account deficits became increasingly difficult for respective governments to handle and lending practices were revealed to be detrimental to the economic infrastructure. In particular, economists were alerted to the fact that Thailand's current account deficit had ballooned in 1996 to $14.7 billion (it had been climbing since 1992). Although comparatively smaller than the U.S. deficit, the gap represented 8 percent of the country's gross domestic product. Shrouded lending practices also contributed heavily to these breakdowns as close personal relationships of borrowers with high-ranking banking officials were well rewarded and surprisingly common throughout the region. This aspect affected many of South Korea's highly leveraged conglomerates as total nonperforming loan values sky-rocketed to 7.5 percent of gross domestic product.

Additional evidence of these practices could be observed in financial institutions throughout Japan. After announcing a $136 billion total in questionable and nonperforming loans in 1994, Japanese authorities admitted to an alarming $400 billion total a year later. Coupled with a then crippled stock market, cooling real estate values, and dramatic slowdowns in the economy, investors saw opportunity in a depreciating yen. subsequently adding selling pressure to neighbor currencies. When Japan's asset bubble collapsed, asset prices fell by $10 trillion, with the fall in real estate prices accounting for nearly 65 percent of the total decline, which was worth two years of national output. This fall in asset prices sparked the banking crisis in Japan. It began in the early 1990s and then developed into a full-blown systemic crisis in 1997 following the failure of a number of high-profile financial institutions. In response, Japanese monetary authorities warned of potentially increasing bench-mark interest rates in hopes of defending the domestic currency valuation.

Unfortunately, these considerations never materialized and a shortfall ensued. Sparked mainly by an announcement of a managed float of the Thai baht, the slide snowballed as central bank reserves evaporated and currency price levels became unsustainable in light of downside selling pressure.

Currency Crisis

Following mass short speculation and attempted intervention, the afore-mentioned Asian economies were left ruined and momentarily incapacitated. The Thailand baht, once a prized possession, was devalued by as much as 48 percent, even slumping closer to a 100 percent fall at the turn of the New Year. The most adversely affected was the Indonesian rupiah. Relatively stable prior to the onset of a “crawling peg" with the Thai baht, the rupiah fell a whopping 228 percent from its previous high of 12,950 to the fixed U.S. dollar. These particularly volatile price actions are reflected in Figure 2.4. Among the majors, the Japanese yen fell approximately 23 percent from its high to its low against the U.S. dollar in 1997 and 1998, its shown in Figure 2.5.

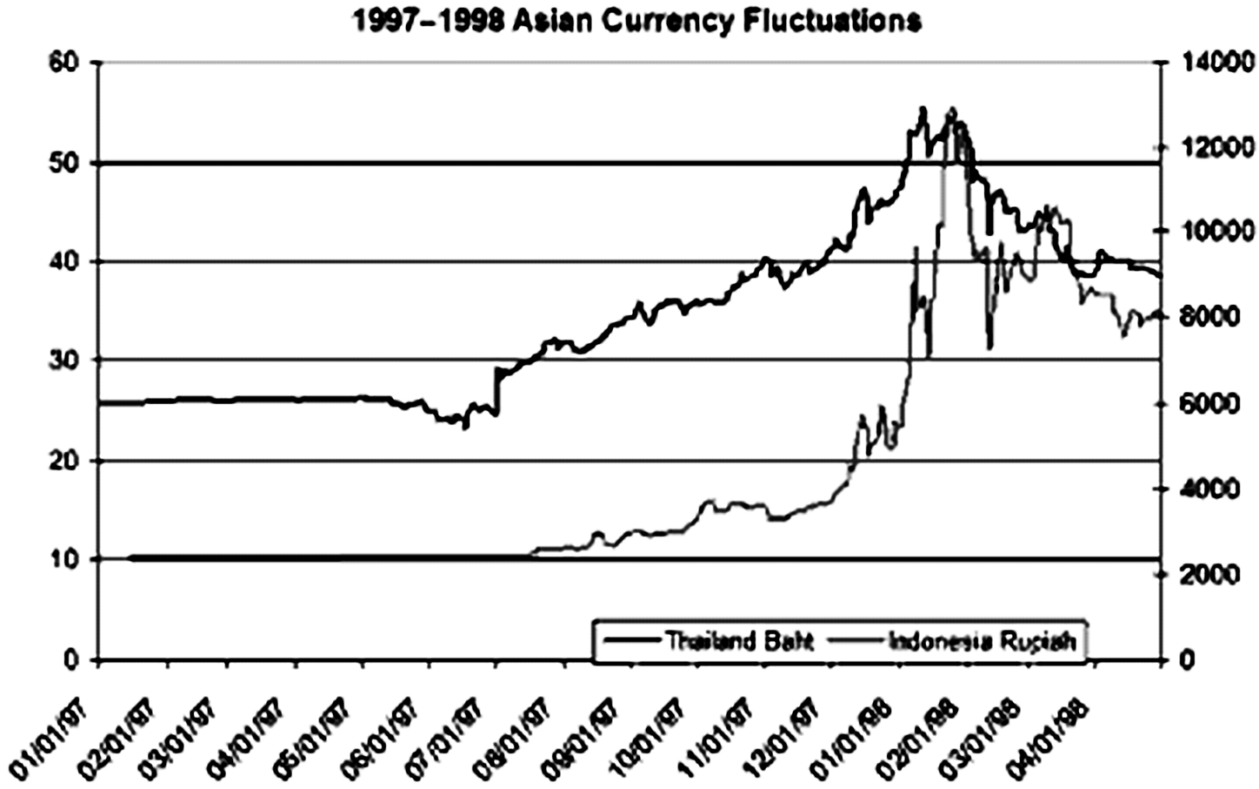

Figure 2.4 Asian Crisis Price Action

The financial crisis of 1997-1998 revealed the interconnectivity of economies and their effects on the global currency markets. Additionally, it showed the inability of central banks to successfully intervene in currency valuations when confronted with overwhelming market forces along with the absence of secure economic fundamentals. Today, with the assistance of IMF reparation packages and the implementation of stricter requirements, Asia’s four little dragons are churning away once again. With inflationary benchmarks and a revived exporting market, Southeast Asia is building back its once prominent stature among the world’s industrialized economic regions. With the experience of evaporating currency reserves under their

bells, the Asian tigers now take active initiatives to ensure that they have a large pot of reserves on hand in ease speculators attempt to attack their currencies once again.

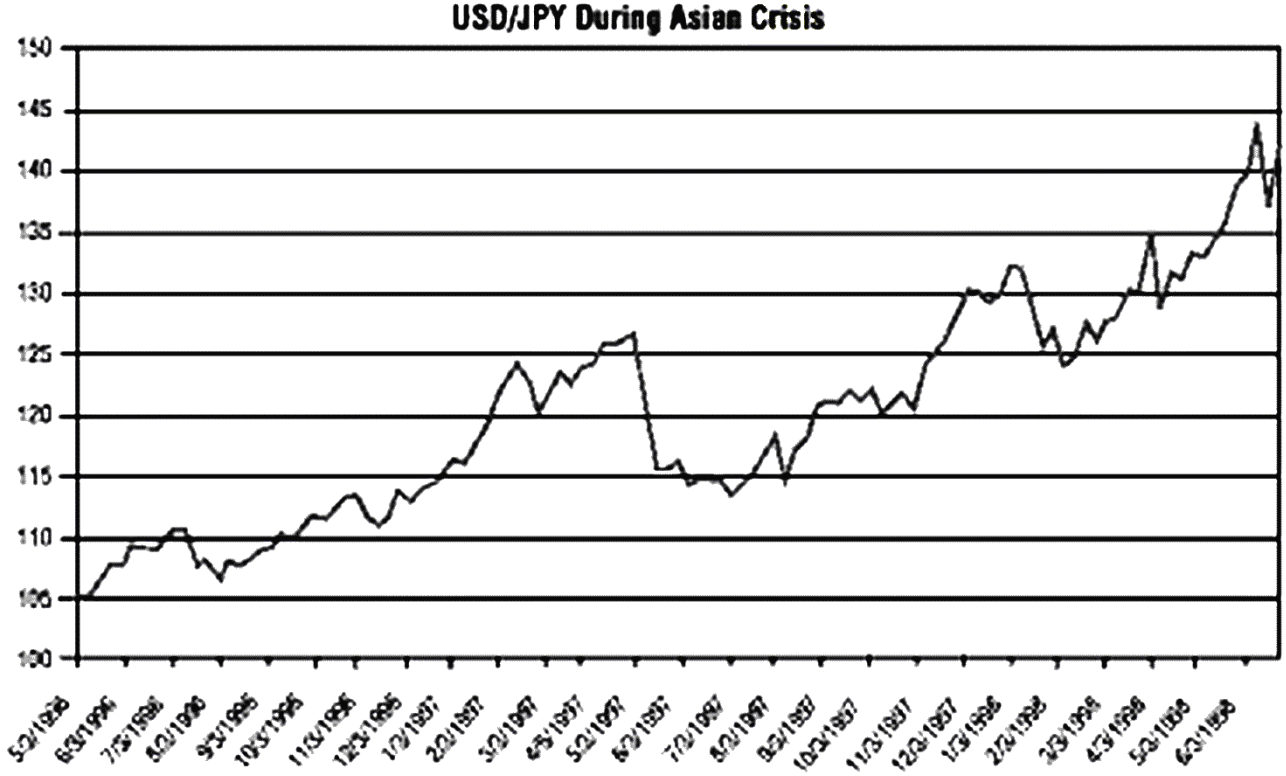

Figure 2.5 USD/JPY Asian Crisis Price Action

INTRODUCTION OF THE EURO (1999)

The introduction of the euro was a monumental achievement, marking the largest monetary changeover ever. The euro was officially launched as an electronic trading currency on January 1, 1999. The 11 initial member states of the European Monetary Union (EMU) were Belgium, Germany, Spain, France, Ireland, Italy, Luxembourg, the Netherlands, Austria, Portugal, and Finland. Greece joined two years later. Each country fixed its currency to a specific conversion rate against the euro, and a common monetary' policy governed by the European Central Bank (ECU) was adopted. To many economists, the system would ideally include all of the original 15 European Union (EU) nations, but the United Kingdom, Sweden, and Denmark decided to keep their own currencies for the time being. Euro notes and coins did not begin circulation until the first two months of 2002. In deciding whether to adopt the euro, EU members all had to weigh the pros and cons of such an important decision.

While ease of traveling is perhaps the most salient issue to EMU citizens, the euro also brings about numerous other benefits:

- It eliminates exchange rate fluctuations, thereby providing a more stable environment to trade within the euro area.
- The purging of all exchange rate risk within the zone allows businesses to plan investment derisions with greater certainty.
- Transaction costs diminish (mainly those relating to foreign exchange operations, hedging operations, cross-border payments, and the management of several currency accounts).

- Prices become more transparent as consumers and businesses can compare prices across countries more easily. This, in turn, increase competition.
- The huge single currency market becomes more attractive for foreign investors.
- The economy's magnitude and stability allow the ECB to control inflation with lower interest rates thanks to increased credibility.

Yet the euro is not without its limitations, leaving aside political sovereignty issues, the main problem is that, by adopting the euro, a nation essentially forfeits any independent monetary policy. Since each country's economy is not perfectly correlated to the EMU's economy, a nation might find the ECB hiking interest rates during a domestic recession. This is especially true for many of the smaller nations. As a result, countries try to rely more heavily on fiscal policy, but the efficiency of fiscal policy is limited when it is not effectively combined with monetary policy. This inefficiency is only further exacerbated by the 3 percent of GDP limit on budget deficits, as stipulated by the Stability and Growth Pact.

Some concerns also exist regarding the ECB’s effectiveness as a central bank. While its target inflation is slightly below 2 percent, the euro areas inflation edged above the benchmark from 2000 to 2002, and has of late continued to surpass the self-imposed objective. From 1999 to late 2002, a lack of confidence in the unions currency (and in the union itself) led to a 24 percent depreciation, from approximately $1.15 to the dollar in January 1999 to $0.88 in May 2000, forcing the ECB to intervene in foreign exchange markets in the last few mouths of 2000. Since then, however, things have greatly changed; the euro now trades at a premium to the dollar, and many analysts claim that the euro will someday replace the dollar as the world's dominant international currency (Figure 2.6 shows a chart of the euro since it was launched in 1999).

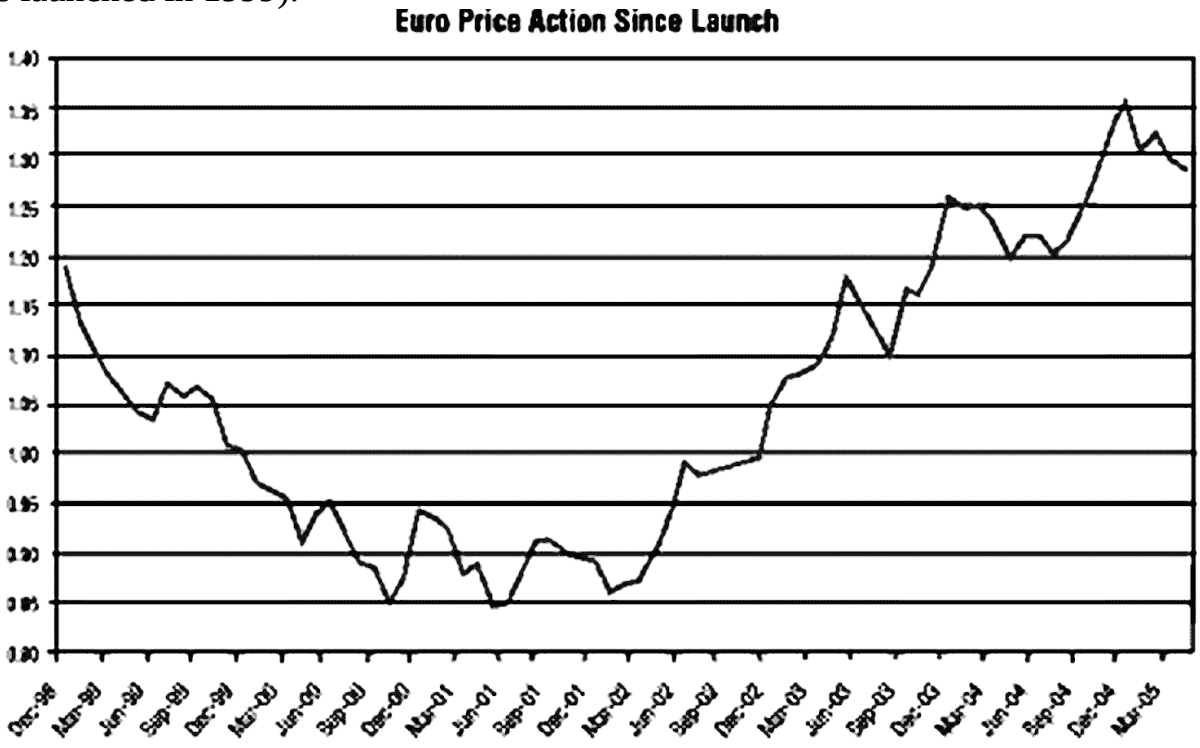

Figure 2.5 EUR/USD Price Since Launch

There are 10 more members stated to adopt the euro over the next few years. The enlargement, which will grow the EMU's population by one-filth, is both a

political and an economic landmark event: Of the new entrants, all but two are former Soviet republics, joining the EU after 15 years of restructuring. Once assimilated, these countries will become part of the world's largest free trade zone, a bloc of 450 million people. Consequently, the three largest accession countries, Poland, Hungary, and the Czech Republic—which comprise 79 percent of new member combined GDP—are not likely in adopt the euro anytime soon. While euro members are mandated to cap fiscal deficits at 3 percent of GDP, each of these three countries currently runs a projected deficit at or near 6 percent. In a probable scenario, euro entry for Poland, Hungary, and the Czech Republic are likely to be delayed until 2009 at the earliest. Even smaller states whose economies at present meet EU requirements fare a long process in replacing their national currencies. States that already maintain a fixed euro exchange rate—Estonia and Lithuania—could participate in the ERM earlier, but even on this relatively fast track, they would not be able to adopt the euro until 2007.

The 1993 the Maastricht Treaty set five main convergence criteria for member states to join the EMU.

Maastricht Treaty: Convergence Criteria

1. The country's government budget deficit could not be greater than 3 percent of GDP.
2. The country's government debt could not be larger than 60 percent of GDP.
3. The country’s exchange rate had to be maintained within ERM hands without any realignment for two years prior to joining.
4. The country's inflation rate could not be higher than 1.5 percent above the average inflation rate of the three EU countries with the lowest inflation rates.
5. The country’s long-term interest rate on government bonds could not be higher than 2 percent above the average of the comparable rates in the three countries with the lowest inflation.

What Moves the Currency Market in the Long Term?

There are two major ways to analyze financial markets: fundamental analysis and technical analysis. Fundamental analysis is based on underlying economic conditions, while, technical analysis uses historical prices in an effort to predict future movements. Ever since technical analysis first surfaced, there has been an ongoing debate as to which methodology is more successful. Short-term traders prefer to use technical analysis, focusing their strategies primarily on price action, while medium-term traders tend to use fundamental analysis to determine a currency's proper valuation, as well as its probable, future valuation.

Before implementing successful trading strategies, it is important to understand what drives the movements of currencies in the foreign exchange market. The best strategies tend to be the ones that combine both fundamental and technical analysis. Too often perfect technical formations have failed because of major fundamental events. The same occurs with fundamentals; there may be sharp gyrations in price action one day on the back of no economic news released, which suggests that the price action is random or based on nothing more than pattern formations. Therefore, it is very important for technical traders to be aware of the key economic data or events that are scheduled for release and, in turn, for fundamental traders to be aware of important technical levels on which the general market may be focusing.

Fundamental analysis

Fundamental analysis focuses on the economic, social, and political forces that drive supply and demand. Those using fundamental analysis as a trading tool look at various macroeconomic indicators such as growth rates, interest rates, inflation, and unemployment. We list the most important economic releases in Chapter 10 as well as the most market-moving pieces of data for the U.S. dollar in Chapter 4. Fundamental analysts will combine all of this information to assess current and future performance. This requires a great deal of work and thorough analysis, as there is no single set of beliefs that guides fundamental analysis. Traders employing fundamental analysis need to continually keep abreast of news and announcements that can indicate potential changes to the economic, social, and political environment. All traders should have some awareness of the broad economic conditions before placing trades. This is especially important for day traders who are trying to make trading decisions based on news events because even though Federal Reserve monetary policy decisions are always important, if the rate move is already completely priced into the market, then the actual reaction in the EUR/USD, say, could be nominal.

Taking a step back, currency prices move primarily based on supply and demand. That is, on the most fundamental level, a currency rallies because there is demand for that currency. Regardless of whether the demand is for hedging, speculative, or conversion purposes, true movements are based on the need for the currency. Currency values decrease when there is excess supply. Supply and demand should be the real determinants for predicting future movements. However, how to

predict supply and demand is not as simple as many would think. There are many factors that contribute to the net supply and demand for a currency, such as capital flows, trade flows, speculative needs, and hedging needs.

For example, the U.S. dollar was very strong (against the euro) from 1999 to the end of 2001, a situation primarily driven by the U.S. Internet and equity market boom and the desire for foreign investors to participate in these elevated returns. This demand for U.S. assets required foreign investors to sell their local currencies and purchase U.S. dollars. Since the end of 2001, when geopolitical uncertainty rose, the United States started cutting interest rates and foreign investors began to sell U.S. assets in search of higher yields elsewhere. This required foreign investors to sell U.S. dollars, increasing supply and lowering the dollars value against other major currencies. The availability of funding or interest in buying a currency is a major factor that can impact the direction that a currency trades. It has been a primary determinant for the U.S. dollar between 2002 and 2005. Foreign official purchases of U.S. assets (also known as the Treasury international capital flow or TIC data) have become one of the most important economic indicators anticipated by the markets.

Capital and Trade Flows

Capital flows and trade flows constitute a country's balance of payments, which quantifies the amount of demand for a currency over a given period of time. Theoretically, a balance of payments equal to zero is required for a currency to maintain its current valuation. A negative balance of payments number indicates that capital is leaving the economy at a more rapid rate than it is entering, and hence theoretically the currency should fall in value.

This is particularly important in current conditions (at the lime of this book's publication) where the United States is running a consistently large trade deficit without sufficient foreign inflow to fund that deficit. As a result of this very problem, the trade-weighted dollar index fell 22 percent in value between 2003 and 2005. The Japanese yen is another good example. As one of the world's largest exporters, Japan runs a very high trade surplus. Therefore, despite a zero interest rate policy that prevents capital flows from increasing, the yen has a natural tendency to trade higher based on trade flows, which is the other side of the equation. To be more specific, here is a detailed explanation of what capital and trade flows encompass.

Capital Flows: Measuring Currency Bought and Sold

Capital flows measure the net amount of a currency that is being purchased or sold due to capital investments. A positive capital flow balance implies that foreign inflows of physical or portfolio investments into a country exceed outflows. A negative capital flow balance indicates that there are more physical or portfolio investments bought by domestic investors than foreign investors. Let's look at these two types of capital flows—physical flows and portfolio flows.

Physical Flows. Physical flows encompass actual foreign direct investments by corporations such as investments in real estate, manufacturing, and local acquisitions. All of these require that a foreign corporation sell the local currency and buy the

foreign currency, which leads to movements in the FX market. This is particularly important for global corporate acquisitions that involve more cash than stock.

Physical flows are important to watch, as they represent the underlying changes in actual physical investment activity. These flows shift in response to changes in each country's financial health and growth opportunities. Changes in local laws that encourage foreign investment also serve to promote physical flows. For example, due to China's entry into the World Trade Organization (WTO), its foreign investment laws have been relaxed. As a result of its cheap labor and attractive revenue opportunities (population of over 1 billion), corporations globally have flooded China with investments. From an FX perspective, in order to fund investments in China, foreign corporations need to sell their local currency and buy Chinese renminbi (RMB).

Portfolio Flows. Portfolio flows involve measuring capital inflows and outflows in equity markets and fixed income markets.

Equity Markets. As technology has enabled greater ease with respect to transportation of capital, investing in global equity markets has become far more feasible. Accordingly, a rallying stork market in any part of the world serves as an ideal opportunity for all, regardless of geographic location. The result of this has become a strong correlation between a country's equity markets and its currency: if the equity market is rising, investment dollars generally come in to seize the opportunity. Alternatively, frilling equity market could prompt domestic investors to sell their shares of local publicly traded firms to capture investment opportunities abroad.

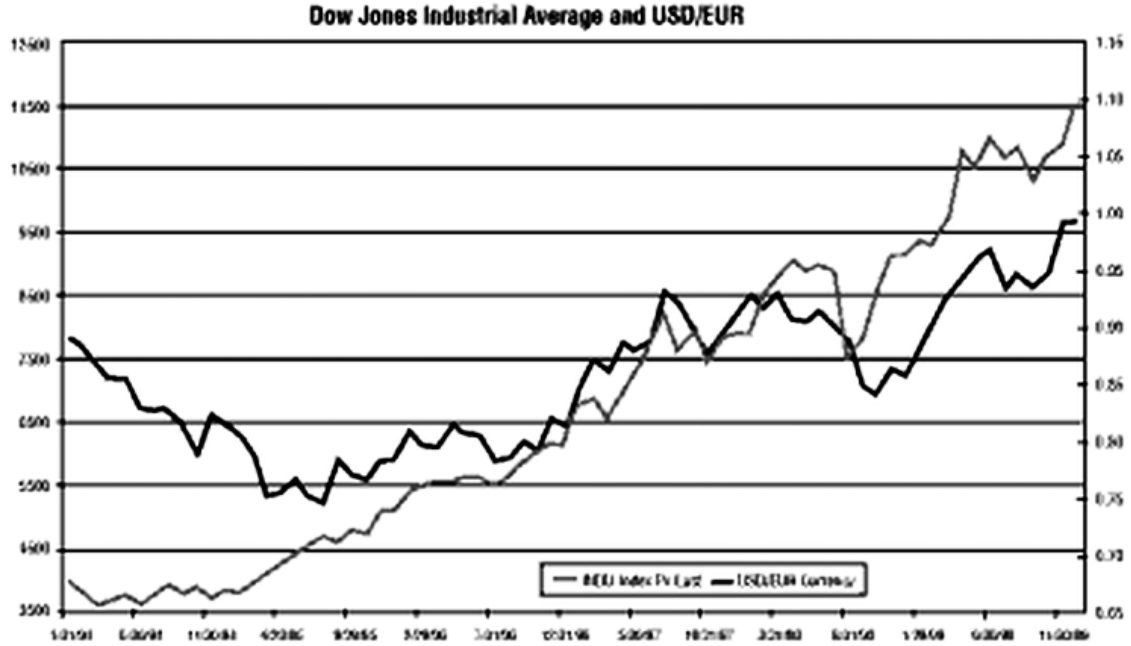

Figure 3.1 Dow Jones Industrial Average and USD/EUR

The attraction of equity markets compared to fixed income markets has increased across the years. Since the early 1990s, the ratio of foreign transactions in U.S. government bonds over U.S. equities has declined from 10 to 1 to 2 to 1. As indicated in Figure 3.1, it is evident that the Dow Jones Industrial Average had a high correlation (of approximately 81 percent) with the U.S. dollar (against the deutsche mark) between 1994 and 1999. In addition, from 1991 to 1999 the Dow increased

300 percent, while the U.S. dollar index appreciated nearly 30 percent for the same time period. As a result, currency traders closely followed the global equity markets in an effort to predict short-term and intermediate-term equity-based capital flows. However, this relationship has shifted since the tech bubble burst in the United States, as foreign investors remained relatively risk-averse, causing a lower correlation between the performance of the U.S. equity market and the U.S. dollar. Nevertheless, a relationship does still exist, making it important for all traders to keep an eye on global market performances in search of intermarket opportunities.

Fixed Income Markets. Just as the equity market is correlated to exchange rate movement, so too is the fixed income market. In times of global uncertainly, fixed income investments can become particularly appealing, due to the inherent safety they possess. As a result, economies boasting the most valuable fixed income opportunities will be capable of attracting foreign investment—which will naturally first require the purchasing of the country's respective currency.

A good gauge of fixed income capital flows are the short- and long-term yields of international government bonds. It is useful to monitor the spread differentials between the yield on the 10-year U.S. Treasury note and the yields on foreign bonds. The reason is that international investors tend to place their funds in countries with the highest-yielding assets. If U.S. assets have one of the highest yields, this would encourage more investments in T.S. financial instruments, hence benefiting the U.S. dollar. Investors can also use short-term yields such as the spreads on two-year government notes to gauge short-term flow of International funds. Aside from government bond yields, federal funds futures can also be used to estimate movement of U.S. funds, as they price in the expectation of future Fed interest rate policy. Euribor futures, or futures on the Euro Interbank Offered Rate, are a barometer for the euro region's expected future interest rates and can give an indication of euro region future policy movements. We cover using fixed income products to trade FX further in Chapter 9.

Trade Flows: Measuring Exports versus Imports

Trade flows are the basis of the international transactions. Just its the investment environment of a given economy is a prime determinant of its currency valuation, trade flows represent a country's net trade balance. Countries that are net exporters—meaning they export more to international clients than they import from international producers will experience a net trade surplus. Countries that are net exporters are more likely to have their currency rise in value, since from the perspective of international trade, their currency is being bought more than it is sold: inclinational clients intended in buying the exported product/service mast first buy the appropriate currency, thus creating demand for the currency of the exporter.

Countries that are net importers—meaning they make more International purchases than international sales experience what is known as a trade deficit, which in turn has the potential to drive the value of the currency down. In order to engage in international purchases, importers must sell their currency to purchase that of the

retailer of the good or service; accordingly, on a large scale this could have the effect of driving the currency down. This concept is important because it is a primary reason why many economists say that the dollar needs to continue to fall over the next few years to slop the United States from repeatedly hitting record high trade deficits.

To clarify this further, suppose, for example, that the U.K. economy is booming, and that its stock market is rallying as well. Meanwhile, in the United States, a lackluster economy is creating a shortage of investment opportunities. In such a scenario, the natural result would be for U.S. residents to sell their dollars and buy British pounds to take advantage of the rallying U.K. economy. This would result in capital outflow from the United States and capital inflow for the United Kingdom. From an exchange rate perspective, this would induce a fall in the USD coupled with a rise in the GBP as demand for USD declines and demand for GBP increases; in other words, the GBP/USD would rise.

For day and swing traders, a tip for keeping on top of the broader economic picture is to figure out how economic data for a particular country stacks up.

Trading Tip: Charting Economic Surprises

A good tip for traders is to stack up economic data surprises against price action to help explain and forecast the future movement in currencies.

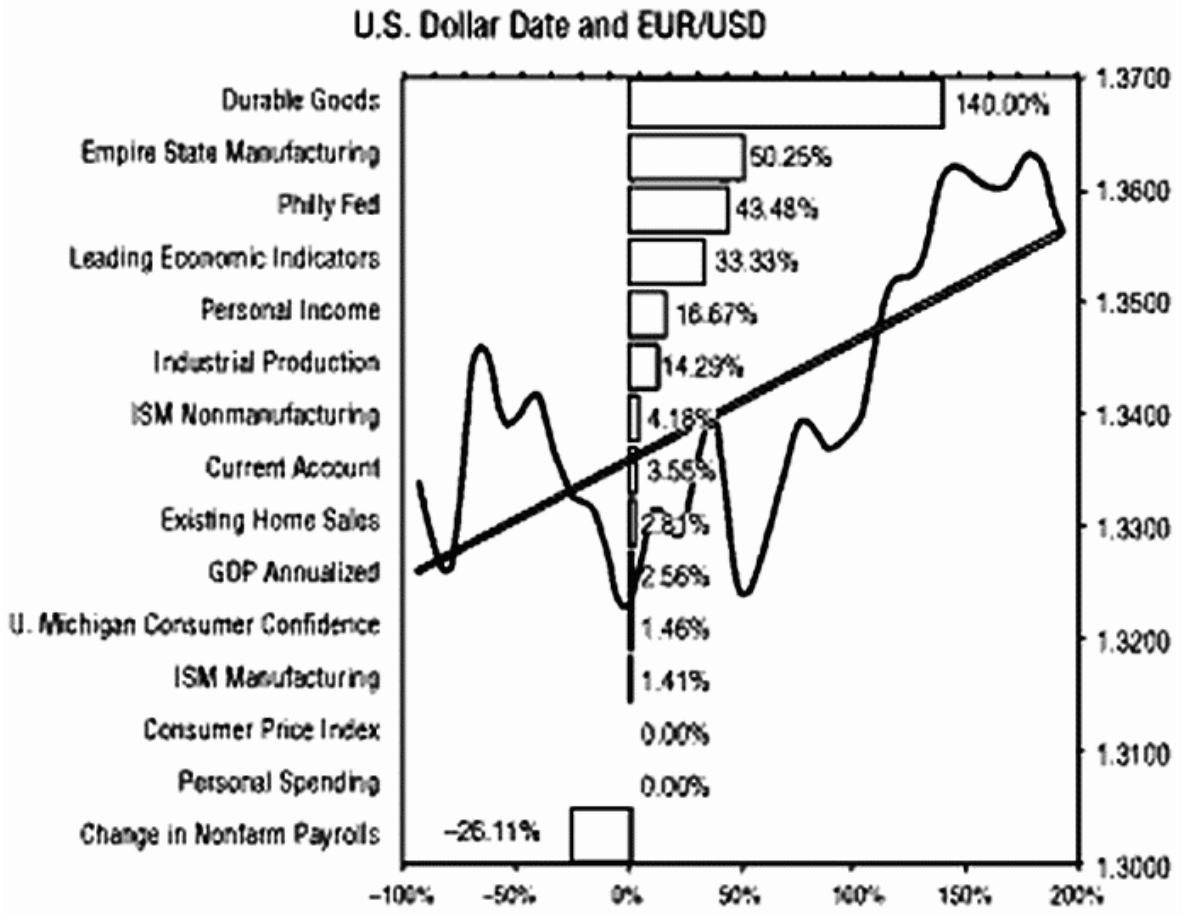

Figure 3.2 Charting Economic Surprises

Figure 3.2 presents a sample of what can be done. The bar graph shows the percentages of surprise that economic indicator have compared to consensus forecasts, while the dark line traces price action for the period during which the data

was released; the white line is a simple price regression line. This charting can be done for all of the major currency pairs, providing a visual guide to understanding whether price action has been in line with economic fundamentals and helping to forecast future price action. Thus data is provided on a monthly basis on www.dailyfx.com, listed under Charting Economic Fundamentals.

According to the chart in Figure 3.2 in November 2004, there were 12 out of 15 positive economic surprises and yet the dollar sold off against the euro during the month of December, which was the month during which the economic data was released. Although this methodology is inexact, the analysis is simple and past charts have yielded some extremely useful clues to future price action. Figure 3.3 shows how the EUR/USD moved in the following month. As you can see, the EUR/USD quickly corrected itself during the month of January, indicating that the fundamental divergence of price action that occurred in December proved to be quite useful to dollar longs, who harvested almost 600 pips as the euro quickly retracted a large part of its gains in January. This method of analysis, called "variant perception", was invented by the legendary hedge fund manager Michael Steinhardt, who produced 24 percent average rates of return for 30 consecutive years.

Figure 3.3 EUR/USD Chart
(*Source:* eSignal. www.eSignal.com)

While those charts rarely offer such clear-cut signals, their analytical value may also lie in spotting and interpreting the outlier data. Very large positive and negative surprises of particular economic statistics can often yield clues to future price action. If you go back and look at the EUR/USD charts, you will see that the dollar plunged between October and December. This was triggered by a widening of the current account deficit to a record high in October 2004. Economic fundamentals matter perhaps more in the foreign exchange market than in any other market, and charts

such as these could provide valuable clues to price direction. Generally, the 15 most important economic indicators are chosen for each region and then a price regression line is superimposed over the past 20 days of price data.

Technical Analysis

Prior to the mid-1980s, the FX market was primarily dominated by fundamental traders. However, with the rising popularity of technical analysis and the advent of new technologies, the influence of technical trading on the FX market has increased significantly. The availability of high leverage has led to an increased number of momentum or model funds, which have become important participants in the FX market with the ability to influence currency prices.

Technical analysis focuses on the study of price movements. Technical analysis use historical currency data to forecast the direction of future prices. The premise of technical analysis is that all current market information is already reflected in the price of each currency; therefore, studying price action is all that is required to make informed trading decisions. In addition, technical analysis works under the assumption that history tends to repeat itself.

Technical analysis is a very popular tool for short-term to medium-term traders. It works especially well in the currency markets because short-term currency price fluctuations are primarily driven by human emotions or market perceptions, The primary tool in technical analysis is charts. Charts are used to identify trends and patterns in order to find profit opportunities. The most basic concept of technical analysis is that markets have a tendency to trend. Being able to identify trends in their earliest stage of development is the key to technical analysis. Technical analysis integrates price action and momentum to construct a pictorial representation of past currency price action to predict future performance. Technical analysis tools such as Fibonacci retracement levels, moving averages, oscillators, candlestick charts, and Bollinger bands provide further information on the value of emotional extremes of buyers and sellers to direct traders to levels where greed and fear are the strongest. There are basically two types of markets, trending and range-bound; in the trade parameters section (Chapter 7), we attempt to identify rules that would help traders determine what type of market they are currently trading in and what sort of trading opportunities they should be looking for.

Is Technical Analysis or Fundamental Analysis Better?

Technical versus fundamental analysis is a longtime battle, and after many years there is still no winner or loser. Most traders abide by technical analysis because it does not require as many hours of study. Technical analysts can follow many currencies at one time. Fundamental analysis, in contrast, tend to specialize due to the overwhelming amount of data in the market. Technical analysis works well because the currency market tends to develop strong trends. Once technical analysis is mastered, it can be applied with equal ease to any time frame or currency traded.

However, it is important to take into consideration both strategies, as fundamentals can trigger technical movements such as breakouts or trend reversals, while technical analysis can explain moves that fundamentals cannot, especially in

quiet markets, such as resistance in trends. For example, as you can see in Figure 3.4, in the days leading up to September 11, 2001, USD/JPY had just broken out of a triangle formation and looked poised to head higher. However, as the chart indicates, instead of breaking higher as technicians may have expected, USD/JPY broke down following the terrorist attacks and ended up hitting a low of 115.81 from a high of 121.88 on September 10.

