

# Part I

# Getting Familiar with Candlestick Charting and Technical Analysis

The 5th Wave

By Rich Tennant



"Trendlines? Channels? Breakouts? I say we stick the money in the ground like always, and then feed this guy to the sharks."

## *In this part . . .*

**I** don't know of any traders or investors who've taken the time to fully understand candlestick charting and then not used the techniques in their trades. After you've taken the time to grasp candlestick basics, it's tough to deny their advantages over other types of charts, and the profits can certainly speak for themselves. But the basics must come first, and that's what Part I is all about.

I begin this part by setting candlesticks in context with several other types of charts, so you can get a feel for candlestick benefits. After that, I explain the price action and signals that candlestick charts generate, and I show you how a candlestick is constructed and what its variations can mean. To close Part I, you look at the range of electronic resources available for candlestick charting, which you can exploit with just a few clicks of your mouse.

## Chapter 1

# Understanding Charting and Where Candlesticks Fit In

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### *In This Chapter*

- ▶ Taking a look at options for charting and why candlesticks are superior
  - ▶ Making sense of candlestick construction
  - ▶ Exploring the wide variety of candlestick patterns
  - ▶ Using technical analysis alongside your candlestick charts
  - ▶ Understanding a few trading and investing basics
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**T**he advent of the Internet has leveled the playing field for securities traders. Access to markets once meant placing orders through a broker, and now it's little more than a couple of mouse clicks away. Commission rates are dramatically lower, and access to market information is now in many cases free. Getting into securities trading is now easier than it ever has been, and the result is a whole generation of investors and traders that handle their finances without professional help. Technology allows these people to enjoy many new types of market information, and one of the best tools available is candlestick charting.

Candlestick charting methods have been around for hundreds of years, but candlesticks have caught on over the past decade or so as a charting standard in the United States. I've been working with candlestick charts for quite a few years, and I've seen many traders — novice to professional — develop a fierce loyalty to candlesticks after taking the time to understand their uses and potential. I think you'll feel the same way, and this book is the first step on the path to conquering candlesticks.

The material contained in this chapter exposes you to many of the facets of candlestick charting that continue to fuel its rise as one of the most popular charting techniques. I begin with the overall role of candlesticks within the context of charting. I cover the advantages of candlestick charting, and the basics of candlestick construction. I also take the opportunity at the end of

this chapter to discuss how to get started as well as give some insight into the characteristics and habits that successful traders employ in their pursuit of profits. Enjoy, and happy charting!

## *Considering Charting Methods and the Role of Candlesticks*

With advancements in technology and the growing availability of trading and investing resources available to traders, many options exist for the charting of securities. There are several different types of charts and dozens of variations and features to be configured on each type. It's important that you're clear on the options and, perhaps more importantly, why candlestick charting is at the top of the heap. This section explains.

### *Getting a feel for your options for charting*

When it comes to alternatives to candlestick charting, the three main charting contenders are as follows:

- ✓ **Line charts:** These charts are simple and helpful for short-term decisions, but they're quite limited in the amount of data presented.
- ✓ **Bar charts:** These are much more useful than line charts and are the most common, but they're not as versatile as candlestick charts.
- ✓ **Point and figure charts:** These are tried-and-true charting methods, and they're great for recognizing support and resistance levels, but they're far less dynamic than candlestick charts.

Each one of these charting methods can be used effectively to ratchet up the effectiveness of your trading strategy, but they pale in comparison to candlestick charts for a number of reasons, a few of which I describe in the next section.

### *Realizing the advantages of candlestick charting*

You'd be hard pressed to find someone who's more enthusiastic about candlestick charting than yours truly. I can go on and on about the advantages that candlesticks afford. If you want to read more of my gushing about the many great advantages of candlestick charting, turn to Chapter 2, but here are my top reasons:

- ✔ One of the best features of candlestick charting in general is the visual appeal and readability. You can glance at a candlestick chart and quickly gain an understanding of what's going on with the price of a security. You can also tell whether sellers or buyers have dominated a given day, and get a sense of how the price is trending.
- ✔ Also, even after reading up on the most rudimentary of candlestick basics, you can easily spot the opening and closing price for a security on a candlestick chart. These price levels can be very important areas of support and resistance from day to day, and knowing where they are can be extremely helpful, especially for short-term traders.
- ✔ Candlesticks aren't just a pretty face. Candlestick charts also feature specific patterns that you can identify and use to decide when it's time to buy, sell, or wait on a trade or investment. These patterns can be a real boon to your work with securities, and you can combine them with other technical indicators for even more reliable results.

## Understanding Candlestick Components

You can't trade and invest effectively by using candlestick charts unless you understand candlestick patterns, and you may have a very hard time understanding those patterns if you aren't familiar with basic candlestick construction. Candlestick charting starts with the knowledge of what it takes to make a candlestick and how changes in that basic information impact a candlestick's appearance and what it means. For starters, you need to know what goes into creating a candlestick's wick (the thin vertical line) and its candle (the thick part in the middle).

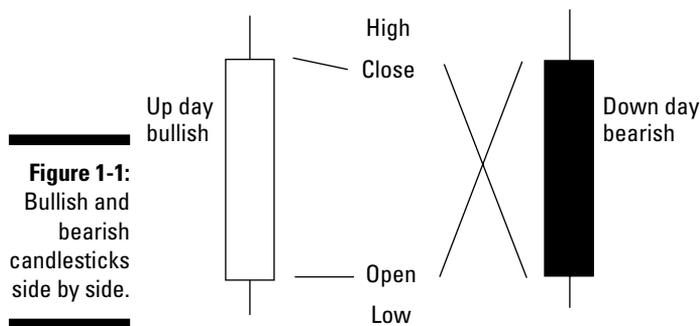
The following four pieces of information are combined to create a candlestick:

- ✔ **Price on the open:** The price at which a security opens on a given period is the first piece of information used in creating a candlestick. Depending on whether the security's performance is bullish or bearish, the opening price corresponds to either the bottom edge of a candlestick's candle or the top edge.  
  
Candlesticks that represent *bullish* price action appear *white* on a chart, and candlesticks that represent *bearish* price action appear *black*.
- ✔ **High price:** The highest price that a security reaches during a given period corresponds to the top of a candlestick's wick. If a security opens at a certain price and then trades consistently lower than that price throughout the period, there won't be any wick at all above the candle.
- ✔ **Low price:** The lowest price that a security reaches during a period corresponds to the bottom of a candlestick's wick. If the price action for that period is extremely bullish and prices trade higher than the open, there won't be any wick below the candle.



✔ **Price on the close:** After a security finishes trading during a given period, its closing price is the last piece of information used to create a candlestick. Depending on the security's performance during that period, the closing price can correspond to either the top edge of a candlestick's candle (if the period was bullish) or the bottom edge (if the period was bearish).

As a true candlestick devotee, I believe that you can gain far more insight into a period's trading by looking at a candlestick than you can by looking at another type of charting tool. Want proof? Take a look at Figure 1-1.



**Figure 1-1:**  
Bullish and  
bearish  
candlesticks  
side by side.

You can tell right away that the up day has a white candle and the down day has a black candle. That simple difference alone clearly reveals the nature of the price action that took place during that period. In the case of the candlestick with the black candle, there was more selling pressure than desire to buy. And the candlestick with the white candle indicates that there was more buying pressure than desire to sell.

Why is this so important? Candlestick charts quickly clue you in on the type of buying and selling that's been going on during a given period and where it may occur again. In many cases, the buyers continue to buy and the sellers continue to sell during subsequent periods or if the price reaches a level that has spurred them to action in the past.

For more information on candlestick construction, refer to Chapter 3.

## *Working with Candlestick Patterns*

The components of a candlestick may be the bones of candlestick charting, but candlestick patterns are the heart and soul. Patterns appear on candlestick charts as simple, single-stick occurrences or complex, multi-stick

formations, and many different types of patterns can tell you what may be in store for a security that you've had your eye on for trading or investing. And knowing what may lie ahead can be the difference between a profitable trade and a flop.



Candlestick patterns indicate when prevailing trends reverse or when they continue. Both types of patterns are very useful because they tell you when to get into a trade, when to get out of a trade, when a trade you're in may make no sense, and even when to hang onto a trade you're already in. Check out Chapters 5 through 10 for more info on identifying and trading on a wide variety of candlestick patterns.

## *Simple patterns*

Some candlestick patterns are very simple: A single candlestick on a chart can serve as a candlestick pattern. A single candlestick that signifies time to buy or sell is very appealing to traders who are just starting to work with candlestick charts because after you understand the basics of candlestick construction, you can immediately start identifying simple patterns and using them to make more informed trading decisions. Flip to Chapters 5 and 6 for several great examples of how just one candlestick can tell you what a security's price is going to do in the immediate future.

I also consider double-stick candlestick patterns as simple patterns, and you can explore several varieties in Chapters 7 and 8.

## *Complex patterns*

When a candlestick pattern includes three periods' worth of price action (three candlesticks), I consider it a complex pattern. Many complex candlestick patterns require specific price activity over the course of three days for the pattern to be considered valid, and I discuss a range of them in Chapters 9 and 10.

Complex candlestick patterns can be frustrating at times because you may watch with anticipation as a pattern develops nicely for the first two days only to fizzle out on the third.



Complex candlestick patterns are more rare than their simple counterparts, but they can be worth the wait. Because the conditions and criteria for a complex pattern are so specific, it's more likely that the signals they offer will be good ones.

## *Making Technical Analysis Part of Your Candlestick Charting Strategy*

A stunning amount of mathematical ingenuity is applied to security trading analysis. The options for technical analysis can be as simple as the average of a few days of closing prices and as complex as applying calculus to price action to indicate the momentum of prices. The possibilities are endless, and you shouldn't be shy about including some of them in your trading strategy alongside candlestick charts.



Take the time to get familiar with an array of technical indicators to make you a more versatile trader and enrich your work with candlestick charts. For example, it's great when you spot a candlestick pattern indicating that it's time to buy, and at the same time, your favorite technical indicator is also flashing a buy signal. Combining trading tools helps build your confidence and can help you quickly determine when a trade isn't going to work out, allowing you to exit with minimal losses.

I explore several different types of technical indicators in Chapter 11 and clue you in on a few ways that you can combine these indicators with candlestick patterns in Part IV (Chapters 11 through 15). Find a few technical indicators that match up to the type of trading you want to pursue and add them to your candlestick charts. Read up on the choices, and if Chapter 11 isn't enough, you can always turn to *Technical Analysis For Dummies* (Wiley) by Barbara Rockefeller. The added understanding of technical indicators can really aid you in your candlestick charting efforts.

## *Trading Wisely: What You Must Understand Before Working the Markets*

Security trading and investing can be a financially rewarding and fulfilling experience, but it's far from a risk- and stress-free undertaking. I want to make clear to you a few key points and concerns before diving into my candlestick charting discussion, so that you're fully aware of what you're up against and what you can do to maximize rewards and minimize risks.

### *Trading can be an expensive endeavor*

There's money to be made on the security markets, but don't be fooled into thinking that earning profits is easy or effortless. Many smart people have taken on trading as a hobby or profession and been quickly humbled

by poor trades and losses. Do your homework and practice wise money management, or you could end up joining their ranks!



By doing homework, I mean look at charts and develop a trading plan. The more you prepare, much like for a test, the better your trading results should be. I've seen a direct correlation between the level of trading success I've achieved and how much time I've put into preparing for trading situations. As far as wise money management, the key here is making sure to take a loss when it becomes apparent a trade isn't going to work. Take the loss and move on. Take this loss early and quickly before it becomes a much bigger loss.



The most important rule for managing your trading and investing funds is to not risk money that you can't afford to lose. There are many obvious and unforeseen risks in the financial markets. If your lifestyle changed dramatically because a trade or investment wiped out your account, then you're probably putting too much of your personal net worth on the line.

## *Paper trading costs you nothing but time*

Paper trading refers to the practice of tracking trades on paper that haven't been traded in an account. Professional traders tell you that paper trading isn't the same as putting real money at risk on the markets. As a professional trader, I totally agree. The emotional rollercoaster involved with making and losing money can't be matched in a dry run. But if you're a novice who's just starting to understand the ways of the market, I think paper trading is a great idea. The risks are nil, and the educational benefits are outstanding. Even after 15 years of trading experience, I still tend to paper trade new ideas or systems for a while before putting real money to work.



If you're new to trading, test out your trading ideas and refine your trading strategy by signing up for a trial account online with an electronic broker. (You can read all about electronic trading resources in Chapter 4.) All you stand to lose is a little time and some pride. But that's better than jumping right into a live trading scenario and getting taken to the cleaners!

## *Developing rules and sticking to them*

Throughout this book, I stress the importance of setting rules for yourself and sticking to those rules. I just can't stress enough what a good practice that is for any trader. Making and losing money on the market is a very emotional experience, and one of the main reasons some traders lose big when they should lose just a little (or even win) is that they let their emotions take control of their trading. You can help take emotions out of the equation if you develop trading rules and adhere to them no matter what happens.

Create a set of trading rules for yourself, and stick to those rules. Include rules such as the following:

- ✓ When to get into trades
- ✓ Where to place stops in various trading situations
- ✓ What amount of money to risk on trades and investments
- ✓ When to get out of trades, either with a loss or profit



Write down your rules and keep them handy for a quick review when you're in the midst of a trade, and you're having second thoughts about what action to take.

I've been trading for a long time, and I can say without reservation that creating and adhering to a set of trading rules is the best way to reward yourself both personally and financially for the effort you put into the markets. I always follow the rules that I've set for myself, and although it may sound crazy, at this point I'm more proud of my rules than I am of my profits. All traders have to come up with their own sets of rules that talk to their trading style and comfort with risk, and you should keep that in mind and jot down potential rules as you explore the contents of this book.

## Chapter 2

# Getting to Know Candlestick Charts

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### *In This Chapter*

- ▶ Considering the advantages of candlestick charting
  - ▶ Examining a few potential candlestick problems
  - ▶ Checking out the competition: Line, bar, and point and figure charts versus candlesticks
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**E**ver wonder why a trader or investor would choose candlestick charts over other types of charts when analyzing price action of investments or markets? Well, this chapter provides some answers.

Trading and investing aren't easy undertakings, and they're certainly not easy professions. Most traders — professional and amateur alike — and investors struggle just to keep up with the market's performance as measured by the Standard & Poor's 500 Index (S&P 500). The S&P 500 is an index comprised of 500 of the largest stocks traded in the United States (U.S.) and is considered representative of the stock market as a whole.



