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THE FOREX TRADING COURSE

A SELF-STUDY GUIDE TO BECOMING A SUCCESSFUL CURRENCY TRADER

SECOND EDITION

ABE COFNAS

WILEY

The Forex Trading Course

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Preface

This edition is more than an update on the first edition. Since the first edition was released in 2008, the world of forex trading has significantly changed. The challenges facing the forex trader are new and greater than ever. The financial collapse of 2008 ushered in a rebalancing of the world economy, with monetary policy and currencies as key instruments. The era of quantitative easing began, and with it, central bank intervention became and remains since a prime mover of currencies. Forex trading became subject to greater spikes and disruptions and, more than ever, sensitive to market emotions. Expectations regarding global growth and inflation have significantly influenced currency movement. These changes underscore the need for a refocus on fundamentals for forex trading.

The significant advances in the Internet since 2007 have also transformed forex trading and its technological environment. The forex trader today has the opportunity to access more information, more quickly than ever before. Also, a popular phenomenon called *social media trading* has emerged where the forex trader can "copy" the trades of other traders. The Internet wraps information flow with rumors and hyperbole, creating herding behavior and swarming patterns.

Since 2008, an entirely new instrument for trading currency directions and market emotions—binary options—has emerged. It is one of the fastest-growing markets in the world. Forex firms are increasingly offering binaries to their customers.

This edition shows how to use binaries in combination with forex trades to strengthen skills in choosing direction, targets, and stops. Most recently, the emergence of crypocurrencies as a potentially hybrid currency/commodity has special significance for the forex trading, because ultimately owners all need to sell their currencies and exchange them into local currency. This edition also provides insight into bitcoin as an alternative currency.

About the Author

Abe Cofnas continues to be a leading-edge trainer and analyst on forex markets. He has pioneered new methods of detecting market emotions and sentiment for improving forex trading. His newsletter, formerly the *Fear and Greed Trader* and now *BinaryDimensions* (www.binarydimensions.com), provides weekly alerts on market direction in currencies, gold, and indices. In addition to founding learn4x.com and being the Forex Trader columnist for *Futures* magazine since 2001, Cofnas has founded Quicksilver Concepts Inc. (www.quicksilveralgos.com), a financial gamification technology firm that designs "smart" financial gamification platforms that generate real-time skills in trading currencies, gold, and indices.

PART I

What Drives the Forex Market?

Part I of this book offers a look at the "big picture" in foreign exchange (forex) trading, that is, what forces influence currency price movements. These forces are accepted by economists and traders around the world as responsible catalysts for changes in the value of currencies. Readers learning to trade forex or trying to improve their trading will benefit from a gain of knowledge of these fundamentals. In fact, as you will see, fundamental forces act as leading indicators of currency movement future direction.

US and global interest rates, economic growth, and market sentiment toward the dollar are the key ingredients that shape trading opportunities. Part I provides basic knowledge on how these factors impact forex prices and how they can be used in selecting trading opportunities.

In getting acquainted with the forex market, most people start by looking only at price charts. This is called *technical analysis*. Those who focus on technical analysis are often called *chartists*. But the study and analysis of what moves those charts is called *fundamental analysis*. The goal of Part I is to identify the components of fundamental analysis in regard to forex and then provide a recipe for developing your own fundamental analysis of a currency pair.

CHAPTER 1

The Fundamentals of Forex

We begin in this chapter with an exploration of the forces that move the prices: the fundamentals. The reader will learn why fundamentals are important to foreign exchange (forex) traders as well as what kinds of economic activity are most important in affecting price movements. These include interest rates, interest rate differentials, economic growth, and sentiment regarding the US dollar.

WHY FUNDAMENTALS ARE IMPORTANT

In many ways, forex trading is similar to playing a game. You have an opponent (the market). In games of chance, the key feature is that everyone faces the same odds and therefore the same level of information. In these games, no player can change the odds.

Playing forex, however, is not a game of odds. It might feel like gambling, but it is not gambling. In a fair game, like the roll of a dice, the person rolling the dice does not affect the outcome. Everyone has the same probabilities of winning. However, participants in forex trading do not share the same amount of information. Asymmetry of information results in advantages and disadvantages. Some players have more information than the others. In forex, information about fundamental aspects of economies does not arrive simultaneously to all participants. The important question is, what kind of knowledge and information can improve trading performance? The search for an edge starts with a fundamental understanding of the nature of the forex market. Having a foundation of knowledge in fundamentals is a first step in evolving into a winning trader.

Why take time to look at forex fundamentals? Why should fundamentals matter if a trade is done in a short-term time interval such as the five-minute chart? The short

answer is that one cannot separate the fundamentals from the technical analysis without exposing oneself to great distortions in understanding the forex market and avoidable losses. The five-minute trader who is on the side of the longer trend is likely to be more profitable. Foreign exchange is by its nature *both* fundamental and technical and reflects the increased globalization of the world economy.

It is worthwhile to note the comments of the late, great Milton Friedman in a 2005 conversation with Dallas Fed president Richard Fisher:

> *The really remarkable thing about the world is how people cooperate together. How somebody in China makes a little bit of your television set. Or somebody in Malaysia produces some rubber. And that rubber is used by somebody in the United States to put on the tip of a pencil, or in some other way. What has happened has been an enormous expansion in the opportunities for cooperation.*[1]

Consider the following: Every transaction in the world settles in a currency. Whether it is a consumer purchase, an imported or exported item, an investment in an equity, or even cash under the mattress, the world's economic activity is essentially a flow of money. What makes forex fascinating as a market and as a trading vehicle is the fact that currencies provide an intimate linkage to the world economy. The currency trader by putting on a currency trade becomes a participant the world economy. The trader is participating as a speculator looking for a very short-term profit. The forex trader is riding on a global wave. The wave consists of economic, geopolitical, and emotional influences. Some will surf the waves, jumping on and off; others will stay in much longer and face the volatility. Forex trading becomes possible because the world is constantly assessing and reassessing the value of one currency against another. The forex currency trader is looking to tap into this stream of changing values.

The challenge is to find the right combination of tools that can assist the trader in finding high-probability profitable trades. In meeting this challenge, the first step is understanding what moves currencies over time. In putting together a recipe for successful forex trading, knowing the fundamental chemistry of forex is highly recommended. Anyone who doubts this should simply look at daily headlines that evoke names and places that are, and certainly need to be, part of the daily consciousness of a trader. These names should be familiar to all traders: Yellin, Draghi, Kuroda, Carney, Stevens, Poloz, Jordan, and Zhou Xiaochuan.

Notice, these aforementioned names are the current heads of the major central banks in the world. The fact is that the words and decisions of these central bankers of the

[1]Richard Fisher for Federal Reserve Bank of Dallas, "On the Record: An Appreciation of Milton Friedman, Champion of Economic Freedom," *Southwest Economy* (December 2006), http://www.dallasfed.org/assets/documents/research/swe/2006/swe0606e.pdf.

United States, the Bank of Japan, the European Central Bank, Bank of England, Reserve Bank of Australia, Bank of Canada, Swiss National Bank, and the Bank of China alert the trader to interest rate and monetary policy and news that affect sentiment about the direction of the dollar. Mention the cities of Baghdad, Tehran, Crimea, and Gaza, and they evoke emotions of fear and crises. Detect news about retail giant Wal-Mart's sales, and one starts anticipating a potential reaction in the currency markets. These and other factors mix together and form the chemistry of forex, which results in shifts of sentiment regarding economic growth in the United States, Eurozone, Britain, China, and Japan. These shifts in sentiment cause price reactions and shift the balance between buyers and sellers. Let's look in more detail at these fundamental factors.

THE MAIN INGREDIENT: INTEREST RATES AND INTEREST RATE EXPECTATIONS

Interest rates are the "dough" of the fundamental forex pie. They are one of the most important factors that affect forex prices, as interest rates have been the most used tool that central banks use as a throttle or break on their economies. The central banks of the world do not hesitate to use this important tool. Before the great financial collapse of 2008, almost all of the central banks increased interest rates. The European Central Bank raised interest rates eight times from December 6, 2005, to June 13, 2007, to a level of 4.0 percent to guide a booming European economy to slow down and avoid too-high inflation. The US central bank—the Federal Reserve—increased interest rates 17 times between June 30, 2004, and August 2006, and then paused when it decided the economy no longer needed the brake of interest rate increases.

Then came the financial crisis of 2008. It was so great a collapse that statisticians remarked it was more than 12 standard deviations from the norm. In other words, no one saw it coming. Rather than focus here on the causes of the collapse, we simply need to note that the immediate consequence was a global shift to nearly a zero interest rate environment. That near-zero interest rate environment has prevailed since then, and as a result, central banks ran out of tools to stimulate economies and turned to quantitative easing (QE), which resulted in expanding the money supply in order to stimulate demand.

However, in late 2014, the world central banks began to see the end of a policy of lowering interest rates. The US Federal Reserve Bank ended its quantitative easing policy in October 2014 and put an increase in rates back on the agenda. The Bank of England (BOE) also has provided guidance that an increase in interest rates is due. In late 2014, only New Zealand, among the Western economies, increased rates. However, the world recovery from the collapse of 2008 has not been equal. The Eurozone faced deflationary fears and therefore remains sustaining low interest rates. The Bank of Japan also has

remained in a quantitative easing policy, with an official target of reaching a 2 percent inflation rate.

In other words, the forex trader in 2015 and the years beyond will need to recognize that interest rate expectations, whether they are for remaining low or increasing, provide one of the most important fundamental forces moving currencies.

As the globe recovers in growth, the role of interest rate increases is to try to avoid excessive inflation. Inflation is itself a complex set of events. But for the forex trader, there are basically two kinds:

1. *Demand inflation*—consumer spending increasing pushes up prices.
2. *Wage inflation*—the lack of a supply of workers pushes up average wages.

Inflation in wages is increasingly a focus of central banks. In fact, a puzzle is emerging where expectations of wage inflation are increasing, but there is little evidence that it is occurring. The world is in a tectonic shift where economies are experiencing lower annualized growth and lower inflation pressures. This is challenging central banks and monetary policy. The result is an environment of constant focus on economic data and therefore more potential for surprises. It is an exciting time for trading. In the next chapter, we take a closer look at inflation.

Since it is likely that the world is entering an era where interest rate decreases are essentially over, the forex trader should understand the general impact and role of interest rate increase. Interest rate increases do much more than slow down an economy; they also act as a magnet to attract capital to bonds and other interest-bearing instruments. This has been called an *appetite for yield*, and when applied globally the flow of capital in and out of a country can be substantially affected by the difference in interest rates between one country and another. In the coming years, if interest rate increases are not uniform around the world, the phenomenon of the "carry trade" will likely come back into focus. The carry trade is driven by the interest rate differential that exists between currencies—for example, between Japan (0.10%) and New Zealand (3.5%), causing low-cost borrowing in yen to invest in higher-yielding kiwis. Historically the yen was the low-interest-rate currency that was borrowed or sold to finance investments in instruments with higher interest rates. It can lead to market turbulence, however.

Some forex traders learned this lesson, about the consequences of carry trades, when the US stock market sold off on February 27, 2007. It was precipitated by traders getting out of their carry trade positions. Since billions of dollars were sold to be converted back into yen, equity markets were also affected because equity positions had to be sold to buy back the yen positions. In Figure 1.1 we see how the Dow Jones Industrial Index correlated directly with the US dollar–Japanese yen (USDJPY) pair that day. Many traders will find the USDJPY relationship to the US equities highly correlated. When the markets are risk averse, the yen strengthens against the dollar. When the markets are risk-on,

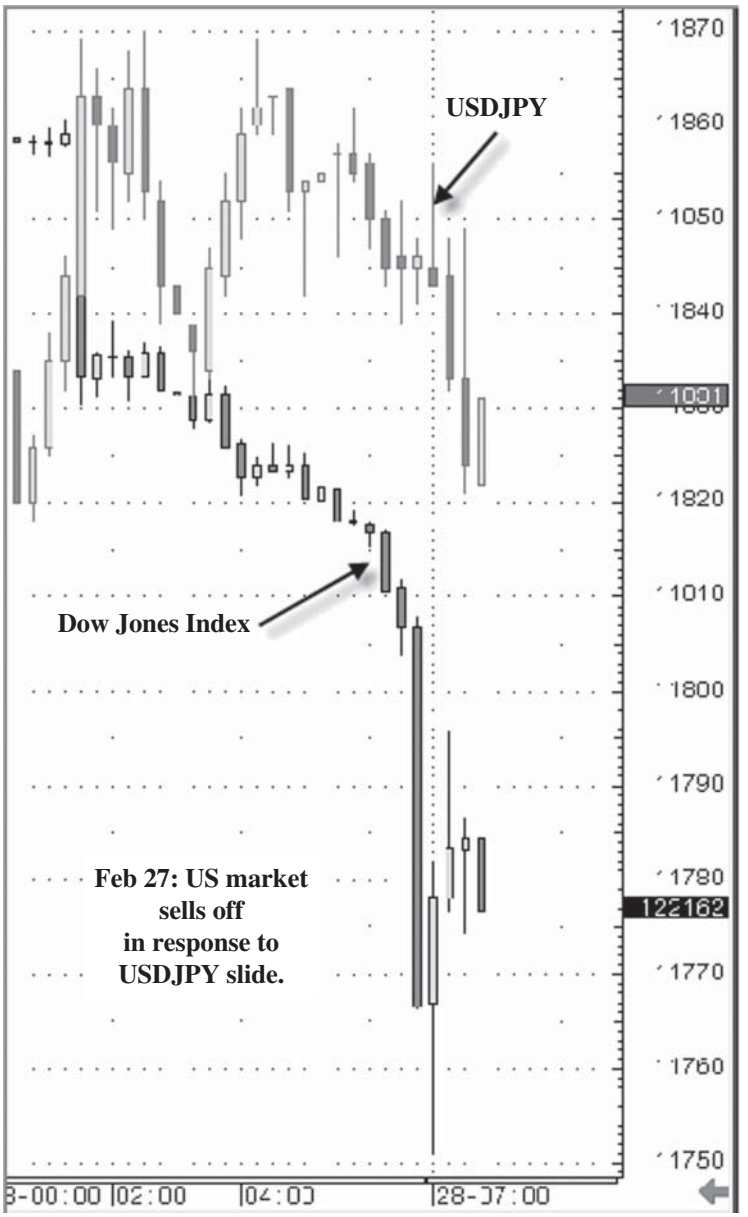

FIGURE 1.1 Dollar-to-Yen Slide Causes Dow Sell-Off.
Source: CQG Inc., Copyright © 2006. All rights reserved worldwide.

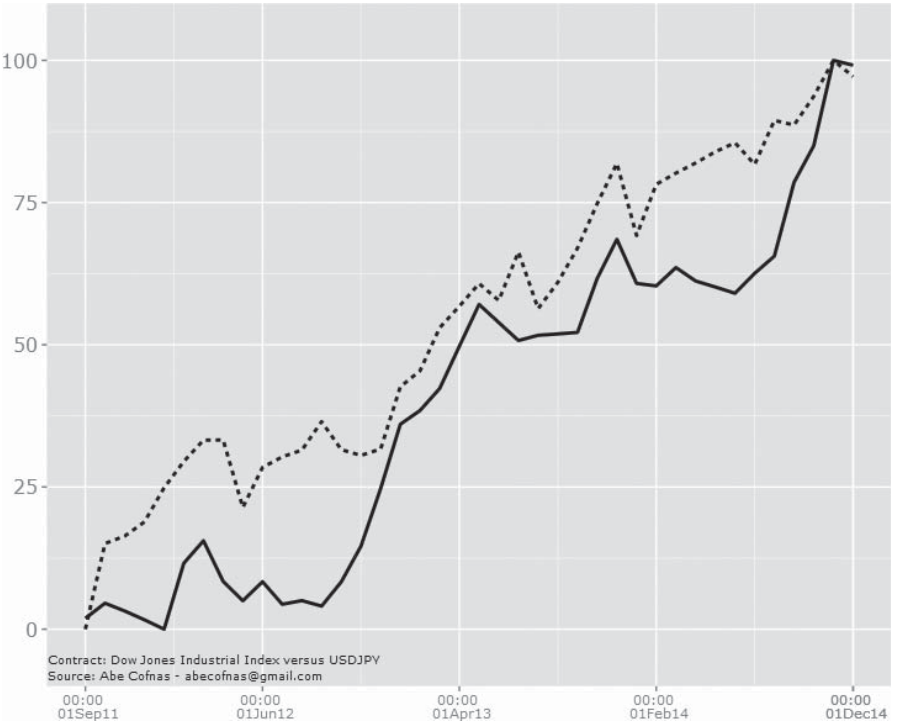

FIGURE 1.2 Dollar-to-Yen Surges in Tandem with Dow Jones Uptrend.

the yen weakens. Figure 1.2 shows how the USDJPY weakened while the Dow Jones Industrial Index strengthened.

The fundamental fact that interest rates will increase or decrease at different times around the world will create trading opportunities not seen in a decade or more.

THE ROLE OF HOUSING DATA IN FOREX PRICE MOVEMENTS

Fundamentally, however, one of the most important categories of economic data around the world, which is sensitive to interest rate changes, is housing data. The housing sector in the United States, as well as other nations, provides a major share of wealth, consumer spending, and job creation. Expectations about rates of growth or decline in housing data are important indicators to watch. Of particular importance is to watch for housing bubbles. Before the collapse of 2008, there was an international housing boom, with prices growing at more than 10 percent per year in many countries. For example, Ireland grew at 15 percent in 2006; Spain's growth actually slowed to 13 percent. Canada, Norway, and

Sweden shared more than 10 percent growth. The United States saw prices up 7 percent. The increased wealth fueled economic growth and consumer purchasing.

Closely watched are data releases that relate to housing activity. Some of the main data releases track the following:

- Unsold homes
- Mortgage loan applications
- New and existing home sales
- Single-family housing permits
- Housing prices

Forex traders' expectations of the future direction of interest rates are significantly affected by housing data because, for example, weak housing leads to expectations of a slowdown on consumption. The economic reasoning is that consumers start seeing a decline in housing values and restrain their consumer spending. The collapse of the housing boom in 2008 was a global phenomenon. Housing recovery in the United States and Great Britain are and will be highlights of the strength of the overall recovery.

One of the most important indicators in periods of housing growth before the financial collapse of 2008 was the level of mortgage equity withdrawals (MEWs). As home prices increased around the world, consumers took out loans against their mortgages, which stimulated consumption. During periods of housing booms, MEWs rise. MEWs have been, in fact, calculated to contribute to the growth of gross domestic product (GDP). However, if MEWs slow down, or remain low, this can portend a decline in consumption and a slowdown in the economy. If and when a slowdown in MEWs occurs, the impact is that of lessening the likelihood of an interest rate increase. Damon Darlin wrote in the *New York Times*:

> *Economists argue over what effect the access to money, which mortgage equity withdrawals allow, has had on consumer spending. Homeowners cash out to pay off more expensive credit card debt, remodel the house to build more equity, or just have fun. They may very well have used it to buy another house or not spent it at all, but added it to savings. Economists really are not certain.*
>
> *"I guess it is one of those mysteries," said Christopher D. Carroll, an economics professor at Johns Hopkins University. "I don't think anyone knows what the answer is."*
>
> *Nevertheless, mortgage equity withdrawal is closely watched as an indicator of the general economy because, Mr. Carroll said, "there is a lot of concern that a cooling housing market could result in a sharp fallback in consumer spending."*

> *A recent paper that Mr. Carroll helped write contends that for every $1,000 change in housing wealth there is an immediate propensity to consume about $20 more. The wealth effect, as the phenomenon is called, is twice as high for housing wealth as it is for stock wealth, Mr. Carroll and his associates said.*[2]

The 2008 financial collapse generated a decline of housing values. Consequently, MEWs declined because home to equity values declined, eliminating the ability to loan against it. The issuance of subprime mortgages created housing stock that had very high loan/home ratios and encouraged the collapse when values declined and homeowners couldn't keep up the payments. Economic forces ultimately worked to create mortgage delinquencies and a collapse in this market. In Great Britain, the Bank of England no longer publishes MEWs as a separate data series. But forex traders should keep an eye on them if an uptrend is spotted.

For the forex trader, it is a clear case where housing fundamentals affect the dollar. More housing strength translates to greater consumer demand, and that translates to raising the probability of interest rate increases by the central bank. It's difficult to be bullish on the currency whose economy is not strong in the housing sector.

ASSIGNMENT

Find the recent MEW rates of the past quarter in Canada, Australia, and the United Kingdom. This will take some exploration on the Internet, but it is worth tracking.

HOUSING DATA AS A LEADING INDICATOR

What is important to realize about fundamental analysis of housing sector data is that the trader can use the data to identify pending changes in trends and direction of the economy. Of course, it is true that forex prices move all the time in reaction to news (or rumors), but economies don't change direction overnight. By understanding housing data, one can develop a fundamental viewpoint that leads to deciding on being bullish or bearish on the currency involved before technical price patterns reflect the underlying change.

For example, in Table 1.1 we see data on US new housing starts during the pre-collapse era. The year 2005 was a year of a high level of housing starts, peaking

[2]Damon Darlin, "Your Money; Mortgage Lesson No. 1: Home Is Not a Piggy Bank," *The New York Times* (November 4, 2006).

TABLE 1.1 Housing Starts 2004–2014

Date	Housing Starts
10/31/14	84,400
10/31/13	78,400
10/31/12	77,000
10/31/11	53,200
10/31/10	45,400
10/31/09	44,500
10/31/08	68,200
10/31/07	115,000
10/31/06	130,600
10/31/05	180,400
5/31/05	197,900
4/30/05	184,600
3/31/05	156,200
2/28/05	149,100
1/31/05	142,900

in February at 2.2 million units and then testing that peak in January 2006 (see Figure 1.2). After January 2006, the data showed a decline, and by August 2006, the decline in housing starts reached levels of 2003. The forex trader might not have picked the start of the slump by looking at this kind of data, but clearly would have seen that right after the start of 2006, new home starts were in a period of weakening. When housing starts reached a peak and then started declining, it was difficult to be pro-dollar. This leads to a very important clue to trading the US dollar. When housing data show a robust uptrend, dollar strength comes along. Actually, this can be generalized to any currency. When housing data in a country are positive, the currency attracts capital. The main reason is that expectations of interest rate increases start occurring.

We can see in Table 1.1 that US housing starts have yet to fully recover from the financial collapse.

HOUSING SENTIMENT INDICATORS

One can argue that economic data on housing activity lag too much and that a trader needs to use indicators that are more coincident with activity or even leading. Survey data should be seen as a category of sentiment information that becomes predictive in its application when an underlying trend can be discerned. A valuable source for assessing housing activity in the United States is the survey releases of the National Association of Housing Builders (NAHB). According to the NAHB, "The Housing Market Index (HMI) is based on a monthly survey of NAHB members designed to take the

pulse of the housing industry, especially the single-family industry. The survey asks respondents to rate general economic and housing market conditions."[3] A reading over 50 indicates that the majority of those surveyed have a good opinion about housing sales conditions.

For forex traders, it is always important to look for confirming data on the health of the housing industry. One of the more recent sources is the Standard & Poor's (S&P)/Case–Shiller home price index. It is a benchmark measure for housing prices. It tracks the value of single-family homes in the United States. Twenty metropolitan areas are tracked, and the index is measured monthly. The last Tuesday of each month at 9 A.M. is the release time of the announcement. Traders looking for leading indicators of a housing recovery will likely see it in increases in housing prices tracked by this monthly index, posted at www.indices.standardandpoors.com. We can see in Figure 1.3 that the Case–Shiller home price index has broken new territory and is on an upward slope. IT is still below the 2006 peak.

FIGURE 1.3 Case–Shiller Price Index and US Dollar Index.

[3]National Association of Housing Builders, "What Is the NAHB–Wells Fargo Housing Market Index (HMI)?" http://www.nahb.org/generic.aspx?genericContentID=532.

ASSIGNMENT

How is housing recovering in other countries? Look for countries that are possibly experiencing sharp increases in housing prices (i.e., Great Britain, China).

ALSO WATCH HOUSING EQUITY SECTOR STOCKS

Another way for the forex trader to get a grip on housing data is to watch equities that are housing related. For example, Lennar Homes is a leading home builder. Its stock price and earnings forecasts offer good clues regarding the direction of the housing market and by inference interest rate policies (Figure 1.4). In early 2005, Lennar Homes began to decline and its weakness was an omen about the end of interest rate increases. Interestingly, when the forex market begins to conjecture whether the Federal Reserve will raise rates in the future, the trader following Lennar Homes's stock price or another housing equity leader will be helpful in shaping an opinion about the likelihood of an interest rate increase.

Here is what the Lennar chief executive officer (CEO) said as 2007 started:

> *Lennar Corp. (LEN) Chief Executive Stuart Miller is seeing no signs that the deteriorating home-building market has bottomed, and Lennar expects to take land-related write-downs of between $400 million and $500 million in its fiscal fourth quarter to reflect the weak conditions.*
>
> *"Market conditions continued to weaken throughout the fourth quarter, and we have not yet seen tangible evidence of a market recovery," said Miller, in a statement.*[4]

ASSIGNMENT

Find other equities that provide insight into the housing market.

In this assignment, the trader should select the top equities, including exchange-traded funds (ETFs) that represent aspects of the housing sector, and start watching their weekly performance. When these housing equities start probing their weekly support, resistance, and trend lines, the trader will have clues as to a potential change in the housing market. Keep in mind that a strengthening housing market is bullish on the currency.

[4]*Wall Street Journal* (March 1, 2007).

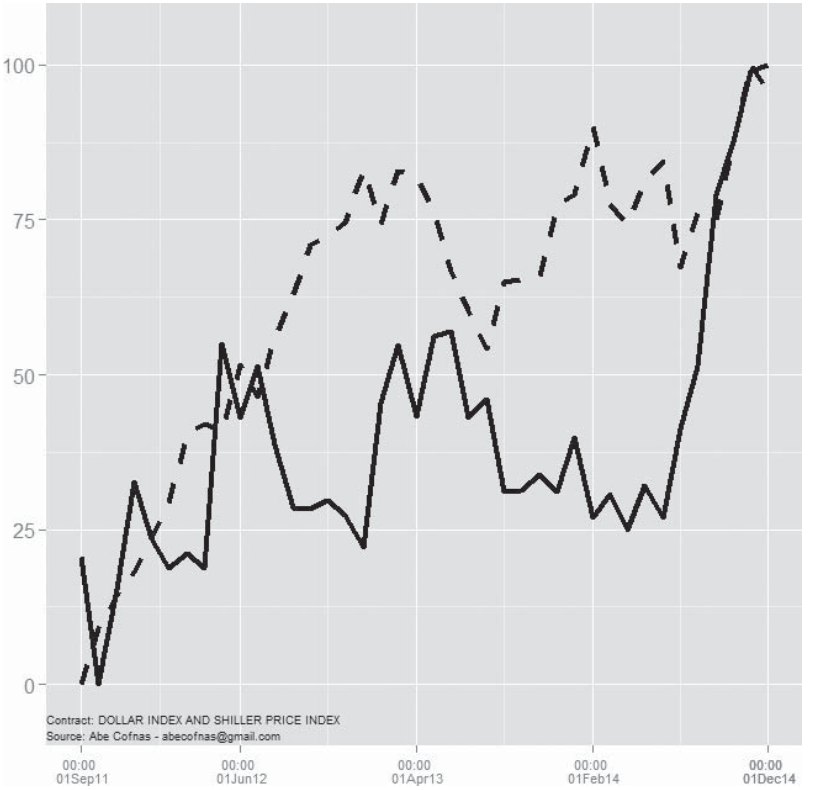

FIGURE 1.4 Lennar Homes Collapse and Recovery Versus US Dollar Index.

HOUSING DATA AND GLOBAL CURRENCIES

As discussed earlier, housing conditions are important when trading currencies, not just in the United States, but around the world. A shortcut in monitoring housing conditions in other countries is to read their central bank reports. Also, using Google, Baidu, Yahoo!, and similar search engines for scanning the latest housing conditions in a particular country works very well to give a trader a feel for what is going on. Traders should pay attention to the British housing situation because it directly affects currency and interest rate decisions of the Bank of England.

Great Britain and Housing

A 2014 headline in *The Telegraph* stated: "Why first time buyers are still piling into a hot housing market." The subhead said, "Lending to first time buyers hits record levels, as

the desire to own a home negates high prices and looming interest rate rises."[5] There in a single headline one can see the relationship between a hot housing market and interest rates.

The article goes on and cites data from an important organization in Britain, the Council of Mortgage Lenders (CML):

> *In June, the CML recorded the highest number of loans lent to first-time buyers since December 2007—28,600, an increase of 7.1pc since May and 18.7pc since June 2013.*
>
> *The amount borrowed is also at levels not seen since September 2007, at £4.2bn for the month, a significant increase from May (£3.8bn) and since June last year (£3.3bn).*[6]

It is also very useful to read statements from the Bank of England. The following is from its June 2014 *Financial Stability Report*:

> *While housing market activity has eased recently, UK house prices have continued to rise and indicators of house price expectations point to continued strength. The share of new mortgages with high loan to income multiples has increased, which could result in more households encountering payment difficulties in the face of shocks to income and interest rates.*[7]

A careful reader would see some hesitation on raising interest rates, because one impact of raising rates is to reduce price inflation but another impact adversely affects the financial stability of people. It is a balancing act!

But housing fundamentals in Great Britain are red hot and won't go away that easily. Here is what the *Financial Stability Report* further noted:

> *More generally, a longer-term gap remains between the growth in demand for housing in the United Kingdom and the rate of house building. The net new supply of private housing in the United Kingdom was 110,000 in 2013—well below the 2007 average of 180,000.*[8]

[5]Anna White, "Why First Time Buyers Are Still Piling into a Hot Housing Market: Lending to First Time Buyers Hits Record Levels, as the Desire to Own a Home Negates High Prices and Looming Interest Rate Rises," *The Telegraph* (August 11, 2014).
[6]Ibid.
[7]Financial Policy Committee, *Financial Stability Report*, Bank of England No. 35 (June 2014), p. 22, http://www.bankofengland.co.uk/publications/Documents/fsr/2014/fsrfull1406.pdf.
[8]Ibid., p. 23.

Forex traders who trade the GBPUSD would gain an edge by watching housing data as a clue to whether the GBPUSD is likely to rise in value.

ASSIGNMENT

Read the latest *Financial Stability Report* from the Bank of England (http://www.bankofengland.co.uk/publications/Pages/fsr/2014/fsr35.aspx).

SUMMARY

Tracking changes in how an economy is growing is clearly an important part of gaining a sense of whether a currency will be strengthening or weakening. The relationship of growth and currencies applies throughout the world. While there are many aspects to economic growth, the forex trader's main focus should be on interest rates. An increase in interest rates tends to strengthen the currency. Traders need to go further than just knowing what the rate levels are. They need to assess whether the economy is expected to be strengthening or weakening. As a result, the forex trader should keep track of housing data when deciding on the direction of trading a currency, as housing data affect the decision to increase or decrease rates, or keep them the same.

CHAPTER 2

The Role of Inflation, Reflation, and Deflation

Inflation and its inverse, deflation, are fundamental forces in currency trading. Central banks are always concerned about managing inflation so it doesn't turn too high, into hyperinflation, nor too low, and into a deflation. It's interesting to note that at first blush the fear of deflation seems unreasonable. Isn't lower price a good thing? To a consumer, it would seem so. But to an economy it means there is less growth. Therefore, fear of deflation is a major concern. For central banks, monetary policy is a balancing act.

Containing inflation in the Western World has in many ways been achieved. In the period of 1973 through 1987, inflation levels in industrialized countries were near the 7.5 percent range. A decade later, in 1989, inflation levels ranged at the much lower level of 3 percent. Today, a reversal of expectations has occurred in the world of trading, where inflation growth, partly due to the financial collapse of 2008, is low.[1]

Central banks around the world monitor inflation and raise interest rates to try to slow down inflation. Central banks often include in their statements accompanying interest rate decisions that they will be vigilant over potential risks of inflation. This is commonly known as being an inflation *hawk*. Whenever inflation is feared to be lingering in the economy, traders interpret this fear as raising the probability that interest rates will increase.

The expectation of inflation increasing tends to generate in the market the anticipation of higher rates, and therefore works to support the buying of a currency. That is

[1]Good sources for locating interest rates and inflation are: www.global-rates.com/economic-indicators/inflation/inflation.aspx and www.usinflationcalculator.com/inflation/current-inflation-rates.

also why strong retail prices tend to undermine bond prices. Bondholders fear increased rates because they reduce the attractiveness of the bonds they hold, and the market lowers the prices of the bonds in order to equalize the yield of the old bonds with the new interest rates.

Inflation is the ever-present yet stealthy ghost that spooks the forex market and challenges central banks. It is particularly difficult to track, and even perhaps more difficult to contain once the forces that lead to it (i.e., monetary stimulus, low interest rates) are released. There is ongoing controversy even among the best economists on how to measure and detect inflation, and as a result there are many data sets relating to inflation. Central banks all over the world are trying to get an accurate answer to the question of what is true core inflation.

This level of complexity in measuring inflation sets up the forex market for surprises when data come along that inflation has not been contained. If central banks can't be accurate in measuring inflation, why should an individual trader? Surprises can be expected. When governments release inflation data, the difference between expected and actual numbers moves the markets.

Speaking to the challenge in interpreting monthly inflation numbers during his tenure on the Federal Reserve Board, former vice chairman Alan Blinder said, "The name of the game then was distinguishing the signal from the noise, which was often difficult. The key question on my mind was typically: What part of each month's observation on inflation is durable and what part is fleeting?"[2]

The challenge of getting a true measure of inflation has also been a focus of activity in Great Britain. The Office of National Statistics is introducing a new inflation calculator that allows persons to calculate their own inflation measure. In other words, the other measures (such as the Retail Price Index (RPI), the Retail Price Index excluding Mortgage Payments (RPIX), and the Harmonized Index of Consumer Prices (HICP)) are still in force, but there is recognition that inflation needs more measures for an accurate assessment. This confusion and debate over how to detect inflation in Great Britain underscores that the issue is an international one. The Monetary Policy Committee of the Bank of England offers more details on this subject.[3]

The good news is that the forex trader doesn't have to become a PhD in economics to follow inflation data.

Many key measures of inflation are tracked. Checking central bank websites provides direct inflation data.

[2]Alan Blinder, "Measuring Short-Run Inflation for Central Bankers," *Federal Reserve Bank of St. Louis Review* (May/June 1997).

[3]Monetary Policy Committee, "Appendix 3, RPIX and HICP," *Monetary Policy Committee of the Bank of England Report* (July 27, 1999), http://www.parliament.the-stationery-office.co.uk/pa/ld199899/ldselect/ldmon/96/9615.htm.

DETECTING EXPECTED INFLATION

Although inflation data can be tracked, even more important for the forex trader is tracking expected inflation. For US inflation expectations, the Federal Reserve Bank of Cleveland issues reports on expected inflation.

The July 22, 2014, report stated: "The Federal Reserve Bank of Cleveland reports that its latest estimate of 10-year expected inflation is 1.89 percent. In other words, the public expects the inflation rate to be less than 2 percent on average over the next decade."[4] Notice the reference to the next decade experiencing less than 2 percent inflation. Clearly, low inflation and even fears of deflation are on the horizon.

ASSIGNMENT

Find Out the Target Inflation Rates of Central Banks

Traders need to keep track of inflation rates and targets in each country. The best way to do this is to first check the website of the central bank, which contains a great deal of information on inflation and inflation policy.

Find out expected inflation from the University of Michigan, Survey of Consumers, and from the Federal Reserve Bank of Philadelphia, Survey of Professional Forecasters.

INFLATION MEASURES IN THE UNITED STATES

The Federal Reserve Bank of the United States measures inflation using something called the Core Personal Consumption Expenditure Index, or Core PCE Index. Core inflation refers to the components of inflation that are more durable and not a result of temporary events, such as a hurricane. Core inflation excludes food and energy prices, which vary temporarily.

The PCE is now the favorite measure used by the Federal Reserve. However, in an attempt to be even more accurate, economists have gone further and developed a trimmed PCE, which is designed to give a truer view of inflation. PCE annual percentage changes are tracked by the Federal Reserve Bank of St. Louis. Table 2.1 shows that as of late 2014, inflation was well below 2 percent.

What is really important is to realize that most central banks consider any rate above 2 percent to be a signal of too much inflation in the economy, and these kinds of levels

[4]Federal Reserve Bank of Cleveland, "Cleveland Fed Estimates of Expected Inflation," news release (September 17, 2014), https://www.clevelandfed.org/en/Newsroom%20and%20Events/Press%20Releases/2014/09-17-2014-FRBClev-estimates-of-expected-inflation.aspx.

TABLE 2.1 OCT 2014 PCE Inflation

PCE	1.4
PC excluding food & energy	1.6
Trimmed mean PCE	1.6

Source: Federal Reserve Bank of Dallas.

lead to expectations that central banks will increase interest rates or at least not decrease rates.

The Producer Price Index (PPI) is another key measure that is reported and tracked. The PPI measures what businesses charge one another for everything from iron ore and diesel fuel to cases of soda pop. The US Bureau of Labor Statistics generates PPI data for over 8,000 different product categories, reflecting price pressures among different industries. A net PPI figure, of course, is more general in nature (www.bls.gov/). The Consumer Price Index (CPI) tracks consumer price changes given a fixed basket of goods and is part of the data set watched by traders in all countries. The US Bureau of Labor Statistics (http://www.bls.gov/ppi/) provides comprehensive data on inflation and, in fact, tracks the various inflation rates. It conducts extensive sampling of 87 urban areas, 50,000 homes, and 23,000 retail establishments. Persons interested in getting deeper into their methodology for generating inflation data will be rewarded by going to the Bureau of Labor Statistics website. From time to time, the CPI basket changes to more accurately reflect new items available in the economy. The problem with CPI is that it doesn't reflect housing prices and therefore may underreport inflationary pressures. If the CPI were measured using formulas that were used in the past, a much larger CPI rate would be generated. Many traders believe that this "shadow CPI" points to a potential surprise in inflation.[5]

Tracking gold, oil, the Commodity Research Bureau, and other commodity indexes and patterns will also help you get a handle on inflation. We look at the commodity–currency connection in Chapter 5. The main point here is that the forex trader needs to pay serious attention to inflation rates and expectations of inflation rates, because they are a key to discerning what the central banks fear, and a clue as to whether they will raise interest rates.

ASSIGNMENT

Review Global Inflation Rates

In reviewing global inflation rates, one can see immediately that as far as forex traders are concerned, the inflation rates of countries whose currencies are freely traded (floating) on the

[5]John Williams, *Shadow Government Statistics: Analysis behind and beyond Government Economic Reporting*, www.shadowstats.com/alternate_data/inflation-charts.

market are very low. A full list of global inflation rates is accessible at: http://www.global-rates.com/economic-indicators/inflation/inflation.aspx.

Country	Yearly Inflation Rate
Germany	0.755%
Great Britain	1.261%
Japan	2.88%
United States	1.66%

Find the latest CPI per country and compare it against their target rate. Which countries have inflation above the target rate?

Take the indicators or economic data releases coming out and group them. Which are leading? Which are lagging? Which are coincident?

Which countries have inflation rates over 2 percent?

Which country has a central bank policy to *increase* inflation?

DEFLATION: EURO AND YEN WATCH

A further word on deflation is in order for forex traders. Since the 2008 financial collapse, deflation has been a very real threat in some countries and regions. In particular, Japan and the Eurozone are facing the challenge of warding off deflation. In fact, Japan has experienced over a decade of deflation. The aggressive monetary stimulus known as *Abenomics* was implemented in Japan to reflate the Japanese economy. The target of the Bank of Japan remains 2 percent annualized rate. The European Central Bank fears deflation. There are constant headlines referring to deflation fears in the Eurozone. Here is a comment by the European Central Bank head, Mario Draghi:

> *What we need to be particularly watchful for at the moment is, in my view, the potential for a negative spiral to take hold between low inflation, falling inflation expectations and credit, in particular in stressed countries . . . . The key issue today, however, is timing.*[6]

Eurostat, an authoritative source of economic data for the Eurozone, reported that Greece, Spain, Italy, Slovenia, and Slovakia were all recorded experiencing deflation.

[6]Jeff Black and Alessandro Speciale, "Draghi Says Timing Key as ECB Watches for Negative Spiral," *BloombergBusiness* (May 26, 2014), http://www.bloomberg.com/news/2014-05-26/draghi-says-ecb-must-be-watchful-on-low-inflation.html.

The fear of deflation was so great that in June 2014, the European Central Bank cut interest rates to record lows and actually charged banks for holding funds as a tactic to stimulate lending bank money out.

Forex traders need to keep in mind that in trading the USDJPY and the EURUSD, the fear of deflation attracts capital away from those countries and toward the US dollar. The result is a weakening of the currency against the dollar. Global markets will expect that both of these currencies need to weaken to generate inflation and avoid deflation. Ignoring the underlying lurking threat of deflation by those who trade these currencies will increase being in the wrong direction. The price direction favors weakening over strengthening for these pairs. This doesn't mean that the USDJPY or EURUSD pair will never have uptrends, but weakening expectations are likely to dominate until inflation reaches 2 percent annualized levels.

ASSIGNMENT

Review the latest inflation data at HomilyChart, www.homilychart.com.

CHAPTER 3

Exploiting Information about Economic Growth

Economic growth data follow inflation and interest rates closely in shaping the currency flows. Countries that are experiencing actual and expected economic growth generate more jobs in their economy. Consumer spending therefore increases. In turn, the demand for housing increases as people have more disposable income and can better afford housing. Other sectors, such as the auto sector, also experience changes in demand as consumers' propensity to spend reflects greater confidence regarding their economic conditions. When growth is very strong, it may be unstable and lead to high inflation. When growth is too slow, it leads to unemployment, recession, and potential deflation. It is a global balancing act where currencies become the blood flow of the world economy.

The transactions of a modern economy intimately involve global flows of capital as exports and imports are part and parcel of the vitality of an economy. The term *economic growth* is really a wide category. How is economic growth measured and tracked by the forex trader?

The rate of economic growth or development of a country is popularly measured essentially by its gross domestic product (GDP), so news about GDP becomes an essential ingredient in shaping trader sentiment about the value of a currency. A slowdown or expected slowdown in GDP translates into anticipation that interest rates will not go higher or may even decrease. This anticipation results in pressures to lower a currency's value. The importance of economic development statistics in currency trading is evidenced by the fact that whenever an economic data release is scheduled, the

currency market hesitates in its price movements and then often moves vigorously when the news surprises the market. In fact, one of the best times to trade is after a news release. Technical strategies for trading the news will be thoroughly explored in a later chapter.

Traders can gain insight into economic growth and development data by following several sources that track global economic growth, such as the Organization for Economic Co-operation and Development (www.oecd.org), the International Monetary Fund (www.imf.org), the Group of Seven (www.g7.utoronto.ca), and the World Trade Organization (www.wto.org).

IMPORTANCE OF JOB DATA

Employment data are used to detect how fast the economy is growing. A growing economy has new job creation and lower levels of employment. An economy that is slowing down (or showing signs of slowing down) has increased jobless claims, a declining rate of job creation, and higher unemployment levels. Also important is data on wage growth. Even if an economy is growing, wages may not be growing and as a result the impetus to increase interest rates to control inflation may be lessened.

The forex markets react whenever governments release job data. The forex markets look at whether the data are positive or negative for expectations of whether that country's central bank will increase rates, keep rates the same, or decrease rates. There are many layers of information regarding employment data. The following list illustrates what's trackable in the United States:

Aggregate weekly hours index: private nonfarm payrolls

Aggregate weekly hours: private nonagricultural establishments

Civilian employment: 16 years and older

Civilian participation rate

Civilian labor force: 16 years and older

Employment ratio—civilian employ/civilian index of help wanted advertising in newspapers

US manufacturing employment

Payroll employment of wage and salary workers

Total US population

US employment in service-producing industries
Civilian unemployed for 15 weeks and over
Civilian unemployed for less than 5 weeks
Median duration of unemployment
Unemployed: all civilian workers
Unemployment rate
US employment in construction
US employment in finance, insurance, and real estate
US employment in goods-producing sectors
US employment in government
US employment in mining
US employment in services
US employment in transportation and public utilities
US employment in retail trade industry
US employment in wholesale trade industry

For more information on job data, visit the following websites:

www.economagic.com
www.globalfinancialdata.com

Clearly, the leading job-related data release is the nonfarm payroll report. It comes out the first Friday of every month. Right before its release at 8:30 A.M. EST, markets go sideways and wait for the data release. Not only is the S&P500 impacted, but all of the major currencies as well.

Nonfarm payroll can be treated as a confirming indicator of economic recovery. One particular month's results are not conclusive. (Table 3.1) But one can see how devastating the collapse of 2008 was, as reflected in the fact that for 23 months from February 2008 to December 2009, nonfarm payroll jobs declined. One can see how, at the end of 2014, the nonfarm payroll data surprised market expectations and showed a greater than expected increase in nonfarm payroll jobs! Equally important was the trending of the data. Prior to the December big surprise results, there were 9 months of new jobs over 200,000.

TABLE 3.1 Nonfarm Payroll 2006–2014

Date	
11/30/14	321,000
10/31/14	243,000
9/30/14	271,000
8/31/14	203,000
7/31/14	243,000
6/30/14	267,000
5/31/14	229,000
4/30/14	304,000
3/31/14	203,000
2/28/14	222,000
1/31/14	144,000
12/31/13	84,000
11/30/13	274,000
10/31/13	237,000
9/30/13	164,000
8/31/13	202,000
7/31/13	149,000
6/30/13	201,000
5/31/13	199,000
4/30/13	203,000
3/31/13	141,000
2/28/13	280,000
1/31/13	197,000
12/31/12	214,000
11/30/12	203,000
10/31/12	225,000
9/30/12	161,000
8/31/12	150,000
7/31/12	160,000
6/30/12	88,000
5/31/12	110,000
4/30/12	96,000
3/31/12	243,000
2/29/12	226,000
1/31/12	360,000
12/31/11	196,000
11/30/11	164,000
10/31/11	183,000
9/30/11	221,000
8/31/11	122,000
7/31/11	106,000
6/30/11	217,000
5/31/11	102,000
4/30/11	322,000
3/31/11	212,000
2/28/11	168,000

TABLE 3.1 (*Continued*)

Date	
1/31/11	70,000
12/31/10	71,000
11/30/10	137,000
10/31/10	241,000
9/30/10	−57,000
8/31/10	−42,000
7/31/10	−61,000
6/30/10	−122,000
5/31/10	516,000
4/30/10	251,000
3/31/10	156,000
2/28/10	−50,000
1/31/10	18,000
12/31/09	−283,000
11/30/09	−6,000
10/31/09	−198,000
9/30/09	−227,000
8/31/09	−216,000
7/31/09	−327,000
6/30/09	−467,000
5/31/09	−354,000
4/30/09	−684,000
3/31/09	−826,000
2/28/09	−701,000
1/31/09	−798,000
12/31/08	−697,000
11/30/08	−765,000
10/31/08	−474,000
9/30/08	−452,000
8/31/08	−259,000
7/31/08	−210,000
6/30/08	−172,000
5/31/08	−182,000
4/30/08	−214,000
3/31/08	−80,000
2/29/08	−86,000
1/31/08	15,000
12/31/07	97,000
11/30/07	118,000
10/31/07	82,000
9/30/07	85,000
8/31/07	−16,000
7/31/07	−33,000
6/30/07	71,000
5/31/07	144,000
4/30/07	78,000
3/31/07	188,000
2/28/07	88,000
1/31/07	238,000

THE ROLE OF CRUDE OIL AND PETRODOLLARS

Crude oil and its derivative products fuel the engine of economic growth. As long as the world is essentially dependent on hydrocarbon-based energy, oil prices become a factor in stimulating or delaying economic growth. Economic studies demonstrate that for every $10 per barrel rise in oil prices, real GDP in the United States is reduced by about 0.4 percent economic growth.[1]

In the near term, higher oil prices result in reducing economic growth expectations as well. Higher hydrocarbon prices portend increases in transportation costs and the per-unit cost of outputs in the economy, and therefore become an inflationary factor in the costs of goods. However, the Shale revolution has replaced fears of higher oil prices being disruptive and the fundamentals for oil are now long term bearish.

A quick rise in oil prices, or even just the fear of a rise, offers trading opportunities. It often occurs in response to geopolitical events (Figure 3.1). The trader should note that when the recent Russian/Ukraine occurred oil surged. Similar sudden events in Iraq, and Gaza are catalysts for spikes in oil. When the Saudi King Abdulla died on January 23, 2015, oil prices immediately rose on speculation that there would be a change in the Saudi decision to not cut oil production. But oil quickly sold off. Traders should recognize temporary phenomena that cause a spike in oil and offer moments of opportunity for contrarian trading.

Oil has had another impact. Oil-producing countries have amassed huge sums of money, and what they do with their increasing petrodollars affects currency values. The International Monetary Fund (IMF) reported that the surplus of dollars to oil producers amounts to $500 billion! The economies of Organization of Petroleum Exporting Countries (OPEC) nations are accumulating current account surplus due to petrodollars that are nearing 30 percent of their GDP. If oil producers start to shift into nondollar assets such as the euro and pound sterling, the dollar fundamentally weakens. However, the threat of oil producers shifting away from the US dollar has greatly diminished in recent years because the United States, due to the shale oil fracking technology and boom, actually surpassed Saudi Arabia as the greatest producer of oil. US dependence on foreign oil has ended, and with it the fear of the consequences of such dependence.

[1]Kevin L. Kliesen, "Rising Natural Gas Prices and Real Economic Activity," *Federal Reserve Board of St. Louis Review* (November/December 2006), p. 517, http://research.stlouisfed.org/publications/review/06/11/NovDec2006Review.pdf.

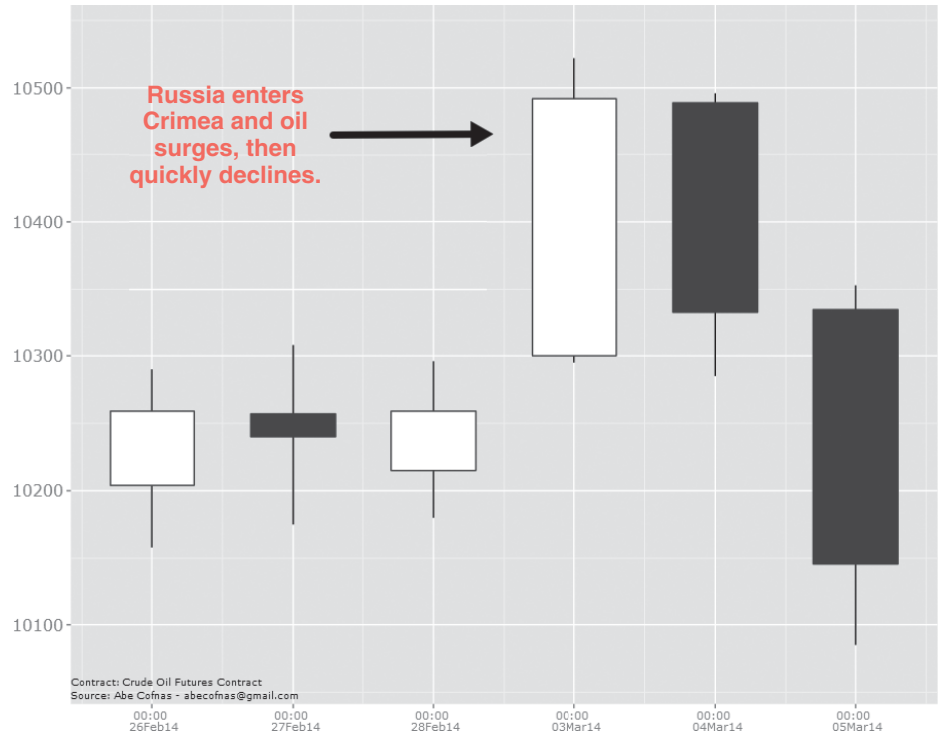

FIGURE 3.1 Oil Responds to Russian Invasion of Crimea, February 26, 2014, to March 5, 2014.

THE OIL SHALE REVOLUTION

The oil shale revolution has introduced a dramatic shift in oil supply and, as a result, a huge and possibly irreversible decline in the price of oil. As 2014 ended, West Texas Intermediate crude oil probed $60 a barrel and further declined in early 2015 to levels near $46 a barrel. The decline was also spurred by two other factors. The first factor was OPEC's decision not to shut production. Second, lower oil prices were spurred by expectations of a slower global growth. The currency impact is important to track. Low oil prices have a great impact on weakening the Russian ruble as well as the Canadian dollar. Indirectly, low oil prices reduce inflation pressure, which may actually increase probability of deflation in the Eurozone. Ironically, while consumers benefit from lower oil prices, economies may not because lower oil prices undermine monetary policy to achieve a 2 percent inflation level.

