

**PART I**

**Foundational  
Principles**

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**CHAPTER 1****Supremacy of  
the Trend**

**W**here do you start when you first look at a stock chart? Are your eyes drawn to the indicators first? Perhaps your chart has too many indicators and you don't know where to start. With so much information for the technical analyst to discover, new traders often do not know where to begin or what should guide them in structuring their price charts. Sometimes it can be helpful to remove the indicators and focus squarely on price itself—after all, you've certainly heard the axioms "Price is King" and "Only price pays."

This introductory chapter will examine why trend analysis is so important to formulating your trading plan. Using your assessment of the current trend structure as guidance for which indicators to use and which to ignore, you will then be able to envision a clearer pathway ahead for the next swing or directional move in price, and thus be better equipped to take advantage by trading the expected move.

After all, you must start your decision-making process somewhere and you must be as objective as possible, as opposed to subjective analysis which is prone to opinion, bias, and error. While technical analysis is more of an art than a science—which leaves the chart open to interpretation—you build your foundation from time-tested principles that guide your analysis each time you review a chart and seek opportunities for profit. This chapter lays the foundation for successful analysis and trading, starting with the underlying principle of technical analysis—the trend.

**WHAT IS A TREND?**

Before making any decisions about buying or selling a particular stock or market, you must first assess the current price trend as a backdrop to further analysis. Afterward,

you will be better able to assess the longevity, magnitude, and probabilities of the current trend continuing. Before applying any intermediate or advanced analysis methods, you should always start with a firm understanding of the basic concepts of supply and demand, as revealed through the price charts. The best way to begin your analysis is by simply quantifying the current trend objectively, be it up, down, or sideways. While it seems so simple, many traders skip this step and jump right to the indicator signals, not understanding that some popular indicators work well when a trend is established but then fail when a sideways trend occurs. By objectively assessing the trend in place, you will then be prepared to take the next step in your analysis. Let's start with the basic question, "What is a trend?"

Breaking it down into simplest terms, a trend is a series of price swings traveling in the same direction over time. Most traders assess the strength of up-trends in order to find buying opportunities in a prevailing trend that has been confirmed. In the context of a prevailing up-trend, traders will be looking to put on new positions on pullbacks to expected support levels.

## TREND

Trend is the prevailing tendency of the price of a security or market to move in the same direction over time. In the stock market, trends are often divided into long-term or secular trends, intermediate term trends, and short-term trends.

**Up-trend:** A series of higher price swing highs and higher price swing lows over a given period of time.

**Down-trend:** A series of lower price swing highs and lower price swing lows over a given period of time.

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In his book *Technical Analysis Explained*, Martin Pring gave us the best definition of technical analysis—the method of making decisions to the likely future price movement of a stock based on the past and current chart—with the following definition, which underscores all of our efforts as traders:

*The technical approach to investments is essentially a reflection of the idea that prices move in trends which are determined by the changing attitudes of investors towards a variety of economic, monetary, political, and psychological forces.*

*The art of technical analysis is to identify trend changes at an early stage and to maintain an investment posture until the weight of the evidence indicates that the trend has reversed.*

For traders, the most important parts of the definition are the "identify trend changes at the earliest stage" statement as well as the "weight of the evidence" portion. These two

concepts underscore all of the decisions you make as a trader or an investor. Let's break them apart individually.

### **Identifying Trend Changes Early**

One of the most commonly accepted principles of technical analysis states that the trend, once established, has greater odds of continuing than of reversing. If we accept this principle as true, then the most profitable, lowest risk opportunities will come by trading retracement-style set-ups in the direction of a confirmed, prevailing trend. Many new traders try to call tops and bottoms in a stock and thus fight established trends, which often results in monetary losses and psychological frustration. While all traders want to be the first to call reversals in markets, and indeed traders can make a public name for themselves by accurately calling major turns in a market, it is important to realize that for every correctly called market top or bottom, there are dozens if not hundreds of inaccurate calls of tops or bottoms that lie scattered in the graveyard of market analysis and in personal trading accounts. Some traders destroy their accounts by stubbornly fighting a trend, clinging to their opinions of what the market should be doing as opposed to what the market is actually doing. Traders lose money when they try to force their will on a market, and traders who fight prevailing trends can suffer major losses as they trade against the probabilities from the onset.