In order to be one of the successful few who beats the market and other market participants, you should strive to develop a competitive advantage or some unique insight, commonly referred to as your “edge,” that you believe most market participants aren't using or considering. I can't say that using candlestick charting provides an edge by itself — and it does come with a couple of potential problems. But when combined with recurring patterns and other technical indicators, you can find your edge!

In this chapter, I cover candlestick charts — the good and the bad — and I review a handful of alternative charting methods. But in the end, you understand why candlestick charting is the way to go!

## Brief history of candlestick charting

The history of candlestick charting stretches back to Japanese rice traders in the 17th or 18th century. This fact is why candlestick charts are frequently referred to as Japanese candlestick charts. A very smart man named Munehisa Homma developed the methodology of monitoring the price of daily rice trading, and his methods eventually evolved into what traders and other market watchers call candlestick charting.

Homma found that having a visual representation of daily rice trading allowed him to make more informed buy-and-sell decisions during the hectic trading day. It's said that Homma once had a streak of over 100 winning trades!

Fast forward to the early 1990s, when Steve Nison published a book and magazine article on candlestick charting. Until then, candlestick charting wasn't widely used. Nison's first book, *Japanese Candlestick Charting Techniques* (Prentice Hall Press), served as an introduction to candlestick charting methods for many traders and investors in the United States. Over the next 15 years, the acceptance and use of candlestick charting became widespread, and the use of computer software for analyzing recurring patterns proved profitable for many traders.

## Recognizing the Many Benefits of Candlestick Charting

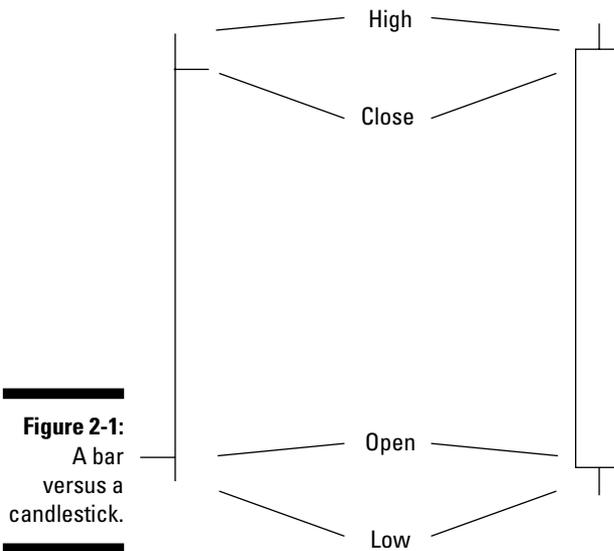
Trading, investing, and charting styles are plentiful. You can spend hours debating what type of approach to the markets is the best. For me, and for a growing number of other traders, the benefits of a candlestick chart versus other types of charts aren't really debatable. Let me tell you why.

Changes and developments in the way stocks and other securities are traded (and *when* they're traded) have made trading an increasingly complex undertaking. (For more info, see the nearby sidebar, "What makes up a day?") Because trading is becoming more and more complex, the need for a consistent, dynamic charting method is more important than ever. Traders need easy-to-read charts that allow them to make quick decisions and efficiently analyze patterns. Candlesticks offer those benefits and many more, all covered in this section.

## *Seeing is believing: Candlesticks are easy to read*

It sounds pretty simplistic, but one noteworthy advantage candlesticks have over other charts is their readability. For many people who strain to read the fine print and also for the younger traders who don't want to deal with the headaches that can come from staring at bar charts all morning, candlesticks are an attractive option. Consider Figure 2-1, which displays a bar and a candlestick in a side-by-side comparison.

Figure 2-1 gives you a basic idea of why candlesticks are easier to read, but it doesn't really provide a full picture of why they're also much better at helping traders to visually interpret price action (how the stock or market traded during the day relative to the opening price), which is an essential skill for successful trading. Take a look at Figure 2-1, which takes a couple of weeks' worth of trading data and displays it using traditional bar charts and candlestick charts, respectively.



**Figure 2-1:**  
A bar  
versus a  
candlestick.

## What makes up a day?

The definition of a trading “day” used to be very simple. Trading was done on a central exchange with specific opening and closing times. For example, trading on stocks listed on the New York Stock Exchange (NYSE) began at 9:30 a.m. and ceased at 4:00 p.m. Now trading in these stocks commences on some electronic communication networks (ECNs) hours before the NYSE opens and hours after it closes. (An ECN is a network of brokerage firms and traders, which allows for trading directly between the brokerage firms and traders.) A “day,” therefore, is much different than it was in the past. Throw in futures exchanges and currency markets that

trade almost 24 hours a day, and this issue becomes even more confusing. With all that trading outside of exchange hours, what constitutes an actual day, for data purposes?

Currently, in the case of stocks, the official open and close are based on the primary exchange they trade on, but in this world of expanding electronic trading, the actual open and close are becoming more blurred. With respect to futures markets that trade almost 24 hours a day, it’s almost impossible to pin down a day. For daily testing, I use data between 7 a.m. eastern standard time (EST) and the close at 3 p.m. to constitute a day.

Notice the dramatic difference between the bar chart and the candlestick chart. By comparing them, you can clearly interpret what’s occurred from day to day, including the openings, closings, and how they change from day to day. The candlestick chart is a superior way to interpret the price action from day to day when compared to a bar chart. Don’t worry — I cover how to read candlestick charts extensively in several other chapters, but even in this simplistic example you can see that knowing where a stock closed relative to its open on a given day is a powerful piece of information that you can glean quickly from a candlestick chart.

## *You can spot bears and bulls quickly*

Knowing a security’s closing price relative to its opening price during a certain period is vital information. Candlestick charts allow you to quickly identify the days when a closing price is above an opening price and vice versa.



I like to think of the daily price action as a battle between bears and bulls. Bears win when the price of a security closes lower than its open, and bulls win on the days when the close settles higher than the open.

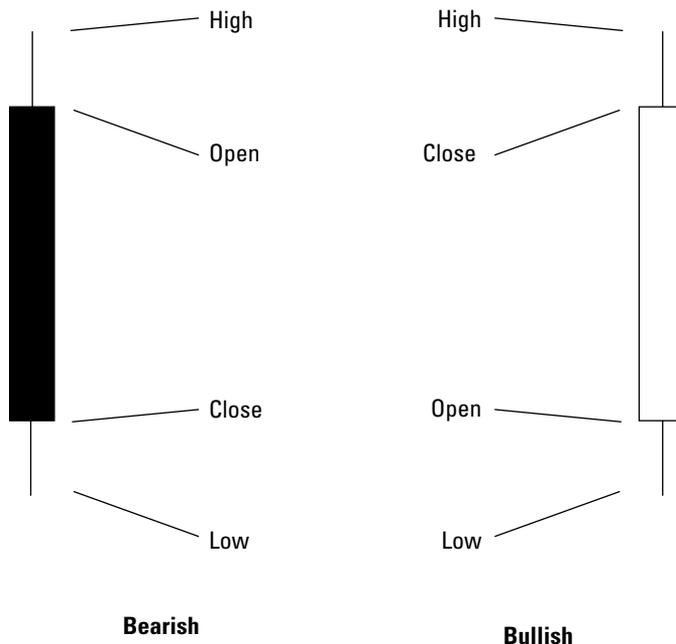
Figure 2-2 is a great example of bearish and bullish days on a candlestick chart. Although the two candlesticks are the same size and shape, you can tell the difference between a bear and a bull:

- ✓ **The bear:** The black filled-in candlestick indicates a bearish performance by the security because the close is much lower than the opening price.
- ✓ **The bull:** The hollow (white) candlestick indicates a bullish performance, meaning that the opening is lower than the close.

Chapter 1 covers hollow candlesticks that show a higher close than open and a filled-in candlestick that shows a lower close than open.



Understanding the ways that prices are trending is very useful information when making buy-or-sell decisions. The old saying “The trend is your friend” is a constant reminder that you always want to be on the more dominant side of price action. By recognizing whether the bulls or bears are the more dominant group, you can be conscious of the trend and better prepared to stay on the right side of the market.



**Figure 2-2:**  
Bearish  
and bullish  
days on a  
candlestick.

## Bulls and bears

The terms *bull* and *bear* have been in the trading lexicon for many years. Both terms apply to people and market trends. A *bull* is a market participant that expects or wants the market to move higher, but it is also an expression to explain when the market goes up: bullish market. A *bear*, on the other hand, expects the market to decline (person) and indicates a declining market. But where did these terms come from?

Although there's some debate over the origins of the two terms, they may be attributed to a man

named Thomas Mortimer, who wrote about the precursor to the London stock exchange in the late 1700s. He wrote that a bull bought stocks without putting any money down with the hope of selling at a higher price before having to settle up. And according to Mortimer, a bear sold stock he didn't own without putting up any money also hoping to exit the position at a profit before he was forced to settle up.

## Seeing into the future (sort of)

The goal of charting and technical analysis isn't to see what's happened in the past, but to attempt to predict the future. Basically, if you can predict the future for a majority of the time, you should be able to profit nicely through wise investing and trading. Because candlestick charts are chock-full of info, they aid a trader as she works to predict and profit from future price moves.

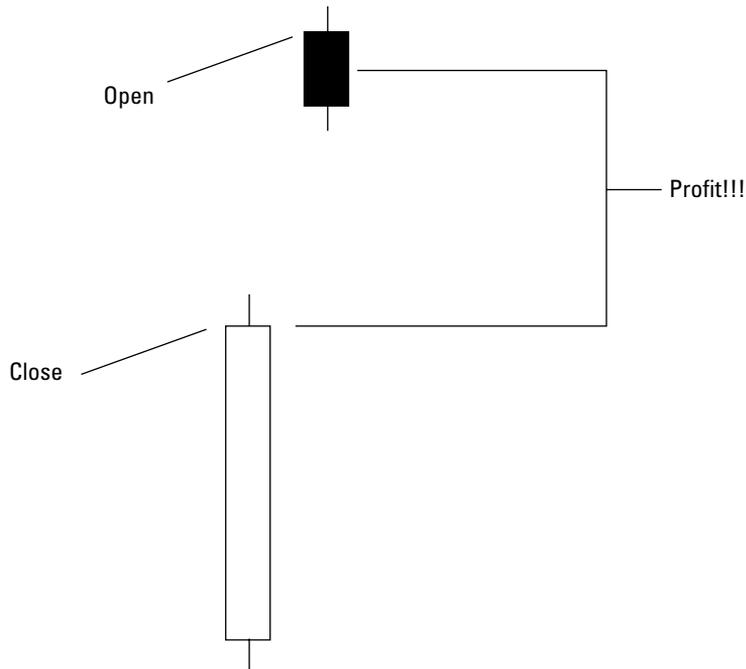
For example, a trader may study old candlestick charts and notice that when a security's closing price is much higher than its opening price, it seems to open higher the next day — a situation commonly referred to as a *gap opening*. That trader can buy the security on the close of the day and place an order to sell the next day, thus making a profit. Figure 2-3 provides a clear visual example of a gap opening.



Just by studying past price action on old candlestick charts, the trader in this section's example is able to predict a small piece of the future and use it to turn a profit. History does repeat itself in markets and trading, and you can use this repetition to your advantage by considering past candlestick charts, which can be a cinch to read. But always keep in mind that as with all aspects of technical analysis and investing, past results do not ensure future returns.



At the very least, be sure to pay attention to price gaps, because they indicate an increase in volatility in the price of a security. When there's an increase in volatility, there's an increase in trading opportunity. Many other types of patterns, including those that incorporate candlesticks, reappear and may be profited from.



**Figure 2-3:**  
Two candles  
showing a  
classic gap  
opening.

## *Showing price patterns*

Recognizing patterns on candlestick charts is easy, and you can combine two or more candlestick charts to flesh out a reliable pattern that can lead you to profitable trading. For example, a common price pattern that serves as a good sell signal is depicted in Figure 2-4.

The pattern is a two-day pattern, and the third day is a common reaction to the first two days. Here's the typical progression:

**1. The first day is a strong open-to-close day.**

The closing price is considerably higher than the opening price. The first day is a victory for the bulls.

**2. The second day reveals very little price action because the close is very near the open.**

The second day is a wash because higher prices entice more bears to be sellers.

## Understanding price gaps

Price gaps are very common in the financial markets, and occur on charts when no overlap exists between consecutive period highs and lows. For instance, if XYZ stock's high is 81 and its low is 80 on a given day, and then the next day it opens higher than 81 — let's say 83 — and trades in a range between 82 and 84, a gap with no trading exists between 81 and 82. That stock *gapped higher* and never closed the gap. If the stock had opened much lower — 77 or 78, for example — and never reached the previous day's low, it would've *gapped lower*.

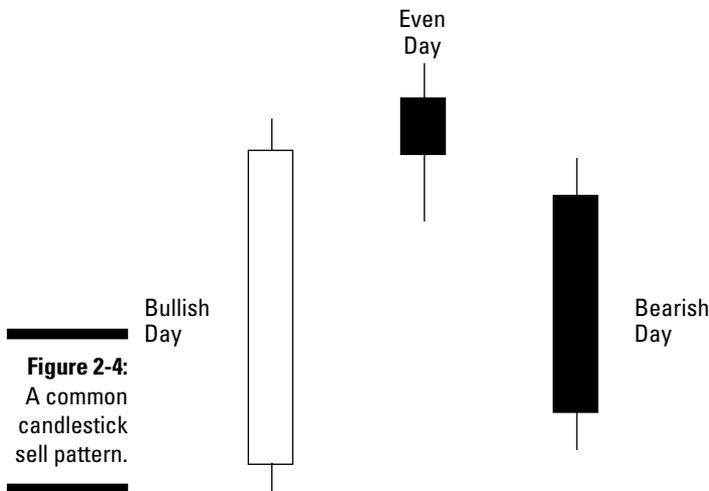
So what causes price gaps? These gaps are usually the result of news about a certain security being released outside of market hours. It's not uncommon: Most companies release their quarterly earnings or other big news either after the market closes or before it opens. The market adjustment to that news causes price gaps.

Also, a gap may occur on specific stocks just because they're moving up or down due to a gap in the overall market. This may occur due to a release of some economic news before the market opens or possibly due to a macro event such as a terrorist attack.