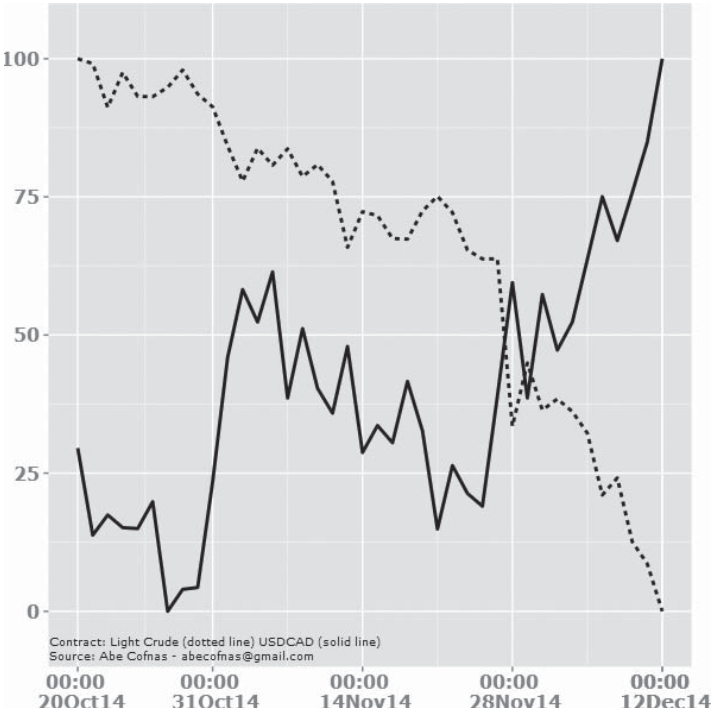

FIGURE 3.2 Canadian Dollar and Brent Light Crude Oil Show an Inverse Relationship.

In the coming years, following oil is a good idea for the forex trader. Since the Canadian dollar floats, it is one of the best ways to trade oil prices. A rise in crude oil tends to strengthen the Canadian dollar and a fall in crude weakens it against the US dollar. Figure 3.2 shows the Canadian dollar prices action against the Brent light crude oil.

ECONOMIC GROWTH

The bond market is an important source of information about expectations about the economy of a country. Bonds are loans given by the public to the government in return for a guaranteed interest rate. The note or bonds carry an interest rate paid to those who loan the government the money. This simple concept generates important information about how the market perceives future risk associated with the government and economy that issued those loans.

The difference between interest rates associated with short-term notes and long-term notes is the key parameter. In normal times, more interest is associated with longer

duration loans than shorter duration loans. This is normal because a longer-term note due in the future is more uncertain than an obligation to be paid in three months. In general, the yield curve is simply the interest rates associated with different durations. The phenomenon of there being differences in rates associated with different durations is known in economics as the *discount function*, which applies to all economic activity that compares the futures with the present. In a real sense, the trader by understanding interest rates on bonds is undergoing financial time travel and observing views of the future of the economy!

Forex traders should review country yield curves, especially when they reach new highs or new lows. In trading the EURUSD, the trader would look at the Eurozone yield curve, which would be the interest rates issued on German bonds. When trading the British pound, the trader would look at the British bonds known as gilts. The trader will notice that countries that have turbulence or great uncertainty also offer higher yields on their notes. This makes sense, because they need to pay more for the extra risk.

Since the US economy is the main driver of global currency movements, we focus here on the US yield curve.

Arturo Estrella and Frederic S. Mishkin said:

> *The yield curve—specifically, the spread between the interest rates on the ten-year Treasury note and the three-month Treasury bill—is a valuable forecasting tool. It is simple to use and significantly outperforms other financial and macroeconomic indicators in predicting recessions two to six quarters ahead.*[2]

Since three-month notes have been extremely low, near the 0 percent rates, a different measure of the yield curve that is used has been the difference between the 30-year Treasury and the 5-year Treasury. You will also note a yield curve analysis using the 10-year versus the 2-year spread. Both measures are methods to track expectations about the future growth of the economy. Here is what Investopedia states:

> *The shape of the yield curve is closely scrutinized because it helps to give an idea of future interest rate change and economic activity. There are three main types of yield curve shapes: normal, inverted and flat (or humped). A normal yield curve is one in which longer maturity bonds have a higher yield compared to shorter-term bonds due to the risks associated with time. An inverted yield curve is one in which the shorter-term yields are higher than the longer-term yields, which can be a sign of upcoming recession. A flat (or humped) yield curve is one in which the shorter-*

[2]Federal Reserve Bank of New York, "The Yield Curve as a Predictor of US Recessions," *Current Issues in Economics and Finance* (June 1996).

and longer-term yields are very close to each other, which is also a predictor of an economic transition. The slope of the yield curve is also seen as important: the greater the slope, the greater the gap between short- and long-term rates.[3]

ASSIGNMENT

Yield Curves

Accessing the latest yield curves is very easy for the trader. Here is a great site:
www.yieldcurve.com.
Check the yield curve. Is it flattening? Upward slopping, or downward sloping?

Guessing what phase of the business cycle an economy is in is a great game. There are always media references to recessions. Sentiment about an expected recession is not stopped by lack of data!

Traders must consider whether the US economy is going into a recession. Since economic data mostly lag, we really don't know we have begun a recession until it actually has begun and has been confirmed. One of the most important measures that traders track is the shape of the yield curve. *The yield curve is defined as the difference between the 10-year Treasury note and the 3-month Treasury bill.* We see here the key role that interest rates play in reflecting expectations in the market. The Federal Reserve Bank of New York published an important study of the yield curve and recessions, which shows how to calculate the probability of a recession.

The key point for the forex trader here is that the yield curve provides an important barometer for the future GDP growth. The shape of the yield curve is what is important to track. Is it flat? Is it upward sloping? Is it inverted? These are the key patterns to observe. In normal times, people are willing to pay more for longer-term maturities and bonds. This is a natural reaction to the fact that there is more risk over a longer period of time. But a slowdown or fear of a recession causes the market to demand higher interest rates for short-term borrowing. The yield curve becomes inverted. Short-term interest rates become greater than longer-term rates! A common interpretation is that when the yield curve inverts, a recession is coming. An inverted yield curve situation makes it difficult for the central banks to increase rates and more likely, in fact, that rates may decrease. Such a situation becomes negative for the dollar or any currency involved. A flat yield curve indicates uncertainty about the economy. On December 27, 2005, the yield curve inverted for a few days for the first time in five years. Also, there is no guarantee that an inverted yield curve will always predict a recession, but when the yield curve inverts, the forex trader should be very vigilant. Strategies favoring a weaker dollar or currency pair should be considered.

The trader will most likely find that the most recent shape of the yield curve shows being an upward curve. This is consistent with its correlation to the state of the economy.

[3]"Yield Curve," *Investopedia* (2015), http://www.investopedia.com/terms/y/yieldcurve.asp.

As a result, trading strategies favoring a stronger dollar should be considered. If the yield curve flattens, selling dollars may be a preferred strategy.

In contrast to the conditions of the US economy in 2006 according to these Federal Reserve models, in late 2014, there was a near-zero probability of a US recession. Here is what the Federal Reserve Bank of Cleveland stated:

> *Using the yield curve to predict whether or not the economy will be in a recession in the future, we estimate the expected chance of the economy being in a recession next September at 1.99 percent.*[4]

WORD FREQUENCY AS A PREDICTOR OF RECESSION

The authoritative jury on when a recession begins and ends is the National Bureau of Economic Research. It declared that the latest recession began in December 2007 and ended in June 2009. What is quite interesting is to compare the frequency of the word *recession* being searched on Google with the economists' measures of when the recession was over. We can see in Table 3.2 that the peak of search frequencies (97) for the world

TABLE 3.2 Google Search Term Frequencies of the Word *Recession*

Date	Frequency (Number of Occurrences)	
July 2007	5	
August 2007	11	
September 2007	15	
October 2007	13	
November 2007	21	
December 2007	19	Official beginning of recession
January 2008	84	
February 2008	39	
March 2008	48	
April 2008	42	
May 2008	25	
June 2008	21	
July 2008	29	
August 2008	30	
September 2008	54	
October 2008	100	
November 2008	82	
December 2008	90	
January 2009	82	
February 2009	100	
March 2009	97	
April 2009	80	
Mary 2009	62	
June 2009	48	Official end of recession

[4]Federal Reserve Bank of Cleveland, "The Yield Curve and Predicted GDP Growth, January 2015," news release (February 4, 2015), https://www.clevelandfed.org/en/Our%20Research/Indicators%20and%20Data/Yield%20Curve.aspx.

recession occurred in March 2009. By the time the recession was actually over, the search frequency (June 2009) scored a much lower 48 from the peak. In the case of the word *recession*, frequency occurrences at their peak were leading indicators that it was over! Therefore, forex traders should take seriously popular searching behavior. They hold the promise of being important leading indicators for economic phenomenon. Next time the word *recession* starts rising on Google trend search, it may be time to take a closer look at its probability of occurring increasing.

ASSIGNMENT

Check the yield curves of the United States, Great Britain, Germany, Australia, and Canada and detect their shapes.

Using Google Trends, add the term *recession* and check the latest frequency score.

CHAPTER 4

The China Factor

China is important to forex traders in evaluating currency-trading opportunities. This chapter provides a review of key China developments that every trader should know about.

Watching Chinese economic developments and data is likely to become a daily pastime for many traders all over the world. Almost every day there is news on China's economic performance. China's Gross Domestic Product surpassed 9 trillion USD in 2013 and within a few years, if growth continues to be above 7 percent per year, will surpass the US GDP. According to *Trading Economics*, China represents 14.9 percent of the world economy.[1]

China's economic data are important to traders because any surprise impacts expectations regarding China imports and exports. Another way to look at China from a trader's perspective is that when China sneezes, the world catches a cold. China growth means continued or increased imports of key resources from in commodities and energy. By no means is China's growth guaranteed. China has in fact had a slowdown in recent years since its 10 percent annualized growth per year. In the current environment, its 7 to 7.5 percent annualized GDP is considered slow but acceptable growth. The slowdown in China's GDP is known as "the new normal." The world has to get used to a China that is experiencing lower growth rates. The International Monetary Fund projects China's growth being just over the 7.1 percent target per year. At the same time, China's debt is approaching 251 percent of its GDP. In the long run, this is considered unstable.

[1]http://www.tradingeconomics.com/china/gdp.

China needs to be considered as a global economic power because its economic fortunes impact the economic development of the world. It is the processing plant of the world, wherein many product components are imported and then put together. According to the Observatory of Economic Complexity:

- China's Top 5 exported products are: computers (9.9%); broadcasting equipment (5.2%); telephones (4.3%); office machine parts (2.2%); and integrated circuits (2.0%).
- China's Top 5 imported products are: crude petroleum (14%); integrated circuits (7.6%); iron ore (5.4%); gold (3.6%); and cars (2.9%).
- China's top export destinations are: United States (19%); Hong Kong (11%); Japan (8.3%); Germany (4.4%); and South Korea (3.7%).
- China's top import countries are: Japan (10%); South Korea (9.35); Other Asia (8.1%); United States (8.0%); and Germany (6.0%).

The Office of the United States Trade Representative reports:

> *U.S. goods and private services trade with China totaled $579 billion in 2012 (latest data available). Exports totaled $141 billion; Imports totaled $439 billion. The U.S. goods and services trade deficit with China was $298 billion in 2012.*
>
> *China is currently our 2nd largest goods trading partner with $562 billion in total (two ways) goods trade during 2013. Goods exports totaled $122 billion; Goods imports totaled $440 billion. The U.S. goods trade deficit with China was $318 billion in 2013.*
>
> *Trade in private services with China (exports and imports) totaled $43 billion in 2012 (latest data available). Services exports were $30 billion; Services imports were $13 billion. The U.S. services trade surplus with China was $17 billion in 2012.*[2]

The forex trader should not be concerned about tracking every China economic data release. But as China reforms its economy to stimulate job growth and consumer spending, some releases are more important than others. Manufacturing Purchasing Managers Index (PMI) (Figure 4.1) becomes an important data release because it provides a clue on how confident business is about China manufacturing. A more confident PMI registers around the world that China's import demand for resources to fuel manufacturing will not slow down.

[2] "The People's Republic of China," Office of the United States Trade Representative (April 4, 2014), https://ustr.gov/countries-regions/china-mongolia-taiwan/peoples-republic-china.

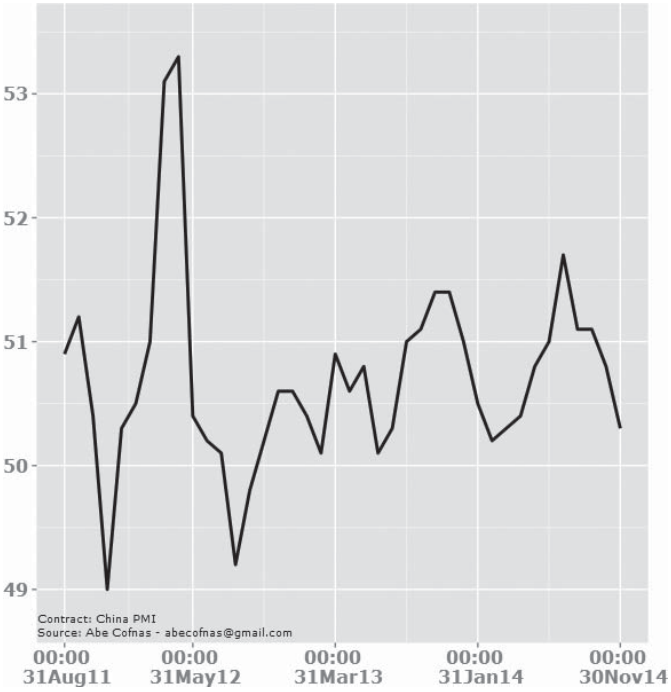

FIGURE 4.1 China PMI is Shown Here from August 31, 2011, to November 30, 2014.

ASSIGNMENT

Check the data release calendar of the National Bureau of Statistics of China.

Another important data release relating to China is its Business Climate Index, http://www.stats.gov.cn/english/PressRelease/201404/t20140416_540338.html.

CHINA REVALUES YUAN: A TURNING POINT?

In recent years, China has recognized the need to relax its policy of keeping its currency artificially weak against the US dollar. Of course, a weaker currency reduces the costs of exports. On the other hand, a weaker Chinese currency hurts US exporters. So on July 21, 2005, after more than a decade of strictly pegging the renminbi (Rmb) to the US dollar at an exchange rate of 8.28, the People's Bank of China (PBOC) announced a revaluation of the currency and a reform of the exchange rate regime. This was the beginning of

a long-term strategy to integrate China into the world economy by easing the ability of capital to flow into and out of the country. The ability to exchange currency is a key factor in this process of integration. The revaluation signaled that China was beginning to allow the strengthening of its currency.

In May 2007, the trading band around the Rmb was widened to 0.3 percent of the official rate to 0.5 percent, either up or down. Then in April 2012, the People's Bank of China allowed the Rmb to rise or fall each day by 1 percent. In March 2007, the renminbi value was at approximately 7.74. As of August 2014, the exchange rate was 11 USD = 6.15761 CNY. This means that it takes fewer renminbi (25%) to convert to one dollar since revaluation. Under the foreign exchange reform, the PBOC incorporates a "reference basket" of currencies when choosing its target for the renminbi. The five currencies are the US dollar, the yuan, the yen, the Korean won, and the pound. However, the exact weighting of these currencies in the basket is not being disclosed, and there may be other currencies included.

Even though the Chinese renminbi does not float on the market, and it is tied to the dollar within a narrow price range, the influence of China on global currency flows is profound. This limited managed float in effect is a subsidy for China's manufacturers and lowers the cost of Chinese goods, upsetting competitor firms in the United States and the rest of the world. There is always pressure on China to allow the renminbi to increase in value, either through a wider managed envelope or through a full float. A full float remains highly unlikely because the Chinese government is not interested in giving up control of its economy, which would occur in a full float.

Any increase in the value of the renminbi could result in a significant benefit to exporters in the United States and Japan. In recent years, even speculation that the Chinese were about to allow the renminbi to increase in value led to price moves that strengthened the Australian dollar and the yen.

International pressure on the Chinese to allow its currency to strengthen is likely to backfire, as stability is a major value of the Chinese political-economic culture.

ASSIGNMENT

To keep up on China developments, read: www.chinadaily.com.cn.

The importance of watching China's economic conditions has long been noted and the remarks of nearly 10 years ago by former US Federal Reserve chairman Bernard Bernanke at the Chinese Academy of Social Sciences are still relevant.

> *The emergence of China as a global economic power is one of the most important developments of recent decades. For the past twenty years, the Chinese economy*

> *has achieved a growth rate averaging nearly 10 percent per year, resulting in a quintupling of output per person [see Figure 4.1]. In overall size, China's economy today ranks as the fourth largest in the world in terms of gross domestic product (GDP) at current exchange rates, and the second largest when adjustments are made for the differences in the domestic purchasing power of national currencies.*[3]

IMPORTANCE OF CHINESE DOLLAR RESERVES

China imports resources for its growth from many countries and exports manufactured goods. Currently, however, this process is not balanced. The Chinese export more than they import, and therefore accumulate a great deal of cash. The result is that China also possesses over $4 trillion of reserve currencies, about two-thirds in US dollars and one-third in euros. How China uses and invests these reserves will have a major impact on the direction of the US dollar. The Chinese State Administration of Foreign Exchange (SAFE) is the key agency on the future of these dollar reserves. For the forex trader, following Chinese developments and intentions on global trade and currency policies can be rewarding because it can point the way for new trading opportunities. One big effect could result from a possible slowdown in the China economy. The US–China Economic and Security Review Commission concluded that:

> *A financial crisis in China would harm its economy, decrease China's purchase of U.S. exports, and reduce China's ability to fund U.S. borrowing, particularly to cover the U.S. budget deficit. An economic crisis in China has the potential to raise the U.S. interest rates, thereby placing major additional costs on U.S. businesses and individual consumers and producing dislocation in the U.S. economy. It could also exacerbate Chinese domestic political tensions in an unpredictable fashion. This is why the condition of China's financial system is of concern to the United States.*[4]

If a possible slowdown in China worries US traders, possible changes in China's investment in US assets worry them even more. The influence of China was most recently demonstrated when, during the 2006 Thanksgiving holiday, a statement by the Chinese minister alluding to China's potential for investing in nondollar assets started a major

[3]Federal Reserve Chairman Ben Bernanke, "The Chinese Economy: Progress and Challenges," speech at the Chinese Academy of Social Sciences, Beijing, China (December 15, 2006), http://www.federalreserve.gov/newsevents/speech/bernanke20061215a.htm.
[4]U.S.–China Economic and Security Review Commission, *2006 Report to Congress* (November 2006), p. 5, http://www.au.af.mil/AU/AWC/awcgate/uscc/china-uscc-rept-2006.pdf.

slide in the US dollar around the world. Here is an excerpt from recent Congressional testimony:

> *The United States will run a current account deficit of over $800 billion, or approximately 7 percent of the GDP, in 2006. This is historically an extremely high level that no other country has been able to sustain for any significant period. The danger is that the US economy could suffer a precipitous decline if the ability of the United States to borrow ever-greater amounts should end abruptly. Interest rates and inflation might suddenly soar as the dollar fell and the stock market crashed.*[5]

Other currencies do not escape the impact of Chinese economic developments. The Chinese growth rate at just over 7 percent of GDP is substantial. It generates a voracious appetite for resources such as oil, copper, steel, iron ore, cement, and Ag complex; the countries that provide these resources experience a demand for their dollars. When China buys copper from Australia, renminbi must be converted into Australian dollars. It is noteworthy that from 2007 to 2009, China initiated a subsidy program to cover 13 percent of the cost of home goods such as refrigerators, air conditioners, and washing machines. These goods contain a great deal of copper. This subsidy program generated 103 million items valued near $115 billion USD during the period of the subsidy.[6] The trader should watch for these kinds of stimulus efforts.[7]

Watching China data becomes important in trading the Australian dollar. Since China imports major resources such as copper from Australia, the aussie would be affected by a potential Chinese slowdown. Also, Japan is a significant trading partner of China, and its currency will often weaken or strengthen on expectations of a Chinese slowdown or sustained growth.

Chinese influence has begun to extend to Africa as well. For example, Chinese exports are beginning to shift to the Suez Canal, rather than going around Africa. This is causing Turkey, Italy, and other nations to invest in Egypt to tap into Chinese export to Europe.

In the coming years, the trading world will focus on whether China can maintain its growth rate, increase consumer spending, avoid inflation, and increase its currency float, as it integrates into the world economy. Therefore, China's economic and monetary policy will be valuable to watch. Watching China's currency policies can also pinpoint

[5]"China's Exchange Rate and the Effect on the US Economy," Committee on Financial Services, October 1, 2003.

[6]The China Perspective, "China Launched a Massive Subsidy Program to Get People to Buy Appliances," *Business Insider* (January 18, 2012), http://www.businessinsider.com/chinas-successful-appliance-subsidies-at-an-end-2012-1.

[7]Chen Yang, "Rural Home Appliance Subsidy Expires," *Global Times* (January 31, 2013), http://english.peopledaily.com.cn/90778/8115206.html.

new trading opportunities in the China market. The Shanghai Composite Index is very sensitive to whether the renminbi will strengthen. When the People's Bank of China Governor Zhou Xiachuan commented that China wasn't interested in increasing its foreign reserves further, the Shanghai index soared because Chinese company land and property is denominated in Chinese currency.[8]

To monitor activities in China on an ongoing basis, I recommend the following websites:

http://research.stlouisfed.org/publications/review/06/11/Poole

www.chinadaily.com

http://english.people.com.cn/

http://en.ce.cn/main/index.shtml

www.homilychart.com

ASSIGNMENT

Track the Current Value of the Yuan

Go to www.xe.com and find the latest value of the renminbi in the quote table that is supplied. It is listed as the symbol CNY. Is it getting stronger or weaker?

[8]*Wall Street Journal* (March 22, 2007), p. C8.

CHAPTER 5

The Commodities Connection

Gold, Copper, Commodity Index, Equities, and Forex

The value of a currency and how it moves is related to events in the commodity markets. Commodities are key resources in world growth, and they impact global inflation. This chapter focuses on what the forex trader should know about the commodity connection to currencies.

GOLD

Gold price movements are important for currency traders to understand. Gold acts in many ways as a surrogate currency. It becomes a "safe haven" basket when money moves out of the dollar in response to geopolitical crises. This kind of price reaction in crises makes gold prices a gauge of market fear. In the Russian intrusion in Crimea in March 2014, for example, gold prices spiked on initial reactions and then retraced (Figure 5.1). Gold prices also spiked in reaction to the European Central Bank's massive quantitative easing program where the ECB announced plans to purchase $60 billion euros per month. In this case, gold traders looked to protect against devaluation of the currency. Such price behavior is similar to a reaction–diffusion chemical event, when an acid is dropped onto a base. Traders need to understand the reasons gold prices move and whether it's a fundamental event, such as a change in inflation expectations, or a geopolitical event.

Gold is also a commodity on its own, adding strength or weakness to currencies of countries that produce gold. South Africa, of course, is the leading producer of gold, but its currency, the rand, is not floating. Traders can look to the Australian dollar and the Canadian dollar for trading those currencies; when gold is in the news, it is important

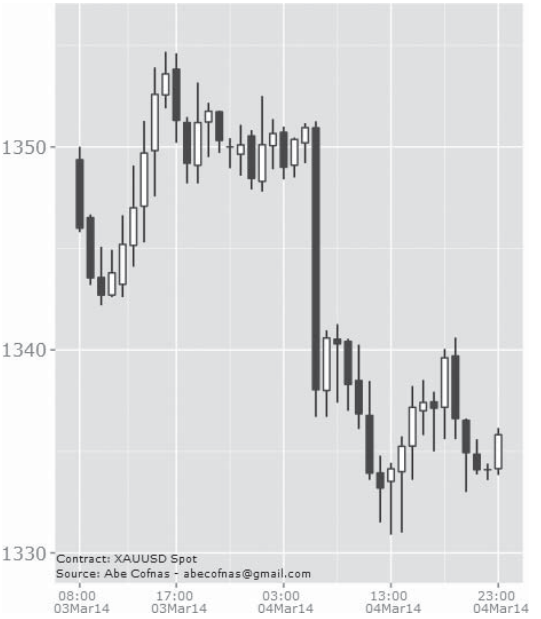

FIGURE 5.1 Gold Reacts to Russian Invasion of Crimea.

to spot-check the co-movements of gold and the AUDUSD and detect whether they are moving in the same direction. If they are diverging, it is most likely temporary.

A more useful way of looking at gold from a trader's perspective is viewing it as a cross pair. In effect, it is USD/gold. (Figure 5.2) Deciding on gold direction requires understanding US dollar direction. If the dollar is strong, then gold will be weaker, and vice versa.

Central banks have an important role regarding gold. They hold gold as part of their reserves. They hold a lot of gold! The World Gold Council estimates, "At the end of 2013, central banks held around 30,500 tonnes of Gold, which is approximately one-fifth of all the gold ever mined."[1]

The European Central Bank is estimated to have about 26 percent of its assets in gold.

Gold traders need to follow news on central bank buying of gold. For example, Russia is reported by Reuters to have purchased 150 tonnes, which is reported to be about one-third of the total global central bank in 2013.

The Central Banks hold gold because it is a store of value and an important part of a strategy to diversify central bank holdings. Stability is a major goal and reducing volatility in gold prices. To accomplish this, central banks have entered into agreements about how much gold they will allow to be sold. In May 2014, a central bank gold agreement was

[1]http://www.gold.org/reserve-asset-management/central-bank-gold-agreements.

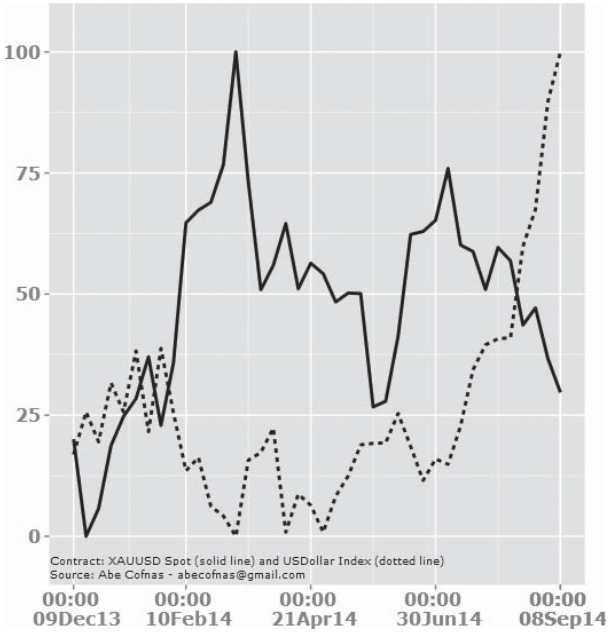

FIGURE 5.2 Gold Versus the USDX.

signed that applies to 20 European central banks for five years. The agreement stated that there were no plans to sell gold.[2]

The key variable that can affect currency prices is whether a central bank will increase its gold reserves and thereby decrease its reserves of dollars or another currency. As a result, traders should monitor rumors of central banks increasing gold reserves because such rumors can disrupt currency prices.

The idea that gold is important to currency moves is sound, but needs to be qualified and put in the context of world events. Sometimes gold acts as a store of value in times of crises. But the correlations between gold moves and currency moves provide a great deal of variation. The trader needs to be vigilant regarding what factors are moving gold. At the end of the day, in the words of Phillip M. Hildebrand (member of the Governing Board, Swiss National Bank), "The yellow metal continues to have a special significance for central banks."[3]

[2]European Central Bank, "ECB and Other Central Banks Announce the Fourth Central Bank Gold Agreement," press release (May 19, 2014), http://www.ecb.europa.eu/press/pr/date/2014/html/pr140519.en.html.

[3]Philipp Hildebrand, "Reflections on the Gold Market," speech given at the LBMA Conference, Montreux, June 26, 2006.

COPPER

Copper is one of the world's commodities that is strongly related to economic growth because it is a key material for global infrastructure in the building and telecommunications industry. For example, copper plays an important part in the industrial development of China. As the world grows, more copper is in demand. The forex trader has to ask the question: Who benefits from copper demand?

To answer this question, we should look at who produces copper. The world's leading producer of copper is Chile; however, the Chilean peso does not float. Australia is the second-largest producer of copper, and since its currency is freely floating, the Australian dollar can be traded. Figure 5.3 shows the synchronicity of AUDUSD to copper.

ASSIGNMENT

Goldman Sachs Commodity Index

Check the Goldman Sachs Commodity Index today. What pattern is it in? Is it in an uptrend, sideways, or downtrend? Which currencies will go up or down in uptrends, or downtrends?

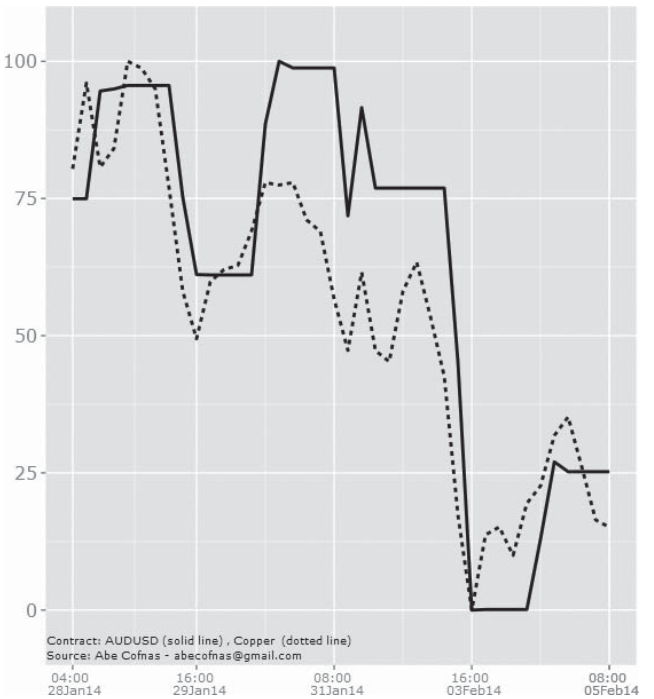

FIGURE 5.3 Copper and the AUDUSD March Together.

EQUITIES AND FOREX

The relationship between currencies and equities is an area of interest that is becoming increasingly important for traders to become knowledgeable about. For example, when the yen is weak, Sony's and Canon's share values become more attractive because they are exporters and, in effect, dollar earners. In all equity markets around the world, exporting sectors benefit from a weaker home currency or the expectation of one. DaimlerChrysler, Renault, and Peugeot suffer share declines when the euro surges beyond expectations. As we noted in our section on China (Chapter 4), when there is speculation that the renminbi will increase, many equities increase in stock value due to expectations that their assets will increase in value. For example, Wal-Mart equity values are very sensitive to China economic data.

Within US equities, the US housing sector has a direct link to forex. As we noted earlier, in periods when the housing sector is strong, it often coincides with a strong US dollar because of expected increases or higher interest rates. When the housing sector is weak, it usually portends a weaker dollar due to expectations of low or lowering interest rates. Currency traders should consider opportunities in going long the housing equities, if in fact they anticipate interest rates increasing.

It is also very useful to look at the USDJPY patterns when considering trading the US markets. The yen strengthens when market fears occur and therefore a USDJPY chart often tracks a weaker S&P 500 (Figure 5.4). The opposite is also true; when there is risk

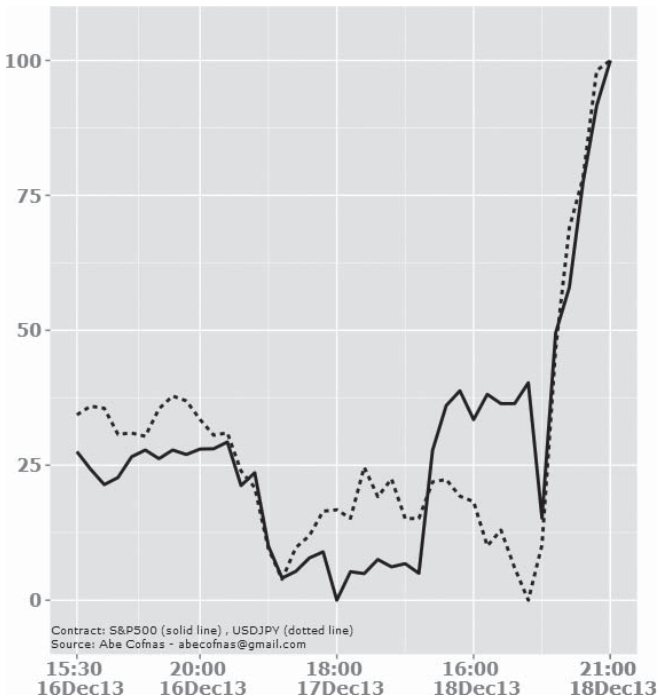

FIGURE 5.4 USDJPY and S&P 500 Move Together.

appetite and markets are attracting capital, the yen acts as a source of selling against the dollar and the USDJPY chart goes up. This correlation is one of the most important correlations in trading markets.

CURRENCY ETFs

In recent years, an increasing supply of currency ETFs has allowed forex trading without being in the spot market directly. (Table 5.1) ETFs also offer the opportunity to take on more easily position trades, as well as option trades without having to open a spot forex, or futures trading account.

TABLE 5.1 Top Currency ETFs

UUP	PowerShares DB US Dollar Index Bullish Fund
YCS	ProShares UltraShort Yen
EUO	ProShares UltraShort Euro
FXA	CurrencyShares Australian Dollar Trust
USDU	WisdomTree Bloomberg US Dollar Bullish Fund
FXC	CurrencyShares Canadian Dollar Trust
FXF	CurrencyShares Swiss Franc Trust
DBV	PowerShares DB G10 Currency Harvest Fund
FXE	CurrencyShares Euro Trust
CYB	WisdomTree Chinese Yuan Fund
FXY	CurrencyShares Japanese Yen Trust
CEW	WisdomTree Emerging Currency Fund
UDN	PowerShares DB US Dollar Bearish Fund
FXB	CurrencyShares British Pound Sterling Trust
DRR	Market Vectors Double Short Euro ETN
CNY	Market Vectors Chinese Renminbi/USD ETN
FXS	CurrencyShares Swedish Krona Trust
BZF	WisdomTree Brazilian Real Fund
CROC	ProShares UltraShort Australian Dollar
ICN	WisdomTree Indian Rupee Fund
FORX	PIMCO Foreign Currency Strategy Exchange-Traded Fund
EUFX	ProShares Short Euro
UUPT	PowerShares DB 3x Long US Dollar Index Futures Exchange Traded Notes
CCX	WisdomTree Commodity Currency Fund
FXCH	CurrencyShares Chinese Renminbi Trust

ASSIGNMENT

Weekly Crude Oil, Copper, and Gold Charts

Check the charts for crude oil, copper, and gold. Which commodities are probing support or resistance? Are any of these commodities in a channel pattern?

Check the USD/JPY and S&P 500 patterns. Does the yen get stronger when the S&P gets weaker?

CHAPTER 6

How Business Confidence and Consumer Sentiment Affect the Market

A powerful response force that moves forex prices, as well as other markets, is business and consumer confidence data. These reports are results of extensive professionally designed surveys that are conducted on a regular basis in many countries. When these survey results are released, they provide important information on expectations regarding the economy of a country. This information is seriously assessed by central banks in determining their next moves in controlling inflation. Growth in business or consumer confidence has inflationary potential, while a decline in business or consumer confidence portends economic slowdown. When these releases come out, they move the market, especially if the results are surprising.

Beyond having an impact on their release, confidence indicators can also provide a leading indicator for the forex trader. If business confidence is at its highest in years, the market will interpret it as positive for the currency because greater confidence indicates expansion and growth of an economy. Where there is expectation of expansion and growth, there is the concomitant expectation of interest rates *not* going lower and possibly going higher. These confidence surveys are not perfect predictors of resulting currency moves. They are one of the most important ingredients in the mix of fundamental forex factors.

Some of the important confidence indicators are listed below and should be followed. Their release times are tracked in the numerous economic calendars available, and strategies for trading these economic data releases should be learned by traders. It is interesting to note that every major country has its version of investor and business confidence indicators. These form in effect a leading indicator about currency directions.

Investor/Business Confidence Indicators

- Zew Economic Sentiment Indicator (www.zew.de)
- IFO Business Climate Survey (www.cesifo-group.de)
- Institute of Supply Managers (www.ism.ws/)
- Tankan Report (www.boj.or.jp/en/)
- National Australian Bank Business Survey (www.nabmarkets.com/research/flagshippublications/nationalmonthlybusinesssurvey.aspx)

US Sentiment Indicators

- Consumer Confidence (www.conference-board.org)
- University of Michigan Sentiment (http://about.reuters.com/productinfo/universitymichigan)
- ABC Consumer Comfort Index (www.washingtonpost.com/wp-srv/business/articles/consumerindexdata.htm)
- Fed Beige Book (released two weeks prior to Federal Open Market Committee meetings, eight times a year)
- ISM Nonmanufacturing (www.ism.ws/ISMReport/index.cfm)
- Empire State Manufacturing Survey (monthly report, www.ny.frb.org/research/regional_economy/empiresurvey_overview.html)
- Chicago PMI ISM Nonmanufacturing (released on the third business day of the month, can be found at www.ism.ws/)
- Richmond Fed Manufacturing Survey (www.richmondfed.org/research/regional_conditions/manufacturing_conditions/index.cfm)
- Philadelphia Business Outlook Survey (monthly, www.phil.frb.org/econ/bos/index.html)

ASSIGNMENT

Consumer Confidence Report Release Times

Go to an economic calendar (www.econoday.com) and find the next business or consumer confidence report release time. Watch what happens upon the release to the currency pairs.

CHAPTER 7

Fundamental Personalities of Currencies

If each currency's value is a reflection of the underlying economy of its country or region, we can begin to think of them as having fundamental personalities that can guide our strategies for trading. This chapter focuses on how a trader can gain an understanding about the strength and weakness of a currency. A key concept is that of the concept of a trade-weighted currency basket. It is used by professional traders and economists and should become familiar to traders who want to gain an edge.

TRACKING CURRENCY TRADING RELATIONSHIP: WHO IS IN THE TRADING PARTNERSHIPS?

In reviewing the "big" fundamental picture for a currency, we have reviewed what moves forex prices from an economic point of view. We can be convinced that currencies reflect world opinion about how well an economy is doing or expected to do. The next step in fundamental analysis is to be able to make a judgment about a particular currency itself. Ultimately, the question arises for the trade: How strong is the currency? In spot forex trading, the trade itself is always a paired event of one currency against another. But when a trader makes a judgment about the strength or weakness of a currency by only comparing one currency against another (usually the US dollar), the conclusion can be misleading as to the global strength or weakness of the currency. When trading majors where the US dollar is part of the pair, the comparative question becomes: How strong is the US dollar against that currency?

It's important to get insight into the currency's total global trade position. To enable to profile a currency on its own terms without reference to another pair, the trade-weighted

index (TWI) is used by economists and should also be used by currency traders. For those traders mathematically inclined, the geometric weighted average is used to calculate a trade weighted index. The TWI represents the major trading relationships with the index currency. Each currency receives a weight in the index that reflects its importance. By knowing the key trading partners of a particular country, the forex trader can focus on which country's economic news will impact the currency. For example, trading the Australian dollar will necessarily mean watching China news.

CHARACTERISTICS OF DIFFERENT CURRENCIES

Australian Dollar (Aussie)

The Australian dollar, also known as the *aussie*, as a floating currency started in 1983. Before that time, it was pegged to the dollar, and before that it was pegged to the British pound. By floating its currency, the market sets the value of the currency and the central bank can avoid the necessity of intervening by buying and selling dollars to keep the currency value. But a floating currency also permits capital to float out of a country. The fear of floating is great among totalitarian regimes and emerging countries that want to maintain control of their economy. By looking at the aussie TWI, we can see that the aussie is affected by economic growth in all parts of the world and has its trading relationships almost evenly distributed among Asia, Europe, and North America. Even though the GDP of Australia registered $1.3 trillion in 2103, the role of Australia as a global trading country makes it an attractive currency to trade.

The Australian dollar is becoming more sensitive to the fortunes of the Chinese economy in the past decade and less on the Eurozone. The Japanese economy is also a significant contributor to the demand for Australian dollars. Of course, the US economy becomes an ongoing focus of Australian observers. We can even see that its neighbor New Zealand can impact the value of the aussie because it generates 11 percent of Australia's trading volume (Table 7.1).

Since the Australian economy is a resource-centered economy, it is important to consider commodity-related events such as movements in copper, gold, iron ore, and other bulk commodities. Australia is a major producer of these commodities and is affected by price patterns. This relationship is clearly reflected by comparing the movements of the Goldman Sachs Commodity Index and the AUDUSD (Figure 7.1).

The fundamental personality of the aussie is that of a commodity trade-dependent currency. The aussie will be affected by global economic growth, and its price action reflects whether there is a commodity bull or bear market. The key fundamental force on the aussie is China. China is now the second-largest buyer of Australian exports, making the aussie more sensitive than ever before to the direction of the Chinese economy.

TABLE 7.1 Trade Weights in the Australian Dollar

	Trade Weight (%)		
Currency	**2002**	**2005**	**2014 (Dec 1)**
Japanese yen	17.2058	16.3596	12.5093
US dollar	15.0681	11.9388	9.7650
European euro	12.3981	13.0819	9.2279
Chinese renminbi	8.5754	12.7491	27.8725
South Korean won	6.5588	5.7178	5.9646
New Zealand dollar	5.5689	5.6381	3.9440
U.K. pound sterling	5.1365	4.1785	3.5313
Singapore dollar	4.0090	4.1299	5.1525
New Taiwan dollar	3.5877	3.3041	2.1356
Indonesian rupiah	3.2399	2.6159	2.6624
Malaysian ringgit	2.8733	3.3057	3.4650

Source: Reserve Bank of Australia (http://www.rba.gov.au/statistics/frequency/weights-twi.html).

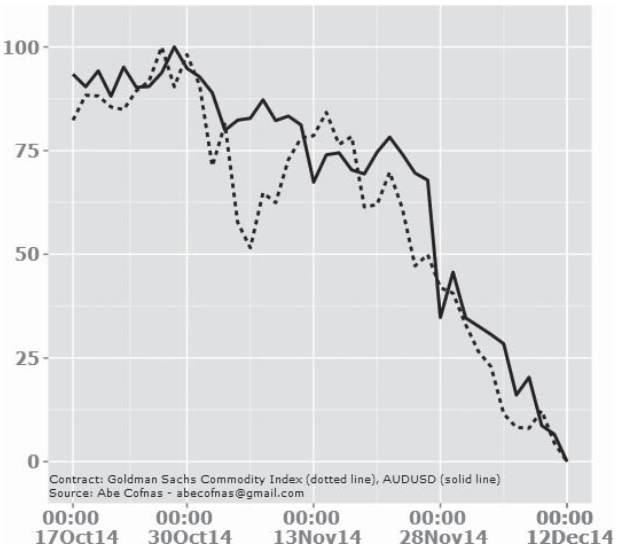

FIGURE 7.1 The Relationship Between the Goldman Sachs Commodity Index and AUDUSD is Positively Correlated.

A special feature of the aussie is that it has a multiple fundamental personality. It can be considered an Asian currency, reflecting Asian growth, and it can be considered a currency affected by the United States and Europe. This means that the forex trader should seriously look to trade the aussie pairs such as the Australian dollar–Japanese yen

(AUDJPY) and Australian dollar–euro (AUDEUR), as well as the traditional Australian dollar–US dollar (AUDUSD) pair.

In recent years, the aussie has not avoided the cycles of boom to bust. The domestic economy was centered on the mining industry, which experienced great growth but collapsed in 2013, offsetting a decline in capital investment, for mining has been the attraction of capital from China on Australian housing. The strength of Australian housing particularly in Sydney should be watched by traders as a signal of whether the Reserve Bank of Australia will move to increase rates to prevent a housing bubble.

Canadian Dollar (Loonie)

Canada has experienced significant economic growth, surpassing $1.7 trillion of gross domestic product (GDP) in 2013. This currency's fundamental personality reflects its big sister, the United States. The United States is Canada's major trading partner, reflecting the fact that the US dollar receives a weight of over 76 percent in the CERI (Canadian Dollar Effective Exchange Rate Index) released by the Bank of Canada.[1] See Table 7.2.

Therefore, when the US economy slows, the Canadian economy also suffers. The other major factor influencing the direction of the Canadian dollar, also known as the *loonie*, is crude oil. Canada's tar sands are an important magnet for capital, and Canada is a net exporter of oil. Canadian currency benefits when oil prices increase. However, since late 2014, the collapse of oil also dragged down the value of the Canadian dollar against the US dollar. Figure 7.2 demonstrates the strong relationship between crude oil and the Canadian dollar. The correlation between crude oil and the strength of the Canadian dollar has reached levels of 94 percent.

TABLE 7.2 Trade Weights in the Canadian Dollar

Currency	Weights Based on 1999–2001 Trade Data[a]	Weights Based on 1989–1991 Trade Data[b]
US dollar	0.7618	0.5886
Euro	0.0931	0.1943
Japanese yen	0.0527	0.1279
Chinese Yuan	0.0329	—
Mexican peso	0.0324	0.0217
U.K. pound	0.0271	0.0368
South Korean won	—	0.0307

[a]These weights are applied to the CERI from 1996 to the present.
[b]These weights are applied to the CERI before 1996.

[1]Bank of Canada, "Canadian–Dollar Effective Exchange Rate Index," http://www.bankofcanada.ca/rates/exchange/ceri/.

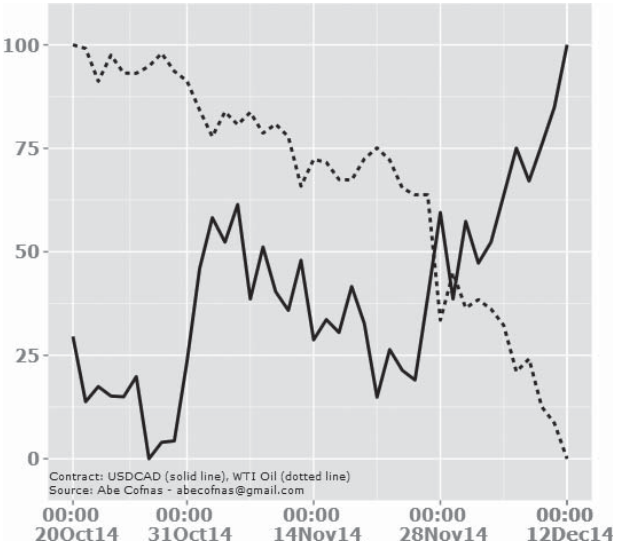

FIGURE 7.2 There is an Inverse Relationship Between West Texas Intermediate Crude Oil and the Loonie.

From a fundamental point of view, trading the Canadian dollar against the US pair is the most effective way to play oil price movements. A useful website for tracking the Canadian economy is www.canadianeconomy.gc.ca/.

New Zealand Dollar (Kiwi)

The New Zealand dollar, also known as the *kiwi*, should get more of the attention of forex traders because it is almost a classic example of how fundamentals can drive currency movements. The New Zealand economy is small. Its GDP was only about 151 billion USD in 2013. Its population is only 4.4 million people. Yet, it exports about $2.8 billion and imports $3.4 billion. Since its consumer economy is small, the fundamental characteristic that affects its economy is whether its exports can grow. Therefore, interest rates and the resulting currency valuation are key to its future economic vitality. The fact is that 151 companies generate 78 percent of New Zealand's exports. Data show only 4 percent of the New Zealand firms do any exporting.

New Zealand's major trading partners are balanced between the United States, Europe, and its neighbors Australia and Japan.

Of importance in trading the kiwi is the New Zealand interest rates. As of January 2015 it was one of the highest in the world at 3.5 percent. However, the strength of the US dollar has been rising against the New Zealand dollar despite the higher interest rates in New Zealand. See Table 7.3 and Figure 7.3.

TABLE 7.3 New Zealand TWI Weights

Currency	Trade Weight
United States dollar	30.29
Euro	27.97
Japanese yen	14.25
Australian dollar	21.26
UK sterling	6.29

Source: www.markit.com.

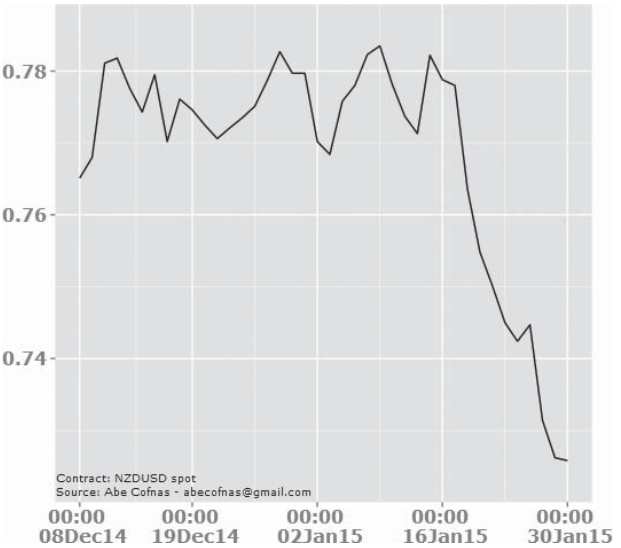

FIGURE 7.3 USDNZD Weakens As US Dollar Strengthens.

Mexican Peso

The peso is a currency that offers potential for trading more than ever. Mexico's economic profile reflects a growing potential. Its GDP in 2013 was above 1.1 trillion USD, and Mexico may soon overtake Canada in GDP. Mexico is the world's fifth largest oil producer and ninth largest oil exporter. Pemex, Mexico's monopolistic oil company, generates an estimated 35 percent of federal government revenues. Also important in understanding the dynamics of Mexico's economic growth is the impact of China. China is a competitive threat to Mexico, and as it grows, Mexico's manufacturing and export business have suffered because of China's advantage in its low cost of manufacturing and assembly due to the lack of a float of its currency.

A major factor is the US economy. Mexican exports are at a level of over 80 percent to the United States, and there is a high inflow of capital coming from Mexicans living in the United States.

Oil also needs to be considered as a factor in shaping MXN price movements. Like Canada, Mexico is a net exporter of oil and attracts petrodollars. Traders therefore should be watching the price of crude oil if they want to trade the Mexican peso. A major negative factor is often the level of business confidence. The Mexican business climate is often marred by inefficiencies, and the political economy generates a great deal of negative sentiment. Another factor emerging is Asian competitiveness. As countries such as Vietnam and others in East Asia emerge as low-cost manufacturers, Mexico's comparative advantages in world trade suffer.

From a fundamental point of view, there are many risk factors impacting the peso's direction. If Mexican interest rates fall, the peso could weaken substantially; if the US economy slows, Mexican growth will suffer. Based on this fundamental picture, trading the Mexican peso should be considered mainly against the dollar. (Figure 7.4) As it gets higher, it takes more pesos to get 1 US dollar.

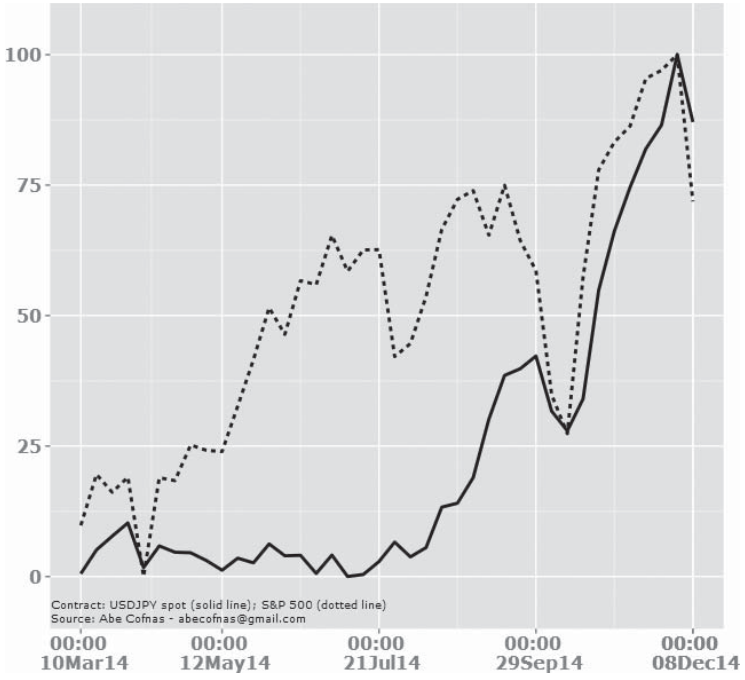

FIGURE 7.4 Mexican Peso.

Japanese Yen

Japan is the second largest developed economy in the world, with a GDP exceeding in 2013 near $5.trillion. Yet its size doesn't guarantee a successful economy. To understand Japan today, one has to have a sense of where the Japanese economy has come from. So, its worthwhile to take a brief look back a few decades.

In 1989, the Nikkei 225 Index, which is a price-weighted index of the top 225 stocks on the Tokyo exchange, peaked around 39,000. In 1990, the Nikkei Index fell by 39 percent; in March 2007, it was at the 17,400 mark; and in December 2014 it was again near 17,400. This is still quite a way from the highs of the previous era. The "bubble" (1987–1991) in Japan had broken. The bubble was characterized by extremes in consumption of luxury cars, expensive food, outlandish art auction prices, and surges in sales of luxury brand bags and jewelry. The Nikkei had tripled in price in the 45 months prior to its peak. Also, metropolitan land prices tripled between 1985 and 1989. Finally, there was a significant increase in borrowing to finance home purchases.[2]

Then Japan experienced what has been called *The Lost Decade*. Between 1995 and 2002, the average annual GDP growth rate was an anemic 1.2 percent. Compare this to the same-period growth rate of other nations, shown in Table 7.4. We can also see the comparative GDP growth rates in June 2014, and once again we see that while the countries are down in their growth rates, Japan is still struggling.