On the other hand, a trend cannot persist forever; as such, downtrends evolve over time into up-trends, and then mature up-trends must devolve again into down-trends as the market cycle continues throughout history. Chapter 7 describes the typical life-cycle of a price move from bottom, to top, to bottom again. Those who do well over their trading careers are the ones who understand this principle and act accordingly when the weight of the evidence has shifted, rather than remaining committed to a losing position. The majority of this book will be dedicated to identifying trend reversals as early as possible as you assess the weight of the chart evidence, which implies never looking at one indicator or variable in isolation, but as a composite whole to the best of your ability. While your goal should always be to determine trend structure, you must simultaneously be aware of potential signals that a trend in its mature stage might be reversing. No matter what your emotions or other anecdotal evidence suggest, you must be able to change your expectations once the price chart gives a trend reversal signal, and not stubbornly assume that the current trend will continue forever. Sometimes traders learn this lesson with one painful experience, as a child learns not to touch a hot stove, though other traders may need to be reminded throughout their career that the best trades often come in the direction of the prevailing trend, rather than against it.

You must be prepared to sell your position and take profits when the trend changes from up-trend to early down-trend, just as you must also be able to act on any positive reversal in a down-trend which is showing signs of reversing into an up-trend. It takes confidence to buy after a sustained down-trend, just as it takes a strong fortitude to sell a position with profit once a market signals odds favor a turn to the downside. Those who identify confirmed reversals at the earliest reasonable stage possible will outperform

those who are not as systematic in determining the health of a trend in existence and the probabilities of continuation or reversal of the prevailing trend. We will be discussing this concept in great detail.

### **Waiting for the Weight of the Evidence**

As mentioned earlier, you cannot wager consistently on a trend reversing. Doing so will often result in numerous losses and unnecessary frustration. Most of the easiest trades come from positioning yourself in the direction of a prevailing trend, usually during pull-backs or retracements to support or resistance levels, and assuming that the trend will continue rather than reverse. In those terms, you can think of almost all the trades you take as either betting on a prevailing trend continuing or of a mature, lengthy trend reversing. Do not make this decision lightly.

Many of the most successful traders have solid rules for assessing the markets or stocks they trade, and their methods can be summarized as assessing the evidence—whether from fundamental, technical, or quantitative methods—and making a determination of the probabilities of a market continuing to rally or reversing into a down-mode. No single method is perfect, and no one method can ever call all tops and bottoms in a market.

Over the lifetime of your trading or investing career, you will do better to use noncorrelated methods to assess the probabilities from an unbiased approach to the best of your ability. In this book, I will be sharing how to combine leading methods into a unified approach for assessing the probability of the next likely swing or directional move in price. In so doing, you will be assessing the weight of the evidence using methods that you understand and that interest you. Do not feel as though you have to learn every single method of any trading system or strategy perfectly. By the same token, do not give any one method absolute dominance over others. When you observe noncorrelated methods and indicators such as moving averages, candles, divergences, and price patterns pointing in the same direction, you will increase your odds of a successful trade outcome more than if you used any one of these methods in isolation.

For example, if you see a reversal candle, it can be a bearish signal to exit a position. However, if you fail to assess the weight of the evidence, or the context in which the reversal candle occurs, you might be exiting a profitable position too early, or worse, if you chose to put on a short-sale position (attempting to profit from a market decline) based on a single candle, you might subject yourself to an unnecessary loss had you taken more time to assess the trend structure, volume signals, confirming indicators, or any number of analytical methods before making a final trading decision.

It can simplify your task immensely if you think of trading as a measurement of the probabilities of a trend continuing or of reversing, and taking specific entries and exits based on the developing structure that the price chart reveals to you. You will enter at more favorable levels, place stops at key points at the price where an idea will be proven incorrect, and play for realistic targets with exits that are generated by the weight of the evidence that solves the “exiting too early or too late” problem that most traders face.

## **METHODS FOR DEFINING TRENDS**

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“What is a trend?” seems like such an easy question to answer but, as you’ll see, the answer can be as simple as “higher highs and higher lows” or as complex as a linear regression analysis or other statistical calculations. Despite the complexity (not to mention usefulness) of some mathematical models, the best way to define a trend can still often be the simple principles defined by Charles Dow in the early 1900s.