You should remember that gaps always get filled when the high to low price action of a future day covers the price range where no trades occurred. But you can't always tell when gaps will be filled. When the dot.com bubble was building, some Internet stocks had several price gaps on their way up to stratospheric valuations. These gaps were eventually filled, but anyone trying to short these stocks for the gap being filled would've ended up in the poorhouse before any gap filling took place. (Take a look at the "Selling short, in short" sidebar for more information on shorting.)

### 3. After this shift from bullish to neutral price action, the following day is a down day.

The third day is a winning day for the bears!



Once again, a trader who studies candlestick charts and patterns can easily spot this change. Such a momentum shift is useful to someone who owns a security and is considering selling or a trader who has the ability to sell short. (See the sidebar “Selling short, in short” in this chapter for more information.)

## Admitting the Potential Candlestick Charting Risks

After more than 15 years of using candlestick charts to inform my trading decisions, I can honestly say that I have a difficult time coming up with any substantial arguments for using other common types of charts over candlestick.



In the interest of fairness, however, and to help you realize the truly versatile and useful nature of candlesticks, I offer a couple of minor potential chinks in the candlestick chart’s armor:

- ✓ **They don’t work in the *very short term*.** Candlestick charts are an excellent display of price action, but for some extremely short-term trading strategies, the patterns that reveal themselves on a daily candlestick chart may not develop on the much shorter time frame — five minutes or less, for example.

I like to think of candlestick charts as a visual representation of the battle between the bulls and bears, which is played out in the price action of a stock. That battle takes some time to play out, so patterns on a very short-term chart may not produce signals that can be properly interpreted and traded.

Candlesticks aren’t as useful to intraday “scalping” or day trading strategies where hold periods are generally shorter. This speaks more to the utility of the chart and the intended behavior of the trader.

- ✓ **They don’t reflect trade volume outside of regular market hours.** The advent of increased electronic trading means that there can sometimes be significant volume traded outside of regular market hours. This trading can cause patterns that don’t reflect the full picture to appear on a candlestick chart.

For example, if a stock officially opens at 9:30 a.m. at a price of \$50, but traded as low as \$49 during the pre-market hours (on an electronic trading network), the open may not be a true reflection of where the stock initially traded on the day. That means that the open recorded on the candlestick is somewhat inaccurate. Also, if the stock never trades down to \$49 during the day, the low on the chart may not be an accurate depiction of the day’s price action.

## Selling short, in short

One of the most well-known trading adages is “Buy low, sell high” — the simplest way to turn a profit in a market. But other ways exist, including *short selling* or *shorting* a security. This somewhat counterintuitive process involves selling a security first and then buying it back later. Traders who practice this strategy are known as *shorts*.

The mechanics of selling short can be fairly complex, but I’ll try to sum them up:

1. **A short borrows a stock from a bank that holds it for the owners, expecting the price of the stock to go down.**
2. **He then sells the borrowed stock to a buyer.**
3. **When the stock price drops, he buys the stock back and returns it to the bank at the original (higher) price, and pockets the difference.**

Shorts get a bum rap and are often accused of being responsible when a stock trades lower. Companies have even sued shorts on claims that they spread negative rumors to drive down the company’s stock price. But short sellers are really just a part of the overall market mechanism, and they can actually help keep companies honest, because they’re constantly on the lookout for companies with deteriorating fundamentals or evidence of suspicious accounting.

## Comparing Candlestick Charts with Alternative Charting Methods

Knowing a bit about the options that exist outside of candlestick charts serves as a point of reference and makes clear the benefits of using candlestick charts when analyzing price data.



Although they’re not as versatile and useful as candlesticks, each of these alternative charts has its benefits:

- ✓ *Line charts* are simple and straightforward.
- ✓ *Bar charts* are important to understand because they’re still relatively prevalent.
- ✓ *Point and figure charts* are great for revealing support and resistance levels.

I’m confident that you’ll be a believer in candlesticks when it’s all said and done, but understanding the alternatives is certainly worth your time.

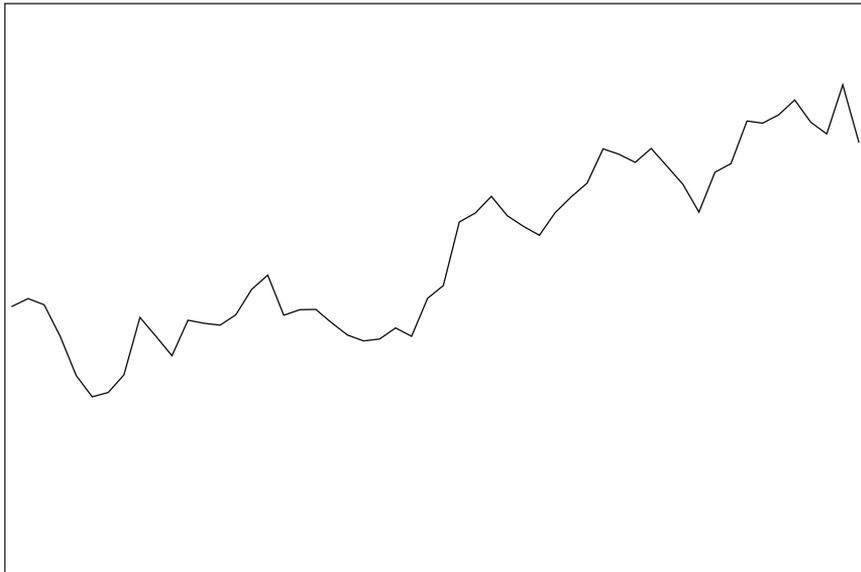
## Line charts

A line chart is a line on a chart that displays security prices over time. A line chart represents the price — usually the closing price — of a security from one period to the next.



On a very short-term basis, a line chart is definitely a proper choice for decision making. However, since no other information is displayed, attempting to formulate any sort of trading strategy from a line chart of price action wouldn't be a worthwhile venture.

Figure 2-5 is a line chart of three months of daily closing prices for a stock.



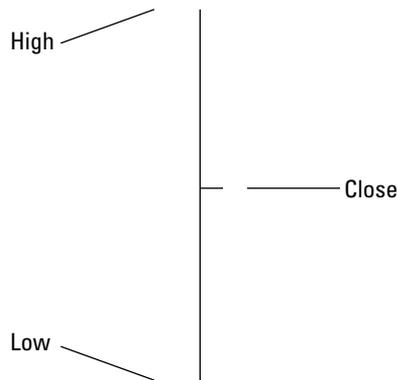
**Figure 2-5:**  
A line chart.

## Bar charts

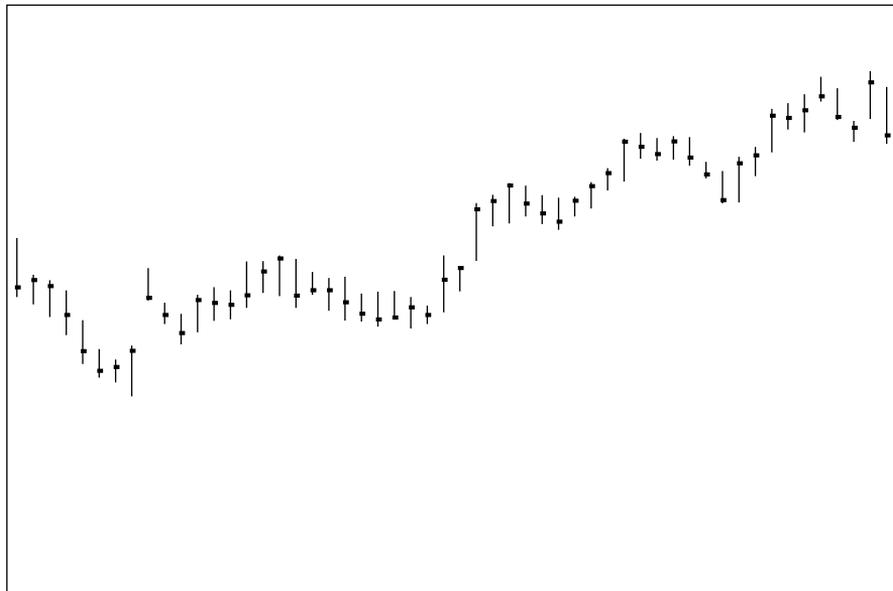
A traditional bar chart contains bars that represent price action from period to period. Each bar is basically a vertical line that shows the difference between the high and the low of the period. The top of the bar is the high and the bottom is the low. The distance between the two is similar to the wick of a candle on a candlestick chart. (The wick is discussed more in Chapter 1.) The finishing touch on a bar chart is a little notch on the left of the bar that's made to mark where the security closed. Figure 2-6 is a single bar that normally appears on a bar chart.

Figure 2-7 is a chart of the same data that appeared in the line chart in the previous section (Figure 2-5).

Bar charts have been the industry standard for some time, but are quickly being replaced by candlestick charts. When the *Wall Street Journal* starts using a new charting convention (as it has with candlestick charts), the convention is considered to be the industry standard.



**Figure 2-6:**  
A single  
bar from a  
bar chart.



**Figure 2-7:**  
A run-of-  
the-mill  
bar chart.

## Point and figure charts

Point and figure charting is another type of stock charting that's been around so long it deserves a mention when covering methods of charting. A point and figure chart is composed of x's and o's drawn on a sheet of graph paper. This chart isn't constructed using a set time frame but is instead based on reversals of price. The x's make up a series of up moves without a certain price reversal, while the o's represent a series of down moves without a price reversal.

Figure 2-8 is a point and figure depiction of the same data that composes the line and bar charts in the two previous sections. The figure values each square with one point and adds a new column with a change of direction of at least two points, based on the close. For example, if day one has a closing price of 75 and day two has a closing price of 78, you draw x's from 75 to 78. If on day three the closing price is 76 — a 2-point reversal — a new column is added, and o's are placed in the 77 and 76 squares. If the price stays in the 76 to 77 range for a few days, no changes are made to the chart.



Point and figure charts are unique because they purely reflect price moves. Because time isn't factored in, you don't need to update the chart if a stock stays at a certain price for some time. On the other hand, when a price trades between two prices several times — bouncing between 50 and 55, for example — a point and figure chart offers a very clear display of those levels, which are called support levels and resistance levels. In this case, 50 is the support level and 55 is the resistance level.

If you can properly recognize support and resistance levels, you can potentially use that knowledge to make a tidy profit. Using the example in the preceding graph, if you can buy at 50 and sell at 55 several times over, the returns can be astounding. So why aren't point and figure charts right up there with candlesticks in terms of usefulness? It's simple: Support and resistance levels show up well on candlestick charts too, and candlesticks also contain a variety of other information.



Although interesting and unique, point and figure charting is really a throwback to a time when stock prices were charted based on the closing prices found daily in the financial press and were meticulously kept by hand. Its use has fallen by the wayside with the advent of technology.

						X							
						X							
				X		X							
				X	O	X							
				X	O								
				X									
		X		X									
	O	X	O	X									
	O	X	O										
	O	X											
	O												

**Figure 2-8:**  
A point and figure chart.

## Chapter 3

# Building a Base of Candlestick Chart Knowledge

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### *In This Chapter*

- ▶ Understanding the basic components of candlestick charts
  - ▶ Working with additional information on candlestick charts
- 

**T**o take full advantage of candlestick charts, you must understand how they're constructed. From the basic pieces of information used to generate a candlestick to the various additions and extra pieces of data that can be tacked onto a chart, you need to know just what you're looking at before you can make wise trading decisions. You need to be familiar with candlestick nuts and bolts before delving into their interpretations and uses.

In this chapter, I offer a solid foundation of candlestick know-how. I start with the data that goes into constructing individual candlesticks. Although candlesticks can represent the action of a security over a wide variety of time periods, the basic information used to build them is the same. I also cover the other pieces of data that are commonly included on a candlestick chart — added features that enhance the usefulness and readability of the chart.

## *Constructing a Candlestick: A Core of Four*

For any security, each day of trading includes four key components in terms of data: opening price, closing price, highest price traded on the day, and lowest price traded on the day. These four pieces of data are needed to construct the individual bars that make up candlestick charts. Several bars, created by using the data from several days or periods, are generated in succession to produce a full candlestick chart.



Candlestick charts may be applied to the performance of securities over a variety of time periods. I use them on charts from as short-term as five minutes per bar to as long-term as a week per bar. A five-minute chart may be applied to a day or two of activity, while the weekly chart would be applied to a period of several years. Although those are two vastly different time frames, a candlestick chart is appropriate for both, and candlesticks would work for many different time periods in between.

## *Price on the open*

The first piece of data used to construct a candlestick is the opening price for the day. For stocks, in most cases, it's the official opening price on a specified primary exchange.

### *Recording an opening price on a candlestick*

On a single candlestick, the thin vertical line is the wick, and the thick part in the middle is the candle. The opening price on a single candlestick will always be either the top or bottom of the candle, and it's created on the chart using the price scale on the chart's vertical axis. A hollow (white) candle is bullish, meaning that the opening price is lower than the closing price. (See Chapter 2.) If you see a hollow candle, the bottom of the candle is the opening price. Conversely, a filled-in (black) candle is bearish, meaning that the opening price is higher than the closing price. In that case, the top of the candle is the opening price.

### *Dealing with the challenges of pinning down an opening price*

Because many securities are now trading on multiple exchanges or electronic trading networks, pinning down an exact opening price can be difficult, which makes constructing a candle a difficult endeavor.

For example, I was recently trying to trade a stock on which very significant — and misinterpreted — news came out before the opening of the trading day. The stock had closed the day before at \$48 per share, but was trading on one of the electronic communication networks (ECNs) two hours before it was to open on the New York Stock Exchange at \$45 per share. Over the next two hours, the breaking news was better understood, and the stock started to trade higher. It actually opened at about \$51 per share. Although several thousand shares traded between \$45 and \$51 in the two hours leading up to the opening price, the official open for the day was \$51.



For futures contracts on commodities — agreements between two parties to buy or sell a certain product on a predefined date (see the nearby sidebar, “Focus on futures” for more details) — attempting to determine the opening price for a day can be even more difficult. Many futures markets now trade both electronically and on a trading floor. A perfect example is Japanese Yen.

## What's the stock market?

When most people think of the stock market, they picture stock traders in brightly colored jackets shouting and hand signaling orders in a giant room. This is actually how the commodity markets function. The stock market, or at least the floor of the New York Stock Exchange (NYSE), is more like a giant bank lobby with each stock having a particular place or post where transactions for that stock take place. The person in charge of manning this post is known as the specialist, and his job is to facilitate trading of a particular stock between the multitudes of buyers and sellers in an orderly manner.

