CHAPTER 1

The Ins and Outs of Trends with a Toolkit for Analysis

Years ago *Fortune* magazine ran a powerful campaign about its media power under the slogan, "There is nothing more powerful than a trend." In reality, there is something even more powerful than a trend, and that is being able to perceive the beginnings and ends of trends. To be able to do that is to be able to take full advantage of knowing when to be in and when to be out. As Shakespeare said, "There is a tide in the affairs of men, which, taken at the flood, leads on to fortune."

Trading and investing is the art of deploying capital as prices change over time. When we analyze market behavior we are looking at two interactions: how price is changing (or not changing) over time; and whether or not the current price is behaving in a manner that indicates an action.

Our goal as investors and traders is to overcome fear and greed by trading what we *see*, not what we think or feel. Conceptually, trading and investing is putting capital at risk over time, and profits (or losses) are the outcome when we exit our trades. Trading is easiest when our capital produces profits quickly. Quick profits in short time frames are possible if we are trading in an instrument that is strongly trending. Then we should be continuously harvesting profits.

We define an uptrend as higher highs and higher lows over time. The faster prices rise in a shorter time frame indicates the strength of that uptrend, or shows how quickly higher highs can be achieved over time. Conversely, lower lows and lower highs are what characterize downtrends. The faster prices fall in shorter time frames allows us to calculate the strength of the downtrend. (A tool used for precise calculations, the 60 period high/low channel, will be described later.)

Our job as an investor or trader, therefore, is to recognize a trend and to identify when that trend is ending. If an uptrend is a series of highs, what does the end of that trend look like? Most traders would say it looks like a series of lows. However, more accurately, the end of an uptrend can just be an absence of further highs.

From either a trading or investing perspective, when our financial instrument breaks out into a series of new highs, we usually have our quickest, greatest profits in short time frames. Likewise, when we are short and it breaks down into lower lows, we frequently have our quickest, largest profits in short periods of time. We define a new series of highs as an emerging uptrend and a new series of lows as an emerging downtrend. Additionally, when there is an absence of new highs over time, that uptrend has potentially ended and likewise, on the down side, when there are no further new lows over time that downtrend has potentially ended.

60 PERIOD HIGH/LOW CHANNEL

We can track highs by using an indicator that draws the value of what the highest high has been for the last 60 periods. We then can see where the current price is relative to whatever the highest high has been for the last 60 periods. When price starts to exceed this line, the market is now producing the higher highs that define an uptrend. We use 60 periods because that is three months of trading data, one calendar quarter in the annual earnings cycle. (See Figure 1.1.)

If price has been going sideways for some time, there will be no new higher highs and the 60 period highest high indicator will go flat, indicating a potential end of trend.

We can also track lows by using an indicator that draws the value of what the lowest low has been for the last 60 periods. We then can see where the current price is relative to whatever the lowest low has been for the last 60 periods. When price starts to fall through this line, the market is now producing the lower lows that define a downtrend (see Figure 1.2).

If price has been going sideways for some time, there will be no new lower lows and the 60 period lowest low indicator will go flat, indicating a potential end of the downtrend.

We now have an indicator that tracks highs and an indicator that tracks lows. These help us to see the trend as it unfolds. We add to these two indicators a third: the 50 percent retracement indicator. This simple indicator shows the middle of the channel created by the 60 period high/low channel. It is calculated by summing the value of the high and low channels, then dividing by two. As you will see later, the 50 percent retracement line can be useful in making trading decisions in the trend (see Figure 1.3).