Charles Dow was one of the earliest researchers of technical analysis, and modern traders study his principles of what developed later into the Dow Theory of technical analysis. Dow noted that an uptrend required a higher high and a higher low to be valid, just as a downtrend required a lower low and lower high to be valid. Dow noted that volume confirmed the trend, such that in the context of an uptrend, volume rose during the upward swings in price and declined during the downward corrections or retracements, just as volume rose during the downward swings in a downtrend and declined during the corrections or upward retracements in the context of a trend. Modern day traders have layered complex methods over these simple, basic principles.

Recall that early technical analysts did not have the benefit of computer charts as we have today. Instead, they calculated charts each day by hand and placed a high emphasis on trend structure as defined by price itself. This is called the Pure Price Method and it is still used today as one of the most accurate and objective methods of defining a trend. In addition to the Pure Price Method, contemporary traders use the Moving Average Method to assess the structure of a short-term, intermediate term, and long-term moving average, paying specific attention both to the orientation of the averages themselves, and the relation of price to these averages.

The preferred method combines both the Pure Price and Moving Average methods, as each give similar signals and exact prices where a trend officially reverses. It will be these official classifications that remove the subjectivity or confusion most traders experience when attempting to label trends on price charts.

### **The Pure Price Method**

Let’s start with the simplest concept and move to more detailed definitions. As its name implies, the Pure Price Method removes all indicators from the charts and builds the foundation for trend analysis on the price itself. The method is only concerned with locating swing highs and swing lows while comparing prior highs to recent highs and prior lows to recent lows. You can use a candle chart, standard bar chart, or even a line chart to define trends using this method; sometimes a line chart can be the best place to begin when objectively analyzing trend structure. The goal is to remove bias and get a clear picture of the steady rising or falling rhythm of the price of the stock or market you are analyzing and thinking of trading.

As most traders can recite without thinking, an uptrend is defined as a series of higher price highs and higher price lows while a downtrend is defined as a series of



**FIGURE 1.1** Dow Jones Industrial Average Daily Chart from 2006–2007

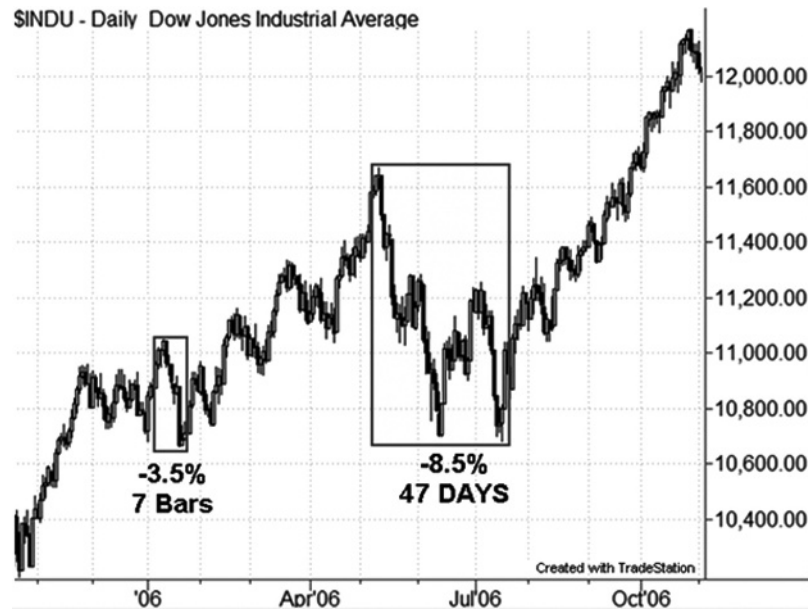
lower price highs and lower price lows. Using this phrasing as our departure point, let's see this definition in action.

Figure 1.1 shows a snapshot of the Dow Jones Industrial Average rising through 2006 to the October 2007 peak. According to the Pure Price method, we are only concerned with key swing highs and swing lows to develop our definition of the trend. Any change in the series of higher highs and higher lows will be a warning sign of a potential reversal ahead, but until we see price either form a lower swing low or a lower swing high, we must assume that the uptrend in place will continue and trade accordingly in the direction of the prevailing trend. We will learn trading tactics in later chapters, but this principle lays the foundation for all other analysis we layer onto the price trend structure.

**What Constitutes a Swing?** On the surface, the Pure Price method is deceptively simple, but the challenge comes from your definition of what constitutes a price swing. Can one bar (day or week) be a swing? Does price have to move a certain percentage to classify as a swing? Does a swing have to last a certain number of bars? These are just some of the questions a trader must define in advance when labeling price highs and lows.