A specialist takes all the buy-and-sell orders and attempts to match them up. In some cases, when an abundance of sellers exists but not enough buyers, the specialist may help with orderly trading by buying shares from the sellers. When there are several buyers and not enough sellers, the specialist may act as a seller to keep the market orderly. Specialists also assimilate buy-and-sell orders before the official market opening to determine an opening price, and they do the same thing on the close.

When I began my career 15 years ago, virtually all stock trading in the United States was done either on the floors of the NYSE or the American

Stock Exchange (AMEX), or through a network of brokers known as the National Association of Securities Dealers Automated Quotation System (NASDAQ). If I wanted to buy shares of IBM, which traded on the NYSE, I called a broker and gave him an order. He forwarded my order to someone working on the exchange floor, or in some cases directly to the specialist. If I were to purchase shares of Microsoft, (symbol MSFT), which traded on the NASDAQ, I called a broker who either traded directly with me, matched me with a seller, or traded with another broker through the NASDAQ market.

Today there are multiple venues for those stocks traded on the listed exchanges and those on the NASDAQ. The broker I use for my personal stock trades has an automated feature that automatically selects the best market for the order I enter. I never know anymore if my orders go to the exchange floor, and as time goes on, fewer and fewer of my orders make it there. Instead, the orders are traded over an electronic communication network set up for trading stocks without using the primary exchange or the specialist. Brokers and large institutions use these networks to trade stocks without sending the orders to the floor of the primary exchange.

Yen futures trade on the Chicago Mercantile Exchange (CME) and on their corresponding electronic platform, called Globex. The pit for the CME opens at 7:20 a.m. central time and closes at 2:00 p.m. Monday through Friday. But the Globex trading hours run from Sunday at 5 p.m. central until 4:00 p.m. on Friday, with only an hour break each afternoon. So how do you determine the open? **Note:** These hours are accurate as of December 2007 and subject to change.

For such a convoluted situation, I use the pit data for analysis purposes, but since the most volume is traded during the hours that the pit is closed, I always have to reevaluate what I consider to be the open. For some other examples of futures contracts that have both pit trading hours and electronic hours, see Figure 3-1.

**Chicago Board of Trade - ECBOT**

<u>Agricultural</u>	Ele. Open	Ele. Close	Pit Open	Pit Close
Corn	18:30 c 9:30 c	6:00 c 13:15c	9:30 c	13:15c
Soybeans	18:31 c 9:30 c	6:00 c 13:15c	9:30 c	13:15c
Wheat	18:32 c 9:30 c	6:00 c 13:15c	9:30 c	13:15c
<u>Interest Rate</u>				
2 Year	18:00 c	16:00 c	7:20 c	14:00 c
5 Year	18:00 c	16:00 c	7:20 c	14:00 c
10 Year	18:00 c	16:00 c	7:20 c	14:00 c
30 Year	18:00 c	16:00 c	7:20 c	14:00 c
<u>Index</u>				
DJIA	18:15 c	16:00 c	7:20 c	15:15 c

**CME - Globex**

	Ele. Open	Ele. Close	Pit Open	Pit Close
<u>Index</u>				
S&P 500 Index	17:00 c	16:00 c	8:30 c	15:15 c
NASDAQ 100 Index	17:00 c	16:00 c	8:30 c	15:15 c
Nikkei 225 Index	2:00 c	16:30 c	8:00 c	15:15 c
Russell 2000 Index	17:00 c	16:00 c	8:30 c	15:15 c
S&P MidCap 400	17:00 c	16:00 c	8:30 c	15:15 c
<u>Currency</u>				
Australian Dollar	17:00 c	16:00 c	7:20 c	14:00 c
British Pound	17:00 c	16:00 c	7:20 c	14:00 c
Canadian Dollar	17:00 c	16:00 c	7:20 c	14:00 c
Euro FX	17:00 c	16:00 c	7:20 c	14:00 c
Japanese Yen	17:00 c	16:00 c	7:20 c	14:00 c
Mexican Peso	17:00 c	16:00 c	7:20 c	14:00 c
Swiss Fran	17:00 c	16:00 c	7:20 c	14:00 c
<u>Interest Rate</u>				
Eurodollar	17:00 c	16:00 c	7:20 c	14:00 c
Libor	17:00 c	16:00 c	7:20 c	14:00 c
<u>Commodities</u>				
Feeder Cattle	9:05 c	13:00 c	9:05 c	13:00 c
Pork Bellies	9:10 c	13:00 c	9:10 c	13:00 c
Lean Hogs	9:10 c	13:00 c	9:10 c	13:00 c
Live Cattle	9:05 c	13:00 c	9:05 c	13:00 c

**NYMEX - Globex**

	Ele. Open	Ele. Close	Pit Open	Pit Close
<u>Energy</u>				
Crude Oil	18:00 e	17:15 e	9:00 e	14:30 e
Gasoline Futures	18:00 e	17:15 e	9:00 e	14:30 e
Natural Gas	18:00 e	17:15 e	9:00 e	14:30 e
Heating Oil	18:00 e	17:15 e	9:00 e	14:30 e
<u>Metals</u>				
Gold	18:00 e	17:15 e	8:20 e	13:30 e
Silver	18:00 e	17:15 e	8:25 e	13:25 e
Copper	18:00 e	17:15 e	8:10 e	13:00 e
Aluminum	18:00 e	17:15 e	7:50 e	13:15 e

**Figure 3-1:**

Futures contracts that have both pit trading and electronic hours.

In Figure 3-1 you see that, for futures contracts, the actual opening price for a session can be hard to determine. One good solution is to use the opening price for the first trade during the pit session.

## *High and low price for the session*

The second and third pieces of data that are essential for constructing a candlestick are the high and low prices for a session. No tricks here — the high price is the highest point the security's price reaches during the session, and the low is the lowest point reached during the same session. Because there may be some flexibility in what you consider a trading session, it may be the high and low that have traded between 6:30 a.m. and 2:00 p.m. Your session would be 6:30 a.m. to 2:00 p.m.

### **Focus on futures**

When explaining how futures contracts work, I always love to use my example about buying a lawn mower at the home improvement superstore.

Imagine that it's December 15, and you know that when spring rolls around in May, your old rusty lawnmower just isn't going to cut it, so to speak. You need a new mower. The mower you want is expected to cost \$500 on May 1, which will be the first day you really need to cut the grass. You don't want to pay that much for a mower, and you're in luck, because your home improvement superstore is the only one in the world that offers lawnmower futures. And May 1 just so happens to be the day that May lawnmower futures (if they existed) expire. The price of a May lawnmower futures contract is \$400, so you make a small deposit — maybe 10 percent of the mower contract size of \$400 — and buy one futures contract through your mower futures broker. When May 1 rolls around, you'll have the ability to pay \$400 for your new lawnmower, even though the market price is \$500. But who would offer such an attractive deal?

The seller of the futures contract can be a lawnmower dealer who's more than happy to lock in a price of \$400 to sell a lawnmower on May 1. After all, it would help that dealer to plan production accordingly by locking in a guaranteed number of mower sales at a set price. It can also be a speculator who thinks mowers will be on sale at the home improvement superstore for \$300 at some point before May 1, which would allow him to buy the mower at a discount and then sell it to you for \$400 on May 1, generating a \$100 profit.

The futures markets were created to allow farmers a mechanism for locking in the price of their crops and eliminating the risk that when their crops were ready to be sold, the selling price would not be enough to cover their costs and provide a profit. For farmers, whose livelihood is so dependent on factors out of their control, this method was extremely helpful to eliminate selling price as one of the major risks.

### *Incorporating high and low prices into a candlestick*

The high and low prices for a session or day are used to make the thin vertical line or wick of the candlestick (see Chapter 1 for a visual of the basic candlestick). The top of the wick represents the high price for the session, and the bottom of the wick represents the session's low price.



You need to define what your trading session is, and the wick represents the range from the high down to the low. This can be for the formal exchange floor or pit trading times, or, as discussed earlier, for a period you decide to represent a trading session.

If a security opens at a certain price and then drops in price steadily throughout the course of the session, you won't see any wick at all extending above the candle. If, on the other hand, the security opens at a certain price and increases in price during the session without ever dropping below the open, you won't see any wick extending below the candle.

### *How low (or high) can you go? Deciding on a high and low price*

As with opening prices, high and low prices can be tough to nail down because of the various electronic trading venues operating today. If big news on a particular security breaks before the official open or after the close, it may very well trade higher or lower on an electronic trading venue than it does on its primary exchange.



It's even more likely that the futures contracts will trade at prices above the exchange session high or below the exchange session low, due to the fact that the electronic futures markets are active 24 hours a day. Nowhere is this more evident than futures on currencies. The currency market is a true 24-hour market, and news across the globe is constantly impacting currency movements. Because of that volatility, it's very possible that there will be a lot of price action outside of normal exchange pit trading hours.



For more insight into the dramatic difference between 24-hour activity and exchange hour activity, see Figure 3-2. Both are charts of futures contracts on the Swiss Franc price versus the U.S. dollar. These contracts trade from 7:20 a.m. to 2:00 p.m. central time on the floor of the CME, and trade up to 23 hours a day between Sunday evening and Friday afternoon on the CME's Globex system. Figure 3-2a is a chart of the price action over the course of a couple of months using *only* data from pit trading hours. Figure 3-2b uses the same time period but takes into account all trading hours.

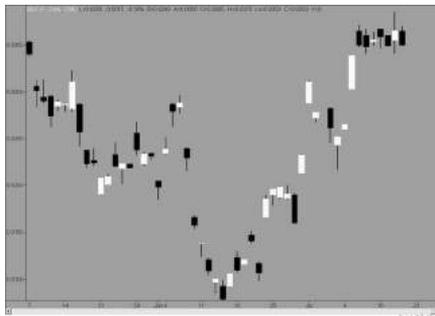
Frankly (ahem), the Franc chart has so many gaps that it's basically not even worth trying to analyze. It's highly unlikely that you'd work out a profitable method of trading based on this chart. There's very little opportunity to catch the many dramatic price moves that occur in the hours outside of normal or exchange trading hours. You just don't have enough information to make smart (and profitable) moves. Figure 3-2b, on the other hand, gives you a fuller picture of the price moves of the futures, and allows you to make well-informed decisions about buying and selling.



Currencies aren't the only futures contracts that experience these types of overnight moves. Bond futures and stock index futures such as Chicago Board of Trade's ten-year government bond futures contract or the S&P 500 Index futures that trade at the CME also see price action in the overnight session, while the underlying bond and stock markets are closed. Traders are even starting to see price moves for true commodity futures trading overnight that aren't properly caught on charts.

When it comes down to it, the choice of what to use for a day is up to the individual trader. For instance, if you're looking to put on longer term trades, the prices that trade outside of normal trading hours may not mean as much to you as it would to a trader trying to catch very short-term moves as short as a few minutes. Also, what you use for a day may just depend on how much time you can devote to watching the markets. I think most casual traders may just want to focus on the primary exchange's trading hours or the price action that occurs over the course of a normal work day.

**Figure 3-2:**  
Daily chart  
of Swiss  
Franc  
futures  
using only  
pit trading  
data (a) and  
using data  
from all  
trading  
hours (b).



## *Price on the close*

The fourth and final piece of data used to build a candlestick is a security's closing price. The *closing price* is the final price that's traded on a security during the day. These are the closing numbers that appear in the stock tables in newspapers, and the prices that investment professionals use to monitor their day-to-day performance. As with the other data used in creating a candlestick, closing prices are getting tougher and tougher to pin down.

### *Recording a closing price on a candlestick*

Depending on the performance of a security, its closing price may appear in one of two places on a candlestick:

- ✓ If the security had a bullish performance on a given day, the candle part of the candlestick is hollow (white). In that case, the closing price is represented by the top of the candle.
- ✓ If the security performed bearishly, the candle is filled in (black), and its bottom marks the closing price for the day.

### *Trying to pin down a closing price*

Just like the opening, high, and low prices (see previous sections), the closing price can be a real challenge to pin down because of the presence of electronic trading networks. Also, stocks and futures stay open for some time after their official exchanges close, so pinpointing what the market believes the true value for a stock or futures contract is at the end of the day is actually really difficult.

Although trading continues beyond the primary market's hours, stocks do generally trade for an hour or so after the exchanges close. Usually the trading in stocks after 4 p.m. EST on the electronic trading networks is pretty light in volume, but on days with significant earnings announcements or other news, several million shares of a stock may trade after the close.

One example of this after-close trade is what's referred to as *earnings season*. This time period is when many companies report their quarterly financial results to the financial and investing community. During a recent earnings season, both Microsoft (MSFT) and Google (GOOG) reported their earnings. Both stocks traded many millions of shares after the 4 p.m. official close of the NASDAQ, the primary trading market for both. With such a high volume of trading, this price action is significant enough to be included in charts.

For the earnings season in question, the investment community ("the street") wasn't terribly impressed with either company's results, and the stocks traded off pretty significantly as a result. Microsoft's official closing share

price at 4 p.m. EST was 31.51, but in the “after hours” the stock traded down to 30.90, which is a nearly 2 percent drop from the closing price at 4 p.m. and 0.02 percent below the official low for the day of 30.93 per share.

The difference in Google’s stock was even greater. The official 4 p.m. close was 548.59 a share, but after checking, the post market trading revealed a final price of 508.70 a share. That’s more than 7 percent lower than the 4 p.m. close! It was also quite a bit lower than even the official low of the day, which was 542.24 a share.