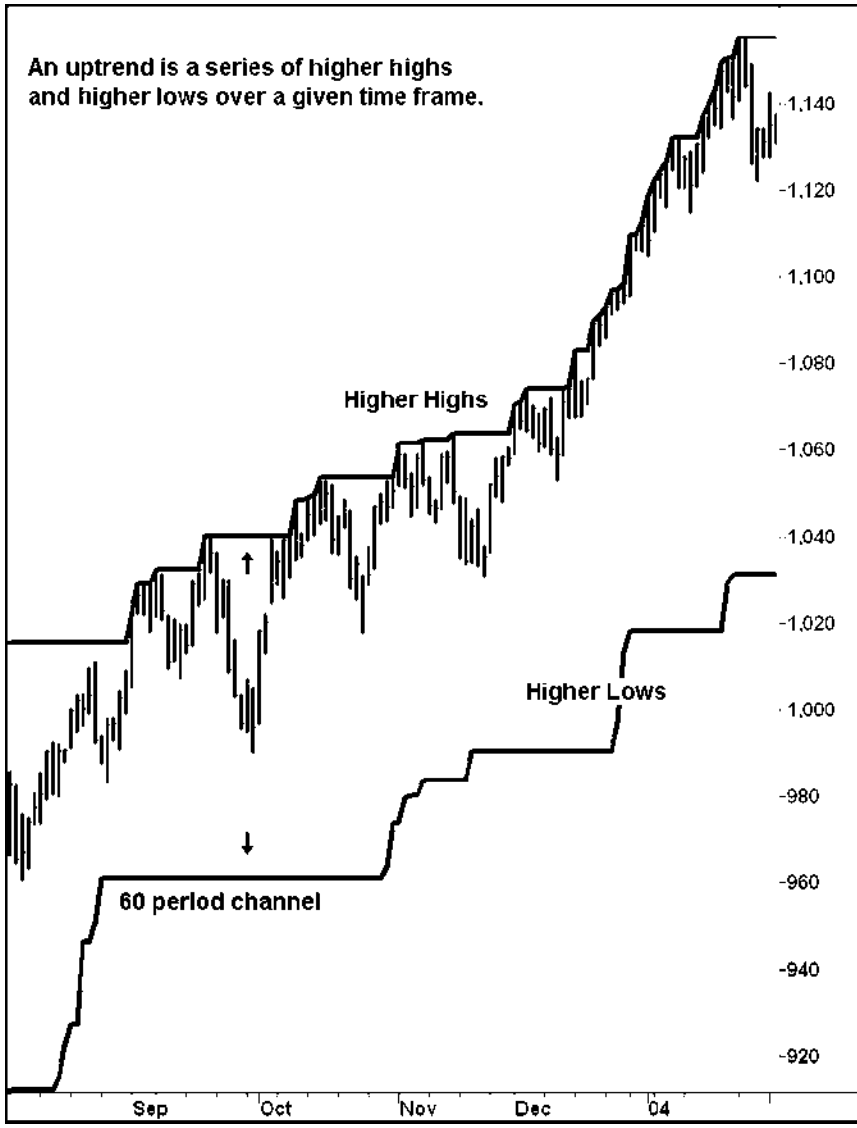

FIGURE 1.1 Uptrend with 60 Period High/Low Channel
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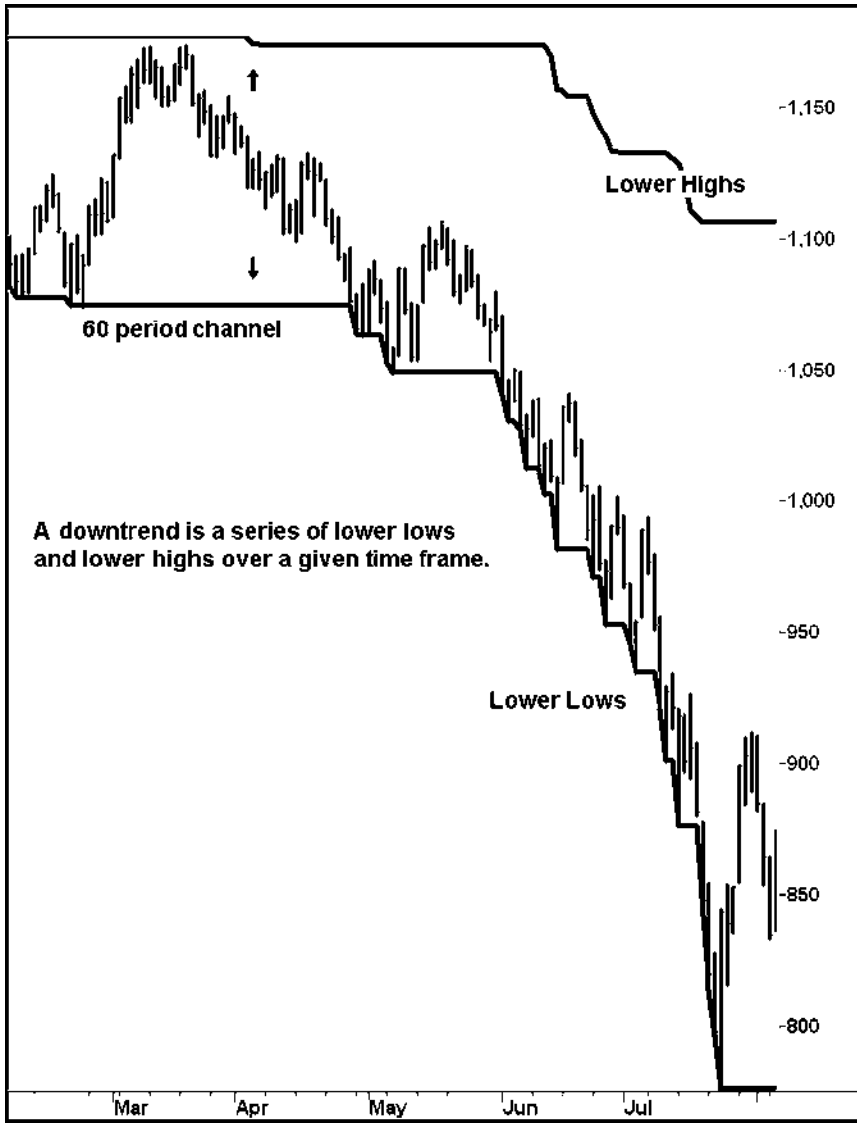