The Japanese stagnation had many causes, but a major contributor was the Japanese consumer. Studies have shown that in Japan, what could go wrong in consumption did.[3] Household disposable income declined, household wealth declined, and, coupled with uncertainty about the future, the result was low confidence in prospects of strong growth. Once the forex trader appreciates what the era of stagnation was like in Japan, he or she

TABLE 7.4 Growth Rates, 1995–2002

Country	GDP	Growth Rate (%) 2014
Canada	3.4	2.45
United States	3.2	2.60
United Kingdom	2.7	3.20
Eurozone	2.2	0.80
Australia	3.8	3.10
Mexico	2.6	1.60
Japan	1.2	–0.10

[2]Atsushi Maki, "Changes in Japanese Household Consumption and Saving Behavior before, during, and after the Bubble Era: Empirical Analysis Using NSFIE Micro-data Sets," *Japan and the World Economy* (January 2006).

[3]Charles Horioka, "The Causes of Japan's Lost Decade: The Role of Household Consumption," *Japan and the World Economy*, 18 (2006).

will have a greater understanding of why Japan today is still not on firm footing of renewed growth.

For example, household disposable income had a growth rate of only 0.98 percent for 1991 through 2003, compared to 3.32 percent for 1980 through 1991. Household wealth declined by an average 0.39 percent. Interestingly enough, the data show that the proportion of people saving for old age rose from 50.5 percent in 1991 to 60.4 percent in 1995, demonstrating great fear of the future and lack of confidence in the economy. The data from Japan underscore the importance of consumer confidence. When confidence is low regarding one's country, consumers tend to save much more. This makes it difficult to stimulate growth through traditional monetary measures such as lowering interest rates. Another important characteristic was that prices were actually in deflationary mode, and when prices keep falling, there is little incentive for consumers to purchase since they expect cheaper prices.

Few of today's forex traders remember this period of time in Japan, even though it was less than a decade ago. It was before the emergence of the retail forex market. But that era of stagnation is really not over, and also holds clues as to whether Japan will experience robust, uncertain growth or retreat again into stagnation. Much will depend on the Bank of Japan and its continuance of monetary stimulation, known as Abenomics. A recovery in Japan will be detected if its inflation rate approaches 2 percent. Trading the USDJPY and its related pairs will certainly be very exciting in the coming years. The yen, because of the Bank of Japan's aggressive easing, called QQE (quantitative and qualitative easing), has significantly weakened against the dollar. It may very well weaken further (see Figure 7.5).

It will not be easy to stimulate the Japanese consumer. This means that the forex trader should carefully watch consumer confidence and inflation data coming out of Japan for clues as to whether Japan is overcoming deflationary fears. Also important is export data on Japan. Stimulating exports becomes a critical factor in determining the ability of the Japanese economy to grow. Any significant strengthening of the Japanese yen, particularly against the dollar or the euro, could threaten Japan's export growth. However, any extreme level of weakening of the yen would help exports. But remember that too weak a yen against, for example, the euro may help Japanese exports but would undermine European exports. With regard to Japan, perhaps the best word to describe current conditions is *uncertain*. The uncertainty whether the Japanese consumer economy is strong enough to grow, combined with the uncertainty of whether Japanese interest rates will rise to a target level of 2 percent, dominates trading of the yen. The complexities facing the Japanese economy also involve aging workforce and potential shortages in labor. All these fundamental factors make trading the yen more challenging than the other currency pairs.

This uncertainty in the Japanese economy of whether it can succeed in inflating creates a great deal of increased ranging price behavior in the currency. Traders of the yen

FIGURE 7.5 USDJPY Weakens in Response to Easing by BOJ.

should almost always expect the unexpected because economic news from Japan has a built-in greater potential to surprise us. Also important to consider is the growing impact of China on the Japanese prospects for growth. China has now surpassed the United States as Japan's largest trading partner. As a result, if the yen were to move toward a strengthening, Japan's exports could be hurt. A weak yen, in contrast, stimulates Japanese export growth. Export growth data therefore become very important in affecting sentiment toward the yen.

For the forex trader of the yen, the news from Japan's trading partners becomes important to watch. Since the US composes 53 percent of the trade weights and the Eurozone 31 percent of the trade relationship, the USDJPY and the EURJPY become the key currencies to trade (see Table 7.5).

A final and perhaps most important fundamental personality of the yen is its behavior as a risk-appetite or risk-aversion gauge. When global markets experience fear, dollars and other assets are sold and yen are bought, resulting in a strengthening of the yen. The USDJPY sells off. When global markets experience enthusiasm for equities and risk, yen are sold and capital flows to the equity markets. The USDJPY chart goes up. What is most

TABLE 7.5 Countries and Trade Weights

Country	Trade Weights
USD	53.56%
EUR	31.96%
GBP	6.02%
AUD	4.96%
CAD	3.50%

Source: Bank of International Settlements.

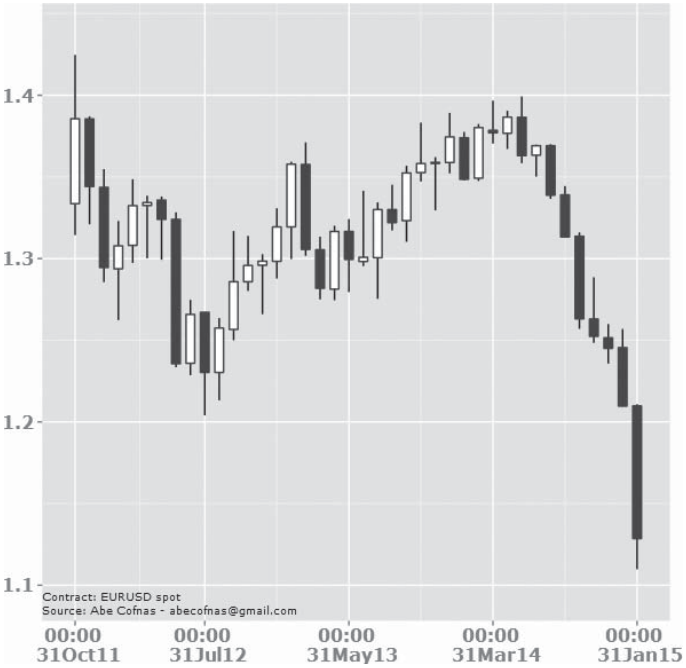

FIGURE 7.6 USDJPY and S&P 500 Move in Tight Correlation.

interesting is that the USDJPY becomes synchronous in its movement with the S&P 500. Forex traders, therefore, can use this close co-movement of the USDJPY and the S&P 500 as clues to direction and trading in times of market volatility. (See Figure 7.6.)

Euro

The euro as a currency is the most complex in the world. The creation of the euro was a tectonic event in world economic news.

The Eurozone consists of Austria, Belgium, Cyprus, Estonia, Finland, France, Germany, Greece, Ireland, Italy, Latvia, Luxembourg, Malta, the Netherlands, Portugal, Slovakia, Slovenia, and Spain.

When combined, the Eurozone economy presents a powerful part of world trade. Table 7.6 snapshots the key measures of the regions, such as population, GDP, sectors of production, and unemployment rate.

This increased level of complexity introduces more uncertainty on the currency's behavior. Managing to control the multiple economies of the Eurozone makes the mission of the European Central Bank (ECB) one of the most challenging of all central banks. To succeed, the policies of the ECB need to succeed in all of the member countries. Keep in mind that this is not easy. Each country has its own domestic policies, and its own inflation rates. Events in any country can undermine achieving the average inflation rate that the ECB sets. The forex trader has to expect the unexpected in regard to the euro.

The complex personality of the euro as a currency is based on which countries are the Eurozone's trading partners. We can observe these trading relationships in the trade-weighted index for the euro.

The US dollar has the greatest weight, with the British pound and then the yen following. See Table 7.7.

TABLE 7.6 Economic Profile of the Eurozone

	Euro Area	United States	Japan
Population (millions)	313.2	296.7	127.6
GDP (share of world GDP) (%)	14.8	20.1	6.4
GDP per capita (thousands in euro)	25.5	35.6	25.9
Sectors of production:			
Agriculture, fishing, forestry (% GDP)	2.2	0.7	1.2
Industry (% GDP)	26.6	21.1	20.2
Services (% GDP)	71.3	78.2	69.6
Unemployment rate	8.6	5.1	4.4

Source: European Central Bank.

TABLE 7.7 EURUSD Trade Weights

Country	Trade Weights
USD	35.64%
GBP	31.28%
JPY	15.64%
CHF	10.23%
SEK	7.21%

Source: Bank of International Settlements.

In any case, trading the euro in the absence of knowledge about which countries the euro trades with will undoubtedly lead to misjudgments about the performance of that currency. The importance of the euro as a currency reflects the fact that its trading partners are global, and as a result, the euro as a currency may become less dependent on US economic prospects. Traders have many choices of pairs to shape the trade. The EURUSD pair is the most popular, followed by the EURJPY pair and the EURGBP pair.

Trading the EURUSD requires a careful attention to the data on inflation in Europe. The fear of deflation provides great expectations on a weaker euro through European Central Bank intervention via quantitative easing.

Because of the Eurozone's complexity, the European Central Bank has a difficult time in managing monetary policy. The biggest challenge in the coming years facing the Eurozone is combating deflation. The forex trader will need to keep a close watch of European Central Bank statements about deflation in the Eurozone. As a result, the main sentiment wave facing the EURUSD is bearish, as long as inflation remains very low. We can see in Figure 7.7 the decline in value of the EURUSD in recent years, from the highs of 1.60 EURUSD in 2008 to approaching 1.11 in January of 2015. Parity with the US dollar is now on the horizon!

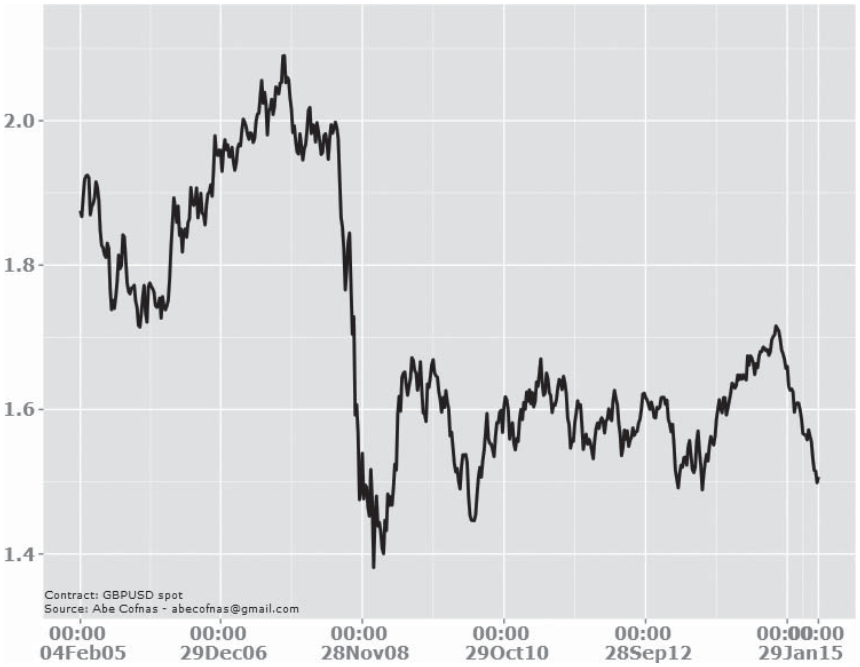

FIGURE 7.7 EURUSD Starts its Fundamental Decline.

British Pound (Cable)

Great Britain remains diversified in its linkages to the global economy. Consider the fact that over half of the profits coming from the *Financial Times* and London Stock Exchange (FTSE) 100 are profits from overseas activity. The British economy is intimately linked to global trading patterns and is in the 2.5 trillion range in its GDP. (Table 7.8) We can see the Bank of England's statistical summary of key weightings of the Great Britain trade relationships.[4]

This immediately suggests that in trading the pound, the EURGBP and the GBPUSD pairs would be the main pairs to trade. The British pound's fundamental personality is that it is more oriented to European economic events than the United States.

The key factor for traders to watch in 2015 and beyond will be what the BOE does on interest rates. Britain, like the United States, has ended quantitative easing and is likely to begin increasing interest rates sometime in 2015. Any data that show a slowing of inflation would translate into a selling of the pound. Beyond the critical components of interest rates and GDP, Great Britain has unique economic challenges due to an increase in migration levels. The surge in migration can affect inflation and employment levels in a variety of ways and those who watch and trade the pound must not ignore these aspects of fundamentals and Great Britain. For the forex trader, the GBPUSD becomes an excellent currency pair to trade. It is off its stratospheric highs of 2.100 GBPUSD back in 2007, to a 1.56 price point at the end of 2014 (see Figure 7.7). The forex trader will have fun trading the GBPUSD during the coming years.

Swiss Franc

The Swiss franc represents an interesting niche among the global floating currencies. Over the years it has been used as a safe-haven currency because it had a link of convertibility to gold. This link was abandoned in 2000. In 2011, the Swiss Central Bank linked the Swiss franc to the EUR with a target of holding its value to 1.20 EURCHF. The Swiss

TABLE 7.8 GBPUSD Trade Weights

Country	Trade Weights
USA	17.5%
Germany	12.0%
China	8.9%
France	6.9%
Japan	3.7%

[4]Bank of England, http://www.bankofengland.co.uk/statistics/Documents/iadb/notesiadb/eri2014.pdf.

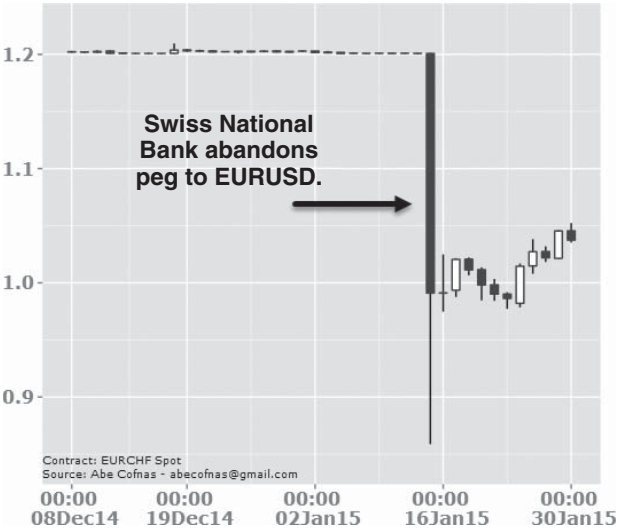

FIGURE 7.8 EURCHF Reacts with Huge Volatility to Swiss Central Bank De-pegging.

franc lost a stunning 9 percent of its value within 15 minutes of intervention. The purpose of the intervention was to keep the value of the Swiss franc from increasing. The Swiss franc was experiencing in-flow of capital as a safe-haven currency. The peg to the EUR was considered to be a tool for keeping exports viable and promoting tourism. Keep in mind that the Swiss economy is nearly 70 percent related to exports. A strong currency hurts exports.

The ability to actually hold the value to 1.20 became untenable in January 2015. The Swiss Central Bank shocked the world by suddenly abandoning the peg to the EURUSD on January 15, 2015. In minutes, the CHF strengthened in value by nearly 30 percent and an astounding increase of over 4,000 pips. (Figure 7.8) The reaction was a dramatic drop of the EURUSD against the Swiss franc. The move created chaos among many forex firms that had not hedged against a depeg. However, going forward, the EURCHF can now be traded as a free-floating currency.

The US Dollar Trade Weight

A look at the US dollar from a trade-weight perspective provides added insight for the forex trader on which other countries the US economy is linked with via exports and imports. (Table 7.9) On October 20, 2014, the Federal Reserve published updated trade weights. Notice

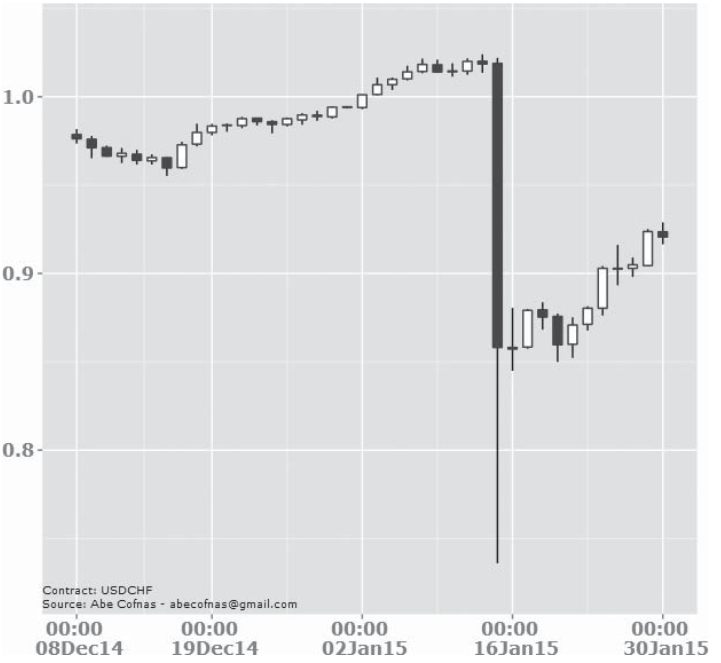

FIGURE 7.9 USDCHF After Swiss Central Bank Abandoned Peg.

how China now occupies nearly 21 percent of export value and 25 percent of import value. (Figure 7.9) Although the US trades with the entire world, the China relationship is paramount.

TABLE 7.9 Key US Trading Partners

Country	Export Weights	Import Weights
Euro area	16.377	16.4
Canada	12.658	13.3
Japan	6.9	7.849
Mexico	11.87	14.043
China	21.2	25.5

Source: http://www.federalreserve.gov/releases/h10/weights/default.htm.

THE WORLD ECONOMY—THE MACRO VIEW AND FOREX TRADING

At this point, we can see that by looking at each currency's particular trade relationships, traders get a deep-level bottoms-up approach. It can make a difference when traders may want to specialize in trading one currency. But it should be clear that no currency or

country is isolated from the world economy and shocks may occur, whether they are financial or geopolitical. There is no place to hide.

What is particularly exciting about the current period is that forex traders are witnessing the global recovery from one of the greatest financial collapses since the Great Depression of the 1930s. The collapse of 2008 ushered in a very long period of adjustment and disruptions. Interest rates went to a near-zero level. Central banks expanded their powers and initiated monetary stimulus to levels unprecedented. Traders who started trading since 2008 have not had the benefit of experiencing periods where growth in GDP, jobs, and interest rates are part of the day-to-day expectations. Particularly in the coming years, as the world is divided into economies where deflation is feared and those where growth is occurring, it makes sense to maintain a big-picture understanding of where the world is at from an economic point of view.

ASSIGNMENT

Global Interest Rates and Their Expected Direction

Since interest rate direction will be a major fundamental focus of the coming years, it makes sense to spot-check current rates.

Table 7.10 shows interest rates as of late 2014. The only central bank of this group that raised rates was New Zealand.

TABLE 7.10 Comparative Country Interest Rates

Country	Interest Rates
United States	0.25%
Eurozone	0.05%
Canada	1.0%
Great Britain	0.5%
Australia	2.5%
Japan	0.1%
China	5.6%
New Zealand	3.5%

CHAPTER 8

The Personality and Performance of the US Dollar

Gaining a fundamental understanding of the US economy is a critical part of being prepared fundamentally for forex trading. The US economy is still the largest developed economy in the world, and therefore the US dollar reflects this importance. Much of the world's trade is denominated in dollars, and global reserves of central banks hold over US$4 trillion, which is about 60 percent of all reserves, according to latest data. It is true that we are in a period when the world economy is growing, particularly with the growth of Asia. This growth may mean that in the coming years, the preeminence of the US economy will diminish. However, as the US economy remains the critical pivot point of the world economy, forex trading will continue to pay close attention to US-based economic events. In particular, the forex trader, in trading a currency pair involving the dollar, is actually making a judgment or a bet about the direction of the US dollar with regard to the other pair. This can be a five-minute bet or one that goes substantially longer in duration. But the fundamental question the trader has to answer is whether to be bullish or bearish on the dollar for his next trade. The US dollar index is the standard reference for tracking sentiment on the US dollar (Figure 8.1).

Gaining insight into the strength of the US dollar can also be done by looking at the New York Board of Trade's (NYBOT's) US Dollar Index (USDX). This index is traded at the NYBOT and is a weighted index. It is not trade weighted and therefore does not reflect the dollar's strength or weakness in the context of global trading patterns. But the USDX is traded by major funds and is considered an important barometer of sentiment regarding the dollar. It can easily be tracked at www.ino.com. Let's take a closer look.

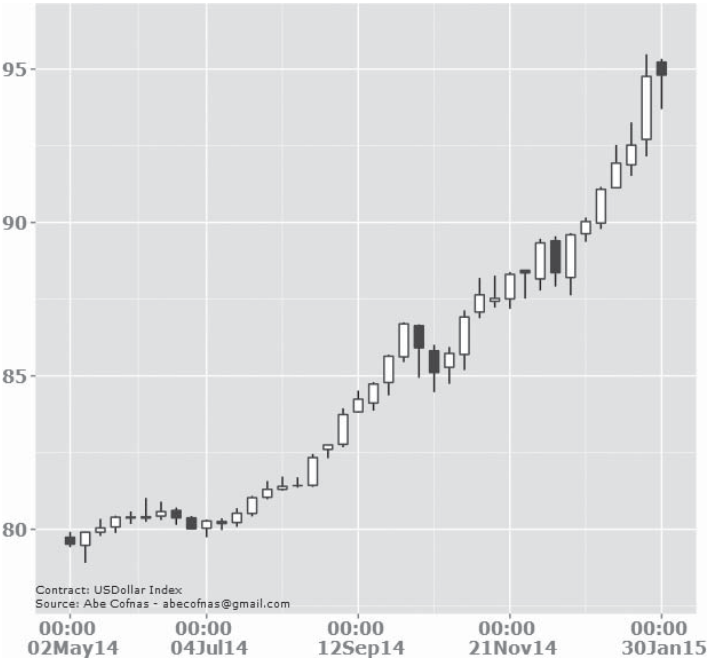

FIGURE 8.1 USDX Day Chart.

STRUCTURE OF THE USDX

The USDX has its own basket of currencies, just like the trade-weighted indexes (TWIs). But notice the differences in the weights between the USDX's basket and the Federal Reserve's in Table 8.1.

The USDX chart provides a good way of checking dollar sentiment.

TABLE 8.1 New York Board of Trade's US Dollar Index

Currency	Weight
European euro	0.576
Japanese yen	0.136
British pound	0.119
Canadian dollar	0.091
Swedish krona	0.042
Swiss franc	0.036

However, it should be clear that there are many ways to evaluate the dollar. New measures are always being introduced and explored by economists.

US FOREIGN DEBT AND WHO BUYS US ASSETS

One of the fundamental variables that affect sentiment regarding the US dollar is the fact that as a nation, the United States has huge foreign debt. For example, economist David Levey said recently:

> *The current account deficit measures the difference between what US residents spend abroad and what they earn abroad in a year. It now stands at almost six percent of GDP; total net foreign liabilities are approaching a quarter of GDP. Sudden unwillingness by investors abroad to continue adding to their already large dollar assets, in this scenario, would set off a panic, causing the dollar to tank, interest rates to skyrocket, and the US economy to descend into crisis, dragging the rest of the world down with it.*[1]

Another way to look at the current account deficit is that it reflects the excess of imports over exports. The question is: Why is there a current account deficit in the United States, and why do nations such as China have a current account surplus? The answer is that the fundamental personality of the US economy is that it is the world's greatest consumer economy. The issue that is relevant for the forex trader is not the fact that there is a current account deficit; it's the fact that it results in the US Federal Reserve issuing notes to finance this deficit, and foreign ownership of these securities generates fear in the market. The fear is that if foreign investors of US Treasury notes suddenly became unwilling to buy these notes, the US economy would suffer. Here is what happened in 1997:

> *Foreign ownership of US Treasury securities has often been the subject of considerable public debate. Discussion of this issue arises particularly at times of uncertainty about either the outlook for the exchange value of the dollar or the need for cash in countries holding large stocks of Treasury assets. In June of 1997, for example, there was a flurry of activity in the US financial markets when the Prime Minister of Japan, Ryutaro Hashimoto, suggested that Japan might find it necessary to sell some of its large Treasury holdings.*

[1]David H. Levey and Stuart S. Brown, "The Overstretch Myth," *Foreign Affairs* (March/April 2005).

On the day following Mr. Hashimoto's remarks, the Dow Jones industrial average fell by 192 points, its largest decline in a single day since the 508-point falloff on October 19, 1987. While the Prime Minster's clarification of his remarks subsequently calmed the markets, it did nothing to alter the potential vulnerability of the US financial markets to sudden decisions by foreign holders of US debt to undertake large-scale sales of their dollar assets.[2]

The US Treasury issues a report called "Major Foreign Holders of US Treasury Securities (www.treas.gov/tic/mfh.txt). The fear is that some day, foreign ownership of US Treasury securities will stop. As a result, interest rates would increase and the US economy would be destabilized. This fear continues to resurface in the media and will likely become part of the US national political dialogue.

When the US Treasury report comes out, it can move the forex market. We can see from the latest reports that the value of the top ten holders of US debt has risen from over $1.7 trillion to 3.9 trillion of US securities (Table 8.2). From a fundamental view, this is supportive of the dollar. We can see that the Organization of Petroleum Exporting Countries (OPEC) accumulates dollar surpluses from its petrodollars. It also purchased more US treasuries. Monitoring the levels of foreign owners of US securities is an important part of sensing the true dollar sentiment in the world. Forex dollar bulls can point to the

TABLE 8.2 Major Foreign Holders of Treasury Securities (Billions of Dollars)

Country	As of January 2007	As of October 2014
Japan	648.8	1222.4
China	353.6	1252.7
United Kingdom	249.3	167.9
Oil exporters	102.4	279.4
Korea	65.6	54.5
Taiwan	63.1	173.4
Caribbean banking centers	62.9	324.9
Germany	56.4	72.5
Hong Kong	54.7	161.0
Brazil	53.7	261.7
Top 10 Total	1710.5	3970.5
Total	2239.7	6058.0
T bills	181.4	337.1
T bonds and notes	1135.4	3787.0

Source: http://www.treasury.gov/ticdata/Publish/mfh.txt.

[2]Laurence H. Summers, "The US Current Account Deficit and the Global Economy," October 4, 2005, The Per Jacobsson Foundation, www.perjacobsson.org/2004/100304.pdf.

fact that essentially a consistent stream of buyers of US treasuries has provided a floor against a steep and quick fall of the US dollar.

Economists are in agreement that the effect of foreign purchasers of US Treasury securities is to push interest rates lower than they would otherwise be. Without such purchases, US rates would likely be higher, perhaps by nearly 1 percent more.

In the long run, evidence exists that there is a trend toward diversification of foreign holders away from dollar assets. As other economies grow, the incentives to reallocate reserves away from US dollar assets to more local assets will rise. Even rumors of such diversification lead to selling US dollars in the market by traders who do not want to risk holding dollars. This has an effect of weakening support for the dollar.

ASSIGNMENT

Find the Top 10 Holders of US Treasury Securities

Go to http://www.treasury.gov/ticdata/Publish/mfh.txt and answer these questions:

- Has there been a change in the trend of foreign holders of US Treasury securities?
- When is the next Treasury International Capital (TIC) System report coming out?

CHAPTER 9

Conducting Your Own Fundamental Analysis

The forex trader today is very lucky. The Internet provides unprecedented access to information and data—perhaps too much information. There are billions of words out there that can be called into use and sorted. The *bag of words* can serve as a very useful tool to inform the trader about global economic conditions.

A good technique to use that provides an efficient way to pull information out of the World Wide Web is to use the search engines and input the right terms. For example, traders preparing to evaluate a currency to trade should also scan the latest news. Here is how to do it:

1. Go to Google (or any other search engine such as Yahoo or Baidu), click on the ***News*** link, and then click on ***Sort by Date***.
2. Input search terms (US dollar, Australian economy, etc.).

For example, if you input the term *Australian interest rates*, the results will quickly point to the latest article on it.

Using Google or any other search engine effectively will depend on which terms are entered. The following terms are good starting points to maximize the items retrieved:

US dollar

US economy

US interest rates

Bloomberg on US dollar

European economy

European interest rates
German economy
German interest rates
Yellin
Draghi
Zhou Xiaochuan
Haruhiko Kuroda
Bank of China
Glen Stevens
Mark Carney
Australian interest rates
Australian economy
Canadian economy
Canadian interest rates
Bank of Japan

The idea is to try to grab the latest analysis while you are scanning the charts, which will help you gain an understanding of what forces are moving the charts while you are trading.

DETECTING MARKET EMOTIONS: SENTIMENT ANALYSIS

Obviously, currency movements can't be analyzed in isolation. World events and economic data releases constantly feed the market new information and cause reactions. It's critical to also realize that data and information are always wrapped in a virtual blanket of expectations. Currencies move when there is surprise in the data released. But surprise can't happen without prior expectations. This means that fundamental analysis is not complete without detecting the expectations around the fundamentals. Actually, until the trader diagnoses market emotions, a follow-on technical analysis to determine timing of trades will likely be less effective. How can traders make sure they are detecting market expectations? An effective way is to create a "balance of fears" list.

BALANCE OF FEARS

At the end of each week, markets around the world settle positions and get "squared" for the weekend. Traders go home to try to rest. In effect, though, the markets are not resting;

rather they are rebalancing their expectations about the coming week. The expectations for the coming week are reassessed. On Monday morning, as markets wake up, new expectations have been formulated. However, on Monday morning, accuracy about market direction and predictive accuracy about price action by the end of the coming week are very limited. There is maximum uncertainty and, as a result, fear and hope enter into the vacuum.

Understanding market emotions is a new form of analysis that actually is a hybrid of fundamentals and technical analysis. Price action reflects expectations of value, but it also reflects the degree of confidence. When prices react to a change in market expectations, they are riding an emotional wave. Currencies in particular absorb and reflect the wide emotional spectrum that shapes their price paths.

A good way to start thinking about market emotions is to fine-tune your thinking about emotions. First, there is a vast literature about emotions, their types, and their nature. Emotions are not easy to quantify or describe. But all of us can recognize many key emotional describers. Emotions about the market are also subject to a great deal of ambiguity. A lot of this ambiguity is a result of language. When the US dollar is described as being "strong," such a description reveals very little about the degree of strength. When markets are described as having risk appetite or risk aversion, these are attempts to characterize a collective state of emotions. Markets, however, don't think, but they constitute millions, perhaps, of individual decisions. Even robot trading reflects rules that ultimately are derived from the emotions of those who made the rules!

Key Emotions that Relate to the Markets

Hesitation
Restlessness
Greed/mania
Euphoria
Surprise
Consensus
Boredom/indifference
Anxiety/uncertainty
Determination/enthusiasm
Fatigue
Confusion
Despair
Fear
Acceptance/capitulation

TABLE 9.1 Emotion Search Combinations

Name of Person/Market	Fears	Hopes	Desires
Mario Draghi			
Mark Carney			
Janet Yelling			
Glen Stevens			
Haruhiko Kuroda			
Glen Stevens			
Stephen Polo			
Zhou Xiaochuan			

An effective way to take a measure of the emotions relevant to trading is to create a balance of fears list. Let's explore this technique.

Using the search engine of your choice (e.g., Google, Baidu), instead of a single term, such as the euro, enter combined terms that filter a retrieval of information: Draghi fears. What we have is the name of the head of the European Central Bank and an emotional adjective. The result is a quick retrieval that provides a measure of emotions. In a recent search of the term *Draghi fears*, 366,000 search terms were registered and several key headlines emerged:

News for Draghi fears: ECB gets ready to pump cash into Eurozone as fears rise

Eurozone deflation fears add to pressure on Draghi

Let's review the importance of this simple exercise in text mining. By taking a few minutes of time, using a basic table like Table 9.1 where the trader lists central bankers and related key emotions, the trader can become cognizant of the market fears. The trader pulls emotional content to herself. This technique filters the "signal" from the "noise" of the Internet.

Within a few minutes, the trader can construct a list of market fears and capture what is on the collective mind of the market! It is no accident that using the names of the heads of central banks provides a useful tagging method.

ASSIGNMENT

Prepare Your Own Balance of Fears Checklist

Conduct an emotional word search as described in this chapter. In one paragraph, answer these questions:

What are this week's dominant fears in the markets? Which currencies are most impacted? What is your expected direction, if you traded these currencies?

DIRECT EMOTIONAL SEARCH TERMS

Since detecting how the market is registering emotions is important, the trader can use a list of emotional terms in the process of searching the Internet. The following is a checklist of emotional terms.

Key Terms to Detect Market Emotions

Risk appetite
Risk aversion
Deflation fears
Inflation fears
Stagnation fears
Wage inflation fear
GDP fears
Equity fears
US dollar strength
Bond market fears
Bond market hopes
Recession fears
Market anxiety
Safe-haven markets
Consumer sentiment
China fears
Market bubbles

DEVELOPING A SENTIMENT-BASED OUTLOOK

A sentiment-based view leads to the understanding that the major causes of change in the relative value of currencies are real or perceived changes in interest rates, inflation, or economic growth between their economies.

The relationship between fundamentals and forex prices is not a direct relationship; rather, it is more akin to fuzzy logic or a chemistry of forex. Fundamentals remain in the background and provide important conditions conducive to a currency's strengthening or weakening. By forming a fundamental view of currencies, the trader is able to get in line with the powerful economic forces that currencies ultimately reflect.

Traders who want to conduct fundamental analysis need to have their own fundamental forex checklist and action plan. The purpose of the fundamental forex checklist is to make sure you have the information to make some trade strategy decisions.

SENTIMENT OUTLOOK CHECKLIST

Developing a sentiment outlook for currency and market direction embedded with a review of market emotions allows the forex trader to effectively answer these questions:

1. What are the dominant fears of the markets I am trading?
2. What currency pairs should I be trading in the context of those fears?
3. What direction is my next trade?

We know and can determine which currencies are stronger than others and which markets are getting all the attention.

Fundamental Forex Checklist and Action Plan

1. Scan and list current global data on gross domestic product (GDP), interest rates, and inflation levels. Group the results in categories of growth, flat, and declining direction.
2. Scan price patterns in commodities such as oil, gold, and copper.
3. Check the US dollar index (USDX) and score if it is uptrend, flat, or downtrend.
4. Choose which currency pairs to trade.
5. Choose the preferred direction of your next trade. If you do not have a preferred direction, that means you are choosing to trade in either direction.
6. Watch the calendar for economic releases.

ASSIGNMENT

Prepare Your Own Sentiment Outlook Report

Write a paragraph describing in your own words the fundamental outlook for a currency. Send it to labecofnas@gmail.com; it will be reviewed, and you will receive advice on how to improve it. Here is a sample:

SENTIMENT OUTLOOK Report on the Currency Pair (_____)

The (_____) currency pair is in a strong position fundamentally because its economy is experiencing growth at a GDP rate of (_____) per year. Its inflation rate is now at (_____). The central bank has indicated (1) a bias toward increasing interest rates; (2) a neutral stance on interest rates; (3) concern on slowdown of the economy. The trade-weighted index has shown a trend (up) or (down).

The biggest risk factor for this currency pair is:

1. Unexpected rise in inflation
2. Further slowdown in housing
3. Direction of oil prices, etc.

In other words, put in your own words a summary of what's going on with the fundamentals affecting the currency that you are looking to trade.

PART II

Timing the Trade with Technical Analysis

The paramount question in every trader's mind is: Just when and where should I pull the trigger? Technical analysis supplies the tools for answering that question, but there is no single answer or unique path to obtain the answer. There is no single technical indicator that can, or should be, exclusively relied on to produce winning outcomes, because the markets are too complex. No one, to date, has produced a consistently reliable technical trading system for any market, let alone forex. This is because technical indicators can never capture all of the variables that influence price movements.

The phenomenon of *irreducible complexity* comes to mind. The market has too many variables and models of the market are necessarily incomplete. Financial mathematicians, known as *quants*, try to come up with algorithms (equations) that improve predictive ability, and they get millions of dollars to try. They've tried every conceivable methodology, such as Fourier analysis, wavelets, and neural networks, to try to gain even the smallest increment of predictive value. Simply put, it is not easy to replace the seasoned, experienced trader. The reason should be obvious—technical analysis provides a snapshot of market moves that have already occurred. The resulting snapshot is a picture that is always lagging and limited in resolution. In contrast, the "smart" trader has evolved a successful mixture of analytical tools that sense repeatable patterns, and combines

them with the ability to detect market emotions. The active trader sees the terrain as much more than the contours of the boundaries revealed in the charts.

Yet technical analysis is not without its value. Technical analysis of chart movements, when used correctly, can improve trading, not by predicting but by providing a map revealing important aspects of what the price has been doing and how it got there. Technical analysis can help sort out the noise of price movements and reveal patterns that can be traded with a high probability of success. The forex trader's main challenge is to use technical analysis of charts to achieve actionable knowledge of market conditions.

Whatever analysis techniques are used, the single most important question that the forex trader has to ask and answer is: *Where is my next trade?* By asking this question, the trader prioritizes information and analysis and separates what is useful from what is not. For example, the forex industry is filled with a great deal of information flow. We might even call it information overload. Traders have numerous chat rooms to visit; there are a number of newsfeeds pushing the latest headlines to the trader. Blogs have added to the noise as well. Every forex firm seeks to gain a competitive edge by providing the latest "analysis" of market conditions. *The challenge is to pull the information that helps shape your next trade.* How to shape your next trade is the goal of Part II of this book.

Becoming a forex trader is not an instant process—it's an evolution. Beginners to forex do not even know what they need to know. Trades are put on without a plan, and beginning trades are really trial-and-error experiments. Winning trades occur but don't seem repeatable. The beginning forex trader experiences the market but doesn't leverage his knowledge. At this early stage, the exposure to quick and large losses usually wipes out the trader within the first month of trading.

The second stage of the evolution of a forex trader is the discovery of indicators and technical analysis. At this stage, the trader tends to use too many indicators. The trading results are not much better, but this stage is characterized by hunting trades. The trader overtrades due to a desire to put on trades as often as possible.

The final stage in the evolution of a forex trader occurs when the trader has sharpened his tools and has acquired an ability to let the market come to him. This is achieved when knowledge and experience combine. While the biblical adage that there is no wisdom without pain still rings true, much of the pain that new traders experience in unnecessary losses can be avoided. The best traders in the world lose perhaps 40 percent of the time but are still able to become profitable.

How does one evolve to his or her level of maximum forex competence? While everyone cannot become a master trader, everyone has the capability of raising his or her level of competence. *Competence* is the ability to apply forex knowledge with consistently profitable results. Therefore, the purpose of technical analysis is to help the trader shape a trade that offers a highly probable profit within acceptable levels of risk. The process of becoming competent in forex trading started with understanding what forces move forex prices. It continues with understanding how to map the market. Let's start.

CHAPTER 10

Mapping Price Action

The purpose of this chapter is to explain the first steps in conducting technical analysis of forex prices. These steps involve finding support and resistance, trend lines, and assessing where the price is in relationship to these geometric points.

PROJECTING HORIZONTAL SUPPORT AND RESISTANCE POINTS

Where is the currency pair price and what is it doing? This question is quite basic, but it involves many levels of analysis. Understanding the location of the currency pair is a foundational beginning of technical analysis and will reveal a great deal of information that a trader can use in formulating trading strategy.

But how do we know where to look? The basic technical measurement of horizontal support and resistance provides the ground floor of technical analysis. Whenever you look at a currency pair, you have to ask where support is and where resistance is. The answers provide the first mapping of the market.

Support is where the price stops falling, and *resistance* is where it stops rising. The process for locating support and resistance is fairly straightforward. Figure 10.1 includes several support and resistance lines. Those lines that form floors and ceilings are outer support and resistance containing the price action within a range. Those lines that are inside these larger lines are inner support and resistance.

What is most significant about horizontal support and resistance lines is that they are not lagging. In contrast to indicators, they are projections and form psychological hurdle zones. When price establishes support or resistance, the market recognizes that location as a zone or hurdle that has to be overcome. The immediate future price movements need

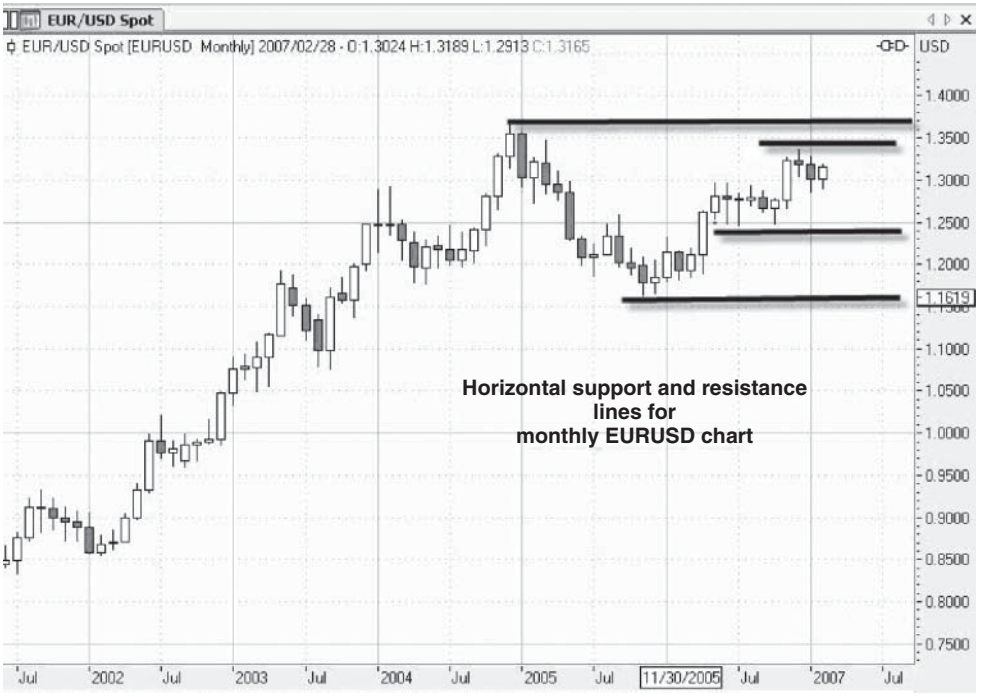

FIGURE 10.1 Horizontal Support and Resistance Lines are Shown for Monthly EURUSD. *Source:* www.tradesignal.com.

to probe and penetrate a support or resistance (S/R) line. *One of the first principles of trading forex is to locate a trade near support or resistance.*

Once we know where horizontal support and resistance are, we need to also determine the strength of that support and resistance. There are different ways of forming an opinion about the level of strength in the S/R lines. In Figure 10.1, we can see that the 1.2500 level offers strong support because over six months that price point was unable to be broken down and the euro–US dollar (EURUSD) held above it. In contrast, the resistance levels show only one test of the previous high. The trader can conclude that there is greater strength on the support side at 1.2500. If the price moved toward the previous high (1.3367 on December 31) and failed to go through it, confidence that resistance was stronger at that level would increase. The time interval on a chart also can be used to weight one's confidence about how strong the S/R levels are. The longer time frames such as monthly and weekly resistance and support are more robust. After all, a great deal of money has had the chance to go through those levels but did not.

In constructing support and resistance lines, the trader needs to realize that there is a degree of judgment. In Figure 10.2, the support and resistance lines are drawn where

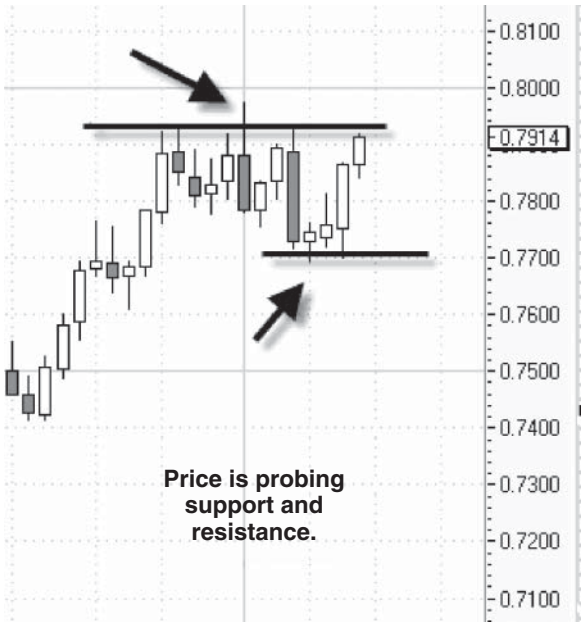

FIGURE 10.2 Price is Probing Support and Resistance.
Source: www.tradesignal.com.

there appears to be a set of highs and lows. Some of the candlewicks are penetrating the lines. Those penetrations would be viewed as creating temporary levels of new support and resistance, with the stronger levels being those connecting more points. Drawing support and resistance lines should be done with the perspective that these are zones and not exact lines.

TREND LINES

The trend is your friend—until it is at an end.

After finding the geometry of support and resistance, we come to the most classical tool used by chartists—trend lines. Trend lines provide a projection of support and resistance that links past behavior into the future. A trend line is used to map whether there is consistency in highs and lows. While simple in its construction, knowing the trend is a basic foundation for trading forex. Once a trend is identified, detecting a potential change in the trend becomes a focus for the trader because trading at the break of a trend or the failure to break a trend line is a highly probable point of success. Figure 10.3 shows a downtrend in place and the price twice coming to the trend line, and then failing to stay above. Although the price actually created a high above it (where the arrow points),

FIGURE 10.3 Price Tests Trends and Fails.
Source: www.tradesignal.com.

it failed to follow with another candle at that high point. Thereafter, the return of the price under the trend line and the resumption of the downtrend would be recognized by an experienced trader as a sell condition.

The main benefit of trading with a trend is one of probabilities. An upward trend presents a greater number of buying opportunities to the trader. It doesn't mean there are no good selling or contratrend opportunities. We can see in the charts that there were countertrend moves, but much fewer than trend-aligned moves. A prudent trader will seek opportunities that provide a higher probability of success. Trading with a trend meets this condition. The question arises: Which trend should the trader align himself with—the week trend, day trend, 4-hour trend, and so on?

Each choice has advantages and disadvantages. The basic trade-off is the increase in price volatility and range when a larger trend time frame is selected. Trading in the direction of the weekly trend means that a trader will see periods of time and maybe days when the price is moving the other way, threatening losses. But in this case, if the day

trends are also moving in the same direction as the weekly trends, it represents more confidence that the trend is stable. For intraday traders trading off a 15-minute chart, when the 15-minute trend direction is aligned with the 4-hour trend direction and also confirmed by the 5-minute trend direction, there is a high level of robustness to the trend. The concept of three time zones confirming trading decisions will apply in many areas.

CONFIRMING AND DETECTING TREND CHANGES: THREE-LINE BREAK CHARTS

Three-line break charts are very useful for detecting and confirming trend changes. Three-line break charts are increasingly available to retail traders through their forex firms and through charting companies. They are worth using because there is little ambiguity whether a trend is in place and also at what point it would be considered reversed. Therefore, three-line break charts provide the ability to confirm trend direction in any time interval and project where the trend would be considered reversed! Three-line break charts are excellent charting tools to help answer the question: In which direction should a trade be taken, and where should I enter the trade?

Let's explore this chart tool and how it shows trend strength, trend stability, and trend direction. The chart looks like a candlestick chart, but it is not. Each block represents the completion of a new high or new low. The chart therefore shows only consecutive highs or consecutive lows. This provides a snapshot of the sentiment. What the trader is looking for is the predominant direction of the sentiment, whether the sentiment is weakening, and (most importantly) whether it has reversed.

In the example in Figure 10.4, there are 10 blocks (or lines) down and then a reversal. At the point where the reversal block went past the previous three down blocks, we get

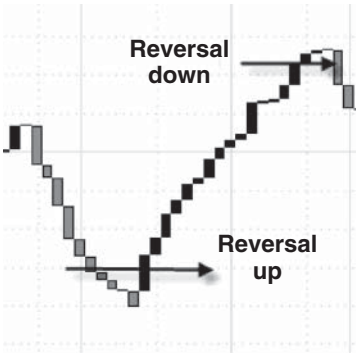

FIGURE 10.4 Three-Line Break Shows Two Reversal Points (Up and Down).
Source: www.tradesignal.com.

a reversal signal. The trader can look to buy at that point, since the market showed the ability to reverse the sentiment. This is why it is called three-line reversal. Similarly, move to the right of the chart and we can see that after 17 consecutive new highs, there was a reversal down. If the trader is looking to confirm a decision to buy or sell, then the three-line break pattern is used to support that decision. If there is an intention to buy, then the three-line break blocks should, at a minimum, show that the market is in a buy trend by showing that it is producing consecutive closes of newer highs. The timing of the entry may be based on other setups, but it is even better if the entry to buy occurred on the three-line break reversal from a previous series of down sequences. The decision to sell a currency pair would be confirmed by having the three-line blocks showing a down sequence, and preferably the entry would occur upon the reversal. The trader has the challenge to select the right time frame for the three-line break charts. Using a day chart converted to three-line break chart will show consecutive day closes of highs or lows. This does not mean that there will not be intraday reversals of important magnitude. It won't show up. As the trader selects shorter time frames, such as the 4-hour, 30-minute, and 5-minute three-line break charts, the trader will recognize the strength of the trend sentiment from a multiple time perspective.

The first important use of three-line break charts is to decide to trade with the three-line break direction. But it can be with the day, 4-hour, 30-minute, or 5-minute directions. If they are all aligned, it is the best of all worlds. Using the 5-minute three-line break charts provides a short time frame but still enables the trader to detect trend direction and reversals that lead to magnitudes of 20 and more pip moves that can be captured.

Take a look at the US dollar–Japanese yen (USDJPY) 30-minute three-line break chart right before and after the February 27 sell-off that affected the world's equity and currency markets. We can see that by using three-line break charts, the trader would have had a first reversal at 121.4 for a sell signal. Then the pair proceeded to close 16 new 30-minute lows consecutively before it reversed up briefly; a new reversal at 120.4 occurred, followed by 18 new lows; and then it reversed back to 118.2. The dramatic fall of the USDJPY is seen by the three-line charts as very strong, with long sequences of selling creating new lows consistently (Figure 10.5). There were very few buying opportunities. An alert trader would use the three-line chart to join the sentiment ride down, but would know when to get out (when it reversed up) and when to get in again (when it reversed back down). One of the biggest mistakes traders make is to be caught on the wrong side of the market. Three-line break charts reduce this kind of error by defining the trend in an unambiguous way. Trading with the trend can be rephrased as trading with the three-line break trend.

Using what you have just learned, take a look at a chart of the New Zealand dollar–US dollar (NZDUSD) (Figure 10.6). It is a day chart with a three-line break in it. We can see this pair had very nice alternative sequences of up and down trends. The trader who wants to buy would see that the pair is in a downtrend and that the NZDUSD has just reversed

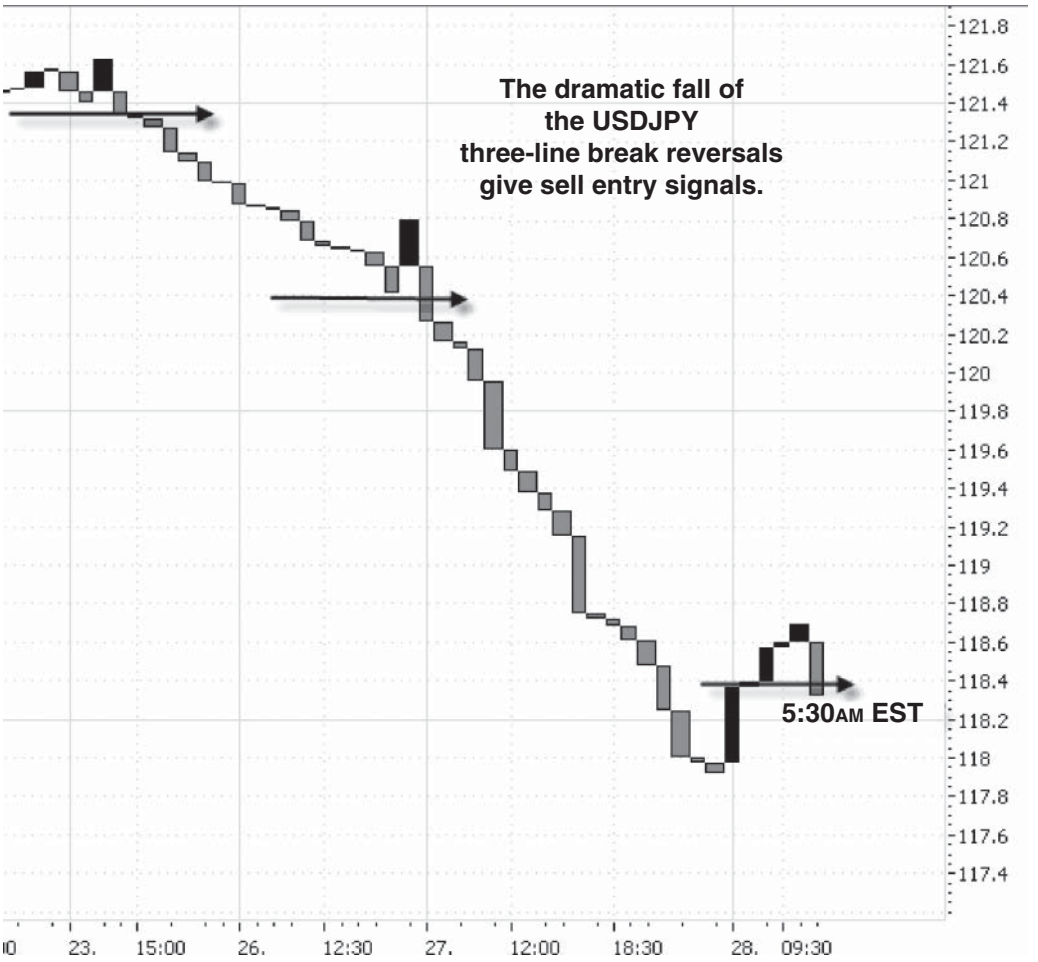

FIGURE 10.5 USDJPY Three-Line Break Reversals on February 27 Signal When to Sell.
Source: www.tradesignal.com.

an uptrend. The trader would want to wait for a reversal of the price at point B, just above 0.71 price point.