## ***Considering Additional Information Included on Candlestick Charts***

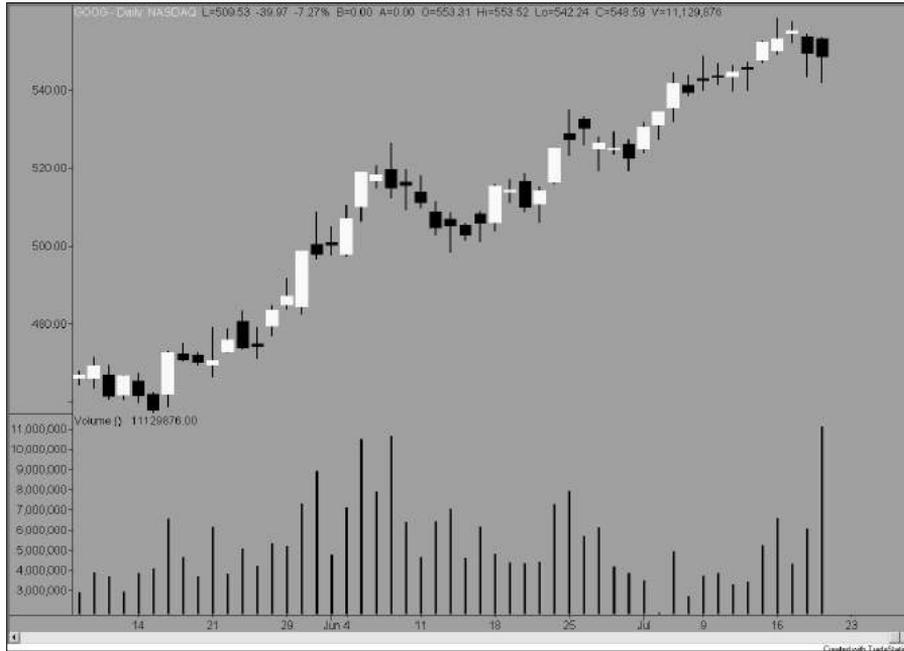
In addition to the basic information (described in the earlier sections of this chapter), most candlestick charts automatically include many other pieces of data. This added data allows you to quickly digest how the stock has traded in the past and gives you some fundamental activity, such as dates of earnings releases or dividend payments, which may also appear on charts.

In this section, I clue you in on a few pieces of information that may be included on your candlestick charts.

### ***Volume***

In trading lingo, *volume* is the number of shares traded during a certain period of time. A volume measurement usually appears in the bottom quarter to bottom third of a chart. Figure 3-3 is a chart of Google showing roughly 60 days leading up to July 19, 2007.

In the bottom of the chart in Figure 3-3, daily volume for Google’s stock has been between 1 and about 11 million shares per day during this period. Notice the second trading day in July, which was July 3, just before a mid-week Independence Day holiday. That was a half day for the market, and the volume measurement is barely a blip. On the other end of the spectrum, have a look at the high volume on the last day of the chart. That high volume came in anticipation of the earnings that were to be released after the market closed. And the volume measurement on the last day of the chart doesn’t even include the 4.5 million shares traded after the 4 p.m. close!



**Figure 3-3:**  
Daily  
candlestick  
chart of  
Google,  
with volume  
information  
included.



Many technical analysts put quite a bit of emphasis on volume as it relates to certain chart patterns. For instance, if a stock trades down to what's considered a support level (flip back to Chapter 2 for more info on support levels) on a day with significant volume, many traders may give this support level more credence and consider buying. The reason is that the increase in volume indicates a high level of buy interest emerging at this level. If support is tested on a low volume day, such as July 3, a trader may wait for more volume to trade to confirm this support level. Low volume days sometimes contain unreliable price action where the price has whipped around due to a lack of liquidity.

## Open interest

In the case of futures charts, *open interest* takes the place of volume. Before discussing open interest on a chart, an explanation of exactly how it's determined and what it means is in order.



Put simply, open interest is the number of outstanding futures contracts. When a buyer and a seller involved in a futures contract initiate new positions, the open interest increases by one contract.

When you trade a futures contract, whether you're buying or selling, you're also either opening or closing a position. If you have no position, and you buy a futures contract, that's an opening position. When you sell that contract,

you're closing the position. This can work for selling, too. If you have no position to begin with, and you sell a contract, you've opened a short position. When you buy this contract back or cover the short position, you're closing a position. For more information on shorting, see Chapter 2.

When both the buyer and seller in a trade are opening positions, the open interest of contracts increases. If only one of the participants in a trade is opening a new position, then the open interest doesn't change. Finally, if both participants in a trade are closing positions, the open interest decreases.

Figure 3-4 is a very simple example of how open interest increases and decreases. Here's how the days break down:

- ✔ **Day 1:** Assuming that Day 1 on the chart is the first day the futures contract displayed trades, the beginning open interest is zero. For display purposes, two contracts trade, and both the buyer and seller are initiating new positions. These new positions create two new contracts.
- ✔ **Day 2:** On Day 2, there are four more contracts initiated by both the buyer and seller, and the open interest increases to six contracts.
- ✔ **Day 3:** On Day 3, things get a little trickier. Mr. A decides to sell his two contracts, and Ms. D decides to buy back (cover) two of the contracts she'd previously sold short. This reduced the open interest by two contracts.
- ✔ **Day 4:** Finally, on Day 4, Mr. C sells his four contracts, but Mr. A buys them, so these open contracts are transferred, and no new contracts are created. The open interest doesn't change.

Figure 3-5 is a chart of soybean futures, which expire in November 2007. I actively trade the soybean futures market, so this chart is near and dear to my heart. The open interest appears in the same area on the chart as the volume did on the chart of Google in Figure 3-3. Notice the increase in open interest during the life of this contract moving from left to right on the chart. This increase is due to the time approaching expiration, but also due to the fact that the summer of 2007 was a volatile market (although basically all summers are volatile in the wild world of beans).

**Figure 3-4:**  
A simple example of how open interest is created.

Open Interest		
Day	Action	Open Interest
Day 1	A buys 2 contracts and B sell 2 contracts	2
Day 2	C buys 4 contracts and D sells 4 contracts	6
Day 3	A sells his 2 contracts and D covers 2 contracts	4
Day 4	C sells 4 contracts and A buys 4 contracts	4



**Figure 3-5:**  
A candlestick chart of the soybean market futures with open interest.

As beans topped out, so did open interest. That would've sparked some traders to sell beans, because there were fewer new participants coming into the market at higher prices. The same would be true if beans had been dropping dramatically. Either way, a reversal of open interest along with a reversal of certain candlestick patterns (more on those in Parts II and III of this book) are two items worth looking out for when considering a trade.

## *Technical indicators*

Numerous technical indicators may automatically appear on the charts you generate. Technical indicators are ways of analyzing current trends in the market in hopes of being able to predict future trends. You can usually expect to see some sort of average of closing prices (a moving average), and possibly another basic technical indicator, on a chart. Don't let them rattle you, because you can remove them if you want, or — even better — alter them to your personal preferences. (I discuss a variety of technical indicators in detail in Part IV.) Take a look at Figure 3-6 — a chart that includes a moving average, one common type of technical indicator.



**Figure 3-6:**  
A chart that  
includes a  
moving  
average.

Among the different types of technical indicators are those that need their own space on a chart, much like volume or open interest. Figure 3-7 is a chart with a technical indicator known as the relative strength index (RSI) on the bottom. The RSI indicates the trend of price movements. (RSI is covered in depth in Chapter 13.) The crooked line is the calculated RSI; the lines at 30 and 70 are permanent and signify where a market is considered overbought or oversold (more on that in Chapter 13, as well).

As you can see, the RSI takes nothing away from the rest of the chart and actually provides some useful additional information that you can take into consideration when making chart-based decisions.

## ***Fundamental information***

Charts containing fundamental information aren't particularly common, but the addition of that information can be extremely useful. Fundamental information can include dividend dates, earnings release dates, stock splits, and the number of days people with inside information (*legal* inside information) may have bought or sold stock. This info relates almost exclusively to charts of stocks, so I stick to stocks in this section's discussion.



**Figure 3-7:**  
A chart that  
includes a  
relative  
strength  
index (RSI).



Needless to say, monitoring how a stock performs around the time dividends are paid or earnings are reported is helpful. If some patterns tend to repeat themselves, trying to trade around these dates may be a profitable strategy. Also, keep an eye on how stocks are bought and sold by company officials who have an intimate knowledge of their company's business activities.

### *Dividend dates*

The usefulness of dividends as a way of making a profit on the market comes and goes. Sometimes investors are focused on buying stocks for their dividend yields, and other times price appreciation is a much more lucrative endeavor. Like all market cycles, dividend paying stocks fall in and out of favor, and the focus on dividends waxes and wanes. For now, though, it's very possible that some stocks that pay higher than average dividend yields trade in a certain pattern around their dividend dates. If the dates on which dividends are paid are noted on your charts, you may very well be able to recognize a pattern that surrounds these dates and buy or sell to profit from it.

### *Deciphering dividend dates*

When it comes to dividends, consider four important dates:

- ✓ The date the dividend is declared by a company
- ✓ The date the stock trades with an adjustment for the dividend, or the ex-dividend date

If you own a stock the day before the ex-dividend date, then you receive the dividend. If you buy it on the ex-dividend date, you don't receive the dividend. For trading purposes, focus on the day before the ex-dividend date, because that's when you want to own the stock to receive the dividend.

- ✓ The record date, two trading days after the ex-dividend date, which is the date on which the owners of a stock are identified as eligible to receive a dividend
- ✓ The payable date, which is when you get your dividend check

For an example, look at the following dates for the second dividend paid by IBM in 2007:

- |               |           |
|---------------|-----------|
| • Declared    | 4/24/2007 |
| • Ex-Date     | 5/8/2007  |
| • Record Date | 5/10/2007 |
| • Payable     | 6/9/2007  |

### *Earnings dates*

During each quarter of the year, companies are required to release a summary of their earnings for the previous quarter. These numbers are usually distributed via press releases, which are quickly picked up by news wires and the financial press. Traders react to the resulting news. The press releases are usually followed an hour or two later by conference calls that feature members of the companies' management teams answering questions from industry analysts regarding the recently released earnings. These calls are important, because the outlook for the company is typically discussed in detail.



TIP

These earnings release dates are by far the most important four days of the year for many companies, and their stocks are usually at their most volatile just before and after the subsequent conference calls. At the very least, if you're interested in trading a particular stock, be aware of when the company is scheduled to release its next earnings report.



REMEMBER

In a charting capacity, seeing how the stock trades before and after earnings dates can be useful for trading decisions. For example, if a company generally trades higher going into its earnings release, buying a week before the earnings date and selling the day before may be a profitable strategy. Also, if a company usually reacts strongly to its earnings announcements (either good or bad), but seems to reverse this move a few days later, this can lead to a good short-term trading strategy. Either way, it should be clear that having earnings date info on the charts you use isn't a bad thing, and it can set you on the path to making a nice profit, if you can spot a usable pattern.



You can find numerous sources for earnings dates or earnings calendars on the Internet. The following are links to a few of the better (and free) ones:

- ✓ Earnings calendar at Yahoo! Finance:

<http://biz.yahoo.com/research/earncal/today.html>

- ✓ Marketwatch.com's earnings calendar:

[www.marketwatch.com/tools/calendars/earnings.asp](http://www.marketwatch.com/tools/calendars/earnings.asp)

- ✓ Briefing.com's earnings calendar:

[www.briefing.com/Investor/Private/Calendars/EarningsCalendar.htm](http://www.briefing.com/Investor/Private/Calendars/EarningsCalendar.htm)

- ✓ Earnings.com's calendar:

[www.earnings.com](http://www.earnings.com)

### ***Stock splits***

Sometimes when the price for a stock reaches a high level, a company announces that it's paying a stock dividend or splitting the shares in two. The timeline for a stock split is very similar to that of a dividend, and split information is sometimes included on charts. A company will announce a split, which is usually considered a positive event for the stock. The announcement indicates what type of split it is (2 for 1, 3 for 1, and so on) and the date that the split will be effective.

That date is the day that shareholders own more shares at a lower price, and it's the date that's noted on a chart, typically with a big letter *S* or a note about the type of split.

So how does splitting work for you? If you own 10 shares of that stock, you own 20 on the split date. The price of the stock is usually adjusted accordingly. For example, if a stock is trading at \$100, and the stock splits so each share held becomes two shares, that's considered a 2 for 1 split, and the price of each new share is then \$50. The dollar amount is the same, but the number of shares is increased.

Splitting shares allows for more broad ownership of a stock. Many people can afford to buy 100 shares of a stock that trades for \$15 a share (\$1,500); few people can afford 100 shares of a stock that trades for \$200 a share (\$20,000). The idea is that the more broad the ownership, the better the performance of shares.



Stock split information on a chart is useful when a company's stock has had recurring reactions to stock splits. Generally, a stock rallies after the news of a split, although whether this fact is logical is debatable, because a stock split doesn't necessarily mean that something has fundamentally changed within the company. Unfortunately, the announcement of a split isn't common

on a chart. But since the date the split is effective is generally available, you can easily focus on how the stock trades leading up to the split and afterward, and make appropriate trading decisions.

### *Insider trading: the legal kind*

*Legal insider trading* — not the kind of insider trading that results in executives wearing handcuffs on the evening news — is the trading activity of company executives in their company's stock. In this context, an *insider* is anyone officially associated with a company, or even an owner of 10 percent or more of a company's stock.



The option to buy stock can be a major part of the compensation package for employees of public companies. From the company's standpoint, it makes sense to offer employees another incentive to work hard for the financial well-being of the company and the strength of its stock. Employees of a company may also buy stock in the open market when they believe the company's prospects are bright.

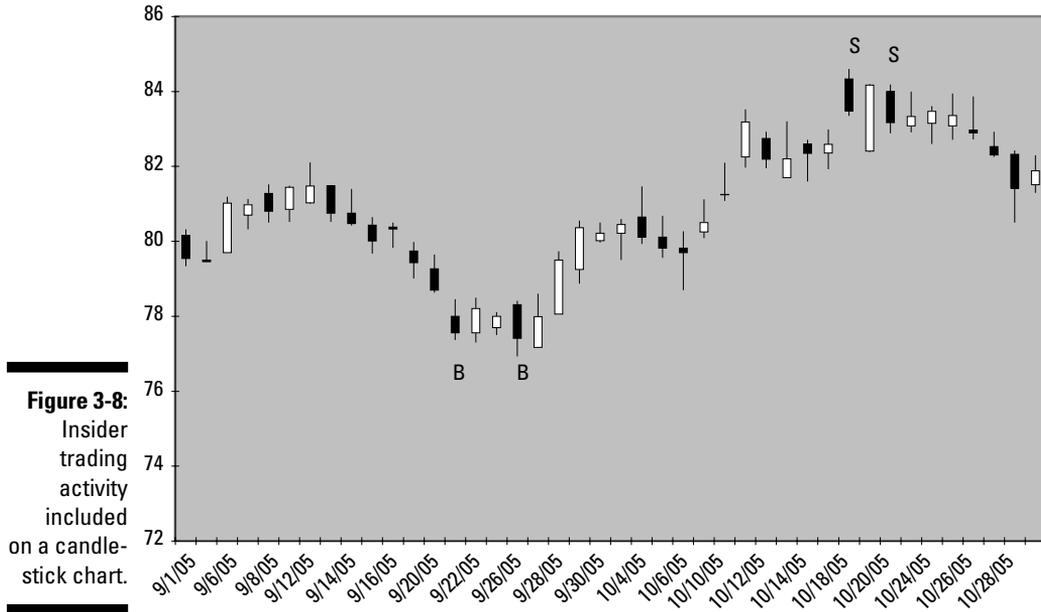
Owners of 10 percent or more of stock may have access to some information that you may not have. You can't blame them if they make decisions on buying or selling that stock based on their insider information. However, by law they must report this trading activity within a few days of making such transactions, and the resultant data is public and sometimes ends up on charts!