FIGURE 1.2 Downtrend with 60 Period High/Low Channel
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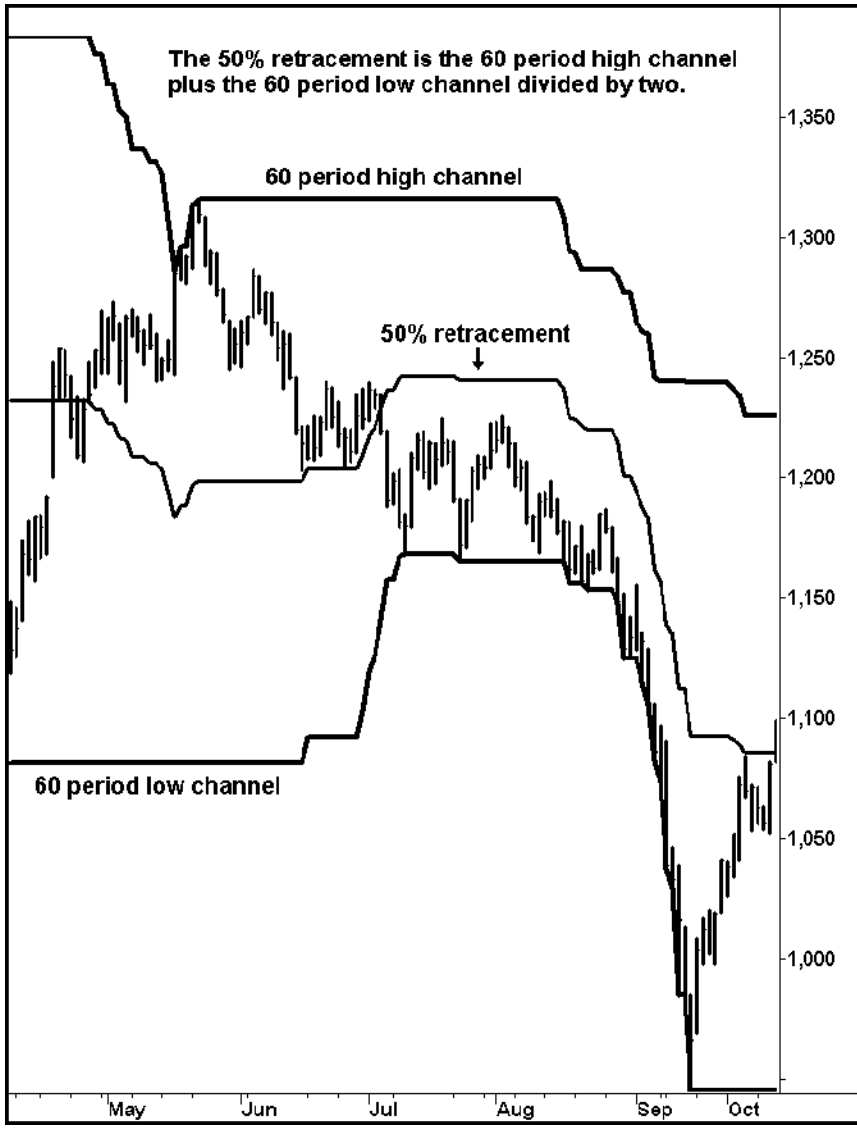

FIGURE 1.3 Fifty Percent Retracement of the 60 Period High/Low Channel
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"Bullish" is shorthand for upward price action. However, not all upward price action is indicative of further trend. In order to determine that upward price action is bullish, that price action needs to be viewed in the context of what has preceded the current price action. By comparing current price action to recent and longer term price action, we can classify current prices into specific phases, thus offering an objective definition of price phase. There are a number of ways to determine the context preceding the current price action. For the sake of simplicity, uniformity, and availability, we use moving averages.

Moving averages provide smoothing, which evens out the variability of short term price movement. They are also useful as comparative tools, where a shorter term moving average is compared to one of a longer length. This comparative feature means price can be rated to both recent as well as longer term averages, meaning current price can be rated in the context of recent as well as long term price. Most importantly, the slope (direction) of a moving average is an excellent tool for trend analysis.

Moving averages are calculated by simply summing a series of prices, then dividing by the number of prices in the series. A 3 period moving average with the numbers 24, 25, 26 sums to 75, which is then divided by number of observations, 3, to give an average value of 25. On a chart, the last price plot will be 26, and the moving average plot will be 25. If the next number in the series is 27, the new 3 period moving average will be the three observations of 25, 26, 27, summing to 78, which divided by 3 averages 26. The price plot is now 27 and the moving average plot is now 26. In this simple example, you can see that prices are closing above the moving average, and the moving average is increasing (from 25 to 26). This is upward and indicates positive slope.

If we have a series of prices, many of which are higher than a specific period of preceding prices, and we average all of the current time period prices, what would we find? We would find that this moving average, as time unfolds, has been increasing as prices went up.

Arithmetically, a series of higher highs and higher lows translates into a moving average that will slope upward, and as price action continues over time, this will result in the longer term moving average sloping upward. Using daily price data, we use the 50 period simple moving average, which is ten weeks of price action (or most of a quarterly earnings reporting cycle). This is sufficiently responsive to reflect the changing dynamics of price behavior without being unduly influenced by short term swings (see Figure 1.4).

If prices trend sideways for weeks (little change), you can see that the average of those prices will start to equalize. This will cause the moving average to flatten out, indicative of lack of trend in the price action.