Like most things you will discover as a trader, there is a balance you must achieve when defining what constitutes a price swing. If your definition is too narrow, you will label too many swings and arrive at false conclusions, calling a potential trend reversal far too early. If your definition is too broad, you will not label enough swings and likewise arrive at false conclusions and call changes in trend far too late. This is where eyes can be deceiving and simple mathematical models can provide clarity.





**FIGURE 1.2** Dow Jones Industrial Average Daily Chart from January 2006 to October 2006—Swing Duration and Percentage

Let's first start with time or duration. What you label as a swing depends on the timeframe you are analyzing. On a five-minute intraday chart, a single price swing may last 30 minutes to two hours or more. On a daily chart, a single swing might last weeks to months. On a weekly chart, a single swing might last months to one year. Your chosen timeframe provides guidance for you in assessing the time component in classifying what a swing actually is. Let's focus mainly on daily and weekly charts.

In Figure 1.1 we see a two-year span of time on the daily chart. During that period, we can label four up-swings and three down-swings. Notice how the up-swings are longer in both time and price range than the down-swings. In an uptrend, you would logically expect up-swings to both last longer and cover more ground in price than the down-swings, or counter-trend swings. Figure 1.2 gives us a closer look at the time period from January 2006 to August 2006 for specifics of the time and price concept of defining a swing.

The daily chart perspective reveals a series of higher highs and higher lows from January 2006 from 11,000 to the May 2006 peak above 11,600. On a lower timeframe chart, these would certainly count as swings within a lower timeframe uptrend. However, do we count these when looking at the daily chart itself? For almost all traders, the answer is no. Why? Doing so would take a definition of swing that was too narrow, leading to a costly whipsaw and false classification of a downtrend taking place in June 2006 (assuming that the early March swing down from 11,600 was a lower low than the 5-bar swing up to the late March 11,300 swing high was a lower high and that the May swing under 11,000 took out the lower low, defining a trend change).

It is better to classify the entire move from early May at 11,600 to mid-July 2006 at 10,700 as a single down-swing in price, labeling the double-bottom pattern that formed as a single swing low on your chart instead of labeling this up-swing as a lower high. The bounce rally in June 2006 from 10,700 to 11,200 that lasted 15 days and moved up 5 percent was also not enough to be classified as an up-swing in price. When making the final decision, take into account time in number of bars on your chart and percentage change, depending on your timeframe. Classifying swings seems easy, but it is a skill that you will master with time and practice.

Remember, if your definition of swing is too narrow (in that one to five bars can comprise a single swing) then you will be classifying too many swings which will lead to false classifications in the context of a larger, broader uptrend. The following grid reflects generally accepted classifications for swing definition for the daily timeframe of stocks or a market.

Consider the following parameters for using daily charts:

#### **Price Percentage Change**

- Less than 5 percent is probably too narrow
- From 5 percent to 15 percent is average and usually works best
- Greater than 15 percent (depending on the stock) is probably too wide

#### **Time Duration or Number of Days**

- Less than one month is almost always too narrow
- From one to six months usually works best
- Six months or one year is probably too wide

For the weekly chart, you would have larger parameters in all categories while for intraday charts you would have smaller parameters in all categories. While most swings will be obvious to you on a chart in hindsight, you will likely struggle as you start to apply this method in real time when you are confronted with price moves that fall just beyond the comfort level of classification.

**Trend Reversals** Now that you know how to label price swings as the building blocks for uptrends and downtrends, the next task is to find the exact spot on the price where a trend reverses from an uptrend to a downtrend and vice versa. While the Pure Price method can never call an absolute top and bottom, the lag time satisfies Martin Pring's threshold of the "weight of the evidence." In other words, pointing to a chart and declaring a new high that occurs in real time to be the top of the market would not be taking into account the weight of the evidence. However, waiting for price to form a lower low, rally to form a lower high, and then decline to break under the recently formed lower price low would argue that the weight of the evidence for trend continuity has shifted to favor a reversal, and would thus change your definition of uptrend to a newly developing downtrend. In other words, there is a specific process price must complete in order

to declare a trend officially reversed. Of course we will be using other indicators and methods, but we must start with the foundation and build from there.