On the flip side, at times, employees who own shares may choose to sell. It's a bit tricky, as the stock may be sold for personal reasons — a major purchase like a home or child's college education, for example — or it can be a signal that an employee believes a stock's price has reached a level where it's prudent to sell shares. In this case, following an insider's lead and selling that stock may prove profitable or help you avoid a loss.

To see what insider trading information looks like on a chart, take a gander at Figure 3-8.

When insider trading information is included on candlestick charts, the indications of insider activity are usually very easy to read. In Figure 3-8, the *B* indicates insider buying, and the *S* indicates insider selling. (Splits also use the *S*. But splits normally have a 2 for 1 or some numbers along with the split. It really varies from chart service to chart service.) Some other charts use up arrows to indicate buying and down arrows to indicate selling. This chart includes buying in September and selling in October. It appears the insiders in this company do a very good job of trading their own stock!

Trying to trade along with insiders has such a following that not only does insider trading information appear on some charts, but also services and newsletters are devoted to disseminating the information. One service, InsiderScore, even ranks individual insiders by how well they have bought and sold shares in the past!



Do an Internet search for *Insider Trading Newsletter*, and you'll get more results than you'd know what to do with.

## Chapter 4

# Using Electronic Resources to Create Full Charts

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### *In This Chapter*

- ▶ Taking advantage of free online candlestick charting
  - ▶ Using Microsoft Excel to create a candlestick chart
  - ▶ Considering a few charting software packages
- 

**A**fter you're armed with an understanding of why candlestick charts are so useful and what it takes to create a candlestick, you're ready to spread your wings and do some charting. You can take the appropriate data and build a chart in many different ways, and in this chapter I provide you with some insight on the easiest and least expensive ways to do just that. I begin the chapter with the easiest method, which is to let a candlestick-friendly Web site do the heavy lifting. And the sites I describe will do it all for free, if you're willing to put up with a few banner ads (a small price to pay for some very handy services).

After taking a look at some free online options for candlestick charting, I present the basics of creating candlesticks using Microsoft Excel. Candlestick charting has caught on so quickly that it's now a standard feature in Excel's charting section. Finally, at the end of the chapter, I cover a few of the best low-cost charting packages that are widely available and make sense for individual traders and, to a lesser extent, investors.



One quick note for those of you who are left-handed. I use right-click versus left-click in some of the instructions in this chapter. Please keep in mind that I'm right-handed, so I'm referring to the way I would be clicking a mouse. If you happen to be left-handed and have the mouse set up specifically for a left-handed user, remember that when I say to right-click, readers with adjusted mouse settings need to left-click.

## *Turning to the Web for Candlestick Charting Resources*

Like so many other areas of life, trading and technical analysis have been greatly impacted by the Internet over the past few years. You can visit multiple Web sites where you can get low-cost or even free financial information, and, of course, candlestick charts are included. A quick Internet search on candlestick charts produces more results than you'll know what to do with.

In this section, I cover a handful of the best Web sites you can use to view candlestick charts, showing you how to create charts on these sites and pointing out other various features you can find there. Each of the sites mentioned are excellent for obtaining free charts but also have a plethora of other information you can use to help you make better trading and investing decisions.

### *Using Yahoo! Finance for charting, trading, and investing*

If you're looking for a free, user-friendly Web site that's packed with useful information, steer your Internet browser to the finance section of Yahoo! This dynamic site offers many features that greatly enhance your charting experience, including the ability to download free data that you can manipulate however you want. And just like all good charting packages, Yahoo! makes candlestick charting available to all users.



In addition to charts, Yahoo! Finance offers a variety of information on stocks and markets that can provide you with enormous amounts of data, company fundamentals, and even message boards full of both rumors and facts. It's all just a few clicks away.

#### *Creating a candlestick chart on Yahoo! Finance*

Using Yahoo! Finance to build a candlestick chart is a breeze. All you need is a computer with an Internet connection. To generate a chart, work your way through the following steps:

- 1. Get to Yahoo! Finance from the main Yahoo! page by clicking Finance or by using the URL `www.finance.yahoo.com`.**
- 2. Enter the symbol of the stock or index you want to chart in the bar to the left of the Get Quotes button, and then click that button.**

That click takes you to an information page for the stock or index you've chosen.

If you don't know the symbol of the stock or index, simply click Finance Search to the right of the Get Quotes button.

3. After you're on the information page, click **Basic Chart** in the blue box on the left of the page (**Technical Analysis is another possible choice that you can visit later to explore more of Yahoo!'s charting features**).

A basic line chart appears, with clickable options for making changes to the chart. The categories are for Range (time), Type, Size, and Scale.

The scale of a candlestick chart can be either linear or logarithmic in the way its pricing data is displayed. A linear chart displays prices without any adjustments. A logarithmic chart adjusts data in order to better depict performance in an investment (long-term) scenario. Logarithmic charts make sense for long-term investing, but aren't very useful on, say, a daily chart of stock prices that's used for trading.

4. Select the **Range (from one day to five years)** you prefer, and then click **Cdl**, for candlestick, as the **Type**.

It's as simple as that! After you've completed these easy steps, you should see a beautiful candlestick chart that looks very similar to Figure 4-1.



**Figure 4-1:**  
A candlestick chart created on Yahoo! Finance.



If on Step 3 you opted to click Technical Analysis instead of Basic Chart, you'd have a number of other choices, including

- ✓ Moving Avg (various moving averages)
- ✓ EMA (various exponential moving averages)
- ✓ Indicators (various indicators)
- ✓ Overlays (indicators that show up on top of the price chart)



I encourage you to play around with these until your hand is cramped. There's no better way to master the ins and outs of charts than manipulating them and looking at as many as you can. You can also flip to Chapter 11 of this book for more info on technical analysis and the ways you can combine those methods with your candlestick charts.



I like the Yahoo! Finance site for many things, but the flexibility of its charting is somewhat limited. For example, my favorite time period is a three-month daily chart, and Yahoo! currently doesn't offer a three-month option. However, a beta charting package is being tested, and I'm confident that the functionality of Yahoo!'s charts will be expanded in the near future.

### *Checking out Yahoo! Finance's other useful features*

If you want to take advantage of Yahoo! Finance's other resources, spend some time examining the information page for a specific stock:

- 1. Get to Yahoo! Finance from the main Yahoo! page by clicking Finance or by using the URL `www.finance.yahoo.com`.**
- 2. Enter the symbol of the stock or index you want to chart in the bar next to the Get Quotes button, and then click that button.**

That click takes you to an information page for the stock or index you've chosen.

In the blue box on the left of the page, you can find many sources of data and other handy functions. Among them is a unique feature that Yahoo! provides for accessing historical daily opening, high, low, and closing price data, with volume information that you can download into Microsoft Excel using the Historical Price choice. (Skip ahead to "Creating Candlestick Charts Using Microsoft Excel" later in this chapter for more info on how to work with candlesticks in Excel.)



For another informative and sometimes fun area of Yahoo! Finance, check out the Message Board section. This area includes discussions that focus on specific stocks. In the case of some controversial companies, the discussions can be pretty heated, to the point of being amusing. But the boards aren't just good for lively conversation. They're also a good place to turn for information and rumors if a stock's price is moving without any apparent reason.

To top it all off, Yahoo! allows you to build your own portfolio, which you can use to monitor news and prices for any stocks you specify. You can also access real-time quotes — most quotes available on the Internet are delayed — for a small fee, and take advantage of excellent financial calendars for upcoming earnings and economic statistics.

## *Working with BigCharts.com*

BigCharts.com is a charting site affiliated with MarketWatch.com, an excellent financial site that offers a ton of free information. For charting purposes, I suggest going directly to [www.bigcharts.com](http://www.bigcharts.com).

### *Creating candlestick charts on BigCharts.com*

BigCharts.com is easy to navigate, and with just a few clicks you can generate terrific charts. To create a candlestick chart, take the following steps:

1. Go to [www.bigcharts.com](http://www.bigcharts.com).
2. Enter a stock symbol in the bar at the top of the page and click **Advanced Chart**.  
That click takes you to a page that features a one-year bar chart for the stock you entered.
3. Click **Chart Style** on the left side of the page.  
A few drop-down menus appear.
4. Select **Candlestick** from the **Price Display** drop-down menu.
5. Select your preferred range from the **Time** drop-down menu.
6. Click the orange **Draw Chart** button, and a candlestick chart should appear in seconds.

If you follow these steps, you should end up with a candlestick chart similar to the one shown in Figure 4-2.

After you've mastered setting up a basic candlestick chart on BigCharts.com, I suggest playing around with the various buttons and drop-down menus that appear on the left side of the page. You can choose from several technical indicators and a wide range of time frames, and you can increase or decrease the size of your chart.



**Figure 4-2:**  
A candlestick chart created on BigCharts.com.



BigCharts.com offers interactive charts that can be fascinating and useful. Interactive charts are a Java-based feature allowing you to scroll over your chart to display additional data. You can also use them to draw your own trendlines, which many traders find very useful.

### *Using a couple of other great (and free) features of BigCharts.com*

In addition to its free services, BigCharts.com boasts a number of functions and areas that require payment for access. Plenty of information about those options is available on its site, but I want to highlight two more of its free features, which won't cost you any of your hard-earned trading profits.

On the page where you can view the candlestick charts you generate, look just above the chart to find several choices for more information. One click gives you access to news, other industry members or competitors, market advisor commentary, analysts' opinions, SEC filings, insider activity, as well as recent annual reports and company profiles.



Also, if you're willing to register (registration is free) then you can set up your own portfolio, view message boards geared specifically toward your favorite companies, and sign up for alerts, which e-mail you automatically to let you know about price changes and news.

## *Charting on CNBC.com*

In recent years, CNBC has become a primary source for market information on television. The folks at CNBC have also put a lot of effort into their Web site, which offers charting functionality in addition to the content that relates to their TV programs.

The charting function on CNBC.com is easy to use, and the professional functions allow you to do things like compare securities and overlay technical indicators. One downside is a lack of flexibility, but the site is being constantly updated, and more flexibility can emerge in the future.

### *Generating candlestick charts on CNBC.com*

Here's how to take advantage of CNBC.com's free candlestick charting offerings:

- 1. Direct your Internet browser to [www.cnbc.com](http://www.cnbc.com).**

Near the top of the page, you'll see a box for entering a symbol, with the links Quote and Chart directly above it.

- 2. Click Chart, enter your symbol, and click the Go button to the right of the box.**

You should see a line chart for the stock you entered.

### 3. On the Chart Style drop-down menu, select Candle.

The chart is refreshed, and a candlestick chart appears in place of the line chart. After taking all these steps, you should end up with a candlestick chart like the one shown in Figure 4-3.

**Figure 4-3:**  
A candlestick chart  
created on  
CNBC.com.



CNBC.com gets an A+ for its chart-making simplicity. You can also choose from many time frames and indicators, and you can even add flags to the chart for events like earnings releases, stock splits, and dividend pay dates.



Another attractive feature is the ability to add notes to your charts, such as, “I should have bought this stock right here” before a big up day. Of course, notes aren’t any good if you can’t save your charts, but CNBC.com has that covered, too. Register at their site (basic registration is free), and you can save your charts *and* your chart settings, so you don’t have to select every last option each time you return to the site.

CNBC.com also offers additional information on the companies you select, including news, profiles, earnings, recommendations, and competitors’ stats. You can also click the Peers tab to see a graphical representation of some peer companies. The Financials tab provides a quick overview of the company’s financials on both an annual and quarterly basis, and the Ownership tab gives an overview of the company’s owners, some insider holding information, and a graphical breakdown of insider activity.

### *Tapping into CNBC.com’s other useful features*

Since the Web site’s revamping in 2007, many CNBC anchors have blogs that feature entries on their specific areas of expertise. You can also use the Investing Tools link, which includes the ability to create a portfolio watch list and perform some stock or mutual fund screening, all at no cost to you.



Because CNBC is a successful financial television franchise, CNBC.com is loaded with video highlights and other ways to review the issues discussed on CNBC during the trading day. Unless you’re a professional trader and you have CNBC on all day, it may be of interest to you to catch up on their Web site to see what professionals are focusing on.

## *Using Reuters.com for candlestick charting*

Reuters is a world renowned source of financial information. Its Web site is very much geared toward professionals, but that doesn't mean that it can't be useful for newcomers to the candlestick charting game. Also, Reuters is truly a global organization, so its site is great for looking up information on foreign stock markets and currencies.

### *How to candlestick chart with Reuters.com*

Take the following steps to create a candlestick chart of your own on Reuters.com:

**1. Go to [www.reuters.com/investing](http://www.reuters.com/investing).**

You'll see several choices on the left side of the page.

**2. Click **Stocks**, and the **Stocks Information page** opens.**

**3. Type your stock symbol in the box next to the blue **Go** button.**

Make sure that the button next to the word **Symbol** is checked, and choose **Chart** from the drop-down menu.

**4. Click the **Go** button.**

That gives you a one-year line chart, under which are a few buttons that indicate the types of charts that you can draw.

**5. Click the **third button from the left** — the one with the familiar **candlesticks**.**

**6. Choose your preferred date range from the button choices or the **drop-down box on top of the chart**.**

You should be looking at a candlestick chart that closely resembles the example in Figure 4-4.



**Figure 4-4:**  
A candlestick chart created on Reuters.com.

Although at first glance there appears to be nothing significantly different about Reuters.com compared to the other sites I've mentioned in this chapter, there are some nice features on the site that I like:

- ✓ You can easily overlay the price action of key competitors or a market index.
- ✓ You can also overlay several customizable technical indicators.

Play around with the options on the site to find what looks promising and what works best for you.