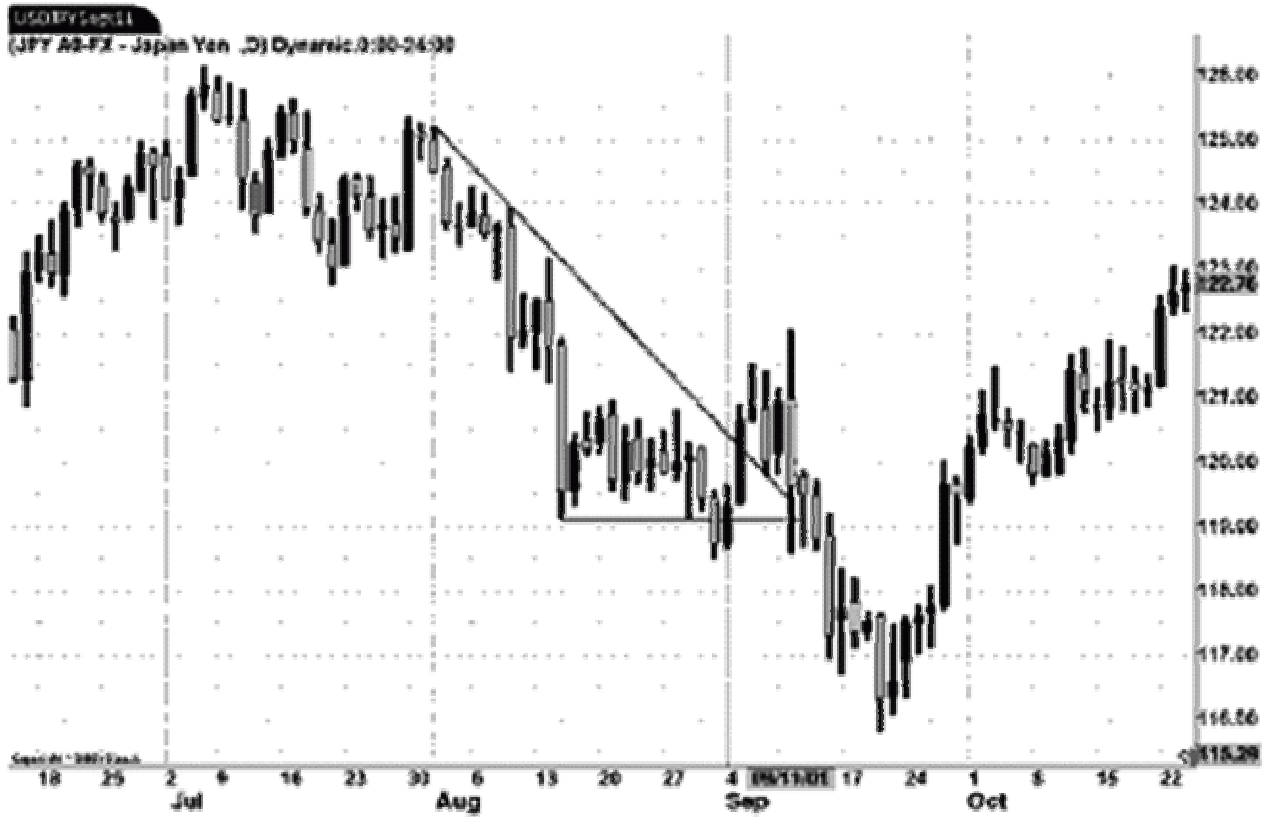

Figure 3.4 USD/JPY September 11, 2001, Chart
(*Source:* eSignal. www.eSignal.com)

CURRENCY FORECASTING — WHAT BOOKWORMS AND ECONOMISTS LOOK AT

For more avid students of foreign exchange who want to learn more about fundamental analysis and valuing currencies, this section examines the different models of currency forecasting employed by the analysts or the major investment banks. There are seven major models for forecasting currencies: the balance of payments (BOP) theory, purchasing power parity (PPP), interest rate parity, the monetary model, the real interest rate differential model, the asset market model, and the currency substitution model.

Balance of Payments Theory

The balance of payments theory states that exchange rates should be at their equilibrium level, which is the rate that produces a stable current account balance. Countries with trade deficits experience a run on their foreign exchange reserves due to the fact that exporters to that nation must sell that nation's currency in order to

receive payment. The cheaper currency makes the nation's exports less expensive abroad, which in turn fuels exports and brings the currency into balance.

What is the Balance of Payments? The balance of payments account is divided into two parts: the current account and the capital account. The current account measures trade in tangible, visible items such as cars and manufactured goods; the surplus or deficit between exports and imports is called the trade balance. The capital account measures flows of money, such as investments for stocks or bonds. Balance of payments data can be found on the web site of the Bureau of Economic Analysis (www.bea.gov).

Trade Flows. The trade balance of a country shows the net difference over a period of time between a nations exports and imports. When a country imports more then it exports the trade balance is negative or is in a deficit. If the country exports more than it imports the trade balance is positive or is in a surplus. The trade balance indicates the redistribution of wealth among countries and is a major channel through which the macro-economic policies of a country may affect another country.

In general, it is considered to be unfavorable for a country to have a trade deficit, in that it negatively impacts the value of the nations currency. For example, if U.S. trade figures show greater imports than exports, more dollars flow out of the United States and the value of the U.S. currency depreciates. A positive trade balance, in comparison, will affect the dollar by causing it to appreciate against the other currencies.

Capital Flows. In addition to trade flows, there are also capital flows that occur among countries. They record a nation's incoming and outgoing investment flows such as payments for entire (or for parts of) companies, stocks, bonds, bank accounts, real estate, and factories. The capital flows are influenced by many factors, including the financial and economic climate of other countries. Capital flows can be in the form of physical or portfolio investments. In general, in developing countries, the composition of capital flows tends to be skewed toward foreign direct investment (FDI) and bank loans. For developed countries, due to the strength of the equity and fixed income markets, stocks and bonds appear to be more important than bank loans and FDI.

Equity Markets Equity markets have a significant impact on exchange rate movements because they are a major place for high-volume currency movements. Their importance is considerable for the currencies of countries with developed capital markets where great amounts of capital inflows and outflows occur, and where foreign investors are major participants. The amount of the foreign investment flows in the equity markets is dependent on the general health and growth of the market, reflecting the well-being of companies and particular sectors. Movements of currencies occur when foreign investors move their money to a particular equity market. Thus they convert their capital in a domestic currency and push the demand for it higher, making the currency appreciate. When the equity markets are experiencing recessions, however, foreign investors tend to flee, thus converting back to their home currency and pushing the domestic currency down.

Fixed Income (Bond) Markets The effect the fixed income markets have on currencies is similar to that of the equity markets and is a result of capital movements. The investor's interest in the fixed income market depends on the

company's specifics and credit rating, as well as on the general health of the economy and the country's interest rates. The movement of foreign capital into and out of fixed income markets leads to change in the demand and supply for currencies, hence impacting the currencies' exchange rates.

Summary of Trade and Capital Flows Determining and understanding a country's balance of payments is perhaps the most important and useful fool for those interested in fundamental analysis. Any international transaction gives rise to two offsetting entries, trade flow balance (current account) and capital flow balance (capital account). If the trade flow balance is a negative outflow, the country is buying more from foreigners than it sells (imports exceed exports). When it is a positive inflow, the country is selling more than it buys (exports exceed imports). The capital flow balance is positive when foreign inflows of physical or portfolio investments into a country exceed that country's outflows. A capital flow is negative when a country buys more physical or portfolio investments than are sold to foreign investors.

These two entries, trade and capital flow, when added together signify a country's balance of payments. In theory, the two entries should balance and add up to zero in order to provide for the maintenance of the status quo in a nation's economy and currency rail's.

In general, countries might experience positive or negative trade, as well as positive or negative capital flow balances. In order to minimize the net effect of the two on the exchange rates, a country should try to maintain a balance between the two. For example, in the United Slates there is a substantial trade deficit, as more is imported than is exported. When the trade balance is negative, the country is buying more from foreigners than it sells and therefore it needs to finance its deficit. This negative trade flow might be offset by a positive capital flow into the country, as foreigners buy either physical or portfolio investments. Therefore, the United States seeks to minimize its trade deficit and maximize, its capital inflows to the extent that the two balance out.

A change in this balance is extremely significant and carries ramifications that run deep into economic policy and currency exchange levels. The net result of the difference between the trade and capital flows, positive or negative, will impact the direction in which the nation's currency will move. If the overall trade and capital balance is negative it will result in a depreciation of the nation's currency, and if positive it will lead to an appreciation of the currency.

Clearly a change in the balance of payments carries a direct effort for currency levels. It is therefore possible for any investor to observe economic data relating to this balance and interpret the results that will occur. Data relating to capital and trade flows should be followed most closely. For instance, if an analyst observes an increase in the U.S. trade deficit and a decrease in the capital flows, a balance of payments deficit would occur and as a result an investor may anticipate a depreciation of the dollar.

Limitations of Balance or Payments Model The BOP model focuses on traded goods and services while ignoring international capital flows. Indeed, international capital flows often dwarfed trade flows in the currency markets toward the end of the

1990s, though, and this often balanced the current accounts of debtor nations like the United Slates.

For example, in 1999, 2000 and 2001 the United States maintained a large current account deficit while the Japanese ran a large current account surplus. However, during ibis same period the U.S. dollar rose against the yen even though trade flows were running against the dollar.

The reason was that capital flows balanced trade flows, thus defying the BOP's forecasting model for a period of time. Indeed, the increase in capital flows has given rise to the asset market model.

Note: It is probably a misnomer to call this approach the balance of payments theory since it takes into account only the current account balance, not the actual balance of payments. However, until the 1990s capital flows played a very small role in the world economy so the trade balance made up the bulk of the balance of payments for most nations.

Purchasing Power Parity

The purchasing power parity theory is based on the belief that foreign exchange rates should be determined by the relative prices of a similar basket of goods between two countries. Any change in a nation's inflation rate should be balanced by an opposite change in that nation's exchange rate. Therefore, according to this theory, when a country's prices are rising due to inflation, that country's exchange rate should depreciate in order to return to parity.

PPP's Basket of Goods The basket of goods and services priced for the PPP exercise is a sample of all goods and services covered by gross domestic product (GDP). It includes consumer goods and services, government services, equipment goods, and construction projects. More specifically, consumer items include food, beverages, tobacco, clothing, footwear, rents, water supply, gas, electricity, medical goods and services, furniture and furnishings, household appliances, personal transport equipment, fuel, transport services, recreational equipment, recreational and cultural services, telephone services, education services, goods and services for personal care and household operation, and repair and maintenance services.

Big Mac Index One of the most famous examples of PPP is the *Economist's* Big Mac Index. The Big Mac PPP is the exchange rate that would leave hamburgers costing the same in the United States as elsewhere, comparing these with actual rates signals if a currency is under- or overvalued. For example, in April 2002 the exchange rate between the United States and Canada was 1.57. In the United States a Big Mac cost $2.49. In Canada, a Big Mac cost $3.33 in local Canadian dollars (CAD), which works out to only $2.12 in U.S. dollars. Therefore, the exchange rate for USD/CAD is overvalued by 15 percent using this theory and should be only 1.34.

OECD Purchasing Power Parity Index A more formal index is put out by the Organization for Economic Cooperation and Development. Under a joint OECD-Eurostat PPP program, the OECD and Eurostat share the responsibility for calculating PPP's. This latest information on which currencies are under- or overvalued against the U.S. dollar can be found on the OECD's web site at www.oecd.org. The OECD publishes a table that shows the price levels for the major

industrialized countries. Each column states the number of specified monetary units needed in each of the countries listed to buy the same representative basket of consumer goods and services. In each case the representative basket costs 100 units in the country whose currency is specified. The chart that is then created compares the PPP of a currency with its actual exchange rate. The chart is updated weekly to reflect the current exchange rate. It is also updated about twice a year to reflect new estimates of PPP. The PPP estimates are taken from studies carried out by the OECD however, they should not be taken as definitive. Different methods of calculation will arrive at different PPP rates. According to the OECD information for September 2002, the exchange rate between the United States and Canada was 1.58 while the price level for the United States versus Canada was 122, which translates to an exchange rate of 1.22. Using this PPP model, the USD/CAD is once again greatly overvalued (by over 25 percent, not that far away from the Big Mac Index after all).

Limitation to using Purchasing Power Parity PPP theory should be used only for long-term fundamental analysis. The economic forces behind PPP will eventually equalize the purchasing power of currencies. However, this can take many years. A time horizon of 5 to 10 years is typical.

PPP's major weakness is that it assumes goods can be traded easily, without regard to such things as tariffs, quotas, or taxes. For example, when the United States announces new tariffs on imports the cost of domestic, manufactured goods goes up; but those increases will not be reflected in the U.S. PPP tables.

There are other factors that must also be considered when weighing PPP: inflation, interest rate differentials, economic releases/reports, asset markets, trade flows, and political developments. Indeed, PPP is just one of several theories traders should use when determining exchange rates.

Interest Rate Parity

The interest rate parity theory states that if two different currencies have different interest rates then that difference will be reflected in the premium or discount for the forward exchange rate in order to prevent riskless arbitrage.

For example, if U.S. interest rates are 3 percent and Japanese Interest rates are 1 percent, then the U.S. dollar should depreciate against the Japanese yen by 2 percent in order to prevent riskless arbitrage. This future exchange rate is reflected into the forward exchange rate stated today. In our example, the forward exchange rate of the dollar is said to be at discount because it buys fewer Japanese yen in the forward rate than it does in the spot rate. The yen is said to be at a premium.

Interest rate parity has shown very little proof of working in recent years. Often currencies with higher interest rates rise due to the determination of central bankers trying to slow down a booming economy by hiking rates and have nothing to do with riskless arbitrage.

Monetary Model

The monetary model holds that exchange rates are determined by a nation's monetary policy. Countries that follow a stable monetary policy over time usually have appreciating currencies according to the monetary model. Countries that have

erratic monetary policies or excessively expansionist policies should see the value of their currency depreciate.

How to use the Monetary Model There are several factors that influence exchange rates under this theory:

1. A nation's money supply.
2. Expected future levels of a nation's money supply.
3. The growth rate of a nation's money supply.

All of these factors are key to understanding and spoiling a monetary trend that may force a change in exchange rates. For example, the Japanese economy has been slipping in and out of recession for over a decade. Interest rates are near zero, and annual budget deficits prevent the Japanese from spending their way out of recession, which leaves only one tool left at the disposal of Japanese officials determined to revive their economy: printing more money. By buying stocks and bonds, the Bank of Japan is increasing the nation's money supply, which produces inflation, which forces a change in the exchange rate. The example in Figure 3.5 illustrates the effect of money supply changes using the monetary model.

Indeed, it is in the area of excessive expansionary monetary policy that the monetary model is most successful. One of the few ways a country can keep its currency from sharply devaluing is by pursuing a tight monetary policy. For example, during the Asian currency crisis the Hong Kong dollar came under attack from speculators. Hong Kong officials raised interest rates to 300 percent to halt the Hong Kong dollar from being dislodged from its peg to the U.S. dollar. The tactic worked perfectly as speculators were cleared out by such sky-high interest rates. The downside was the danger that, the Hong Kong economy would slide into recession. But in the end the peg held and the monetary model worked.

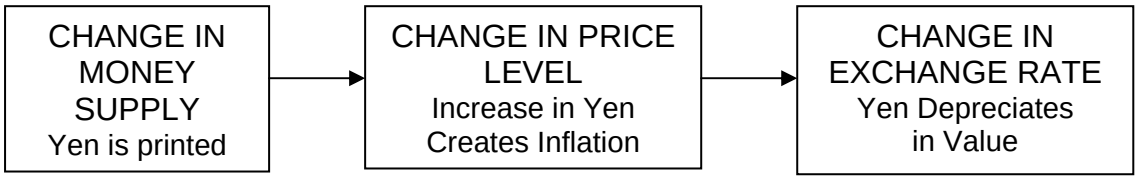

Figure 3.5 Monetary Model

Limitations of Monetary Model Very few economists solely stand by this model anymore since it does not take into account trade flows and capital flows. For example, throughout 2002 the United Kingdom had higher interest rates, growth rates, and inflation rates than both the United States and the European Union, yet the pound appreciated in value against both the dollar and the euro. Indeed, the monetary model has greatly struggled since the dawn of freely floating currencies. The model holds that, high interest rates signal growing inflation, which they often do, followed by a depreciating currency. But this does not take into account the capital inflows that would take effect as a result of higher interest yields or of an equity market that may be thriving in a booming economy—thus causing the currency to possibly appreciate.

In any case, the monetary model is one of several useful fundamental tools that can be employed in tandem with other models to determine the direction an exchange rate is heading.

Real Interest Rate Differential Model

The real interest rate differential theory states that exchange rate movements are determined by a nation's interest rate level. Countries that have high interest rates should see their currencies appreciate in value, while countries with low interest rates should see their currencies depreciate in value.

Basics of the Model Once a nation raises its interest rates, international investors will discover that the yield for that nation's currency is more attractive and hence buy up that nation's currency. Figure 3.6 shows how well this theory held up in 2003 when interest rate spreads were near their widest levels in recent years.

The data from this graph shows a mixed result. The Australian dollar had the largest basis point spread and also had the highest return against the U.S. dollar, which seems to vindicate the model as investors bought up higher-yielding Aussie currency. The same can be said for the New Zealand dollar, which also had a higher yield than the U.S. dollar and gained 27 percent against USD. Yet the model becomes less convincing when comparing the euro, which gained 20 percent against the dollar (more than every currency except NZD) even though its basis point differential was only 100 points. The model then comes under serious question when comparing the British pound and the Japanese yen. The yen differential is -100 and yet it appreciates almost 12 percent against the dollar. Meanwhile, the British pound gained only 11 percent against the dollar even though it had a whopping 275-point interest rate differential.

Interest Rates vs. U.S.	Eurozone	Japan	U.K.	Canada	Australia	New Zealand
Central Bank Rate End of 2003	100	-100	275	175	425	400
% Change 2003 vs. USD	20%	12%	11%	21%	34%	27%

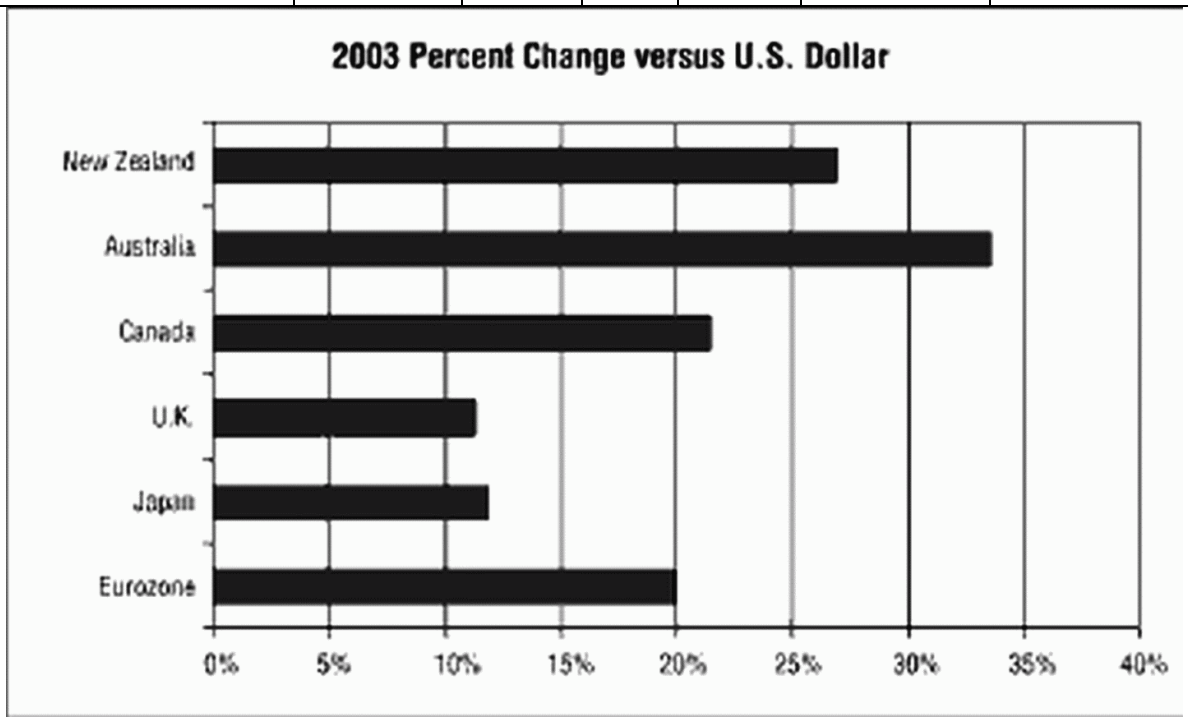

Figure 3.6 Real Interest Rate Model

This model also stresses that one of the key factors in determining the severity of an exchange rate's response to a shift in interest rates is the exported persistence of that shift. Simply put, a rise in interest rates that is expected to last for five years will have a much larger impact on the exchange rate than if that rise were expected to last for only one year.

Limitations to Interest Rate Model There is a great deal of debate among international economists over whether there is a strong and statistically significant link between changes in a nation's interest rate and currency price. The main weakness of this model is dial it does not take into account a nation's current account balance, relying on capital flows instead. Indeed, the model tends to overemphasize capital flows al the expense of numerous other factors: political stability, inflation, economic growth, and so on. Absent these types of factors, the model can be very useful since it is quite logical to conclude that an investor will naturally gravitate toward the investment vehicle that pays a higher reward.

Asset Market Model

The basic premise of this theory is that the flow of funds into other financial assets of a country such as equities and bonds increases the demand for that country's currency (and vice versa). As proof, advocates point out dial the amount of funds that are placed in investment products such as stocks and bonds now dwarf the amount of funds that are exchanged as a result of the transactions in goods and services for import and export purposes. The asset market theory is basically the opposite of the balance of payments theory since it takes into account a nation's capital account instead of its current account.

A Dollar-Driven Theory Throughout 1999, many experts argued that the dollar would fall against the euro on the grounds of the expanding U.S. current account deficit and an overvalued Wall Street. That was based on the rationale that non-U.S. investors would begin withdrawing their funds from U.S. stocks and bonds into more economically sound markets, which would weigh significantly on the dollar. Yet such fears have lingered since the early I980s when the U.S. current account soared to a record high at the time of 3.5 percent of GDP.

Throughout the past two decades, the balance of payments approach in assessing the dollars behavior has given way to the asset market approach. This theory continues to hold the most sway over pundits due to the enormity of U.S. capital markets. In May and June of 2002 the dollar plummeted more titan a thousand points versus the yen at the same time equity investors fled U.S. equity markets due to the accounting scandals that were plaguing Wall Street. As the scandals subsided toward the end of 2002 the dollar rose 500 basis points from a low of 115.43 to close at 120.00 against the yen even though the current account, balance remained in massive deficit the entire time.

Limitations to Asset Market Theory The main limitation of the asset market theory is that it is untested and fairly new. It is frequently argued that over the long run there is no relationship between a nation's equity market performance and the performance of its currency. See Figure 3.7 for a comparison. Between 1986 and

2004, the S&P 500 index and the U.S. Dollar Index had a correlation of only 39 percent.

Also, what happens to a nation's currency when the stock market is trading sideways, stuck between bullish and bearish sentiments? That was the scenario in the United States for much of 2002, and currency traders found themselves going back to older moneymaking models, such as interest rate arbitrage, as a result. Only time will tell whether the asset market model will hold on or merely be a short-term blip on the currency forecasting radar.

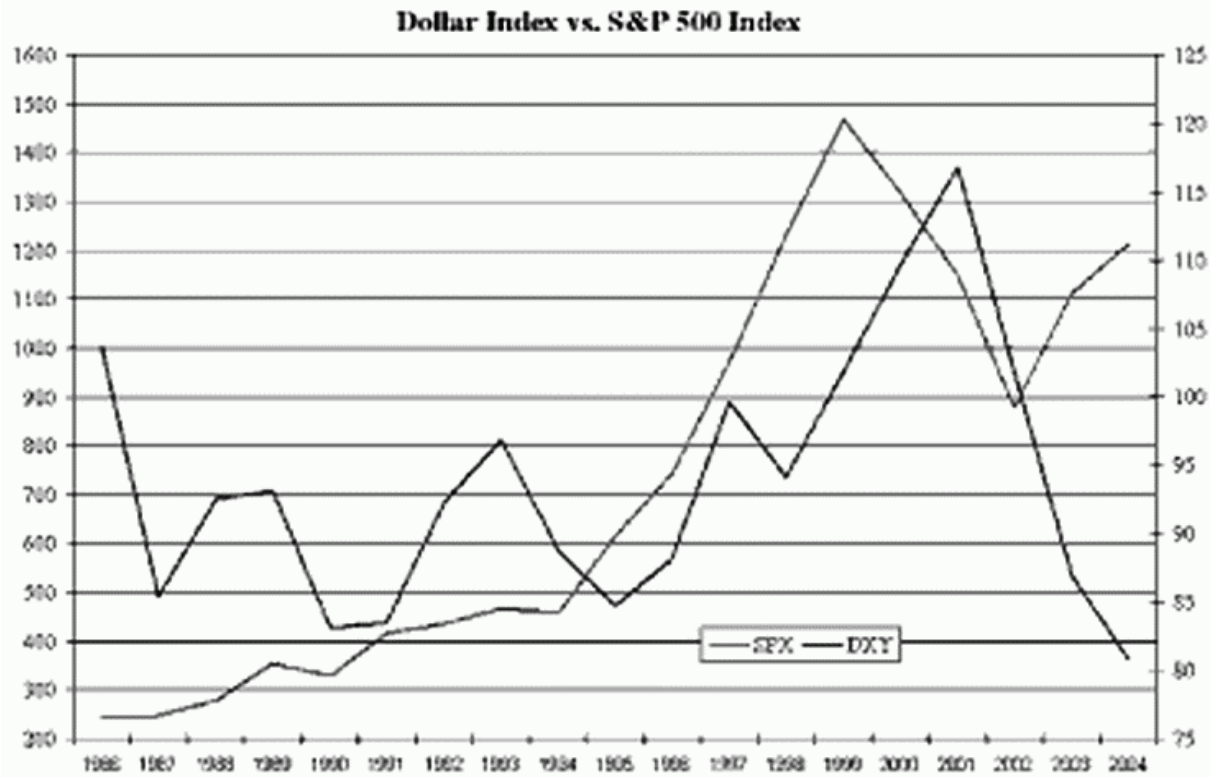

Figure 3.7 Dollar Index and S&P 500.

Currency Substitution Model

This currency substitution model is a continuation of the monetary model since it takes into account a nation's investor flows. It posits that the shifting of private and public portfolios from one nation to another can have a significant effect on exchange rates. The ability of individuals to change their assets from domestic and foreign currencies is known as currency substitution. When this model is added to the monetary model, evidence shows that shifts in expectations of a nation's money supply can have a decided impact on that nation's exchange rates. Investors are looking at monetary model data and coming to the conclusion that a change in money flow is about to occur, thus changing the exchange rate, so they are investing accordingly, which turns the monetary model into a self-fulfilling prophecy. Investors who subscribe to this theory are merely jumping on the currency substitution model bandwagon on the way to the monetary model party.

Yen Example In the monetary model example we showed that by buying stocks and bonds in the market place the Japanese government was basically printing yen (increasing the money supply). Monetary model theorists would conclude this monetary growth would in fact spark inflation (more yen chasing fewer products),

decrease demand for the yen, and finally cause the yen to depreciate across the board. A currency substitution theorist would agree with this scenario and look to take advantage of this by shorting the yen or, if long the yen, by promptly getting out of the position. By taking this action, our yen trader is helping to drive the market precisely in that direction thus making the monetary model theory a fait accompli. The step-by-step process is illustrated in Figure 3.8.

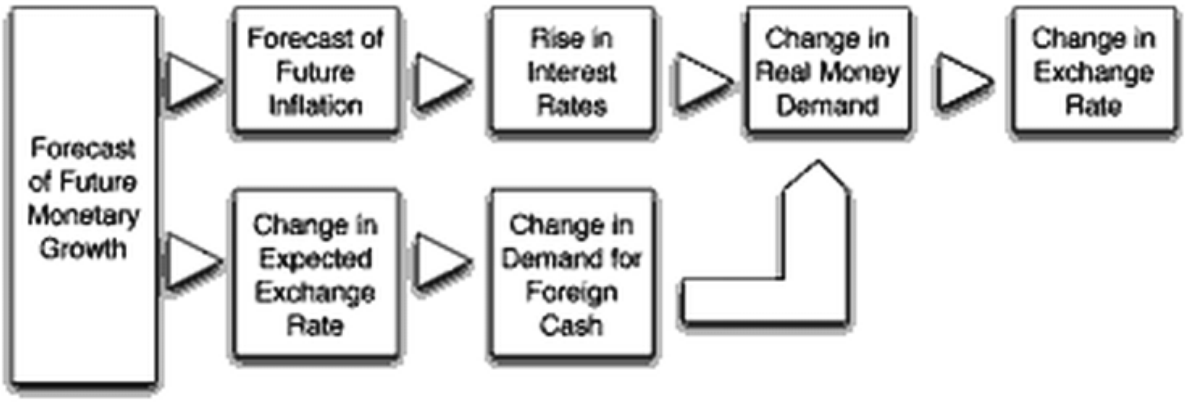

Figure 3.8 Currency Substitution Model.

A. Japan announces now stock and bond buyback plan. Economists are now predicting Japan's money supply will dramatically increase.

B. Economists are also predicting a rise in inflation with the introduction of this now policy. Speculators expert a change in the exchange rate as a result.

C. Economists expect interest rates to rise also as inflation takes hold in the economy. Speculators start shorting the yen in anticipation of a change in the exchange rate.

D. Demand for the yen plummets as money flows easily through the Japanese economy and speculators dump yen in the markets.

E. The exchange rate for Japanese yen changes dramatically as the yen falls in value to foreign currencies, especially those that are easily substituted by investors (read: liquid yen crosses).

Limitations of Currency Substitution Model Among the major, actively traded currencies this model has not yet shown itself to be a convincing, single determinant for exchange rate movements. While this theory can be used with more confidence in underdeveloped countries where hot money rushes in and out of emerging markets with enormous effect, there are still too many variables not accounted for by the currency substitution model. For example, using the earlier yen illustration, even though Japan may try to spark inflation with its securities buyback plan, it still has an enormous current account surplus that will continually prop up the yen. Also, Japan has numerous political land mines it must avoid in its own neighborhood, and should Japan make it clear it is trying to devalue its currency there will be enormous repercussions. These are just two of many factors the substitution model does not take into consideration. However, this model (like numerous other currency models) should be considered part of an overall balanced FX forecasting diet.

What Moves the Currency Market in the Short Term?

For any type of trader, fundamental or technical, the importance of economic data cannot be underestimated. Having worked in the FX markets for many years, I have learned that even though there are many traders who claim to be pure technicians and do not factor fundamentals into their trailing strategies, these same traders have also frequently stayed out of the markets ahead of key economic releases. In fact, many system traders turn their systems off ahead of big releases such as the U.S. nonfarm payrolls reports. On the other side of the spectrum, there are also technicians who do factor fundamentals into their trading strategies and wait only for key economic releases to put on breakout trades. As a result, it is important for any type of active market trader to know what the most important economic releases are for the U.S. dollar. Since 90 percent of all currency trades are against the U.S. dollar, the currency movements are naturally most sensitive to U.S. economic releases.

TABLE. 4.1 Range of EUR/USD Following Economic Releases for 2004

First 20 Minutes	Average Range (Pips)	Total Daily Range	Average Range (Pips)
Nonfarm Payrolls	124	Nonfarm Payrolls	193
FOMC Decisions	74	FOMC Decisions	140
Trade Balance	64	TIC Data	132
Inflation (CPI)	44	Trade Balance	129
Retail Sales	43	Current Account	127
GDP	43	Durable Goods	126
Current Account	43	Retail Sales	125
Durable Goods	39	Inflation (CPI)	123
TIC Data	33	GDP	no

Based on a study that I conducted, the most significant movements in the dollar (against the euro) on the back of an economic release in 2004 occurred in the first 20 minutes of trading following the release. As shown in Table 4.1, the nonfarm payrolls report is hands down the most important piece of U.S. data. Throughout 2004 on average, the EUR/USD would move 124 pips (points in FX) in the first 20 minutes following the release. Excluding any release that came in within 10 percent of estimates, the average move was 133 pips. On a daily basis, the EUR/USD moved an average of 193 and 208 pips excluding nearly in-line levels. On average, the EUR/USD moved 111 pips throughout the course of the trading day. On the other side of the spectrum is the gross domestic product (GDP) report, which results in an average move of only 43 pips in the first 20 minutes and 110 pips on a daily basis. The GDP ranking on the 20-minute table is higher than on the daily table because prices do retrace throughout the course of the day. The biggest 20-minute mover for the dollar may not be the most significant market mover for the entire trading. According to our own analysis of 20- minute and daily ranges, we have created the following rankings for economic data.

Top Market-Moving Indicators for Dollar as of 2004:

First 20 Minutes

1. Unemployment (nonfarm payrolls).
2. Interest rates (Federal Open Market Committee rate decisions).
3. Trade balance.
4. Inflation (consumer price index).
5. Retail sales.
6. Gross domestic product,
7. Current account.
8. Durable goods.
9. Foreign purchases of U.S. Treasuries (TIC data).

Daily

1. Unemployment (nonfarm payrolls).
2. Interest rates (FOMC rate derisions).
3. Foreign purchases of U.S. Treasuries (TIC data).
4. Trade balance.
5. Current account,
6. Durable goods.
7. Retail sales,
8. Inflation (consumer price index).
9. Gross domestic product.

You can compare the breakdowns of the average pip ranges for the EUR/USD that are shown in Table 4.1 with the average daily range for the EUR/USD in 2004, which was approximately 110 pips.

RELATIVE IMPORTANCE OF DATA CHANGES OVER TIME

With a dynamic market, one caveat Is that the significance of economic data releases does change with time. According to a paper titled "Macroeconomic Implications of the Beliefs and Behaviors of Foreign Exchange Traders" written by Cheung and Chinn of the National Bureau of Economic Research (NBER) in 1992, the trade balance was the number one market-moving U.S. economic release on a 20-minute basis, while non-farm payrolls (and unemployment data) was the third. In 1999, unemployment took the top place while the trade balance fell to the fourth. As indicated in the earlier table for 2004 (Table 4.1), the trade balance and inflation reports switched places with the trade balance being the third most market-moving indicator in 2004 instead of inflation, which took the ranking in 1997, while the significance of labor market data held steady. Intuitively, this makes sense since the market shifts its attention to different economic sectors and data based on the. conditions of the domestic economy — for example, trade balances may be more important when a country is running unsustainable deficits, whereas an economy that has difficulty creating jobs will see unemployment data as more important.

FX Dealer Kinking of Importance of Economic Data: Changes over time

As of 1997	As of 1992
1. Unemployment	1. Trade balance
2. Interest rates	2. Interest rates
3. Inflation	3. Unemployment
4. Trade balance	4. Inflation
5. GDP	5. GDP

Rankings are based on reaction one minute after data is released.

GROSS DOMESTIC PRODICT — NO LONGR A BIG DEAI,

Contrary to popular belief, the GDP report has also become one of the lesser important: economic indicators on the U.S. calendar and has led to one of the smallest relative movements in the EUR/USD. One possible explanation is that GDP reports are less frequently released than other data used in the study (quarterly versus monthly), but in general the GDP data is more prone to ambiguity and misinterpretation. For example, surging GDP brought about by rising exports will be positive for the home currency; however, if GDP growth is a result of inventory buildup, the effect on the currency may actually be negative. Also, a large number of the components that comprise the GDP report are known in advance of the release.

HOW CAN YOU USE THIS TO YOUR BENEFIT?

For breakout traders, the knowledge of which data has the potential of leading to the largest average range can be useful in determining how to weight positions accordingly. For example, in Figure 4.1, which shows the daily EUR/USD chart, there is a triangle forming as prices consolidate significantly. A breakout trader would probably overweight positions ahead of the August 6, 2004, nonfarm payrolls release on the eve prior in the anticipation of a large breakout move following this release. In contrast, the third bar of the consolidation was the day of the GDP release. As you can see, the range, was still comparatively tight, and given the knowledge that the average instantaneous 20-minute move off of the GDP release is only a third of the nonfarm payrolls move, the same breakout players hoping for a large move off of that economic release should probably put on only 50 percent of the same position that they would have put on for a no alarm payrolls-based breakout. The same guidelines apply for range traders or system traders. Nonfarm payrolls day would be a perfect day to stand on the sidelines and wait for prices to settle, whereas GDP day still provides an opportunity for solid range or systems-based trading.