SPOTTING MICRO CHANGES IN TREND SENTIMENT: RENKO CHARTS

Finding the trend direction and points where the trend would be considered being reversed is valuable for entering trades, but one of the largest challenges facing the forex trader is to know when sentiment has changed and turned against the trader and

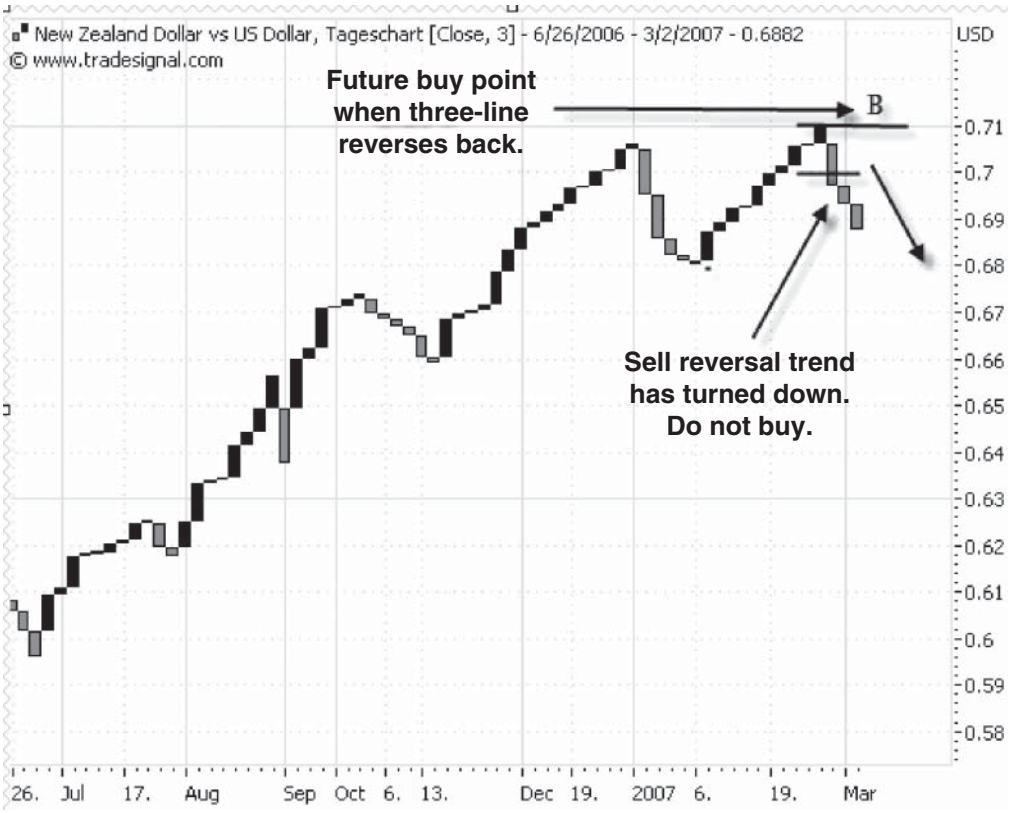

FIGURE 10.6 NZDUSD Day Chart with Three-Line Break Shows Up and Down Trends.
Source: www.tradesignal.com.

then to get out of the way. When it comes to detecting the earliest form of change in trend direction, the trader should consider renko charts. *Renko* means brick in Japanese and provides a way of smoothing out the noise of the market. A renko chart provides an ability to represent a predefined move in the price. Although each candlestick or bar provides the low, high, open, and close of a sample period, renko charts provide an additional renko block only if the price has moved and closed at the predetermined setting. In other words, if the trader wants to know only if there is persistence in the sentiment, seeing consecutive renko blocks would confirm that the market is showing the ability to push further brick by brick. This is very useful, and we will show you how to use renko blocks in combination with other indicators to enable precision exiting.

Figure 10.7 compares renko visualization of price action with the standard candlestick variation. Each renko block is set here at one pip move. This means that if the price

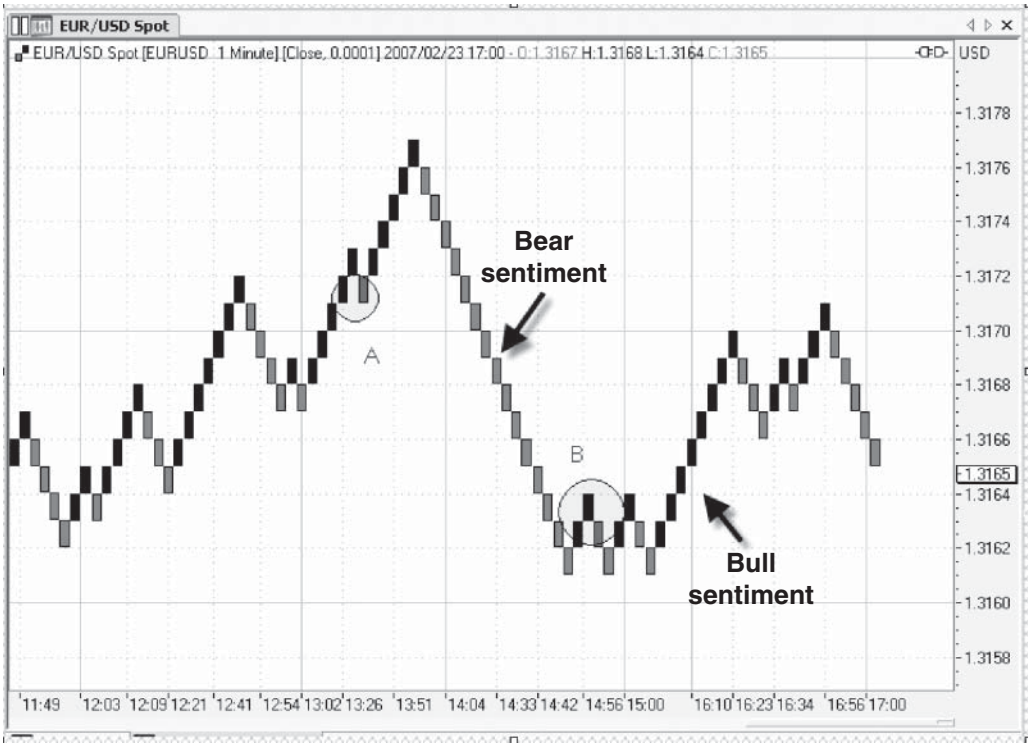

FIGURE 10.7 Bear and Bull Sentiment Patterns in One-Minute Renko Charts.
Source: www.tradesignal.com.

closes one pip higher or lower, a new block is added. The time interval is one minute. The trader can choose any time frame and setting appropriate to his or her goals. However, the value of renko blocks is mostly at the smallest setting generating information to the trader about the patterns in the sentiment that are difficult to detect with other charts.

In effect, we can see that the currency pair exhibits varying degrees of patterns of sentiment. The ability to generate a consecutive series of new up blocks or new down blocks reveals clearly whether a strong micro trend is in place. At points A and B, we see a reversal of the pattern. There will always be some reversals. In this case, one or two renko blocks should not be perceived as the end of the previous pattern. In the most recent series of blocks, at the right end we see a downtrend. The trader seeing this chart who was already in a sell position would interpret this last formation as permission to continue to stay in that position. We will demonstrate how to use renko in combination with several setups and strategies later on.

By mapping the price action along key support and resistance lines and finding trend lines, the trader creates a foundation for shaping the trade. We can see that one can go even further by examining intraday, intrahour, and even micro-trend directions using three-line break and renko charts to show patterns of bull or bear bias. The key advantage of using three-line break or renko charts is to reveal whether the sentiment of the market has changed either at the large time frames or the smallest time frames. It is a tool worth exploring.

CHAPTER 11

Finding Significant Support and Resistance

This chapter provides a guide to detecting when support and resistance levels are exhibiting Fibonacci characteristics and their importance. Resistance and support at pivot points are also explored.

FIBONACCI LEVELS OF SUPPORT AND RESISTANCE

Beyond basic geometric measures of support and resistance, there are hidden factors involving psychological forces and patterns in the market that enable the trader to project future levels of support and resistance. Most famous among these forces are Fibonacci levels.

Fibonacci ratios are mathematical patterns of sequences that are expressed in many ways. There are innumerable references to the universality of Fibonacci numbers—a quick Google search reveals over 1,230,000 citations. The Fibonacci sequence describes key ratios from growth in plants, human anatomy, and so on. The forex application is to price movements, which appears to realize Fibonacci ratios. This is particularly obvious on larger time frames such as weekly, daily, and 4-hour time charts. A large move from a low to a high is often followed by an attempt of the price to move back or "retrace" the original move. The profit taking will cause the price to give back a proportion of the move and then rest at support or resistance. These areas of rest are Fibonacci points. For example, let's look at a chart showing a price move on the euro–US dollar (EURUSD) weekly chart (see Figure 11.1).

We can see that the EURUSD made a low at 1.2478 and then proceeded to form a high at 1.3374. Once this move was completed, the trader can use a Fibonacci (Fib) graphic

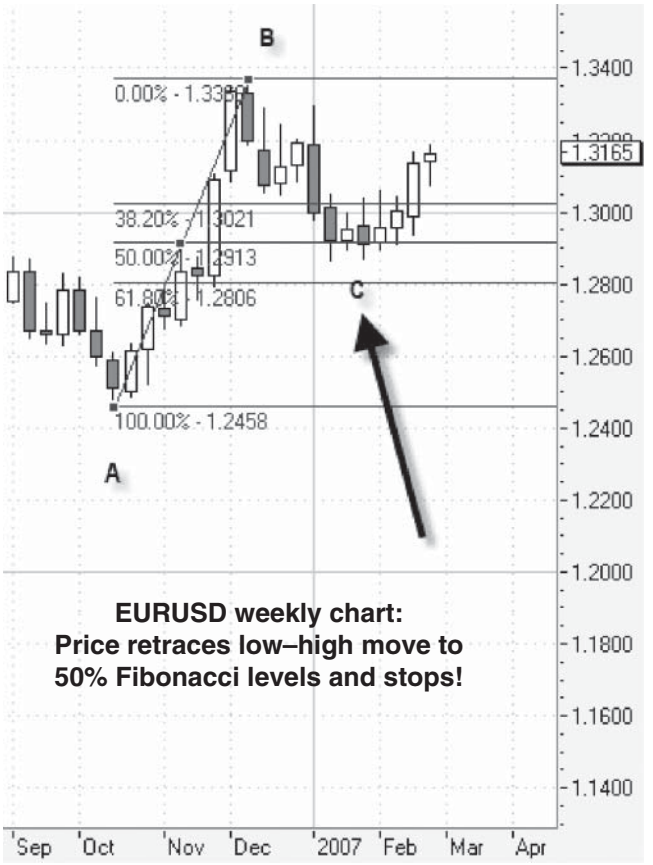

FIGURE 11.1 EURUSD Weekly Chart with Fibonacci Patterns.
Source: www.tradesignal.com.

tool, which is available on all platforms to draw a Fib line. Since the price started from the low, the Fib tool assigns the 100 percent level to this origin point. The best way to interpret this is to think of the price going all the way back home to where it started. It would achieve a 100 percent retracement. Once the low and the high are connected, the Fib graphic tool draws the lines and projects it out. Notice that these Fib lines are extended into the future. The trader doesn't know if the price will get there! The trader makes the assumption that if the price is able to get to a Fib level, it will experience strong support or resistance. Also, if the price is able to probe a future Fib level but fails to go through it, the trader can make a reliable assumption that there is key support at that level.

Let's get back to the chart. The price moved from the low of point A to the high of point B and then proceeded to retrace or fall back. What did it do? It probed the 50 percent

FIGURE 11.2 USDCHF 15-Minute Chart Showing Price Failure at Fib Points.
Source: www.tradesignal.com.

line but failed to close below it. It was as if it were performing a Fibonacci dance scripted in advance. But a chart using a 15-minute US dollar–Swiss franc (USDCHF) chart follows a Fibonacci pattern, and we see the price falling and trying to retrace but failing at the key 38.2 percent Fib line (see Figure 11.2). Experienced traders would be ready to sell this pair upon these failures.

Figure 11.3 shows a day chart of the EURUSD and another use of Fib lines. The EURUSD completed a move from a high at 1.3293 to a low at 1.2854. Remember, only after it completed the move would a trader be able to put on the Fib levels. The Fib levels then projected out the key Fib lines, which are the projected areas where retracement might occur. We can see that the price moved during a two-day period to point A (the 38.2 percent level) and then failed to close above it. The EURUSD proceeded to move into a three-day trend down nearly 150 pips. It then moved back up and actually went near the 50 percent Fib level but returned below it and proceeded to fall more than 100 pips.

What is instructive here for the trade is that if the trader were looking to sell, knowing in advance where the Fib levels were meant, while the price was going above point A or B the trader would look to put on a sell trade when the price fell below the Fib lines

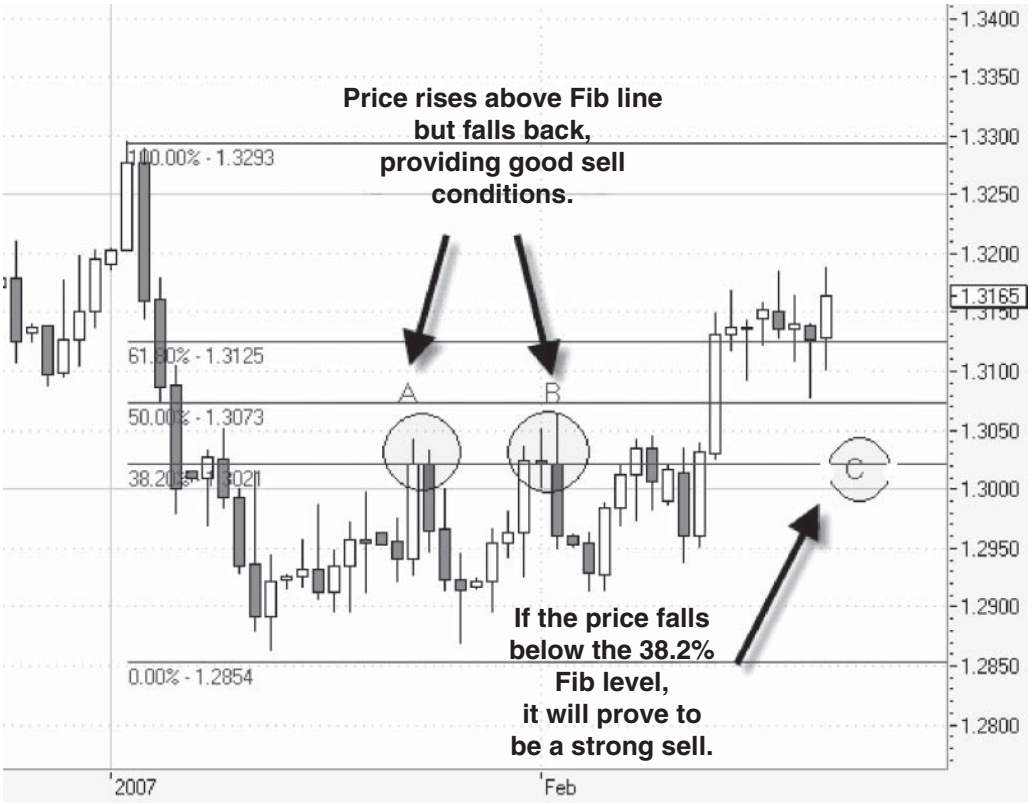

FIGURE 11.3 Sell Conditions Using Fib Points.
Source: www.tradesignal.com.

(of course, confirmed, as we shall see with other indicators). Point C is interesting. If the price falls to point C and stops, the trader with a buying strategy would focus on the price action at this point because stopping at a key Fib line means that support is strong. In contrast, if the trader were looking to sell, the price would have to go below the Fib level at point C to prove it had the energy to keep going.

Let's look some more. In the USDJPY 4-hour chart (Figure 11.4), we see the yen strengthening and probing a key Fib line. Traders looking to sell would be watching this chart. The 4-hour period is particularly important because a 4-hour trend direction represents a great deal of money flowing. Consider the fact that over $2 trillion per day is transacted in forex.

Fib lines should not be treated as predictions of what the price will do. They are maps of potential support or resistance. They are areas where the trader should take great care. Rest assured that any professional trader knows where the key Fib levels are.

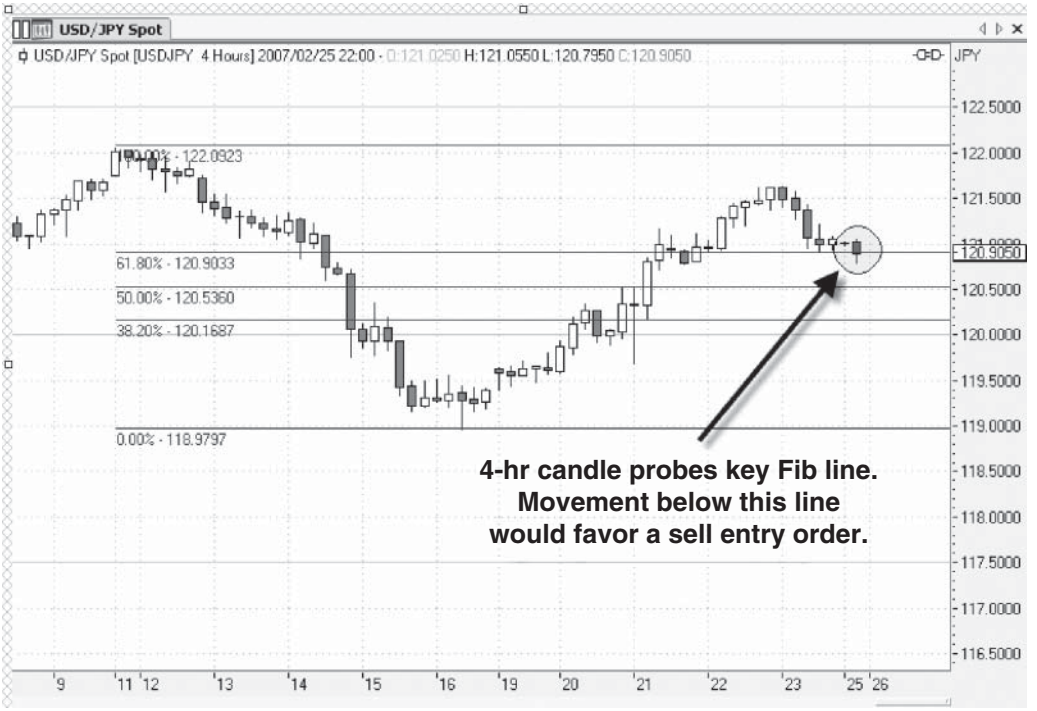

FIGURE 11.4 Four-hour USDJPY Candles Probe Fib Points.
Source: www.tradesignal.com.

Perhaps because these levels are projected and therefore known in advance, they generate a self-fulfilling process and increase in importance. But the phenomenon of Fib behavior is real and should never be ignored.

ASSIGNMENT

Take a look at the Fib behavior of the EURUSD in response to the September 11, 2001, terrorist attacks and in response to the July 5, 2006, London train bombings.

WHICH TIME INTERVALS SHOULD WE CHOOSE?

In using Fib lines, the question often asked is: Which lines and which points should be chosen? In answering this question, it's important to be practical. There are many Fib lines

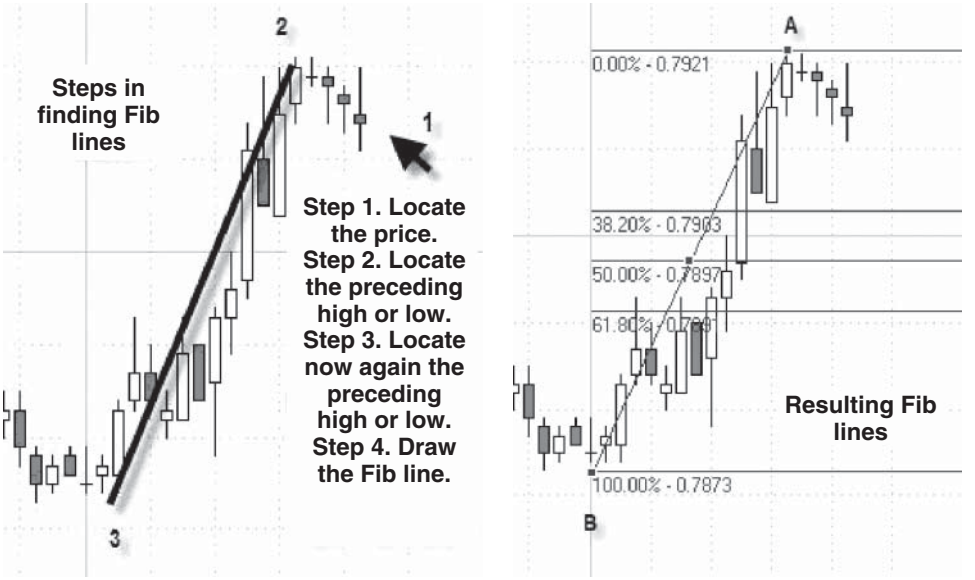

FIGURE 11.5 Steps in Finding Fib Lines.
Source: www.tradesignal.com.

in any of the chart time frames used. Even though trades may be taken off an intraday interval, with the 15- and 5-minute time intervals being common, it is still important to use the big Fib levels that are generated off the weekly, daily, or 4-hour charts. The way the Fib lines can be correctly chosen is to start where the price is at the hard right edge. Figure 11.5 shows the steps in drawing a Fib line.

The key is to first ask yourself: Where is the price, and where is it coming from? The trader wants to find the preceding significant low or high and its preceding low or high. Doing so will locate the most recent completed movement. In Figure 11.5, the price was coming from a preceding high, which came from a preceding low connecting point 2 to point 3. Select point 3 as the starting point of the Fib tool, and the Fib lines will be generated. Notice that the 100 percent level is at the low, meaning that if the price falls back to that level, it will have given back 100 percent of the move.

Even if the point of start was switched to either point 2 or point 3, what would not change would be the middle three Fib lines. Some firms do not show any Fib levels and simply show the lines.

Knowing basic Fib retracement levels will provide the new forex trader a tool that can be used to help improve an understanding of when to put on the trade. There are many variations of Fib levels. Fib extension levels take the retracement ratios beyond 100. There are graphic tools such as Fib fans and Fib circles. There are even Fib time zones. Whatever tool you choose, the core concept that price behavior often moves in Fib ratios

is a major principle of trading forex, and, in fact, Fib patterns are commonplace in many other fields.

THE MUSIC OF FOREX

In *The Psychology of the Foreign Exchange Market*, Thomas Oberlechner provides the results of research on how professional traders view the markets.[1] Oberlechner demonstrates that traders actually think about forex markets metaphorically. He shows that metaphors are an important way traders organize information, as well as form their own expectations of the market. Professor Oberlechner cites the main metaphors used by forex traders: a bazaar, a machine, a living beast, gambling, sports, war, and the ocean.

Many of us have probably used one or more of these concepts to characterize the forex market. The point of this research is to better understand how one proceeds to trade. The person who views the forex market as sports will look to winning trades as the main focus, but may become emotionally damaged when confronted with a losing trade. In contrast, the person who views forex as an ocean may tend to adopt longer-term views of market moves. Many view the forex market as a war, and as a result may formulate trading strategies that capture pips as if they were the enemy. Even if you do not read the book, it will be useful to ask yourself which metaphor applies to your own views of the forex market and why.

Forex traders also bring to their trading different perspectives based on their job and life experiences. Each perspective provides different strengths as well as weaknesses. Engineers who seek to learn forex often have a tendency to try to model the market and project direction based on equations. In contrast, doctors approach forex trading with the medical mind-set of diagnosing the price action. While the medical workplace provides an environment where patients convey a great deal of respect to their doctors, the forex market provides no such ego gratification. The market is not a patient that returns respect. Those traders who come from a sports background, such as martial arts, bring a disciplined mind-set and ability to control emotions. Emotions can provide valuable insight into managing a trade, so too much control of emotions may be counterproductive. It turns out that forex trading is a great equalizer among all professions, leaving most people challenged, as never before, in mastering profitable trading.

One profession that appears to provide important insight for forex trading is music, because there is harmony in forex price movements and rhythm in the market. The *Webster Unabridged Dictionary of the English Language* defines *harmony* as "a consistent, orderly or pleasing arrangement of parts; congruity." What is most interesting is

[1]Thomas Oberlechner, *The Psychology of the Foreign Exchange Market* (Hoboken, NJ: John Wiley & Sons, 2004), Chapter 7.

that one doesn't need an in-depth knowledge of music to recognize when one is hearing a harmonic set of sounds or an opposite cacophony of noise. More experienced forex traders focus less on applying more indicators as they become familiar with the inherent rhythm of the market. Yet, those new to forex trading face the huge challenge of trying to separate the noise in price movements and find an inner pattern or harmony.

The entire body of technical analysis has been evolving to provide tools that enable pattern analysis and the ability to smooth out the data. The person new to forex trading seeks to master technical analysis and is challenged by the overwhelming number of indicators and information streaming all day. What is important, and what is permissible to ignore? How does the forex trader know what to pay attention to? Part of the answer derives from looking at forex price movements as a form of harmony. Let's explore this further.

In searching for trades, many traders have a favorite time interval. They could have a day chart or a 1-hour chart and then they apply a variety of analytical techniques and shape a trade. While this may be a rational set of procedures to evaluate the market, an effective technique to consider is to *let the time interval choose you!* To clarify what we mean, consider the everyday experience of driving your car and trying to find a radio station that you would like to listen to. Selecting the scan button allows you to listen for a few moments to each station until the right tune comes along. The driver did not need to know in advance all of the songs being played at every station. All that was necessary was to hear the song that is appealing. Similarly, the forex market is constantly streaming a variety of patterns. There are many potential trades. By scanning through the price action that is playing, a tradable pattern will be perceived.

For example, you might see a sideways pattern (as shown in Figure 11.6) in almost any time interval. If you notice that the pattern has a repetition of the movement up and down the price scale, such patterns reveal an inner harmony. The engineer would recognize this pattern as a simple harmonic motion that is sinusoidal in time with a single resonant frequency, and might even be tempted to formulate an equation to project its path.

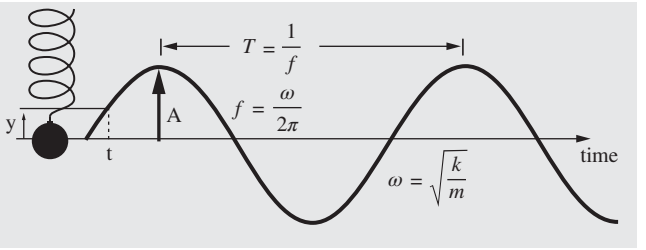

FIGURE 11.6 Forex prices often look like sinusoidal waves.

A person versed in music would not need equations to sense the pattern as being clearly melodic with a repetition of the tones. Whether the source was the vibration of a string on a violin or a result of the energy released by the clash of buyers or sellers trading a currency pair, it is an unmistakable nonrandom cycle of self-similarity. Traders with different backgrounds may all come ultimately to the same conclusion about the price action and its structure of movement.

FIBONACCI TONES

In further understanding forex prices and how they move, we cannot ignore the pervasive presence of Fibonacci ratios. It is certainly the case that professional traders know and use Fibonacci ratios to map market patterns. One of the milestones in becoming a savvier forex trader is developing your own understanding of how to recognize and use Fibonacci ratios to shape the trade. Fibonacci is important because currency pairs often move between support and resistance in tune to Fibonacci syncopation. After some base of experience, looking at almost any chart, one can see retracement patterns often along Fibonacci lines. Figure 11.7 shows such a sequence of upward and downward moves followed by retracement stopping at Fibonacci ratios. We can observe that first the pair made a move from a low to a high and then retraced back to 38.2 percent of the way down (point 1) and started moving back up. It, in fact, created a new high and then moved down to a low (point 2). Having completed that low, it proceeded to move back up again, but stopped at 50 percent of the way up (point 3). This is a sequence that, like music, provides an underlying theme to market moves.

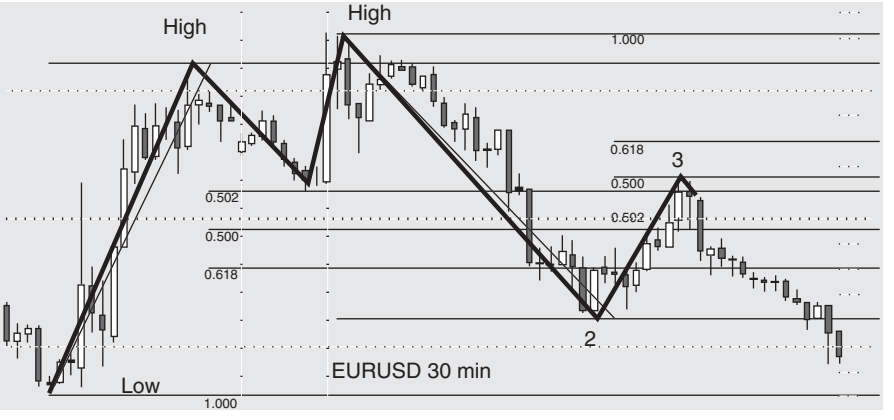

FIGURE 11.7 EURUSD 30-Minute Candles Participate in Fibonacci Rhythms.
Source: www.tradesignal.com.

The application of Fibonacci patterns as a universal phenomenon is further underscored, as musicologists have discovered them in the works of many composers, including Debussy, Bartok, and the like. The next time you listen to the second half of Scott Joplin's "Maple Leaf Rag," notice the pattern of 13 stressed and 8 unstressed notes. In fact, one can find Fibonacci patterns in the basic structure of instruments themselves. The piano, for example, has 13 notes that separate each octave, which has 8 white keys and 5 black keys. Forex traders will recognize the ratio of 13/8 as a Fibonacci ratio. When using moving average crossovers, try the 13 and 8 time intervals on the charts.

What does this mean to the forex trader? By understanding that currency prices are not linear movements but expressions of emotions and human behavior, the forex trader begins to move beyond a linear approach to trading. By expanding one's perspective on the underlying tones of the market, he or she will likely see nested patterns that are recursive and, as a result, new trading opportunities. As one trader notes, "Everyone's got the same information at the same time; therefore, you need to find a different way of finding an edge over your competitor."[2] The ability to obtain the sought-after trading edge may very well depend on how one looks for it. It would be wise to look for patterns and "listen to the market." It may be playing a Fibonacci melody or, for a brief moment, another profitable tune.

PIVOT POINT SUPPORT AND RESISTANCE

The idea that price patterns follow a retracement ratio is also expressed in the technical concept of pivot points. Pivot points are used by many traders and were developed by floor traders at the exchanges. John L. Person presents a very specific variation on the use of pivot points.[3] We want to introduce the concept here.

The advantage of pivot points is that they are essentially objective in nature. Other forms of resistance projections such as Fibonacci levels, Elliot wave, and so on have an element of subjectivity, and as a result, people may draw those lines differently.

Pivot points focus on the immediate trading session behavior and ranges. They provide a good sense of the psychology of the session. The pivot point equation generates a number that combines the high, low, and close and divides it by three, generating the pivot point number. The basic idea is for traders to assess what happens when the price probes that number. The pivot point number is, in the words of Person, "the focal price level, or the mean."[4] What is particularly interesting is the pivot point's overlapping or converging

[2]Ibid., p. 203.
[3]John L. Person, *Forex Conquered: High Probability Systems and Strategies for Active Traders* (Hoboken, NJ: John Wiley & Sons, 2007).
[4]Ibid., p. 68.

with a Fib line or with another important indicator. Figure 11.8 shows a EURUSD hour candle chart where the pivot point converges with a hesitation candle known as the *doji*. In this particular case, it is near a Fib line. Remember that the lower the time interval used, the less stable or reliable are the pivot points. A pivot point calculator is shown in Figure 11.9, and can be found online using the search term *pivot point calculator*.

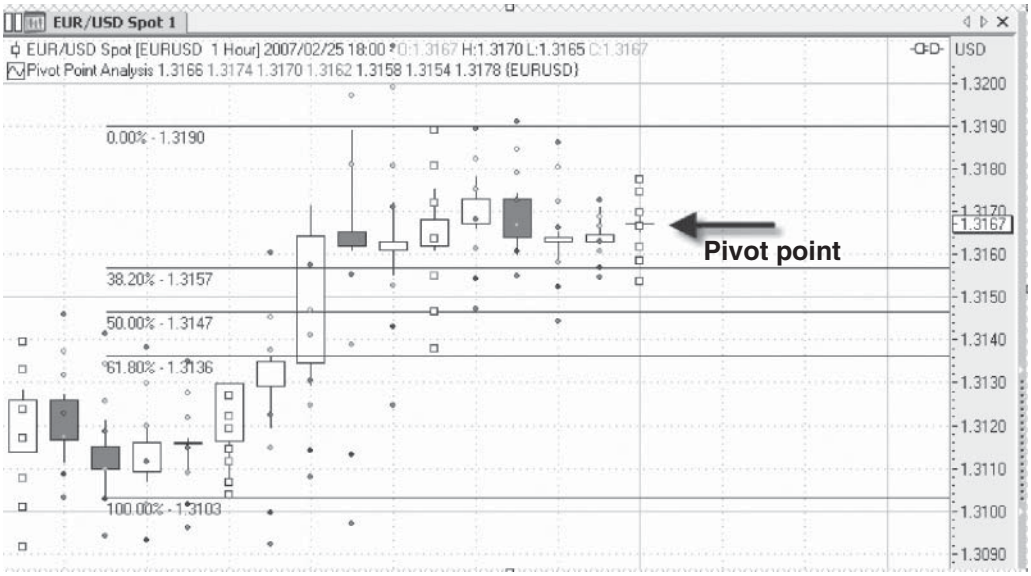

FIGURE 11.8 EURUSD 15-Minute Chart Showing Pivot Points and Fib Lines.
Source: www.tradesignal.com.

	A	B	C	D	E	F	G
	Enter -->	**High**	1180.00	610.00	1520.00	10500.00	
	Enter -->	**Low**	1160.00	590.00	1500.00	10400.00	
	Enter -->	**Close**	1170.00	600.00	1480.00	10300.00	
		SR Value	**ES**	**ER**	**NQ**	**YM**	
		R2	1190.00	620.00	1520.00	10500	
		R1	1180.00	610.00	1500.00	10400	
		Pivot	1170.00	600.00	1500.00	10400	
		S1	1160.00	590.00	1480.00	10300	
		S2	1150.00	580.00	1480.00	10300	

FIGURE 11.9 The Pivot Point Calculator is a Handy Tool.

PSYCHOLOGICAL SUPPORT AND RESISTANCE

The concept of psychological support and resistance is important to consider because market emotions are an increasingly important force on price action in the age of the Internet. Psychological support reveals itself in several ways and in many ways is a self-reinforcing process. For example, since traders assign importance to key Fibonacci levels, this results in aggregating more significance to those levels. A greater number of parked orders such as stops and limits become located in Fibonacci zones. Option orders at key strike prices play a key role that the average trader in spot has little accessible knowledge of. Additionally, prices at round numbers such as 1.2500 receive more attention from traders. Psychological support emerges when a key support or resistance level, such as a daily, weekly, or monthly high or low, is being probed by the currency pair. In effect, when the price has stopped going higher or lower, whatever the reason, the market considers these resistance and support levels as levels that have to be broken. Therefore, they are psychological in nature.

NEW SOURCES FOR EXPECTED SENTIMENT SUPPORT AND SENTIMENT RESISTANCE

There is a powerful source of information about where market prices will be at the end of a day or at the end of the week. The forex trader will find it very useful at the beginning of the week to gain an answer to the question: Will the currency pair (EURUSD, USDJPY, etc.) be higher or lower by the end of the week? This can be accomplished by using *binary options*.

Binary options are bets that a market will be above or below a certain point by a certain time. At the North American Derivative Exchange (NADEX), and IGMarkets, binary options are offered. See Table 11.1.

The binary ladders in the table show the EURUSD at about 6:30 P.M. EST on October 20, 2014. Each ladder is a statement: The EURUSD > 1.2775. There is a bid and offer (ask) associated with that statement. If a trader agrees that the EURUSD will be above the ladder price of 1.2775, he will buy the offer of 60 and pay the 60 as a premium. If he doesn't agree, he will sell and receive the bid price of 54. The maximum risk is the amount paid for the buyer. The maximum gain is 100 for the buyer. The maximum risk for the seller is 100—the bid. The maximum gain for the seller is the amount received, which is the bid.

The binary option ladder shown demonstrates how the binary option results in revealing expected resistance and support. The key to understanding binary options as a source

TABLE 11.1 EURUSD Weekly Binary Option Ladders

Contract	Time Left	Expiry	Bid	Offer
EUR/USD>1.3125 (3PM)	3 DAYS	24-Oct-14	–	4
EUR/USD>1.3075 (3PM)	3 DAYS	24-Oct-14	–	4
EUR/USD>1.3025 (3PM)	3 DAYS	24-Oct-14	0.5	5
EUR/USD>1.2975 (3PM)	3 DAYS	24-Oct-14	4.5	9
EUR/USD>1.2925 (3PM)	3 DAYS	24-Oct-14	11.5	16.5
EUR/USD>1.2875 (3PM)	3 DAYS	24-Oct-14	23	28
EUR/USD>1.2825 (3PM)	3 DAYS	24-Oct-14	37.5	43.5
EUR/USD>1.2775 (3PM)	3 DAYS	24-Oct-14	54	60
EUR/USD>1.2725 (3PM)	3 DAYS	24-Oct-14	69.5	75
EUR/USD>1.2675 (3PM)	3 DAYS	24-Oct-14	82	87
EUR/USD>1.2625 (3PM)	3 DAYS	24-Oct-14	90	95
EUR/USD>1.2575 (3PM)	3 DAYS	24-Oct-14	94.5	99

of sentiment expectations is in the fact that the maximum amount that a trader can receive from a winning trade is 100. If the trader buys a binary for 30 Ask price, it means in effect that 30 percent is the expected probability that the price will be above that range! This provides new information about market expectations. Let's take a closer look and answer some questions about sentiment resistance and support.

At what price is the crowd of traders expecting with 87 percent optimism that the EURUSD will be above by expiration at the end of the week?

Answer: the EURUSD @ 1.2625

At what price is the crowd of traders expecting with 83.5 percent confidence that the EURUSD will be below?

Answer: 1.2925

In effect, we see a sentiment resistance and support range. These levels can be used as stops and limits as well.

The idea of sentiment support and sentiment resistance can be applied to any binary option that has a fixed payout and at any duration. Traders should check on where support and resistance opinion is when they put on a trade!

For more in-depth analysis of binaries, see *Trading Binary Options: Strategies and Tactics*.[5]

Up to this point, we have looked at price in relationship to support and resistance lines and pivot points, but mapping price movement is not yet complete. The trader needs to consider the dimension of *time*.

[5]Abe Cofnas, *Trading Binary Options: Strategies and Tactics* (Hoboken, NJ: John Wiley & Sons, 2011).

PRICE AND TIME IN FOREX

The language of technical analysis really starts with the description of price in relationship to time. Much of the architecture of technical analysis explores this multidimensional relationship. Let's start with the fact that the charts themselves are snapshots of what has occurred in a selected time interval. Whether one uses bar charts or candlestick charts, the vocabulary of technical analysis has only four basic words: the *opening*, the *close*, and the *high* and the *low* of the price (see Figure 11.10).

With only these four units of knowledge, the trader can start to talk the language of technical analysis. We can build an entire architecture of trading strategy. We can build trend lines that connect consecutive highs and lows. We can deduce sentiment. For example, when the price closes above the opening, we have a bullish sentiment. When the price closes below the opening, we have a bearish sentiment. Another key relationship that is revealed by looking at the price bars or candles is the *range*, which is defined as the difference between the low and the high action.

The range of a currency pair reflects deeper psychological characteristics of the price action that can't be ignored. As the distance between a low and a high increases, the total energy of buyers versus sellers has increased. Accompanying this increase in range is also the anxiety of the trader. A widening range is a signal of increasing volatility. A narrowing range denotes the ebbing of interest and consolidation as the market needs new energy. Depending on the shape of the range, the trader can employ different strategies. In a sideways range pattern known as a *channel*, trading off each side represents a common

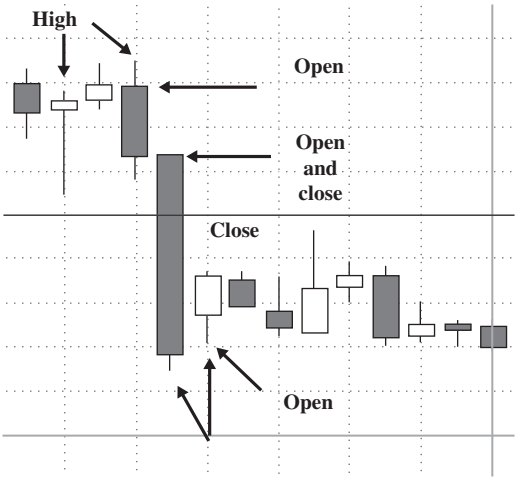

FIGURE 11.10 All Candles Show the Low, High, Opening, and Close.
Source: www.tradesignal.com.

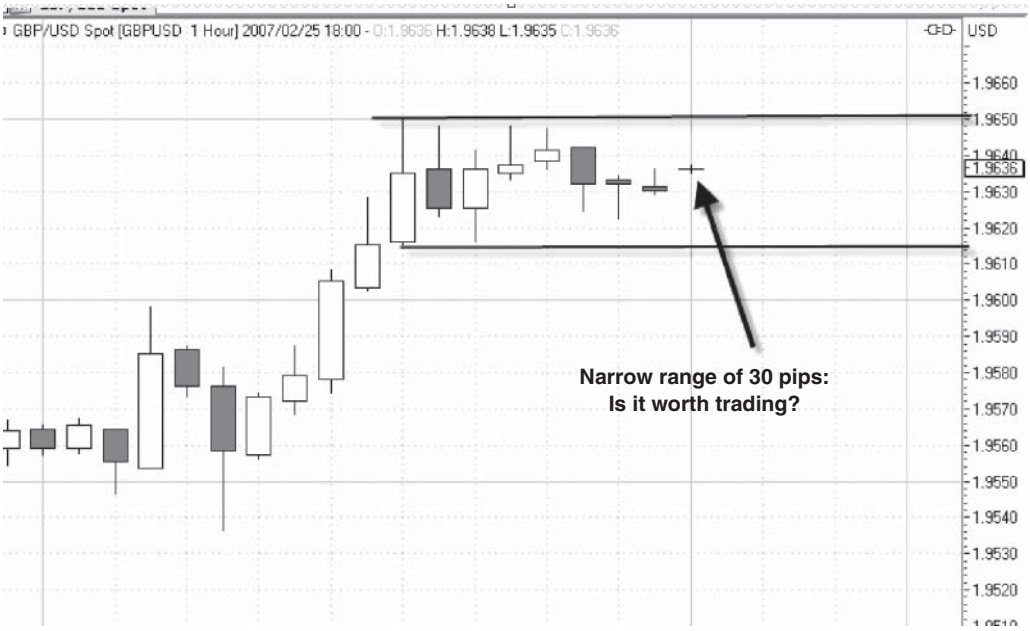

FIGURE 11.11 Narrow Range of 30 Pips in GBPUSD: Is It Worth Trading?
Source: www.tradesignal.com.

strategy. But the width of the range should be 40 pips or more to achieve a reasonable chance of capturing 10- to 15-pip moves. If the range is compressing in the shape of a triangle, the trade should be ready for a breakout. There is no guarantee as to which side the price will break out. More often than not, a breakout in the direction of the trend is a good bet. If the range is very narrow (less than 20 pips), no trade is preferable because the market is really in a period of noise. Figure 11.11 shows a chart with a range of 30 pips, but notice that the price is near the middle of the range. It would take very good timing to trade this pair from where the price is. Whatever the range is trading near, support or resistance is preferable.

CHAPTER 12

Volatility in Forex and Its Dimensions

This chapter reviews how volatility should be used in helping the forex trader evaluate market conditions. Volatility conditions, when added to classical support and resistance, and trend analysis identify high-probability trading opportunities and patterns.

By identifying currency pair volatility and associated exhaustion conditions, the trader gains knowledge of what the currency pair is doing. What the trader is most interested in is the behavior at prices at the extreme. A currency pair can reach a new daily or weekly high, but it doesn't mean that the price is likely to return to its average or mean price. When a currency is at a high, it is there for a reason. Perhaps new economic information pushed it to that new level. However, it is when a currency is at volatility high that the trader can deduce a potential for a reversal. This is because volatility cannot be infinite, then return to an average level. Understanding the behavior of price in terms of volatility is a building block of forex technical knowledge.

It is helpful in understanding volatility of currency pair prices to recall our everyday experience with volatility. A strong snow- or rainstorm has periods of varying intensity. But when the storm reaches its most intense period, one knows that it will soon be over. All of us have heard the phrase "the calm before the storm." When the price is quiet, with small ranges and little change over time, it is recognized as a prelude to a breakout—exactly mirroring the phenomenon of the calm before the storm. Trading strategies emerge from applying volatility knowledge. A peak in volatility suggests to the trader that a reversal trade may be shaping up and to be ready for that. A decline in volatility may suggest near-term lack of any significant move, suggesting waiting for conditions to change.

A technical quantitative measure of volatility is the standard deviation of the price range over time. Zero volatility doesn't mean that the price has stayed the same. It means that there hasn't been a change in the price range. The key notion to understand is for the forex trader to observe market ranges and notice whether they are stable or varying.

Once a currency pair starts changing frequently the shape of its range, we have volatility increasing. A surge in volatility may be a prelude to continued movement in the direction of the surge. New energy coming from increased sentiment has to go somewhere. It's important to note when a surge occurs, if it occurs at a key resistance, it may be a reversal indicator as well. Trading volatile markets that have expanding and contracting ranges requires special attention to risk controls because the trader has an expectation that the price can fluctuate more rapidly and more widely.

In Figure 12.1, we see a visualization of the volatility increasing. The currency pair British pound–Japanese yen (GBPJPY) experienced a significant increase in volatility right before and after the February 2007 Bank of Japan's decision to increase interest rates. Notice how the volatility ebbed into a very quiet and narrow range afterward. A good clue to volatility is when it takes only one or two candles to pass through the range.

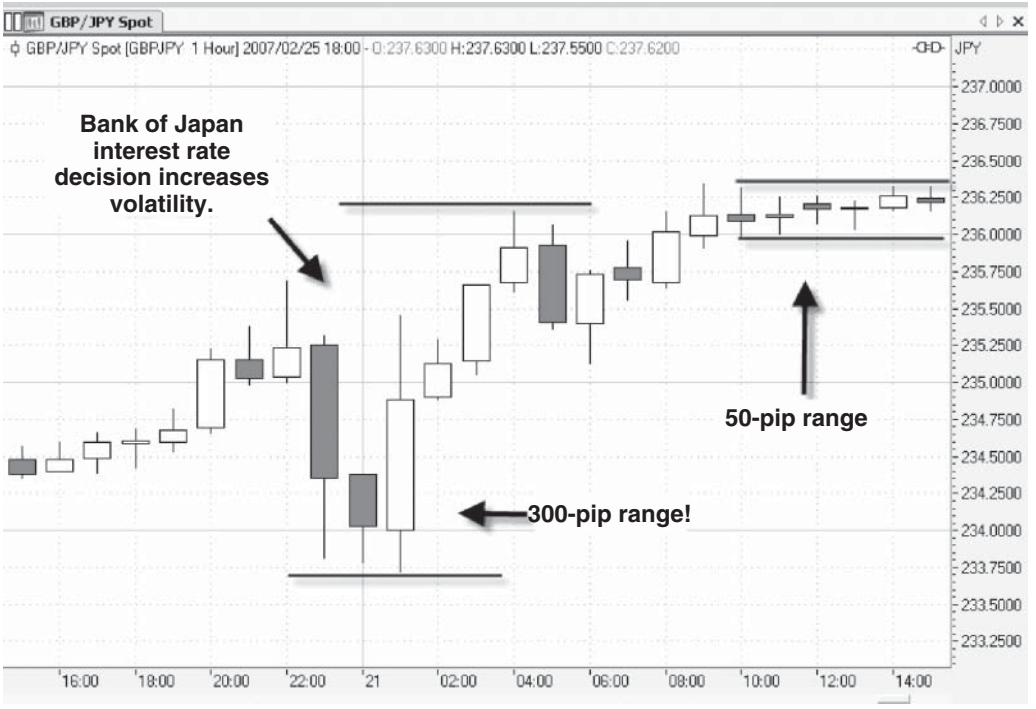

FIGURE 12.1 Volatility Increases for GBPJPY 1-Hour Chart.
Source: www.tradesignal.com.

Visualizing volatility is helped by the use of several technical indicators, which we will discuss in the next section.

14 KEY TECHNICAL INDICATORS

Because we have reviewed the basic geometry of prices and know how to create a forex map of price action, a next step in shaping a trade is to diagnose what the prices are exhibiting in terms of strength and weakness. There are dozens of indicators that accompany many of the forex platforms. This multitude of indicators can lead to confusion for the new trader. Many of these indicators are not useful for forex trading. Many of the indicators offered by forex platforms reproduce indicators that have been a standard part of the trader toolbox for generations in other markets. Whichever indicators are used, they should be evaluated as to how well they contribute to identifying market conditions and help determine the best location and time to put on the trade.

A first step in choosing indicators to use in trading is to understand what they do. Technical indicators are algorithms, which are equations that take price data and generate a smoothing out of the data. The value to the trader of any indicator occurs when they help confirm several technical conditions, as shown in the following checklist:

- How strong is the trend?
- How strong is support and resistance?
- Are there signs of weakness in the trend or in support and resistance?
- Are there signs of volatility or momentum peaks or exhaustion?
- Is there a divergence between the indicator and prices?

The overall goal is to find the set of indicators that increase the level of confidence that the opportunity to put on the trade is at hand. It's useful to think of indicators as ingredients in a recipe to create the basis of a trade. However, the trader needs to also recognize that the key disadvantage of indicators relates to their inherent lagging behind the market and their potential instability when applied to very short time frames, such as under five minutes.

VOLUME INDICATORS: A KEY MISSING ELEMENT IN SPOT FOREX

Volume information is one of the most important components of technical analysis of markets. Volume indicates the quantity of money flow into a particular investment instrument. An increase in volume often precedes an increase in price, and a decrease in volume is considered early identification of weakness. The best equity traders could not conceive

of trading without volume data. Yet there is no volume data for spot forex prices when trading through spot forex firms.

This lack of volume data makes many indicators offered irrelevant. Because volume and changes in volume are highly related to indicators of sentiment and market psychology, the forex trader needs to rely on technical indicators that act as a substitute for volume data. For example, knowing that a currency pair is probing a daily support level for a few days represents a great deal of volume at that daily support level. The position of the currency pair price in relationship to support and resistance and how close it is to either level becomes a good substitute for volume. Additionally, when economic data releases come out, the entire market focuses on the report, and the trader knows that maximum volume is at these news events. Therefore, one of the best ways to overcome the lack of volume data is to trade where there is certainty on maximum volume.

However, for those traders who want the best of all worlds, there is a way to obtain volume data for the spot forex trader. Futures on currency trading include volume data in the form of open interest contracts. This means that all of the technical indicators on the futures side that include volume are valid. While trading the euro-US dollar (EURUSD) through the spot market, a serious trader could also observe the volume data of the futures on the EURUSD contract. While this is cumbersome and involves extra cost, those traders who favor using volume data to gain an edge in their trading are able to overcome this gap. The limiting factor is that the maximum benefit of such volume data occurs during US trading hours only.

Additional volume-related data involve the Commitment of Traders (CoT) Report (see Figure 12.2).[1] The weekly report from the Commodity Futures Trading Commission provides a breakdown of each Tuesday's open interest for markets in which 20 or more traders hold positions equal to or above the reporting levels established by the CFTC. Open interest is broken down by aggregate commercial, noncommercial, and nonreportable holdings. Although the data provided by the CoT Report are lagging (the Friday report reflects the previous Tuesday's data), when extremes are reached in positions by the noncommercials, it is especially noteworthy for the forex spot trader. The trader can gain greater confidence in aligning his or her next trade in the direction of the noncommercials, which are representative of the sentiment of the "smart money."

Until forex firms provide the CoT data more conveniently, spot traders need to access this information on their own. It is available at many websites, as well as from third-party software providers.