### *Checking out Reuters.com's other useful features*

Reuters's global scope means that the company's Web site presents a large amount of international information, including data on foreign markets, currencies, bonds, and commodities. When I'm traveling and need a quick update of global markets, I almost always turn to Reuters.com.



As a financial news source, the Business page on Reuters.com rivals many of the top financial newspapers. The site has a wonderful stock screener, which allows you to search for trading or investment ideas by searching on certain fundamental or technical criteria, and contains in-depth profiles of companies.

## *Creating Candlestick Charts Using Microsoft Excel*

Microsoft Excel is an excellent tool for running all sorts of financial analyses. One of the great features of Excel is its charting tool, and, of course, that tool includes candlestick charts as one of its choices.

In this section, I explain the process for creating a candlestick chart with Excel, from finding and entering the data to building the chart. I even clue you in on a few ways to add some additional information to your Excel candlestick charts, including moving averages, trendlines, and volume data.

### *Finding the data for your chart*

Before you can create an Excel candlestick chart, you need to compile the right data. There are multiple sources for data, and a quick Internet search can turn up dozens of options, some of which I explore earlier in this chapter. (See "Turning to the Web for Candlestick Charting Resources".) Of those options, I typically use Yahoo! Finance for its ease of use, and that's the source I proceed with in this section. (See the section "Using Yahoo! Finance for charting, trading, and investing".)

To get the data into Microsoft Excel, follow these steps:

1. Go to [www.finance.yahoo.com](http://www.finance.yahoo.com).
2. Enter a stock symbol in the box at the top of the page and click the Get Quotes button.

For this example, I use IBM.

3. In the blue box at the left of the page, click Historical Prices.
4. Above the data is a box labeled Set Date Range; use that to set the range of dates for which you want to obtain data, and to specify whether you want daily, weekly, or monthly data.

I chose June 1, 2006, to July 31, 2006, and daily data.

5. After making your choices, click the Get Prices button just below the date choice boxes.
6. Scroll down below the data table and right-click your mouse on the Download To Spreadsheet link and select Save Target As.

A save box opens; save your file under My Documents, and use your symbol (I'll use IBM) for a file name. Make sure that you're saving as a Microsoft Excel Comma Separated Values file, and click the Save button.

7. After the download is complete, click Close.

Congratulations! You now have the data needed to create a candlestick chart using Microsoft Excel! Now you just need to make a couple of minor modifications to the data and then create a chart. You're almost there!

## *Making sure the data is in the correct format*

Unfortunately, Microsoft Excel needs your data to be in a very specific format, and, of course, it doesn't come directly from Yahoo! Finance in that format. You need to make some quick adjustments to make sure that your numbers are in order.

Basically Yahoo! gives you the right data but in the wrong order. Follow the steps below to reverse the data and get you ready for the fun part: building a chart! Follow these steps:

1. In your saved Excel data file from Yahoo!, start by deleting the Adj. Close column.

To delete this data, click the column letter in the gray box above the word Volume (most likely column F) and drag your cursor to the next column (most likely column G). Both columns will be highlighted.

2. **While the columns are still highlighted, choose Edit and then Delete.**

You're left with five columns of data: Date, Open, High, Low, and Close.

3. **Highlight all your data, and choose Data and then choose Sort.**

4. **Under Sort By, select Date.**

Make sure the button next to Ascending is selected, and then click OK. The data is now ready for creating a chart.

## *Building an Excel candlestick chart*

Excel is a great way to get your feet wet building a chart. It also gives you some experience as to what's behind the chart. Commercial packages that do all the work for you don't give you that type of experience.



At the time of this writing, I used Excel 2003, but I was just starting to work with the 2007 version. The 2007 version is quite a change from the 2003 version and is a little different to use. However, there are added features in the 2007 version that make it worth your while. Also, eventually, this new version will be the standard, and you won't have a choice. For now, as most people still seem to have the 2003 version, the examples use that version.

Now it's time to build a candlestick chart:

1. **Highlight all the data in your spreadsheet, without highlighting the headers.**

2. **Click Insert, and from the available choices select Chart.**

Step 1 of 4 of the Chart Wizard appears.

3. **Under Chart Type, scroll down and highlight Stock.**

To the right of this box appear four chart choices; click the top right one, which looks like a little candlestick chart.

4. **Click Next at the bottom of the dialog box, and then click Next at Step 2 of 4.**

That brings you to Step 3.

5. **Click the Axes tab, and under Category (X) axis, click Category.**

Also, make sure the Category (Y) axis button is checked. This step eliminates missing days (such as weekends and holidays) from your chart.

6. **Click the Gridlines tab.**

Make sure there are no check marks in any of the boxes.

7. **Click the Legend tab and make sure that the box next to Show Legend is deselected.**

8. Click Next to open Step 4 of 4.
9. Click the button next to As new sheet.
10. Click Finish.

A new sheet with a candlestick chart has been added to your spreadsheet!

Congratulations! You're now the proud owner of an Excel candlestick chart. Feel free to right-click the chart to view all the options available for your tinkering pleasure. For example, when you right-click one of the black candles, a Format Down Bars box opens, and you can change the color of all down bars (bars for days when the close was lower than the open). The opportunities for modification on Excel candlestick charts are many and varied.

For a point of reference, Figure 4-5 is a chart I created in Excel following the above instructions. If you made all the correct clicks, your chart should look very much like this example.



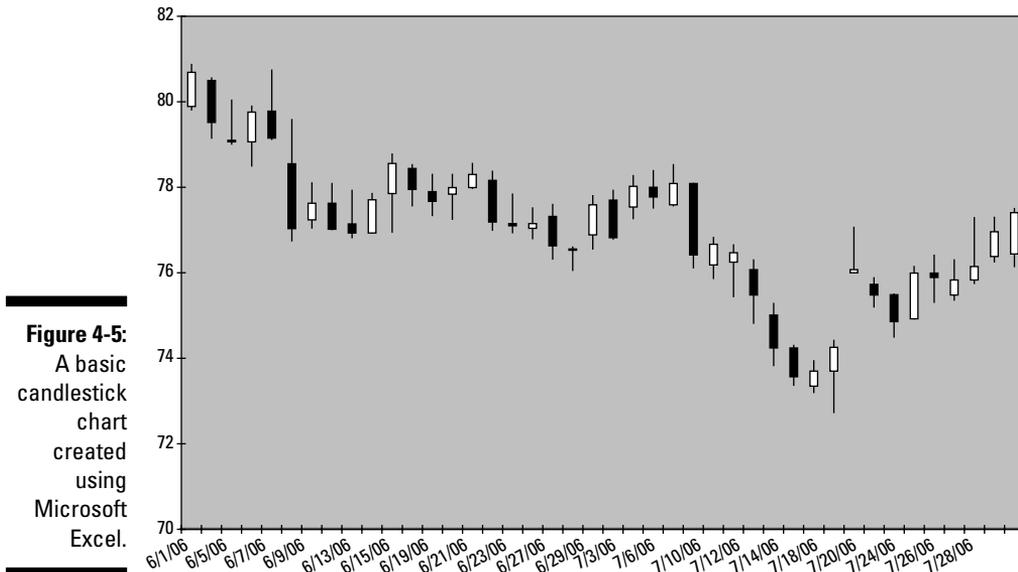
Although Excel's candlestick charting is a very nice feature, it doesn't allow for much flexibility. If you want to change time frames, for instance, you may need to completely rebuild your chart. But you can add in some additional information to make your charts more functional. How? Read on through the rest of this section to find out.

## *Adding a moving average to an Excel candlestick chart*

If you're interested in dressing up your Excel candlestick charts with some added information, *moving averages* are a good place to start. A moving average is the average of the closing prices for today and looking back a certain number of days. For instance, a five-day moving average would be the closing today added up along with all the closing prices of the previous four days with that total divided by 5. The process is easy, and the result gives you that much more room to analyze and interpret. (Flip to Chapter 11 for more on moving averages.)

Follow these instructions to add a moving average to your Excel chart:

1. **With your candlestick chart sheet open in Excel (see preceding section), select Chart on the menu bar, and a drop-down menu box opens.**



**Figure 4-5:**  
A basic  
candlestick  
chart  
created  
using  
Microsoft  
Excel.

## 2. Select Add Trendline.

The Add Trendline box should open. There are six types of trendlines from which to choose. Highlight Moving Average at the bottom right.

## 3. In the Period box to the right of the Moving Average box, scroll the number up to 5.

This step provides you with a five-period moving average.

## 4. In the Based on series box at the bottom, highlight Close to ensure that your moving average is based on closing prices.

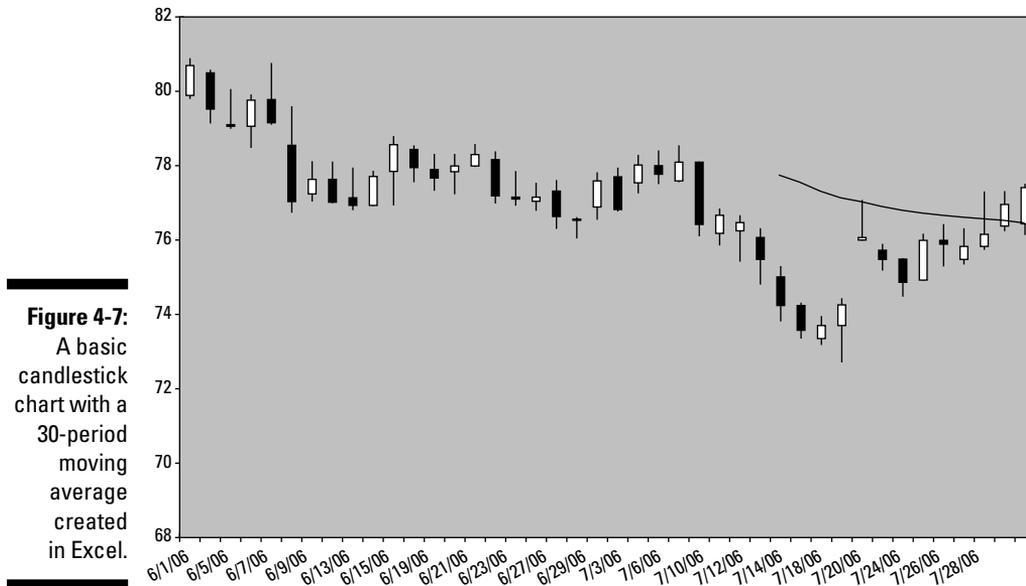
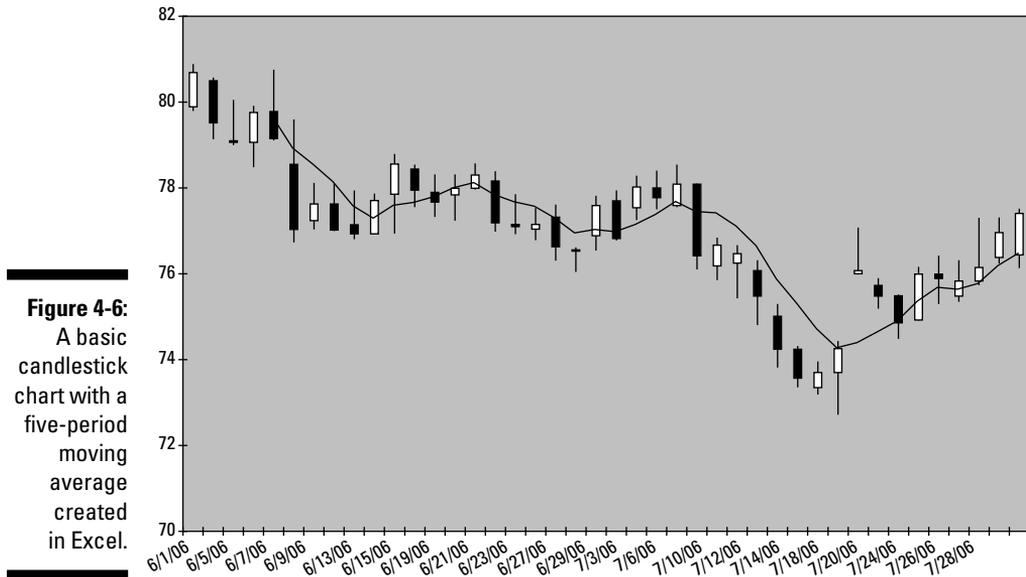
## 5. Click OK at the bottom of the box.

Your chart should now contain a moving average. If you're using the same IBM data that I'm using, your chart should look like Figure 4-6.



Notice that the moving average doesn't start until the fifth time period. This is not usually the case in charting-specific software, just a quirk that appears on Excel. The problem with this quirk is that if you try to add a moving average with a large number of data points, it may end up looking like Figure 4-7.

You have to search a bit for this moving average. See it? It's the small line on the right side of the chart. The line is pretty short because this is a 30-period moving average, and as you can see, it's not very useful because it only appears on a tiny portion of the chart.



## Adding a trendline to an Excel candlestick chart

Another function you can enjoy when using Microsoft Excel for charting is the *trendline* function. It's found in the same area as moving averages (see the preceding section), so if you can add a moving average, you can easily add a trendline. A *trendline* is a line that indicates the direction of a trend either higher or lower. The line is usually drawn based on the lows (in the case of an uptrend) or the highs (based on a downtrend) of the price action in the trend. For more information on trendlines and how to interpret them with candlestick charts, turn to Chapter 11.

But for now, get going on adding a trendline to your chart:

- 1. With your chart sheet open in Excel, select Chart on the menu bar.**

A menu box will open.

- 2. Select Add Trendline to open the Add Trendline box.**

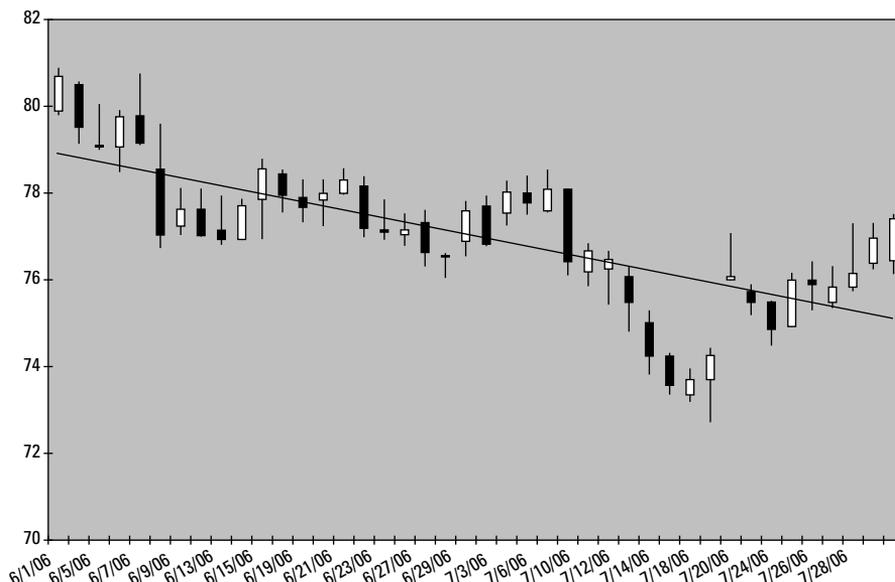
- 3. Highlight the top left box, which is Linear.**

This choice is the default, so it may already be highlighted.