Overall knowing what economic indicator moves the market the most is very important for all traders. Knowing the 20-minute versus daily range is also very important because the exchange rate adjustment to economic news appears to be very swill. Any reaction beyond a 15-to-30-minute window after the data is released may be the result of investor overreaction or trading related to customer flow rather than news alone. The GDP is a perfect example—the 20-minute reaction ranking is higher than the daily ranking. It is also critical to stay abreast of which data the market deems important at any point in time because the market's focus changes from period

to period; once-relevant data may end up having less of an effect on currency values later on, and vice versa.

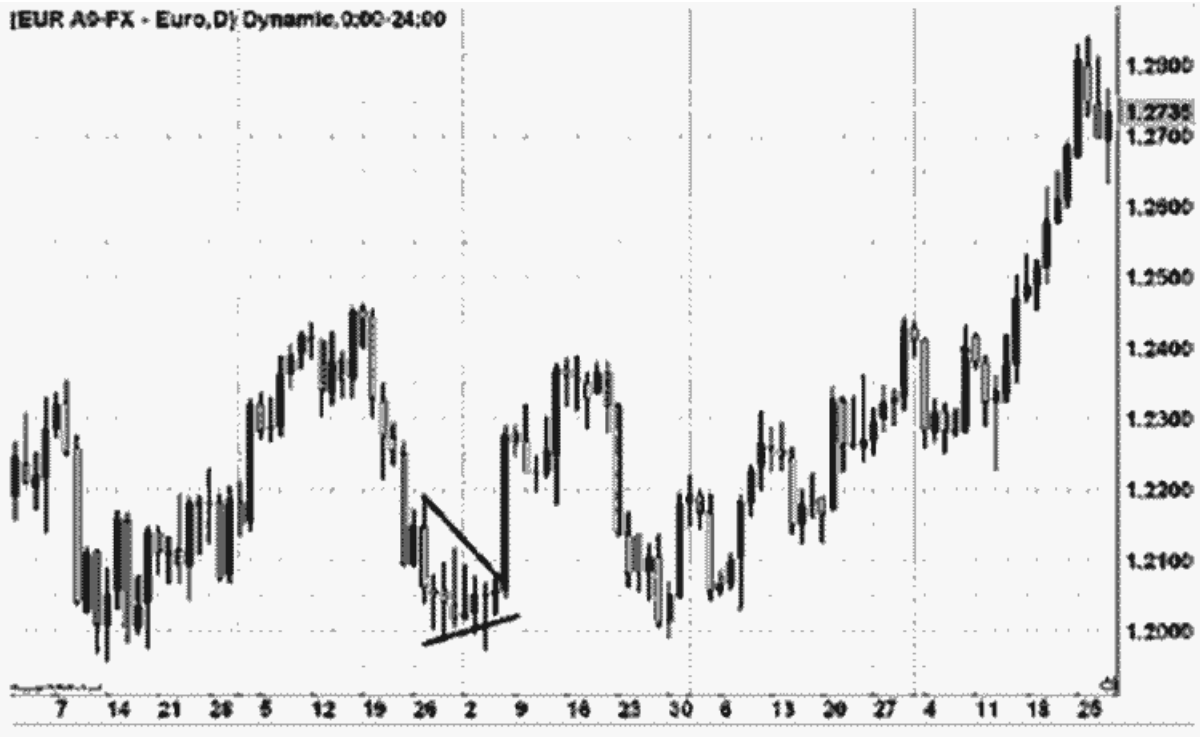

Figure 4.1 EUR/USD Daily Chart
(*Source:* eSignal. www.eSignal.com)

Resource

"Macroeconomic implications of the Beliefs and Behavior of Foreign Exchange Traders," www.georgetown.edu/faculty/evansml/New%20Micro/chinn.pdf.

A DEEP LOOK INTO THE FX MARKET

The next three chapters cover some of the unique studies that I have done on the FX market that provide some telling details for both the novice and the advanced trader. Thee topics are:

- What are the best times to trade for individual currency pairs?
- What are the most market-moving economic data?
- What are currency correlations and how do traders use them?

What Are The Best Times to Trade for Individual Currency Pairs?

The foreign exchange market operates 24 hours a day and as a result it is impossible for a trader to track every single market movement and make an immediate response at all limes. Timing is everything in currency trading. In order to devise an effective and time-efficient investment strategy, it is important to note the amount of market activity around the clock in order to maximize the number of trading opportunities during a trader's own market hours. Besides liquidity, a currency pair's trading range is also heavily dependent, on geographical location and macroeconomic factors. Knowing what time of day a currency pair has the widest or narrowest trading range will undoubtedly help traders improve their investment utility due to better capital allocation. This chapter outlines the typical trading activity of major currency pairs in different time zones to see when they are the most volatile. Table 5.1 tabulates the average pip range for the different currency pairs during various lime frames between 2002 and 2004.

ASIAN SESSION (TOKYO): 7 p.m. – 4 a.m. EST

FX trading in Asia is conducted in major regional financial hubs; during the Asian trading session, Tokyo takes the largest market share, followed by Hong Kong and Singapore. Despite the flagging influence of the Japanese central bank on the FX market, Tokyo remains one of the most important dealing centers in Asia. It is the first major Asian market to open, and many large participants often use the trade momentum there as the benchmark to gauge market, dynamics as well as to devise their trading strategies. Trading in Tokyo can be thin from time to time; but large investment banks and hedge funds are known to try to use the Asian session to run important stop and option barrier levels. Figure 5.1 provides a ranking of the different currency pairs and their ranges during the Asian trading session.

For the more risk-tolerant traders, USD/JPY, GBP/CHF, and GBP/JPY are good picks because their broad ranges provide short-term traders with lucrative profit potentials, averaging 90 pips. Foreign investment, banks and institutional investors, which hold mostly dollar-dominated assets, generate a significant amount of USD/JPY transactions when they enter the Japanese equity and bond markets. Japan's central bank, with more than $800 billion of U.S. Treasury securities, also plays an influential role in affecting the supply and demand of USD/JPY through its open market operations. Last but not least, large Japanese exporters are known to use the Tokyo trading hours to repatriate their foreign earnings heightening the fluctuation of the currency pair. GBP/CHF and GBP/JPY remain highly volatile as central bankers and large players start to scale themselves into positions in anticipation of the opening of the European session.

For the more risk-averse traders, AUD/JPY, GBP/USD, and USD/CHF are good choices because they allow medium-term to long-term traders to take fundamental factors into account when making a decision. The moderate volatility of the currency

pairs will help to shield traders and their investment strategies from being prone to irregular market movements due to intraday speculative trades.

TABLE 5.1 Currency Pair Ranges

Currency Pairs (EST)	Asian Session	European Session	U.S. Session	U.S. & Europe Overlap	Europe & Asia Overlap
	7 p.m.–4 a.m.	2 a.m. – 12 p.m.	8 a.m.–5 p.m.	8 a.m. – 12 a.m.	2 a.m.–4 a.m.
EUR/USD	51	87	78	65	32
USD/JPY	78	79	69	58	29
GBP/USD	65	112	94	78	43
USD/CHF	68	117	107	68	43
EUR/CHF	53	53	40	40	24
AUD/USD	38	59	47	59	20
USD/CAD	47	94	64	74	28
NZD/USD	42	52	46	38	20
EUR/GBP	25	40	34	27	16
GBP/JPY	112	145	119	99	60
GBP/CHF	96	150	129	105	62
AUD/JPY	55	63	56	47	26

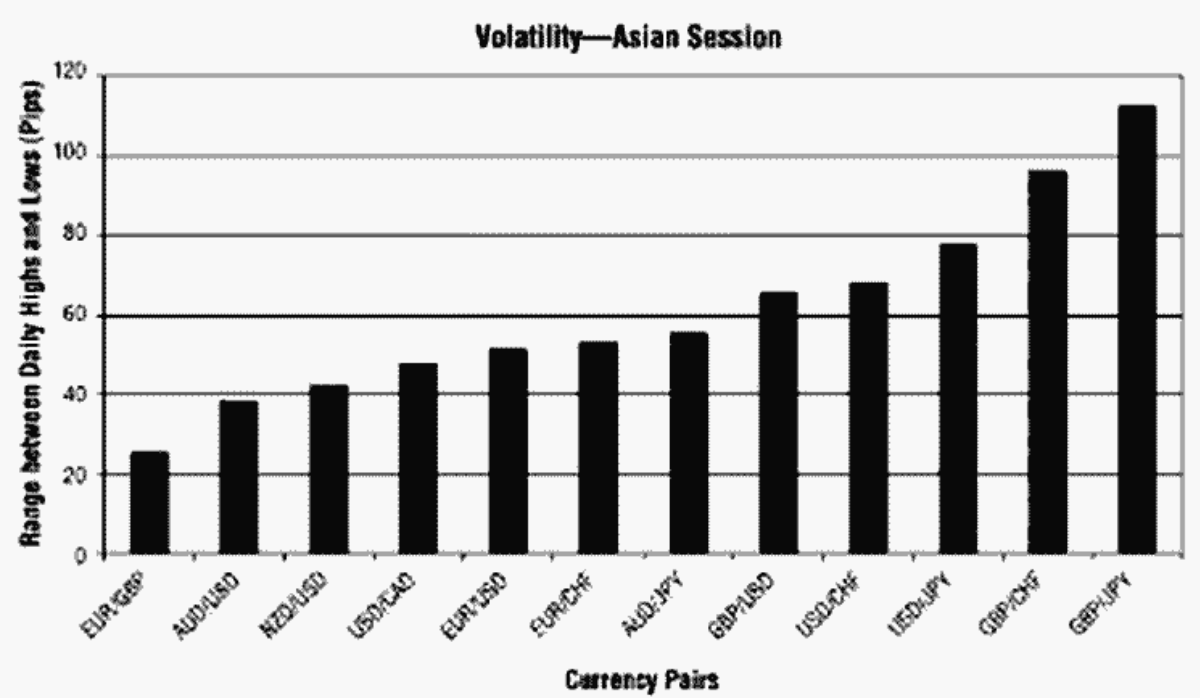

Figure 5.1 Asian Session Volatility

U.S. SESSION (NEW YORK): 8 a.m. – 5 p.m. EST

New York is the second largest FX market place, encompassing 19 percent of total FX market volume turnover according to the 2004 Triennial Central Bank Survey of Foreign Exchange and Derivatives Market Activity in April 2004 published by the Bank for International Settlements (BIS). It is also the financial center that guards the back door of the world's FX market as trading activity usually winds down to a minimum from its afternoon session until the opening of the Tokyo market the next day. The majority of the transactions during the U.S. session are

executed between 8 a.m. and noon, a period with high liquidity because European traders are still in the market.

For the more risk-tolerant traders, GBP/USD, USD/CHF, GBP/JPY, and GBP/CHF are good choices for day traders since the daily ranges average about 120 pips. (See Figure 5.2.) Trading activities in these currency pairs are particularly active because these transactions directly involve the U.S. dollar. When the U.S. equity and bond markets are open during the U.S. session, foreign investor have to convert their domestic currency, such as the Japanese yen, the euro, and the Swiss franc, into dollar-dominated assets in order to carry out their transactions. With the market overlap, GBP/JPY and GBP/CHF have the widest daily ranges.

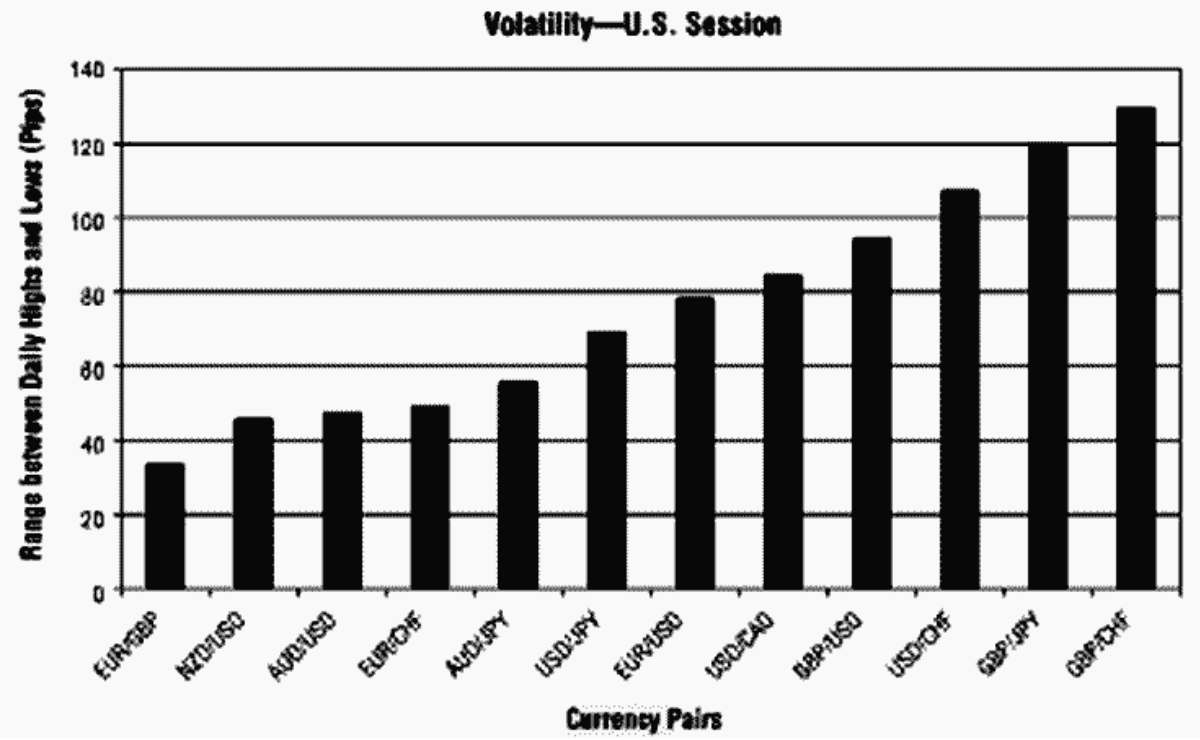

Figure 5.2 U.S. Session Volatility

Most currencies in the FX market are quoted with the U.S. dollar as the base and primarily traded against it before translating into other currencies. In the GBP/JPY case, for a British pound to be converted into Japanese yen, it has to be traded against the dollar first, then into yen. Therefore, a GBP/JPY trade involves two different currency transactions, GBP/USD and USD/JPY, and its volatility is ultimately determined by the correlations of the two derived currency pairs. Since GBP/USD and USD/JPY have negative correlations, which means their direction of movements are opposite to each other, the volatility of GBP/JPY is thus amplified. USD/CHF movement can also be explained similarly but has a greater intensity. Trading currency pairs with high volatility can be very lucrative, but it is also important to bear in mind that the risk involved is very high as well. Traders should continuously revise their strategies in response to market conditions because abrupt movements in exchange rates can easily stop out their trading orders or nullify their long-term strategies.

For the more risk-averse traders, USD/JPY, EUR/USD, and USD/CAD appear to be good choices since these pairs offer traders a decent amount of trading range to gamer handsome profits with a smaller amount of risk. Their highly liquid nature

allows an investor to secure profits or cut losses promptly and efficiently. The modest volatility of these pairs also provides a favorable environment for traders who want to pursue long-term strategies.

EUROPEAN SESSION (LONDON): 2 a.m. – 12 p.m. EST

London is the largest and most important dealing center in the world, with a market share at more than 30 percent according to the BIS survey. Most of the dealing desks of large banks are located in London; the majority of major FX transactions are completed during London hours due to the market's high liquidity and efficiency. The vast number of market participants and their high transaction value make London the most volatile FX market of all. As shown in Figure 5.3, half of the 12 major pairs surpass the 80 pips line, the benchmark that we used to identify volatile pairs with GBP/JPY and GBP/CHF reaching as high as 140 and 146 pips respectively.

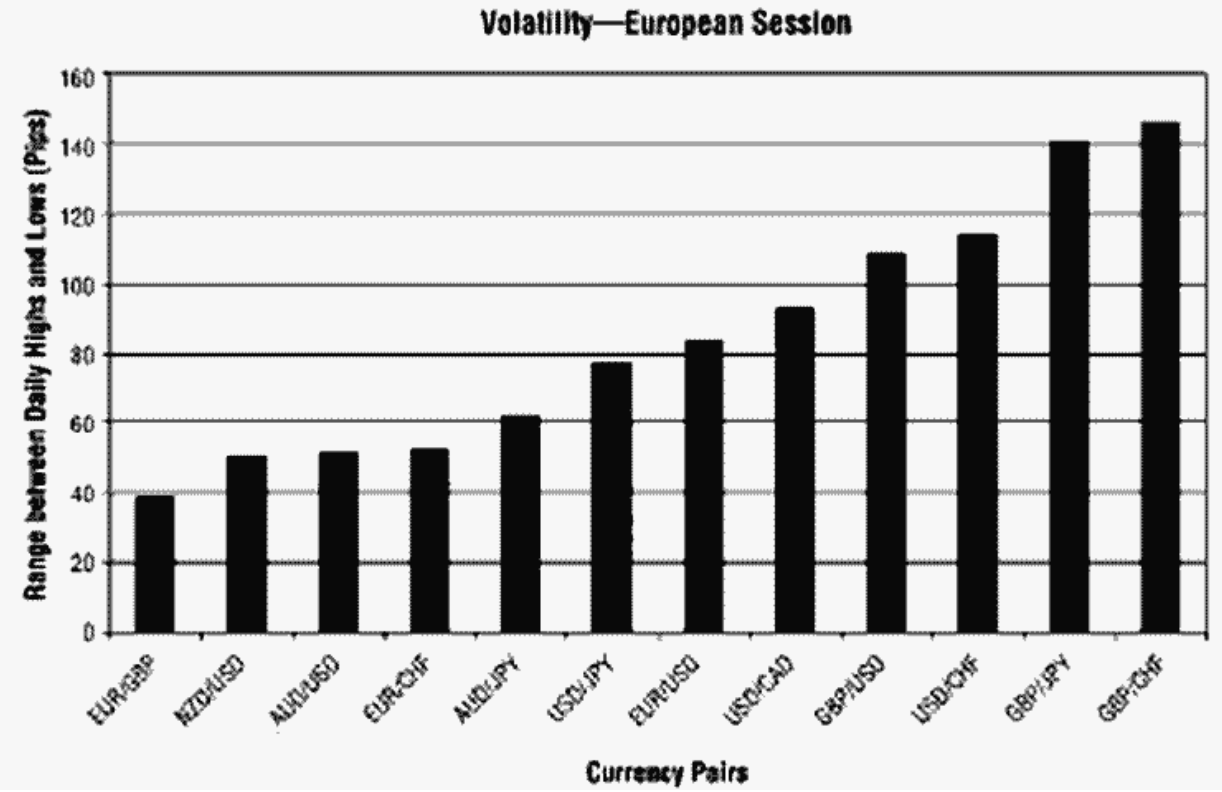

Figure 5.3 European Session Volatility

GBP/JPY and GBP/CHF are apt for the risk lovers. These two pairs have an average daily range of more than 140 pips and can be used to generate a huge amount of profits in a short period of time. Such high volatility for the two pairs reflects the peak of daily trade activity as large participants are about to complete their cycle of currency conversion around the world. London hours are directly connected to both the U.S. and the Asian sessions: as soon as large banks and institutional investors are finished repositioning their portfolios, they will need to start converting the European assets into dollar-denominated ones again in anticipation of the opening of the U.S. market. The combination of the two reconversions by the big players is the major reason for the extremely high volatility in the pairs.

For the more risk-tolerant traders, there are plenty of pairs to choose from. EUR/USD, USD/CAD, GBP/USD, and USD/CHF, with an average range of 100 pips, are ideal picks as their high volatilities offer an abundance, of opportunity to enter the market. As mentioned earlier, trade between the European currencies and the dollars picks up again because the large participants have to reshuffle their portfolios for the opening of the U.S. session.

For the more risk-averse participants, the NZD/USD, AUD/USD, EUR/CHF and AUD/JPY, with an average of about 50 pips, are good choices as these pairs provide trader with high interest incomes in additional to potential trade profits. These pairs allow investors to determine their direction of movements based on fundamental economic factors and be less prone to losses due to intraday speculative trades.

U.S. - EUROPEAN OVERLAP: 8 a.m. – 12 p.m. EST

The FX markets lend to be most active when the hours of the world's two largest trading centers overlap. (See Figure 5.4.) The range of trading between 8 a.m. and noon EST constitutes on average 70 percent of the total average range of trading for all of the currency pairs during the European trading hours and 80 percent of the total average range of trading for all of the currency pairs during U.S. trading hours. Just these percentages alone tell day traders that if they are really looking for volatile price action and wide ranges and cannot sit at the screen all day, the time to trade is the U.S. and European overlap.

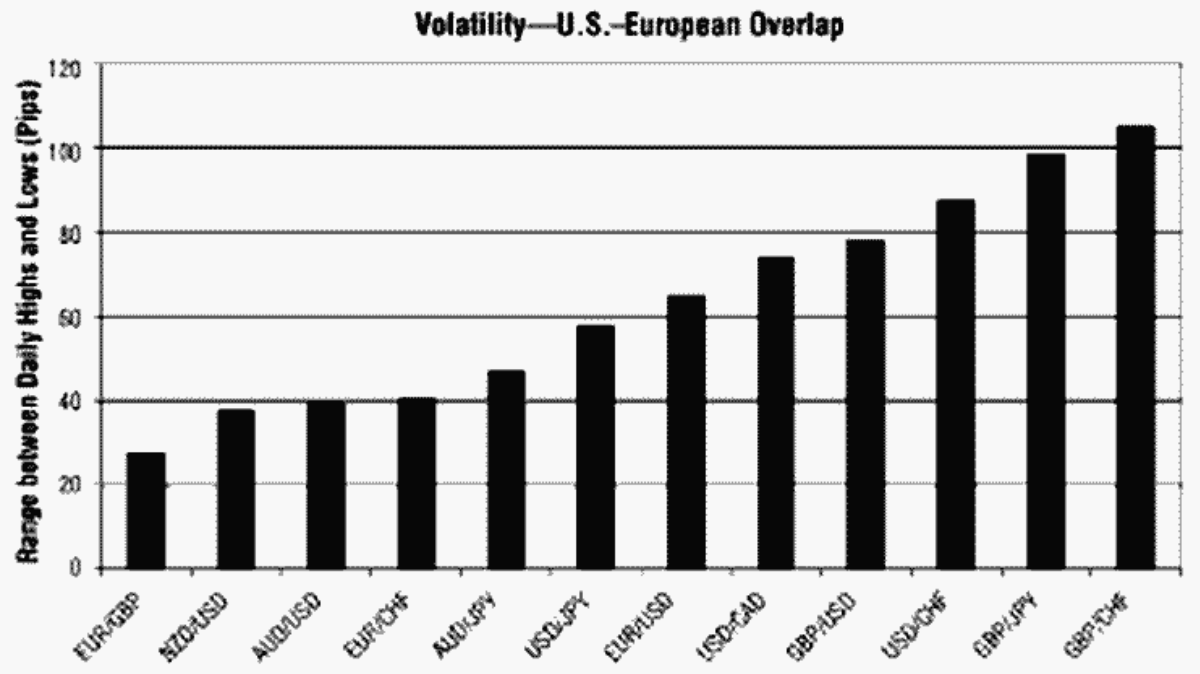

Figure 5.4 U.S.-European Overlap

EUROPEAN - ASIAN OVERLAP: 2 a.m. – 4 a.m. EST

The trade intensity in the European-Asian overlap is far lower than in any other session because of the slow trading during the Asian morning. (See Figure 5.5) Of course, the time period surveyed is relatively smaller as well. With trading extremely thin during these hours, risk-tolerant and risk-loving traders can take a two-hour nap or spend the time positioning themselves for a breakout move at the European or U.S. open.

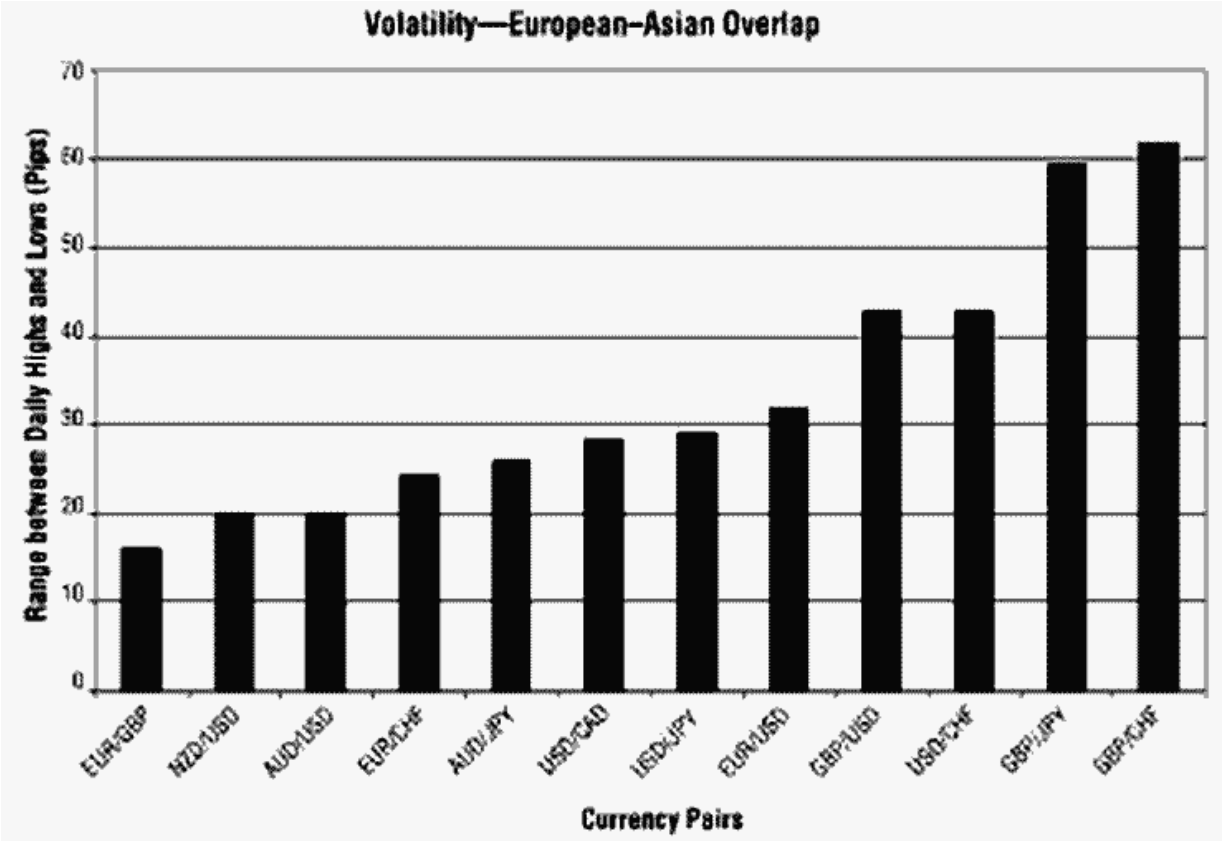

Figure 5.5 European – Asian Overlap

What Are Currency Correlations and How Do Traders Use Them?

When trading in the FX market, one of the most important facts to remember in creating a strategy is that no currency pair is isolated. In many cases, foreign economic conditions, interest rates, and price changes affect much more than just a single pairing. Everything is interrelated in the forex market to some extent, and knowing the direction and how strong this relationship is can be used to your advantage; it has the potential to be a great trading tool. The bottom line is that unless you only want to trade one pair at a time, it can be very profitable to take into account how pairs move relative to one another. To do this, we can use correlation analysis. Correlations are calculations based on pricing data, and these numbers can help gauge the relationships that exist between different currency pairs. The information that the numbers give us can be a good aid for any trader who wants to diversify his or her portfolio, double up on positions without investing in the same currency pair, or just get an idea of how much risk their trades are opening them up to. If used correctly, this method has the potential to maximize gains, gauge exposure, and help prevent counterproductive trading.

POSITIVE/NEGATIVE CORRELATIONS: WHAT THEY MEANS AND HOW TO USE THEM

Knowing how closely correlated the currency pairs are in your portfolio is a great way to measure your exposure and risk. You might think that you're diversifying your portfolio by investing in different pairs, but many of them have a tendency to move in the same direction or opposite to one another. The correlations between pairs can be strong or weak and last for weeks, months, or even years. Basically, what a correlation number givers us is an estimate of how closely pairs move, together or how opposite their actions are over a specified period of time. Any correlation calculation will be in decimal form; the closer the number is to 1 the stronger the connection between the two currencies. For example, by looking at the sample data in Table 6.1, we can see a +0.94 correlation between the EUR/USD and the NZD/USD over the last month. If you are not a fan of decimals, you can also think of the number as a percentage by multiplying it by 100 percent (in this case getting 94 percent correlation between the EUR/USD and the NZD/USD). High decimals indicate currency pairs that closely mirror one another while lower numbers tell us that the pairs do not usually move in a parallel fashion. Therefore, because there is a high correlation in this particular pair, we can see that investing in both the EUR/USD and the NZD/USD is very similar to doubling up on a position. Likewise, it might not be the best idea to go long one of the currency pairs and short the other because a rally to one has a high likelihood of also setting off a rally in the other currency pair. While this would not make your profits and losses exactly zero

because they have different pip values, the two do move in such a similar fashion that taking opposing positions could take a bite out of profits or even cause losses.

Positive correlations aren't the only way to measure similarities between pairings; negative correlations can be just as useful. In this case, instead of a very positive number, we are looking for a highly negative one. Just as on the positive side, the closer the number is to -1, the increasingly connected the two currencies movements are, this time in the opposite direction. Again we can use the EUR/USD as an example. While we just saw a strong positive correlation with the NZD/USD, the EUR/USD has a very negative relationship with the USD/CHF. Between these two currency pairs, the correlation has been -0.98 over the last year and -0.99 over the past month. This number indicates that these two pairings have a strong propensity to move in opposite directions. Therefore, taking contrary positions on the two pairs could act the same as taking the same position on two highly positive correlated pairs. In this instance going long in one and shorting the other would be almost the same as doubling up on the position, and as a result, would also open your portfolio up to a higher amount of risk. However, deciding to go long or short on both would probably be counterproductive and lead to near zero profit mid losses because the two currency pairs move in opposite directions so if one side of the trade became profitable, the other would usually result in losses.

TABBLE 6.1 Correlation Table: Data for March 2005

EUR/USD	**AUD/USD**	**USD/JPY**	**GBP/USD**	**NZD/USD**	**USD/CHF**	**USD/CAD**
1 Month	0.94	-0.92	0.92	0.94	-0.99	-0.32
3 Month	0.47	-0.37	0.83	0.57	-0.98	-0.61
6 Month	0.74	-0.83	0.94	0.78	-0.9b	-0.57
1 Year	0.85	-0.86	0.91	0.93	-0.98	-0.89
AUD/USD	**EUR/USD**	**USD/JPY**	**GBP/USD**	**NZD/USD**	**USD/CHF**	**USD/CAD**
1 Month	0.94	-0.91	0.95	0.96	-0.94	-0.17
3 Month	0.47	0.24	0.81	0.90	-0.44	-0.14
6 Month	0.74	-0.70	0.75	0.89	-0.70	-0.54
1 Year	0.85	-0.87	0.79	0.90	-0.78	-0.81
USD/JPY	**EUR/USD**	**AUD/USD**	**GBP/USD**	**NZD/USD**	**USD/CHF**	**USD/CAD**
1 Month	-0.92	-0.91	-0.88	-0.91	0.94	0.06
3 Month	-0.37	0.24	-0.08	0.15	0.40	0.12
6 Month	-0.83	-0.70	-0.75	-0.61	0.83	0.59
1 Year	-0.86	-0.87	-0.82	-0.84	0.83	0.80
GBP/USD	**EUR/USD**	**AUD/USD**	**USD/JPY**	**NZD/USD**	**USD/CHF**	**USD/CAD**
1 Month	0.92	0.95	0.88	0.87	0.95	0.03
3 Month	0.83	0.81	-0.08	0.83	-0.82	-0.36
6 Month	0.94	0.75	-0.75	0.84	-0.88	-0.42
1 Year	0.91	0.79	-0.82	0.82	-0.90	-0.70
NZD/USD	**EUR/USD**	**AUD/USD**	**USD/JPY**	**GBP/USD**	**USD/CHF**	**USD/CAD**
1 Month	0.94	0.96	-0.91	0.87	-0.92	-0.29
3 Month	0.57	0.90	0.15	0.83	-0.53	-0.35
6 Month	0.78	0.89	-0.61	0.64	-0.69	0.38
1 Year	0.93	0.90	-0.84	0.82	-0.88	-0.94
USD/CHF	**EUR/USD**	**AUD/USD**	**USD/JPY**	**GBP/USD**	**NZD/USD**	**USD/CAD**
1 Month	-0.99	-0.94	0.94	-0.95	-0.92	0.21
3 Month	-0.98	-0.44	0.40	-0.82	-0.53	0.55
6 Month	-0.96	-0.70	0.83	-0.88	-0.69	0.70
1 Year	-0.98	-0.78	0.83	-0.90	-0.88	0.87
USD/CAD	**EUR/USD**	**AUD/USD**	**USD/JPY**	**GBP/USD**	**NZD/USD**	**USD/CHF**
1 Month	-0.32	-0.17	0.06	-0.03	-0.29	0.21
3 Month	-0.61	-0.14	0.12	-0.36	-0.35	0.55
6 Month	-0.57	-0.54	0.59	-0.42	-0.58	0.70
1 Year	-0.89	-0.81	0.80	-0.70	-0.94	0.84

Date	**EUR/USD**	**AUD/USD**	**USD/JPY**	**GBP/USD**	**NZD/USD**	**USD/CHF**	**USD/CAD**
03/29/2004-09/99/2004	6 Month Trailing	0.10	-0.28	0.69	0.68	-0.88	-0.60
04/29/2004-10/28/2004	6 Month Trailing	0.77	-0.67	0.47	0.84	-0.90	-0.78
05/31/2004-11/29/2004	6 Month Trailing	0.96	-0.88	0.61	0.88	-0.97	-0.89
06/30/2004 12/29/2004	6 Month Trailing	0.93	-0.94	0.87	0.94	-0.98	-0.85
07/30/2004-01/28/2005	6 Month Trailing	0.93	-0.93	0.92	0.95	-0.99	-0.86
08/31/2004-03/01/2005	*6* Month Trailing	0.88	-0.91	0.96	0.91	-0.98	0 80
09/30/2004-03/31/2005	6 Month Trailing	0.74	-0.83	0.95	0.79	-0.96	-0.58
	Average	0.76	-0.78	0.78	0.86	-0.95	-0.77

IMPORTANT FACT ABOUT CORRELATIONS: THEY CHANGE

Anyone who has ever traded the FX market knows that currencies are very dynamic; economic conditions, both sentiment and pricing change every day. Because of this the most important aspect to remember when analyzing currency correlations is that they can easily change over time. The strong correlations that are calculated today might not be the same this time next month. Due to the constant reshaping of the forex environment, it is imperative to keep current if you deride to use this method for trading. For example, over a one-month period that we observed, the correlation between USD/CAD and USD/JPY was 0.06. This is a very low number and would indicate that the pairs do not really share any definitive relationship in their movements. However, if we look at the three-month data for the same time period, the number increases to 0.12 and then to 0.59 for six months and finally to 0.80 for a year. Therefore, for this particular example we can see that there was a blatant recent breakdown in the relationship between these two pairs. What was once a strongly positive association in the long run has almost totally deteriorated over the short term. On the other hand, the USD/CHF and AUD/USD pairing has shown a strengthening trend in the most recent data. The correlation between these two pairs started at -0.78 for the year and edged up to -0.94 for the last month. This suggests that there is an increasing probability that if one of the trades became profitable the other would incur a loss.

An even more dramatic example of the extent to which those numbers can change can be found in the GBP/USD and AUD/USD pairing; there was a -0.87 correlation between the two for the yearlong data. However, while these two tended to move in reasonably opposite directions in the long term, between January and March of 2005 they were actually positively correlated with a +0.24 reading. The major events that change the amount and even direction that pairs are correlated are usually associated with major economic happenings such as interest rate changes.