FIGURE 1.4 Calculating the 50 Period Moving Average
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A 50 period moving average is an excellent tool for seeing recent trend. We can supplement our analysis of trend by looking at a moving average that represents longer trend.

A moving average of 200 periods, which represents 40 weeks of trading data (just over three earnings quarters), captures the longer-term dynamic of changing price behavior. These two commonly used indicators are institutional "rudders," showing how the market is steered.

Why use a 200 period moving average in addition to a 50 period moving average? Our job as traders is to identify trends and effectively trade them because trading with trend provides us the quickest, biggest profit in the shortest period. Usually, trends do not end quickly nor do they end with a sharp, substantial reversal in price. Therefore, a longer moving average can better help us to see the longer trend of prices, which can enable us to be trading with that trend.

Additionally, the longer moving average takes into account the prime movers of markets and prices: institutions! Institutional infusion of cash from mutual funds, hedge funds, money management firms, and trading desks are the primary forces that drive the markets, and thus create the short, medium, and long term price and volume trends.

These national and global players work with millions upon millions of shares of equity; they are responsible for the lion's share of the two to four billion shares traded per day on the major U.S. markets. Our study of the Dow Jones Industrial Average 16-year cycle looked for discernible inflection points and patterns in the DJIA. One of our key observations was that the Dow's moves can be specifically analyzed using the 50 period and 200 period moving averages. These two commonly used indicators are institutional "rudders" and show distinct patterns over the past 71 years. If the 200 period moving average is up, generally it shows that institutions are buying the market. If the 200 period moving average is down, usually it shows that institutions are selling the market. Given those facts, why argue with a gorilla? Only if you want to lose! (See Figure 1.5.)

One of the most important indicators we can use for significant trend analysis is the direction, or slope, of the 200 period moving average. One of the best opportunities for buying in an early trend is when the slope of the 200 period moving average goes from down to up. In the *TREND*advisor Diamond Analysis, we call this the "transition" point, and it signifies when the market is transitioning to a stronger trending mode (with the other conditions in place). (See Figure 1.6.)

The 50 period moving average describes recent price trend; the 200 period moving average describes longer term price trend. By examining current price in relation to these moving averages, and these moving