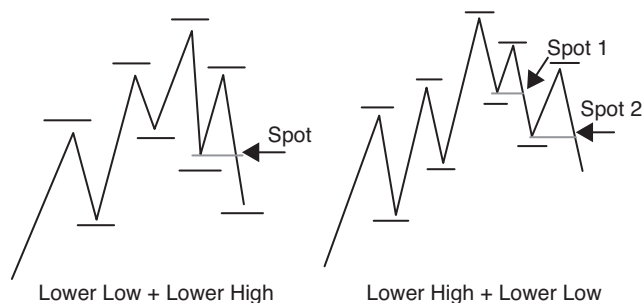
By definition, a trend reversal using the Pure Price method occurs one of two ways, assuming an uptrend is currently established. The easiest outcome is for price to break its series of higher highs and higher lows by first making a new swing low, breaking under a prior swing low, and then rallying to form a lower high beneath the recently established swing high. The reversal is only confirmed when price turns back to the downside and breaks under the newly established low in price, officially reversing the uptrend to a new downtrend.

The alternate method of trend reversal occurs when price is in an established uptrend and first makes a lower high at a lower price than a recent peak and then swings down to break to a new low beneath a prior price support or swing low in price. This method can call a trend reversal quicker but also can have its fair share of whipsaws until price breaks under the newly established low.

Let's see an example of these concepts in Figure 1.3.

The image on the left shows the first method, where price in the context of a rising uptrend first swings down to a lower low and then swings up to a lower high. At this point, odds are reduced for trend continuation, but price has not triggered the official signal that the weight of the evidence suggests an official reversal in trend. The signal, or precise trend reversal point, occurs exactly when price takes out the newly formed lower low to confirm that a new downtrend has begun. As a trader, you'll often find it better to wait for confirmation rather than to jump the gun and try to call tops and bottoms early, especially in an established uptrend. However, once price does form a lower high and then break beneath the prior low, then we can feel confident in our assessment that the trend has reversed. Chapter 2 explains how momentum factors in to our assessment of trend reversals.

The image on the right side of Figure 1.3 shows the second scenario where the price reversal first begins with a lower swing high and then immediately moves down for a lower swing low. The aggressive or early trend reversal spot (Spot 1) occurs immediately as price breaks under the low as labeled, which itself is not yet a lower low (as it made



**FIGURE 1.3** Two Methods of Pure Price Trend Reversals and the Exact Spots to Confirm Trend Reversals

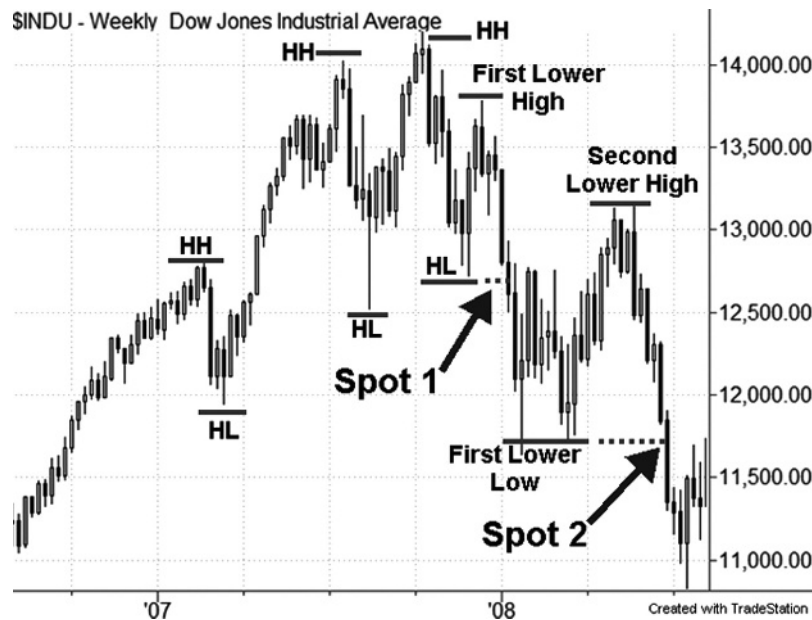
a higher low than the previous swing low). This scenario can be more puzzling than the first scenario that leads with an observable lower low.

However, when price forms a second lower high and then breaks to a new swing low under the prior new swing low which is labeled Spot 2 in Figure 1.3, we can be confident that the trend has reversed, as we stood by patiently for the full weight of the evidence to come in. By this time however, the downtrend is well-established and we have exited our long position or entered a new short-sale position at a less-than-favorable price than had we taken the more aggressive Spot 1 signal, but that only underscores one of the main realities of trading: You pay for confirmation.