CALCULATING CORRELATIONS YOURSELF

Because correlations have the tendency to shift over lime, the best way to keep current on the direction and strength of your pairings is to calculate them yourself. Although it might seem like a tricky concept, the actual process can be made quite easy. The simplest way to calculate the numbers is to use Microsoft Excel. In Excel, you can take the currency pairs that you want to derive a correlation from over a specific time period and just use the correlation function. The one-year, six-month, three-month, one-month, and six-month-trailing reading gives the most comprehensive view of the similarities and differences between pairs; however, you can decide which or how many of these readings you want to analyze. Breaking down the process step-by-step, we'll find the correlation between the GBP/USD and the USD/CHF. First you'll need to get the pricing data for the two pairings. To keep organized, label one column GBP and the other CHF and then put in the weekly values of these currencies using the last price and pairing them with the USD for whatever time period you want to use. At the bottom of the two columns, go to an empty slot and type in =CORREL. Highlight all of the data in one of the pricing columns, type in a comma, and then do the same thing for the other currency; the number produced is your correlation. Although it is not necessary to update your

numbers every day, updating them once every couple of weeks or at the very least once a month is generally a good idea.

Trade Parameters for Different Market Conditions

After having gone through the emergence of the foreign exchange market, who the major players and significant historical milestones, and what moves the markets, it is time to cover some of my favorite strategies for trading currencies. However, before I even begin going over these strategies, the most important first step for any trader, regardless of the market that you are trading in, is to create a trading journal.

KEEPING A TRADING JOURNAL

Through my experience, I have learned that being a successful trader is not about finding the holy grail of indicators that can perfectly forecast movements 100 percent of the time, but instead to develop discipline. I cannot, overemphasize the importance of keeping a trading journal as the primary first step to becoming a successful and professional trader. While working on the interbank FX trading desk at J. P. Morgan and then on the cross-markets trading desk after the merger with Chase, the trading Journal mentality was ingrained into the minds of every dealer and proprietary trader on the trading floors, regardless of rank. The reason was simple: the bank was providing the capital for trading and we needed to be held accountable, especially since each transaction involved millions of dollars. For every trade that was executed, we needed to have a solid rationale as well as justification for the choice of entry and exit levels. More specifically, you had to know where to place your exit points before you placed the trade to approximate worst-case losses and to manage risk.

With this sort of accountability, the leading banks of the world are able to breed successful and professional traders. For individual traders, this practice is even more important because you are trading with your own money and not someone else's. For interbank traders, when it comes down to the bottom line, it is someone else's money that they are trading with and regardless of how poorly they might have performed over the prior two weeks, they will still be receiving a paycheck twice a month. At a bank, traders have plenty of time to make the money back without any disruptions to their daily way of life—unless of course they lose $1 million in one day. As an Individual trader you do not have this luxury. When you are trading with your own money, each dollar earned or lost is your money. Therefore, even though you should be trading only with risk capital, or money that would not otherwise be used for rent or groceries, one way or the other, the pain is felt. To avoid repeating the same mistakes and taking huge losses, I cannot stress enough the importance of keeping a trading journal. The journal is designed to ensure that as a trader you take only calculated losses and you learn from each one of your mistakes. The trading journal setup that I recommend is broken up into three parts:

1. Currency Pair Checklist.
2. Trades That I Am Waiting For.
3. Existing or Completed Trades.

Currency Pair Checklist

The first section of your trading journal should consist of a spreadsheet that can be printed out and completed every day. This purpose of this checklist is to get a feel for the market and to identify trades, it should list all of the currency pairs that are offered for trading in the left column, followed by three columns for the current, high, and low prices and then a series of triggers laid out sis a row on the right-hand side. Newer traders probably want to start off with following only the four major currency pairs, which are the EUR/USD, USD/JPY, USD/CHF and GBP/USD and then gradually add in the crosses. Although the checklist that I have created is fairly detailed, I find that it is a very useful daily exercise and should take no more than 20 minutes to complete once the appropriate indicators are saved on the charts. The purpose of this checklist is to get a clear visual of which currencies are trending and which are range trading. Comprehending the big picture is the first step to trading successfully. Too often have seen traders fail because they lose sight of the overall environment that they are trading in. The worst thing to do is to trade blindly. Trying to pick tops or bottoms in a strong trend or buying breakouts in a range-bound environment can lead to significant losses. You can see in Figure 7.1 of the EUR/USD that trying to pick tops in this pair would have led to more than three years of frustrating and unsuccessful trading. For trending environments, traders will find a higher success rate by buying on retracements in an uptrend or selling on rallies in a downtrend. Picking lops and bottoms should be a strategy that is used only in clear range-trading environments, and even then traders need to be careful of con-tracting ranges hiding to breakout scenarios.

Figure 7.1 EUR/USD Three-Year Chart
(*Source:* eSignal. www.eSignal.com)

A simplified version of the daily market overview sheet that I use is shown in Table 7.1. As you can sec in the table, the first two columns after the daily high and low prices are the levels of the 10-day high and low. Listing these prices helps to identity where current prices are within previous price notion. This helps traders

gauge whether we are pressing toward a 10-day high or low or if we are simply trapped in the middle of the range. Yet just the prices alone do not provide enough information to determine if we are in a trending or a range-hound environment. The next five indicators provide a checklist for determining a trending environment. The more X marks in this section, the stronger the trend.

The first column in the trending indicator group is the “ADX (14) above 25.” ADX is the Average Directional Index, which is the most popularly used indicator for determining the strength of a trend. If the index is above 25, this indicates that a trend has developed. Generally speaking, the greater the number, the stronger the trend. The next column uses Bollinger bands. When strong trends develop, the pair will frequently tag and cross either the upper or lower Bollinger band. The next three trend indicators are the longer-term simple moving averages (SMAs). A break above or below these moving averages may also be indicative of a trending environment. With moving averages, crossovers in the direction of the trend can be used as a further confirmation. If there are two or more Xs in this section, traders should be looking for opportunities to buy on dips in an uptrend or sell on rallies in a downtrend rather than selling at the top and buying back at the bottom of the range.

The last section of the trading journal is the range group. The first indicator is once again ADX, but this time, we are looking for ADX below 25, which would suggest that the currency pair's trend is weak. Next, we look at the traditional oscillators, the Relative Strength Index (RSI), and stochastic. If the ADX is weak and there is significant technical resistance above, provided by indicators such as moving averages or Fibonacci retracement levels, and RSI and/or stochastics are at overbought or oversold levels, we identify an environment that is highly conducive to range trading.

Of course, the market overview sheet is not foolproof, and just because you have numerous X marks in either the trend group or the range group doesn't mean that a trend will not fade or a breakout will not occur. Yet what this spreadsheet will do is certainly prevent traders from trading blindly and ignoring the broader market conditions. It will provide traders with a launching pad from which to identify the days trading opportunities.

Table 7.1 Currency Checklist

Date						Trending					Range				
Currency Pair	Last Price	Daily High	Daily Low	10-day high	10-day low	ADX (14) above 25	Bollinger	Crosses 50-day	Crosses 100-day	Crosses 200-day	ADX (14) below 25	RSI (14)	RSI (14)	Stochas-tics >70	Stochas-tics <30
EUR/USD															
USD/JPY															
GBP/USD															
USD/CHF															
EUR/CHF															
AUD/USD															
USD/CAD															
NZD/USD															
EUR/GBP															
GBP/JPY															
GBP/CHF															
AUD/JPY															

Trades That I Am Waiting For

The next section in the trading journal lists the possible trades for the day. Based on an initial overview of the charts, this section is where you should list the trades that you are waiting to make. A sample entry would be:

April 5, 2005

Buy AUD/USD on a break of 0.7850 (previous day high). Stop at 0.7800 (50-day SMA).

Target 1—0.7025 (38.2% Fibonacci retracement or Nov.-Mar. bull wave).

Target 2—0.8075 (upper Bollinger).

Target 3—10-day trailing low.

Therefore, as soon as your entry level is reached, you know exactly how you want to take action and where to place your stops and limits. Of course, it is also important to take a quick glance at the market to make sure that the trading conditions that you were looking for are still intact. For example, if you were looking for a strong breakout with no retracement to occur at the entry level, when it does break, you want to make sure that the scenario that you were looking for plays out. This exercise is used to help you develop a plan of action to tackle your trading day. Before every battle, warriors regroup to go over the plan of attack; in trading you want to have the same mentality. Plan and prepare for the worst-case scenario and know your plan of attack for the day!

Existing or Completed Trades

This section is developed and used to enforce discipline and to learn from your mistakes. At the end of each trailing day, it is important to review this section to understand why certain trades resulted in losses and others resulted in profits. The purpose of this section is to identify trends. I will use a completely unrelated example to explain why this is important. On a normal day, most people will subconsciously inject a lot of “ums” or “uhs” into their daily conversation. However, I bet most of these people do not even realize that they are even doing it until someone records one of their conversations and plays it back to them. This is one of the ways that professional presenters and newscasters train to kick the habit of using placeholder words. Having worked with more than 65,000 traders, too often have I seen these traders repeatedly make the same mistakes. This could be taking profits too early, letting losses run, getting emotional about trading, ignoring economic releases, or getting into a trade prematurely. Having a record of previous trades is like keeping a recording of your conversations. When you flip back to the trades that you have completed, you have a perfect map of what strategies have or have not been profitable for you. The reason why a journal is so important is because it minimizes the emotional component of trades. I frequently see novice traders take profits early but let losses run. The following are two samples of trade journal entries that could provide learning opportunities:

February 12, 2005

Trade: Short 3 lots of EUR/USD @ 1.3045.

Stop: l.3095(former all-time high).

Target: 1.2900.

Result: Trade closed on Feb. 13 2005- stopped out of the 3 lots @ 1.3150 (-105 pips).

Comments: Got margin call! EUR/USD broke the all-time high, but I thought it was going to reverse, and did not stick to slop—kept letting losses run, until eventually margin rail closed out all positions. Note to self: *Make sure stick to stops!*

April 3, 2005

Trade: Long 2 lots of USD/CAD @ 1.1945.

Stop: 1.1860 (strong technical support—confluence of 50-day moving average and 68% Fibonacci retracement of Feb.-Mar. rally).

Target: First lot @ 1.2095 (upper Bollinger and 5 pips shy of 1.2100 psychological resistance)-

Second lot @ 1.2250 (former head and shoulders support turned resistance, 100-day SMA).

Result: Trade closed on Apr. 5, 2005—stopped out of the 2 lots at 1.1860 (-85 pips).

Comments: USD/CAD did not continue uptrend and was becoming overbought; I didn't see that ADX was weakening and falling from higher levels and that then was also a divergence in stochastics. Note to self: *Make sure to look for divergences next time!*

Unlike many traders, I believe the best trades are where both the technical and fundamental pictures are telling the same story. In line with this premise, I prefer to stay out of trades that contradict my fundamental outlook. For example, if there is a bullish formation in both the GBP/USD and the AUD/USD due to U.S. dollar weakness, but the bank of England has finished raising interest rates, while the Reserve Bank of Australia has full intentions of raising rates to tame the strength of the Australian economy, I would most likely choose to express my bearish dollar view in the AUD/USD rather than the GBP/USD. My bias for choosing the AUD/USD over the GBP/USD would be even stronger if the AUD/USD already offered a higher interest rate differential than the GBP/USD. Too often have I seen technicals thwarted by fundamentals, so now I always incorporate both into my trading strategy. I use a combination of technical, fundamental, and positioning and am generally also a trend follower. I also typically use a top-down approach that involves the following:

1. First I will take an overall technical survey of the market and pick the currency pairs that have retraced to attractive levels for entry in order to participate in a medium-term trend.
2. For currencies with a dollar component (i.e., not the crosses), I determine if my initial technical view for that pair coincides with my fundamental view on the dollar as well as my view on how upcoming U.S. releases may impact trading for the day. The reason why I look at the dollar specifically is localise 90 percent of all currency trades involve the dollar, which makes U.S. fundamentals particularly important.
3. If it is a cross-currency pair such as GBP/JPY, I will proceed by determining if the technical view coincides with the fundamental outlook using Fibonacci retracements, ADX, moving averages, oscillators, and other technical tools.

4. Then I like to look at positioning using the FXCM Speculative Sentiment index to see if it supports the trade.
5. If I am left with two equally compelling trade ideas. I will choose the one with a positive interest rate differential.

HAVE A TOOLBOX — USE WHAT WORKS FOR THE CURRENT MARKET ENVIRONMENT

Once you have created a trading journal, it is time to figure out which indicators to use on your charts. The reason why a lot of traders fail is because they neglect to realize that their favorite indicators are not foolproof. Buying when stochastics are in oversold territory and selling when they are in overbought territory is a strategy that is used quite often by range traders with a great deal of success, but once the market stops range trading and begins trending, then relying on stochastics could lead to a tremendous amount of losses. In order to become consistently profitable, successful traders need to learn how to be adaptable.

One of the most important practices that every trader must understand is to be conscious of the environment that they are trading in.

Every trader needs to have some sort of checklist that will help them to classify their trading environment so that they can determine whether the market is trending or range-bound. Defining trade parameters is one of the most important disciplines of trading. Too many traders have tried to pick the top within a trend, only to wind up with consistently unprofitable trades.

Although defining trade parameters is important to traders in any market (currencies, futures, equities), it is particularly important in the currency market since over 80 percent of the volume is speculative in nature. This means that currencies can spend a very long time in a certain trading environment. Also, the currency market obeys technical analysis particularly well given its large scale and number of participants.

There are basically two types of trading environments, which means that at any point in time an instrument is either range trading or trending. The first step every trader needs to take, is to define the current trading environment. The shortest time frame that traders should use in step one is daily charts, even if you are trading on a five-minute time frame.

STEP ONE – PROFILE TRADING ENVIRONMENT

There are many different ways that traders can determine whether a currency pair is range trading or trending. Of course, many people do it visually, but having set rules will help to keep traders out of trends that may be fading or to prevent traders from getting into a range trade in the midst of a possible breakout. Table 7.2 outlines some of rules that I look for in order to classify a currency pairs trading environment.

Table 7.2 Trend/Range Trading Rules

Trade	Rules	Indicators
Range	• ADX < 20 • Decreasing Implied volatility • Risk reversals near choice or flipping between favoring calls and puts	Bollinger bands, ADX, options
Trend	• ADX > 25 • Momentum consistent with trend direction • Risk reversals strongly bid for put or call	Moving averages, ADX, options, momentum

Range

Look for:

ADX (Average Directional Index) Less Than 20 The average directional index is one of the primary technical indicators used to determine the strength of a trend. When ADX is less than 20, this suggests that the trend is weak, which is generally characteristic of a range-bound market. An ADX less than 20 and trending downward provides a further conformation that the trend not only is weak, but will probably stay in a range trading environment for a while longer.

Decreasing Implied Volatility There are many ways to analyze volatility. What I like to do is actually track short-term versus long-term volatility. When short-term volatility is falling, especially alter a burst above long-term volatility, it is usually indicative of a reversion to range trading scenarios. Volatility usually blows out when a currency pair experiences sharp, quirk moves. It contracts when ranges are narrow and the trading is very quiet in the markets. The lazy mans version of the way I track volatility is Bollinger bands, which provide a fairly decent measure for determining volatility conditions. A narrow Bollinger band suggests that ranges are small and there is low volatility in the markets while wide Bollinger bands are reflective of large ranges and a highly volatile environment. In a range trading environment, we are looking for fairly narrow Bollinger bands ideally in a horizontal formation similar to the USD/JPY chart in Figure 7.2.

Risk Reversals Flipping between Calls and Puts A risk reversal consists of a pair of options, a call and a put, on the same currency. Risk reversals have both the same expiration (one month) and the same sensitivity to the underlying spot rate. They are quoted in terms of the difference in volatility between the two options. While in theory these options should have the same implied volatility, in practice: these volatilities often differ in the market. Risk reversals can be seen as having a market polling function. A number strongly in favor of calls or puts indicates that the market prefers calls over puts. The reverse is true if the number is strongly in favor of puts versus calls. Thus, risk reversals can be used as a substitute for gauging positions in the FX market. In an ideal environment, far out-of-the-money calls and puts should have the same volatility. However, this is rarely the case since there is generally a sentiment bias in the markets that is reflected in risk reversals. In range-bound environments, risk reversals tend to flip between favoring calls and puts at

nearly zero (or equal), indicating that there, is indecision among bulls and bears and there is no strong bias in the markets.

Figure 7.2 USD/JPY Bollinger Band Chart
(*Source:* eSignal. www.eSignal.com)

What Does a Risk Reversal Table Look Like? Affording to the risk reversals shown in Table 7.3, we can see that the market is strongly favoring yen calls (JC) and dollar puts over the long term. EUR/USD short-term risk reversals are near zero, which is what you are looking for when profiling a range-hound environment. The most readily available free resource that I know of for up-to-date risk reversals is the IFR news plug-in which can be found on the FX Trading Station at www.fxcm.com.

TABLE 7.3 Risk Reversals

14:40 GMT April 19th
1 Month to 1 Year Risk Reversal

Currency	**1M R/R**	**3M R/R**	**6M R/R**	1 **YR R/R**
USD/JPY	0.3/0.6 JC	0.7/1.0 JC	1.1/1.3 JC	1.3/1.6 JC
EUR/USD	0.1/0.3 EC	0.0/0.3 EC	0.0/0.3 EC	0.1/0.4 EC
GBP/USD	0.0/0.3 SP	0.0/0.3 SC	0.0/0.3 SC	0.0/0.3 SC
USD/CHF	0.2/0.2 CC	0.0/0.3 CC	0.0/0.4 CC	0.1/0.5 CC

JC = Japanese Yen Call
EC = Euro Call
SP = Sterling Put
SC = Sterling Call
CC = Swiss Call

Trend

Look for

ADX (Average Directional Index) Greater Than 20 As mentioned earlier when we talked about range trading conditions, the Average Directional Index is one of the primary technical indicators used to determine the strength of a trend. In a trending environment, we look for ADX to be greater than 20 and rising. However, if ADX is greater then 25 but sloping downward, especially off of the extreme 40 level, you have to be careful of aggressive trend positioning since the downward slope may indicate that the trend is waning.

Momentum Consistent with Trend Direction In addition to using ADX, I also recommend looking for a confirmation of a trending environment through momentum indicators. Traders should look for momentum to be consistent with the direction of the trend. Most currency traders will look for oscillators to point strongly in the direction of the trend. For example, in an uptrend, trend traders will look for the moving averages, RSI, stochastics, and moving average convergence/divergence (MACD) to all point strongly upward. In a downtrend, they will look for these same indicators to point downward. Some currency traders use the momentum index, but only to a lesser extent. One of the strongest momentum indicators is a perfect order in moving averages. A perfect order is when the moving averages line up perfectly; that is for an uptrend, the 10-day SMA is greater than the 20-day SMA, which is greater than the 50-day SMA. The 100-day SMA and the 200-day SMA are below the shorter-term moving averages. In a downtrend, a perfect order would be when the shorter-term moving averages stack up below the longer-term moving averages.

Options (Risk Reversals) With a trending environment, we are looking for risk reversals to strongly favor calls or puts. When one side of the market is laden with interest, it is usually indicative of a strongly trending environment or that a contra-trend move may be brewing if risk reversals are at extreme levels.

STEP TWO – DETERMING TRADE TIME HORIZONE

Once you have determined that a currency pair is either range-bound or trending, it is time to determine how long you plan on holding the trade. The following is a set of guidelines and indicators that I use for trading different time frames. Not all of the guidelines need to be met, but the more guidelines that are met, the more solid the trading opportunity.

Intraday Range Trade Rules

1. Use hourly charts to determine entry points and daily charts to confirm that a range trade exists on a longer time frame.
2. Use oscillators to determine entry point within range.
3. Look for short-dated risk reversals to be near choice.
4. Look for reversal in oscillators (RSI or stochastics at extreme point).
5. It is a stronger trade when prices fail at key resistance or hold key support levels (use Fibonacci retracement points and moving averages).

Indicators Stochastics, MACD, RSI, Bollinger bands, options, Fibonacci retracement levels.

Medium-Term Range Trade

Rules

1. Use daily charts.
2. There are two ways to range trade in the medium term: position for upcoming range trading opportunities or get involved in existing ranges:

Upcoming range opportunities: Look for high-volatility environments, where short-term implied volatilities are significantly higher than longer-term volatilities; seek reversion back to the moan environments.

Existing ranges: Use Bollinger bands to identify existing ranges.

3. Look for reversals in oscillators such as RSI and stochastics.
4. Make sure ADX is below 25 and ideally falling.
5. Look for medium-term risk reversals near choice.
6. Confirm with price action—failure at key range resistances and bounces on key range supports (using traditional technical indicators).

Indicators Options, Bollinger bonds, stochastics, MACD, RSI, Fibonacci retracement levels.

Medium-Term Trend trade

Rules

1. Look for developing trend on daily charts and use weekly charts for confirmation.
2. Refer back to the characteristics of a trending environment—look for those parameters to be met,
3. Buy breakout/retracement scenarios on key Fibonacci levels or moving averages.
4. Look for no major resistance levels in front of trade.
5. Look for candlestick pattern confirmation.
6. Look for moving average confluence to be on same side of trade.
7. Enter on a break of significant high or low.
8. The ideal is to wait for volatilities to contract before gelling in.
9. Look for fundamentals to also be supportive of trade—growth and interest rates. You want to see a string of economic surprises or disappointments, depending on directional bias.

Indicators ADX, parabolic stop and reversal (SAR), RSI, Ichimoku clouds (a Japanese formation), Elliott waves, Fibonacci.

Medium-Term Breakout Trade Rules

1. Use daily charts.

2. Look for contraction in short-term volatility to a point where it is sharply below long-term volatility.
3. Use pivot points to determine whether a break is a true break or a false break.
4. Look for moving average confluences to be supportive of trade.

Indicators Bollinger bands, moving averages, Fibonacci.

RISK MANAGEMENT

Although risk management is one of the simpler topics to grasp, it seems to be the hardest to follow for most traders. Too often we have seen traders turn winning positions into losing positions and solid strategies result in losses instead of profits. Regardless of how intelligent and knowledgeable traders may be about the markets, their own psychology-will cause them to lose money. What could be the cause of this? Are the markets really so enigmatic that few can profit? Or is there simply a common mistake that many traders are prone to make? The answer is the latter. And the good news is that the problem, while it can be an emotionally and psychologically challenging one, is ultimately fairly easy to grasp and solve.

Most traders lose money simply because they have no understanding of or place no importance on *rink management.* Risk management involves essentially knowing how much you are willing to risk and how much you are looking to gain. Without a sense of risk management, most traders simply hold on to losing positions for an extremely long amount of time, but take profits on winning positions far too prematurely. The result is a seemingly paradoxical scenario that in reality is all too common: the trader ends up having more winning positions than losing ones, but ends up with a negative profit/loss (P/L). So, what can traders do to ensure they have solid risk management habits? There are a few key guidelines that all traders, regardless of their strategy or what they are trading, should keep in mind.

Risk-Reward Ratio

Traders should look to establish a risk-reward ratio for every trade they place. In other words, they should have an idea of how much they are willing to lose, and how much they are looking to gain. Generally, the risk-reward ratio should beat least 1:2, if not more. Having a solid risk-reward ratio can prevent traders from entering positions that ultimately are not worth the risk.

Stop-Loss Orders

Traders should also employ stop-loss orders as a way of specifying the maximum loss they are willing to accept. By using stop-loss orders, traders can avoid the common predicament of being in a scenario where they have many winning trades but a single loss large enough to eliminate any trace of profitability in the account. Trailing stops to lock in profits are particularly useful. A good habit of more successful traders is to employ the rule of moving your stop to break even as soon as your position has profited by the same amount that you initially risked through the stop order. At the same time, some traders may also choose to close a portion of their position.

For those looking to add to a winning position or go with a trend, the best strategy is to treat the new transaction as if it were a new trade of its own, independent of the winning position. If you are going to add to a winning position, perform the same analysis of the chart that you would if you had no position at all. If a trade continues to go in your favor, you can also close out part of the position while trailing your stop higher on the remaining lots that you are holding. Try thinking about your risk and reward on each separate lot that you have bought if they are at different entry points as well. If you buy a second lot 50 pips above your first entry

point, don't use the same stop price on both, but manage the risk on the second lot independently from the first.

Using Stop-Loss Orders to Manage Risk Given the importance of money management to successful trading, using the stop-loss order is imperative for any trader looking to succeed in the currency market. The stop-loss order allows traders to specify the maximum loss they are willing to accept on any given trade. If the market reaches the rate the trader specifies in his/her stop-loss order, then the trade will be closed immediately. As a result, using stop-loss orders allows you to know how much you are risking at the time you enter the trade.

There are two parts to successfully using a slop-loss order (1) initially placing the stop at a reasonable level and (2) trailing the stop—meaning moving it forward toward profitability—as the trade progresses in your favor.

Placing the Stop-Loss There are two recommended ways of placing a stop-loss order.

Two-Day Low Method These volatility-based slops involve placing your stop-loss order approximately 10 pips below the two-day low of the pair. For example, if the low on the EUR/USD's most recent candle: was 1.1200 and the previous candle's low was 1.1100, then the stop should be placed around 1.1090—10 pips below the two-day low—if a trader is looking to get long.

Parabolic Stop and Reversal (SAR) Another form of volatility-based stop is the parabolic SAR, an indicator that is found on many currency trading charting applications. The FX Power Charts, for instance, offer this indicator, freely available to all course subscribers (www.fxcm.com). Parabolic SAR is a volatility-based indicator that graphically displays a small dot at the point on the chart where the stop should be placed. Figure 7.3 is an example of a chart with parabolic SAR placed on it.

There is no magic formula that works best in every situation, but the following is an example of how these stops could be used. Upon entering a long position, determine where support is and place a stop 20 pips below support. For example, let’s say this is 60 pips below the entry point.

If the trade earns a profit of 60 pips, close half of the position in a market order, then move the stop up to the entry point. At this time, trail the stop 60 pips behind the moving market price. If the parabolic SAR move's up so that it is above the entry point, you could switch to using the parabolic SAR as the stop level. Of course, during the day, there can be other signals that could prompt you to move your stop. If the price breaks through a new resistance level, that resistance then becomes support. You can place a stop 20 pips below that support level, even if it is only 30 to 40 pips away from the current price. The underlying principle you have to use is to find a point to place your stop where you would no longer want to be in the trade once the price reaches that level. Usually the stop falls at a point where the price goes below support.

Figure 7.3 Parabolic SAR
(*Source:* eSignal. www.eSignal.com)

PSYCHOLOGICAL OUTLOOK

Aside from employing proper risk management strategies, one of the other most crucial yet overlooked elements of successful trading is maintaining a healthy psychological outlook. At the end of the day, traders who are unable to cope with the stress of market fluctuations will not stand the test of time—no matter how skilled they may be at the more scientific elements of trading.

Emotional Detachment

Traders must make trading decisions based on strategies independent of fear and greed. One of the premier attributes good traders have is that of emotional detachment: while they are dedicated and fully involved in their trades, they are not emotionally married to them; they accept losing, and make their investment decisions on an intellectual level. Traders who are emotionally involved in trading often make substantial errors, as they lend to whimsically change their strategy after a few losing trades, or become overly carefree after a few winning trades. A good trader must be emotionally balanced, and must base all trading decisions on strategy— not fear or greed.

Know When to Take a Break

In the midst of a losing streak, consider taking a break from trading before fear and greed dominate your strategy.

Not every trade can be a winning one. As a result, traders must be psychologically capable of coping with losses. Most traders, even successful ones, go through stretches of losing trades. The key to being a successful trader though, is being able to come through a losing stretch unfazed and undeterred. If you are going

through a bad stretch, it may be time to fake a break from trading. Often, taking a few days off from watching the market to clear your mind can be the best remedy for a losing streak. Continuing to trade relentlessly during a tough market condition can breed greater losses as well as ruin your psychological trading condition. Ultimately, it’s always better to acknowledge your losses rather than continue to fight through them and pretend that they don't exist. Make no mistake about it: regardless of how much you study, practice, or trade, there will be losing trades throughout your entire career. The key is to make them small enough that you can live to trade another day, while allowing your winning trades to stay open. You can overcome a lot of bad luck with proper money management techniques. This is why we stress a 2:1 reward-to-risk ratio, as well as why I recommend not risking more than 2 percent of your equity on any single trade.

Whether you are trading forex, equities, or futures, there are 10 trading rules that successful traders should live by:

1. Limit your losses.
2. Let your profits run.
3. Keep position sizes within reason.
4. Know your risk-reward ratio.
5. Be adequately capitalized.
6. Don't fight the trend.
7. Never add to losing positions.
8. Know market expectations.
9. Learn from your mistakes—keep a trading journal.
10. Have a maximum loss or retracement in profits.

Technical Trading Strategies

MULTIPLY TIME FRAME ANALYSIS

In order to trade successfully on an intraday basis, it is important to be selective. Trend trading is one of the most popular strategies employed by global macro hedge funds. Although there are many traders who prefer to range trade, the big profit potentials tend to be in trades that capture and participate in big market movements. It was once said by Mark Boucher, a hedge fund manager of Midas Trust Fund and a former number one money manager as ranked by Nelson Marketplace's World's Host Money Managers, that 70 percent of a market's moves occurs 20 percent of the time. This makes multiple time frame analysis particularly important because no trader wants to lose sight of the overall big picture. A great comparison is taking a road I rip from Chicago to Florida. There are certainly going to be a lot of left and right turns during the road trip, but the driver needs to be aware throughout the whole trip that he or she is headed south. In trading, looking for opportunities to buy in an uptrend or sell in a downtrend tends to be much more profitable than trying to pick tops and bottoms.

The most common form of multiple time frame analysis is to use daily charts to identify the overall trend and then to use the hourly charts to determine specific entry levels.

Figure 8.1 AUD/USD Multiple Time Frame Daily Chart
(*Source:* eSignal. www.eSignal.com)

The AUD/USD chart in Figure 8.1 is a daily chart of the Australian dollar against the U.S. dollar. As you can see, the Australian dollar has been trending higher since January 2002. Range or contrarian traders who continually looked to pick tops

would have been faced with at least three years of unprofitable and difficult trading, particularly when the currency pair was hitting record highs in late 2003 into early 2004. This area would have certainly attracted many traders looking to pick a top or to fade the trend. Despite a dip in late 2004 the AUD/USD has remained strong going into 2005, which would have made it very difficult for medium-term range players to trade.

Figure 8.2 AUD/USD Multiple Time Frame Hourly Chart
(*Source:* eSignal. www.eSignal.com)

Instead, the more effective trading strategy is to actually take a position in the direction of the trend. In the AUD/USD example, this would have involved looking for opportunities to buy on dips. Figure 8.2 is an hourly chart with Fibonacci retracements drawn from the February 2004 all-time high and the low of June 17, 2004. Rather than looking for opportunities to sell, we use the 76 percent Fibonacci retracement level as key support zones to go long the Australian dollar. The horizontal line in Figure 8.2 represents the Fibonacci retracement level. What we did therefore was use the daily charts to get a gauge of the overall trend and then used the hourly charts to pinpoint entry levels.

Let's take a look at another example, this one of the British pound. Figure 8.3 is the daily chart of the GBP/USD for January 2002 to May 2005. Like traders of the Australian dollar, traders trying to pick tops in the GBP/USD would have also faced at least three years of difficult trading, particularly when the GBP/USD was making 10-year highs in January 2004. This level would have certainly attracted many skeptics looking to pick tops. To the frustration of those who did, the GBP/USD rallied up to 10 percent beyond its 10-year highs post January, which means that those top picket would have incurred significant losses.

Figure 8.3 GBP/USD Multiple Time Frame Daily Chart
(*Source:* eSignal. www.eSignal.com)

Figure 8.4 GBP/USD Multiple Time Frame Hourly Chart
(*Source:* eSignal. www.eSignal.com)

Taking a look al the hourly chart for the GBP/USD, we want to look for opportunities to buy on dips rather than sell on rallies. Figure 8.4 shows two Fibonacci retracement levels drawn from the September 2004 and December 2004 bull wave. Those levels held pretty well on retracements between four-tenths and

four-fourteenths while the 23.6 percent Fibonacci level offered an opportunity for breakout trading rather than a significant resistance level. In that particular scenario, keeping in mind the bigger picture would have shielded traders from trying to engage in reversal plays at those levels.

Multiple time frame analysis can also be employed on a shorter-term basis. Let us take a look at an example using CHF/JPY. First we start with our hourly chart of CHF/JPY, which is shown in Figure 8.5. Using Fibonacci retracements, we see on our hourly charts that prices have failed at the 38.2 percent retracement of the December 30, 2004, to February 9, 2005, bear wave numerous timers. This indicates that the pair is contained within a weeklong downtrend below those levels. Therefore, we want to use our 15-minute charts to look for entry levels to participate in the overall downtrend. However, in order to increase the success of this trade, we want to make sure that CHF/JPY is also in a downtrend on a daily basis.

Figure 8.5 CHF/JPY Multiple Time Frame Hourly Chart
(*Source:* eSignal. www.eSignal.com)

Taking a look at Figure 8.6, we see that CHF/JPY is indeed trading below the 200-day simple moving average with the 20-day SMA crossing below the 100-day SMA. This confirms the bearish momentum in the currency pair. So as a day trader, we move on to the 15-minute chart to pinpoint entry levels. Figure 8.7 is the 15-minute chart; the horizontal line is the 38.2 percent Fibonacci retracement of the earlier downtrend. We see that CHF/JPY broke above the horizontal line on May 11, 2005; however, rather than buying into a potential breakout trade, the bearish big picture reflected on the hourly and daily charts suggests a contrarian trade at this point. In fact, there were two instances shown in Figure 8.7 where the currency pair broke above the Fibonacci level only to then trade significantly lower. Disciplined day traders would use those opportunities to fade the breakout.