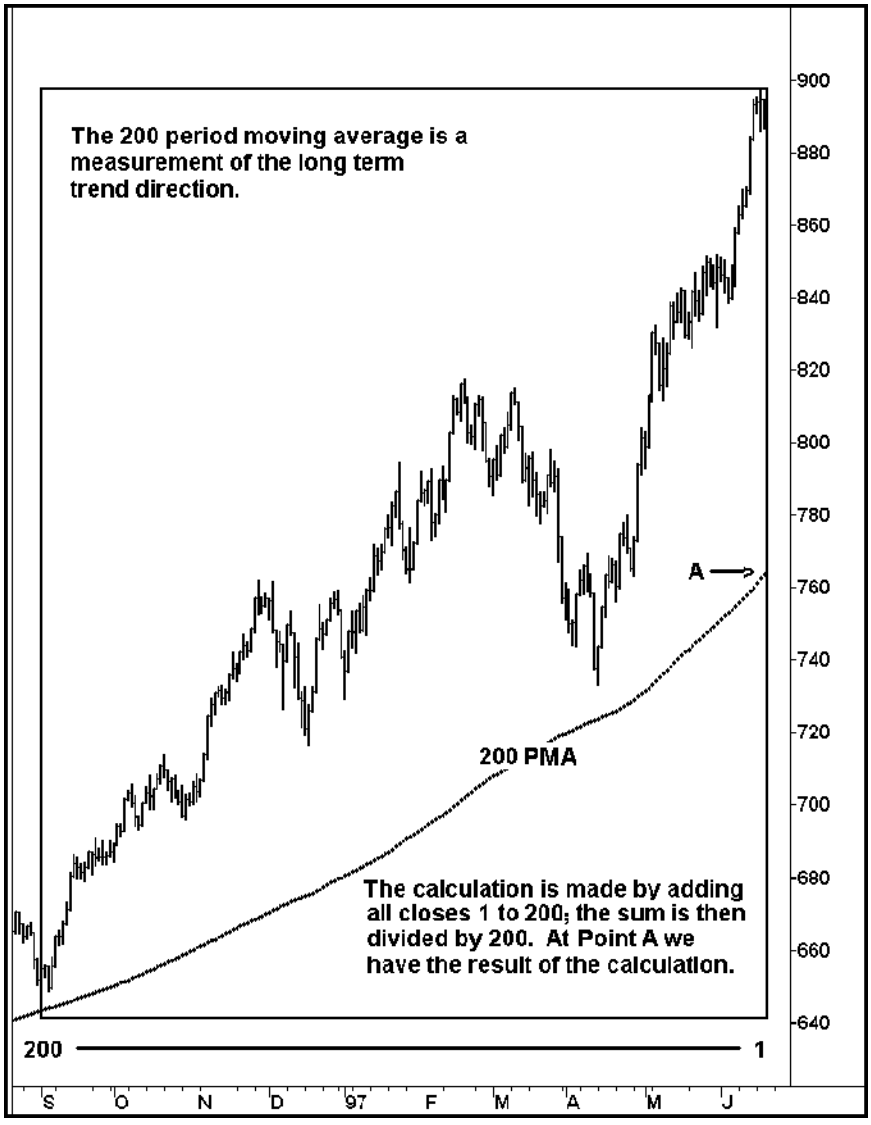

FIGURE 1.5 Calculating the 200 Period Moving Average
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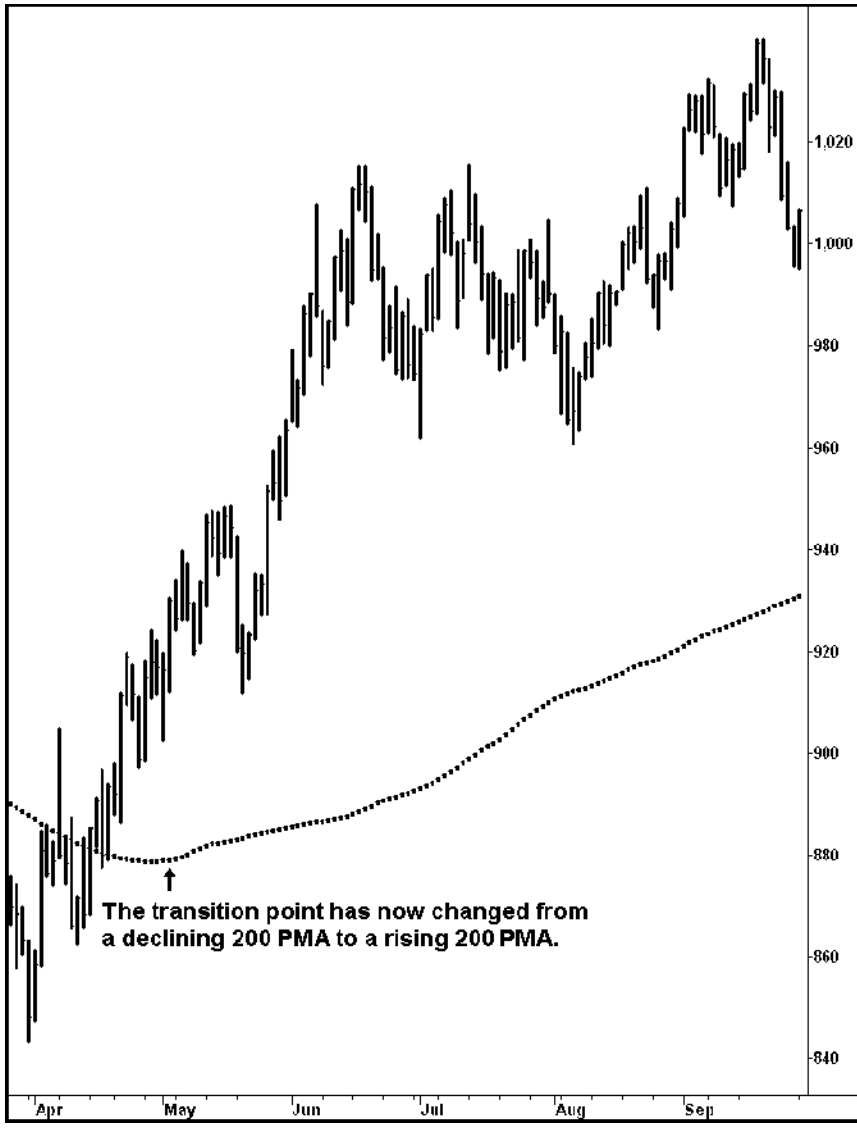

FIGURE 1.6 The Transition Point
The transition point displays the change in slope of the 200 period moving average. This signifies when price is potentially transitioning to a different trend.
Source: © TradeStation Technologies, Inc. 1991–2005

averages in relation to each other, we have an excellent toolkit for analyzing trends.

Next, we want tools to measure the strength of the trend, telling us how much price change we are getting over time.

RATE OF CHANGE INDICATOR

The first of these is Rate of Change—trend is price over time. One way of measuring strength of trend is by using the Rate of Change (ROC) indicator. What the Rate of Change indicator measures is how much the price has changed over the lookback period, which is set at 21 periods. We use 21 periods as our length because there are 21 trading days in the month, on average, over a trading year. If the ROC line is rising sharply, this means we are getting strong upward price movement—strong momentum. If the ROC is rising weakly, we do not have strong momentum. On the downside, a sharply falling ROC means there is strong downside price change.

How ROC Is Calculated and What it Is Telling Us

The 21 period Rate of Change indicator is simply the percent of the change in price from the price 21 bars ago. It takes the price of the current bar and divides it by the price of the bar 21 periods ago. This gives a value. If the stock has gone up in the 21 periods, the value will be greater than 1; down, it will be less than 1. This value is then subtracted from one to give the positive change for up periods and negative change for down periods. Finally, this number is multiplied by 100 to give a whole number percentage. For example, in an uptrend, if the current close is 110 and the close 21 bars ago was 100, current close divided by the 21 bars ago close would be 110/100 = 1.10. This value is then subtracted from one (1.10 – 1 = .10) to give a number = .10. Finally, this .10 is multiplied by 100 to give a percent—10 percent. So the ROC value is 10—the stock is up 10 percent. In a downtrend, if the current close is 90 and the close 21 periods ago was 100, 90 divided by 100 equals .9 (90/100 = .9). Point 9 minus 1 equals negative .10 (.9 – 1 = –.10). The –.10 multiplied by 100 equals minus 10 percent so the ROC value is –10, meaning the stock has gone down 10 percent from 21 periods ago. (See Figure 1.7.)