[1]US Commodity Futures Trading Commission, "Commitments of Traders," www.cftc.gov/cftc/cftccotreports.htm.

FIGURE 12.2 Commitment of Traders Report Provides Volume-Related Data.

TREND-RELATED INDICATORS

While trend lines remain the most effective ways of determining whether a trend is in place, many indicators have arisen that go further in detecting changes in the trend. Moving averages and their variations are often used by traders. Let's consider some of them and how to apply them to help understand the trend.

The basic technical indicator used to help interpret the trend line is the moving average. It has many variations. The most popular is the simple and exponential moving average. Other variations, such as the weighted and adaptive, have been developed to provide traders with different views on filtering the price information. What is important is to realize what the moving average does and what it cannot do. Moving averages are inherently late to the party. They lag behind the information and therefore have limitations on their use as triggers to put on a trade. But they are valuable in mapping the contours of changes in the trend.

The simple moving average acts as an easy way to smooth out the price data. It's a basic algebraic average that adds a new period and drops the first as time moves on. In the simple moving average, each period gets the same level of importance. This has disturbed some traders because earlier periods are overvalued. The exponential moving average provides greater weight to the most recent periods being considered, and this reduces the lag of the resulting curve. There are many variations emerging on how to minimize the inherent lag of moving averages, such as adaptive moving average, fractal adaptive moving average, median adaptive moving average, and triangular moving average. The triangular moving average weights middle periods more than the earlier and later periods. Traders are always coming up with new moving average versions to test out.

Which moving average is better? That depends, of course, on how the use of the moving average contributes to trading success. In Figure 12.3, compare the simple moving average to the exponential moving average and the triangular moving average. It's hard to answer that question. They are very close. For the trader, consistency in use is more important.

A consideration for the trader is to choose which time period to use for the moving average. The 50-period is considered an important hurdle, and when it is probed or penetrated, the trader needs to pay closer attention because it is considered important.

Combining two moving averages where one period is longer than the other creates the moving average crossover. The idea behind it is to overcome the lag of one moving average. There are many variations of periods to use in a crossover. The 55-period versus the 5 and the 13 versus the 5 offer examples of how to use them. When a crossover occurs,

FIGURE 12.3 Comparison of Moving Average Types.

traders will look to enter a position or exit one that assumed the previous direction, providing further confirmation is achieved.

MOVING AVERAGE CROSSOVERS

Crossovers provide several uses in interpreting price action. We can see in the chart for the GBPUSD 30 minutes (Figure 12.4) that the crossovers were of limited value in sideways patterns, but did provide buy zones when the crossover turned up. Also note that the moving average acted as a firm support later on. Notice that the moving averages look ready to cross over again, pointing down. If the candle probes below these moving averages, traders looking to sell will have strong confirmation.

Which crossover periods should be used? In the previous example, the 21 versus 8 simple moving averages period was used. But the selection of the moving averages is quite arbitrary unless they are back-tested. The experience of the trader is the most important variable to use.

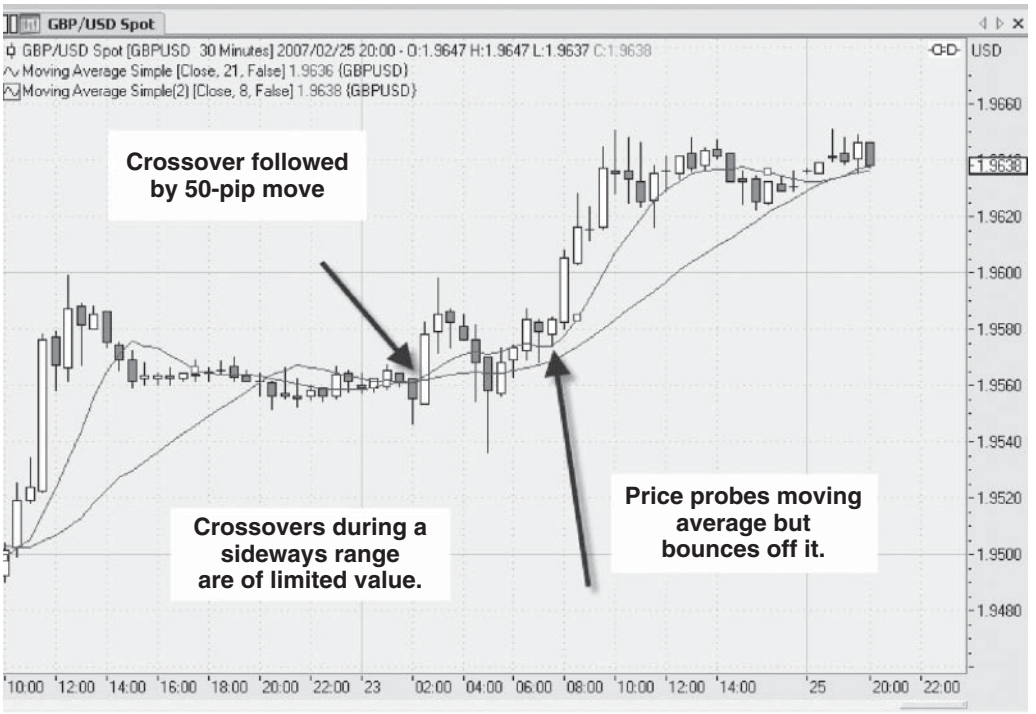

FIGURE 12.4 Moving Average Crossover Followed by 50-pip Move Provides a Buy Zone. *Source:* www.tradesignal.com.

MOVING AVERAGE RAINBOWS—MULTIPLE MOVING AVERAGES

A very effective utilization of moving averages occurs when several are plotted at the same time. The effect is to reveal areas of major convergence and also display visualization of changes in momentum. We can see in Figure 12.5 how a cluster of moving averages provided important clues to a shift in trend direction and momentum.

MOMENTUM INDICATORS AND OSCILLATORS

Another group of technical indicators available for forex trading are those that measure changes in momentum by comparing extremes in value. These are also called *oscillators*. The goal of using indicators from this group is to identify whether a currency pair is approaching extremes of being overbought or oversold.

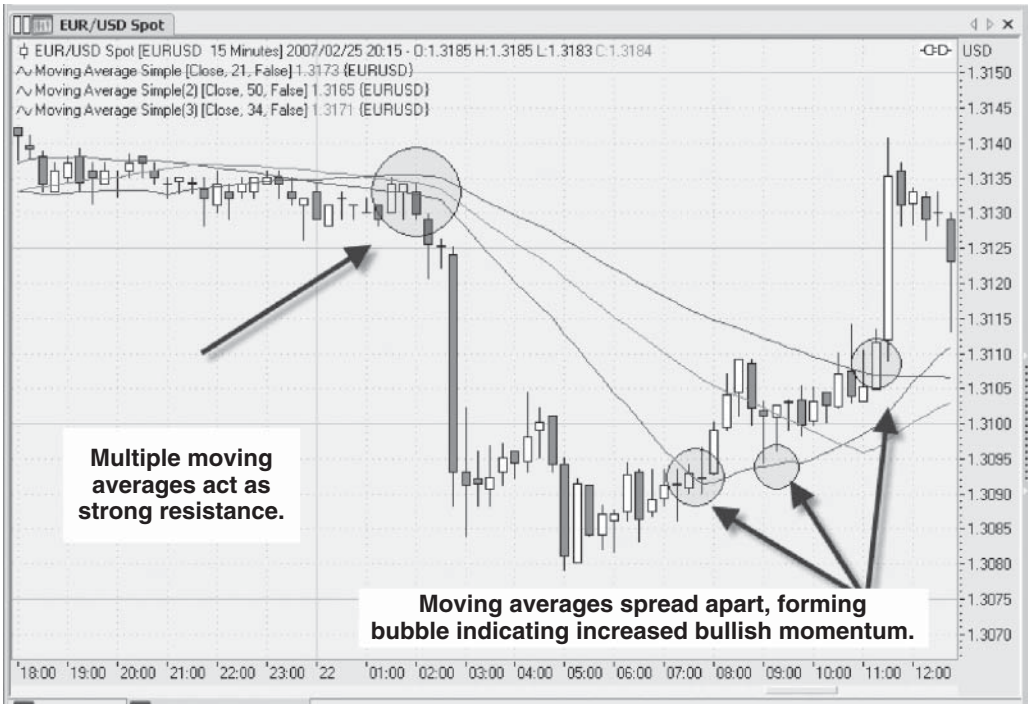

FIGURE 12.5 Multiple Moving Averages Converge.
Source: www.tradesignal.com.

Moving average convergence divergence (MACD) is a popular indicator that gives the trader a sense of a change in momentum by comparing two exponential moving averages (see Figure 12.6). The settings used are the 24-period exponential moving averages and the 12-period exponential moving averages. So what we have is a moving average crossover.

MACD goes further and adds a nine-period exponential moving average of the difference between these two. The result is a visual clue when there is a turn in the sentiment from being bullish to bearish, and vice versa. When used with other confirming indicators, MACD increases the confidence of a new trader for high-probability trades.

The MACD tool is a standard part of the set of indicators, but there are variations in how it is presented. The difference between the two exponential moving averages can be displaced alone. Also, the MACD indicator can be presented with bars (histogram) showing more clearly whether the momentum is changing. This later version of MACD is also known as MACD Forest and is very agreeable and easy to use.

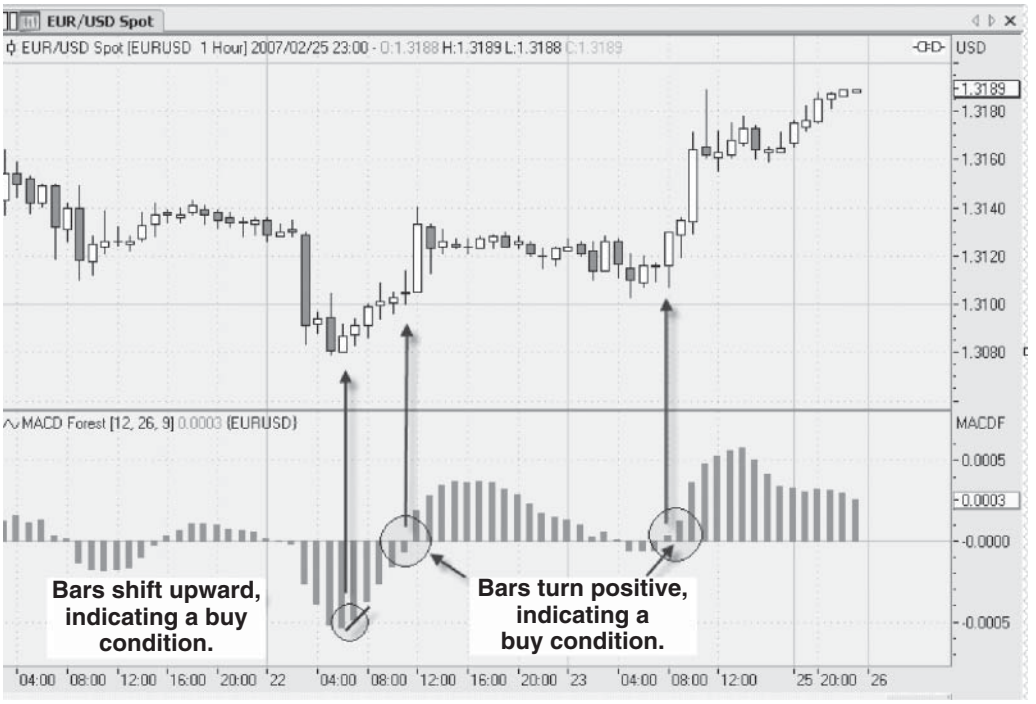

FIGURE 12.6 The MACD Histogram or Forest Chart Shows a Shift in Momentum.
Source: www.tradesignal.com.

Note that Figure 12.6 is an hour chart, and as a result the trader has to wait longer to detect a shift in the MACD condition. However, we will see that by shifting to a shorter time frame, this waiting period can be reduced. Figure 12.7 shows a 15-minute chart, where the MACD histograms provide, in effect, permission to enter a trade on the buy side.

An important observation for the trader is to spot whether there is a divergence between the MACD indicator direction and the price. When this occurs, the trader needs to be careful in assuming that the price will continue in its direction. Figure 12.8 shows the price as being essentially flat while MACD is shifted down. Traders who are already in a buying position would be looking to get out and sellers would be looking to get in.

RELATIVE STRENGTH INDICATOR (RSI)

The relative strength indicator (RSI) provides clues to whether the currency pair is overbought or oversold. It compares averages of period closes that are up against period closes that are down. It is an oscillator that has a range of 0 to 100. Traders using RSI

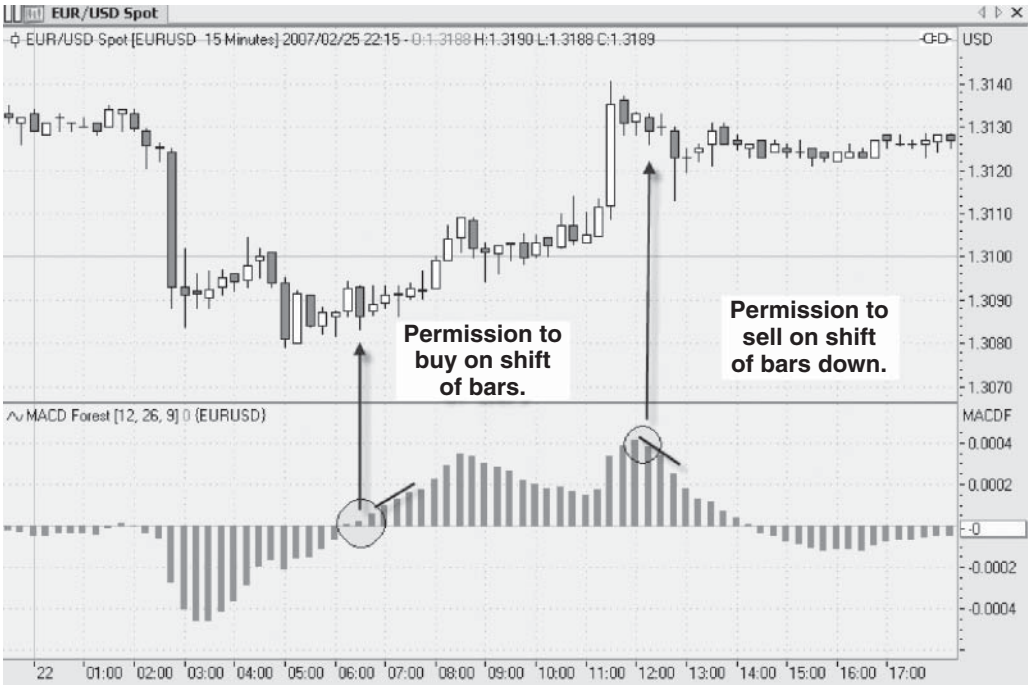

FIGURE 12.7 Buy and Sell Signals are Indicated Using MACD Forest.

should note that when RSI reaches below 20 or above 80, it is considered to be peaking in its strength. But these levels do not mean they are automatic buy or sell signals. Applying trend lines to the RSI indicator is a more precise approach to when and where one can put on a buy or sell trade. In Figure 12.9, the trend-line break in the RSI coincided with the failure of the price to retrace above the Fib line. This provides added confirmation of a weakening condition, and it is appropriate to apply trend lines on indicators that are oscillators, such as RSI. We see a similar RSI trend break failure in Figure 12.10.

RSI has default settings at 14 periods, but traders can reduce this period to 9 to eliminate some of the lag and make the indicator a bit more sensitive to the recent actions. Traders should also note that there are variations in the RSI index formula producing different RSIs. But they all are relatively close, and personal preference will decide which one you choose.

THE STOCHASTIC GROUP OF INDICATORS

Stochastic analysis is a general term describing a process of sampling random data to generate information. In evaluating price action and in forex, the stochastic group of

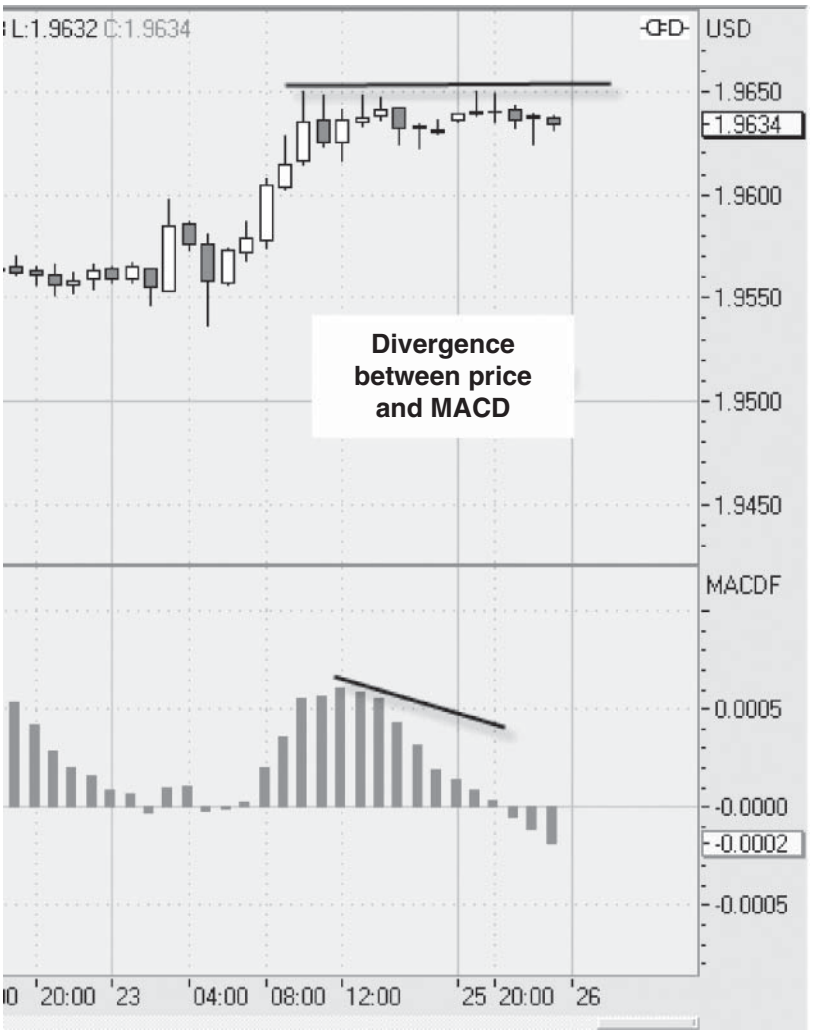

FIGURE 12.8 Price and MACD Diverge.
Source: www.tradesignal.com.

indicators has the goal of providing insight into whether the price has lost its ability to close at the highest or lowest level. In simple terms, when a currency pair is strong, one aspect of this strength is that it achieves closes that are higher. At some point, it loses its strength and creates closes away from the top or bottom. The formula shows that the stochastic compares the most recent closing price with the low of a preset period

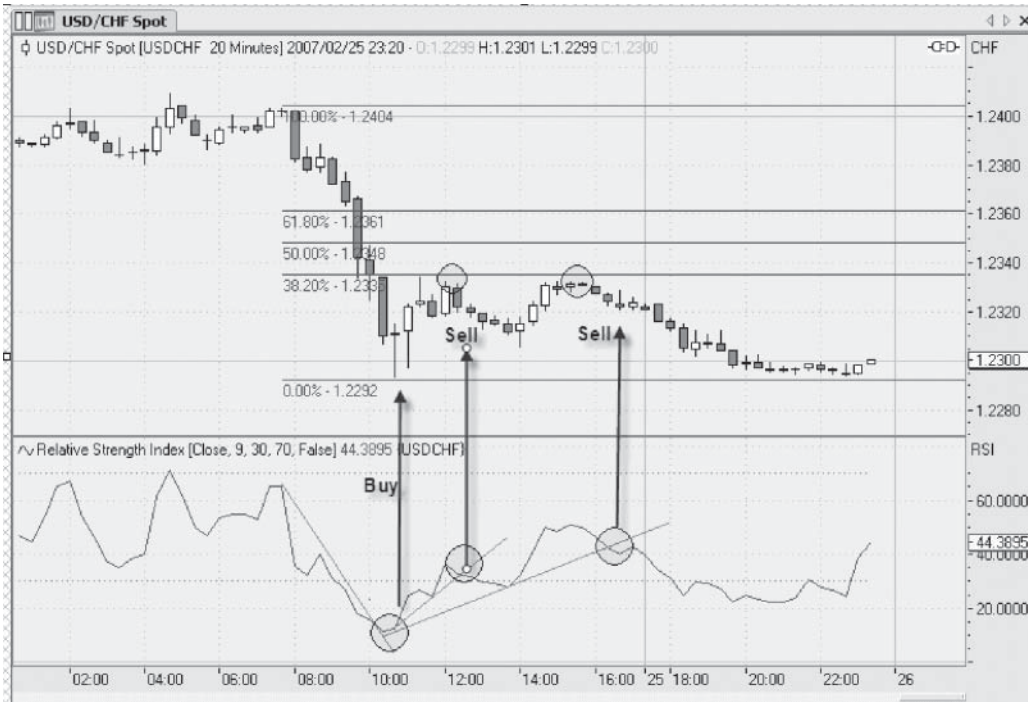

FIGURE 12.9 Trade Signals with RSI.
Source: www.tradesignal.com.

of periods (14) and compares it against the high of the same period. The result is the equation called %K:

$$\%K = 100[(C–L14)/(H14–L14)]$$

Then the stochastic indicator creates a moving average of the %K, called %D. A three-period moving average is usually used. A crossover effect is generated when the %K line crosses the %D line.

Once again, a technical indicator is trying to smooth out the data to show something of value. A high %K, for example, of 81 means that the price closing is percentage-wise 81 percent of the range of the period measured. So the ability of the price to stay that high will be more difficult.

Stochastics, like any indicator, are not predicting anything. They provide a useful measure of the power of the trend. There are several variations of stochastic indicators. Most common are slow stochastics and fast stochastics. The difference is that slow stochastics are less sensitive to price movements and therefore provide less risk of too

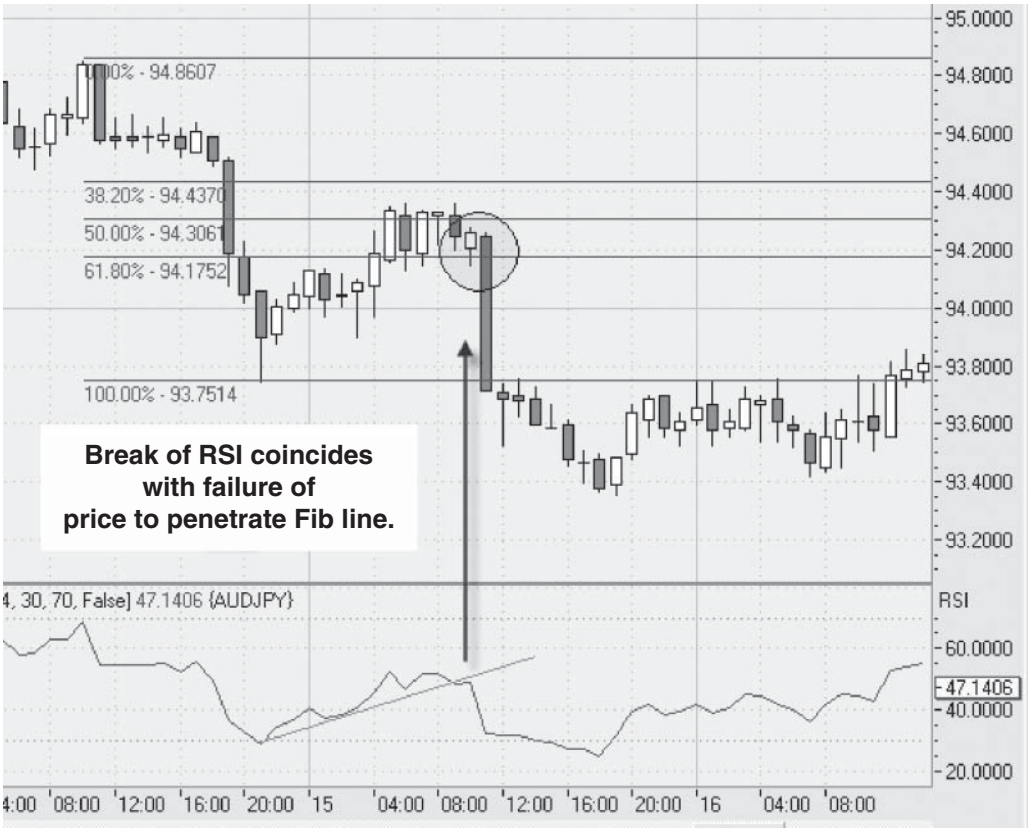

FIGURE 12.10 Break of RSI's Trend Lines Coincides with Failure of Price to Penetrate Fib Line. *Source:* www.tradesignal.com.

many crosses. The settings for the stochastic indicator are usually defaulted at 14 periods, and 3 for the moving averages. Adjusting the settings to a smaller period of time, such as 8 or even 5 periods, can provide more sensitivity to changes.

The use of the stochastics as supporting a trading decision can be seen in Figure 12.11. If a trader were looking for a buy or sell entry and saw that the stochastic indicator crossed (in the direction of the trade), it would be a green light to buy. If it did not cross, then further confirmation would be necessary. The stochastic indicator acts like a traffic signal. It's always necessary to watch all the traffic, but if the indicator has crossed, then the trader could be focused on pulling the trigger.

The following section explains how the stochastic formula was calculated in more detail.

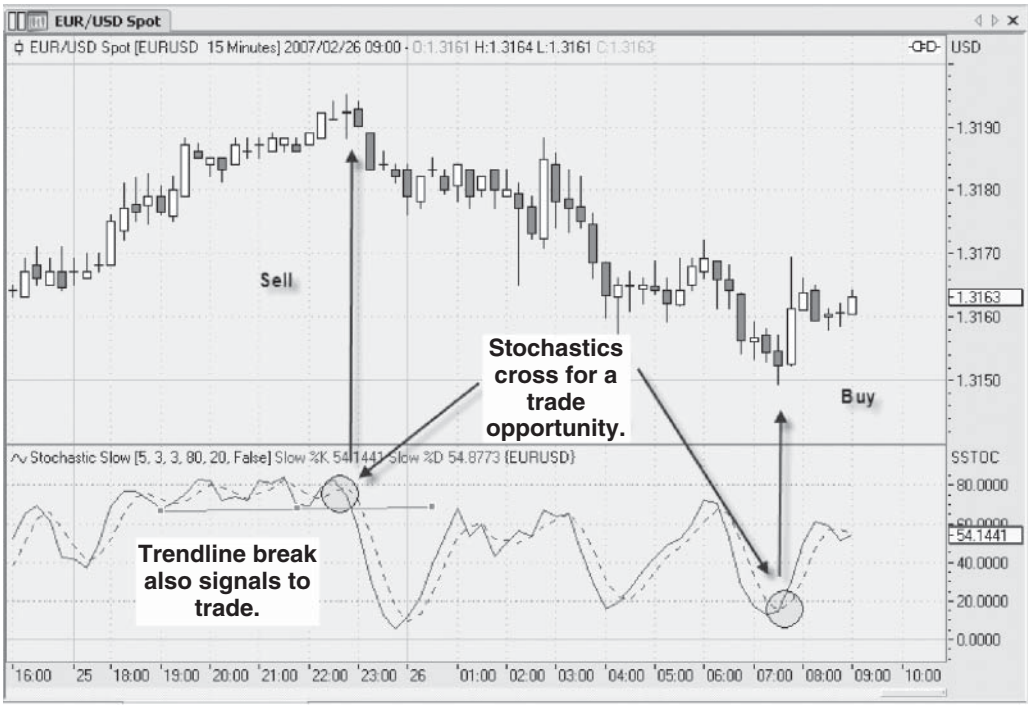

FIGURE 12.11 Stochastic Crossover Shows a Trading Opportunity.
Source: www.tradesignal.com.

Calculation[2]

Parameters:

- Overall period (3)—the number of periods used to determine the highest high and lowest low.
- %D MA period (14)—the number of periods used to determine the moving average for the %D value.

Formula:

The first step in computing the stochastic indicator is to determine the n period high and low. For example, suppose you specified 20 periods for the stochastic. Determine the

[2]This section is from "FSTO—Fast Stochastics," Gecko Software, copyright 2007, http://help.geckosoftware.com/40manual/new/use_indicators/fsto/faststo.htm.

highest high and lowest low during the last 20 trading intervals. It determines the trading range for that time period. The trading range changes on a continuous basis.

The calculations for the %K are as follows:

$$\%K_t = ((\text{Close}_t - \text{Low}_n)/(\text{High}_n - \text{Low}_n)) * 100$$

$\%K_t$: The value for the first %K for the current time period.

Close_t: The closing price for the current period.

Low_n: The lowest low during the n periods.

High_n: The highest high during the n time periods.

n: The value you specify.

Once you obtain the %K value, you start computing the %D value, which is an accumulative moving average. Since the %D is a moving average of a moving average, it requires several trading intervals before the values are calculated properly. For example, if you specify a 20-period stochastic, the software system requires 26 trading intervals before it can calculate valid %K and %D values. The formula for the %D is:

$$\%DT = ((\%DT{-}1 * 2) + \%K_t)/3$$

%DT: The value for %D in the current period.

%DT – 1: The value for %D in the previous period.

$\%K_t$: The value for %K in the current period.

VOLATILITY/RESISTANCE AND SUPPORT INDICATORS

Understanding the volatility conditions of the market will significantly contribute to trading success because when prices are at extreme volatility they cannot sustain themselves. These conditions generate many kinds of trades. Traders can trade a reversal of the move, or anticipate a reversal and wait for the price to retrace and then enter a trade. There are several good technical indicators that provide quick visualizations and measurement of volatility. This set of indicators includes the classic Bollinger bands, volatility envelopes, STARC (Stoller average-range channels), and linear regression channels.

Bollinger bands provide an easy-to-see map of whether the price is at its upper or lower ranges. Simply stated, Bollinger bands are a statistical envelope around a preset moving average period of 20. The bands represent 2 standard deviations from this moving average. In other words, the price is considered to be 96 percent of the time

ranging between the two Bollinger bands. The Bollinger bands are simply a version of the 100-year-old statistical bell curve that shows probability distributions of a sample population. When a price is probing an upper or lower Bollinger band, the trader should consider it an alert that the price may be getting tired and will return.

Note that this is not a prediction that the price will reverse. In fact, the price may continue to hang on at the bands (this is called *hugging the band*) and it may also break beyond it. But the trader using the bands can sense the potential. The shape of the bands becomes important. If the bands are sideways, prices can bounce off the top and bottom more easily. If they are tilted, reversals are less likely. We will also see that when used in combination with other indicators, setups for trades start formulating.

Figure 12.12 shows a Bollinger band with the default setting. Now let's consider the same chart with the addition of another band (see Figure 12.13). On the second band, the setting is 13 periods with the standard deviation of 2.618. This is called an extreme Bollinger band. Jea Yu and Russell Lockhart in *Secrets of the Underground Trader* use

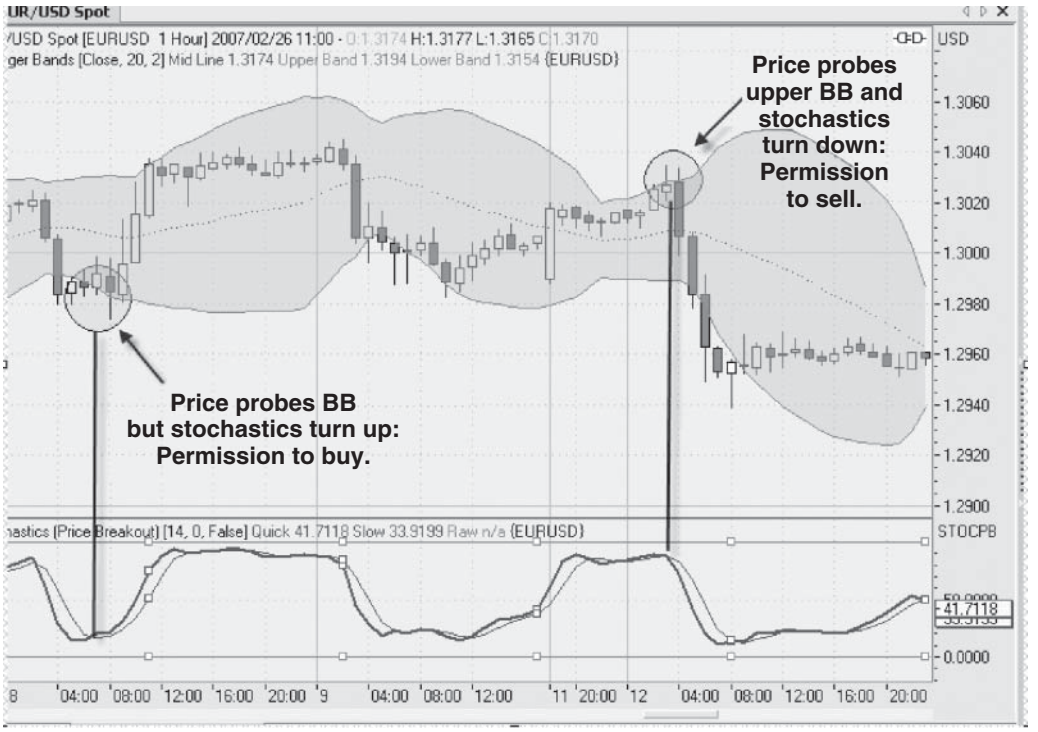

FIGURE 12.12 Standard Bollinger Bands and Stochastics Crossover are in Default Setting.
Source: www.tradesignal.com.

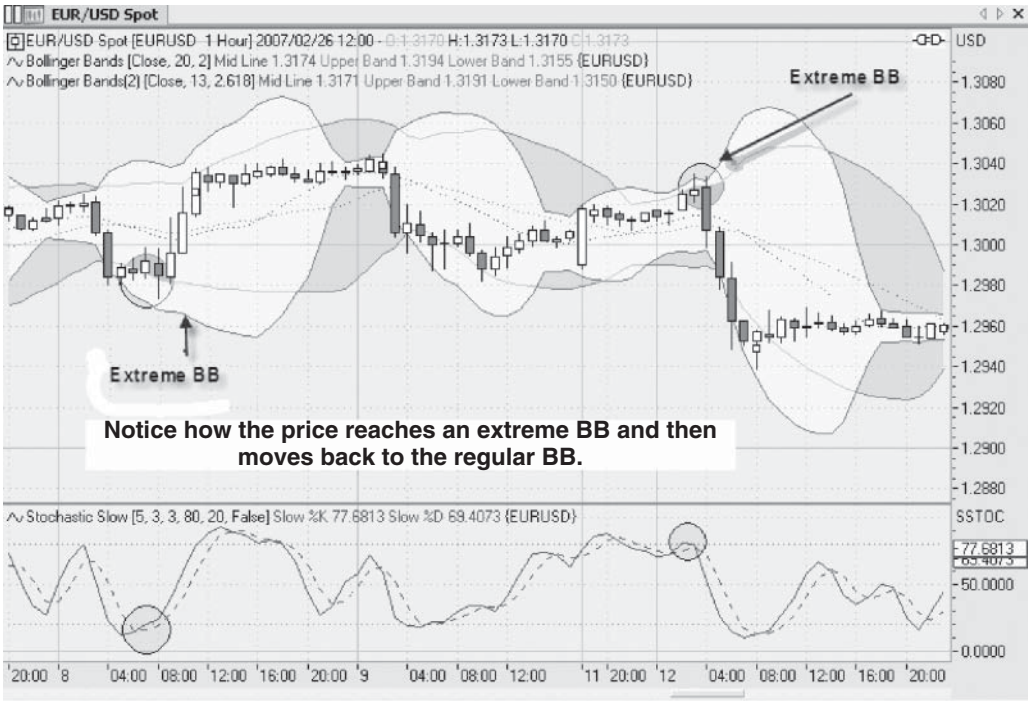

FIGURE 12.13 Extreme Bollinger Bands—Price Reaches Extreme and Then Moves Back. *Source:* www.tradesignal.com.

the concept of extreme Bollinger bands with great success.[3] The addition of this extra outside band provides an outer boundary for sensing whether the price has reached unsustainable levels. Remember that at a 2.618 setting, almost 99 percent of the time the price is between the upper and lower Bollinger bands. If the trading platform does not allow for settings at 2.618, one can approximate with a setting of 3. Its use is most effective when the price reaches an extreme Bollinger band and then proceeds to go back under the original Bollinger band. The forces that put the price at an extreme have changed, and the likelihood of its going back to an extreme are much lower. It will require some new energy. In forex, we can invoke a version of Newton's third law: Prices stay in their pattern unless news moves them out of their pattern. The extreme Bollinger band also can act as an area for stops, which we will explore later on.

We can see that the addition of the extreme Bollinger band adds a depth of understanding to the forex trader. It provides an entry condition as well. If the price moves to an extreme Bollinger band and then moves back below the standard Bollinger band

[3]Jea Yu and Russell Lockhart, *Secrets of the Underground Trader* (New York: McGraw-Hill, 2003).

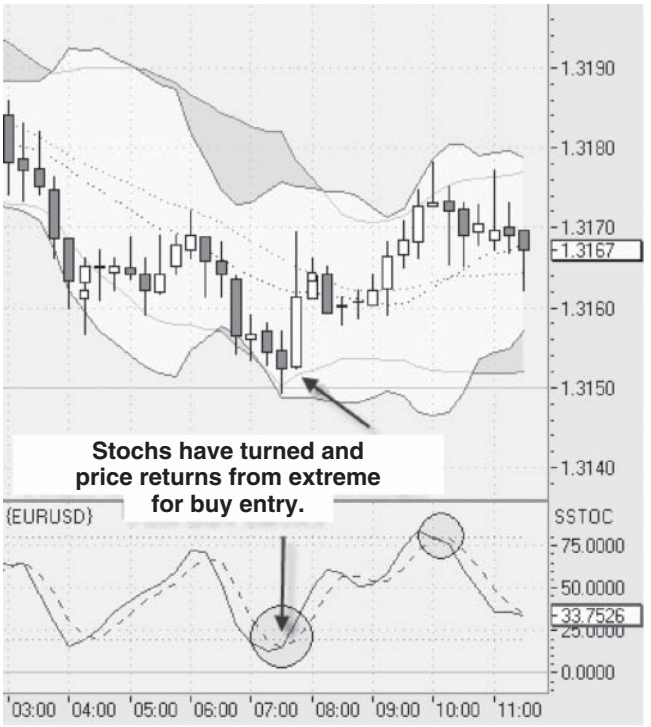

FIGURE 12.14 Extreme Bollinger Bands and Stochastic Crossover Show Potential Buy Reversal. *Source:* www.tradesignal.com.

(as shown in Figure 12.13), then the trader can look to enter a trade. In Figure 12.14, we can see an example of the price reaching the lower extreme Bollinger band and coming back toward the regular Bollinger band, but we see the stochastic also turned, giving extra confidence that the price is ready to reverse (with extra confidence when the stochastic has turned as well!).

There are other volatility indicators that use envelopes similar to Bollinger bands. The STARC band provides another boundary where the price has a tendency to stay between the bands. For example, the same EURUSD chart shown with the extreme Bollinger bands can be illustrated with STARC bands (see Figure 12.15). Notice how the STARC bands form a channel and appear to provide support and resistance.

The linear regression channel is a popular graphic tool that provides another envelope around the prices. If available on your platform, it can be used to project a potential support or resistance area. The channel should be drawn so it extends into the future so the trader can view the upper and lower resistance areas. In Figure 12.15, we see that the price has probed the lower support channel, and watching carefully what it will do can

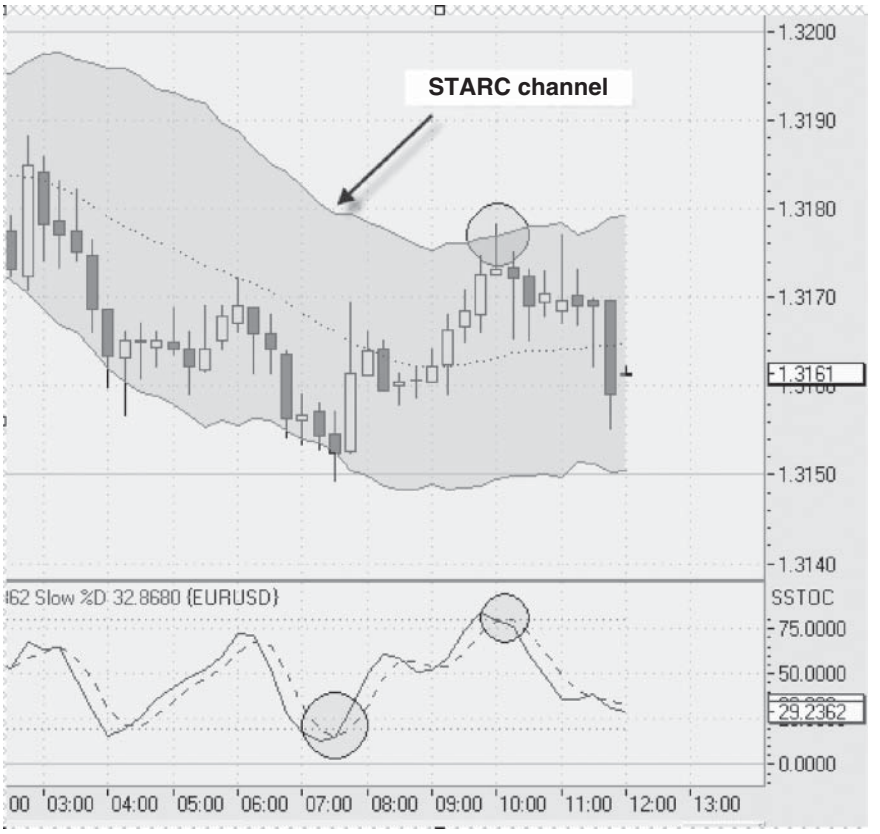

FIGURE 12.15 STARC Channels Act Like Bollinger Bands.
Source: www.tradesignal.com.

pay off for the trader looking to buy on a bounce off this pattern or looking to enter a sell on the failure of the price to come back. Figures 12.16 and 12.17 are snapshots of how this linear regression channel pattern worked recently on the EURUSD 15-minute chart. In Figure 12.16, we have drawn the linear regression channel from point A to point B. Point C is the future, and the price has not reached there yet. As stated earlier, the linear regression channel points to a zone of support around 1.3153.

The trader does nothing but wait. Using the linear regression channel adds another layer of confirmation. If the price is probing a linear channel, it is also very likely to be probing support or resistance. The idea for the trader is to get as much confirmation as possible.

The use of any envelope type of indicator serves to provide an ability to increase confidence that a trade is worthwhile. No single one is itself sufficient.

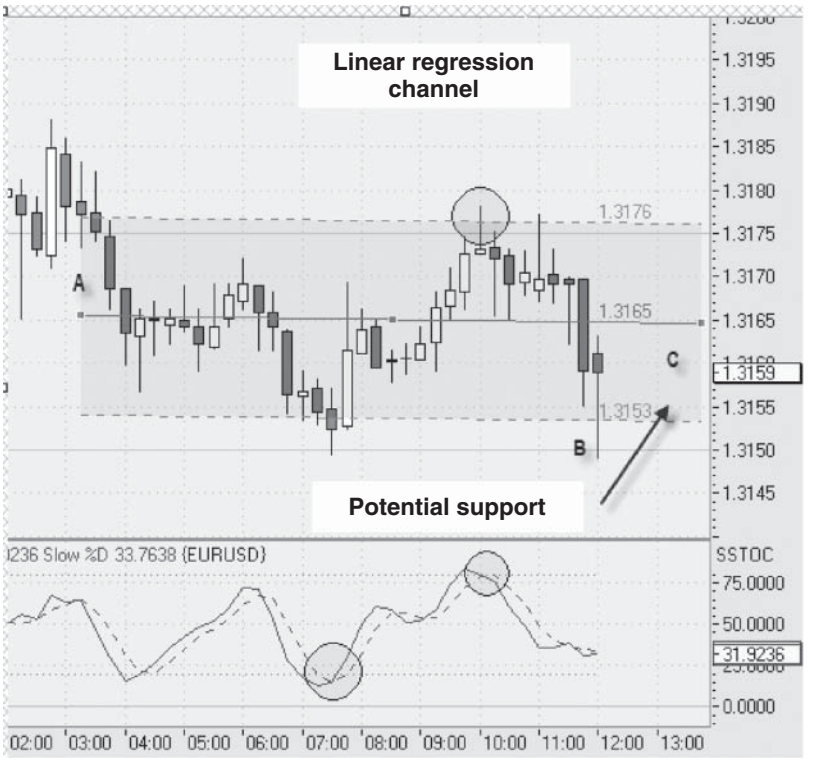

FIGURE 12.16 Linear Channel Pattern Probed by Price Shows Potential Support. *Source:* www.tradesignal.com.

OPTIMIZING YOUR USE OF INDICATORS

The developers of indicators offer default settings that are intended to be general in their use. However, the settings can be altered. Many traders try to alter the settings without a real understanding of the basis of the alteration. Simple changes, such as increasing or reducing the periods used, aren't particularly controversial. Generally, traders use the default settings on the indicators. These defaults are there because a shorter period makes the indicators more sensitive to price changes, while a longer period smooths out the indicator and increases its robustness. But the question arises as to what is the optimum setting. For example, is 5, 3, 3 on the slow stochastic a better fit to the data than the default 14, 3, 3? It would be possible to answer that question if an optimization program or back-testing program were available.

Many platforms and charting services provide an ability to optimize the settings. The first step in optimizing an indicator setting is to identify the time frame for the

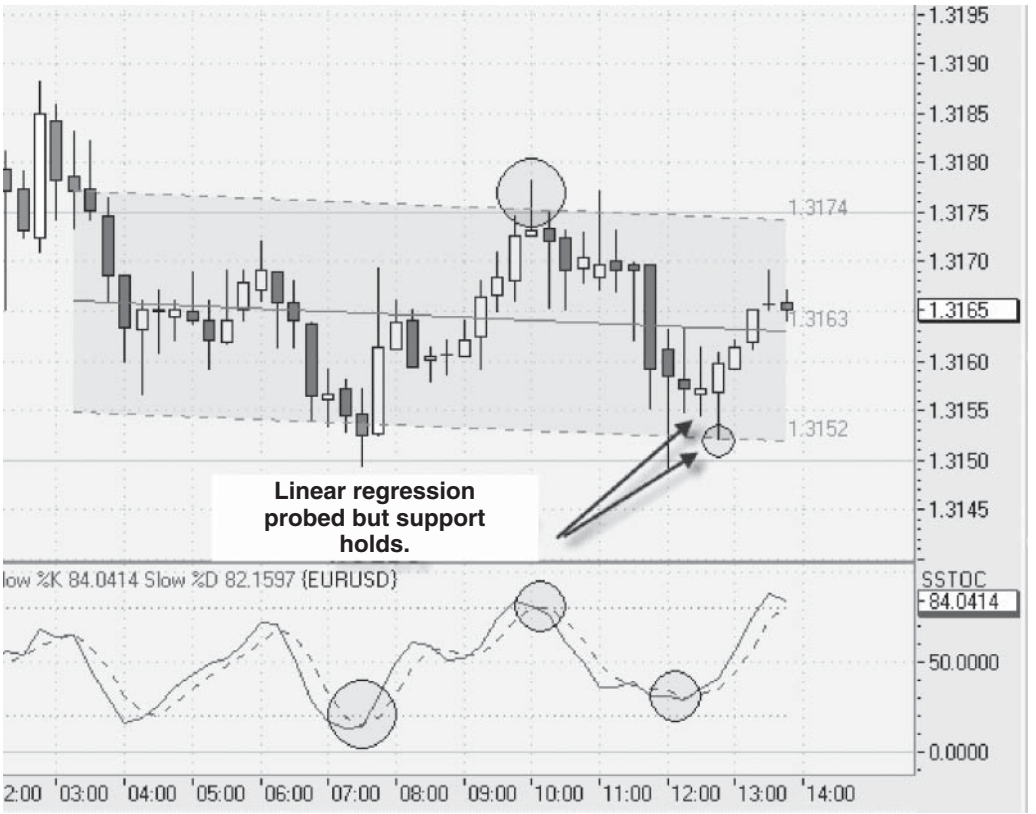

FIGURE 12.17 Linear Channel Pattern Support Probed But Holds.
Source: www.tradesignal.com.

optimization. A period of price action too far back runs the risk of the trader's optimizing against conditions that are no longer there. Geopolitical and economic conditions change frequently, particularly in forex. This means that the period of optimization should perhaps be very recent, such as one to three months. Also important is a selection of which candle chart to optimize. Will it be trading off day candles or shorter ones, such as the 15-minute candle? Additional challenges face traders using optimizing approaches. A key factor is the stop loss. Even after settings are optimized for gaining the most profits from a trading period, the use of stops and limits will ultimately affect the results.

Once you have developed a trading idea, back-testing is the next step before turning your idea into real, live trades. While paper trading with a demo or game account is highly recommended for getting used to the real-time nature of markets, back-testing can save you an incredible amount of time. By definition, back-testing is a simulation of what would happen if you had traded your ideas in the past. You can test a day's worth

of trades up to many years, going back as far as there was a market for the instrument you are trading.

TURNING A TRADING IDEA INTO A TRADING SYSTEM

Before back-testing may begin, your trading idea has to be turned into trading rules that are objective, reproducible, and able to be optimized. One common mistake is to try to back-test a trading strategy or idea that is based on subjectivity. Many popular methods leave out important parameters that you have to guess at. For example, methods under the umbrella of "Elliott wave counting" are notorious for being difficult to back test, because *where* the wave is measured from profoundly affects the back-test outcome far more than the technique itself.

As you develop trading rules, you will be amazed how many trading slogans such as "The trend is your friend" become meaningless, since they cannot be quantified into hard, cold trading rules. As a result, rules for finding a trend vary greatly in trading systems.

Finding the Fittest System

Once an initial set of trading rules is established, you can begin simulating what would happen if they were strictly followed over a period of time. The *time series* is the collection of dates and times when you will be testing the trading system. The *fitness function* is a function or measure that you use to compare systems and the basis on which you optimize a system's parameters. For example, a fitness function could be net profit or loss.

More sophisticated measures, such as the Sharpe ratio, Sortino ratio, and risk-adjusted return, compare different systems as to their performance measured by volatility, loss volatility, and portfolio risk, respectively.

Quick Back-Testing with Excel

Initial back-tests can be easily done in Excel. Simply paste your historical time series into Excel, enter your formula, and apply it to all cells in the time series. The easiest way to express this is by assigning each type of market position by a –1 (sell), 0 (out of market), or a 1 (buy). Then calculate profit or loss, subtracting out a spread and/or transaction cost.

I recommend mastering Excel thoroughly before buying an expensive back-testing tool. This ensures that you know how back-testing works from the ground up.

Articles on back-testing typically suggest two contradictory rules for the size of your historical data set. On the one hand, they suggest you use as large a data set as possible, in order to "prove" that your trading system can work under any circumstances. Additionally, it is often said that you should only test your trading system under conditions similar

to the current market. Subtly enough, these suggestions again introduce subjectivity. Instead of the trading rules being subjective to the trading system owner, now market conditions become entirely subjective. For example, you read on a website about a trading system that has an annual return of 22 percent. It has had a consistent winning record over the last 12 months, and you're ready to purchase the system (probably for far too much!).

After you buy the system, you trade the system rules exactly. When you fail to realize a 22 percent return and perhaps even get a negative return, you are told that the market conditions have changed! So the trading system rules cannot predict market conditions any more than they can predict future prices based on the past!

This phenomenon reveals another common mistake made when back-testing. *Curve fitting* is a term taken from statistics, usually used to refer to nonlinear regression. I will explain with an example. You are back-testing a simple trading idea that takes two parameters. The first time you run the back-test, you get a negative return. However, as you continue to change the parameters, you notice that certain values produce higher, positive returns. If you choose the two parameters that, together, produce the highest returns, you are essentially *predicting* that the time series of market data will look exactly like your historical test in the future. So, counterintuitively, the harder you work at back-testing, the worse your results are likely to be in live markets. How do you mitigate this inherent problem?

There are several techniques for reducing curve fitting in a back-test. The first technique is to keep your trading idea intact. If you are unable to express your trading idea not only in market actions but also in market action sizes, you need to go back to the drawing board and continue work on your trading idea. Additionally, you can back-test on multiple markets and move the window of the back-test forward and backward to seek out market conditions, setups, or patterns that are ideal for your system. For example, you might want to back-test only on days where a certain economic indicator is released. Back-testing on the most recent data can capitalize on recent market shocks.

Advanced mathematics provides many back-testing methodologies that are producing results pointing to the fact that volatility and volume exhibit short-term memory. This is because markets are made up of all the information held by the people with positions in the market that intuitively remember the short-term past. This is why long-term back-testing, while at first intuitive, can result in over-optimization and curve fitting.

Market Inefficiencies

It should be obvious that finding trading rules that are able to be profitable is always an ongoing commitment. Remember, you are competing against traders who most likely have far more experience, capital, and research to back up their trades. Finding those market inefficiencies and capitalizing on them with trading rules can be challenging, but there is certainly plenty of market inefficiency to drive huge proprietary trading teams

at investment banks, thousands of hedge funds, and many individual traders like you to post double-digit returns year in and year out.