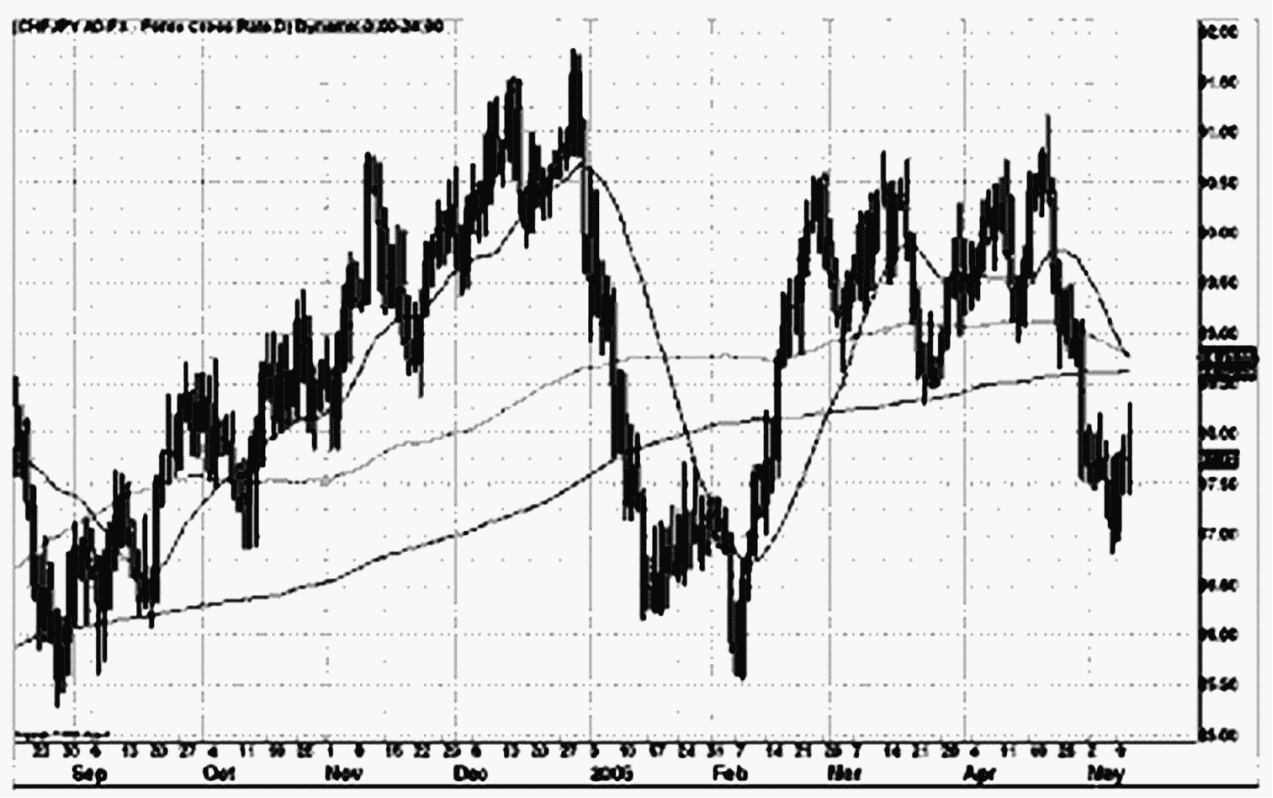

Figure 8.6 CHF/JPY Multiple Time Frame Daily Chart
(*Source:* eSignal. www.eSignal.com)

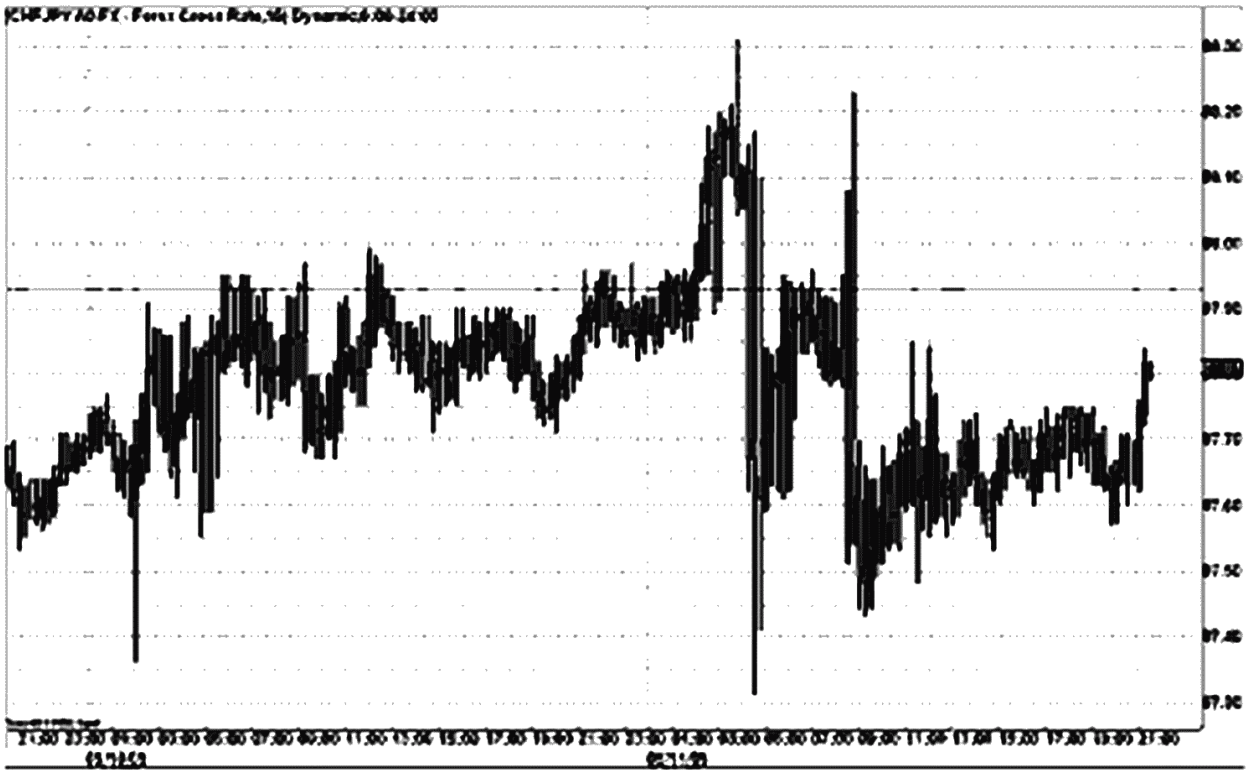

Figure 8.7 CHF/JPY Multiple Time Frame 15-Minute Chart
(*Source:* eSignal. www.eSignal.com)

The importance of multiple time frame analysis cannot be overestimated. Thinking about the big picture first will keep traders out of numerous dangerous trades. The majority of new traders in the market are range traders for the simple fact that buying at the low and selling at the high is an easy concept to grasp. Of course,

this strategy does work, but traders also need to be mindful of the trading environment that they are participating in. Looking back to Chapter 7, traders should try to range trade only when the conditions for a range-bound market are met. The most important condition (but certainly not the only one) is to look for ADX to be less than 25 and ideally trending downward.

FADING THE DOUBLE ZEROS

One of the most widely overlooked yet lucrative areas of trading is market structure. Developing a keen understanding of micro structure and dynamics allows traders to gain an unbelievable advantage and is probably one of the most reliable tactic for profiting from intraday fluctuations. Developing a feel for and understanding of market dynamics is key to profitably taking advantage of short-term fluctuations. In foreign exchange trading this is especially critical as the primary influence of intraday price action is order flow. Given the fact that most individual traders are not privy to sell-side bank order flow, day traders looking to profit from short-term fluctuations need to learn how to identify and anticipate price zones where large order flows should be triggered. This technique is very efficient for intraday traders as it allows them to get on the same side as the market maker.

When trading intraday, it is impossible to look for bounces off of every support or resistance level and expect to be profitable. The key to successful intraday trading requires that we be more selective and enter only at those levels where a reaction is more likely. Trading off psychologically important levels such as the double zeros or round numbers is one good way of identifying such opportunities. Double zeros represent numbers where the last two digits are zeros—for example, 107.00 in the USD/JPY or 1.2800 in the EUR/USD. After noticing how many times a currency pair would bounce off of double zero support or resistance levels intraday despite the underlying trend, we have noticed that the bounces are usually much bigger and more relevant than rallies off other areas. This type of reaction is perfect for intraday FX traders as it gives them the opportunity to make 50 pips while risking only 15 to 20 pips.

Implementing this methodology is not difficult, but it does require individual traders to develop a solid feel for dealing room and market participant psychology. The idea behind why this methodology works is simple. Large banks with access to conditional order flow have a very distinct advantage over other market participants. The banks' order books give them direct insight into potential reactions at different price levels. Dealers will often use this strategic information themselves to put on short-term positions for their own accounts.

Market participants as a whole tend to put conditional orders near or around the same levels. While stop-loss orders are usually placed just beyond the round numbers, traders will cluster their lake-profit orders at the round number. The reason why this occurs is because traders are humans and humans tend to think in round numbers. As a result, take-profit orders have a very high tendency of being placed at the double zero level. Since the FX market is a nonstop continuous market, speculators also use stop and limit orders much more frequently than in other markets. Large banks with access to conditional order flow, like stops and limits, actively seek to exploit these clustering of positions to basically gun stops. The strategy of fading the

double zeros attempts to put traders on the same side as market makers and basically positions traders for a quick contra-trend move at the double zero level.

This trade is most profitable when there are other technical indicators that confirm the significance or the double zero level.

Strategy Rules

Long

1. First, locate a currency pair that is trading well below its intraday 20-period simple moving average on a 10- or 15-minute chart.
2. Next, enter a long position several pips below the figure (no more than 10).
3. Place an initial protective stop no more than 20 pips below the entry price.
4. When the position is profitable by double the amount that you risked, close half of the position and move your stop on the remaining portion of the trade to breakeven. Trail your stop as the price moves in your favor.

Short

1. First, locate a currency pair that is trading well above its intraday 20-period simple moving average on a 10- or 15-minute chart.
2. Next, short the currency pair several pips above the figure (no more than 10).
3. Place an initial protective stop no more than 20 pips above the entry price.
4. When the position is profitable by double the amount that you risked, close half of the position and move your stop on the remaining portion of the trade to breakeven. Trail your stop as the price moves in your favor.

Market Conditions

This strategy works best when the move happens without any major economic number as a catalyst in other words, in quieter market conditions. It is used most successfully for pairs with tighter trading ranges, crosses, and commodity currencies. This strategy does work for the majors but under quieter market conditions since the stops are relatively tight.

Further Optimization

The psychologically important round number levels have even greater significance if they coincide with a key technical level. Therefore the strategy tends to have an even higher probability of success when other important support or resistance levels converge at the figure, such as moving averages, key Fibonacci levels, and Bollinger bands, just to name a few.

Examples

So let us take a look at some of the examples of this strategy in action. The first example that we will go over is Figure 8.8, a 15-minute chart of the EUR/USD. According to the rules of the strategy, we see that the EUR/USD broke down and was trading well below its 20-period moving average. Prices continued to trend lower, moving toward 1.2800, which is our double zero number. In accordance with the rules, we place an entry order a few pips below the breakeven number at 1.2795. Our

order is triggered and we put our stop 20 pips away at 1.2775. The currency pair hits a low of 1.2786 before moving higher. We then sell half of the position when the currency pair rallies by double the amount that we risked at 1.2835. The stop on the remaining half of the position is then moved to breakeven at 1.2795. We proceed to trail the stop. The trailing stop can be done using a variety of methods including a monetary or percentage basis. We choose to trail the stop by a two-bar low for a really short-term trade and end up getting out of the other half of the position at 1.2831. Therefore on this trade we earned 40 pips on the first position and 36 pips on the second position.

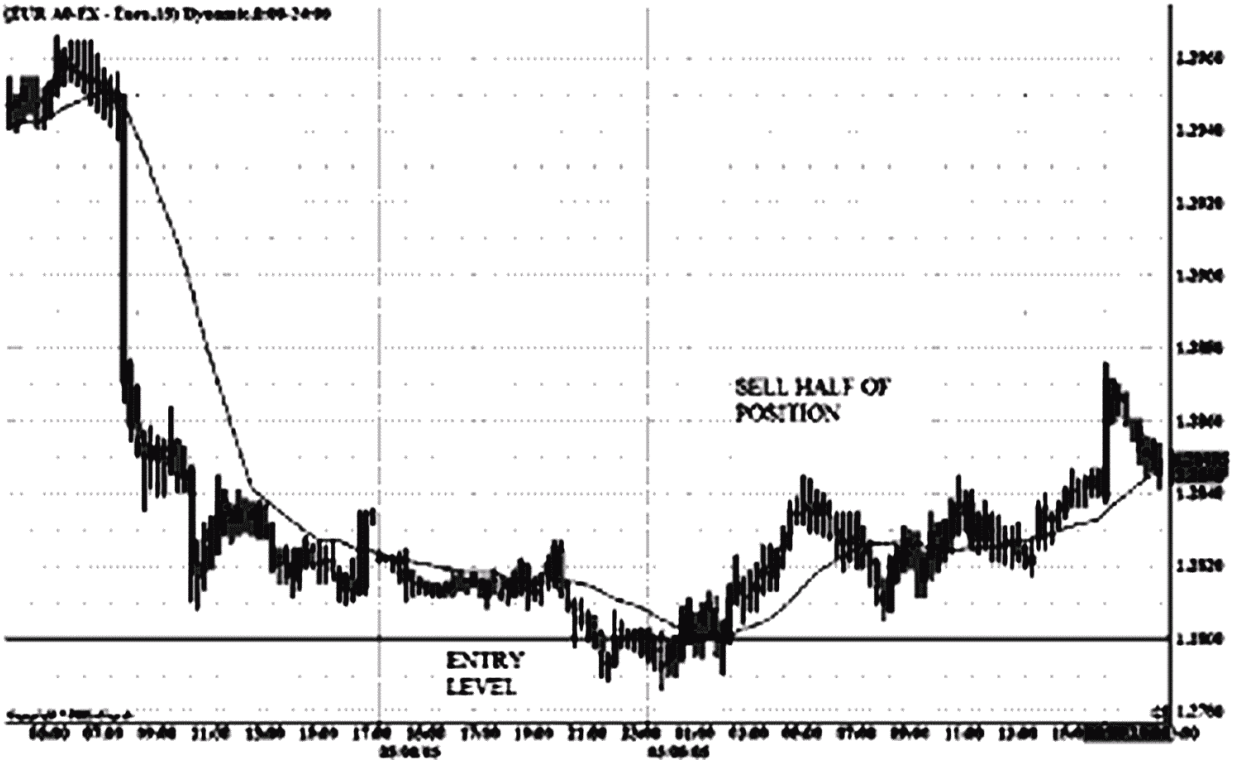

Figure 8.8 EUR/USD Double Zeros Example
(*Source:* eSignal. www.eSignal.com)

The next example is for USD/JPY. In Figure 8.9, we see that USD/JPY is trading well below its 20-period moving average on a 15-minute chart and is headed toward the 105 double zero level. This trade is particularly strong because the 105 level is very important in USD/JPY. Not only is it a psychologically important level, but it also served as an important support and resistance level throughout 2004 and into early 2005. The 105 level is also the 23.6 percent Fibonacci retracement of the May 14, 2004, high and January 17, 2005, low. All of this provides a strong signal that lots of speculators may have taken profit orders al that level and that a contra-trend trade is very likely. As a result, we place our limit order a few pips below 105.00 at 104.95. The trade is triggered and we place our stop at 104.75. The currency pair hits a low of 104.88 before moving higher. We then sell half of our position when the currency pair rallies by double the amount that we risked at 105.35. The stop on the remaining half of the position is then moved to breakeven at 104.95. We proceed to trail the stop by a five-bar low to filler our noise on the shorter time frame. We end up selling the other half of the position at 103.71. As a result on this trade, we earned 40 pips on the first position and 76 pips on the second

position. The reason why this second trade was more profitable than the one in the first example is because the double zero level was also a significant technical level.

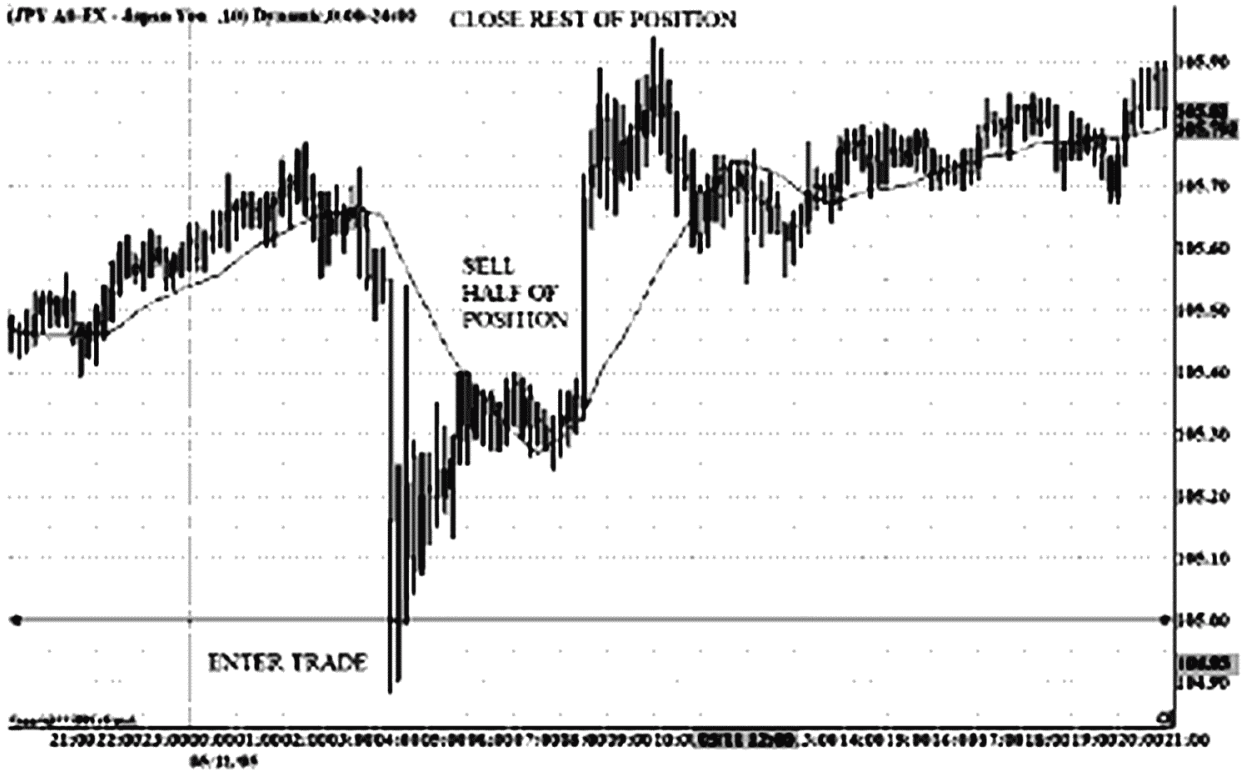

Figure 8.9 USD/JPY Double Zeros Example
(*Source:* eSignal. www.eSignal.com)

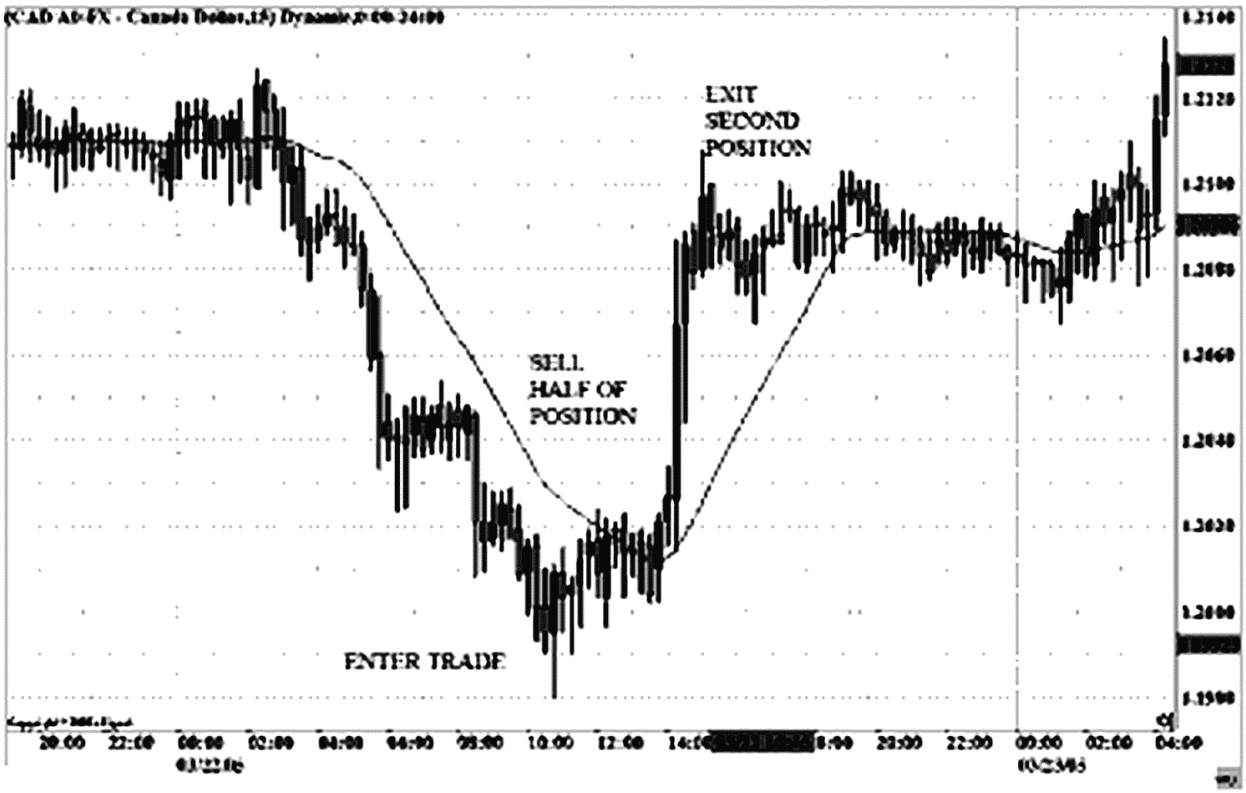

Figure 8.10 USD/CAD Double Zeros Example
(*Source:* eSignal. www.eSignal.com)

Making sure that the double zero level is a significant level is a key element of filtering for good trades. The next example, shown in Figure 8.10, is USD/CAD on a 15-minute chart. The great thing about this trade is that it is a triple zero level rather

than just a double zero level. Triple zero levels hold even more significance than double zero levels because of their less frequent occurrence. In Figure 8.10, we see that USD/CAD is also trading well below its 20-period moving average and heading toward 1.2000. We look to go long a few pips below the double zero level at 1.1995. We place our stop 20 pips away at 1.1975. The currency pair hits a low of 1.1980 before moving higher. We then sell half of our position when the currency pair rallies by double the amount that we risked at 1.2035. The stop on the remaining half of the position is then moved to breakeven at 1.1995. We proceed to trail the stop once again by the two-bar low and end up exiting the second half of the position at 1.2081. As a result we earned 40 pips on the first position and 86 pips on the second position. Once again, this trade worked particularly well because 1.2000 was a triple zero level.

Although the examples covered in this chapter are all to the long side, the strategy also works to the short side.

WAITING FOR THE REAL DEAL

The lark of volume data in the FX market has forced day traders to develop different strategies that rely less on the level of demand and more on the micro structure of the market. One of the most common characteristics that day traders try to exploit is the market's 24-hour around-the-clock nature. Although the market is open for trading throughout the course of the day, the extent of market activity during each trading session can vary significantly.

Traditionally, trading tends to be the quietest during the Asian market hours, as we indicated in Chapter 4. This means that currencies such as the EUR/USD and GBP/USD tend to trade within a very tight range during these hours. According to the Bank for International Settlements' Triennial Central Bank Survey of the FX market published in September 2004, the United Kingdom is the most active trading center, capturing 31 percent of total volume. Adding in Germany, France, and Switzerland, European trading as a whole accounts for 42 percent of total FX trailing. The United States, on the other hand, is second only to the Untied Kingdom for the title of most active trading center, but that amounts to only approximately 19 percent of total turnover. This makes the London open exceptionally important because it gives the majority of traders in the market an opportunity to take advantage of events or announcements that may have occurred during late U.S. trading or in the overnight Asian session. This becomes even more critical on days when the Federal Open Market Committee (FOMC) of the Federal Reserve meets to discuss and announce monetary because the announcement occurs at 2:15 p.m. New York time, which is past the London close.

The British pound trades most actively against the U.S. dollar during the European and London trading hours. There is also active trading during the U.S./European overlap, but besides those time frames, the pair tends to trade relatively lightly because the majority of GBP/USD trading is done through U.K. and European market makers. This provides a great opportunity for day traders to rapture the initial directional intraday real move that generally occurs within the first few hours of trading in the London session. This strategy exploits the common perception that U.K. traders are notorious stop hunters. This means that the initial movement at

the London open may not always be the real one. Since U.K. and European dealers are the primary market makers for the GBP/USD, they have tremendous insight into the extent of actual supply and demand for the pair. The trading strategy of wailing for the real deal first sets up when interbank dealing desks survey their books at the onset of trading and use their client data to trigger close stops on both sides of the markets to gain the pip differential. Once these stops are taken out and the books are cleared, the real directional move in the GBP/USD will begin to occur, at which point we look for the rules of this strategy to be met before entering into a long or short position. This strategy works best following the U.S. open or after a major economic release. With this strategy you are looking to wait for the noise in the markets to settle down and to trade the real market price action afterward.

Strategy Rules

Long

1. Early European trading in GBP/USD begins around 1:00 a.m. New York time. Look for the pair to make a new range low of at least 25 pips above the opening price (the range is defined as the price action between the Frankfurt and London power hour of 1 a.m. New York time to 2 am. New York time).
2. The pair then reverses and penetrate the high.
3. Place an entry order to buy 10 pips above the high of the range.
4. Place a protective stop no more than 20 pips away from your entry.
5. If the position moves higher by double the amount that you risked, cover half and trail a stop on the remaining position.

Short

1. GBP/USD opens in Europe and trades more than 25 pips above the high of the Frankfurt and London power hour.
2. The pair then reverses and penetrates the low.
3. Place an entry order to sell 10 pips below the low of the range.
4. Place a protective stop no more than 20 pips away from your entry.
5. If the position moves lower by double the amount that you risked, cover half and trail a stop on the remaining position.

Examples

Let us go ahead and take a look at some examples of this strategy in action. Figure 8.11 is a textbook example of the strategy of waiting for the real deal. We see that the GBP/USD breaks upward on the London open, reaching a high of 1.8912 approximately two hours into trading. The currency pair then begins to trend lower ahead of the U.S. market open and we position for the trade by putting an entry order to short 10 pips below the Frankfurt open to the London open range of 1.8804 at 1.8794. Our stop is then placed 20 pips higher at 1.8814 while our take-profit order is placed at 1.8754, which is double the amount risked. Once the take-profit order on the first lot is fulfilled, we move the stop to breakeven at 1.8794 and trail the stop by the two-bar high. The second lot eventually gets stopped out at 1.8740, and we end up earning 40 pips on the first position and 54 pips on the second position.

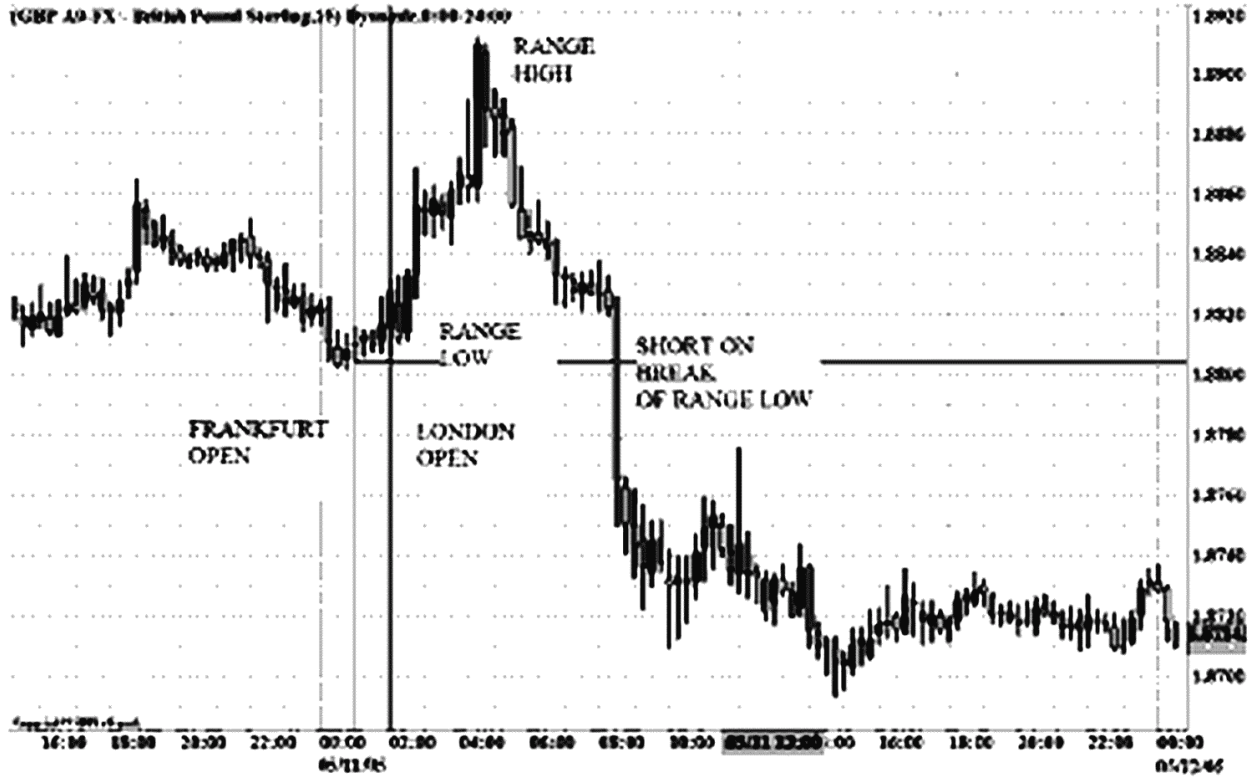

Figure 8.11 GBP/USD May 2005 Real Deal Example
(*Source:* eSignal. www.eSignal.com)

Figure 8.12 GBP/USD April 2005 Real Deal Example
(*Source:* eSignal. www.eSignal.com)

The next example is shown in Figure 8.12. In this example, we also see the GBP/USD break upward on the London open, reaching a high of 1.8977 right at the U.S. open. The currency pair then begins to trend lower during the early U.S. session, breaking the Frankfurt open to the London open range low of 1.8851. Our entry point is 10 pips below that level at 1.8811. Our short position is triggered, and we place our

stop 20 pips higher at 1.8861 and the first take-profit level at 1.8801, which is double the amount risked. Once our limit order is triggered, we move the stop to breakeven at 1.8841 and trail the stop by the two-bar high. The second lot gets stopped out at 1.8789, and we end up earning 40 pips on the first position and 52 pips on the second position.

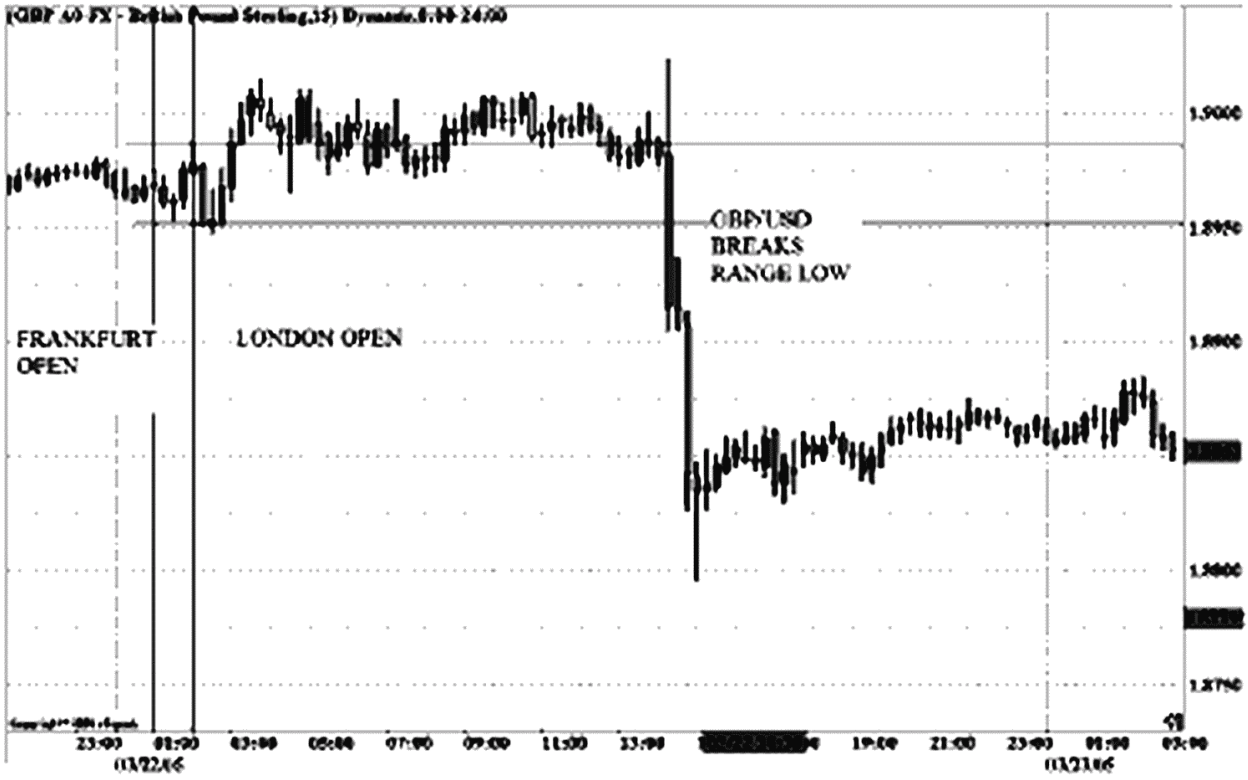

Figure 8.13 GBP/USD March 2005 Real Deal Example
(*Source:* eSignal. www.eSignal.com)

The third example is shown in Figure 8.13. In this example, we also see the GBP/USD break upward on the London open, reaching a high of l.9023 right before the U.S. FOMC meeting. The currency pair then breaks lower on the back of the meeting, penetrating the Frankfurt open to the London open range low of 1.8953. Our entry order is already placed 10 pips below that level at 1.8943. Our short position is triggered and we place our stop 20 pips higher at l.8963 and the first take-profit level at 1.8903, which is double the amount risked. Once our limit order is triggered, we move the stop to breakeven at 1.8943 and trail the stop by the two-bar high. The second lot gets stopped out at 1.8853, and we end up earning 10 pips on the first position and 90 pips on the second position.

INSIDE DAY BREAKOUT PLAY

Throughout this book, volatility trading has been emphasized as one of the most popular strategies employed by professional traders. There are many ways to interpret changes in volatilities, but one of the simplest strategies is actually a visual one and requires nothing more than a keen eye. Although this is a strategy that is very popular in the world of professional trading, new traders are frequently amazed by its ease, accuracy, and reliability. Breakout traders can identify inside days with nothing more than a basic candlestick chart.

An inside day is defined as a day where the daily range has been contained within the prior days trading range, or, in other words, the day's high and low do not exceed the previous day's high and low. There need to be at least two inside days before the volatility play can be implemented. The more inside days, the higher the likelihood of an upside surge in

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Protect against false breakouts: If the stop and reverse order is triggered, place a stop al least 10 pips *below the low* of the nearest inside day and protect any profits larger than what you risked with a trailing stop.

Further Optimization

For further optimization, technical formations can be used in conjunction with the visual identification to place a higher weight on a specific direction of the breakout. For example, if the inside days are building and contracting toward the top of a recent range such as a bullish ascending triangle formation, the breakout has a higher likelihood of occurring to the upside. The opposite scenario is also true: if inside days are building and contracting toward the bottom of a recent range and we begin to see that a bearish descending triangle is in formation, the breakout has a higher likelihood of occurring to the downside. Aside from triangles, other technical factors that can he considered include significant support and resistance levels. For example, if there are significant Fibonacci and moving average support zones resting below the inside day levels, this indicates either a higher likelihood of an upside breakout or at least a higher probability of a false breakout to the downside.

Examples

Let us take a look at a few examples. Figure 8.14 is a daily chart of the euro against the British pound, or the EUR/GBP. The two inside days are identified on the chart and it is clear visually that both of those days' ranges, including the highs and lows, are contained within the previous day's range. In accordance with our rules, we place an order to go long 10 pips above the high of the previous inside day at 0.6634 and an order to sell 10 pips below the low of the previous inside day at 0.6579. Our long order gets triggered two bars after the most recent inside day. We then proceed to place a stop and reverse order 10 pips below the low of the most recent inside day at 0.6579. So basically, we went long at 0.6634 with a stop at 0.6579, which means that we are risking 45 pips. When prices reach our target level of double the amount risked (90 pips) or 0.6724, we have two choices either close out the entire trade or begin trailing the stop. More conservative traders should probably square positions at this point, while more aggressive traders could look for more profit potential. We choose to close out the trade for a 90-pip profit, but those who stayed in and weathered a bit of volatility could have taken advantage of another 100 pips of profits three weeks later.