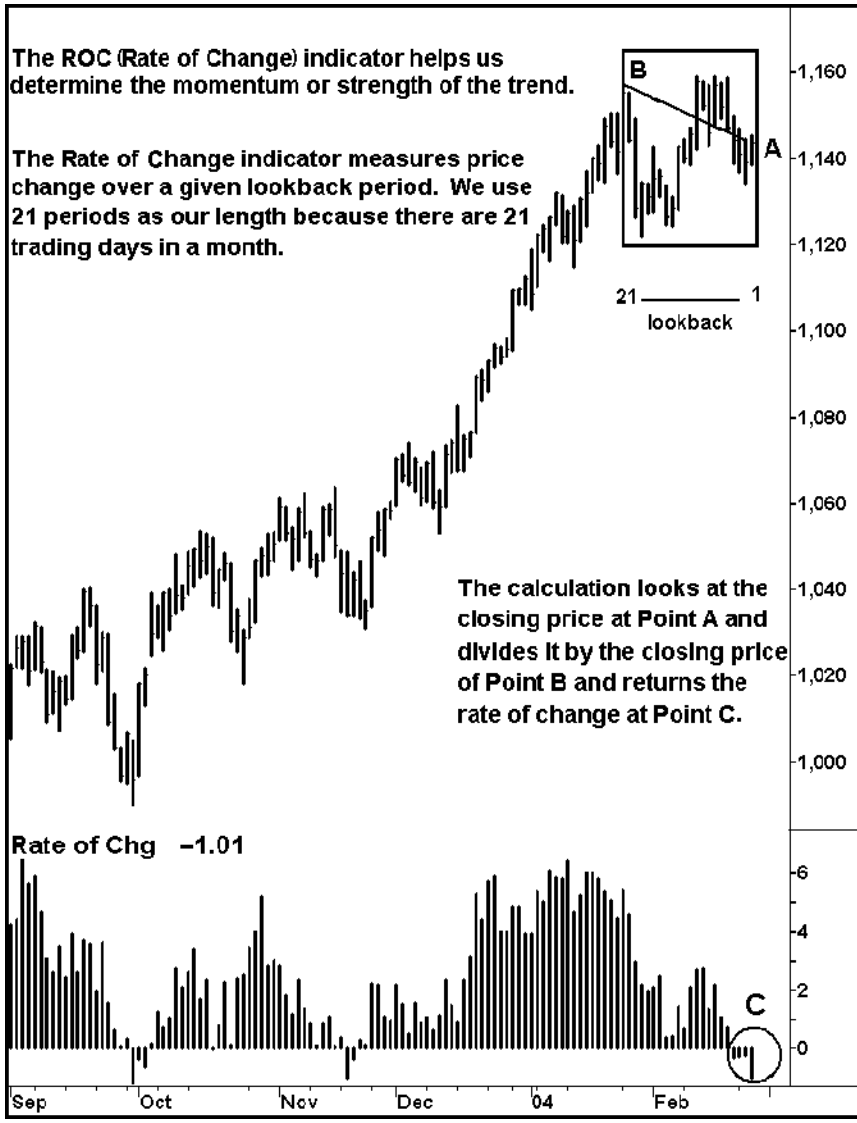

FIGURE 1.7 The Rate of Change Indicator
The ROC (Rate of Change) indicator helps us determine the momentum or strength of the trend.
Source: © TradeStation Technologies, Inc. 1991–2005

STOCHASTICS

Next we use an indicator that tracks closes of price relative to the range they have been in. This is called *stochastics*. What stochastics measure is where the current close is in relation to recent range. If prices are strongly trending, stochastics will give a high reading. This is telling us that current and recent closes are at the upper end of the range—price is high in that range.

How Stochastics Are Calculated and What They Are Telling Us

Stochastics calculate where the close is relative to the recent range. This is accomplished by subtracting the lowest low of the last 21 periods from the current close, then dividing this number by the high of the last 21 periods minus the low of the last 21 periods. In an uptrend, if the current close is 109, and the 21 period high is 110 and the 21 period low is 100, the calculation is 109 minus 100 or 9 (109 – 100 = 9) divided by 110 minus 100 or 10 (110 – 100 = 10). This results in a value of .9 (9/10), which is telling us that the close is at the 90 percent level of the recent range. In a downtrend, if current close is 91, the 21 period low is 90 and the 21 period high is 100, our calculation is 91 – 90 or 1 (91 – 90 = 1) divided by the high of 100 minus the low of 90 or 10 (100 – 90 = 10). This results in a value of .10 (1/10 = .10) or at the 10 percent level of the recent range. The values of these individual calculations for each new close are then averaged over some period (generally 3 bars) to reduce the jumpiness from one calculation to another.