Back-Testing for Risk Management

Banks, hedge funds, and savvy traders also use back-testing for risk management. Managing risk is accomplished by measuring and planning for loss. Even if your trading ideas are sound, not having enough capital for the long-term execution of that trading idea will keep you from realizing maximum success. Standard risk measures include drawdown, value-at-risk (VaR), leverage, and historical volatility. Maximum drawdown tells you the maximum amount, in currency, of your biggest losing streak. This is calculated based on when your trading system or idea would have had a position in the market. VaR is quite different in that it measures, statistically, the 95 percent or 99 percent maximum volatility (movement) in an instrument over a given period of time. This is a far more sophisticated measure of risk because you can compare across portfolios and asset classes (types of instruments). Also, you have a single number that you can apply to many different trading systems for a given market. Back-testing for risk management is probably the most overlooked important piece in a trader's toolkit.

USING TRADING SIGNALS

Many traders purchase trading signals as a way of detecting trading opportunities. A trading signal generated by a computer signal should be treated as an alert. When a trading signal is generated and received by email or on the cell phone, the trader should quickly look at a chart to determine if the trade alert agrees with his or her assessment of price conditions. The alert should be treated as a confirming or contrarian indicator.

A more innovative and effective approach to using trading systems is to view them as *algotrading teams*. In other words, each trading system is a nonhuman trader. By viewing multiple systems at a time, the likelihood of a few systems being in a pattern that generates profits is very strong. This approach overcomes the limiting factor of any single trading system—which is the fact that at some point they don't work.

CONCLUSION

At this point, we have reviewed the major components of technical analysis, which includes support and resistance, trend lines, and volatility. The dimensions of analysis provide a map of what the price is doing. Any technical indicator that is used falls into these categories. But technical analysis is not complete without looking at the patterns that the prices produce. We explore these in the next section.

CHAPTER 13

Chart Formations and Price Patterns You Should Know

The price itself is perhaps the most powerful indicator of all, because when price patterns form, the experienced trader gains a strong alert to prepare to trade. Patterns form, appear, and reappear because the forex market in particular is not random in nature. When prices congeal into a pattern, it reflects market sentiment.

Recognizing patterns is, in fact, the basis of how learning occurs in all fields. A child learns to talk after listening to adults speaking for about nine months to one year because the human brain has the capacity to differentiate patterns in spoken language and that capability makes speech possible. Similarly, when a child tries to walk but falls first, the brain learns which pattern of steps results in successful walking. Every kind of skill can be learned by identifying the patterns that are associated with the successful application of that skill. Ultimately, what intelligent trading is all about is pattern recognition.

The challenge to the new trader in forex is to build a database of experiences in trading patterns. The beginning trader lacks a history of trading. The trader with years of trades accumulated is able to match the pattern he sees with his successful experience with that pattern in the past. The question often arises: How long will it take to become a successful trader? The answer is not one of time duration but one of trades. After accumulating an experience base of 10 trades, there is almost no basis for generalizing about future success. After accumulating an experience base of 100 trades, traders will be able to detect patterns not only in the market but in their own trading. The critical path to success in forex trading is a constant application of pattern-based trading and knowledge.

EMOTIONAL CONTAGION AND PATTERNS FOR TRADING FOREX

The first step in learning how to recognize patterns is to understand that the prices reflect market psychology. The trades are signatures of human decisions that move prices in response to market conditions. Trades, however, do not occur in isolation. Traders, whether they are alone at their desktop or in a trading room, are really part of a virtual neighborhood, and as a result are influenced directly and indirectly. The result is the presence of market psychology and the phenomenon of market memory.

Patterns in the past influence patterns in the future, because they are behavioral in nature. Observing past patterns actually helps form the next pattern. Therefore, market psychology is about group behavior and the dynamics of how trades reflect group psychology. Market moves are often described as herding behavior because they are similar to how herds of animals, swarms of insects, flocks of birds, and schools of fishes respond to environmental stimuli. In all of these cases, there is no real central intelligence leading the group. Instead, patterns of behavior emerge from uncoordinated decisions of numerous single agents. Descriptions such as emotional contagion, crowd-mind, and cellular automaton behavior are indicative forms of multiagent behavior. The field of behavioral finance has recently emerged to study these forms of conduct (see Table 13.1).

It is conventional wisdom that the market reflects an interaction between fear and greed. But the market is the sum of millions of individual trading decisions, and therefore there is a much deeper gradient of emotions. For example, there are different forms of fear. There is fear of increased losses and fear of losing profits gained; there is fear of being left out of moves leading to greater gains. There may be fear of spousal disapproval of trading!

Now let's look at greed. Greed emerges in several forms, especially when there is a significant increase in buyers. This generates the high probability of a sharp move up.

TABLE 13.1 Patterns that Reflect Emotions

Emotion	Pattern	Trader Response
Hesitation	Doji	If the doji is at a support/resistance point, look for reversal
Greed or mania	Parabolic path	Wait for price angle to reach 90 degrees
Surprise	Spike and gaps	Stay away; let market recover
Consensus	Channel pattern	Trade signals off channel
	Three-line trends	Trade in direction of trend
Boredom	Narrow range	Breakout coming
Anxiety/uncertainty	Wide range	Range trading scalping
Determination/enthusiasm/ despair	Hugging/sliding on the extreme Bollinger bands	Enter into trend

Uncertainty and anxiety result in a reluctance to trade, and therefore generate narrowing of ranges. Market enthusiasm takes a path of trend continuation. When there is sentiment of consensus about a currency pair, one result is a channel pattern where we see the emergence of equilibrium between buyers and sellers. These are only some of the corresponding patterns that are associated with key emotions. Once they are recognized, there are appropriate trading strategies that can be used. Let's explore them.

The doji is perhaps the most famous of the candlestick patterns. It means hesitation. The interpretation of hesitation results from the fact that the opening price is the same as the closing price. This means visually there is no body, and the appearance of a doji candle means that the sentiment battle between the buyers and the sellers during that candle period resulted in no clear winner.

When hesitation occurs at a key support or resistance area, it is a sign of weakness. A trader seeing a doji near a lower Bollinger band would be reluctant to enter into a sell order. Stronger sentiment for sellers would show up as a candle probing the lower Bollinger band with a range around the Bollinger. The opposite is true of doji at resistance. A stronger bull sentiment would not result in hesitation. The market would push the price above the top of the Bollinger band. Several consecutive dojis provide greater confirmation of hesitation. We can see the doji at the bottom of the Bollinger band in Figure 13.1.

When the market is determined to continue a trend direction, a good pattern to trade off is called *hugging the band*. We can see this in Figure 13.2. When candles are not reversing after probing a Bollinger band, the trader should not wait for a retracement but should consider going along with the pattern by selling (sliding along the path) or by buying (riding the climb up).

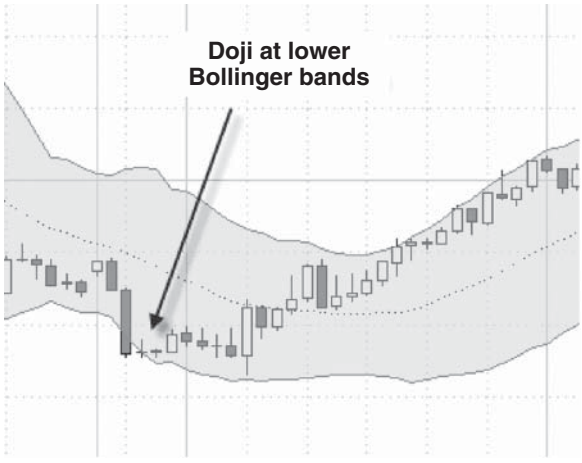

FIGURE 13.1 Doji Touches Lower Bollinger Band Before Price Moves Up.
Source: www.tradesignal.com.

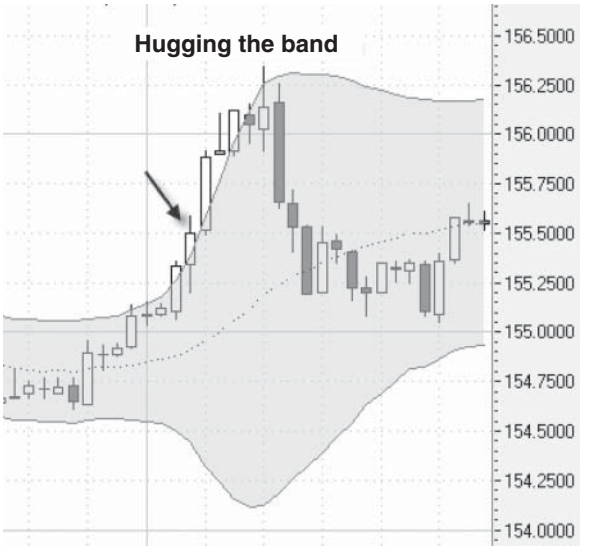

FIGURE 13.2 Hugging the Band is a Good Pattern to Trade Off.
Source: www.tradesignal.com.

SURPRISE, GREED, AND EXHAUSTION

When you see prices follow a parabolic path, trades will follow. The parabolic path is a general phenomenon of energy transfer. Figure 13.3 shows the general equation for what is called a *cubical parabolic hyperbola*. This equation closely models the path often taken by forex prices. This should not be a surprise because parabolic patterns are about energy flow and its subsequent loss. When you throw a ball, it follows a parabolic path as it loses energy.

Parabolic paths of forex prices are patterns that show many emotions. First is surprise when the price has a quick and big move. Then there is greed as traders rush in to take a ride on the move and take the path to altitudes approaching 90 degrees. It is unsustainable. At the apex, the trader can anticipate a sell-off. The parabolic is not necessarily a reversal indicator, but it is an indicator of exhaustion. Often, the sell-off works within the Fibonacci levels, and the prepared trader can look to trade in the direction of the original move—after the price stops at the Fib level. Look what happened in Figure 13.4 to the euro–US dollar (EURUSD) parabolic and Fib combination.

Figure 13.5 shows a US dollar–Canadian dollar (USDCAD) 90-minute chart with a classic parabolic followed by a sideways sell-off and then a downward parabolic.

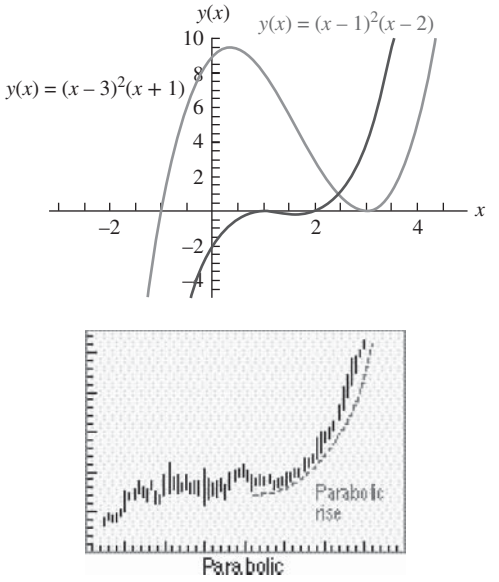

FIGURE 13.3 Parabolic Curves.
Source: Eric W. Weisstein, "Cubical Parabolic Hyperbola." From *MathWorld—A Wolfram Web Resource*. http://mathworld.wolfram.com/CubicalParabolicHyperbola.html.

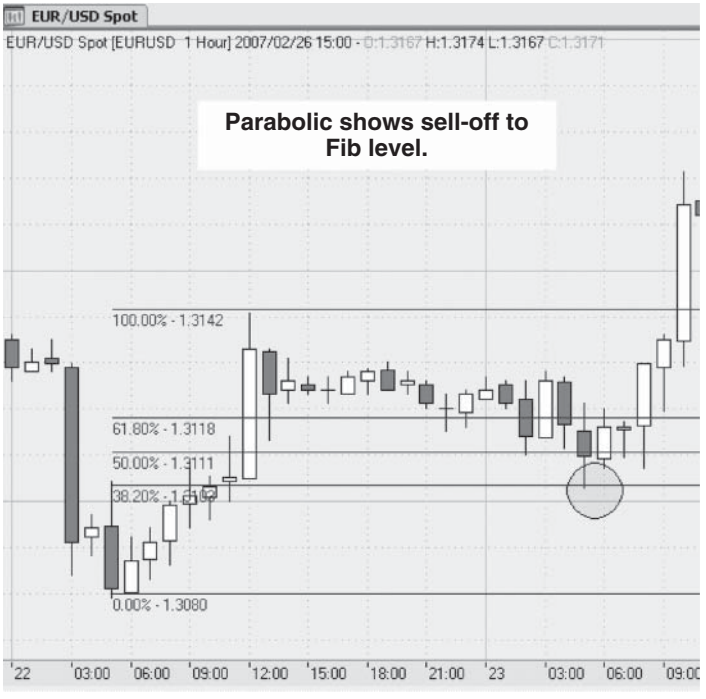

FIGURE 13.4 Parabolic Showing Sell-Off in EURUSD.
Source: www.tradesignal.com.

FIGURE 13.5 Parabolic in USDCAD is Followed by Sideways Action.
Source: www.tradesignal.com.

FRUSTRATION IN THE CHARTS

When sentiment can't find a release, the price compresses and waits for a break. The signature of such compression, frustration, and impending explosion of a breakout is the triangle. Triangles can be equilateral where the angles are all equal or shaped in an ascending or descending pattern. Figure 13.6 shows an ascending pattern because the largest side is trending up. The range is getting narrower, and there is no room for the energy to go. There must be a break. The strength of the break is not known in advance. But the trader seeing a triangle can anticipate that a break will occur.

In the EURCAD cross-pair, an equilateral triangle is spotted, providing an anticipation of a breakout (see Figure 13.7).

STABILITY: THE CHANNEL PATTERN

Patterns that endure over time through 20 or more candles demonstrate sentiment stability. The best visualization of this is the channel pattern. Channels can be sideways

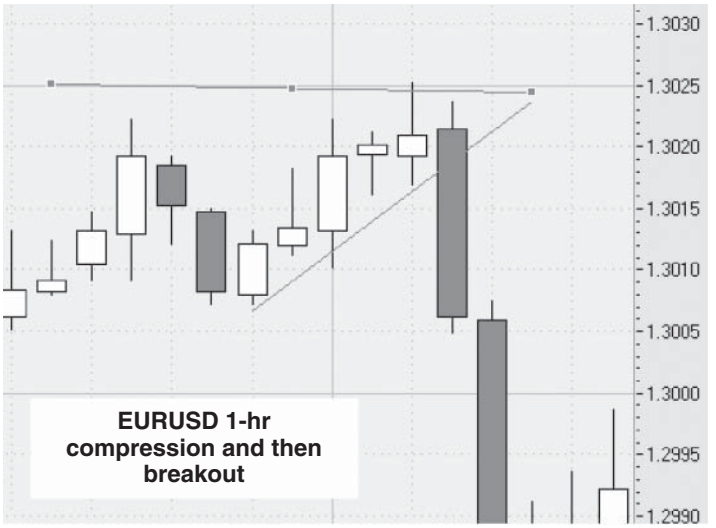

FIGURE 13.6 Compression and Then Breakdown in EURUSD 1-Hour Reveals an Ascending Triangle.
Source: www.tradesignal.com.

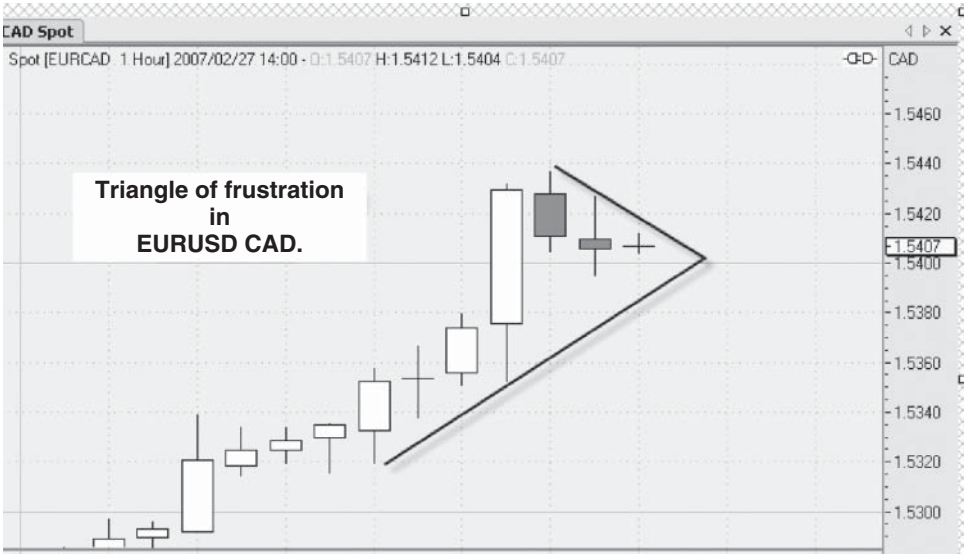

FIGURE 13.7 Classic Triangle Anticipates a Breakout.
Source: www.tradesignal.com.

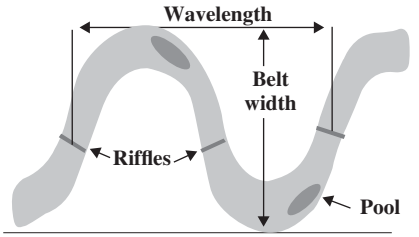

FIGURE 13.8 Wave Equation of Channel Pattern.

FIGURE 13.9 USDJPY Chart Shows 1-Minute Downward Channel.

or tilted downward or upward. It is called a channel pattern because the patterns are similar to a river channel, and, in fact, the geometry and energy flow of water in a river channel is very similar to the movements that prices make when forming a channel pattern. Channel patterns in forex trading are examples of traders using the language of another field of science as a metaphor to describe what they see the price doing (see Figures 13.8 and 13.9). The trader perceiving a channel can decide on several ways of trading it.

The first strategy is to trade in the direction of the channel and, in a downward channel, wait for the price to retest the upper bank. For an upward channel, the best location of the next trade is for the price to sell off and bounce off the lower channel. Channel trading permits countertrend trading because the market is showing persistence in the pattern. The width of the channel should permit trading. This means that the trader needs room for entry off the top or bottom, and assuming that such a cushion requires about 10 pips each, it is reasonable to assume that channels of 30 pips or more are the best size. Four-hour charts provide a very good source of channels.

The channel formation occurs in almost every time interval. Its robustness can express itself even at the most micro levels of price movement. The 1-minute pattern can show a channel and therefore reveal the inherent stability of the sentiment as we see in the 1-minute US dollar–Japanese yen (USDJPY) chart channel in Figure 13.9.

We can see a clearly identifiable channel pattern in the EURUSD (see Figure 13.10).

FIGURE 13.10 EURUSD in Downward Channel.

TIME AS A TOOL OF ANALYSIS: MULTIPLE TIME FRAMES

Once you become familiar with trading setups, using time as a variable of analysis is appropriate. In a real sense, the forex trader is a time traveler moving from the intrahour chart worlds to the outer reaches of weekly and monthly charts. The question often arises: Which time interval frame is the best to use to put on the trade?

The answer is that each time interval generates trade-offs that the trader has to consider. A short time interval such as a 5-minute or 15-minute chart provides less risk exposure to wider moves, but also involves the risk that the pattern traded is not reliable and has more noise than information in it. A longer time frame such as a 4-hour or day chart generates a much wider price range and great potential for larger pip profits.

At the same time, it is also associated with risk of larger losses, since a wider range increases volatility. The proper way to utilize time is to compare and align different time frames. This allows time itself to be a confirming indicator, increasing confidence in the decision made by the trader to put on the trade.

SUMMARY

Technical analysis, when applied to trading forex, must also include recognition of price patterns. When forex prices form patterns, they represent a variety of emotions. Understanding patterns and whether they are stable is a key milestone in evolving into a knowledgeable and skilled trader.

CHAPTER 14

Trading Styles and Strategies

One of the major reasons that forex trading has such a wide appeal is the presence of different trading styles and strategies that can be applied. Those traders looking for very quick moves can adapt scalping strategies and tactics. A great portion of forex traders put on trades that have moderate-size intraday durations that allow the currency pair to move through a range. These traders go for 10- to 30-pip moves. Multiple-day trades allow for larger profit objectives of 100 pips or more. Forex trading can also include the goal of trading for income. This goal is featured in carry trades and is a dominant strategy of large hedge funds and institutions. But carry trades are also possible for the average retail trader.

The beginning trader should explore many of these styles and strategies by creating trading setups that use a combination of technical indicators and chart patterns to pinpoint conditions for a trade. Table 14.1 provides a matrix for grouping the strategies and the appropriate technical analysis tools to implement them.

As we can see, there is no single style of trading, nor any one technical indicator or methodology, that will be sufficient. Successful trading of forex is a combination of fundamental knowledge, technical tactics, and experience in pattern recognition. While there are many paths to success once you choose a particular style, there are setups that have proven successful for each style as summarized in Table 14.1. Let's discuss each one with some illustrations of their application. The order of these styles does not reflect any priority. All the styles are valid for use in forex trading.

TABLE 14.1 Trading Styles and Associated Setups

Style of Trader	Profit Goal	Duration of Trade	Tech Tools and Tactics	Best Pattern
Scalper	5–10 pips	15 minutes or less	Five-minute trend-line charts Renko 1-minute charts Three-line break charts	Parabolic Fib lines
News trader	5–15 pip scalp on news breakout	5 minutes to 2 hours	Pivot points + renko charting	Fib lines
Post-news trader	30% pip moves	15 minutes to 2 hours		
Intraday trader	15–30 pips	1–2 hours	Use basic setups: Bollinger bands Fib lines Stochastics Relative strength indicator Moving average convergence divergence Setup enhancements Linear regression	Sideways channel
Bounce trader	20–40 pips	4 hours	Bollinger bands Stochastic turn Market structures	30 minutes 4 hours
Reversal trader	Scalp	15 minutes to 2 hours	 Fib breakdown Stochastic turn	Three-line break
Trend trader	15–50 pips	15 minutes to 2 hours	Bollinger band hugging STARC channel break	Trend lines Channel patterns
Set-and-forget	30–150 pips	2 hours to several days	Variety of setups	Channel patterns
Carry trader	3–5% per month return on equity	Several months	Monthly and weekly trend lines	

BOUNCE TRADER

The bounce trader waits for prices to enter into sideways ranges. The price could be coming from an uptrend or a downtrend, but there are likely to be pauses along the way. The bounce trader will select a direction to trade and then wait for either the failure of the price to penetrate resistance or support. The price could in fact close above resistance or support but then proceed to fall back. Using a setup to confirm the reversal the bounce trader is looking for a 15+ pip move. In the US dollar–Japanese yen (USDJPY) 15-minute chart shown in Figure 14.1, we see a setup with standard Bollinger bands, slow stochastics (5, 3, 3), and moving average convergence divergence (MACD) histogram or Forest version. These indicators are all lined up and provide a high confidence that the setup for the trade is reasonable. The setup aligned itself for several bounces off the top and bottom trades. Important to note in the setup is the convergence of the upper channel line with the upper Bollinger band. The range is about 40 pips. This means the trade has to conserve slippage and trade off the top or bottom.

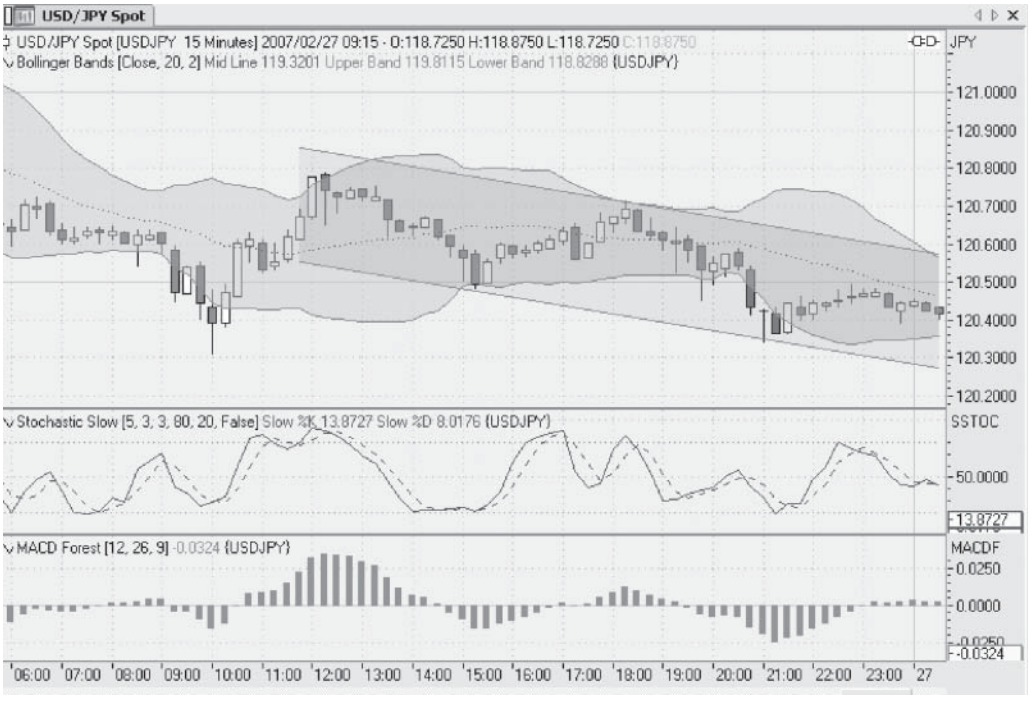

FIGURE 14.1 Fifteen-Minute USDJPY Forms Bounce Pattern.
Source: www.tradesignal.com.

INTRADAY TRADER

The intraday trader has more patience and wants to go for a bigger move than the average goal of 15 pips. This requires trading off larger time intervals such as the 30-minute and 4-hour charts. The intraday trader is looking for wider ranges of 60 pips or more to locate a trade preferably near support or resistance. This trade requires a "sniper" mind-set to wait for the right pattern.

TREND TRADER

The trend trader (slide or hug trader) isn't looking for reversals but wants to go along with the crowd. When a pattern confirms trend continuation, this trader enters into the trade. Many times, one hardly needs any indicators at all to recognize that a trend continuation pattern is intact. This occurred in a classic way on February 27, when the USDJPY pair proceeded to enter into a downtrend with increasing momentum (Figure 14.2). The chart

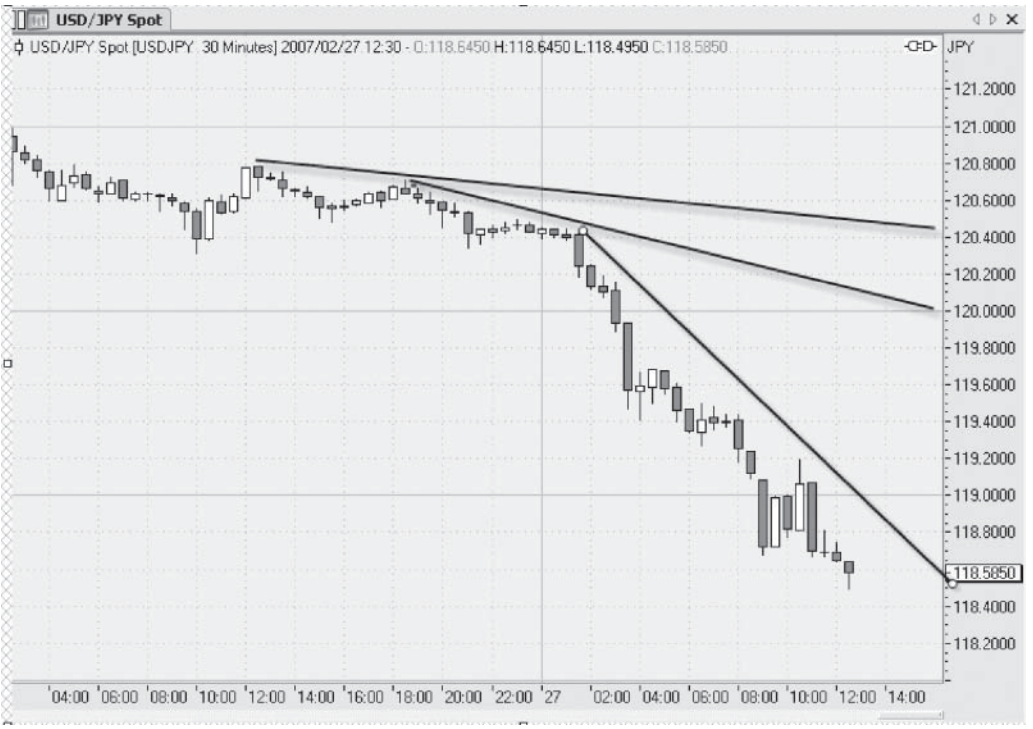

FIGURE 14.2 Thirty-Minute USDJPY Forms Multiple Trend Lines.
Source: www.tradesignal.com.

reveals several shifts in the trend line, creating a fan of outer to inner trend. Trend patterns such as this one are irresistible, and entering into the trend is a high-probable trade, provided stops are placed above the trend lines.

The pattern shows crowd behavior, as there are very few corrective moves up. This usually occurs when the price is sliding down the Bollinger band or hugging the band on an upward move. The major technical tactic is using the trend line to confirm where the trend reversal would occur. Also, determine if an oscillator is appropriately aligned in the direction of the trend (see Figure 14.3).

Let's look at how the trader would use renko blocks to determine whether to get out after going into a slide trade. We see a very clear hugging-the-band situation in the USDJPY 15-minute chart (Figure 14.4). Assume the trade was put on at 8:00 after seeing

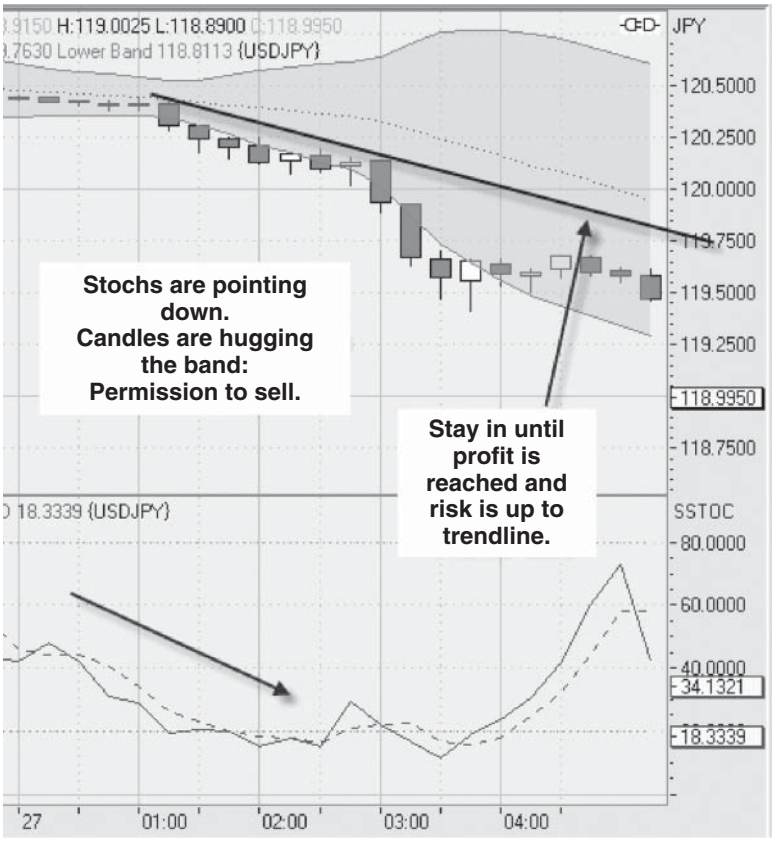

FIGURE 14.3 Trendline Provides Resistance.
Source: www.tradesignal.com.

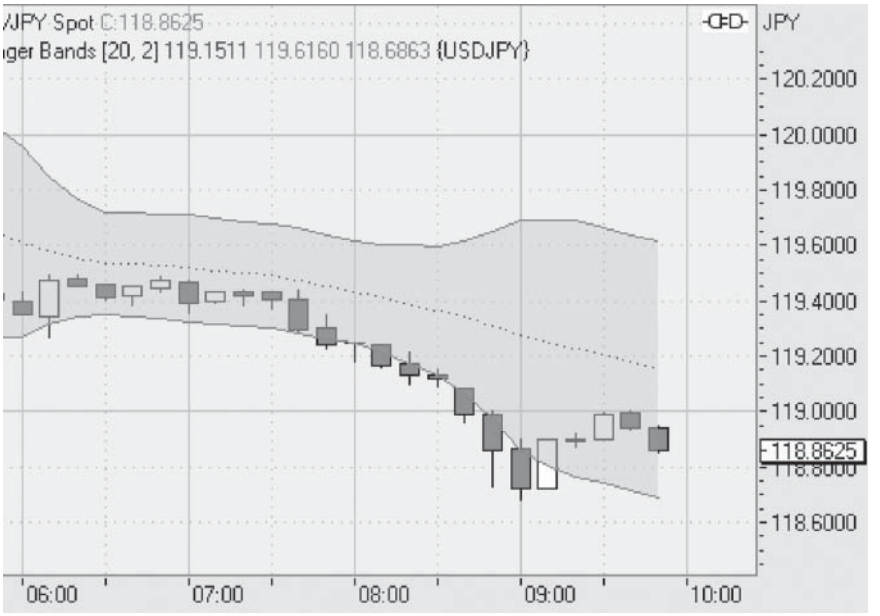

FIGURE 14.4 USDJPY 15-Minute Shows Hugging-the-Band Pattern.
Source: www.tradesignal.com.

the price stick right on the band. The question is: Should the trader get out? By using trend lines and renko blocks, the trader gets the answer. If the trader sees that the renko blocks are staying in a selling sentiment (red), as we see in Figure 14.5, and also that the price is below the trend line, it is a good idea to stay in for the ride and not get out on small countermoves up.

SCALPER

The scalper has the goal of a quick trade for small but leveraged profits. The scalper prefers to trade frequently for small moves instead of working for larger moves. The scalper focuses on the goal of taking profits quickly from the market and trades in a very limited time frame. Scalpers focus on the most recent price action and on small time intervals, from 10-minute candles to 1-minute candles. The trader seeing a high-probable trade can decide to put on multiple lots and then attempt to obtain 5 to 10 pips or more. Parabolic patterns are excellent conditions for a scalp. After a parabolic move up, the probability of a fading of the sentiment is great.

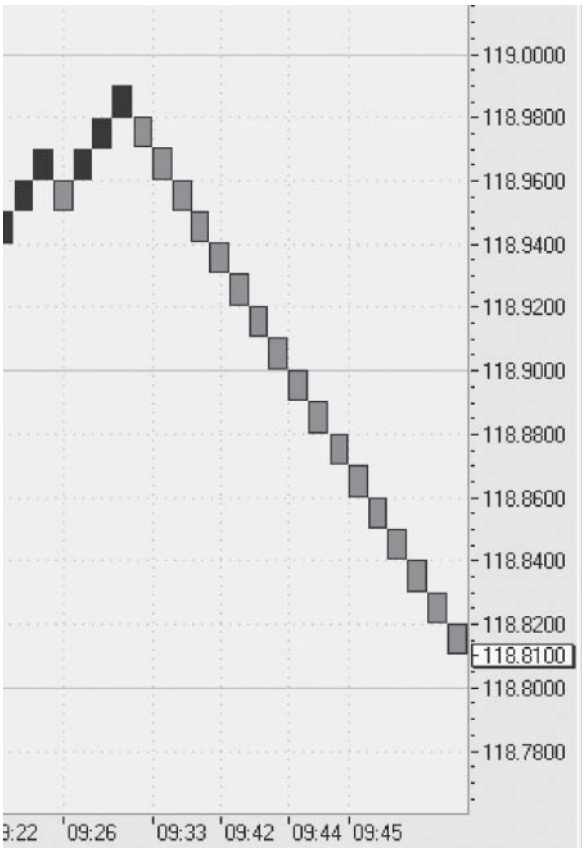

FIGURE 14.5 Renko Blocks Show Initiation of Bear Sentiment.
Source: www.tradesignal.com.

The scalper has to minimize the risk of a whipsaw. There is no perfect strategy, but the use of renko blocks will clarify more precisely than candlesticks when to get in and out of a scalp. Figure 14.6 shows the situation facing the euro–US dollar (EURUSD). There was a parabolic move up, indicating a potential reversal. The question was when to get in and out for a scalp.

Let's see how a renko scenario would have worked. Ashkan Balour is a professional forex scalper trader who focuses on capturing moves like a hawk looking for prey. It takes experience in pattern recognition, but Ash is an example that forex trading can become a profitable endeavor. Figure 14.7 is an example of one trade he did; his own description of it follows. Ash is quite a good trader and was able to pick off 15 pips

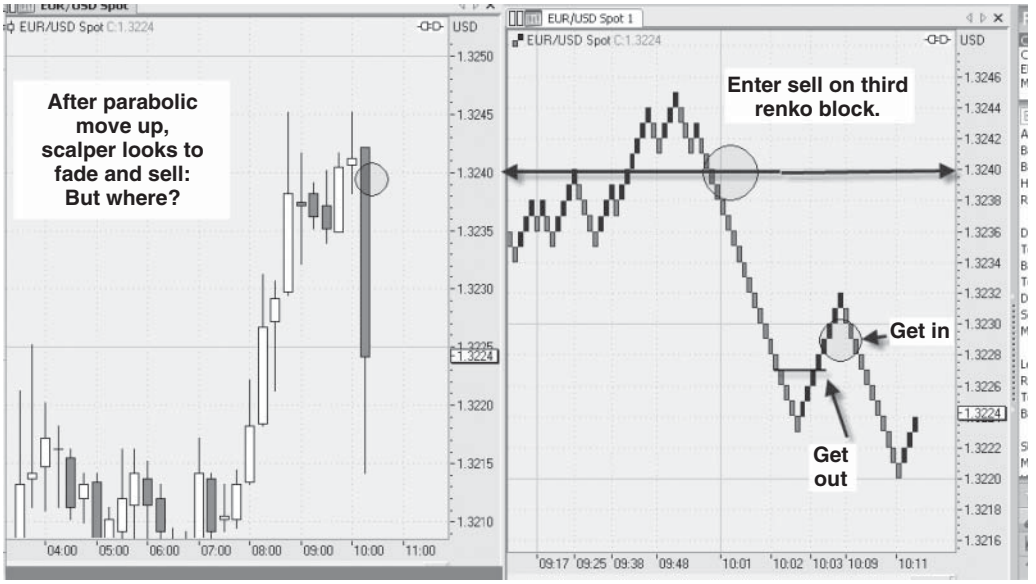

FIGURE 14.6 Parabolic Move Up on EURUSD.
Source: www.tradesignal.com.

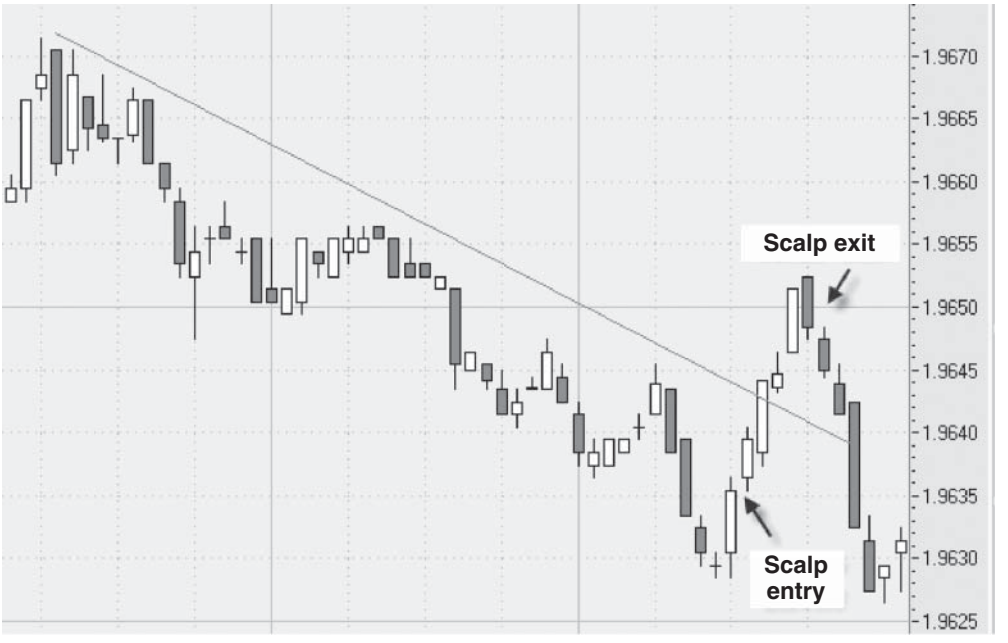

FIGURE 14.7 Scalp Setup Shows Entry and Exit Points.
Source: www.tradesignal.com.

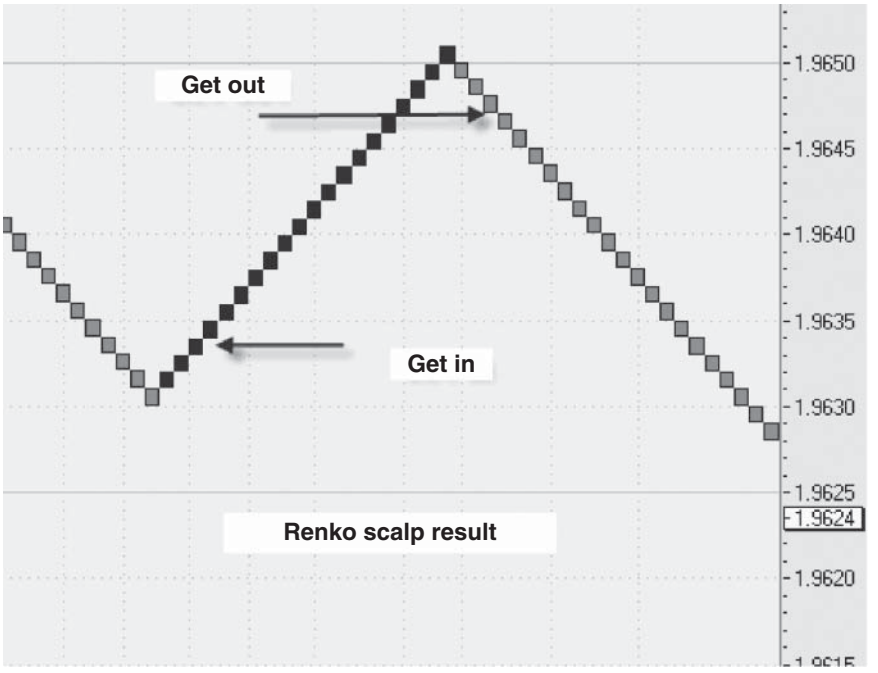

FIGURE 14.8 Renko Signal for Scalp Shows Entry and Exit Points.

without 1-minute candles. Compare his candlestick view with renko. The newcomer to forex scalping should use renko to help out. (See Figure 14.8.)

> *I just finished this trade. The dollar has been weak all day. It came down from the top of about 1.9673. It did one wave down to around 1.9645, then started to form a pendant and went lower. I was looking to go long the whole time. I waited till it did a three-wave sequence down under the pendant. On the third wave, it entered an area of support in the 1.9630 area. I read a comment that there were buyers here around 1.9630, which is not my reason to trade this area but gives you some confidence. On the first up candle I was long, 1.9636; I waited until the first red candle and bagged 15 pips easily. Most trades aren't this quick and easy.*

SET-AND-FORGET TRADER

The set-and-forget trader is playing fundamental direction and is seeking larger moves of 150 to 300 pips. This trader doesn't want to sit and watch the screen but play the longer moves and forces behind forex. This requires trading off 4-hour, daily, and even

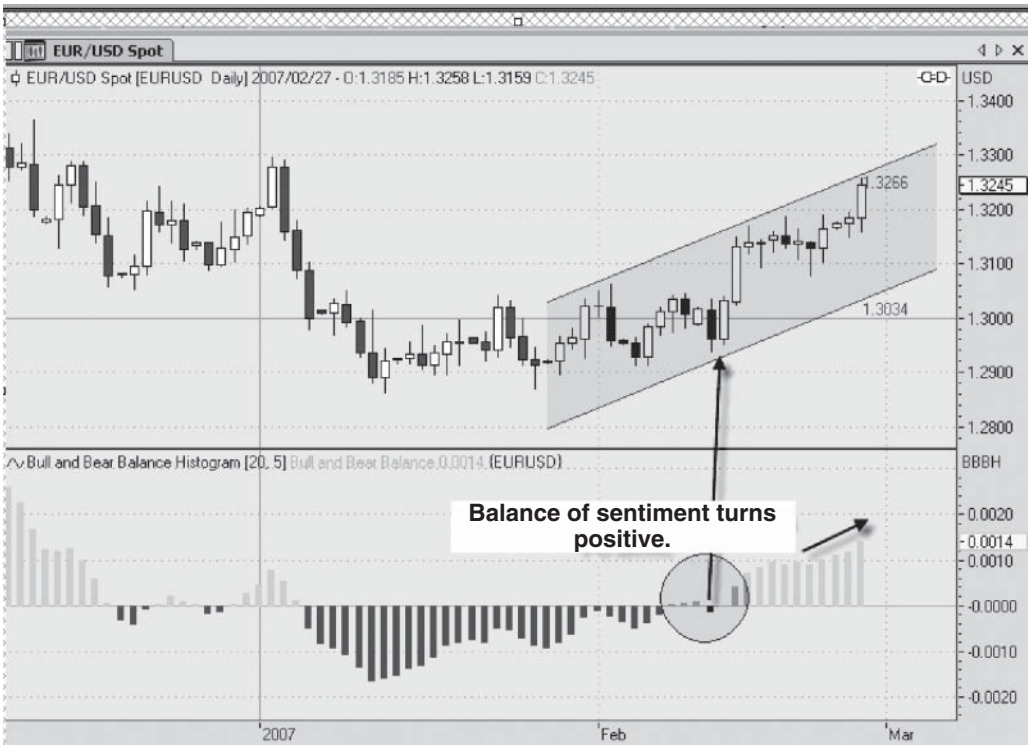

FIGURE 14.9 Bounce Off Channel Line Shows a Change in the Sentiment.
Source: www.tradesignal.com.

weekly charts and setting with risk control to target a 3-to-1 ratio of pip profits over losses. Trading cross-pairs such as the euro–Japanese yen (EURJPY), Australian dollar–Japanese yen (AUDJPY), and euro–Canadian dollar (EURCAD) provides wide ranges. One disadvantage is psychological. Set-and-forget trades are slow and take a long time to complete. In contrast, an advantage is that all it takes is three out of seven wins to be profitable.

The trader wants to enter on the side of the predominant trend, and put on the trade with proper limits and targets. Channel patterns fit this style. In Figure 14.9, we can see the EURUSD day chart was in an upward channel, and sentiment for the strengthening EUR is confirmed by the bull sentiment histogram, especially when it turned positive.

CARRY TRADER: COMING BACK

The carry trader is interested in playing the interest rate differentials for receiving income by buying the pairs that pay income to the account. The goal of a carry trade account is to get a superior return on the equity through interest. The carry trade will almost always be

part of forex as long as interest rates around the world differ. Money tends to flow where it is perceived to get the best return. The most famous of the carry trade pairs has been buying the New Zealand dollar–Japanese yen (NZDJPY). In the era of high interest rates, the NZD offered 8.0 percent interest while the JPY offers 0.50 percent. This means that the gap between them was 6.75 percent paid to the trader if done right. More recently in 2014, the NZD offered 3.5 percent while the bank of Japan's rates to borrow is practically zero (0.1 percent). Another popular carry trade portfolio has been the AUDJPY playing off the higher interest rates of Australia. In late 2014, it was 2.5 percent. Carry trades are usually the domain of very large institutional trading, but they are available to new traders.

Carry trading tends to go into popular cycles. A sure sign that the success of that strategy was coming to an end was a taxi driver's asking about carry trades. The risks of carry trades need to be recognized. The risks of large drawdowns while one waits for interest to be paid is substantial. For example, even though the New Zealand interest rates are relatively high at 3.5 percent, it has declined against the dollar. See Figure 14.10. The carry trader needs to be careful and acknowledge the risk that the interest rate differential will not be enough. Let's first take a closer look at the mechanics of the carry trade for the retail trader.

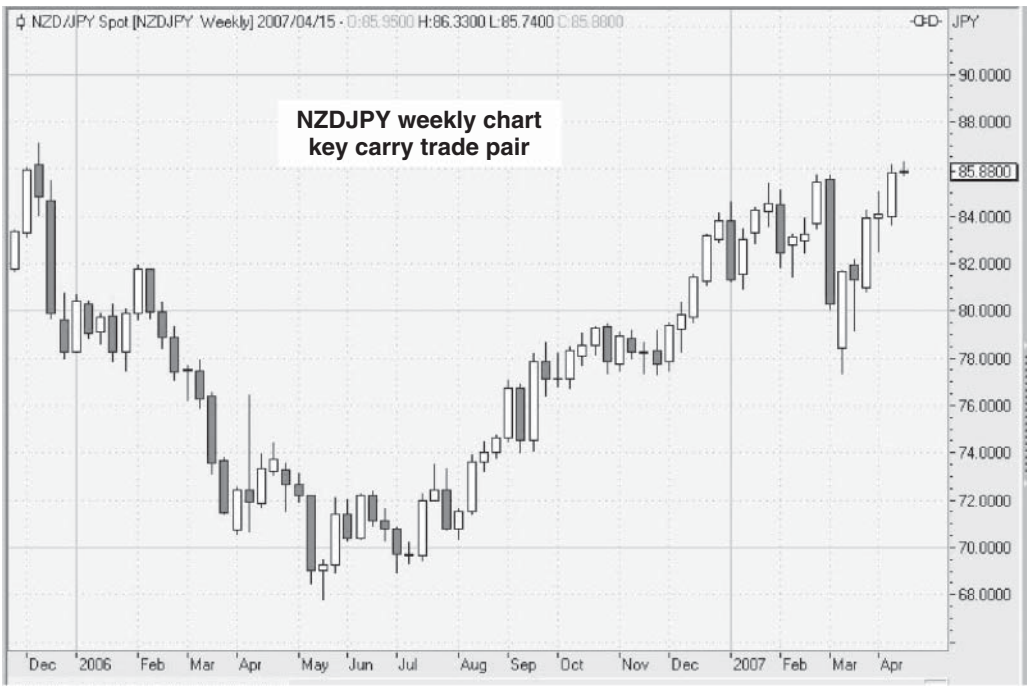

FIGURE 14.10 NZDUSD Declines Despite High Relative Interest Rate.

The first concept that needs to be learned is how a carry trade account works differently from a regular forex account. The account is the same, but the trader has two important focuses. The first is the balance of the account. As interest payments come in, the balance totals will increase. The second is the equity of the account. This is the liquid value of the account if everything was sold. There will be volatility in the equity because the value of the pair bought will vary. The concept is that even though there is risk of losing equity, ultimately, if you hold on, the interest rate will reimburse the account. This is a tricky trade because there can be substantial volatility in the equity values. In the post-2008 era, carry trades nearly vanished as the interest rate differential was very small. As the world recovers and interest rate increases start again by central banks, the carry trade may come back as a strategy for the trader.

A carry trade portfolio looks to capture interest rates, but the equity value of the account will be volatile.

THE SUDDEN-EVENT TRADER

The world is full of sudden events. The Russians take over Crimea. Missiles fly in Israel. Earthquakes shake Japan. These kinds of events can't be predicted, but they offer opportunities to trade that a skilled forex trader should not ignore. The sudden-event trade does not require any indicators and is based on good insight into the emotional content of the price action involved. The most important characteristic of sudden events is the reaction of the price. There is a surge up or a spike down in first reaction to the event. This kind of price action can't be sustained, and retracement often follows. Sudden-event trading involves good pattern recognition, as well as application of Fibonacci retracement rules.

NEWS TRADER

The news trader focuses on trading economic news releases. A great advantage is that the strategy offers effective trading in a short period of time. News trades should be considered seriously by those who cannot do forex trading on a full-time basis.

The market patterns relating to the news trade display three distance phases (Figure 14.11). First, the price patterns go into a sideways pattern. This is because there is hesitation about the outcome. Then the news release occurs. A surprise result causes a sharp move in one direction or the other through the formed support or resistance levels. After the initial impulse, the market will sell off and try to retrace. It may succeed in returning to the original sideways range, or simply go to a point of retracement and then pause and resume the move in the direction of the break. These phases are part of every economic news release response by the market.

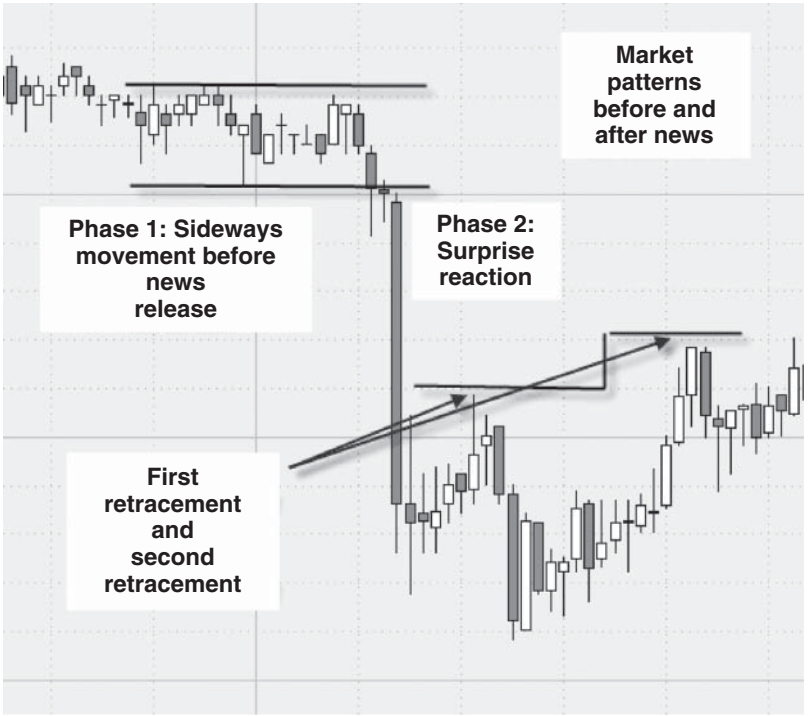

FIGURE 14.11 Phases in News Trades.
Source: www.tradesignal.com.