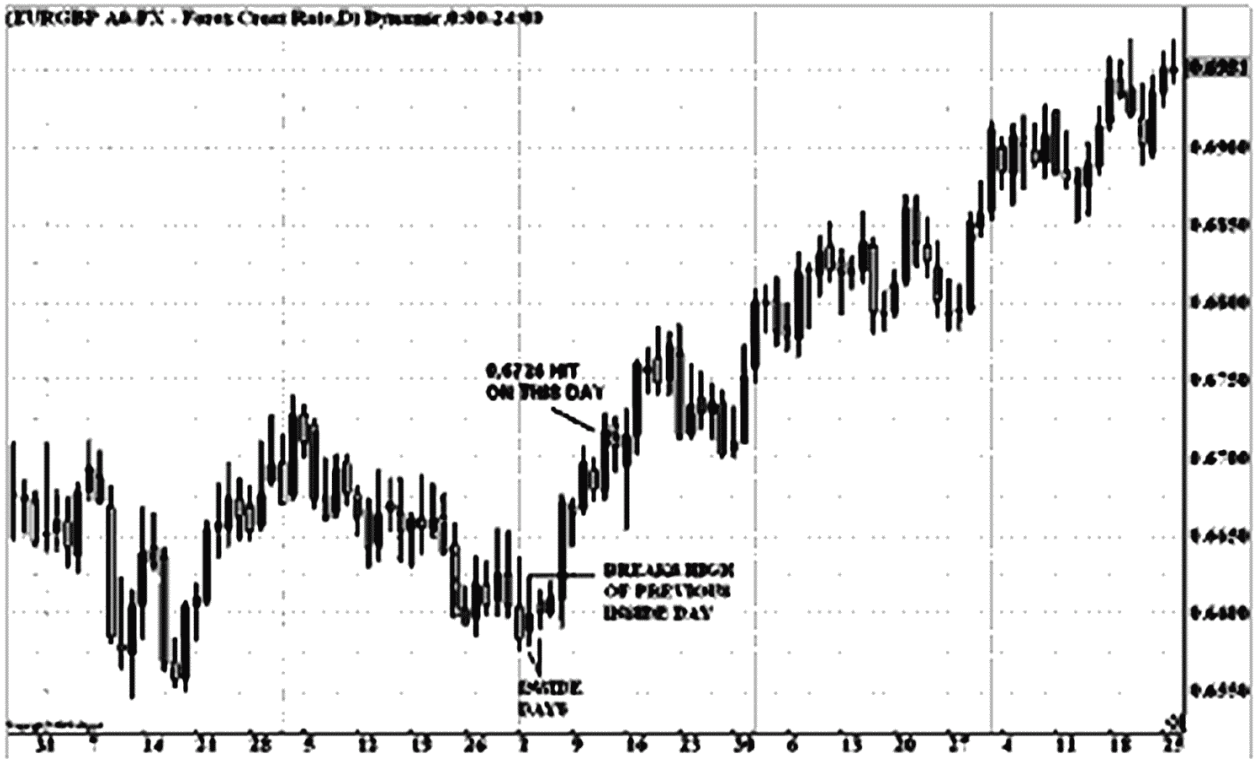

Figure 8.14 EUR/GBP Inside Day Chart
(*Source:* eSignal. www.eSignal.com)

Figure 8.15 NZD/USD Inside Day Chart
(*Source:* eSignal. www.eSignal.com)

Figure 8.15 is another example or inside day trading, this time using the daily chart of the New Zealand dollar against the U.S. dollar (NZD/USD). The difference between this example and the previous one is that our stop and reverse order actually gets triggered, indicating that the first move was a false breakout. The two inside days are labeled on the chart. In accordance with our rules, after identifying the inside days, we place an order to buy on the break of the high of the previous inside

day and an order to sell on the break of the low of the previous inside day. The high on the first or previous inside day is 0.6638. We place an order to go long at 0.6638 or to go short at 0.0.6618. Our long order gets triggered on the first day of the break at 0.6638 and we place a stop and reverse order 10 pips below the low of the most recent inside day (or the daily candle before the breakout), which is 0.6560. However, instead of continuing the breakout, the pair reverses and we close our first position at 0.6560 with a 78-pip loss. We then enter into a new short position with the reverse order at 0.6560. The new stop is then 10 pips above the high of the most recent inside day at 0.6619. When NZD/USD moves by double the initial amount risked, conservative traders can take profit on the entire position while aggressive traders can trail the stop using various methods, which may be dependent on how wide the trading range is. In this example, since the daily trading range is fairly wide, we choose to close the posit ion once the price reaches our limit of 0.6404 for a profit of 156 pips and a total profit on the entire trade of 78 pips.

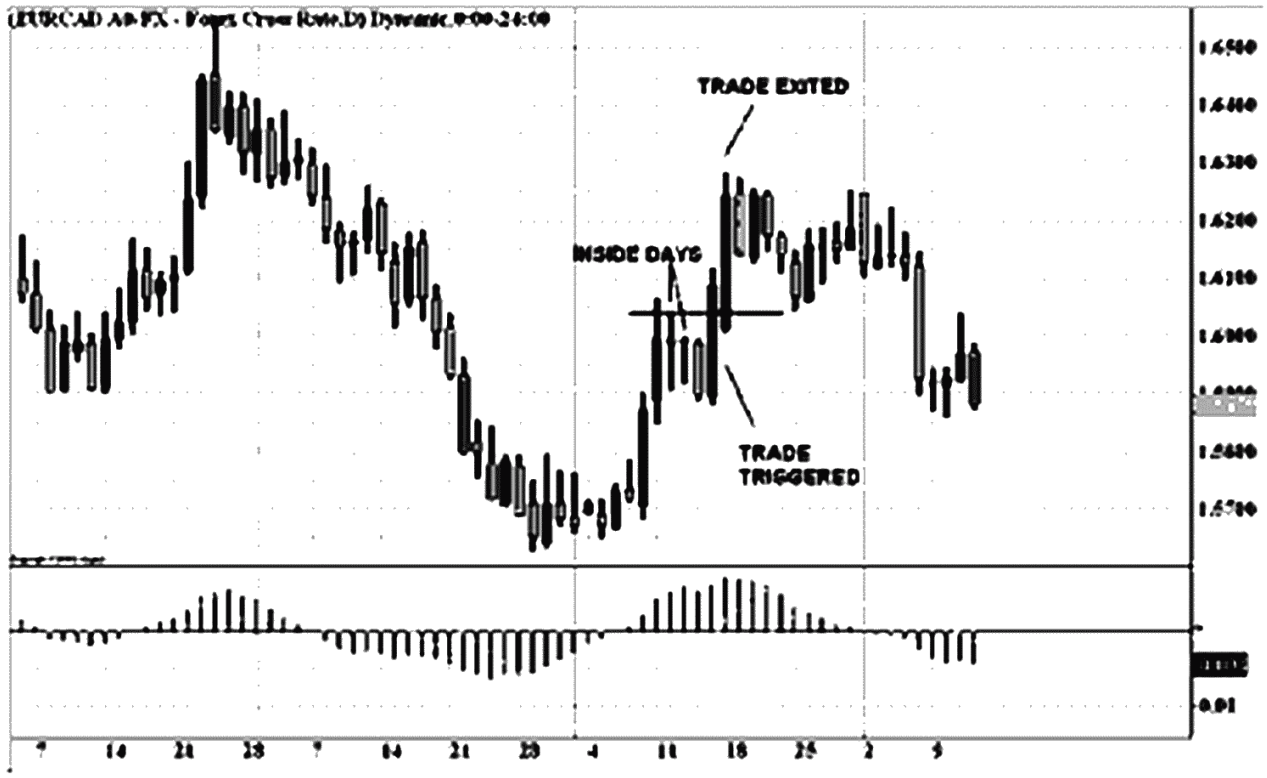

Figure 8.16 EUR/CAD Inside Day Chart
(*Source:* eSignal. www.eSignal.com)

The final example uses technicals to help determine a directional bias of the inside day breakout. Figure 8.17 is a daily chart of EUR/CAD. The inside days are once again identified directly on the chart. The presence of higher lows suggests that the breakout could very well be to the upside. Adding in the MACD histogram to the bottom of the chart, we see that the histogram is also in positive territory right when the inside days are forming. As such, we choose to opt for an upside breakout trade based on technical indicators. In accordance with the rules, we go long 10 pips above the high of the previous inside day at l.6008. Our short trade gets triggered first, but then our stop and reverse order kicks in. Our long trade is then triggered and we place our new stop order 10 pips below the low of the most recent inside day at

1.5905. When prices move by double the amount that we risked to 1.6208, we exit the entire position for a 200-pip profit.

With the inside day breakout strategy, the risk is generally pretty high if done on daily charts, but the profit potentials following the breakout are usually fairly large as well. More aggressive traders can also trade more than one position, which would allow them to lock in profits on the first half of the position when prices move by double the amount risked and then trail the stop on the remaining position. Generally these breakout trades are precursors to big trends, and using trailing stops would allow traders to participate in the trend move while also banking some profits.

THE FADER

More often than not, traders will find themselves faced with a potential breakout scenario, position for it, and then only end up seeing the trade fail miserably and have prices revert back to range trading. In fact, even if prices do manage to break out above a significant level, a continuation move is not guaranteed. If this level is very significant, we frequently see interbank dealers or other traders try to push prices beyond those levels momentarily in order to run stops. Breakout levels are very significant levels, and for this very reason there is no hard-and-fast rule as to how much force is needed to carry prices beyond levels into a sustainable trend.

Trading breakouts at key levels can involve a lot of risk and as a result, false breakout scenarios appear more frequently than actual breakout scenarios. Sometimes prices will test the resistance level once, twice, or even three times before breaking out. This has fostered the development of a large contingent of contra-trend traders who look only to fade breakouts in the currency markets. Yet fading every breakout can also result in some significant losses because once a real breakout occurs, the trend is generally strong and long-lasting. So what this boils down to is that traders need a methodology for screening out consolidation patterns for trades that have a higher potential of resulting in a false breakout. The following rules provide a good basis for screening such traders. The fader strategy is a variation of the waiting for the real deal strategy. It uses the daily charts to identify the range-bound environment and the hourly charts to pinpoint entry levels.

Strategy Rules

Long

1. Locate a currency pair whose 14-period ADX is less than 35. Ideally the ADX should also be trending downward, indicating that the trend is weakening further.
2. Wait for the market to break below the previous day's low by at least 15 pips.
3. Place an entry order to buy 15 pips above the previous day's high.
4. After getting filled, place your initial stop no more than 30 pips away.
5. Take profit on the position when prices increase by double your risk, or 60 pips.

Short

1. Locate a currency pair whose 14-period ADX is less than 35. Ideally the ADX should also be trending downward, indicating that the trend is weakening further.

2. Look for a move above the previous day's high by at least 15 pips.
3. Place an entry order to sell 15 pips below the previous day's low.
4. Once filled, place the initial protective stop no more than 30 pips above your entry.
5. Take profits on the position when it runs 60 pips in your favor.

Further Optimization

The false breakout strategy works best when there are no significant economic data scheduled for release that could trigger sharp unexpected movements. For example, prices often consolidate ahead of the U.S. non-farm payrolls release. Generally speaking, they are consolidating for a reason and that reason is because the market is undecided and is either positioned already or wants to wait to react following that release. Either way, there is a higher likelihood that any breakout on the back or the release would be a real one and not one that you want to fade. This strategy works best with currency pairs that are less volatile and have narrower trading ranges.

Examples

Figure 8.17 is an hourly chart of the EUR/USD. Applying the rules just given, we see that the 14-period ADX dips below 35, at which point we begin looking for prices to break below the previous day's low of l.2166 by 15 pips. Once that occurs, we look for a break back above the previous day's high of 1.2254 by 15 pips, at which point we enter into position at 1.2269. The stop is placed 30 pips below the entry price at 1.2239, with the limit exit order placed 60 pips above the entry at 1.2329. The exit order gets triggered a few hours later for a total profit of 60 pips with a risk of 30 pips.

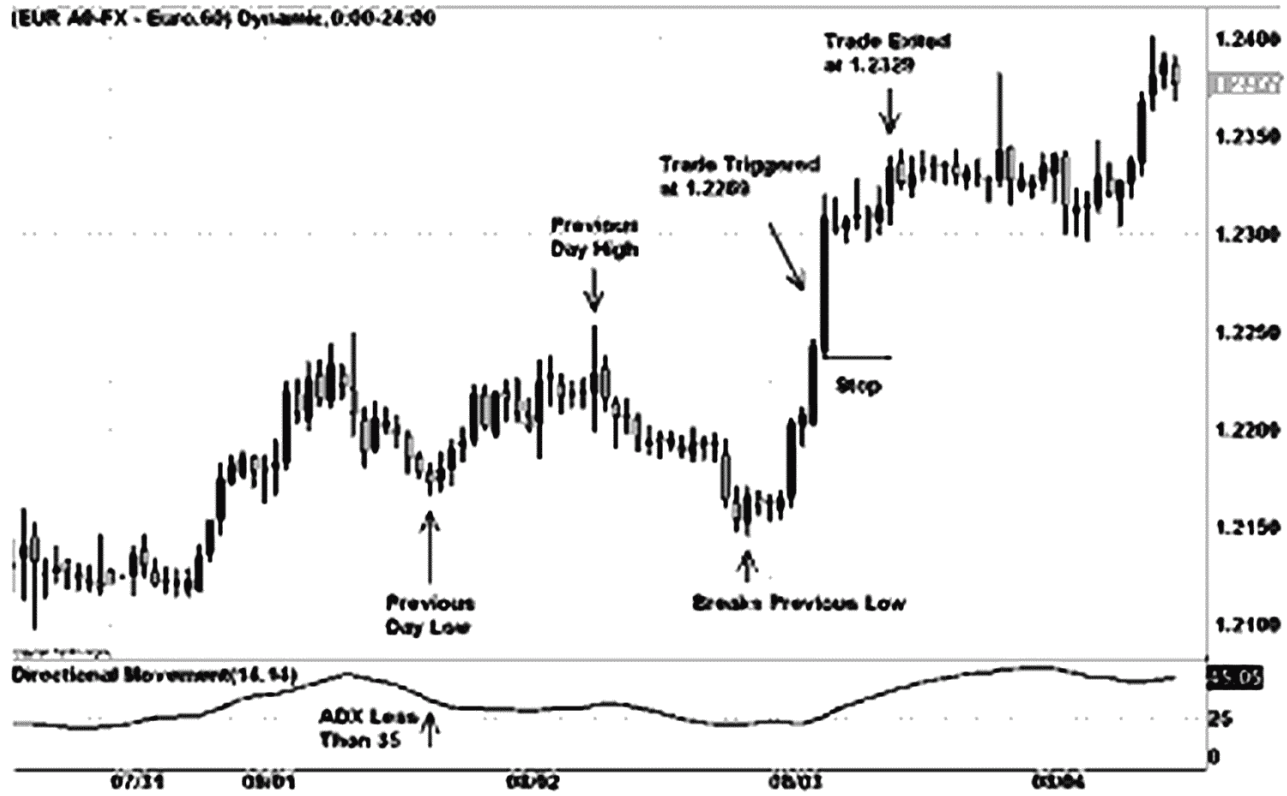

Figure 8.17 EUR/USD Fader Chart
(*Source:* eSignal. www.eSignal.com)

Figure 8.18 is an example of the fader trading strategy on the short side. Applying the rules to the hourly chart of the GBP/USD, we see that…

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FILTERING FALSE BREAKOUTS

…rules behind this strategy are specifically developed to take advantage of strong trending markets that make new highs that then proceed to fail by taking out a recent low and then reverse again to make other new highs. This type of setup tends to have a very high success rate as it allows traders to enter strongly trending markets after weaker players have been flushed out, only to have real money players reenter the market and push the pair up to make major highs.

Strategy Rules

Long

1. Look for a currency pair that is making a 20-day high.
2. Look for the pair to reverse over the next three days to make a two-day low.
3. Buy the pair if it takes out the 20-day high within three days of making the two-day low.
4. Place the initial stop a few pips below the original two-day low that was identified in step 2.
5. Protect any profits with a trailing stop or take profit by double the amount risked.

Short

1. f. Look for a currency pair that is making a 20-day low.
2. Look for the pair to reverse over the next three days to make a two-day high.
3. Sell the pair if it trades below the 2-day low within three days of making the two-day high.
4. Risk up to a few ticks above the original two-day high that was identified in step 2.
5. Protect profits with a trailing stop or take profit by double the amount risked.

Examples

Take a look at our first example in Figure 8.19. The daily chart of the GBP/USD shows that the currency pair made a new 20-day high on November 17 at 1.8631. This means that the currency pair gets onto our radar screens and we prepare to look for the pair to make a new two-day low and then rally back beyond the previous 20-day high of 1.8631 over the…

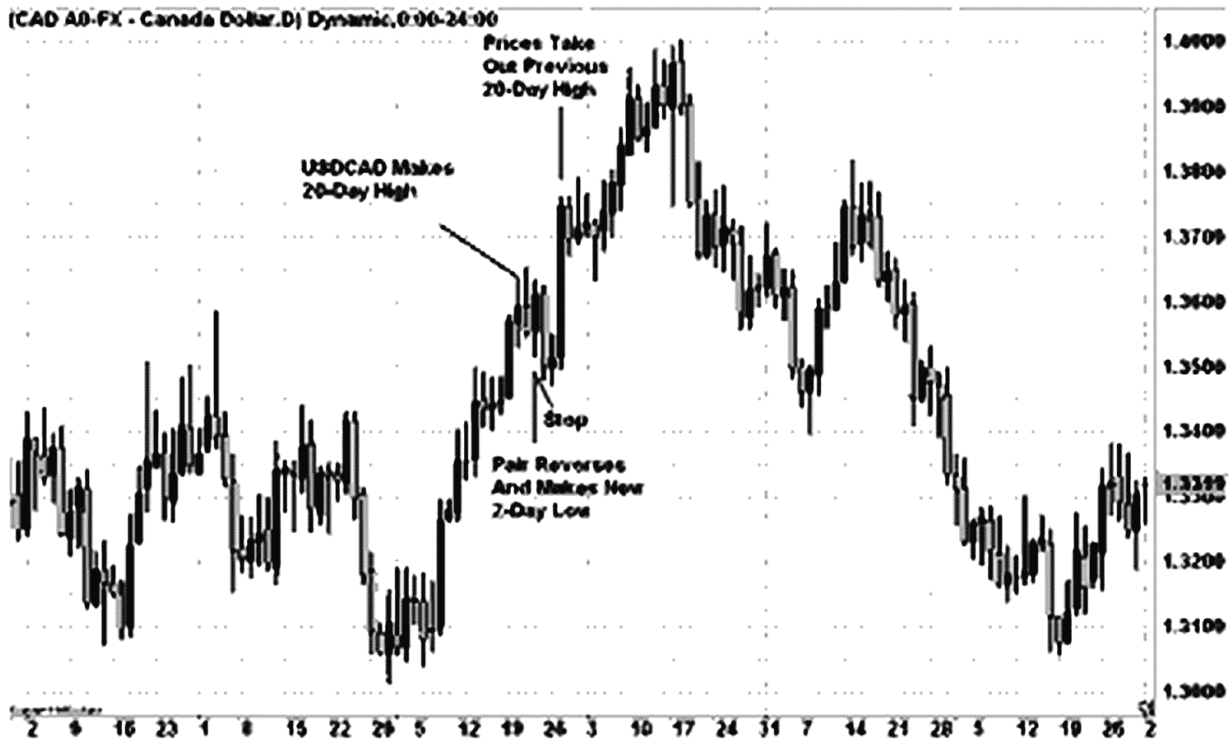

Figure 8.20 USD/CAD Filtering Fake Breakouts Chart
(*Source:* eSignal. www.eSignal.com)

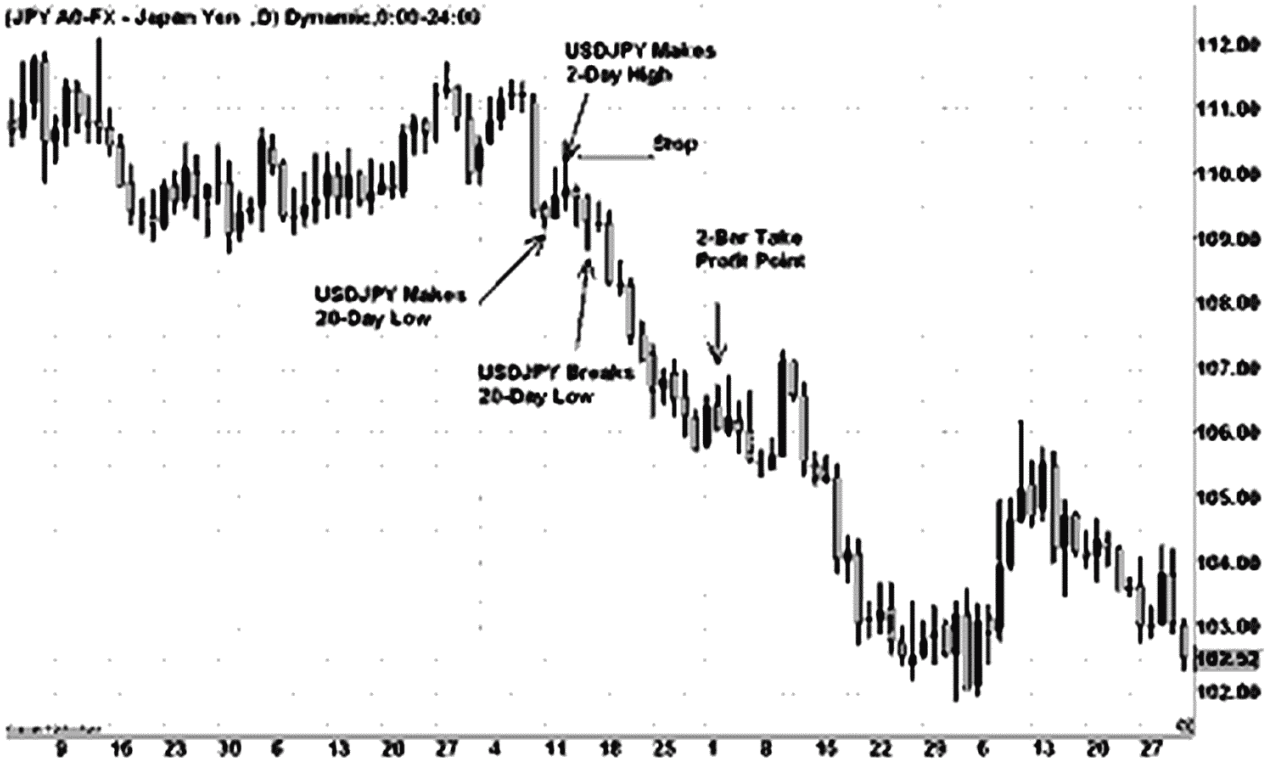

Figure 8.21 USD/JPY Filtering Fake Breakouts Chart
(*Source:* eSignal. www.eSignal.com)

Our last example is on the short side. Figure 8.21 is a daily chart of USD/JPY. The chart illustrates that USD/JPY made a new 20-day low on October 11 below 109.30. The currency pair then proceeded to make a new two-day high on October 13 of 110.21. Prices then reversed over the next two days to break below the original 20-day low, at which point our sell order at 109.20 (a few pips below the 20-day low)

was triggered. We placed our stop a few pips above the two-day high at 110.30. As the currency moves in our favor, we have two choices: either to take profits by double the amount that we risked, which would be 220 pips in profits, or to use a trailing stop such as a two-bar high. The two-bar profit would have the trade exited at 106.76 on November 2, while the 220-pip profit would have the trade exited at 107.00 on October 25.

CHANNEL STRATEGY

Channel trading is less exotic but nevertheless works very well with currencies. The primary reason is because currencies rarely spend much time in tight trading range and have the tendency to develop strong trends. By just going through a few charts, traders can see that channels can easily be identified and occur frequently. A common scenario would be channel trading during the Asian session and a breakout in either the London or the U.S. session. There are many instances where economic releases are triggers for a break of the channel. Therefore it is imperative that traders keep on top of economic releases. If a channel has formed, a big U.S. number is expected to be released, and the currency pair is at the top of a channel, the probability of a breakout is high, so traders should be looking to buy the breakouts not fade it.

Channels are created when we draw a trend line and then draw a line that is parallel to the trend line. Most if not all of the price activity of the currency pair should fall between the two channel lines. We will seek to identify situations when the price is trading within a narrow channel, and then trade in the direction of a breakout from the channel. This strategy will be particularly effective when used prior to a fundamental market event such as the release of major economic news, or when used just prior to the open of a major financial market.

Here are the rules for long trades using this technique.

1. First, identify a channel on either an intraday or a daily chart. The price should be contained within a narrow range.
2. Enter long as the price bleaks above the upper channel line.
3. Place a stop just under the upper channel line.
4. Trail your stop higher as the price moves in your favor.

Examples

Let us now examine a few examples. The first is a USD/CAD 15-minute chart shown in Figure 8.22. The total range of the channel is approximately 30 pips. In accordance with our strategy, we place entry orders 10 pips above and below the channel at 1.2395 and 1.2349. The order to go long gets triggered first and almost immediately we place a stop order 10 pips under the upper channel line at 1.2375. USD/CAD then proceeds to rally and reaches our target of double the range at 1.2455. A trailing stop also could have been used, similar to the ones that we talked about in our risk management section in Chapter 7.

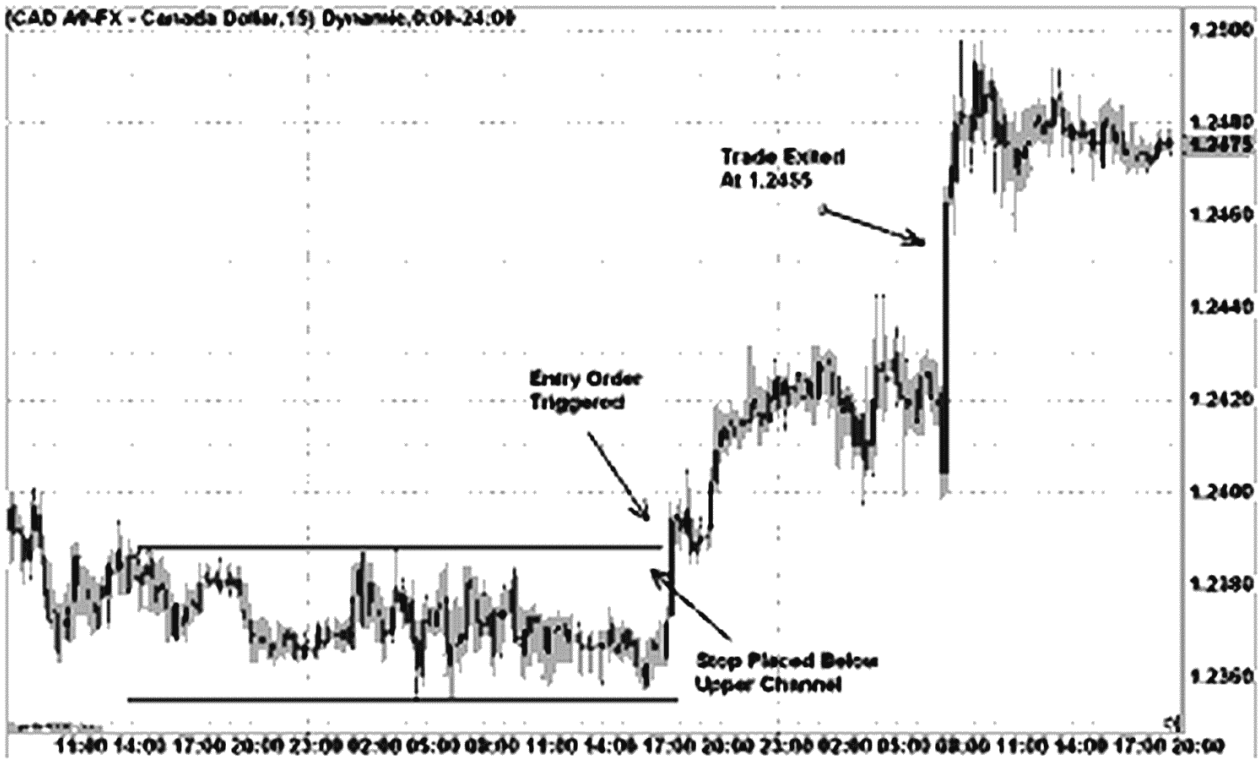

Figure 8.22 USD/CAD Channel Example
(*Source:* eSignal. www.eSignal.com)

The next example, shown in Figure 8.23 is a 30-minute chart of EUR/GBP. The total range between the two lines is 15 pips. In accordance with our strategy, we place entry orders 10 pips above and below the channel at 0.6796 and 0.6763. The order to go long gets triggered first and almost immediately we place a stop order 10 pips under the upper…

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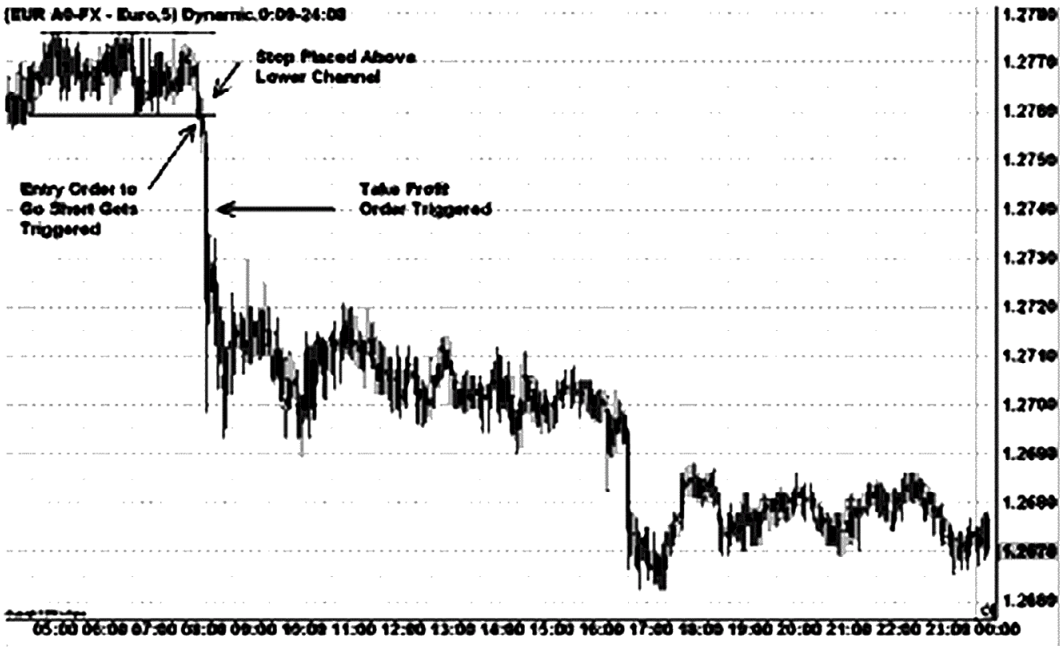

Figure 8.24 EUR/USD Channel Example
(*Source:* eSignal. www.eSignal.com)

PERFECT ORDER

…price level than the 20-day SMA, which is higher than the 50-day SMA. Meanwhile, the 100-day SMA would be below the 50-day SMA, while the 200-day SMA would be below the 100-day SMA. In a downtrend, the opposite is true, when the 200-day SMA is at the highest level and the 10-day SMA is at the lowest level. Having the moving averages stacked up in sequential order is generally a strong indicator of a trending environment. Not only does it indicate that the momentum is on the side of the trend, but the moving averages also serve as multiple levels of support. To optimize the perfect order strategy, traders should also look for ADX to be greater than 20 and trending upward. Entry and exit levels are difficult to determine with this strategy, but we generally want to stay in the trade as long as the perfect order holds and exit once the perfect order no longer holds. Perfect orders do not happen often, and the premise of this strategy is to capture the perfect order when it first happens.

The perfect order seeks to take advantage of a trending environment near the beginning of the trend. Here are the rules for using this technique.

1. Look for a currency pair with moving averages in perfect order.
2. Look for ADX pointing upward, ideally greater than 20.

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fect order no longer holds and the 20-day SMA moves below the 10-day SMA. This occurs on December 16,2005, when prices open al 1.1420. The total profit on this track is 410 pips. We risked 97 pips.

Figure 8.27 is a perfect order formation in the USD/CAD. The formation materialized on September 30, 2004. We count five bars forward and enter into the position at 1.2588 with a stop at 1.2588. The pair then proceeds to sell off and we look to exit the position when the perfect order formation no longer holds. This occurs on December 9, 2005, at which time we buy back our position at 1.2115 for a 443-pip profit while risking 149 pips.

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Picking the Strongest Pairing

… because at the time, Britain's economy had been exhibiting a consistent, impressive amount of economic growth, which, after the compulsive dollar frenzy, helped it gain hack some substantial ground within a matter of a few weeks. The rebound in the British pound against the dollar can be seen in Figure 9.1. After hitting a low of 1.8595 on March 28, the pair proceeded to rebound back toward its pre-FOMC level of 1.9200 over the next three weeks.

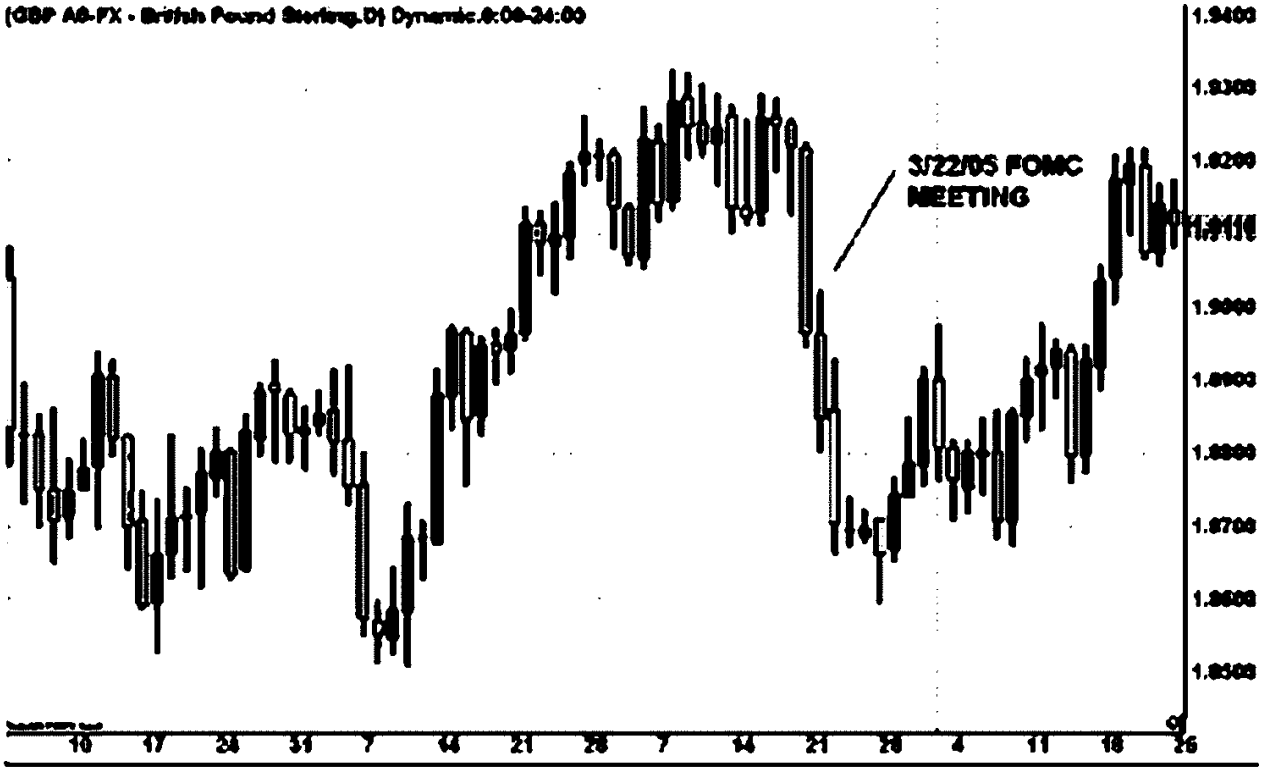

Figure 9.1 GBP/USD Post Fed Meeting

(*Source:* eSignal. www.eSignal.com)

On the other hand, the Japanese yen saw a depreciation over a much longer period of time with a continual upward movement in the USD/JPY pair well into the middle of April. This price action can be seen in Figure 9.2. After the FOMC meeting, the dollar proceeded to strengthen another 300 pips over the next two weeks. Part of the reason for the differences in these movements was that market watchers did not have much faith in the Japanese economy, which had been teetering on the edge of recession and showing no signs of positive economic expansion. Therefore, the dollar strength had a much higher impact and an increased amount of staying power with the struggling yen than with the consistently strong pound.