Generally, stocks that are strongly uptrending close high in the range, stocks that are strongly downtrending close low in the range. Stocks that are trendless tend to vacillate from closing low in their range to high in the range.

In our charts in the following chapters, you will see a dotted line on the stochastics indicator, which is drawn at 50 percent. This line cleaves the indicator into two areas. If the stochastics indicator is above 50, this means that the close is in the upper part of the recent range. A reading below 50 means the close is in the lower half of the recent range. As you will see later, where the stochastics readings are is an important part of phase analysis in preparing to trade. (See Figure 1.8.)

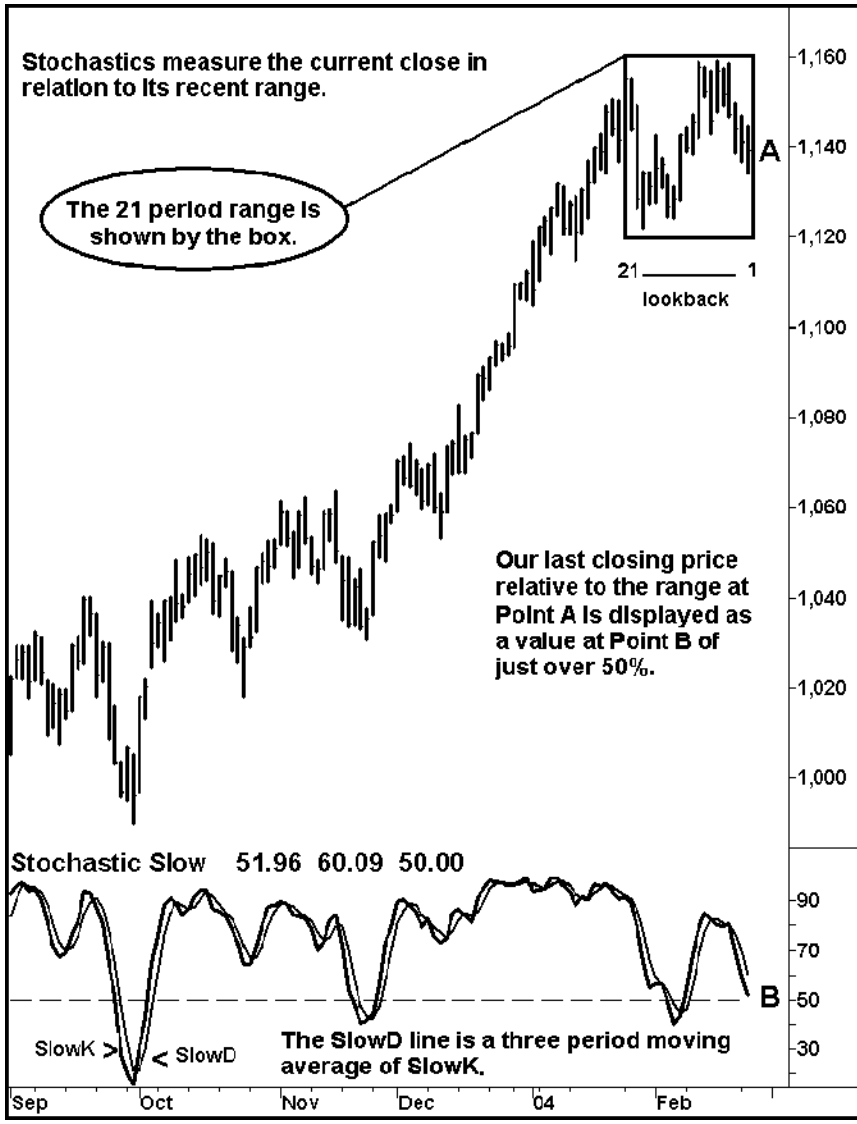

FIGURE 1.8 Stochastic Slow
Stochastic slow measures the current close in relation to its recent range. We use a value of 21 for this calculation. When this indicator is above the 50 dotted line, this shows that the close is in the upper 50 percent of its recent range. When this indicator is below the 50 dotted line, the close is in the lower end of its recent range.
Source: © TradeStation Technologies, Inc. 1991–2005

ACCELERATING VOLUME

One more element of the *TREND*advisor Diamond Analysis is studying volume. The reason we analyze volume is that, as prices increase, we want confirmation that there are increasing transactions at these higher prices. More transactions at higher prices confirm for us that demand is increasing as prices rise. Ideally, we want to see these increases in volume as prices surge (when we are getting higher highs), and decreases in volume as the prices consolidate after the surges.

Volume Oscillator

To analyze volume, we combine a 5 period volume oscillator with a 21 period volume oscillator. The volume oscillator is simply a moving average of volume. We use a moving average of volume to smooth out the spikes of any individual day; this is to reduce the potential for being misled by any one data point. If the short term moving average of volume is surging relative to the longer term, this is telling us we are getting the surge that confirms volume is picking up as the price is moving. (See Figure 1.9.)