Strategies for News Trading

There are four essential tactics or styles news traders can use:

1. *The prophet*. Choose a direction before the news and enter into a market order. If the reaction is in the direction preferred, let it ride and be ready to take profits.
2. *The volatility trader*. Put on a trade by buying and selling the currency pair at the same time right before the news. When the news is released, the trader gets out of the losing position and stays with the winner. This strategy is directional neutral and is betting on a big move.
3. *The breakout trader*. Trade on the break of the news by entering the market in the direction of the break. The key challenge is to get out as close as possible to the maximum initial move. Renko charts help out a lot in this strategy.
4. *The Fibonacci sniper—post-news retracement*. Wait for the economic data to be released and allow the market to move and complete its first wave. Once the move is

over, the trader will wait for a post-news Fibonacci retracement and enter the trade after this retracement.

Each tactic has its advantages and disadvantages. Trading the news is a very efficient way to trade forex because the trader knows in advance that the market will move. Let's look at the strategies in greater detail.

The Prophet—Aggressive Strategy

The trader has an intuitive feeling (a hunch) for the outcome of the economic data. It is not a wise strategy to put on a trade before an economic news announcement. But if the trader has an informed point of view, putting on the trade before the news announcement is an aggressive play that can be very profitable if correct. The key risk of being wrong and having the price move against you is important to minimize.

Tactics for the aggressive strategy are as follows: About 15 minutes before the economic data release, locate the 5-minute or 15-minute chart. Locate support and resistance levels. Use the average true range (ATR) at the default setting of 14 periods. Place a market order in the direction you desire. Place a stop-loss order at two times the ATR. Should you put on a limit order? In trading the news, the idea is to be ready for a big move. But we don't know if a big move will come. So a small limit order targeting 10 to 15 pips would be like eating cake with artificial sweeteners. If you're going to trade the news, focus on controlling the risk. The idea is to take a ride on the bull or bear, get on before the break of the news, and then try to stay on to get the most out of the move. So I don't recommend a small limit. You might want to put on a larger limit of 75 pips.

Getting off the trade in a news event requires a high level of skills in identifying shifts in sentiment. Renko charts are a powerful tool for this. Remember, riding a bull or bear represents high risk. But if you want to try it out, do it with small lots on and test your skills.

The Volatility Trader—Playing Both Sides at the Same Time

In this strategy, the trader wants to participate in the news breakout but doesn't want the risk of prediction and the costs of waiting to decide direction. This strategy means you are buying and selling the currency pair at the same time. As soon as the news breaks out, a decision has to be made as to which side to get out of. Should it be the winning or the losing side?

The first tactic is to get immediately out of the losing side. This may cost you 20 pips or more on a strong move, but it also means you're in on the winning side. So the price for the ride depends on how quickly you can get out. Getting out of the loser first follows the logic that at the break of the trade there is maximum momentum, and being in at this

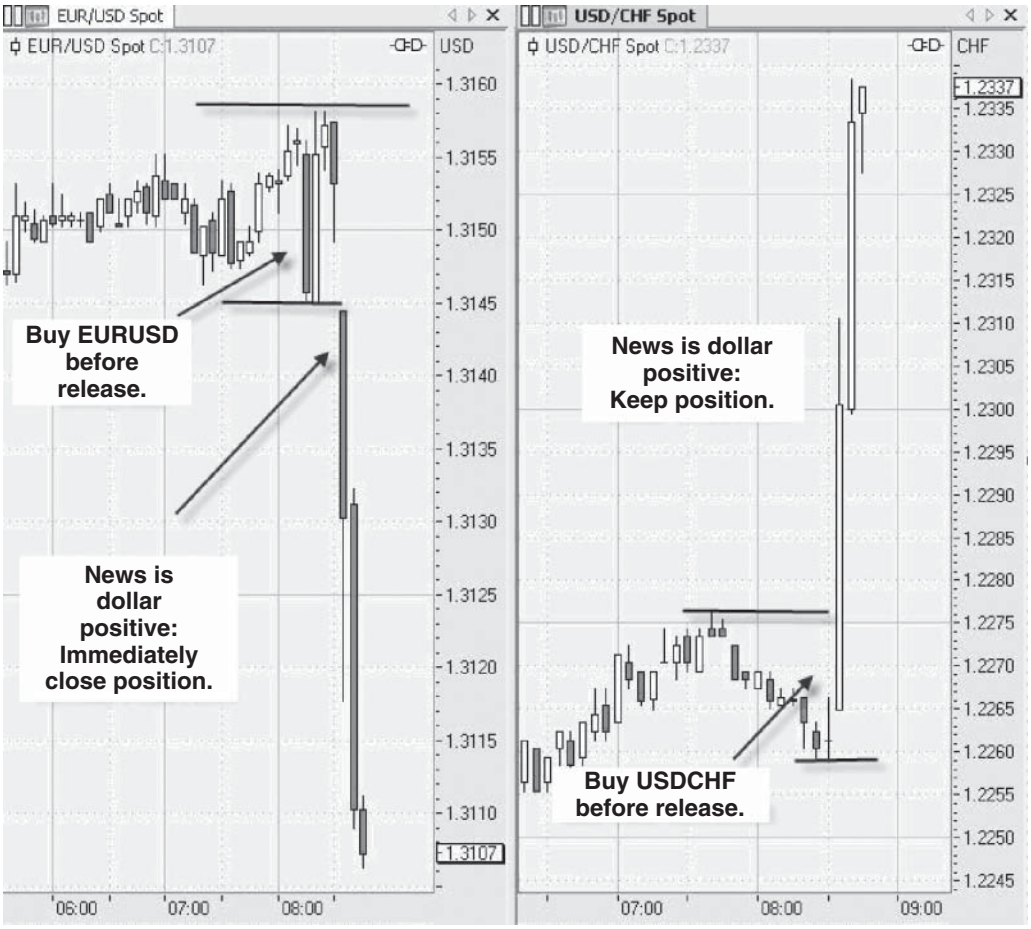

FIGURE 14.12 Currency Moves in Response to Nonfarm Payroll Report.
Source: www.tradesignal.com.

point is, in fact, the best time to be in. This strategy works well when there is a big move. Figure 14.12 shows a classic breakout in response to positive dollar nonfarm payroll news release. The hedge strategy would have worked out, with the loss of about 20 pips on buying the EURUSD, offset by a gain of up to 60 pips with buying the USDCHF. Few traders could get the maximum gain out of this kind of move and would more probably achieve a 15- to 25-pip move in about a 15-minute period.

Getting out of the winner first is a variation of this strategy. In other words, keep the loser and get out of the winner because the first minute is when there is maximum energy. Then manage the losing side. The idea is to wait for a retracement on the loser. This strategy can backfire; if there is a small move on the news, both sides can lose.

TABLE 14.2 Hedge Combinations for Different News

US news	Buy EURUSD and buy USDCHF
British news	Buy GBPUSD and buy EURGBP
Japanese news	Buy USDJPY and sell GBPJPY

News trades can occur on any currency pair because all countries have key economic data releases. There are many hedge combinations for trading news that affect currency pairs. The same principle of going long and short at the same time applies (see Table 14.2). Some forex firms now allow hedging in the same account. Other firms allow the creation of a subaccount. For example, one can buy EURUSD in one account and sell the EURUSD in the other account. But when this is not permitted, there are other ways to employ a hedge strategy. If one is doing the EURUSD news and buying also the USDCHF, there is a pip differential. The EURUSD moves $10 per pip (per $100,000), and the USDCHF will vary. To obtain an actual hedge, one needs to rebalance the trade. For example, if a trade were put on when the USDCHF was at 1.22, it would move $8.20 per pip. So a trader doing a hedge would trade 10,000 for the EURUSD and 12,500 for the USDCHF to balance out the move.

Trading on the Break—the Bull or Bear Ride

In this version of the news trade, the idea is to get into the trade as soon as the data release breaks. The trader needs to have the ticket ready to go and jump in. The risk here is of a whipsaw, where the price reverses. This risk is not as high as people think because when the news breaks, there is maximum energy and the market will respond. The risk of no surprise does occur, and that results in a small move, causing the risk of smaller losses than a whipsaw because essentially the price doesn't move beyond a previous range and there is little room for profits. But if you're on the bull or bear trade and it is a big move, you have the same challenge of when to get out. The advantage is that you are not immediately wrong.

The trader will find that the implementation of these news trading strategies may vary, based on the forex firm involved. One should test them out to determine if a great deal of slippage occurs at the firm you are considering.

The Fibonacci Trader—Post-News Retracement Trader

This strategy is by far the most consistently productive and should be part of the initial set of strategies used by beginning traders. The idea is that after the break of the news, there will be retracement—the price will move from a high to a low, or from a low to a high and then retrace. The trader waits for the retracement failure and looks to enter

a trade on the direction of the original break. The retracement failure point is most likely to be a Fibonacci-based pattern. After a news release, there is the initial move, but there can be many retracement attempts and therefore many opportunities to trade.

An aggressive version of this is to wait for the move after the release of the news, and then when it stops and reverses, put on a reversal trade. This strategy of fading the move adds a scalping tactic and provides more opportunity. But the far greater percentage payoff is on trading post-news retracement. If the price does retrace to a Fib point, then the trade can employ the setups that work in other times.

SUMMARY

Which economic data release should you trade? Every currency pair has economic news that affects that pair. It's hard to know in advance which ones will be important. The key factor is whether the market is surprised. Check any of the economic calendars on the Internet or published by your trading firm. They highlight key news releases. Focus on those releases that will report on inflation, job growth, and housing data. Initially, be sure to use low leverage or first test your skills in simulation.

CHAPTER 15

Stops, Limits, and Tactics for Risk Control

This book is designed to provide traders knowledge that helps shape forex trades. This knowledge includes fundamentals, charting technical indicators, and market sentiment psychology—to name just a few. The act of trading becomes the application of these areas of knowledge with the forex trader mixing and matching techniques and tactics. The setups used will vary along with the trader.

Charting companies such as eSignal, VisualChart, TradeSignals, TradingView, and ProRealTime are examples of current excellent forex chart providers. These providers offer many indicators, including some that may not be relevant to forex trading. For example, indicators that show volume cannot be used for spot forex. Some companies include experimental indicators that are developed by traders but have not been proven. There is an irresistible urge by traders to find that one indicator that makes a difference. However, this chapter examines alternative setups and compares them with traditional setups that use more common indicators. Which is better? The answers will depend on the skills of the trader. Forex trading success is not a process of instant creation but a process of evolution. You should try different setups and determine which mix is best for you.

STRATEGIES FOR STOP LOSSES AND PROFIT LIMITS—ESSENTIAL COMPONENTS OF RISK CONTROL

Even if you mastered all of the elements of fundamental and technical analysis, trading success would still require risk control. The most frequent question asked is: Where should I put my stops? Where should I place my profit targets? There is no definitive

method for stops, but the most important first step is to determine the risk per day that a person wants to tolerate. For example, if you have a $10,000 account, and the risk per day is 2 percent, this means that the trader will tolerate a loss up to a limit of $200.

Any level of risk has the consequence of providing a boundary for the trading. Unless you have an unlimited ATM machine to replenish your account, risk discipline is a critical factor. The consequence of having $200 risk per day is that the trader needs to decide how much risk a particular trade is worth. Is the next trade worth the entire risk of the day? A $200 risk must also be translated into pips. Trading at standard size amounts of $100,000, the value of each pip move is $10. This means that putting on a trade that results in a 20-pip loss would result in using all of the risk for that day. The trader in this situation would be foolish to risk a whole day's trading capital on one trade unless it was a fantastic setup. The trader should make room for several trades by choosing smaller amounts to trade. Mini-lots that involve putting on $10,000 would mean that the value of a loss of 20 pips would be only $20. There is room for 10 more losing trades that day!

The concept of a risk per day can be better understood as having two accounts. The first account is your real account with the capital in it. But the second account is the risk capital account. Ask yourself how many pips you are willing to lose per day. By putting on trades of $10,000 on a currency pair, many more trades can be taken. Yes, it does limit the gains, but during the critical formative period where beginning traders are learning trading, staying alive is more important than the magnitude of profits.

After selecting the level of risk per day, locating a stop loss becomes a choice of the geometry of the price action. The first approximation for a stop loss location should be the answer to where you would get out if the market moved against you and demonstrated that your original analysis was wrong. In other words, if you were to buy a currency pair, then the stop loss would be where one would sell it—and vice versa. The trader will look to the trend line and support and resistance lines to find the location. But it's not that simple in forex. Remember, there is noise in the forex market. There is no precise location for the price, since it is a bid–ask market. One of the most frequent sources of losses for beginning traders is being stopped out very quickly. They place the stop close to the entry. In forex, the noise may take up three to five pips easily.

The response to this situation is to allow the prices to vibrate through its range. Here is where looking at larger time frames is important. You may trade off a 5-minute chart, but remember that the price pattern of the 5 minutes provides a close look. Zoom out to the 15-minute and 30-minute charts to find more secure levels of resistance or support. This translates into putting one's stop loss above or below the 15-minute support or resistance, or above or below the 30-minute support or resistance. If you're trading off a 4-hour chart, then day support or resistance is an appropriate level for locating a stop.

Another method for finding an optimal location for a stop is the level of volatility. Putting a stop above the extreme Bollinger band is one solution because that would recognize that the price would have to go to new extremes to get stopped out.

Another tool for locating the stop is the average true range (ATR) indicator. The ATR provides a measure of the "reaching" ability of the price in terms of its lows and highs. Remember that the range is defined as the difference between support and resistance. The ATR compares the range's behavior to previous closes, highs, and lows. The ATR is the greatest of the following three values:

1. The difference between the current maximum and minimum (high and low)
2. The difference between the previous closing price and the current maximum
3. The difference between the previous closing price and the current minimum

The ATR becomes a smoothing indicator of the true range over the periods selected. How do we apply it to stops?

When the trader chooses to trade off a specific time interval, such as the 5-minute chart, the range of that time interval is expected to be less than the range of the 15-minute chart. Generally, the larger the time frame, the larger the distance between support and resistance. By watching the ATR, the trader can get a sense of whether the candles themselves are increasing in volatility.

Table 15.1 gives an example of two currency pairs and their associated ATRs for different time periods. If the ATR with a period 14 indicates a level of 9 pips, let's say on a 15-minute chart, this means that the lows and highs could have been 9 pips higher or lower on the average for the previous 15 candles. A good way to understand this is to visualize any candle to stretch beyond its highs and lows 9 pips either way. So if the trader places the stop near or at the ATR level, it is inviting being stopped out by the natural tendency of the market to swing in the plus-or-minus 9-pip range around a candle. Here is how to use this: A good rule of thumb is to use two times the ATR for your stop. If one is trading on the 15-minute chart, then two times the ATR of the 15-minute candles provides room to breathe.

Alternatively, one can use the 30-minute ATR as the stop distance, even if one is trading off the 5-minute or 15-minute chart. By doing so, the trader is acknowledging the natural vibrations of the price. Try to test out this application by putting on two trades in your simulation account. Place a stop on one of the trades based on your own selection criteria, but for the second lot, put the stop on two times the ATR of the

TABLE 15.1 Comparative ATRs

	Average True Ranges for 14 Periods					
Currency Pair	**5-Minute**	**15-Minute**	**30-Minute**	**4-Hour**	**Day**	**Week**
GBPUSD	3	9	15	36	101	295
EURUSD	5	5	9	28	62	179

15-minute chart. See how your frequency of being stopped out is reduced. In Table 15.1, we see that the ATR of the British pound–US dollar (GBPUSD) pair was 9 and that the ATR of the euro–US dollar (EURUSD) was 5. Using the rule of two times ATR, traders looking to put on a trade in the GBPUSD would be sure to have a stop above 18 pips. Those looking to trade the EURUSD could place the stop above 10 pips, since the ATR was lower in value.

Very often, the question arises: Should the stop loss be a ratio of the profit? In other words, if the trader were going for a 20-pip move, should the stop be 60 pips? The idea of a positive ratio of reward to risk is at the surface a good one. Having bigger winners than losers is critical to profitability. But having an arbitrary ratio between a profit target and a stop loss is just that—arbitrary. It does not reflect the reality of the dynamics of the price movements and actual conditions facing the trader. It does not take into account whether there have been increases in volatility in the range. Additionally, if a trader is achieving a very good win–loss ratio, then it is possible to be profitable even if there are more losers than winners.

Consider the situation where a trader has a ratio of 60 percent wins. If the trader had a risk of 20 pips per trade and a profit of 20 pips per trade, the result would be (6 wins × 20) – (4 losers × 20), or +40 pips. In contrast, a trader with a ratio of 40 percent wins and an average profit of 40 pips with an average loss of 20 pips would result in a net of (4 wins × 40) – (6 losers × 20), or the same 40 pips. In other words, the reward-to-risk ratio depends on the performance results. A very good trader can, in fact, have a high negative ratio and still be profitable.

TRAILING STOPS

The question of trailing stops is always a topic of controversy. Should one have trailing stops? Where should a trailing stop be placed? There are a variety of approaches that provide different answers. First, the trader is new to trading and has not accumulated many trades, and putting on a trailing stop could be detrimental to improvement in performance. This may not seem obvious. However, a trailing stop is a predetermined pip increment that is distant from the price. If the price moves further by 10 pips, a trailing stop set for a 10-pip trail would adjust further. The problem with this approach is that it is delegating to the market the decision to get out of the position. The trader should be watching the position, and putting on a trailing stop may be an incentive not to watch. Additionally, an arbitrary trailing stop such as 10 pips may be an invitation to being stopped out because the natural noise and vibration of the market could easily exceed that trailing stop (remember the ATR discussion). Finally, when traders are trading for relatively small targets such as 15 to 20 pips, it's important to get good at achieving those

targets and not focus on pushing the profits further. Keeping in a position after it reaches one's goals may not be as productive as simply adding another lot to the original position. It is easier to get a 40-pip total profit from two lots than to use a trailing stop to try to get another 40 pips.

Rather than trailing stops, a valid approach is to move a position to break even when possible. If the target has been reached and the trader wants to stay in, moving the stop to a breakeven point results in a free ride on the trade. A good rule of thumb would be if you sold a currency pair, the breakeven stop loss would be 5 pips above your entry. If you bought the currency pair, the position of the breakeven stop loss would be 5 pips below the purchase. In multilot trading, where a trader can capture profits on some of the lots, it makes sense to move the stops down to a breakeven location.

Finally, mental stops are very popular and very dangerous. A mental stop is one that can be easily changed with the onset of an emotional whim. Mental stops violate the cardinal principle that all trades should have three components: the entry order, a stop-loss order, and a profit order.

For those traders interested in avoiding stops, using options instead of stops is an area worth pursuing once they have experience in trading.

PROFIT LIMITS

Profit limits are orders that are designed to close a position with a profit. Technically, if the ongoing trade was to buy, for example, the EURUSD at 1.3200, then the profit-limit trade would be a sell limit at 1.3220 if a 20-pip profit was desired. The price would have to go through it to execute the trade. The limit order guarantees that price or better, but not worse. But the price has to go through the position. Many new traders see the price hit the limit and think it should have been executed. The question arises of how to form profit targets. This is the other side of the stop-loss issue.

The major difference between being able to formulate a stop-loss risk-control strategy and being able to formulate a profit-limit strategy is that one has total control over stop losses. Where to set them is up to the trader. But achieving profit targets is not under the control of the trader. Market conditions vary and setups vary, with the potential for small profits, from 5 pips to bigger moves of 50 pips and more. The best approach is to become proficient in getting small moves. A good medium ground for setting a profit target is 15 pips on the trade. This target falls within the ranges offered by the market under even small time frames. It is achievable, and coming close to it is acceptable. The goal of the trader should be to become competent in achieving an average 15 pips per trade. Once this is achieved, gaining more pips can be accomplished by adding more lots and by becoming skilled in managing the trade.

SENTIMENT STOPS AND SENTIMENT LIMITS

A most interesting and important new tool for locating stops and limits has emerged in just the past few years. It can be referred to as *sentiment stops* and *sentiment limits*. In other words, what if the forex trader was able to detect what the "crowd of traders" believed was a strong level of support? What if he was able to detect where the crowd believed there was little likelihood that a price target would be reached? Such a source of opinion would be very useful in helping shape the location of stops and limits. The fact is that access to this information is actually free and available on a 24-hour basis. The basis of sentiment opinion on stop and limit levels is found in binary options. Let's take a closer look at how to apply it to forex trading stop and limit strategies.

Binary options are fixed-payout options. They are offered on the North American Derivative Exchange (NADEX) and at IGMarkets.com. A trader has the ability to buy or sell an option. The option is a statement that an underlying market will be greater than *X* price by a *Y* expiration date. The underlying markets include currencies, indices, and commodities. The binary options have strike prices that the trader can choose. In Table 15.2, we see an example of the EURUSD weekly binary option ladders.

Along each ladder is a bid and ask. If you agree with the statement, you buy the option and pay the ask price. If you disagree with the statement, you sell the option and receive the bid price. It is called a *binary option* because the trader can only be right or wrong and it doesn't matter how right or wrong. Buyers who are correct about the trade receive a fixed limit of $100 per lot. Sellers who are correct keep the bid amount. In other words, the maximum amount that is paid out is $100, even if the price goes big in the money. It doesn't matter. If the trader is a seller and the price stays below the binary strike price, the maximum received is the original amount of the bid paid. On the risk side, the maximum risk for buying is the ask price. The maximum amount of risk for selling is the 100-bid price.

Now we can turn to the most important feature that emerges out of this simple binary option trade. Since the maximum amount paid out is 100, the ask price is in effect an expected probability. Consider the following if an ask price on a Monday morning for

TABLE 15.2 EURUSD Binary Option Ladders Show Sentiment Stops and Limits

Contract	Time Left	Expiry	Bid	Offer	Indicative Price
EUR/USD>1.2375(3PM)	4 DAYS	26-DEC-14	3.50	8.50	1.22685
EUR/USD>1.2325(3PM)	4 DAYS	26-DEC-14	12.5	17.5	1.22685
EUR/USD>1.2275(3PM)	4 DAYS	26-DEC-14	28	33.5	1.22685
EUR/USD>1.2225(3PM)	4 DAYS	26-DEC-14	47.5	54	1.22685
EUR/USD>1.2175(3PM)	4 DAYS	26-DEC-14	68	73.5	1.22685
EUR/USD>1.2125(3PM)	4 DAYS	26-DEC-14	83.5	88.5	1.22685
EUR/USD>1.2075(3PM)	4 DAYS	26-DEC-14	92.5	97	1.22685

an end-of-week expiration for a currency binary option is 20; that means that 20 percent of the trader crowd is expecting the price to go above that strike price. If the ask price associated with a binary option strike price is 80, then 80 percent is the expected probability that the underlying market will be above the strike price. It is similar to betting odds at a horserace!

But it reveals where strong support is and strong resistance is. For example, using weekly binary options, which expire on Friday at 3 P.M. for currencies, the ask prices from late Sunday night/Monday morning to Friday provide an expected probability of where strong support is and strong resistance is (see Table 15.2). Let's look at an example. In Table 15.2, we see an actual ladder with strike prices for expiration at the End of the Week. It is Sunday evening at 8:30 P.M. EST and trading could start. Each contract in the table is a statement that reads: EURUSD > price x. If you agree that the price will be greater than the strike price, then you will receive $100. The cost of the position is the offer or ask price. That price is interpreted as the expected probability. So for example, on this date, the price of the contract the EURUSD > 1.2125 has an ask price of 88.50. This means that 88 percent expect the EURUSD to be greater than 1.2125. That is really strong sentiment support. With regard to resistance, the contract the EURUD >1.2325 has an offer or ask price of 17.50. This means that only 17.50 percent expect that the EURUSD will be greater than 1.2325. Inversely, it means that 82.5 percent are bearish that the EURSUD will be above 1.2375. This is an excellent example of sentiment support and resistance.

Using these sources of sentiment, forex traders would place their stops near sentiment resistance, and targets below sentiment support. In this example, sentiment support @ 1.2125 is 75 pips below technical support near 1.2200. Traders now have some additional information to shape their stops and limits.

ASSIGNMENT

Find Weekly Sentiment Support and Resistance

Check the weekly binary ladders for the currency pair you are trading and locate the strike price that provides sentiment support at the 80 ask level and the strike price that provides sentiment resistance at the 20 percent ask level. How does it compare to technical support or resistance?

MULTILOT TRADING

Most traders start with too high leverage. For example, an account with $1000 that trades a standard lot of 100,000 euros is having a leverage of 100:1! Even trading a minilot at $10,000 generates a leverage of 10:1. This is appealing when one is winning. It can be

disastrous when one is losing. An important approach that reduces risk is putting on multilots. Putting on more than one lot is a milestone in the evolution of the trader. Multiple-lot trading provides enormous efficiency for the same effort. But it comes at a price. The risk of quick and large drawdowns is proportionally greater. Multilot trading becomes a double-edged sword. The new trader needs to learn how and when to put on multiple lots.

The first rule of multiple-lot trading is the rule of three. Each trading decision can be broken down into three components:

1. Financial
2. Technical
3. Psychological

All three converge to trigger a trade. The trader makes a financial decision on how much to risk. At the same time, there is a technical decision on quality of the setup. Finally, there is an unquantifiable factor on whether the trade feels good. It is very difficult to quantify how each component contributes to the final trigger of the trade. Because it is impossible to separate these three factors, the best approach by a trader is to think of three lots as the best way to trade multiple trades. Each lot, in a sense, serves a different master. The first lot calibrates with the financial objective of the trade and would get a limit of the average goal per trade of 15 pips. The second lot would be aligned with the technical aspects of the trade and get a limit that is related to the range. It would be more than the first and would be designed to capture more profits. In other words, if the range is 50 pips, the first lot is always set at 15 pips, and a second lot is set at 40 pips (just short of the other side). The last lot becomes the wildcard—it serves the psychological needs of the trader. You can decide to have a very large limit, such as 70 pips or more, or even leave it totally open. The effect of this approach is that when three lots are put on, the trader will be able to manage the trade without overreacting to the market. The fear of missing a big move is eliminated.

The challenge becomes identifying when to put on multiple lots. When do you put on more than one lot? How do you differentiate between conditions that justify two lots from those that justify three lots? The multilot decision should not be an arbitrary one. Although there is no rule set in stone on this issue, an effective approach that has worked very well is the *confidence indicator*. The purpose of the confidence indicator is to be able to determine when to put on multiple lots. Each trader should develop his or her own confidence indicator. It is not difficult, but it becomes a powerful way to improve trading.

The process is straightforward. For each trade setup that the trader is using, the trader should assign a number from 1 to 5 (5 being the highest rank). If the trader sees a setup that has many elements of confirmation, then it gets a 5. An example would be a

setup that has Fibonacci levels at resistance or support, the price is probing the Bollinger band, there is alignment with the trend, and so on. The 15-minute and 5-minute setups are similar and supportive of the trade. This deserves a 5. If the trade setup generates a feeling of high confidence with good features, but not the best, it gets a 4. A 3-ranked setup is one that the trader has a "hunch" about. Maybe it will work. It may be a guess. A 2 ranking is one where there is divergence and the situation appears to be not tradable. It may be a narrow range, or the price may be in the middle of a range. A 1 is the lowest ranking. A ranking of 1 represents conditions that experience shows are very dubious for a successful trade. A ranking of 1 results when the trade is countertrend and when the indicators are not agreeing with the trade, showing divergence.

The idea is that, over time, by ranking each trade that is about to happen, the trader will be able to have a strong correlation of the confidence index with profitable trades. As traders become more experienced, more of the profitable trades should consist of higher-ranking setups such as a 4 and a 5. In the beginning, during your first 50 trades, many of the trades are hunches. So the distribution of winners should, over time, be with highly ranked trade setups. During the first 50 trades, many losing trades would consist of high-ranking setups, which is an indicator that the trader is misevaluating the trading setups. If a large number of the winning trades are ranked 3 as hunches, consider yourself an intuitive trader and keep doing what you're doing!

Using your own confidence indicator ranking system provides a powerful tool for self-improvement. Traders who experience a series of losses and then go back and review the trades in terms of their rankings will more quickly perceive what the nature of the error was. Having an archive of your trades ranked by confidence levels becomes the equivalent of having a snapshot of your thinking right before a trade. A key tool is to take an image of the chart when you put on the trade and place the ranking on it. Using the "print screen" function achieves this capture. A very good and popular software tool to do this is Snagit (available at www.techsmith.com). Take a snapshot of your next trade and rank it right after you put on the trade. Then evaluate your own ranking. Did it deserve the number you gave it? Over time, your ranking criteria will also improve.

SUMMARY

Ultimately, where and when to enter a trade is answered by the trader's observation of whether the conditions providing a highly probable winning result are being observed. Aggressive traders would put on a trade more often with less confident setups. More patient traders would wait for a 4- or 5-ranked setup. Traders new to forex need to build an archive of winning setup experiences. Remember, before you learned to speak, you listened for about a year. For speaking the language of profitable forex, it's not time that counts but the number of trades that accumulate an actionable knowledge base.

PART III

Putting It Together

At some point in time, you need to transition from observing the market and acquiring knowledge to applying that knowledge in putting on real trades. Some accelerate the process by quickly opening a forex account and beginning to trade. Many start a demo, also known as a virtual account, and then proceed to trade. Both approaches are deeply flawed. Immediately starting a real-dollar account provides the realism of facing emotions in real trading, but the result is usually large and quick drawdowns. Those using demo accounts often experience beginner's exuberance by putting on trades with large lots; they achieve profits, only to see their real trading totally disconnected from the successes in simulation.

The point is not that it is wrong to go and trade with a real account as soon as possible, nor that it is wrong to simulate trades. The common flaw is that of inadequate preparation. One does not go into war without training, and one should not start trading forex without appropriate training. The shift into live trading should follow several milestones of phases that enable a constant cycle of learning, pattern recognition, and risk management. Even the best traders never stop learning.

How to get ready to trade is the overall theme of Part III. We explore a better use of demo accounts as well as providing a 100-question test of your forex IQ.

CHAPTER 16

Transitioning to Real Trading

There are many ways to start and many ways to start *wrong*. Many traders start with too much money and too much leverage and quickly get caught in major drawdowns. There is a better way that persons with various degrees of available trading capital can use. This section provides guidance on the essential ways of getting started and achieving adequate preparation.

One of the most useful tools to prepare for forex trading is the demo or simulated account. All firms provide these accounts. They enable a person to practice trading without the risk of loss. The trades go through an identical platform that would be used in real trades, but they do not execute. Instead, the profit and loss are hypothetical but tracked in the account history. The demo accounts are viewed and used by the forex firms as marketing tools for converting prospects into customer accounts. The problem is that these demo accounts are not designed to train people on trading. The result is that many people have observed the experience in going from simulated accounts, where they were making large profits, to real accounts with sudden and large losses.

However, demo accounts can be converted to testing one's trading skills under a plan of action that follows rules. The idea that one can start trading forex effectively by simply opening an account and beginning to trade invites too many pitfalls. Trading for the sake of trading is learning by trial and error. The risks of major drawdowns are too great. Getting started in forex trading begins before one trades. It begins with building fundamental and technical knowledge, testing skills without risk, and then applying those skills in real accounts with varying amounts of risk and capital.

Let's explore this further.

WHEN SIMULATION CAN WORK

Training and simulation, when applied correctly under a well-planned sequence of instruction, work very well. It is inconceivable for airline pilots to fly jets without extensive simulation. Simulation allows for testing one's strategies and tactics to discover weaknesses and does not have discovering strengths as a priority. War games are designed to discover the strategic vulnerabilities of the battle strategies, not to predict a particular battle. It is essential, in preparing for forex, to correctly use a simulated account to test-drive your skills. The question arises: What is the best way?

We have already provided the hints of an answer. The best way to use a simulated forex trading account is to use it to simulate strategies and tactics that are intended to be used. Trading $100,000 in a simulated account when the real account will be $5,000 is misapplying the concept of simulation. Putting on two lots instead of one to test your skills in multiple-lot trading is an excellent way to use simulation to stretch your boundary of experience. The test drive of forex skills in a simulated account should be seen as an opportunity to identify what you know and don't know about your own level of competence. Of course, the results are hypothetical, but if trades are put on as realistically as possible, then the results will have preparative value in moving ahead to real trading.

WHEN SIMULATION DOESN'T WORK

The major weakness cited in relationship to simulated accounts is that they cannot reproduce the emotions associated with trading real money. The fear and pain of loss, the anxiety of anticipation, and the joy of winning are not produced by the simulated account. The simulated account may be a clone of real trading, without a soul. Yet, this is a narrow view and, in fact, misunderstands even the drawbacks of simulation. Not being able to reproduce the emotions associated with the trading situation may be simulating the best psychological state of them all—no emotions. Having practiced trades seriously, without the emotional angst of each trade, the trader has in fact reproduced an advanced state of trading.

HOW TO USE A SIMULATED ACCOUNT

Even if the critique of simulated trading is correct, the benefits far outweigh the costs. Let's proceed with how to use the simulated or virtual account.

1. Set the account size to the level anticipated for opening an account.
2. Apply the sequence of trading challenges that are outlined in the previous chapter and test them in the virtual account.

3. Test yourself in the following challenges:
   a. *Sequential wins*. Try to get 9 sequential wins in a row of 10 pips or more.
   b. *Stop-loss test*. Place an extra lot on each trade and place a stop loss of 50 pips on the second lot. Compare whether you improve the percentage of being stopped out.
   c. *Profit-limit test*. Place an extra lot on each trade, and place a profit limit on one with your average pip goal, and on the other leave it open.
4. Select a currency pair you have never traded and put on 20 trades on that pair in simulation before you try it in real time.
5. When trading a real account, place the identical trade in a simulated account and vary the stops, limits, or lot sizes to compare performance.

One of the greater challenges that the simulated account offers an opportunity to test is that of discipline. If one can't follow a trading strategy and rules in a simulated account, it may be a prelude to the lack of discipline in a real account.

PREPARING TO TRADE

Preparing to trade is not a linear process; you're *always* preparing to trade. But we are focusing here on key steps to take that promote a winning mind-set. These steps are effective because they are rituals of behavior that reinforce practices:

1. Scan yourself. The most important scan to undertake is a self-scan. When you wake up in the morning or right before you come to the screen after a break, observe your own state of being.
2. Take a walk and clear your thoughts.
3. Read the *Financial Times* while you're having a cup of coffee or your favorite morning beverage.
4. Turn your cell phone off.
5. Scan fundamentals and select the currency-pair's predominant direction of your next trade.
6. Scan monthly, weekly, and daily charts for key areas of support and resistance.
7. Check the trade-weighted index charts for each currency pair (www.iboxx.com).

The result of following these steps is more than formulating an evaluation of market conditions. The process generates greater confidence in taking on the trades that follow, and the trader mind-set is ready for the challenges ahead.

Following are 10 key principles to guide the beginning experiences of forex trading:

1. Trading in simulation is effective as a learning tool *only if it is guided by a sound methodology*.
2. Training to trade needs to approximate the actual level of capital intended to trade.
3. The first 50 real trades are all test trades.
4. The first 100 real trades should be at no more than 2-to-1 leverage.
5. Losing trades are as valuable as winning trades: Don't fear losses—learn from them.
6. A trading plan won't work if it's somebody else's.
7. Success in trading is more than just profitability—it is repeatability.
8. There is no best time to trade; there are only best patterns to trade.
9. Analyze the market by yourself before you read someone else's analysis.
10. Don't waste time looking for better trading platforms; focus on better trading.

SUMMARY

Ultimately, it is a personal decision when one is ready to test one's skills in real trading. The best approach is to look at simulation as a first step in testing one's real trading—not as the end of training but as an evolutionary step in becoming a forex trader. Therefore, simulation and real trading need to occur in a context of principles that guide the trader. These principles reflect a commitment to achieving excellence in trading.

CHAPTER 17

Strategies and Challenges for Different Account Sizes

The experience of trading can be greatly affected by the size of an account. Traders starting with relatively large amounts of money often have the belief that more money in the account leads to greater success. Often, the opposite is true. Having a large account before you have acquired proven skills is an invitation to simply losing more money. Yet, size does matter in trading forex because alternative account sizes generate different combinations of strategies and tactics. In a sense, each account size could be seen as presenting different challenges that should be mastered. Let's explore some of them.

LEVEL 1: THE $5000 FIRST-100-TRADE CHALLENGE

In beginning to trade forex, the account size should not be less than $5000. At $5000, one has the ability to put on trades and strategies that can be used in any size account. In a $5000 account, you should put on a standard lot amount ($100,000) only when you recognize a very high-probability setup. A 20-pip loss in such a trade would represent a $200 decline, which is a 4 percent decline. In the early stages of trading experience, a sequence of losses with big lots could wipe out the account.

The best approach for a $5000 account size is to trade at $1 per pip and the most $2 per pip. This means placing $10,000 trades and $20,000 trades. The objective at this stage is to achieve a measure of competence, not a measure of profitability.

A $5000 account size should be viewed as a training account to get one into shape for the marathon of forex trading. With that view in mind, there are warmup exercises and strategies to test out your first 100 trades. Each strategy should apply to a sequence

of 10 trades to allow for a reasonable ability to quantify performance and learn from that analysis. Think of the trading as a series of challenges:

1. Select one currency pair to start your trade.
2. Set a goal to achieve an average pip win of 10 pips for your first 25 trades.
3. For your next series of 25 trades, set an average pip win of 15 pips.
4. For the third and fourth sequence of 25 trades each, select a different currency pair with the same profit targets of 10 pips and then 15 pips.
5. Set a risk per day of 4 percent of equity ($200) to allow for the expectation of being frequently wrong during your first 100 trades.
6. Don't do any trades using less than 5-minute candles.

LEVEL 2: THE $10,000 FIRST-50-TRADE CHALLENGE

Whether one starts with a $10,000 account or grows to that level, one gets the ability to test and train with more strategies than at $5000. The biggest difference is to trade with two currency pairs at a time. The $10,000 account should still trade with mini-lot sizes, but we increase the lot level to a maximum of three lots. The strategy for effectively phasing into a $10,000 account requires that you first select the currency pair or pairs you will trade. An important consideration is formulating a pip profit target that you want to achieve each day. Determining your risk tolerance is a critical task. Let's take a step-by-step look:

1. Select two currency pairs to start your trading. One is a currency pair you like as your favorite, and the other is a pair that your scan of the markets suggests is presenting good conditions to trade.
2. Set a goal to achieve an average pip gain of 10 pips for the first 25 trades on one pair and 20 pips on the second pair.
3. The maximum risk per day should drop down to 3 percent risk per day, or $300.
4. When using multiple lots, use an all-in and all-out strategy.

The Trader Log of Ross, A Real Beginner

Following is a real-world example of getting started. Ross, a beginning trader in London, had taken a controlled approach. After learning *how* to trade at Learn4x.com, Ross opened a real account with approximately $10,000. A careful examination of his actual trades (Table 17.1) shows a remarkable discipline. The initial trades were put on with small sums to test his skills. Greater amounts per trade were slowly put on.

TABLE 17.1 A Log of the First 50 Trades

Date	Currency	Entry	Stop Loss	Exit	Quantity	Total Pip	$ PIP	Result	P/L (£)	Comments
3/5/2007	EUR/USD	1.3130	1.3098	1.3132	13,000	2	$1	Won	5025.21	Exit news release 8.55 am
3/5/2007	GBP/USD	1.9251	1.9213	1.9351	10,000	10	$1	Won	5029.21	USD ISM – bearish
3/5/2007	EUR/USD	1.3106	1.3067	1.3107	13,000	1	$1	Won	5030.73	USD ISM – bearish
3/5/2007	EUR/JPY	152.26	151.93	152.31	13,000	–28	$1	Lost	5016.71	JPY is still overbought**
3/6/2007	EUR/USD	1.3116	1.309	1.3126	13,000	0	$1	B/E	5016.67	Sideways action
3/7/2007	GBP/USD	1.929	1.9254	1.9278	10,000	–12	$1	Lost	5010.33	EUR factory order: should have stayed with position news bearish
3/7/2007	GBP/USD	1.9286	1.9252	1.9294	10,000	9	$1	Won	5013.72	
3/7/2007	GBP/USD	1.9290	1.9320	1.9189	10,000	3	$1	Won	5015.72	Sideways action – US oil inventory data out 3.30 pm
3/7/2007	GBP/USD	1.9317	1.9285	1.9319	10,000	2	$1	Won	5016.65	Exit – Fed Gov Walsh Speech at 7 pm
3/8/2007	EUR/USD	1.3161	1.3196	1.3151	13,000	10	$1	Won	5023.96	$ rising before expected ECB rate hike (ECB 3.75% expect)
3/8/2007	GBP/USD	1.9341	1.9311	1.9346	10,000	5	$1	Won	5031.34	
3/8/2007	EUR/JPY	153.57	153.22	153.67	13,000	10	$1	Won	5026.33	
3/8/2007	EUR/ USD	1.3155	1.3120	1.3160	15,000	5	$1	Won	5037.78	Exited: ECB rate announcement 12:45 pm
3/8/2007	GBP/ USD	1.9320	1.9286	1.9325	10,000	5	$1	Won	5032.10	BOE as exp. Keeps rate at 5.25% – riding mkt reaction

(*Continues*)

TABLE 17.1 *(Continued)*

Date	Currency	Entry	Stop Loss	Exit	Quantity	Total Pip	$ PIP	Result	P/L (£)	Comments
3/8/2007	GBP/USD	1.9296	1.9261	1.9306	10,000	10	$1	Won	5042.95	Bad entry – mkt went down before up
3/8/2007	EUR/USD	1.3138	1.3110	1.3139	13,000	1	$1	Won	5043.18	Bad entry again – let it test resistance retreat then enter
3/9/2007	GBP/USD	1.9299	1.9273	1.9299	10,000	0	$1	B/E	5043.18	Let it bounce retreat then assess bull/ bear strategy
3/9/2007	EUR/USD	1.3148	1.3113	1.3158	13,000	−1	$1	Lost	5042.28	Wait until the down move exhausts itself
3/9/2007	**GBP/USD**	**1.9315**		**1.9317**	**10,000**	**−2**	**$1**	**Lost**	**5040.37**	**ERROR: Platform put order into mkt/ not my actions*****
3/9/2007	EUR/USD	1.3152	1.3172	1.3148	13,000	4	$1	Won	5042.59	Stocks say stay in trade longer: keep checking
3/9/2007	EUR/JPY	154.39	154.06	154.49	13,000	7	$1	Won	5047.11	US nonfarm payroll suggest moderate expansion** no explanation
3/9/2007	GBP/USD	1.9298		1.9293	10,000	−29	$1	Lost	5034.30	Stupid Stupid: WAIT FOR THE NOISE TO CALM AFTER A NEWS REPORT

3/12/2007	USD/JPY	118.15	117.85	118.13	20,000	–2	$2	Lost	5040.51	Disaster: Bought at 118.15 collapsed eventually broke 118 level
3/13/2007	AUD/USD	0.7844	0.7879	0.7834	20,000	–76	$2	Lost	4870.08	Stupid: Opened position, spoke to broker forgot to put stop in
3/13/2007	GBP/USD	1.9314	1.9284	1.9320	20,000	6	$2	Won	4892.82	USD retail sales more bearish than expected – very imp indicator
2/13/2007	**GBP/USD**	**1.9321**	**1.9283**	**1.9329**	**20,000**	**–10**	**$2**	**Won**	**4895.49**	**MOVED TO SAXO PRO 2 – HAVE TO PAY FEE IF UNDER $50K**
3/15/2007	EUR/USD	1.3210	1.3175	1.3213	20,000	3	$2	Won	4988.86	Seems to be finding resistance despite upbreak – keep checking
3/15/2007	GBP/USD	1.9370	1.9330	1.9375	20,000	5	$2	Won	4943.16	Norwegian raise rates by 0.25% to 4.00% as expected
3/15/2007	GBP/USD	1.9375	1.9380	1.3800	20,000	5	$2	Won	4941.83	
3/16/2007	GBP/USD	1.9473	1.9443	1.9476	20,000	3	$2	Won	4997.08	Worries about US recession
3/16/2007	EUR/USD	1.3323	1.3293	1.3321	20,000	–4	$2	Lost	4997.08	US data not as bad as expected: Remember expectations already priced into market

(*Continues*)

TABLE 17.1 *(Continued)*

Date	Currency	Entry	Stop Loss	Exit	Quantity	Total Pip	$ PIP	Result	P/L (£)	Comments
3/19/2007	EUR/USD	1.3297	1.3261	1.3304	20,000	7	$2	Won	4940.44	Below pivot Support/resistance points
3/19/2007	GBP/USD	1.9455	1.9423	1.9457	20,000	2	$2	Won	4979.74	Intraday downtrend in place so exited position
3/19/2007	GBP/USD	1.9434	1.9398	1.9437	20,000	3	$2	Won	4981.46	US housing data not a disaster: 36 from 38 last month
3/19/2007	GBP/USD	1.9452	1.9422	1.9457	20,000	5	$2	Won	5014.44	Japanese opening bullish Aud broke 0.800 resistance other followed
3/20/2007	EUR/USD	1.3288	1.3258	1.3292	20,000	4	$2	Won	5014.44	Bought on pivot point pierce: not sure as has already broken it
3/20/2007	EUR/USD	1.3289	1.3269	1.3290	20,000	1	$2	Won	5014.44	Bought again on break of pivot but daily trend down
3/20/2007	EUR/USD	1.3297	1.3267	1.3298	20,000	1	$2	Won	5014.44	Bought in channel but I think was too high in channel – got out too early
3/20/2007	AUD/USD	0.8025	0.8055	0.8015	20,000	10	$2	Won	5025.91	Mkt at 5-yr high – current sideways action – correction?

3/21/2007	USD/CAD	1.1625	1.1605*	1.1630	20,000	10	$2	Won	5059.85	Cad retails sales 12.30pm exp bearish/ plus USD/CAD at extreme low
3/21/2007	EUR/USD	1.3308	1.3278*	1.3313	20,000	10	$2	Won	5059.85	All currencies vs $ rising
3/21/2007	EUR/USD	1.3372	1.3341*	1.3369	20,000	3	$2	Won	5040.51	Channel play
3/22/2007	GBP/USD	1.9706	1.9744	1.9700	20,000	6	$2	Won	5040.51	Bearish line intraday downtrend
3/22/2007	EUR/USD	1.3355	1.3393	1.3352	20,000	3	$2	Won	5040.51	Channel play – broke channel bullish but retreated after USD unemployment claims
3/22/2007	GBP/USD	1.9693	1.9657	1.9700	20,000	7	$2	Won	5040.51	USD leading index out at −0.4% vs −0.3% – bearish
3/22/2007	EUR/USD	1.3373	1.3343*	1.3383	20,000	4	$2	Won	5116.57	USD leading index – plus broke 1.3366 resistance
3/26/2007	USD/CAD	1.1626	1.1596	1.1630	20,000		$2	Won	5059.85	USD home sales out at 2 pm – bullish expectation
3/26/2007	GBP/USD	1.9683	1.9718	1.9673	20,000	10	$2	Won	5012.00	
3/26/2007	USD/CAD	1.1610	1.1575	1.1602	20,000	−8	$2	Lost	5012.00	US jobless claims bullish – closed without checking properly
3/27/2007	USD.CHF	1.2139	1.2169	1.2135	20,000	4	$2	Won	5068.10	EUR German IFO Business Confidence bullish

(*Continues*)

TABLE 17.1 *(Continued)*

Date	Currency	Entry	Stop Loss	Exit	Quantity	Total Pip	$ PIP	Result	P/L (£)	Comments
3/27/2007	USD/JPY	118.28	117.98	118.35	20,000	7	$2	Won	5068.10	4 hr time frame suggest buyers in control
3/27/2007	USD/CHF	1.2143	1.2178	1.2140	20,000	3	$2	Won	5068.10	4 hr time frame suggest sellers in control
3/28/2007	GBP/USD	1.9625	1.9593	1.9270	50,000	2	$5	Won	5089.07	Making a series of higher highs and higher lows
3/28/2007	GBP/USD	1.9653	1.9619	1.9656	50,000	3	$5	Won	5089.07	USD core durable goods bearish
3/29/2007	USD/CHF	1.2153	1.2183	1.2152	50,000	1	$5	Won	5102.00	Hugging Bollinger bands
3/29/2007	AUD/USD	0.8089	0.8069	0.8087	50,000	2	$5	Won	5102.00	Hugging Bollinger bands
3/29/2007	USD/CHF	1.2182	1.2152	1.2185	50,000	3	$5	Won	5102.00	US unemployment data bullish than exp – should have got in earlier
3/29/2007	GBP/USD	1.9624	1.9654	1.9620	50,000	4	$5	Won	5102.00	Broken support/ bullish US data/only rising above bottom Bollinger
3/30/2007	GBP/USD	1.9569	1.9605	1.9567	50,000	2	$5	Won	5116.57	USD Price Index bullish – should have left in longer
3/30/2007	GBP/USD	1.9569	1.9605	1.9564	50,000	5	$5	Won	5116.57	Sold on retracement

3/30/2007	GBP/USD	1.9573	1.9605	1.9571	50,000	2	$5	Won	5116.57	Chicago PMI numbers bearish
3/30/2007	GBP/USD	1.9597	1.9567	1.9599	50,000	2	$5	Won	5116.57	Broke resistance
3/30/2007	GBP/USD	1.9680	1.971	1.9675	50,000	5	$5	Won	5161.74	Retracement after one massive intraday bull trend
3/30/2007	GBP/USD	1.9686	1.9716	1.9683	50,000	3	$5	Won	5170.61	Retracement after one massive intraday bull trend
3/30/2007	GBP/USD	1.9682	1.9712	1.9680	50,000	2	$5	Won	5175.70	Retracement after one massive intraday bull trend
4/2/2007	EUR/USD	1.3370	News Play	1.3376	50,000	6	$5	Won	5175.41	News play: USD ISM manufacturing bearish
4/2/2007	USD/CHF	1.2136	News Play	1.2130	50,000	−4	$5	Lost	5173.91	News play: USD ISM manufacturing bearish
4/3/2007	GBP/USD	1.9775	1.9805	1.9765	50,000	10	$5	Won	5201.13	Broke below 200 MA/ morning reaction
4/3/2007	EUR/USD	1.3353	1.3383	1.3352	50,000	1	$5	Won	5202.91	Triangle developing for an upside breakout
4/3/2007	EUR/USD	1.3368	1.3338	1.3364	50,000	−4	$5	Lost	5193.28	Broke resistance @ 1.3363/ had to go to job interview

(*Continues*)

TABLE 17.1 *(Continued)*

Date	Currency	Entry	Stop Loss	Exit	Quantity	Total Pip	$ PIP	Result	P/L (£)	Comments
4/3/2007	EUR/JPY	158.65	158.95	158.61	50,000	4	$5	Won	5200.34	Hugging bands sold on retracement/ been very bullish
4/3/2007	EUR/USD	1.3330	1.3300	1.3340	50,000	10	$5	Won	5238.82	Extreme sell off. 4 green bars on renko showing
4/4/2007	AUD/USD	0.8075	0.8095	0.8070	50,000	5	$5	Won	5192.00	AUD keep rates at 6.25% mkt priced in a rise bought on retracement
4/4/2007	USD/CHF	1.2189	1.2209	1.2185	50,000	4	$5	Won	5260.93	Hugging 15/30 min bands
4/4/2007	GBP/USD	1.9754	1.9784	1.9747	50,000	7	$5	Won	5216.63	Broke pivot support @ 1.9762
4/4/2007	EUR/USD	1.3372	1.3342*	1.3372	50,000	0	$5	B/E	5281.94	Resistance too strong – may break keep watching
4/4/2007	AUD/USD	0.8128	0.8148	0.8126	50,000	2	$5	Won	5200.11	Hugging 1 min bands/ all currencies vs. $ retreating
4/4/2007	GBP/USD	1.9742	1.9722	1.9749	50,000	7	$5	Won	5278.65	USD ISM non-manufacturing orders/ factory orders bearish

4/4/2007	USD/CHF	1.2188	1.2158	1.2192	50,000	4	$5	Won	5290.20	Playing retracement after the oversold USD news
4/5/2007	GBP/USD	1.9736	1.9701	1.9740	50,000	4	$5	Won	5301.13	GBP Industrial/Man more bearish: Down move exhausted
4/5/2007	USD/JPY	118.69	118.99*	118.68	50,000	1	$5	Won	5316.46	Bought as broke pivot point but was a false breakout
4/5/2007	GBP/USD	1.9720	News Play	1.9685	**10,000**	−35	$1	Lost	5271.51	GBP interest rate announcement
4/5/2007	EUR/GBP	0.6781	News Play	0.6787	**10,000**	6	$1	Won	5271.51	GBP interest rate announcement
4/5/2007	GBP/USD	1.9699	1.9659	1.9709	50,000	10	$5	Won	5292.35	EUR broke key 1.3389/ GBP followed
4/5/2007	GBP/USD	1.9735	1.9705*	1.9730	50,000		−5	Lost	5323.49	Broke resistance at 1.9727 bought on retracement but gone back through
4/5/2007	EUR/USD	1.3430	1.3470	1.3424	50,000	6	$5	Won	5289.91	Retracement play after big move through res/pivot points
4/5/2007	EUR/USD	1.3422	1.3452	1.3419 (6th)	50,000	3	$5	Won	5330.07	GBP broke through 200 MA/ EUR testing it

(*Continues*)

TABLE 17.1 *(Continued)*

Date	Currency	Entry	Stop Loss	Exit	Quantity	Total Pip	$ PIP	Result	P/L (£)	Comments
4/10/2007	USD/CHF	1.2194	1.2167	1.2185 (11th)	75,000	−9	$7.50	Lost	5326.60	Broke back through 1.2191 5/10 min stocks turning up
4/10/2007	AUD/USD	0.8262	0.8292	0.8256	75,000	6	$7.50	Won	5337.16	15 min/5 min stocks turning/ RSI at 70–80/ all-time high
4/10/2007	EUR/USD	1.3430	1.3460	1.3428	75,000	2	$7.50	Won	5341.24	Broken under 1/2 min 200 MA
4/11/2007	EUR/USD	1.3423	1.3453	1.3419	75,000	4	$7.50	Won	5356.83	Broke through 1,2/5 min 200MA / USD/CHF is rising
4/11/2007	GBP/USD	1.9770	1.9800	1.9768	75,000	2	$7.50	Won	5347.91	Broke through 1.9775
4/11/2007	EUR/USD	1.3425	1.3495	1.3426	75,000	1	$7.50	Won	5350.92	Broke through 200 MA 1 min but looked like find res.
4/11/2007	GBP/USD	1.9771	1.9801	1.9769	75,000	2	$7.50	Won	5356.62	FED speech no com- ments/broke 200 1 min MA/ 1.9775 pivot
4/11/2007	EUR/USD	1.3407	1.3437	1.3397	75,000		$7.50			FOMC meeting int. rate may prove necessary next month

4/12/2007	GBP/USD	1.9778	1.9808	1.9783	75,000	−5	$7.50	Lost	5356.21	Renko 1 min uptrend formation broken: closed by accident
4/12/2007	AUD/USD	0.8252	0.8222	0.8253	75,000	1	$7.50	Won	5356.21	Broke 0.8250 pivot/ 5–10 min stocks turning up/ renko broken
4/12/2007	GBP/USD	1.9791	1.9823	1.9781	75,000	10	$7.50	Won	5356.21	Mistake: Hugging 10/15 min bands despite what 1 min says
4/12/2007	AUD/USD	0.8280	0.8310	0.8275	75,000	5	$7.50	Won	5356.21	Failed to break 13-yr high res. 0.8284
4/12/2007	USD/CHF	1.2153	1.2123	1.2159	75,000	6	$7.50	Won	5356.21	Retracement play after massive USD collapse
4/12/2007	AUD/USD	0.8289	0.8319	0.8287	75,000	2	$7.50	Won	5356.21	Broke from its uptrend failing/ 15 min stocks turning over
4/13/2007	USD/CHF	1.2144	1.2111	1.2145	75,000	1	$7.50	Won	5424.39	5 min/ 10 min stocks turning over – closed as mkt wknd close at 10pm
4/13/2007										No trading today; helping friend with filming

This trader had good initial strengths, such as being able to have consecutive wins. A key weakness is not putting on a limit order, and therefore getting out too early. Ross is building key psychological skills in handling more money and facing the pressures that this entails.