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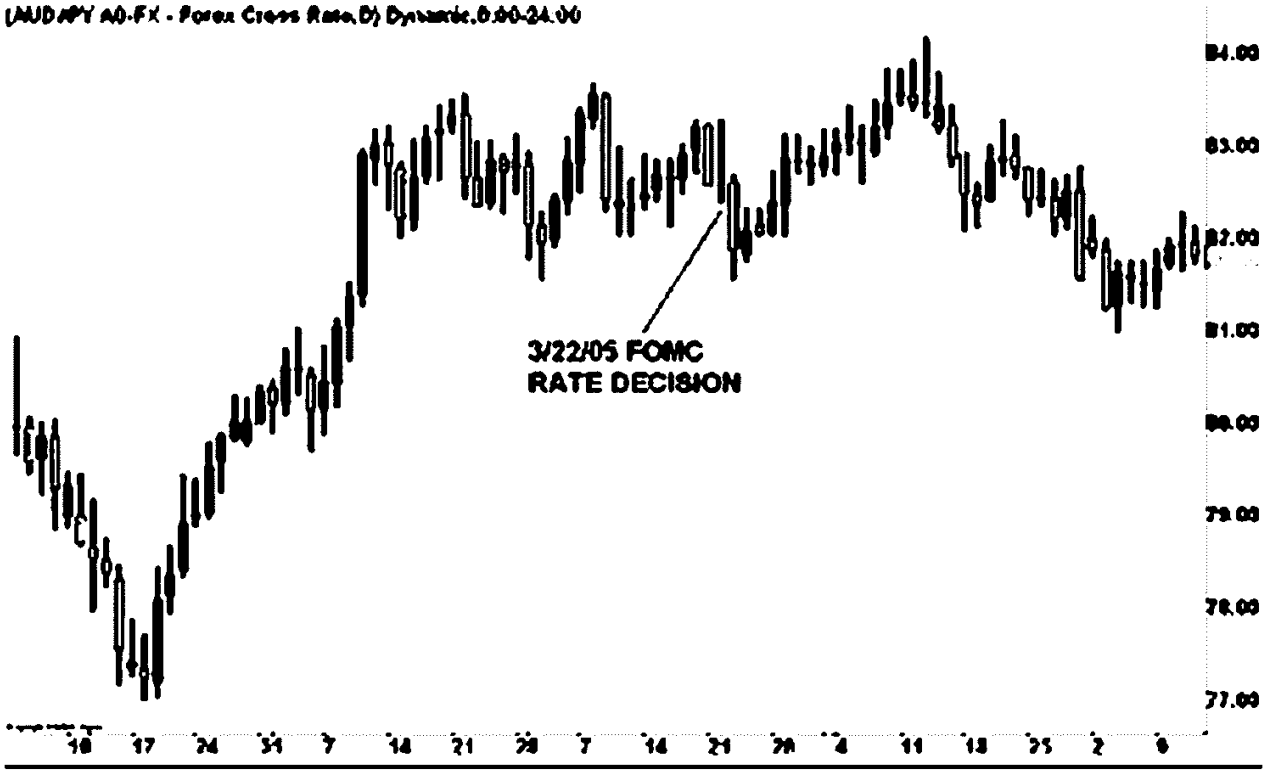

Figure 9.3 AUD/JPY Post Fed Meeting
(*Source:* eSignal. www.eSignal.com)

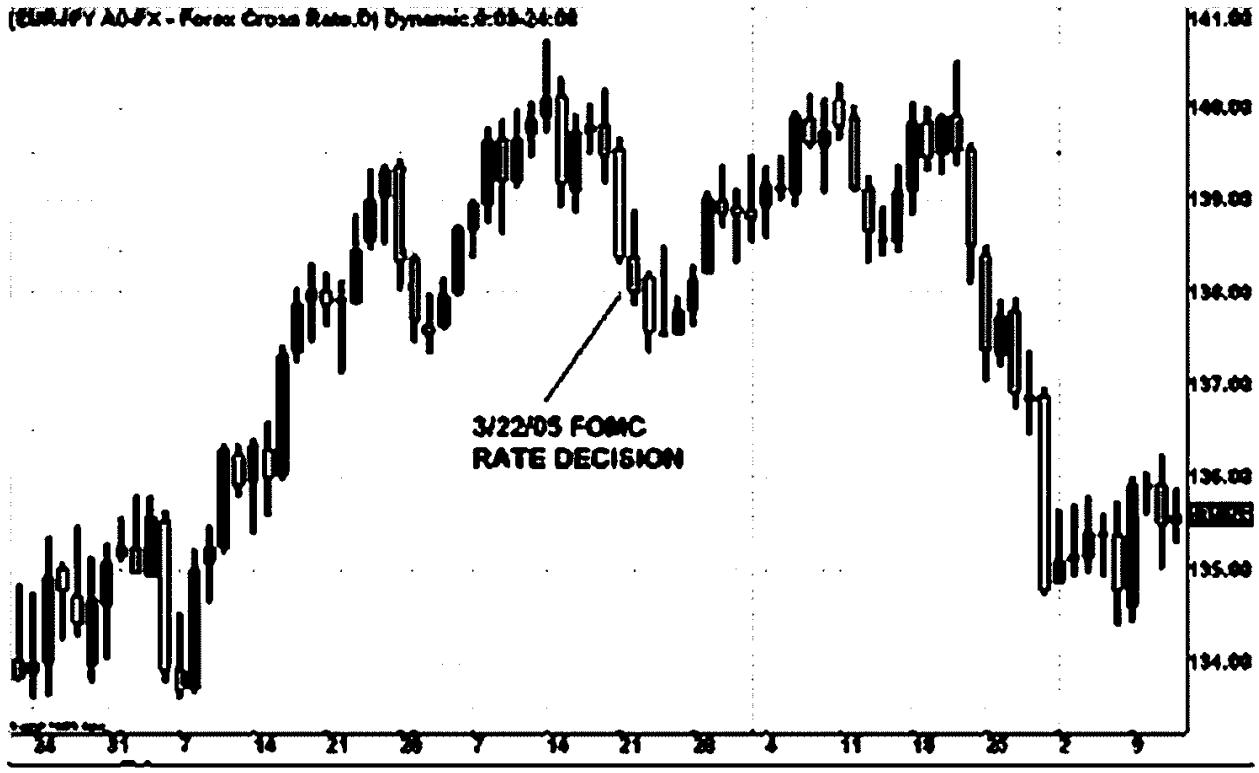

Figure 9.4 EUR/JPY Post Fed Meeting
(*Source:* eSignal. www.eSignal.com)

LEVERAGED CARRY TRADE

THE leveraged carry trade strategy is one of the favorite trading strategies of global macro hedge funds and investment banks. It is the quintessential global macro trade. In a nutshell, the carry trade strategy entails going long or buying a high-

yielding currency and selling or shorting a low-yielding currency. Aggressive speculators will leave the exchange rate exposure unhedged, which means that the speculator is betting that the high-yielding currency is going to appreciate in addition to earning the interest rate differential between the two currencies. For those who hedge the exchange rate exposure, although interest rate differentials tend to be rather small, on the scale of 1 to 5 percent, if traders factor in 5 to 10 times leverage, the profits from interest rates alone can be substantial. Just think about it: A 2.5 percent interest rate differential becomes 25 percent on 10 times leverage. Leverage can also be very risky if not managed properly because it can exacerbate losses. Capital appreciation generally occurs when a number of traders see this same opportunity and also pile info the trade, which ends up rallying the currency pair.

In foreign exchange trading, the carry trade is an easy way to take advantage of this basic economic principle that money is constantly flowing in and out of different markets, driven by the economic law of supply and demand: markets that offer the highest returns on investment will in general attract the most capital. Countries are no different in the world of international capital flows, nations that offer the highest interest rates will generally attract the most investment and create the most demand for their currencies. A very popular trading strategy, the carry trade is simple to master. If done correctly, it can earn a high return without an investor taking on a lot of risk. However, carry trades do come with some risk. The chances of loss are great if you do not understand how, why, and when carry trades work best.

How Do Carry Trades Work?

The way a carry trade works is to buy a currency that offers a high interest rate while selling a currency that offers a low interest rate. Carry trades are profitable because an investor is able to earn the difference in interest—or spread—between the two currencies.

An example: Assume that the Australian dollar offers an interest rate of 4.75 percent, while the Swiss franc offers an interest rate of 0.25 percent. To execute the carry trade, an investor buys the Australian dollar and sells the Swiss franc. In doing so, he or she can earn a profit of 4.50 percent (4.75 percent in interest earned minus 0.25 percent in interest paid), as long as the exchange rate between Australian dollars and Swiss francs does not change. This return is based on zero leverage. Five times leverage equals a 22.5 percent return on just the interest rate differential. To illustrate, take a look at the following example and Figure 9.5 to see how an investor would actually execute the carry trade:

Executing the Carry Tirade

Buy AUD and sell CHF (long AUD/CHF).

Long AUD position: investor earns 4.75 percent.

Short CHF position: investor pays 0.25 percent.

With spot rate held constant, profit is 4.50 percent, or 450 basis points.

If the currency pair also increased in value due to other traders identifying this opportunity, the carry trader would earn not only yield but also capital appreciation.

To summarize: A carry trade works by buying a currency that offers a high interest rate while selling a currency that offers a low interest rate.

Why Do Carry Trades Work?

Carry trades work because of the constant movement of capital into and out of countries. Interest rates are a big reason why some countries attract a great deal of investment as opposed to others. If a country's economy is doing well (high growth, high productivity, low unemployment…

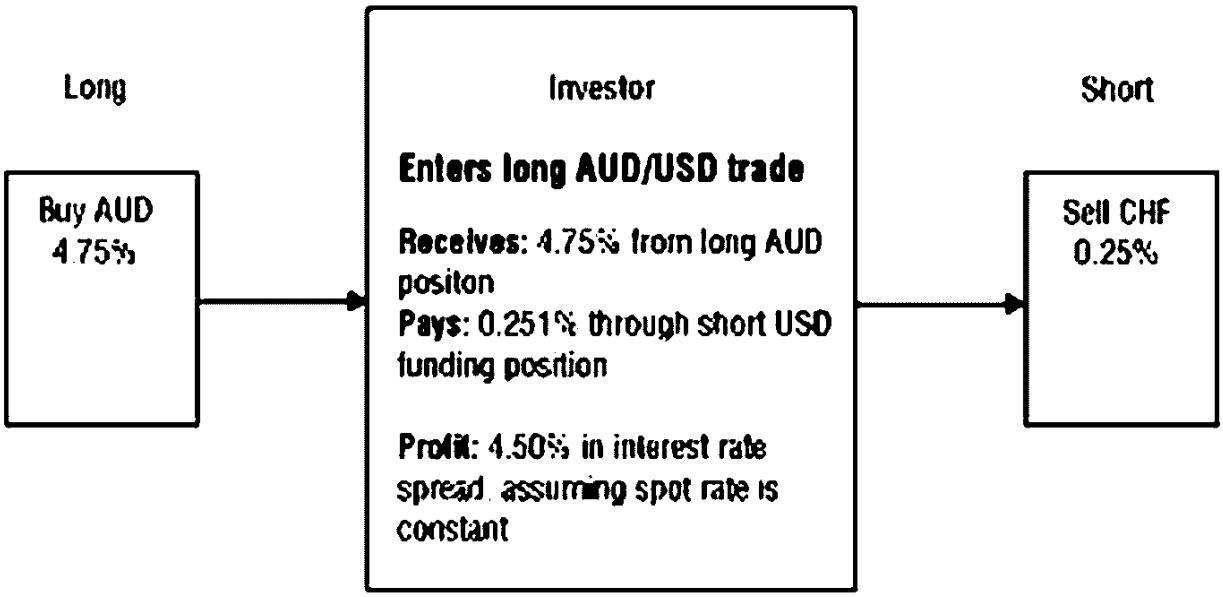

Figure 9.5 Leveraged Carry Trade Example

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…be able to pay high interest rates. Indeed, there is a clear chance that something might happen to prevent the country from paying this high interest rate. Ultimately, the investor must be willing to take this chance.

If investors as a whole, were not willing to take on this risk, then capital would never move from one country to another, and the carry trade opportunity would not exist. Therefore, in order to work, carry trades require that investors as a group have low risk aversion, or are willing to take the risk of investing in the higher-interest-rate currency.

To summarize: Carry trades have the most profit potential during times when investors are willing to take the risk of investing in high-interest-paying currencies.

When Will Carry Trades Not Work?

So far we have shown that a curry trade will work best when investors have low risk aversion. What happens when investors have high risk aversion?

Carry trades are the least profitable when investors have high risk aversion. When investors have high risk aversion, they are less willing as a group to take chances with their investments. Therefore, they would be less willing to invest in riskier currencies that offer higher interest rates. Instead, when investors have high risk aversion they would actually prefer to put their money in "safe haven" currencies that pay lower interest rates. This would be equivalent to doing the exact opposite of a carry trade—in other words, investors are buying the currency with the low interest rate and selling the currency with the high interest rate.

Going back to our earlier example, assume the investor suddenly feels uncomfortable holding a foreign currency, the Australian dollar. Now, instead of looking for the higher interest rate, she is more interested in keeping her investment sale. As a result, she swaps her Australian dollars for more familiar Swiss francs.

The net effect of millions of people doing this transaction is that capital flows out of Australia and into Switzerland as investors take their Australian dollar and trade them in for Swiss francs. Because, of this high investor risk aversion, Switzerland attracts more capital due to the safety its currency offers despite the lower interest rates. This inflow of capital increases the value of the Swiss franc (see Figure 9.7).

To summarize: Carry trades will he the least profitable during times when investors are unwilling to take the risk of investing in high-interest-paying currencies.

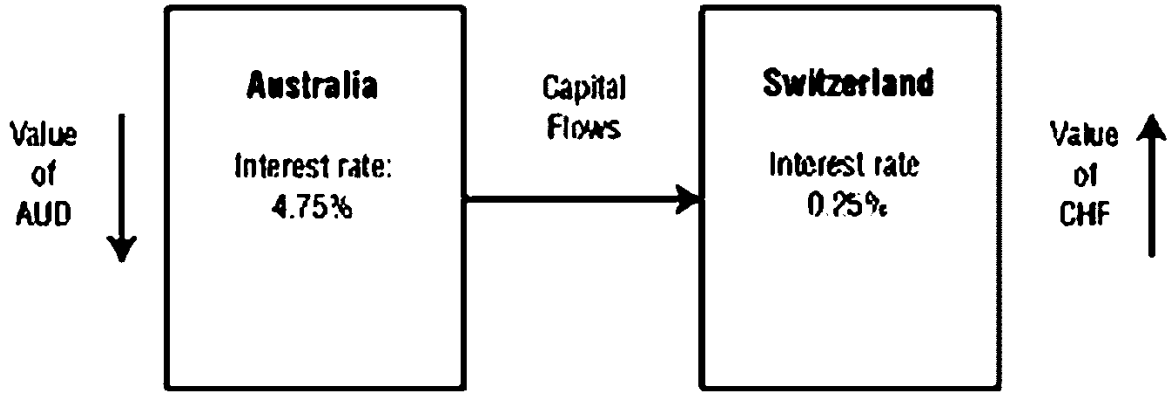

Figure 9.7 Effects of a Carry Trade When Investors Have High Risk Aversion: AUD/CHF Carry Trade Example 2

Importance of Risk Aversion

Carry trades will generally be profitable when investors have low risk aversion, and unprofitable when investors have high risk aversion. Therefore, before placing a carry trade it is critical to be aware of the risk environment—whether investors as a whole have high or low risk aversion—and when it *changes.*

Increasing risk aversion is generally beneficial for low- interest-rate-paying currencies: Sometimes the mood of investors will change rapidly — investors' willingness to make risky trades can change dramatically from one moment to the next. Often these large shifts are caused by significant global events. When investor risk aversion does rise quickly, the result is generally a large capital inflow into low-interest-rate-paying "safe haven" currencies (see Figure 9.6).

For example, in the summer of 1998 the Japanese yen appreciated against the dollar by over 20 percent in the span of two months, due mainly to the Russian debt crisis and Long-Term Capital Management hedge fund bailout. Similarly, just alter the September 11, 2001, terrorist attacks the Swiss franc rose by more than 7 percent against the dollar over a 10-day period.

These sharp movements in currency values often occur when risk aversion quickly changes from low to high. As a result, when risk aversion shifts in this way, a carry trade can just as quickly turn from being profitable to unprofitable. Conversely, as investor risk aversion goes from high to low, carry trades become more profitable, as detailed in Figure 9.8.

How do you know if investors as a whole have high or low risk aversion? Unfortunately, it is difficult to measure investor risk aversion with a single number. One way to get a broad idea of risk aversion levels is to look at the different yields that bonds pay. The wider the difference, or…

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Time Horizon In general, a carry trade is a long-term strategy. Before entering into a *carry* trade, an investor should be willing to commit to a time horizon or at least six months. This commitment helps to make sure that the trade will not be affected by the "noise" of shorter-term currency price movements. Also, not using excessive leverage for carry traders will allow traders to hold onto their positions longer and to better weather market fluctuations by not getting stopped out.

To summarize: Carry trade investors should be aware of factors such as currency appreciation, trade balances, and time horizon before placing a trade. Any or all of these factors can cause a seemingly profitable carry trade to become unprofitable,

FUNDAMENTAL TRADING STRATEGY: STAYING ON TOP OF MACROECONOMIC EVENTS

Short-term traders seem to be focused only on the economic release of the week and how it will impact their day trading activities. This works well for many traders, but it is also important not to lose sight of the big macro events that may be brewing in the economy — or the world for that matter. The reason is because large-scale macroeconomic events will move markets and will move them big time. Their impact goes beyond a simple price change for a day or two because depending on their size and scope, these occurrences have the potential to reshape the fundamental perception toward a currency for months or even years at a time. Events such as wars, political uncertainty, natural disasters, and major international meetings are so potent due to their irregularity that they have widespread psychological and physical impacts on the currency market. With these events come both currencies that appreciate vastly and currencies that depreciate just as dramatically. Therefore, keeping on top of global developments, understanding the underlying direction of market sentiment before and after these events occur, and anticipating them could be very profitable, or at least can help prevent significant losses.

Know When Big Events Occur

- Significant G-7 or G-8 finance ministers meetings.
- Presidential elections.
- Important summits.
- Major central bank meetings.
- Potential changes to currency regimes.
- Possible debt defaults by large countries.
- Possible wars as a result of rising geopolitical tensions.
- Federal Reserve chairman's semiannual testimony to Congress on the economy.

The best way to highlight the significance of these events is through examples.

G-7 Meeting, Dubai, September 2003

The countries that constitute the G-7 are the United States, United Kingdom, Japan, Canada, Italy, Germany, and France. Collectively, these countries account for two-thirds of the world's total economic output. Not all G-7 meetings are important. The only time the market really hones in on the G-7 finance ministers meeting is when big changes are expected. The G-7 finance ministers meeting on September 22, 2003, was a very important turning point for the markets. The dollar collapsed significantly following the meeting at which the G-7 finance ministers wanted to see "more flexibility in exchange rates". Despite the rather tame nature of these words, the market interpreted this line to be a major shift in policy. The last time changes to this degree had been made was back in 2000.

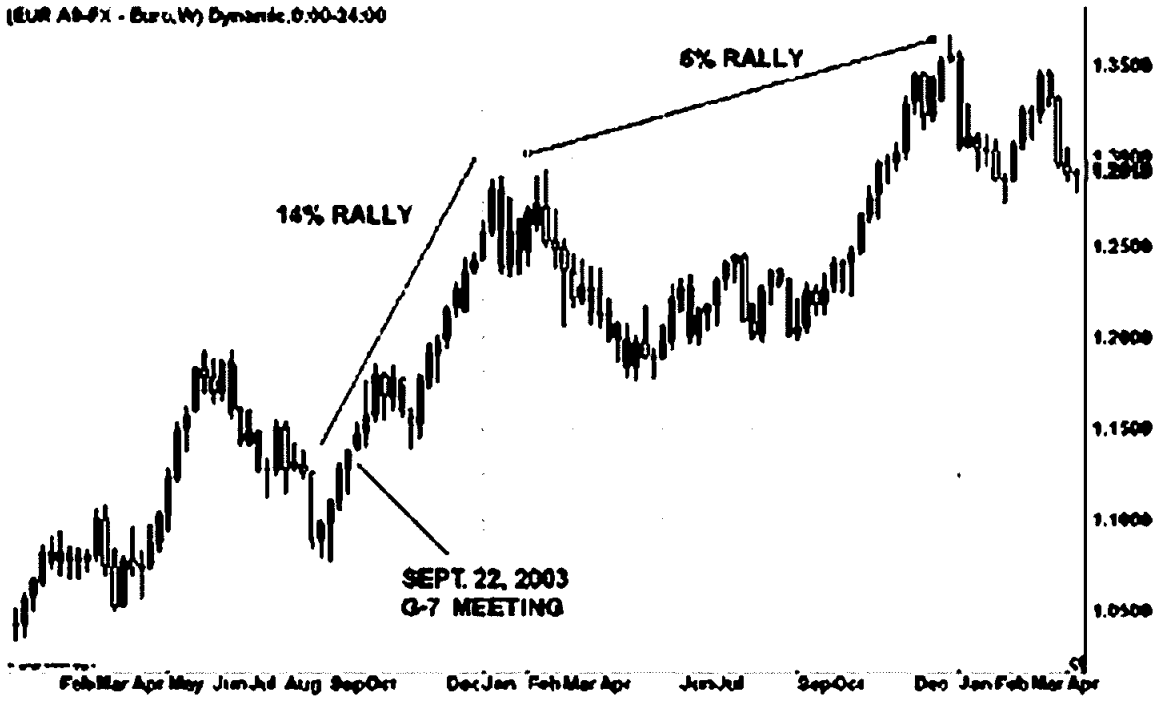

Figure 9.9 EUR/USD Post G-7 Chart
(*Source:* eSignal. www.eSignal.com)

In 2000, the market paid particular attention to the upcoming meeting because there was strong intervention in the EUR/USD the day before the meeting. The meeting in September 2003 was also important because the U.S. trade deficit was ballooning and becoming a huge issue. The EUR/USD bore the brunt of the dollar depreciation while Japan and China were intervening aggressively in their currencies. As a result, it was widely exacted that the G-7 finance ministers as a whole would issue a statement that was highly critical of Japans and Chinas intervention policies, leading up to the meeting, the U.S. dollar had already begun to sell off, as indicated by the chart in Figure 9.9. At the time of the announcement, the EUR/USD shot up 150 pips. Though this initial move was not very substantial between September 2003 and February 2004 (the next G-7 meeting), the dollar fell 8 percent on a trade-weighted basis, 9 percent against the British pound, 11 percent against the euro, 7 percent against the yen, and 1.5 percent against the Canadian dollar. To put the

percentages into perspective, a move of 11 percent is equivalent to approximately 1.100 pips. Therefore the longer-term impact is much more significant than the immediate impact, as the event itself has the ability to change the overall sentiment in the market. Figure 9.9 is a weekly chart of the EUR/USD that illustrates how the currency pair performed following the September 22, 2003, G-7 meeting.

Political Uncertainty: 2004 U.S. Presidential Election

Another example of a major event impacting the currency market is the 2004 U.S. presidential election. In general, political instability causes perceived weakness in currencies. The hotly contested presidential election in November 2004 combined with the differences in the candidates' stances on the growing budget deficit resulted in overall dollar bearishness. The sentiment was exacerbated even further given the lack of international support for the incumbent president (George W. Bush) due to the administrations decision to overthrow Saddam Hussein. As a result, in the three weeks leading up to the election, the euro rose 600 pips against the U.S. dollar. This can be seen in Figure 9.10. With a Bush victory becoming increasingly clear and later confirmed, the dollar sold off against the majors as the market looked ahead to what would probably end up being the maintenance of the status quo. On the day following the election, the EUR/USD rose another 200 pips and then continued to rise an additional 700 pips before peaking six weeks later. This entire move took place over the course of two months, which may seem like eternity to many, but this macroeconomic event really shaped the markets; for those who were following it, big profits could have been made. However, this is important even for short-term traders because given that the market was bearish dollars in general leading up to the U.S. presidential election, a more prudent trade would have been to look for opportunities to buy the EUR/USD on dips rather than trying to sell rallies and look for tops.

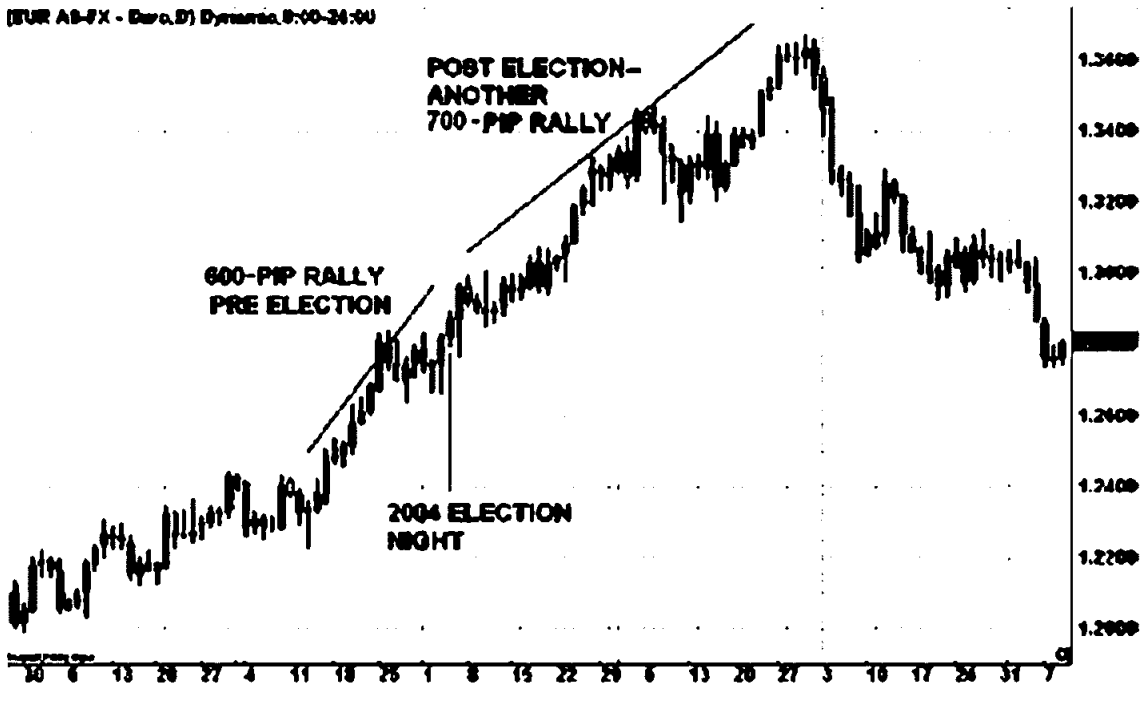

Figure 9.10 EUR/USD U.S. Election
(*Source:* eSignal. www.eSignal.com)

Wars: U.S. War in Iraq

Geopolitical risks such as wars can also have a pronounced impact on the currency market. Figure 9.11 shows that between December 2002 and February 2003, the dollar depreciated 9 percent against the Swiss franc (USD/CHF) in the months leading up to the invasion of Iraq. The dollar sold off because the war itself was incredibly unpopular among the international community. The Swiss franc was one of the primary beneficiaries due to the country's political neutrality and safe haven status. Between February and March, the market began to believe that the inevitable war would turn into a quick and decisive U.S. victory, so they began to unwind the war trade. This eventually led to a 8 percent rally in USD/CHF as investors exited their short dollar positions.

Each of these events caused large-scale movement in the currency markets, which makes them important events to follow for all types of…

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all have solid correlations with gold prices; natural gold reserves and currency laws in these countries result in almost mirror-like movements. The CAD also tends to move somewhat in line with oil prices; however, the connection here is much more complicated and fickle. Each currency has a specific correlation and reason as to why its actions reflect commodity prices so well. Knowledge of the fundamentals behind these movements, their direction, and the strength of the parallel could he an effective way to discover trends in both markets.

The Relationship

Gold Before analyzing the relationship gold has with the commodity currencies, it is important to first understand the connection between gold and the U.S. dollar. Although the United States is the worlds second largest producer of gold (behind South Africa), a rally in gold prices does not produce an appreciation of the dollar. Actually, when the dollar goes down, gold tends to go up, and vice versa. This seemingly illogical occurrence is a by-product of the perception investors hold of gold. During unstable geopolitical times, traders tend to shy away from the dollar and instead turn to gold as a safe haven for their investments. In fact, many traders call gold the "antidollar." Therefore, if the dollar depreciates, gold gets pushed up as wary investors flock from the declining greenback to the steady commodity. The AUD/USD, NZD/USD, and USD/CHF currency pairs tend to mirror gold’s movements the closest because these other currencies all have significant natural and political connections to the metal.

Starting in the South Pacific, the AUD/USD has a very strong positive correlation (0.80) with gold as shown in Figure 9.12; therefore, whenever gold prices go up, the AUD/USD also tends to go up as the Australian dollar appreciates against the U.S. dollar. The reason for this relationship is that Australia is the worlds third largest producer of gold, exporting about $5 billion worth of the precious metal annually. Because of this, the currency pair amplifies the effects of gold prices twofold. If instability is causing an increase in prices, this probably signals that the USD has already begun to depreciate. The pairing will then be pushed down further

as importers of gold demand more of Australia's currency to cover higher costs. The New Zealand dollar tends to follow the same path in the AUD/USD pairing because New Zealand's economy is very closely linked to Australia's. The correlation in this pairing is also approximately 0.80 with gold (see Figure 9.13 for the chart).

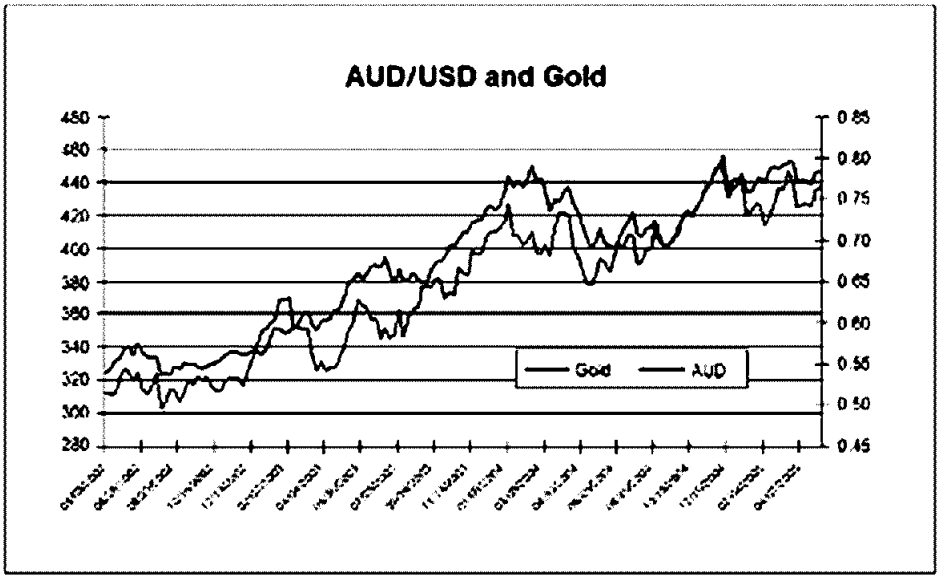

Figure 9.12 AUD/USD and Gold

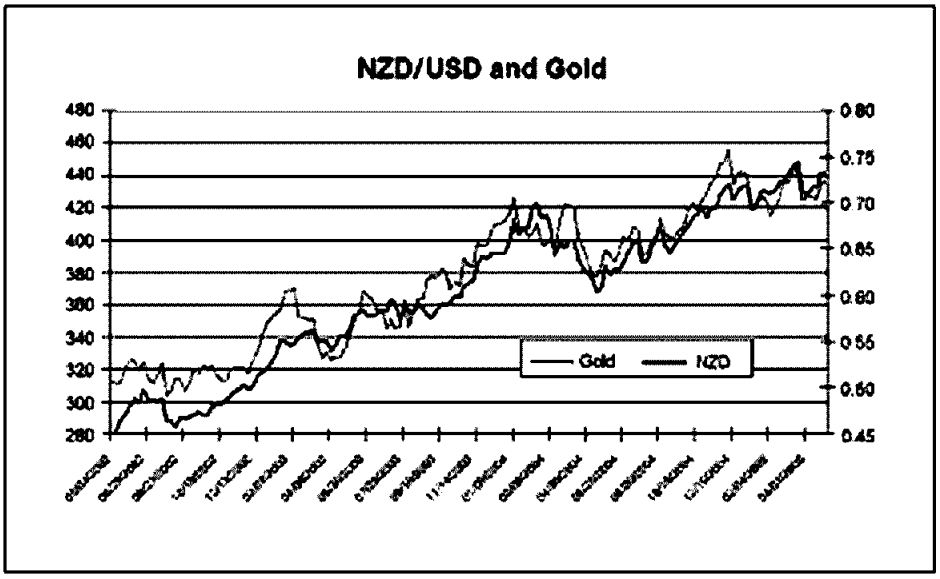

Figure 9.13 NZD/USD and Gold

The CAD/USD has an even stronger correlation with gold prices at 0.84, …
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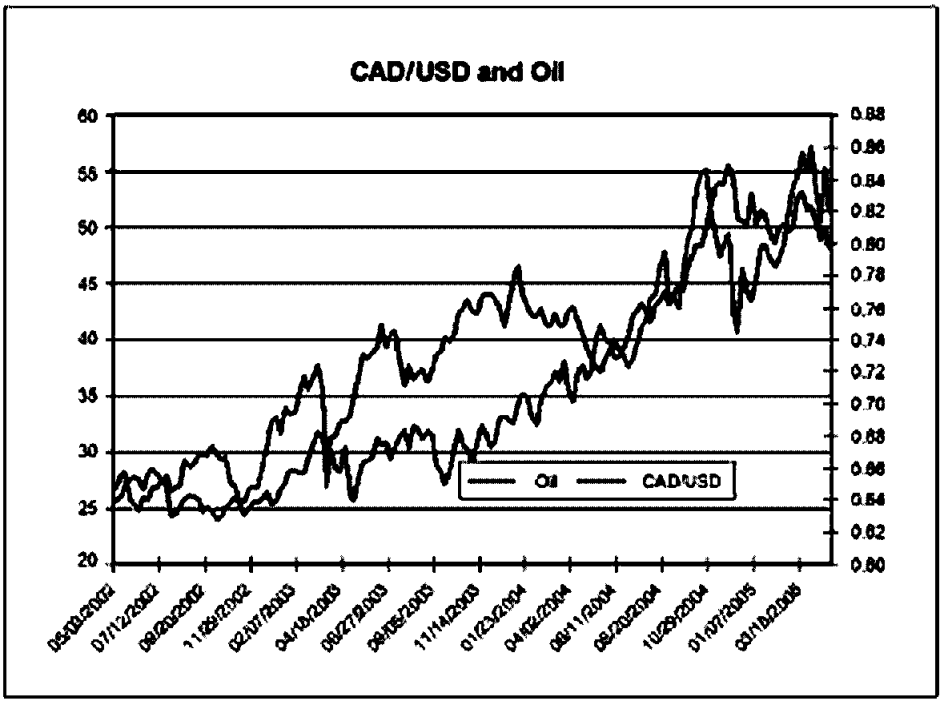

Figure 9.13 CAD/USD and Oil

Trading Opportunity

Now that the relationships have been explained, there are two ways to exploit this knowledge. Taking a look at Figures 9.12, 9.13 and 9.14, you can see that generally speaking, commodity prices are a leading indicator for currency prices. This is most apparent in the NZD/USD-gold relationship shown in Figure 9.13 and the CAD/USD-oil relationship shown in Figure 9.14. As such, commodity block traders can monitor gold and oil prices to forecast movements in the currency pairs. The second way to exploit this knowledge is to parlay the same view using different products, which does help to diversify risk a bit even with the high correlation. In fact, there is one key advantage to expressing the view in currencies over commodities, and that is that it offers traders the ability to earn interest on their positions based on the interest rate differential between the two countries, while gold and oil futures positions do not.

USING BOND SPREADS AS A LEADING INDICATOR FOR FX

Any trader can attest that interest rates are an integral part of investment decisions and can drive markets in either direction. FOMC rate decisions are the second largest currency-market-moving release, behind unemployment data. The effects of interest rate changes have not only short-term implications, but also long-term consequences on the currency markets. One central banks rate decision can affect more than a single pairing in the interrelated forex market. Yield differentials fixed income instruments such as London Interbank Offered Rates (LIBOR) and 10-year bond yields can be used as leading indicators for currency movements. In FX trading, an interest rate differential is the difference between the interest rate on a base currency (appearing first in the pair) less the interest rate on the quoted currency (appearing second in the pair). Each day at 5:00 p.m. EST the close of the day for currency markets, funds are either paid out or received to adjust for interest rate

differences. Understanding the correlation between interest rate differentials and currency pairs can be very profitable. In addition to central bank overnight rate decisions, expected future overnight rates along with the expected timing of rate changes are also critical to currency pair movements. The reason why this works is that the majority of international investors are yield seekers. Large investment banks, hedge funds, and institutional investors have the ability capital-wise to access global markets. Therefore, they are actively shifting funds from lower-yielding assets to higher-yielding assets.

Interest Rate Differentials: Leading Indicator, Coincident Indicator, or Lagging Indicator?

Since most currency traders consider present and future interest rate differentials when making investment decisions, there should theoretically be some correlation between yield differences and currency pair prices. However, do currency pair prices predict rate decisions, or do rate decisions affect currency pair prices? Leading indicators are economic indicators that predict future events; coincident indicator are economic indicators that vary with economic events; lagging indicators are economic indicator that follow an economic event. For instance, if interest rate differentials predict future currency pair prices, interest rate differentials arc said to be leading indicators of currency pair prices. Whether interest rate differentials are a leading, coincident, or lagging indicator of currency pair prices depends on how much traders care about future rates versus current rates. Assuming efficient markets, if currency traders care only about current interest rates and not about future rates, one would expect a coincident relationship. If currency traders consider both current and future rates, one would expect interest rate differentials to be a leading indicator of future currency prices.