THE TOOLKIT

This is our toolkit. For uptrends, the 60 period high/low channel helps us to see when higher highs are occurring, which defines an uptrend. It also helps us to see when there are no more higher highs, which can indicate an end to that trend. The 50 percent retracement line helps us to see if price is in the upper half of the channel (above the line) or the lower half (below the line). The 50 period moving average helps us to see what recent price action has been doing. If the 50 period moving average is sloping up, the market has been moving up. The 200 period moving average helps us to see the longer term trend. If it is moving up, then the longer term trend has been up. The Rate of Change indicator helps us to measure the power, or momentum, of the move. An increasing rate of change signals increasing power on the upside. Stochastics help us to see where closes are happening in relation to the recent range—in uptrends, closes tend to happen at the high end of the range. And the volume oscillator helps us to see if volume is increasing in this trend.

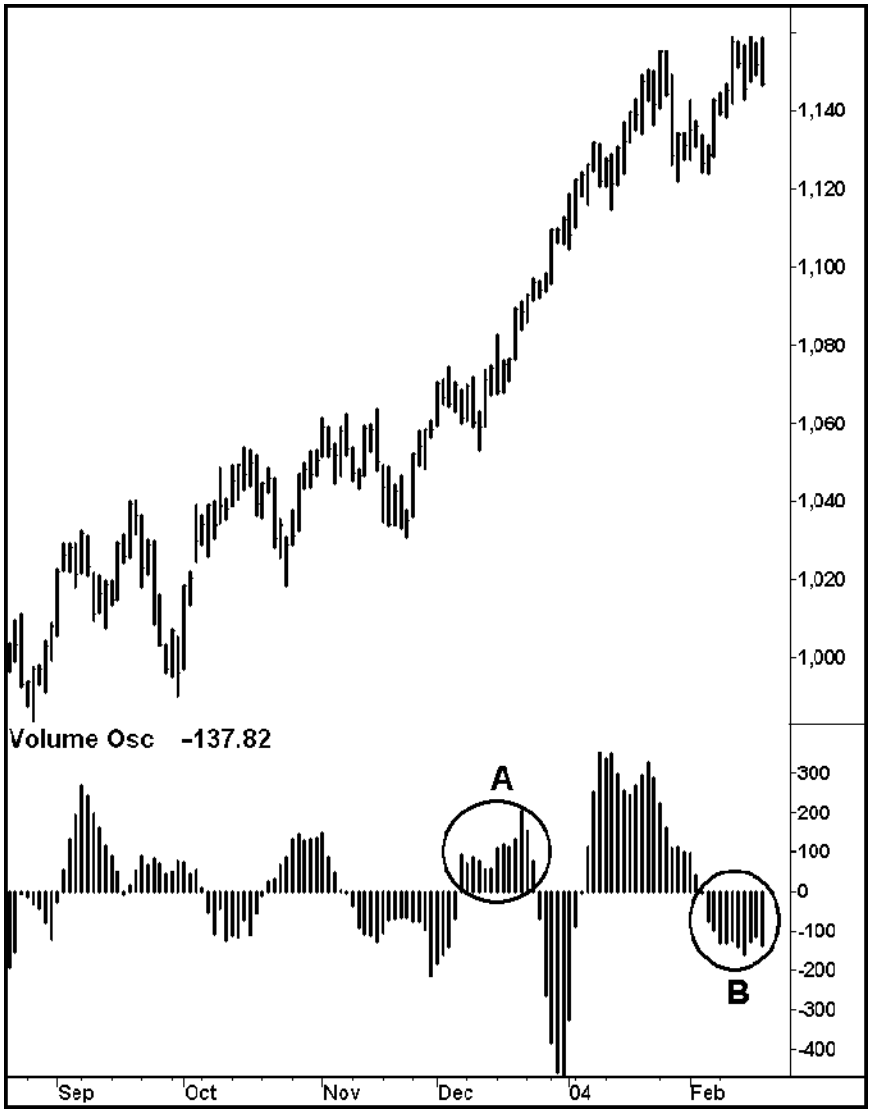

FIGURE 1.9 The Volume Oscillator
The volume oscillator quickly identifies trends in volume. We calculate a 5 period moving average of volume, then subtract this from a 21 period moving average of volume. The result is a value that fluctuates above and below the 0 (zero) line. At Point A we have volume increasing with price moving up, and at Point B we have an absence of volume as price moves to a new high.
Source: © TradeStation Technologies, Inc. 1991–2005

For downtrends, the 60 period low channel helps us to see when lower lows are happening, which defines a downtrend. It also helps us to see when there are no more lower lows, which can indicate an end to that trend. The 50 period moving average helps us to see what recent price action has been doing. If the 50 period moving average is sloping down, the market has been moving down. The 200 period moving average helps us to see the longer-term trend. If it is moving down, then the longer-term trend has been down. The Rate of Change indicator helps us to measure the power, or momentum, of the move, and a sharply dropping rate of change signals increasing power to the downside. Stochastics help us to see where closes are happening in relation to the recent range—generally, in downtrends prices close at the lower end of the range. And the volume oscillator helps us to see if volume is increasing in this trend.

Our toolkit assists us with two things. The first is to analyze trend. It also helps to guide us in making our trading decisions—when to enter, when to exit.