- 4. Click OK.**

If you've continued using the data from the previous examples in this chapter, your Excel chart with an added trendline should resemble Figure 4-8.

**Figure 4-8:**  
A basic  
Excel  
candlestick  
chart with  
a trendline  
added.



## *Adding volume data to an Excel candlestick chart*

The most difficult type of add-on for Excel candlestick charts is a *volume chart*. There are a lot of additional steps involved with this operation, and if it gets to be too taxing, you may want to leave the volume charts to the free online charting services described earlier in this chapter or the charting packages discussed at the end of the chapter.

### *Formatting the data for your chart*

In order to create a chart with candlesticks on top and volume on the bottom (the standard presentation), download the data from Yahoo! Finance in its raw form and then continue with the following:

**1. To begin formatting the data in the correct order (Date, Volume, Open, High, Low, Close), start by deleting column G (Adj. close).**

**2. Highlight column B, click Insert, and select Columns.**

All columns except column A (Date) will move to the right, and column B will be empty.

**3. Highlight column G, click Edit, and select Copy.**

**4. Highlight column B, click Edit, and select Paste.**

Column B should now contain your Volume data.

**5. Highlight column G again, click Edit, and select Delete.**

Column G will be empty.

**6. Highlight columns A through F, click Data, and select Sort.**

Make sure that the Sort By choice is Date and the button next to Ascending is checked, and then click OK.

### *Creating the actual chart*

Now you can make a chart with volume! The steps are very similar to creating the basic Excel candlestick chart:

**1. Highlight all the data in your spreadsheet.**

**2. Click Insert, and from the available choices, select Chart.**

Step 1 of 4 of the Chart Wizard appears.

**3. Under Chart Type, scroll down and highlight Stock.**

In the Chart sub-type, select the bottom right choice.

**4. Click Next, which takes you to Step 2 of 4.**

5. Click Next to open Step 3 of 4.
6. Select the Axes tab and make sure that under Primary Axis then Category (X) axis the button next to Category is selected.
7. Select the Gridlines tab and make sure that all boxes are deselected.
8. Click the Legend tab and make sure that the box next to Show legend is deselected.
9. Click Next at the bottom of the box to advance to Step 4 of 4.
10. Click the button next to As new sheet and click Finish.

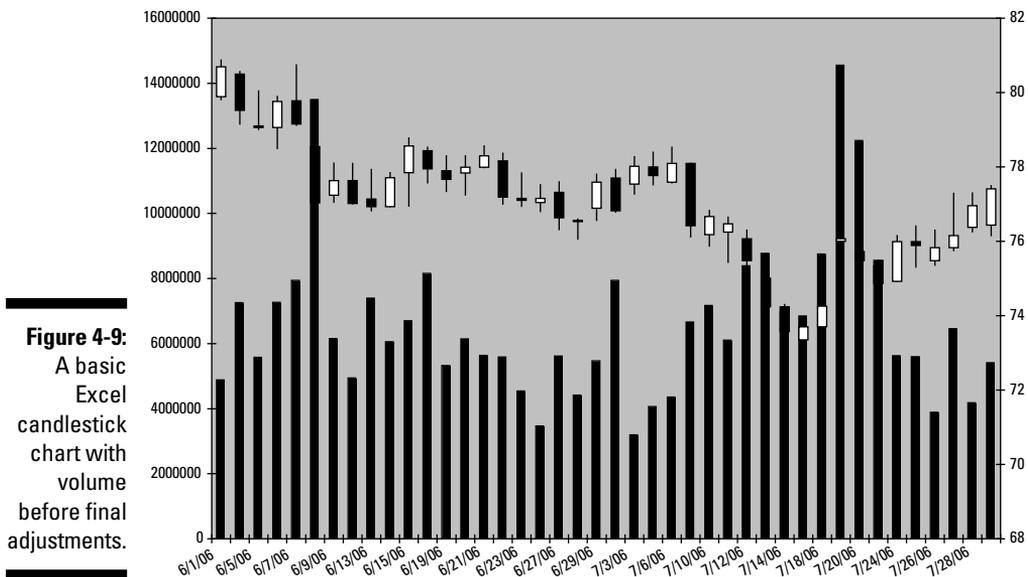
The result should be a chart similar to Figure 4-9. Notice the overlap of the volume and the pricing data. You're almost finished, but to correct that overlap and make the chart more readable, you need to make some small adjustments.

### *Making the chart presentable*

To make your chart fully readable, you need to adjust the range of the data on the left side of the chart by doing the following:

1. Right-click one of the gray row number cells on the left side of your chart and click Format Axis.

The Format Axis box will open.



**2. Click the first two boxes under Auto to deselect Minimum and Maximum.**

Make sure the Minimum is set at 0. For Maximum, take the default number and multiply it by 3. In my IBM example, the maximum is 16,000,000, so I would replace that with 48,000,000.

**3. Click OK.**

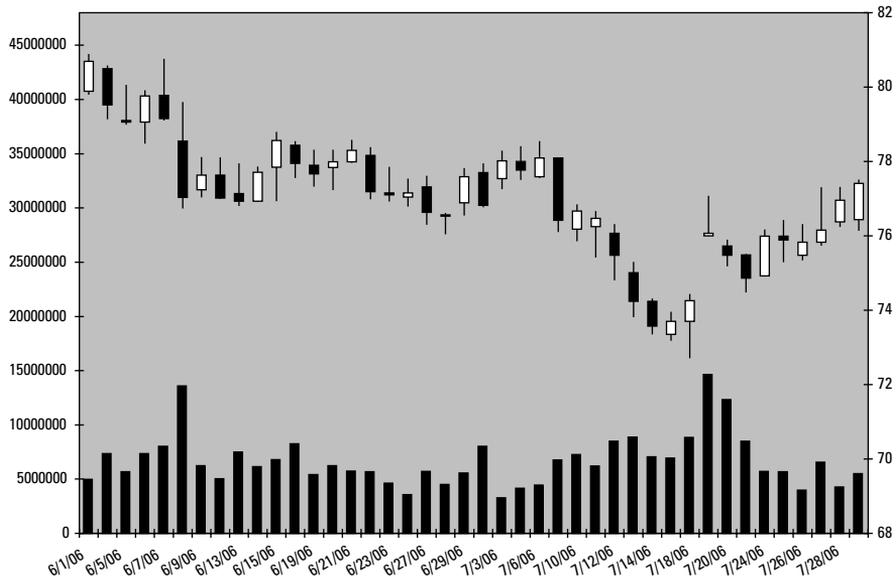
Your chart should now have the volume data clearly visible on the bottom and the pricing action set nicely at the top. Your final result should look like Figure 4-10.

## Exploring Your Charting Package Software Options



I've spent my career working on institutional or professional trading desks, and I can confidently say that the tools available to individual traders have come to rival what the professionals use. You may want to consider making the relatively small investment to tap into an attractive array of charting and analysis options.

**Figure 4-10:**  
A basic  
Excel  
candlestick  
chart with  
volume.



Many low-cost charting software packages are available for download for your candlestick charting endeavors, and I could probably write a whole book about them, but for this chapter, I've chosen three of the most popular offerings. All three of these have a core group of users that argue the merits of their chosen software, but it's best for you to consider what each package offers and choose the one that best suits your needs.

## *Remembering a few key points when selecting charting software*

When deliberating on which charting package may be right for you, you need to consider several key factors. First and foremost, make sure the software has the ability to display candlestick charts. This book is full of reasons why candlestick charting is a superior way to display price data, and there's really no reason to waste time or money with a package that isn't candlestick friendly. Some of the other factors you'll want to consider are price, data (where it comes from, what it costs, and so on), and applicability to the type of security you're trading. All are covered in this section.

### *Considering price*

Price should be a primary concern when choosing charting packages. Any money you lay down for the software has to be recouped through trading. Although trading or investing may likely be more of a hobby than a business for you, you should approach the profit and loss aspect in a very businesslike manner. Suppose you're making an average of \$2,000 a month trading, but you're spending \$3,000 on systems and equipment. You may be having fun, but is it worth \$1,000 a month?

Some charting packages can be downloaded at no cost, and then the providers charge you each month to use the service. Others charge you for the one-time download *and* for monthly service. Pricing for trading software ranges from around \$50 to \$1,000 per month, depending on the level of functionality you need. I pay about \$200 per month for various services, and when tracking my trading profits, I deduct these expenses at the beginning of each month.



If you're planning to execute only a handful of trades per month, you may be happy with an offering on the low end of this range. On the other end of the spectrum, a trader sitting in front of a screen all day trying to make a living wants all the bells and whistles that come with a high-end system.

### *Determining data demands*

Different charting packages offer various options in terms of the data you need to get the most from the software. For example, you can have access to data that displays price moves in periods as short as a minute or as long as a month. But if you're trading over the course of a few days, you don't need access to minute-by-minute data, and a chart made up of monthly data wouldn't be of much use. You would most likely want to use a chart that displays data in a daily format.

You also need to consider how "fresh" you need your data to be, and make sure that the charting package you're considering is adept at dealing with the right type of data. (By fresh, I mean data that's being updated as the trades occur, or "real-time" quotes.) If you're looking to work with trading time frames of less than a day, you may need real-time quotes, which can be costly. (Most of the free quotes you get online are delayed by 15 or 20 minutes.) And if you're going to be paying for real-time data, you want to make certain that your charting software is built to work with that kind of data.



The exchanges charge for real-time data, and some of the fees are much higher for professionals than for nonprofessional traders. There isn't much difference between the fees for pros and nonpros in the commodity exchanges, but the stock and option exchange fees for real-time data are based heavily on your professional status. Table 4-1 shows examples of the fees charged by TradeStation for access to various exchanges (see the section "TradeStation" later in this chapter). It provides a useful illustration of why you should be sure to sign up as a nonprofessional.

**Table 4-1 Monthly Professional versus Nonprofessional Fees**

<i>Exchange</i>	<i>Professional</i>	<i>Nonprofessional</i>	<i>Difference</i>
American Stock Exchange	\$30.20	\$1.00	\$29.20
NASDAQ (Level II)	\$56.00	\$10.00	\$46.00
New York Stock Exchange	\$127.25	\$1.00	\$126.25
Option Price Authority	\$32.25	\$3.00	\$29.25

### *Factoring in what you'll be trading*

Another consideration for your choice of charting software is what you'll be trading. Some packages are better equipped for handling stocks, and others are more compatible with futures or commodities. There's an 80-percent rule that you can use here. Get the software that's appropriate for 80 percent of the trading you'll actually be doing, not the trading that you hope to get into in the future.



You may want to see if international markets are available if you think you may expand in that direction in the future. Also, if you're considering trading options, the differences can be pretty dramatic. Make sure your focus is on how the software works with your markets of choice.

## *Considering a few charting package options*

To give you an idea of the charting packages available for individual traders and investors, in this section, I highlight three of the most popular package options. By no means are these the only options available, but they've been around for quite some time, enjoy a wide user base, and offer conferences or classes where you can discover more about using the packages.



Each of the charting packages discussed in this section offer some sort of free trial. Take advantage of these risk-free test runs and don't limit yourself to just these three.

### *eSignal*

I'm not sure if it's a positive or a negative, but the variety of offerings from eSignal can be a bit overwhelming. The company has several products that run the gamut of sophistication from programs for amateurs to intricate software made for the pros. The best way to illustrate the breadth of its product line is to examine its products' price range: Basic eSignal is as low as \$95 a month, while the most expensive product — Advanced GET — can run more than \$1,500 a month.



For novice purposes, focus on eSignal, the flagship product. It's more than adequate if you're just getting started with charting and trading. It also covers all domestic markets and allows you the choice of real-time or delayed data. And eSignal also offers free seminars all over the country where you can find out more about the product and charting in general, even if you don't use eSignal.

As a positive, the eSignal brand offers a full suite of very professional products, and as you work your way up to being a very successful full-time trader, you can also move your way up its product line. More information on eSignal's products can be found at [www.esignal.com](http://www.esignal.com).

### *MetaStock*

MetaStock is actually a product of Reuters, which I discussed earlier in this chapter. MetaStock offers what it calls real-time or end-of-day data, but it

actually charges for its software platform, which starts at around \$499. It also adds a monthly fee starting at \$59.



The software is very expensive but very powerful and may be the most professional offering out there for individuals. MetaStock certainly has versatility going for it — the program covers virtually every market you would even consider trading in the world.

Check out MetaStock at [www.equis.com](http://www.equis.com).

### *TradeStation*



One of the nice features that TradeStation has is the ability to back test trading strategies. One of the best methods for determining a trading plan is to back test your trading ideas. This process involves taking historical data and seeing what would've happened if you had applied and traded a set of rules to this data — sort of an “If I would've known then what I know now” approach.

TradeStation's back testing feature uses a programming language called EasyLanguage. It takes some time to master, but it has a wide user base, and classes are frequently offered online and at various sites across the country to teach this programming language.

After you find the strategies that allow you to retire young, you can use TradeStation's automated trading feature to implement these strategies. This function allows you to set up some trading systems in advance of when you want them to become active, and TradeStation takes care of the rest. It's a great option if you work during the day but still want to get in on some short term trading.

Go online to [www.tradestation.com](http://www.tradestation.com) for info on TradeStation's charting package.



In addition to offering a very solid, easy-to-use charting software package, TradeStation is also a brokerage firm. It's actually a publicly traded brokerage firm, so you can trade with it or trade its stock, which has the symbol TRAD. You may be thinking, “Why do I care if it's also a brokerage firm?” Well, this is useful to know because if you use its brokerage arm for trading, you actually get to use their charting package free of charge (as long as you conduct a minimum number of trades each month; otherwise, the base price is \$249 per month).