The rule of thumb is that when the yield spread increases in favor of a certain currency that currency will generally appreciate against other currencies. For example, if the current Australian 10-year government bond yield is 5.50 percent and the current U.S. 10-year government bond yield is 2.00 percent, then the yield spread would be 350 basis points in favor of Australia. If Australia raised its interest rates by 25 basis points and the 10-year government bond yield appreciated to 5.75 percent, then the new yield spread would be 375 basis points in favor of Australia. Based on historical evidence, the Australian dollar is also exacted to appreciate against the U.S. dollar in this scenario.

Based on a study of three years of empirical data starting from January 2002 and ending January 2005, we find that interest rate differentials tend to be a leading indicator of currency pairs. Figures 9.15, 9.16, and 9.17 are graphical representations of this finding.

These figures show three examples of currency pairs where bond spreads have the clearest leading-edge correlation. As one would expect from the fact that traders trade on a variety of information and not just interest rates, the correlation, though good, is not perfect. In general, interest rate differential analysis seems to work better over a longer period of time. However, shifts in sentiment for the outlook for the path of interest rates over the shorter term can still be a leading indicator for currency prices.

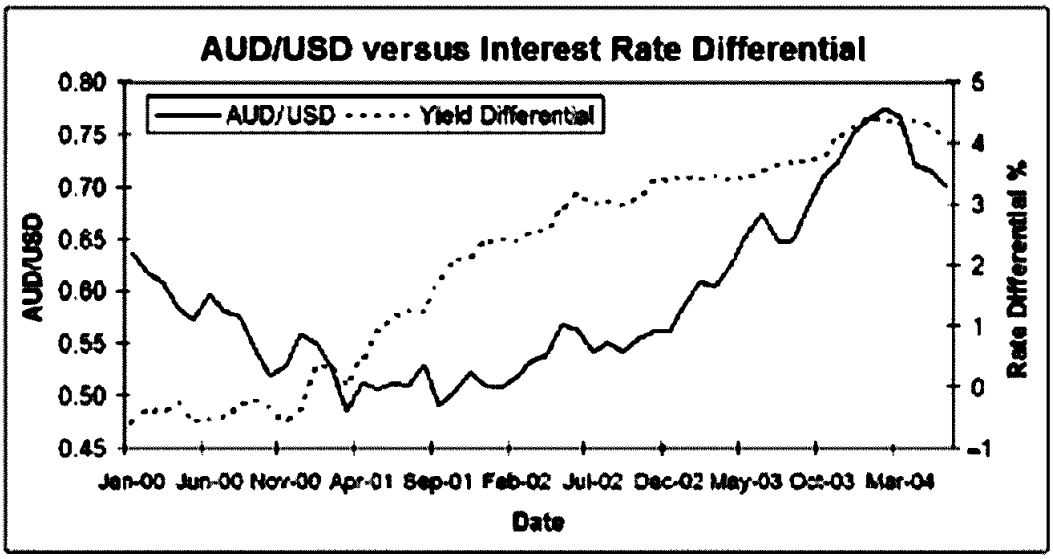

Figure 9.15 AUD/USD and Bond Spread

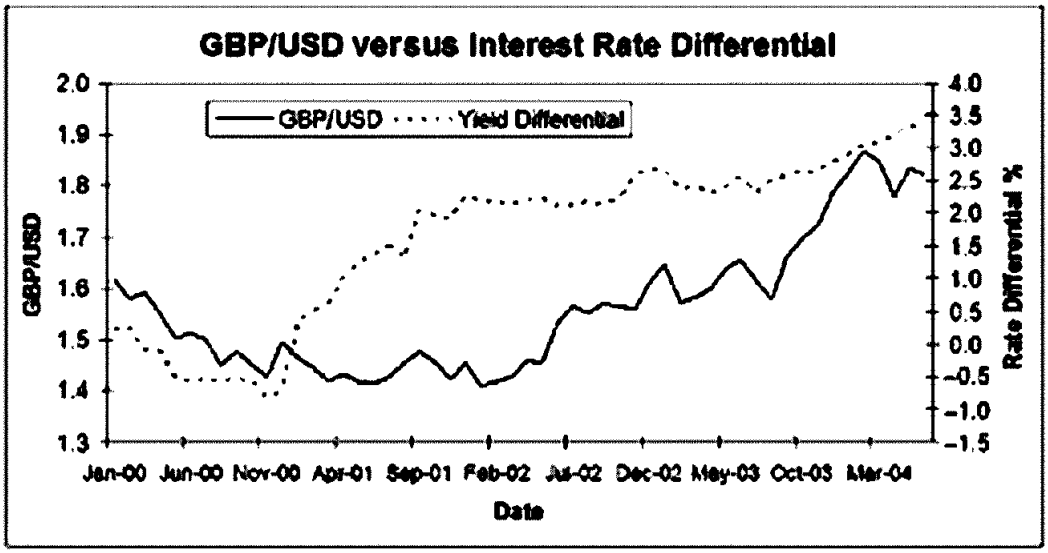

Figure 9.15 GBP/USD and Bond Spread

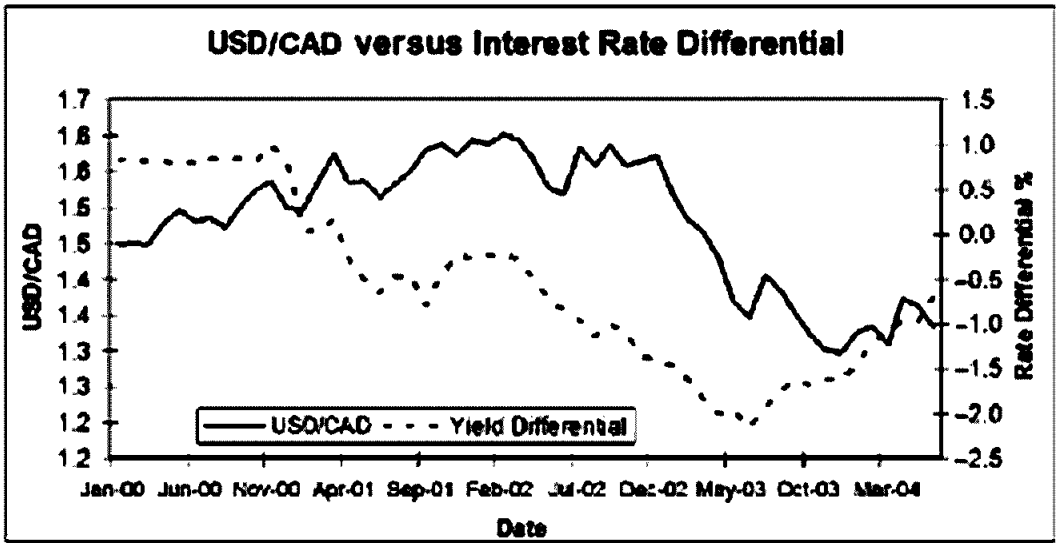

Figure 9.17 USD/CAD and Bond Spread

Calculating Interest Rate Differentials and Following the Currency Pair Trends

The best way to use interest rate differentials for trading is by keeping track of one-month LIBOR rates or 10-year bond yields in Microsoft Excel.

TABLE 9.1 Bond Spreads

	Date				
	10/29/2004	11/30/2004	12/21/2004	1/31/2005	2/26/2005
U.S. 10 year yield	2.00	2.29	2.40	2.59	2.71
CBP/USD	1.8372	1.9095	1.9181	1.8829	1.9210
U.K. 10-year yield	4.83	4.82	4.86	4.83	4.87
UK.-U.S. rate differential	2.83	2.53	2.46	2.24	2.15
USD/JPY	105.81	103.07	102.63	103.70	104.63
JPY 10-year yield	0.04	0.039	0.039	0.04	0.038
U.S.-JPY rate differential	1.96	2.25	2.36	2.55	2.67

These rates are publicly available on web sites such as Bloomberg.com. Interest rate differentials are then calculated by subtracting the yield of the second currency in the pair from the yield of the first. It is important to make sure that interest rate differentials are calculated in the order in which they appear for the pair. For instance, the interest rate differentials in GBP/USD should be the 10-year gift rate minus the 10-year U.S. Treasury note rate. For euro data, use data from the German 10-year bond. Form a table that looks similar to the one shown in Table 9.1.

After sufficient data is gathered, you can graph currency pair values and yields using a graph with two axes to see any correlations or trends. The sample graphs in Figures 9.15, 9.16, and 9.17 use the date in the X-axis and currency pair price and interest rate differentials on two y-axis graphs. To fully utilize this data in trading, you want to pay close attention to trends in the interest rate differentials of the currency pairs you trade.

FUNDAMENTAL TRADING STRATEGY: RISK REVERSALS

Risk reversals are a useful fundamentals-based tool to add to your mix of indicators for trading. One of the weaknesses of currency trading is the lack of volume data and accurate indicators for gauging sentiment. The only publicly available report on positioning is the “Commitments of Traders" report published by the Commodity Futures Trading Commission, and even that is released with a three-day delay. A useful alternative is to use risk reversals, which are provided on a real-time basis on the Forex Capital Markets (FXCM) news plug-in, under Options. As we first introduced in Chapter 7, a risk reversal consists of a pair of options for the

same currency (a call and a put). Based on put/call parity, far out-of-the-money options (25 delta) with the same expiration and strike price should also have the same implied volatility. However, in reality this is not true. Sentiment is embedded in volatilities, which makes risk reversals a good tool to gauge market sentiment. A number strongly in favor of calls over puts indicates that there is more demand for calls than puts. The opposite is also true: a number strongly in favor of puts over calls indicates that there is a premium built in put options as a result of the higher demand. If risk reversals are near zero, this indicates that there is indecision among bulls and bears and that there is no strong bias in the markets.

What Does a Risk Reversal Table Look Like?

We showed a risk reversal table before in Chapter 7, (Table 7.3), but want to describe it again to make sure that it is well understood. Each of the abbreviations for the currency options are listed, and, as indicated, most risk reversals are near zero, which indicates no significant bias. For USD/JPY, though, the longer-term risk reversals indicate that the market is strongly favoring yen calls (JC) and dollar puts.

How Can You Use This Information?

For easier graphing and tracking purposes, we use positive and negative integers for call and put premiums, respectively, in Figure 9.18. Therefore a positive number indicates that calls are preferred over puts and that the market as a whole is expecting an upward movement in the underlying currency. Likewise, a negative number indicates that puts are preferred over calls and that the market is exacting a downward move in the underlying currency. Used prudently, risk reversals can be a valuable tool in judging market positioning. While the signals generated by a risk reversal system will not be completely accurate, they can specify when the marker is bullish or bearish.

Risk reversals become quite important when the values are at extreme levels. We identify extreme levels as one standard deviation plus or minus the average risk reversal. When risk reversals are at these levels, they give off contrarian signals, indicating that a currency pair is overbought or oversold based on sentiment. The indicator is perceived as a contrarian signal because when the entire market is positioned for a rise…

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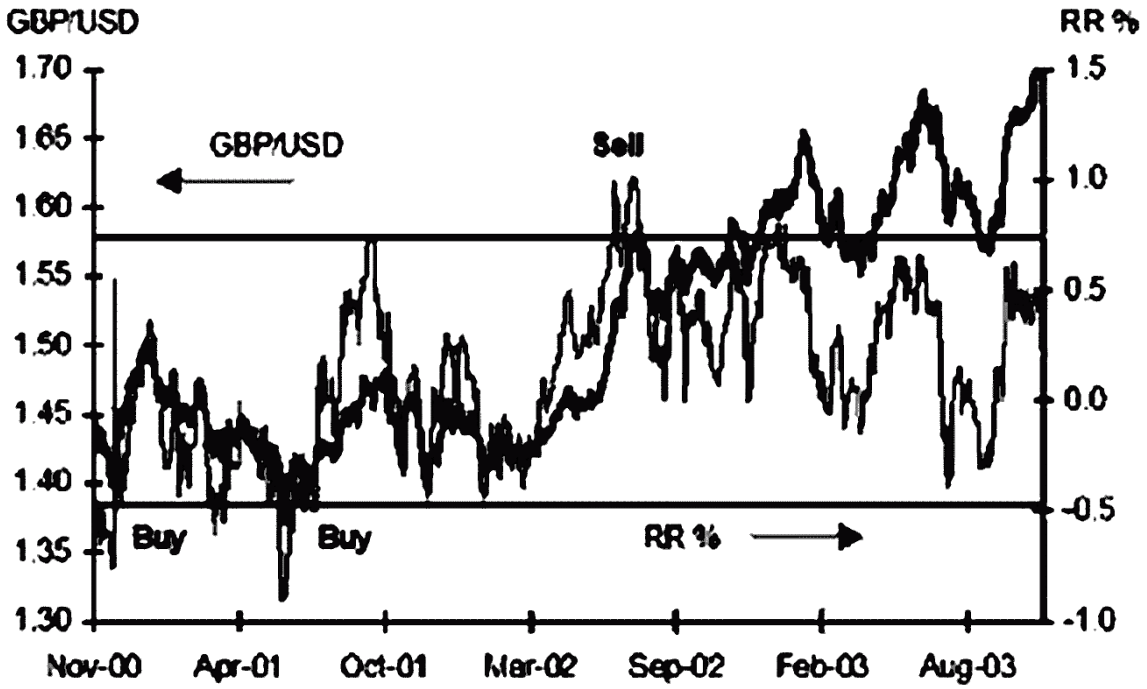

Figure 9.19 GBP/USD Risk Reversal Chart

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once again a month later to 1.90. We saw another top in the EUR/USD, which later became a much deeper descent.

The next example is the GBP/USD. As can be seen in Figure 9.19, risk reversals do a very good job of identifying extreme overbought and oversold conditions. Buy and soil levels are added to the GBP/USD chart for further clarification of how risk reversals can also be used to time market turns. With the lack of price and volume data to give us a sense of where the market is positioned, risk reversals can be helpful in gauging general market sentiment.

USING OPTION VOLATILITIES TO TIME MARKET MOVEMENTS

Using option volatilities to time foreign exchange spot movements is a topic, that we touched upon briefly in Chapter 7. Since this is a very useful strategy that is a favorite among professional hedge funds, it certainly warrants a more detailed explanation. Implied volatility can be defined as a measure of a currency's expected fluctuation over a given time period based on past price fluctuations. This is typically calculated by taking the historic annual standard deviation of daily price changes. Future prices help to determine implied volatility, which is used to calculate option premiums. Although this sounds fairly complicated, its application is not. Basic-ally, option volatilities measure the rate and magnitude of a currency's price over a given period of time based on historical fluctuations. Therefore, if the average daily trading range of the EUR/USD contracted from 100 pips to 60 pips and stayed there for two weeks, in all likelihood short-term volatility also contracted significantly compared to longer-term volatility during the same time period.

Rules

As a guideline, there are two simple rules to follow. The first one is that if short-term option volatilities are significantly lower than long-term volatilities, one should expect a breakout, though the direction of the breakout is not defined by this rule. Second, if short-term option volatilities are significantly higher than long-term volatilities, one should expect a reversion to trading range.

Why Do These Rules Work?

During a ranging period, implied option volatilities are either low or on the decline. The inspiration for these rules is that in periods of range trading, there tends to be little movement. We care most about when option volatilities drop sharply, which could be a sign that a profitable breakout is under way. When short-term volatility is above long-term volatility, it means that near-term price action is more volatile than the long-term average price action. This suggests that the ranges will eventually contract back toward average levels. The trend is most noticeable in empirical data. Here are a few examples of when this rule accurately predicted trends or breaks.

Before analyzing the charts, it is important to note that we use one-month volatilities as our short-term volatilities and three-month volatilities as our longer-term volatilities.

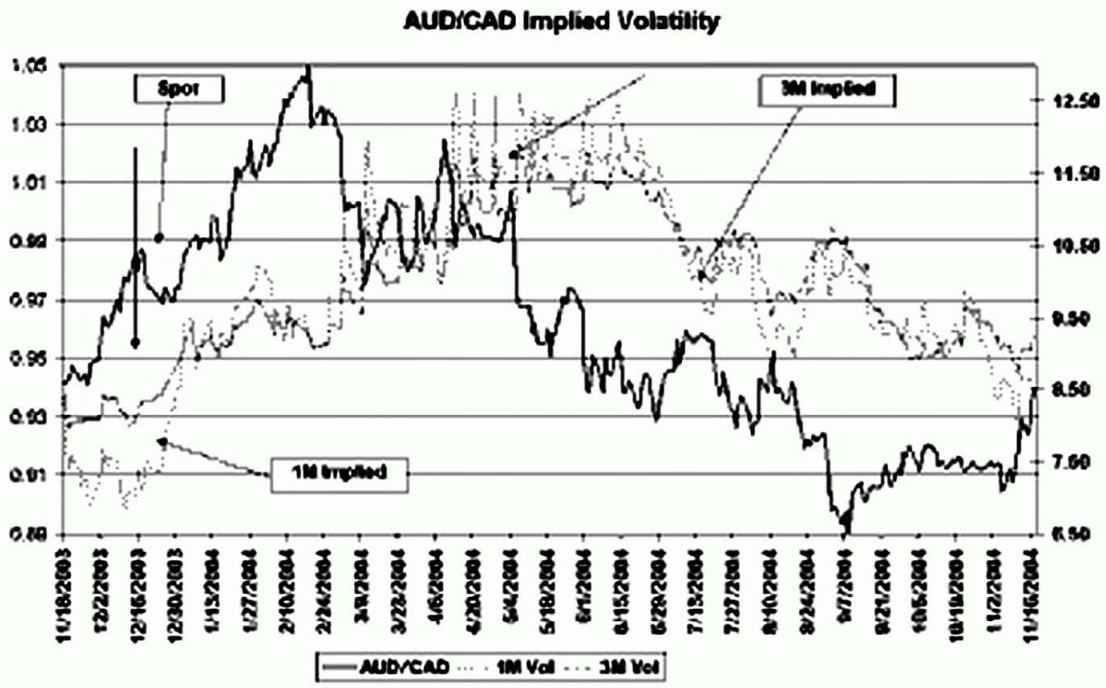

Figure 9.20 AUD/CAD Volatility Chart

In the AUD/CAD volatility chart in Figure 9.20, for the most part shorter-term volatility is fairly close to the longer-term volatility. However, the first arrow shows an instance where short-term volatility spiked well below long-term volatility, which, as indicated by our rule, suggests an upcoming breakout scenario in the currency pair. AUD/CAD did eventually break upward significantly into a strong uptrend.

The same trend is visible in the USD/JPY volatility chart in Figure 9.21. The leftmost arrow shows an instance where one-month implied volatility spiked significantly higher than three-month volatility; as expected, the spot price continued

to range. The next downward arrow points to an area where short-term volatility fell below long-term volatility, leading to a breakout that sent spot prices up.

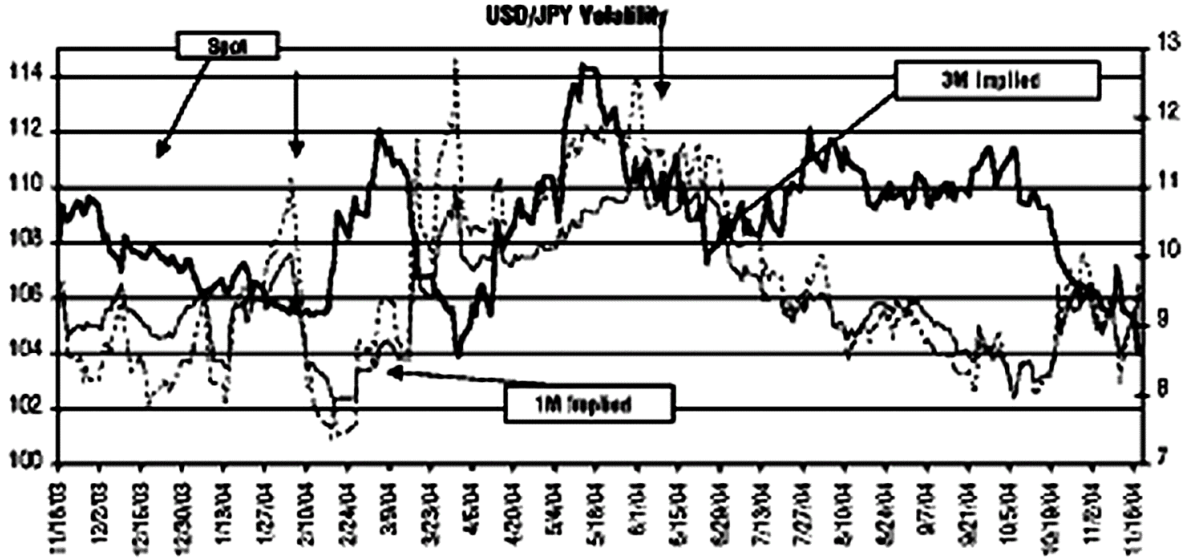

Figure 9.21 USD/JPY Volatility Chart

Who Can Benefit from These Rules?

This strategy is not only useful for breakout traders, but range traders can also utilize this information to predict a potential breakout scenario. If volatility contracts fall significantly or become very low; the likelihood of continued range trading decreases. After eyeing a historical range traders should look at volatilities to estimate the likelihood that the spot will remain within this range. Should the trader decide to go long or short this range, he or she should continue to monitor volatility as long as he or she has an open position in the pair to assist them in determining when to close out that position. If short-term volatilities fall well below long-term volatilities the trader should consider closing the position if the suspected breakout is not in the trader's favor. The potential break is likely to work in the favor of the trader if the current spot is close to the limit and far from the stop. In this hypothetical situation, it may be profitable to move limit prices away from current spot prices to increase profits from the potential break. If the spot price is close to the stop price and far from the limit price, the break is likely to work against the trader, and the trader should close the position immediately.

Breakout traders can monitor volatilities to verify a breakout. If a trader suspects a breakout, he or she can verify this breakout through implied volatilities. Should implied volatility be constant or rising, there is a higher probability that the currency will continue to trade in range than if volatility is low or falling. In other words, breakout traders should look for short-term volatilities to be significantly lower than long-term volatilities before making a breakout trade.

Aside from being a key component for pricing, option volatilities can also be a useful tool for forecasting market activities. Option volatilities measure the rule and magnitude of the changes in a currency's prices. Implied option volatilities, on the other hand, measure the expected fluctuation of a currency's price over a given period of time based on historical fluctuations.

Tracking Volatilities on Your Own

Volatility tracking typically involves taking the historic annual standard deviation of daily price changes. Volatilities can be obtained from the FXCM news plug-in available at www.fxcm.com/forex-news-software-exchange.jsp. Generally speaking, we use three-month volatilities for long-term volatilities numbers and one-month volatilities for the short term. Figure 9.22 shows how the volatilities would look on the news plug-in.

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FUNDAMENTAL TRADING STRATEGY: INTERVENTION

…tain directional move in its currency. There are basically two types of intervention, sterilized and unsterilized. Sterilized intervention requires offsetting intervention with the buying or selling of government bonds, while unsterilized intervention involves no changes to the monetary base to off-set intervention. Many argue that unsterilized intervention has a more lasting effect on the currency than sterilized intervention.

Taking a look at some of the following case studies, it is apparent that interventions in general are important to watch and ran have large impacts on a currency pair's price action. Although the actual timing of intervention tends to be a surprise, quite often the market will begin talking about the need for intervention days or weeks before the actual intervention occurs. The direction of intervention is generally always known in advance because the central bank will typically come across the newswires complaining about too much strength or weakness in its currency. These warnings give traders a window of opportunity to participate in what could be significant profit potentials or to stay out of the markets. The only thing to watch out for, which you will see in a case study, is that the sharp intervention-based rallies or sell-offs can quickly be reversed as speculators come into the market to fade the central bank. Whether or not the market fades the central bank depends on the frequency of central batik intervention, the success rate, the magnitude of the intervention, the timing of the intervention, and whether fundamentals support intervention. Overall though, intervention is much more prevalent in emerging market currencies than in the G-7 currencies since countries such as Thailand, Malaysia, and South Korea need to prevent their local currencies from appreciating too significantly such that the appreciation would hinder economic recovery and reduce the competitiveness of the country's exports. The rarity of G-7 intervention makes the instances even more significant.

Japan

The biggest culprit of intervention in the G-7 markets over the past few years has been the Bank of Japan (BOJ). In 2003, the Japanese government spent a record Y20.1 trillion on intervention. This compares to the previous record of Y7.64 trillion that was spent in 1999. In the mouth of December 2003 (between November 27 and December 26) alone, the Japanese government sold Y2.25 trillion. The amount it spent on intervention that year represented 84 percent of the country's trade surplus. As an export-based economy, excess strength in the Japanese yen poses a significant

risk to the country's manufacturers. The frequency and strength of BOJ intervention over the past few years created an invisible floor under USD/JPY. Although this floor has gradually descended from 115 to 100 between 2002 and 2005, the market still has an ingrained fear of seeing the hand of the BOJ and the Japanese Ministry of Finance once again. This fear is well justified because in the event of BOJ intervention, the average 100-pip daily range can easily triple. Additionally, at the exact time of intervention, USD/JPY has easily skyrocketed 100 pips in a matter of minutes.

In the first case study shown in Figure 9.23, the Japanese government came into the market and bought U.S. dollars and sold 1.04 trillion yen (approximately US$9 billion) on May 19, 2003. The intervention happened around 7:00 a.m. EST. Prior to the intervention, USD/JPY was trading around 115.211. When intervention occurred at 7:00 a.m., prices jumped 30 pips in one minute. By 7:30, USD/JPY was a full 100 pips higher. At 2:30 p.m. EST, USD/JPY was 220 pips higher. Intervention generally results in anywhere between 100- and 200-pip movements. Trading on the side of intervention can be very profitable (though risky) even if prices end up reversing.

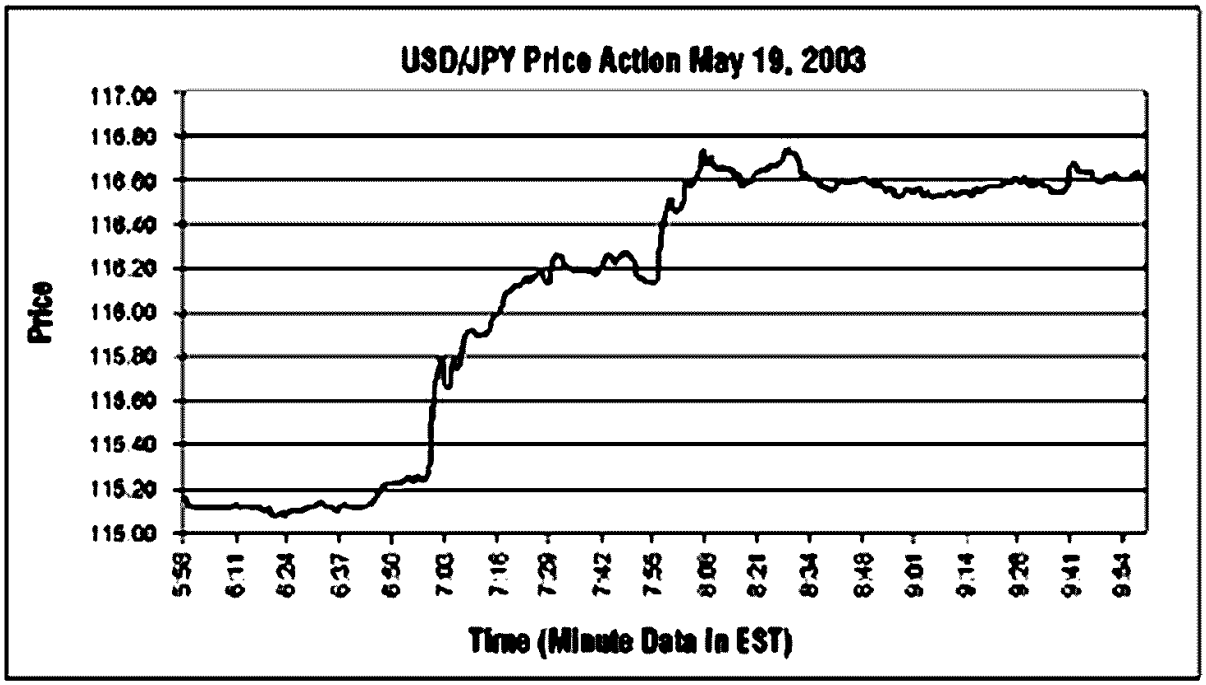

Figure 9.23 USD/JPY May 19, 2003

The second USD/JPY example (Figure 9.24) shows how a trader could still be on the side of intervention and profit even though prices reversed later in the day. On January 9, 2004, the Japanese government came into the market to buy dollars and sell l.664 trillion yen (approximately US$15 billion). Prior to the intervention, USD/JPY was trading at approximately 106.60. When the BOJ came into the market at 12:22 a.m. EST, prices…

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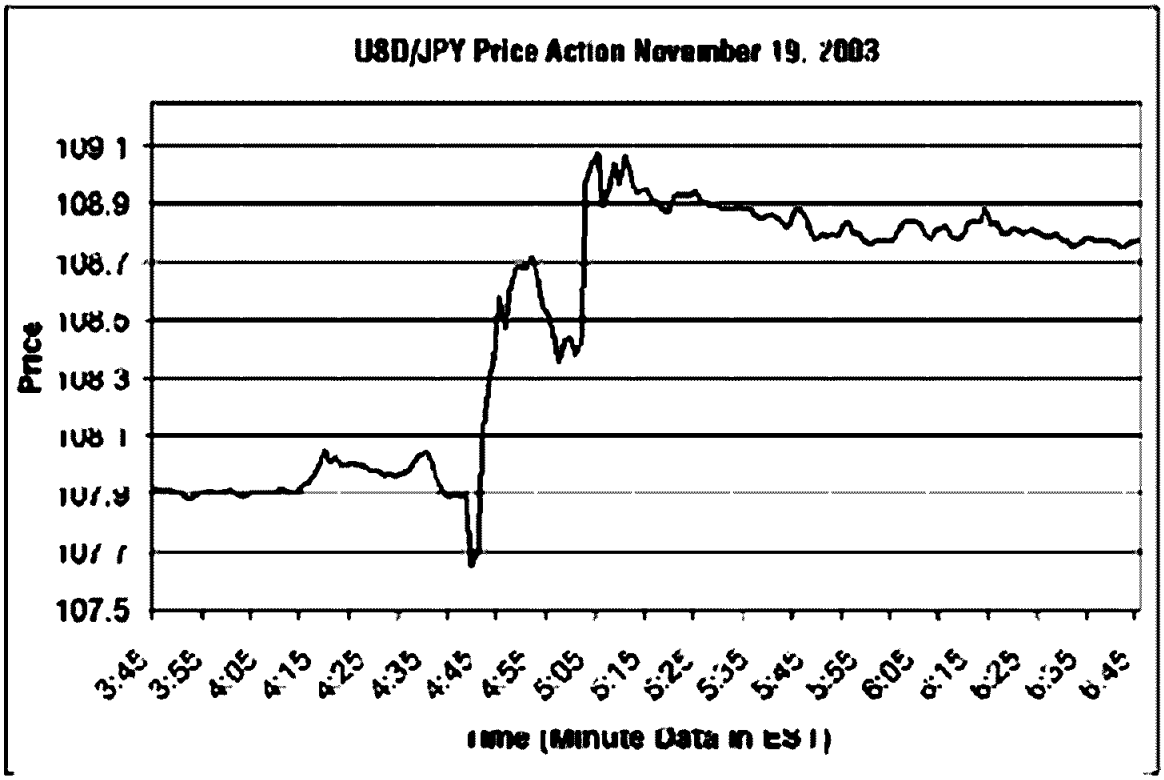

Figure 9.25 USD/JPY November 19, 2003

Eurozone

Japan is not the only major country to have intervened in its currency in recent years. The central bank of the Eurozone also came into the market to buy euros in 2000, when the single currency depreciated from 90 cents to 84 cents. In January 1999, when the euro was first launched, it was valued at 1.17 against the U.S. dollar. Due to the sharp slide, the European Central Bank (ECB) convinced the United States, Japan, the United Kingdom, and Canada to join it in coordinated intervention to prop up the euro for the first time ever. The Eurozone felt concerned that the market was lacking confidence in its new currency but also feared that the slide in the currency was increasing the cost of the region's oil imports. With energy prices hitting 10-year highs at the time, Europe's heavy dependence on oil imports necessitated a stronger currency. The United States agreed to intervention because buying euros and selling dollars would help to boost the value of European imports and aid in the funding of an already growing U.S. trade deficit. Tokyo joined in the intervention because it was becoming concerned that the weaker euro was posing a threat to Japan's own exports. Although the ECB did not release details on the magnitude of its intervention, the Federal Reserve reported having purchased 1.5 billion euros against the dollar on behalf of the ECB. Even though the actual intervention itself caught the market by surprise, the ECB gave good warning to the market with numerous bouts of verbal support from the ECB and European Union officials. For trading purposes, this would have given traders an opportunity to buy euros in anticipation of intervention or to avoid shorting the EUR/USD.

Figure 9.26 shows the price action of the EUR/USD on the day of intervention. Unfortunately, there is no minute data available dating back to September 2000, but from the daily chart we can see that on the day that the ECU intervened in the euro

(September 22, 2000) with the help of its trade partners, the EUR/USD had a high-low range of more than 400 pips.

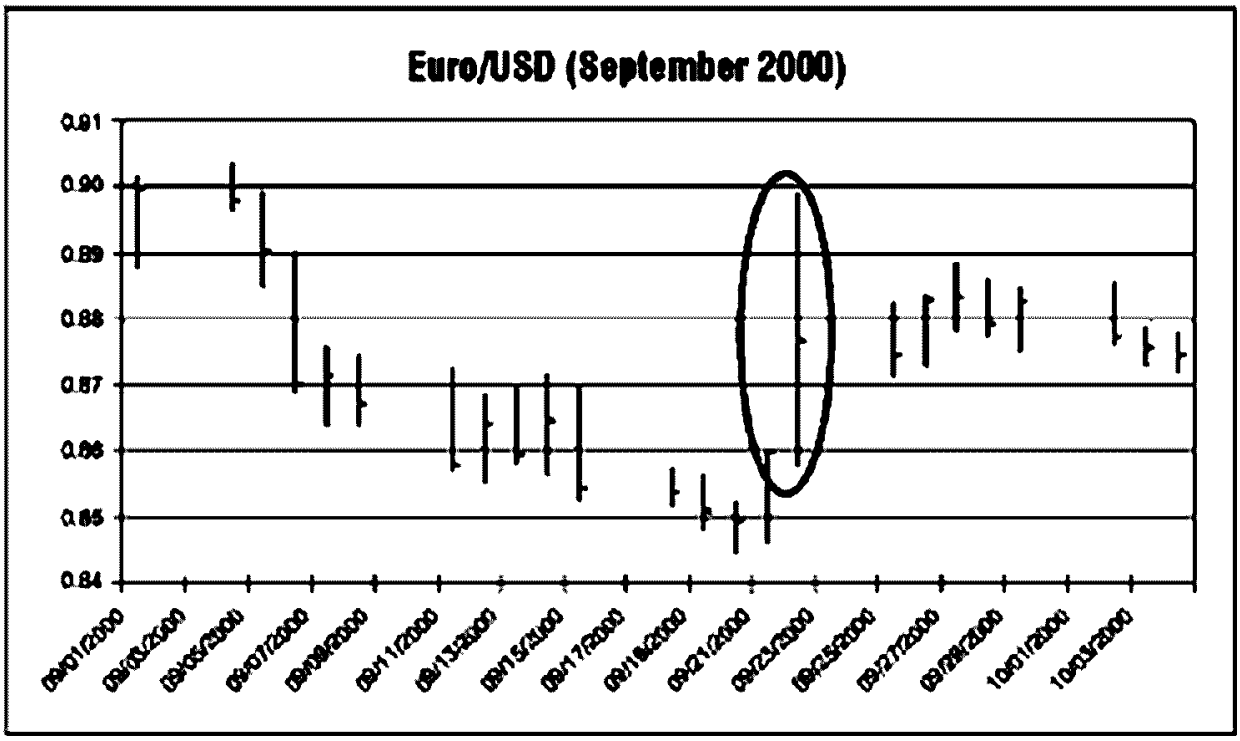

Figure 9.26 EUR/USD September 2000

Even though intervention does not happen often, it is a very important fundamental trading strategy because each time it occurs, price movements are substantial.

For traders, intervention has three major implications for trading:

1. *Play intervention.* Use concerted warnings from central bank officials as a signal for possible intervention — the invisible floor created by the Japanese government has given USD/JPY bulls plenty of opportunity to pick short-term bottoms.

Avoid trades that would fade intervention. There will always be contrarians among us, but fading intervention, though sometimes profitable, entails a significant amount of risk. One bout of intervention by…

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