LEVEL 3: THE $25,000 FIRST-50-TRADE CHALLENGE

This level of capital presents new opportunities and new challenges. A $25,000 account offers the opportunity to trade a combination of more pairs, larger sizes, and longer durations. More sophisticated strategies can be put to the test. The trader at this level of capital can trade more than one strategy. Therefore, we divide the trade challenge into two phases.

1. **Phase 1: Intraday Trading**
   - **a.** Select two currency pairs to start trading.
   - **b.** Raise your lot size to maximum of five lots. Remember to use five lots only when you have a high confidence level in the setup observed.
   - **c.** Leave your risk per day at 3 percent.
   - **d.** Set the goal to achieve an average pip gain of 10 pips for one pair and 20 pips for the second pair, per trade, for a 25-trade sequence.
   - **e.** When using multiple lots, use an all-in and legging-out strategy.
2. **Phase 2: Multiple-Day Positions**
   - **a.** Take the next 25 trades and focus on opportunities for 50-pip or more gains. This involves using the 4-hour chart to identify large trading ranges.

LEVEL 4: THE $50,000 75-TRADE CHALLENGE

A $50,000 account provides a serious capability to generate results that could provide a path to professional trading. The steps required to meet the challenges of a $50,000 account focus more on being able to handle the psychological pressures that emerge when more money is at stake. Many beginning traders put on too much leverage without first testing their skills in handling the larger risks per trade.

1. Scan all majors and cross-pairs to select to trade.
2. Raise your lot size to maximum of 30 minilots (two standard-size lots).
3. For the first 25 trades, reduce risk per day to 2 percent.
4. For the first 25 trades, put on multiple lots but leave profit limits open on half of the lots.

LEVEL 5: THE $100,000 TRADING CHALLENGE

There are several challenges within this level of account size that will enable a trader to prepare for full-time and professional trading. This level should be used if traders have achieved at least a 55-to-45 win-loss ratio. At this level, the trader has evolved to handle the pressures of trades that can result in gains or losses of $1000 per trade. For example, a 50-pip loss on a two-big-lot trade results in a $1000 loss. At a level of $100,000 in the account, such a size loss is 1 percent of the total. If the risk per day is 2 percent, the trader has to be very careful on the trades that follow.

1. Scan all majors and cross-pairs.
2. Use standard lot sizes, with a six-lot maximum.
3. For the first 25-trade sequence, have the goal of trading 7 trades in a row correctly, with a minimum pip gain of 10 pips; if this goal is achieved, repeat the goal of the next 25 trades.
4. For a sequence of 25 trades, put on trades only with the goal of 20 pips per trade.
5. Use a 2 percent risk per day for all trades.
6. Learn to optimize your trading setups by back-testing.

SUMMARY

Some traders will be comfortable with one strategy or focus on one pair. This is totally acceptable. Trading goals and styles should be customized to one's own personality. The purpose of trading more than one strategy is to enable the trader to become flexible and maximize the ability to spot winning trade situations. By scanning the seven majors and several cross-pairs during every day, trading opportunities occur. Market conditions change, and having more than one approach in one's trading toolbox will be very useful.

CHAPTER 18

Paths to Success in Forex Trading

Ultimately, the knowledge gained in this book and in training in general needs to be applied to the real world. This involves taking practical steps such as choosing a brokerage firm to trade with. Competitive pressures in the industry are narrowing the difference between firms in terms of pip spread, platform, and technology offered the trader. The really important determinants of success will involve how well traders are prepared before they start real trading, and whether the trading itself follows a sound action plan.

FACTORS IN CHOOSING A FIRM

Although strategies and tactics are important, ultimately, the trades are placed at a forex firm. The industry is growing rapidly, and forex firms are available throughout the world. Selecting the right broker can make a difference. While there are essential features at most firms, the most important criteria for selection for a trader include the pip spread, dealing desk, customer service, and trading resources.

Pip spreads are rapidly becoming much narrower. Just a few years ago, five-pip spreads were the standard. Today two-pip spreads are available. Remember, if the spread is two pips, then the forex firm is still making money. It is offering you the currency pair with a built-in profit.

The industry is also evolving its dealing desk structure. Firms that have automatic dealing desks are becoming more common, allowing better spreads. The recent Swiss National Bank abandonment of the peg to the EUR on January 15, 2015, caused a major disruption among many forex firms that had dealing desks. The two largest firms

in the world, FXCM and ALpari, nearly went bankrupt as they experienced losses in many accounts that went beyond the amount in the account. Other firms that used straight-through processing (STP) had very little difficulty. From now on, a forex trader should ask a firm how it weathered the Swiss franc debacle.

But there is no free lunch. Remember, the firms make money on your trades. Customer service is critical. When the Internet freezes or you have a question about a trade, the ability to call someone on a 24-hour basis is important. Equally important is the ability to communicate. Some firms offer 24-hour service, but the trader connects to a barely competent English speaker. Tech support could be in a third-world country.

But trading resources is a major tipping point in choosing a firm. Most trading platforms have basic charting. The trader has to go to third-party providers to obtain charts such as three-line break and renko. Firms offering advanced charting packages and discounts on their cost is one criterion for choosing, particularly when accounts are traded with larger capital. Essentially, a good trader can trade profitably at any firm, but an average trader can improve his trading when choosing a better firm in terms of the total services he receives.

The trading environment used by the trader is more important than is usually recognized. Getting started the right way requires having a trading environment that serves the needs of the trade. Having two screens is a minimum suggested configuration. One screen should provide access to charts, and the second screen should enable access to Internet-based information and other activity. Having more than two is not unusual among more serious traders. The forex trader beginning today can use any new computer due to the advances in computer speed and capability. The most important aspect of organizing your own trading room is whether it is dedicated to the trader. The trading room should be isolated from family interference. Trading with kids running around is too distractive. Today's Internet connections provide easy access via high-speed links (DSL, digital cable, etc.). Trading through a dialup should be avoided, but it can be used as a backup.

GAUGING PERFORMANCE: KNOW THYSELF

The path to success in forex trading is not measured by profitability alone. Those traders who become profitable have the challenge of consistency. Can they do it over a sustained period of time? The duration of successful trading also requires adaptability. Conditions change in the geopolitical world and its global economic cycles that significantly impact forex. Those who are successful during periods of global growth may not be able to use the same strategies during periods of global stagnation. The key skill of identifying macro conditions comes into play to provide early warnings to reassess trading strategies or choose different currency pairs. If China enters into a slowdown, the forex trader will be

very careful about going long on the Australian dollar. If oil is trending up toward the $75+ level, the experienced trader may start including the strategy of going long the Canadian dollar. If the trader observes that Japan's economic performance is showing growth and inflationary tendencies, those favoring carry trades will significantly lighten their leverage or turn to other pairs to avoid equity volatility.

Becoming more successful in forex trading is also about being *efficient*. Two traders may have the same performance record of profitability, but they are not equal in success. The trader who has achieved the pip accumulation with less time is more efficient. Consider two traders who have the same profitability but different win–loss ratios. One trader wins 60 percent of the time, and the other wins 40 percent of the time. Which one is more successful? By measure of profitability, they are equal. But there are huge distinctions in other qualities associated with the trade. The 60/40 trader has a much wider freedom of trading action than the 40/60 trader. The later has to win big and lose small—almost all the time.

One thing that is critical on the path to success in forex trading is what happens after the trade. Being able to evaluate trading performance and apply the new knowledge gained about yourself will be essential to improving. The ability to improve depends on the ability to evaluate.

Performance evaluation needs to avoid being overloaded with information that doesn't lead to improvements. Here are some performance evaluation measures that traders should be able to have regarding their own trading history.

To help gauge your performance, the following objective measures should be used:

- Win–loss ratio, standard
- Win–loss ratio, adjusted
- Average win
- Average loss
- Average duration of the winning trade
- Average duration of the losing trade
- Average stop-loss distance from entry
- Average profit limit
- Number of consecutive wins or losses

MEASURING EMOTIONAL INTELLIGENCE

While it is conventional wisdom that emotions are not beneficial to trading, the fact is that they are used by all traders. We are—in the words of Marvin Minsky, one of the founders of the artificial intelligence field—an emotional machine. The profitable trader is using emotions to his advantage. The new trader needs to obtain a high level of confidence about

how he or she trades. This is, in fact, a use of emotional intelligence. We reviewed how to rank your trades by confidence level. The goal is to determine what kind of emotional trader you are. Are your winning trades hunch trades, or are they trades that are taken on excellent setup conditions? The effective hunch trader is a very rare species because hunches are hard to replicate. So it becomes important to know the following:

- Distribution of wining trades by level of confidence
- Distribution of losing trades by level of confidence

Compare your first 50 trades against your second 50 trades in terms of how confident you were when you put on the trades. There is a natural shift in percentage of winning trades being highly ranked setups versus hunch trades.

Analyzing Performance with the Trader Scorecard

The ability to analyze one's trading performance is greatly enhanced by the trader scorecard (www.trader-scorecard.com). The scorecard provides an ability to upload a trading history and automatically obtain a deeper understanding of one's trading performance. Key scorecard measures are the MFE and MAE levels.

Your MFE and MAE Levels

A word on MFE and MAE is in order. MFE means maximum favorable excursion. MAE represents maximum adverse excursion. Here is how it works. When a trade is completed, it has an open time and price, and a close time and price. During that period, the underlying market traveled up and down. The key question for the trader is, what did the result show in relationship to the excursion that the price undertook? For example, if the trader closed at a profit of 20 pips, if the MFE showed that the price actually was at some point before the close higher by 50 pips, then the trader can be said to have left profits on the table. Ideally, the MFE should equal the profit gained. In the case of a loss, if the trader lost 20 pips on a trade and the MAE was 50 pips lower, this means the trader was able to recover from a worse loss. The MFE and MAE provide insight into the ability of the trader to recognize highs and lows and navigate through them.

One of the most important abilities of the scorecard is its ability to analyze each *round turn*. A round turn is a match of the open and close of the trade. Every completed trade presents evidence of whether the trader has (1) had a profit turn to a loss; and (2) has left money on the table. For example, consider the following. The trader has bought the EURUSD @ 1.1950. He closed the position at 1.1975. The result is a gain of 25 pips (see Figures 18.1 and 18.2). All trading histories will capture this information. But the scorecard goes further. It tracks the actual price action of the underlying market, in this case

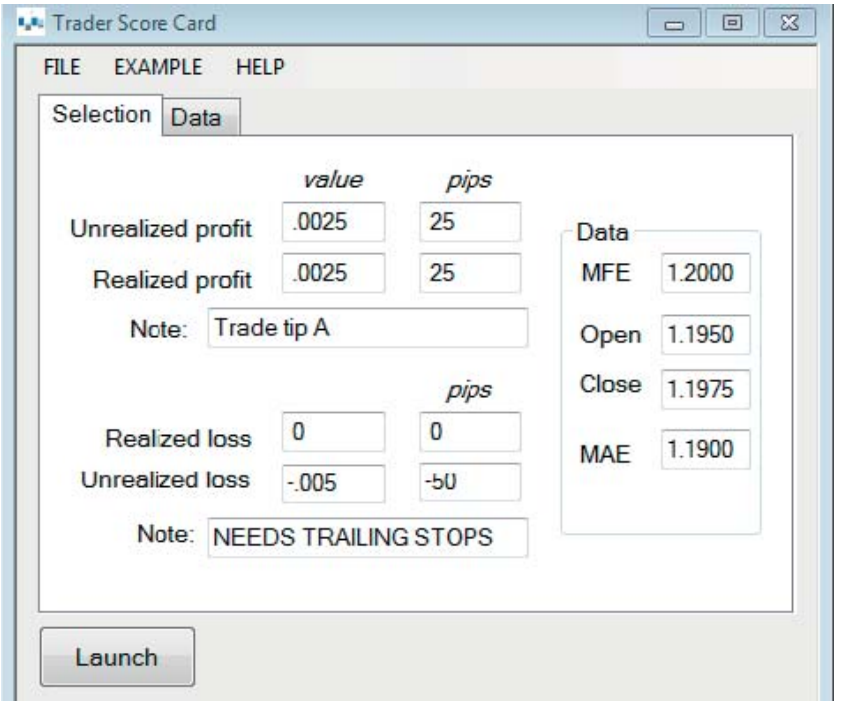

FIGURE 18.1 Trader Scorecard of Winning Trade.

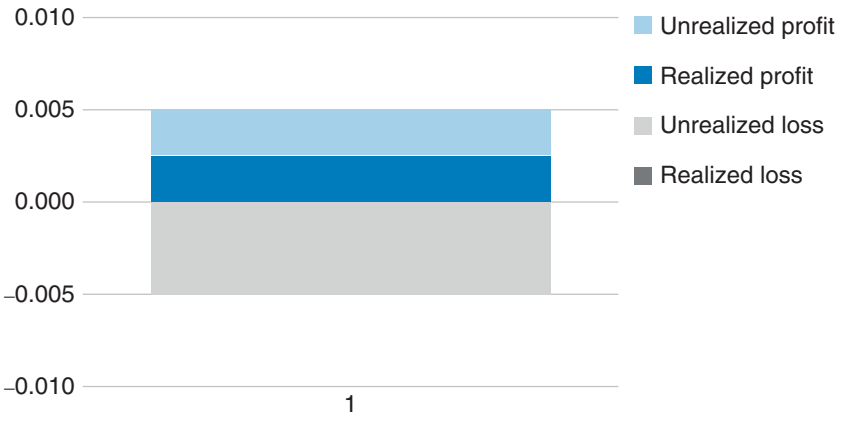

FIGURE 18.2 Visualization of MFE and MAE of Winning Trade.

the EURUSD during the trade. The question is, how high did the actual price go during the duration of the trade? The high point is the maximum favorable excursion (MFE). The opposite is, how low did the price go while the trade was open? This is the maximum adverse excursion (MAE). Once the MFE and MAE are known, the trader can detect if a trade could have been more profitable. For example, if the MFE in our example trade was 120.00, it means the trader could have gained 25 more pips by closing it at the peak!

Consider a losing trade example, shown in Figures 18.3 and 18.4. The trader buys the EURUSD at 1.1950 and closes it at 1.1875. Because we know that the MFE was at 1.2000, we know that the trader let a profit turn to a loss! What if the MAE was 1.1820? This would mean that the trader could have lost another 55 pips. The trader scorecard results in an immediate x-ray of trader performance.

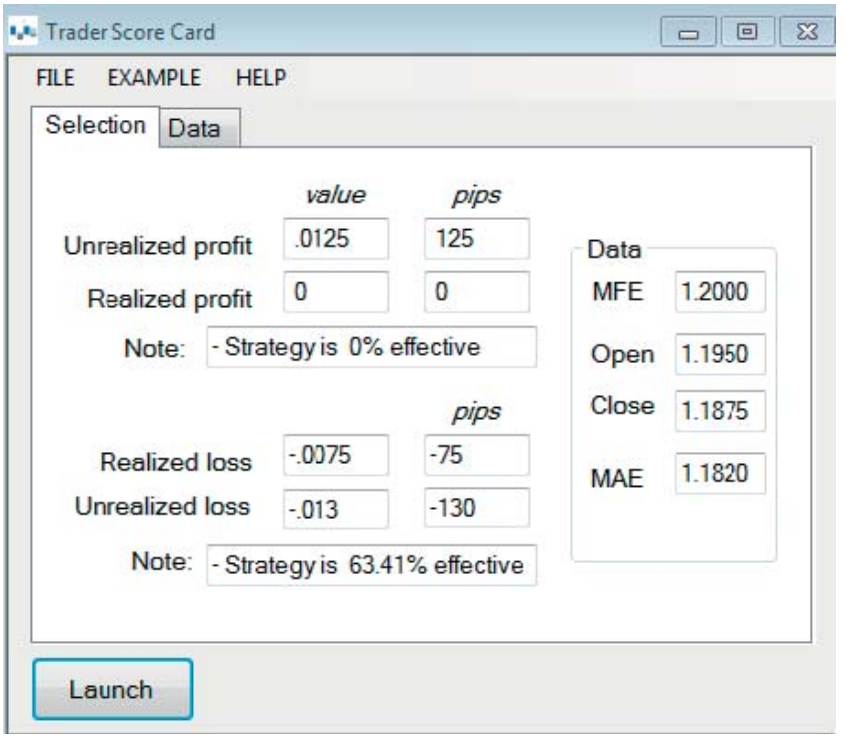

FIGURE 18.3 Trader Scorecard of Losing Trade.

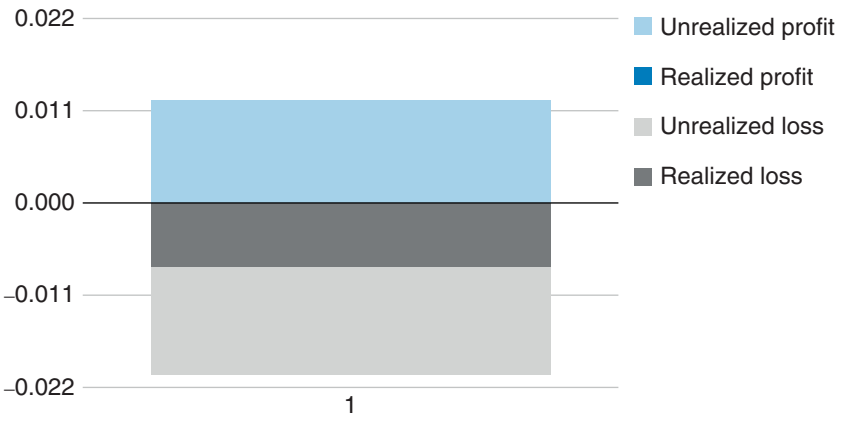

FIGURE 18.4 Visualization of MFE and MAE of Losing Trade.

LEARNING THOUGH COMPETITION

Trading competitions are an effective way to learn and improve forex trading. The World Trading Team (www.worldtradingteam.com) provides an opportunity for any forex trader to test his or her skills without risk by trading in competitions. The best trader of the week and month gets prizes and ultimately can qualify for a trading job at a prop shop. By trading in competitions, with simulated or real capital, the experience is enhanced and is valuable. Traders can see how other traders have done during the same period of time, trading the identical currency. At www.financialcompetitions.com, traders can participate in other contests as well. These competitions and contests have taken trader training to new levels.

CONCLUSION

Successful forex trading is not an end; it is an evolving process. It is not easy, but it is achievable.

This book is designed to point the way. Learning to trade forex is very much a self-paced process. There are few shortcuts, but the goal of this book has been to provide guideposts though the fundamental, technical, and psychological pathways that all traders must experience. It is my hope that you have gained an understanding and appreciation of the world of forex and can now use that knowledge to pursue one of the most challenging endeavors available to any individual—forex trading.

CHAPTER 19

Test Your Forex IQ

The following questions test the knowledge you've acquired from reading this book. You can take this quiz, place your responses, and check your forex IQ. Good luck!

1. What is the index that tracks US dollar as an instrument for trading?
2. If inflation data presents a surprise increase, what is likely direction of gold?
3. Name the heads of the world's key central banks.
4. Which time interval is the best for entering a trade?
5. What is the technical basis for locating a stop loss?
6. What are the four strategies for trading a sideways pattern?
7. What information does a candlestick pattern provide that is not in a bar chart?
8. How do you measure sentiment in forex?
9. What is the best time of the day to trade?
10. What day of the week generates the best contrarian trading?
11. Which Fibonacci level is the most important?
12. What is the most important report that affects trading the yen, and when does it come out?
13. When the Federal Reserve Open Market Committee meets, what does it decide?
14. What is the name of the Chinese currency?
15. What is the gross national product of the United States versus Europe versus Japan?

16. What is the current interest rate difference between the 10-year US Treasury note and the 3-month Treasury note?
17. Which currency pair allows you to trade the British pound against the euro?
18. When trading forex, what is the cost of the trade when there is no commission?
19. What are the two basic trading strategies for buying or selling that apply to any time frame?
20. If forex prices surge or plunge in response to news, how long should you wait to enter a trade?
21. What's the major problem with using moving averages?
22. What is the average duration of a profitable trade generating 20 pips?
23. When you see a parabolic pattern, what does it predict about the imminent movement of the market?
24. What is the most important fundamental piece of information to track before you decide to trade a currency pair?
25. How do you obtain free and professional advice?
26. How is a cross-pair different from the majors?
27. What pattern always precedes a break of support or resistance?
28. What is the definition of a "false" breakout?
29. What is the best way to spot a trend reversal?
30. If oil prices decline steeply, which currency pairs will rise?
31. If the Chinese economy slows down or enters a "hard landing," which currency pair is the most affected?
32. Which indicator compares the performance of two different trading systems?
33. Which indicator effectively confirms a reversal?
34. What pattern indicates volatility exhaustion?
35. Which economic calendar release is the most important?
36. How do G7 and G20 meetings affect your forex trading?
37. If the Chinese PMI shows a surprise decline, what is the likely direction of the AUDUSD?
38. Which key moving average period should be watched to indicate a trend reversal?
39. When are technical indicators totally useless in determining your next trade?
40. If you are looking at three different time frames, which ones should they be?
41. Which pattern is almost always a reliable predictor of the next move in a currency?
42. Which indicator is the most leading regarding price direction?

43. Which six currencies comprise the US dollar index?

44. The index that shows a currency's strength in terms of the country's trading relationship is called _____.

45. What is the formula for pivot points?

46. Which chart types leaves out time and volume?

47. Which pattern is usually a prelude to a breakout?

48. Name an indicator that shows volatility besides Bollinger bands.

49. The Chinese currency is called the renminbi yuan. What is its latest value against the US dollar?

50. A trader is losing 70 percent of his trades but claims he is as good as a trader having a win–loss ratio of 60 percent winners. What are the comparable win–loss ratios?

51. Currently, what is the greatest fear of the European Central Bank?

52. What economic data release report is the most important one issued by the Bank of Japan?

53. What amount of US Treasuries do China and Japan own?

54. Who is Japan's biggest trading partner?

55. What is the next number of the following Fibonacci sequence: 0, 1, 2, 3, 5, 8, 13, 21, 34, 55, 89, 144, 233, _____.

56. What is the ratio between any two Fibonacci numbers?

57. In a recent equity market sell-off, the Dow Jones Index went down, the dollar against the yen fell sharply, and gold fell also. Why?

58. Regarding currencies, what futures industry report provides a clue to where the smart money is?

59. If you wanted to have a 99 percent confidence that the price is between two Bollinger bands, how many standard deviations would it be set at?

60. The Swiss National Bank pegged its currency to the euro, at what price?

61. What is the difference between a slow stochastic and a fast stochastic?

62. Which is a more aggressive trade: (a) selling before support, anticipating a move down; or (b) selling on the break of support?

63. Which developed country (not third world) has the highest interest rates in the world?

64. If the EURUSD is priced at 1.25 and a European family goes to Disney World in Orlando, how many dollars will the family be able to get (assuming no exchange costs)?

65. What does repatriation refer to within the context of the Japanese yen?

66. What technical indicators are leading?

67. If housing starts in the United States showed a surprise increase, what would you expect the EURUSD to do in reaction to this release?

68. If China unexpectedly increased interest rates, which direction would you expect the USDJPY to go?

69. If a trader is using two moving averages, the simple MA 21 and the simple MA 8, and the SMA 8 rises above the SMA 21, is this a signal to go long?

70. If a currency pair closes above the 38.2 percent day Fib line, is it more likely to reach the next Fib line at 50 percent?

71. If a currency pair reaches the 20-period moving average in the middle of a Bollinger band, and crosses it, is this a signal to sell?

72. If a trader missed a news release and saw the price surge, how many minutes should he wait to enter a trade?

73. If the amount of foreign owners of US Treasury securities significantly declined, what would likely happen to US interest rates?

74. What happens to the value of the average true range when one moves from a 5-minute chart to a 30-minute chart?

75. If the United States increases the rate of exports, what happens to the trade deficit?

76. If a triangle formation forms and it is equilateral, in which direction is the price most likely to break out?

77. If a price is probing a four-hour resistance, does this represent stronger resistance than a price probing a five-minute resistance?

78. If a doji pattern appears at the top of a Bollinger band, is it indicating a reversal?

79. Which has a greater interest rate differential, the USCHF pair or the EURCHF pair?

80. If a trader was able to save one pip per trade on the spread and traded five times a day for 100 days, what would the value of the saving be if he were trading the AUDUSD only?

81. Which equity market opens up first, the Tokyo or London?

82. When it is 8:30 A.M. Eastern Standard Time and the nonfarm payroll report is released, what time is it Greenwich Mean Time?

83. Joe put on a buy limit order for the GBPUSD at 1.56, and he saw on his chart that the price hit limit. He didn't get it, though. Did the forex firm make a mistake?

84. What is slippage?

85. When three or more multiple moving averages compress in a pancake pattern, what does this signify?

86. The default setting on MACD is 12, 26, 9. What do these numbers represent?

87. John came up with his own moving average crossover of 95 and five simple moving averages. He decided to back-test it over three years, and the result came out quite positive. What is wrong with his approach?

88. Alicia signed up to get a news trading report that provides a few seconds' more release of the embargoed economic data on a news release. Will this make a difference in the trading results?

89. Why is holding a position over a weekend very risky?

90. If the yen suddenly sells off and gets weaker, what is gold likely to do, and why?

91. A change in the demand for copper affects which currency the most?

92. The ZEW sentiment indicator represents what kind of sentiment?

93. If the Indian rupee starts floating, what is the major risk to its currency reserves?

94. If China increases its value of the renminbi, why would US companies be happy?

95. If the EURJPY reaches historical highs, who would be more pleased, European car manufacturers or Japanese car manufacturers?

96. What does the European Central Bank fear the most: inflation or deflation?

97. Sarah is trading at an account that is offering 200-to-1 leverage. She has $1000 in her account. How much can she trade with this $1000 without getting a margin call?

98. If inflation data rise, which direction will gold likely go?

99. Tom went long the EURUSD at 1.305 and the price moved to 1.3015. Where would the breakeven point be if Tom wanted to put a stop there?

100. If the setting for a renko chart was moved from one pip to two pips, and the action was very choppy, what would be the result on the chart?

E-mail Abe Cofnas (abecofnas@gmail.com) with any questions you may have.

CHAPTER 20

Trading Bitcoin

Bitcoin in recent years has received an unusual amount of attention. The upstart cryptocurrency had an exponential tenfold rise from $125 to over $1125, only to fall back in the $300s this year. Additionally, the closing and bankruptcy of the Tokyo-based MtGox (with over 600,000 customers and the largest bitcoin exchange), garnered substantial negative press and threatened the stability of bitcoin. In stark contrast, bitcoin has also received a great deal of positive attention within the venture capital community. Venture leaders, such as Cameron and Tyler Winklevoss and Peter Thiel (co-founder of PayPal), have led the way as early players in bitcoin. For example, the Winklevoss twins have filed to register the Winklevoss Bitcoin Trust, which will be an ETF, making it easier to invest and trade in bitcoin. Peter Thiel has invested in BitPay (www.bitpay.com), a bitcoin payment solutions company. As a result, bitcoin is becoming the new darling and target of early mover capital investment, with over 200 million in publicly disclosed 2014 VC investments.

Bitcoin Fact Box

Number of Bitcoin Accounts	500,000 to 1 million US
Number of Meeting Groups	602
Number of Merchants Accepting Bitcoin	60,000
Leading Merchants Accepting Bitcoin	Zygna, Square, Overstock, Dell, and Microsoft
VC Dollars in Bitcoin Startups in 2014	$200 million

Bitcoin Price High Close	Nov 25, 2013: $1119
Bitcoin Price Low Close	April 23, 2012: $4.91
Bitcoin Price March 4, 2015	277.45 (BitStamp.net)
Bitcoin ETF	Winklevoss Bitcoin Trust (filed for ETF)
Bitcoins in the World	14 million
Maximum Number of Bitcoins	21 million
Top Bitcoin Exchanges	BitStamp. Btc-e, Bitfinex

Yet, it's important to understand that bitcoin is a global phenomenon. There are 434 bitcoin meet-up groups, with 45,751 members in 309 cities and 68 countries (www.bitcoin.meetup.com/alt) and there are estimated 500,000 to 1 million digital currency accounts in the United States alone. The bitcoin e-commerce economy is emerging with the offering of bitcoin online payment solutions connecting customers to merchants. Leading brands such as Zygna, Square, and Overstock accept bitcoin. Bitcoin ATMs are now appearing in multiple countries. And let's not forget its currency for trading is emerging as a market of its own. Even Bloomberg has begun to cover bitcoin price action and stated:

> *Innovation—While bitcoin and other virtual currency markets are still nascent, they represent an interesting intersection of finance and technology. Given that Bloomberg sits squarely at that intersection, providing pricing for this underdeveloped market is a natural fit for us.*[1]

Given this context, it's a good time for forex traders to look at bitcoin as a new underlying market to trade.

WHAT IS BITCOIN?

Is bitcoin a currency or commodity? The short answer is that it is both. From a user's behavioral point of view, Bitcoin was designed as a means of exchange. A key feature is that it is a peer-to-peer payment system without a center of control. It was developed in 2009 by Satoshi Nakamoto. Whether that is a real name is unknown. Bitcoin is part of a new genre called *cryptocurrencies*. Those who buy bitcoin either look to hold it and sell at a higher level or use it to exchange it for a good or service from a retail merchant. In this sense, bitcoin acts as an alternative currency. Of course, whether bitcoin is a reliable store of value remains the great risk that those who buy it are incurring.

[1]"Bitcoin Now on Bloomberg," news release, *Bloomberg* (April 30, 2014), http://www.bloomberg.com/company/2014-04-30/bitcoin-now-bloomberg/.

One's definition of bitcoin may not be as important as what the regulators' definition is. Global regulators are just beginning to define and develop regulations for bitcoin and other related virtual instruments. For example, Germany has defined bitcoin as private money and a financial instrument; Denmark considers bitcoin neither a currency nor an asset.

The US IRS issued its opinion on how virtual currencies/bitcoin would be treated: "A-1: For federal tax purposes, virtual currency is treated as property."[2] This ruling also generates a perception of a great deal of paperwork to submit to the IRS when buying and selling bitcoin. But there is a silver lining in the IRS approach. The IRS ruling in effect creates a new type of managed trading. Bitcoin as a currency would require SEC, CFTC, NFA regulation. However, as property the IRS rules enable the emergence of management property funds that are in fact aggregates of virtual property—which is bitcoin.

The trader needs to keep in mind that the price of bitcoin is different on different platforms. As a result, indexes will develop that may become the dominant price feed. For example, the IG Markets and the North American Derivative exchange use as a price feed the TeraExchange bitcoin price index, launched by Teraexchange.com.

ACQUIRING BITCOIN

Bitcoin ownership is not identified or established by name, but by the use of a private key linked to the innovation called the *blockchain*. Therefore, no authority can flood the world with more bitcoins because the process of generating them, called *mining*, is a function of a very complex algorithm. This algorithm is such that when each bitcoin is created, it is exponentially more difficult to create or mine than the previous bitcoin. This means that the rate of supply of bitcoin globally will decline until the total is reached (https://blockchain.info). The total amount of bitcoin in the world will be limited by this algorithm to 21 million. There are now about 13.6 million bitcoins in the world. This technology of encoding the ownership of bitcoin is being regarded as ushering in an era of the digitization of potentially anything. Of course, libertarians or anarchists, who want no central authority involved in the role of money, are the leading champions of bitcoin and similar alternative currencies. In fact, the term *cryptoanarchists* has emerged to label this political philosophy.

CHALLENGES, STRATEGIES, AND TACTICS FOR TRADING BITCOIN

Currently, over 90 percent of bitcoin accounts are in a buy-and-hold mode. Those who came on before 2013 had a chance to experience exponential gains. At its height in

[2]Internal Revenue Service, "IRS Virtual Currency Guidance," Internal Revenue Bulletin 2014-21 (April 14, 2014), http://www.irs.gov/irb/2014-16_IRB/ar12.html.

November 2013, bitcoin hit over $1000. It is now oscillating around $500. Regardless of the investment or trading goals of bitcoin holders, they all will need to make a decision to get out and exchange it for their local currency of choice or a service provided by a merchant. Therefore, timing entry and exit will be important. *Ultimately, all bitcoin traders will need to become currency traders!*

Bitcoin traders have many challenges. First, there is the challenge of selecting at which exchange or service to buy and sell their coins. It is a virtual Wild West era, with over 50 bitcoin exchanges around the world. They are all new corporations and untested. Traders have reason to wonder whether their money is secure. As a result, there is an extra counterparty risk to the bitcoin trader. Surely as new security protocols evolve, the risks will be minimized and other players, such as wallet companies, will offer simpler ways of buying and selling bitcoins.

The challenges presented in trading bitcoin will for many reasons be much greater than trading currencies, gold, or other instruments. Bitcoin has no plain-vanilla options market, where puts and calls are priced reflecting market expectations of future value. As a result, there is limited price discovery of the fair value of bitcoin. Also, bitcoin's price action is still very sensitive to disruptions by news and Internet rumors. Traders will therefore confront a reaction-diffusion herding behavior generating disruptive spikes and surges. Bitcoin traders will certainly need to learn and apply technical analysis techniques and pattern recognition analytics to pinpoint entry and exit signals. Until greater volume and liquidity conditions improve, classical tools of discovering price signals using trend lines, volatility, and Fibonacci patterns will likely be a good place to start for individual traders. Bitcoin traders will certainly benefit from understanding US dollar, euro, and yen price action. The profitability in buying and selling bitcoin will differ, depending on the strength and weakness of different currencies. Clues on when to buy or sell bitcoin can also be derived by looking at how other virtual currencies, or cryptocrosspairs, are doing. The most appealing and liquid cryptocurrency crosspair to trade other than bitcoin is litecoin/bitcoin (LTC/BTC).

Useful Sites:

http://www.irs.gov/pub/irs-drop/n-14-21.pdf

http://www.coindesk.com/bitcoin-2014-report/

http://www.bloomberg.com/now/2014-04-30/bitcoin-now-bloomberg/

STRATEGIES AND TACTICS FOR TRADING BITCOIN

Bitcoin price action has experienced sharp moves and drawdowns. The price reached heights of over 1000 with a parabolic rise. The price action was punctuated by negative news related to hacking and bankruptcies of new exchanges. In late December, bitcoin

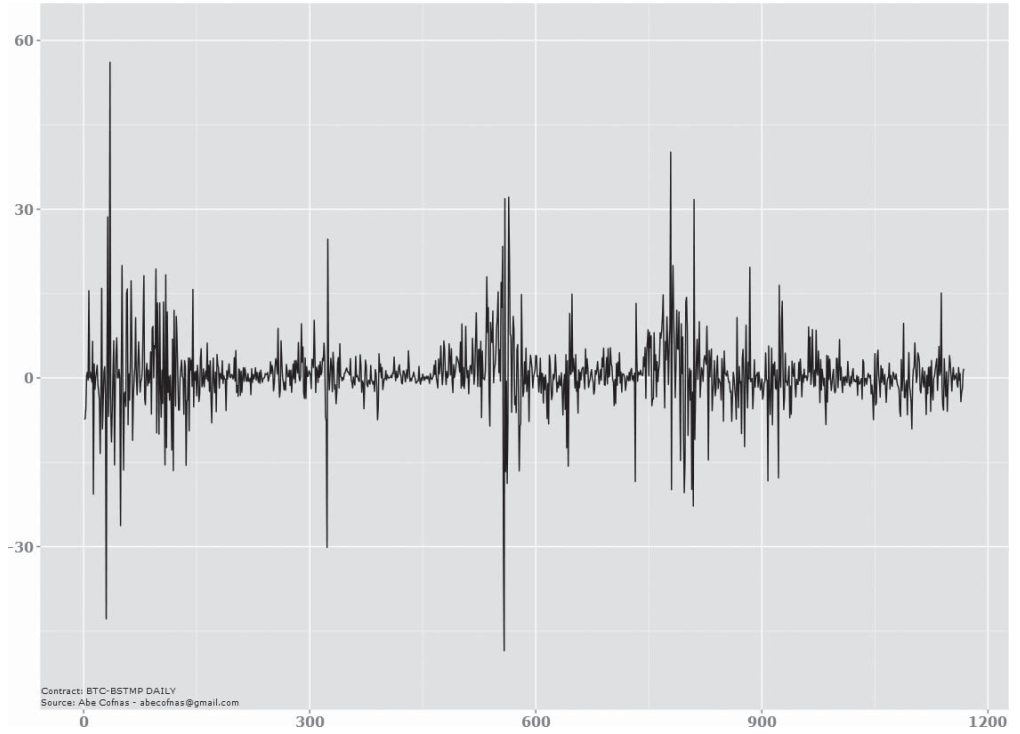

FIGURE 20.1 Bitcoin has shown great volatility.

oscillated around 358 and then declined even further to the 230 price point.[Figure 20.2] The price action and volatility, [Figure 20.1]which have been huge, may cause some to back away from trading bitcoin, but it also generates important trading opportunities. Just as with fiat currencies, volatility can increase and decrease and therefore generates trading opportunities.

Like any other trading instrument, bitcoin also has begun to exhibit patterns where classic tools for trading, such as parabolic curves, channels, triangles, and trendlines, can be applied. When the price pattern breaks, especially in bitcoin, it indicates a point of increased momentum. *A price signal in bitcoin is like a price signal in any other instrument*. It is generated by a change in the pattern, or failure to change the pattern. This point leads to our first tip on trading bitcoin.

TIP #1: Don't get too complicated; focus on pattern breaks.

A simple, but valuable first approach for trading bitcoin is to look for pattern breaks. A factor here is the chart time frame. Intraday intervals are very choppy and result in less robust signals on breaks of the pattern.

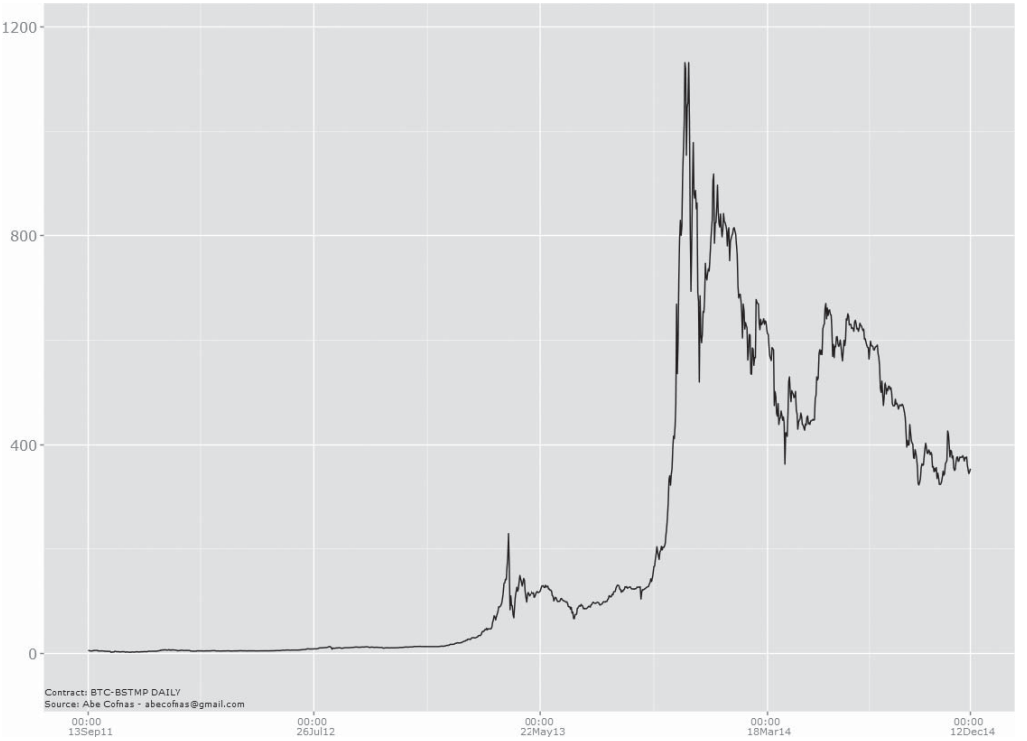

FIGURE 20.2 Bitcoin Price Action Shows Huge Gains, Followed by a Pullback.

At this stage in the evolution of bitcoin, traders face a lacuna of data. There are futures contracts providing clues to the fair value of the current price. There are no traditional options allowing for bearish and bullish sentiment to be detected. Sudden moves are more common, as exchanges that offer bitcoin trading have not reached a stable degree of liquidity. A significant aspect of underlying bitcoin price action is the role of emotions. Bitcoin's swings are still much greater than those of the EURUSD or gold.

Since it is a fairly new underlying market, there are not enough data to generate reliable forecasts. Any rumors are likely to move the prices. As a result, traditional approaches using indicators that smooth out historical data will likely frequently fail. Filling this gap is the emergence of robot trading systems. Bots are receiving venture funding as well as filling the Internet with amazing offers that are almost useless. The fact is that bitcoin bots will face greater challenges than traditional trading systems because there isn't enough data to create highly predictive models.

TIP #2: Trade longer time intervals, like 60 minutes and day patterns, to avoid intraday noise.

With bitcoin being not easy to trade, its most important value may very well be as a noncorrelated asset. Portfolio theory supports the notion that the total return of portfolios increases and risk of drawdowns is reduced by adding a noncorrelated asset to an account's trading asset classes. It appears to be the least correlated asset class. Hedge funds should take notice; by adding bitcoin to their set of asset classes, they may improve their total returns significantly. This leads to Tip #3.

TIP #3: Forex traders should look to trade bitcoin as a risk-reduction tactic.

The trading landscape for bitcoin is also seeing the emergence of binary option trading. Significantly, IG Market offers (for non-US residents) daily, weekly, and monthly. The North American Derivative Exchange (NADEX) offers bitcoin binaries for US residents. These binaries provide an easy and limited-risk way of trading bitcoin without needing to trade on bitcoin-only platforms and exchanges.

Real-time spot trading of bitcoin is now emerging internationally. Many trading platforms that offer bitcoin are emerging. BTC.SX, for example, offers bitcoin traders leverage ranging from 2:1, 5.1, to 10.1. Also, in the United States, Coinbase offers bitcoin trading in 24 states.

Bitcoin and similar digital currencies are likely to be considered part of the legitimate alternative asset classes. Its price will fluctuate, but it won't go away and forex traders might have new opportunities for trading. The following section describes in more detail how to get started in bitcoin.

GETTING STARTING IN BITCOIN

Before you start to trade bitcoin, you need to download a wallet to store the coins directly to your computer or mobile device. A bitcoin wallet is known as the *bitcoin client*, which is an application that allows you to create one or multiple wallets to store bitcoin.

A bitcoin address is generated that allows the deposit of bitcoins into the wallet. It is advisable that the wallet be encrypted to ensure it cannot be used if a hacker gained access to your machine and the wallet file; without encryption, a hacker would be able to load the wallet into its machine and take your bitcoins. This address is safe to share with anyone; all others can do is send you coins. Nothing can be taken out of a wallet by knowing your bitcoin address.

The bitcoin wallet is saved on your local computer, normally as a wallet.dat file. This file stores all the private keys to gain access to your stash of bitcoin. This is where things get interesting.

Security is a big concern. In much the same way pickpockets can steal your money if they take your wallet, hackers can take bitcoins from your wallet if the wallet is not suitably protected.

Take these steps to protect the security of your bitcoin:

1. Use a dedicated computer for all bitcoin-related activity.
2. Do not do web browsing or download software.
3. Keep the computer updated with virus checker and malware checker.
4. Use two-factor authentication.
5. Use a multi-signature wallet.
6. Keep a paper backup of your wallet.
7. Encrypt your wallet using a passcode with ten or more words.
8. Use an ultrasecure hardware wallet such as Trezor.
9. Use offline cold storage methods.
10. Keep your passwords in a safe place.
11. Don't tell anyone how many bitcoins you have.

GETTING BITCOIN

Once a wallet is created, and has a secure setup, the trader is ready to buy some bitcoins. There are three key ways to get bitcoin:

1. Buy from a person who has bitcoin.
2. Send money to an exchange and purchase at market rate.
3. Mine bitcoin.

To buy from someone who already has bitcoin will cost more than the market rate because the person has them readily available. Once bitcoin has been purchased, it takes a few minutes to see them hit your wallet.

One of the safest places to buy bitcoin from a person is https://localbitcoins.com. Sellers store bitcoins in their account wallet, so they are under the control of localbitcoins.com. The amount of coins one wants to buy will affect the price. Some sellers price coins very high, others very low. They are always above market rate because it is a convenient method of buying the coins.

Once the seller and buyer make a deal and agree on a price, the seller will provide bank details to transfer the funds. The seller will check the bank, and once the funds arrive in the seller's bank account, the seller will confirm receipt. This ends the procedure and localbitcoins will transfer the coins you purchased to your account for you to then transfer to your wallet.

There is a very small fee charged when bitcoin is transferred from wallet to wallet: (0.001 btc = $0.34 or £0.22 per transaction). If you transferred 1 btc from your localbitcoins account to your personal wallet, you would receive 0.999 btc.

An alternative site for buying bitcoin to localbitcoins is bittylicious (https://www.bittylicious.co.uk/).

BUYING FROM AN EXCHANGE

The benefits of buying from an exchange are that you are buying the coins at the market rate rather than at an inflated price set by a seller. Getting yourself in the position to buy bitcoin from an exchange can take a while, as you need to create an account, provide identity documents to get approval to trade, and finally transfer funds from your bank to your exchange account—this process can take a couple of weeks.

Exchanges often have minimum deposit amounts; BTCe has a minimum of $2000 when transferring via wire transfer. Bitstamp has a minimum of $50.

When transferring dollars, be careful to check any correspondent bank details, as failure to provide this information to your bank could result in your transfer being rejected. Some banks are not happy dealing with bitcoin exchanges, so it pays to make sure you are using the approved bank as stated by the exchange to ensure funds are moved along quickly.

Once your money has arrived, it will show up in your account. Then you can place a buy order to acquire some bitcoins. They will be stored in your exchange account.

If you are planning to trade with your bitcoins, then you need to keep them in your exchange account. For added security, you should implement two-factor authentication to prevent someone from accessing your account and you should make sure your passwords are changed regularly and do not contain any personal data or information that could be guessed if a hacker knew some information about you.

If you are buying coins for long-term gains, then you don't need to keep them on the exchange. They can be moved to your personal wallet. Bear in mind the transfer fee when sending coins to a wallet. It typically takes three or five confirmations on the blockchain for bitcoins to be considered spendable, and this can take up to an hour. A confirmation is the solving of a block. This is done by miners, which we will cover next.

MINING BITCOIN

The final method of acquiring bitcoin is by mining. To do this, you have a few options. One is to buy a piece of hardware called a bitcoin miner, which looks like a desktop PC but has dedicated ASIC (Application-Specific Integrated Circuit) chips installed that just mine bitcoin. This method carries the most risk as you are dealing directly with a bitcoin miner manufacturer. Typically, you join a preorder queue, paying upfront thousands of dollars for a machine that may never arrive or that arrives so late that the coin yield or bitcoin price makes it difficult to break even.

They are quite expensive and range in levels of hashing speed. Typically, a miner's performance will be measured in either gigahash or terahash. The faster the better, as that will give you the most percentage of a block when it is solved on the pool. Miners are also very power hungry, consuming between 1 and 2 megawatts per hour, and as they need to be switched on 24/7, you need to think about the operating costs as well as cooling and noise pollution. Having a miner at home is okay if you have a spare room with cooling and away from the general household; they do make a lot of noise.

The other option is to buy your miner but pay to have it hosted in a data center. This is the best option if you don't have much room at home. Data centers can offer great deals, as they typically get their electricity a lot cheaper than domestic households, and your miner will be kept cool, enabling it to mine more efficiently.

Finally, you can purchase hashing from a cloud hashing company. This is the least risky, as you're not buying any hardware. You just buy the hash rate from machines that already exist in the data center. You would expect to pay more for this service.

The price of bitcoin is a deciding factor on whether to mine bitcoin or just buy it; at the moment, the bitcoin price is low. A lot of miners are feeling the pinch due to the operating costs, and static machines are being switched off or sold on eBay because their coin yield does not cover the operating costs. There is evidence of this with the recent drop in bitcoin difficulty, which is caused when the hash power on the network drops.

The bitcoin difficulty is a value set to ensure that only a set amount of coins are mined in a certain time frame. As more hashing power is added to the network, this causes blocks to be solved quickly, with each block producing 25 bitcoins. When 2030 blocks have been solved, a new difficulty value is generated, which makes it harder to solve the blocks and causes the miners to be slowed down. When new mining hardware is released, the bitcoin difficulty will increase and level off when the last of the new machines are online. Miners are always facing diminishing returns as more hashing power is added to the network. Due to the low value of bitcoin and the introduction of more efficient mining equipment to the network, we have seen a reduction in the bitcoin difficulty because miners with older equipment are forced to switch off because the coin yield is no longer profitable after taking out running costs.

When you have obtained a miner or mining contract, you choose a bitcoin mining pool and enter the details into the miner's web configuration page. The miner will receive a batch of problems to solve. It submits answers called hashes to the pool, and if an answer matches the hash that solves the block, then the pool is awarded a bitcoin block. At the moment, that is 25 bitcoins. The pool will record how many hashes your miner and other miners on the pool have provided for that round to work out what percentage of the 25 bitcoins you should be rewarded with. The more hashes you have submitted, the larger your share of the block.

In summary, there are three ways to acquire bitcoin: Buy from someone who has bitcoin but expect to pay more; buy from an exchange at market rate but expect the process to take a few weeks to set up; or mine bitcoin by buying hardware but check to make sure your operating costs can be covered with the number of coins your miners are producing.

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