There is a balance between gathering too much information (leading to late entries but higher confidence) and not enough (leading to early entries with lower confidence that have greater odds of being incorrect). We will discuss the finer nuances of these trade-offs in the discussion on aggressive and conservative trading tactics in Chapter 8. Figure 1.4 reveals a real-world example of how the Dow Jones Index transitioned from an uptrend to a downtrend after peaking in October 2007.

Starting with the left side of the chart, we observe higher highs and higher lows all the way up to the final peak above 14,000 in October 2007. Using the Pure Price Method, we see an 'all-clear' signal to continue expecting the uptrend to continue. In fact, as price swung to a higher low in November 2007 we still had an all-clear signal as price formed a higher low and began to rally.

The first warning sign from the Pure Price Method developed as price peaked near 13,750 in December 2007 and then turned quickly lower to take out the newly established



**FIGURE 1.4** Dow Jones Weekly Chart: Transition from Uptrend to Downtrend

higher low from November at the 12,750 level. Trend reversals that occur so suddenly can feel like a sudden bolt of lightning in that one moment we see no warning sign on the chart, but a few bars later, an early trend reversal signal develops suddenly. Markets that form an about-face by forming a lower high first and then swing violently to take out the higher low can leave traders confused about what to do next, as opposed to the alternate, safer trend reversal method where a lower low forms first then price calmly forms a higher high and then falls cleanly lower to take out the lower low.

In this case, the Dow Jones formed its lower swing high and then suddenly turned down, giving an early trend reversal signal at Spot 1 which officially puts the price in a “lower high, lower low” trend reversal. Price then rallies to form a second lower high at the 13,000 level in May 2008 which locked in the lower high. The final signal, for those waiting for it, came when price broke the lower low established in early 2008 (labeled “First Lower Low”) which placed us in a downtrend beyond a shadow of a doubt. For reference, price continued making lower lows and lower highs until bottoming in March 2009.

Using the Pure Price Method, you had an early trend reversal signal in January 2008 at the 12,750 level with a final, official signal as price broke the first lower low (after forming two lower highs) in June 2008 at the 11,750 index level.

While no method will consistently alert you to peaks and bottoms in all stocks at all times, it pays to use Martin Pring’s Weight of the Evidence model for analyzing potential trend reversals. Now that we have established the foundation using price itself, let’s move to a similar method that uses a short-term and an intermediate term moving average as either a stand-alone or confirming method for spotting trend reversals in stocks and indexes.

### **The Moving Average Method**

Many traders use some sort of moving average on their charts to define trends and reveal price structure. Even investors who use fundamental analysis in selecting stocks to buy might glance at a price chart to see if the current price is above or beneath the 200-day simple moving average, which is a widely watched average even by those who don’t often follow price charts. Such investors will define price as being in an uptrend simply if the current price remains steadily above the 200-day simple moving average (SMA) or being in a downtrend if price is beneath it. That’s certainly an oversimplification of how to define a trend, but it’s better than not looking at a chart at all!

You can add sophistication along with a consistent analytical method to your trading plan by using moving averages to help you define trends, either as a stand-alone method, or preferably in conjunction with the Pure Price Method. The Moving Average Method uses a short-term, intermediate term, and long-term moving average to assess the developing trend structure in price.

For the short-term moving average, consider using a 20-period average which would be 20 trading days or roughly one full month on a daily chart, or 20 full weeks on a weekly chart, which would track price over five months. The 20-period average is a

popular choice because it averages or smoothes the price changes over the course of a single month, and many traders react to retracements to the 20-period average. For the intermediate term moving average, consider using a 50-period moving average which would track 50 trading days on a daily chart, or 50 full weeks, which would be roughly equivalent to the 52 weeks in a full calendar year.

For the long-term moving average use the popular 200-day simple moving average on your daily charts to study the relationship of price being above or beneath this popularly followed average. There are roughly 252 trading days in a calendar year, so the 200-day simple moving average approximates price over the course of a year. To be more exact, you can use a 250-day simple moving average if you so choose, but the 200-day average is a far more popular and effective choice. Comparing the relationship of price to these short, intermediate, and long-term moving averages reveals the Moving Average Orientation.

#### **THE MOST BULLISH OR BEARISH ORIENTATION POSSIBLE**

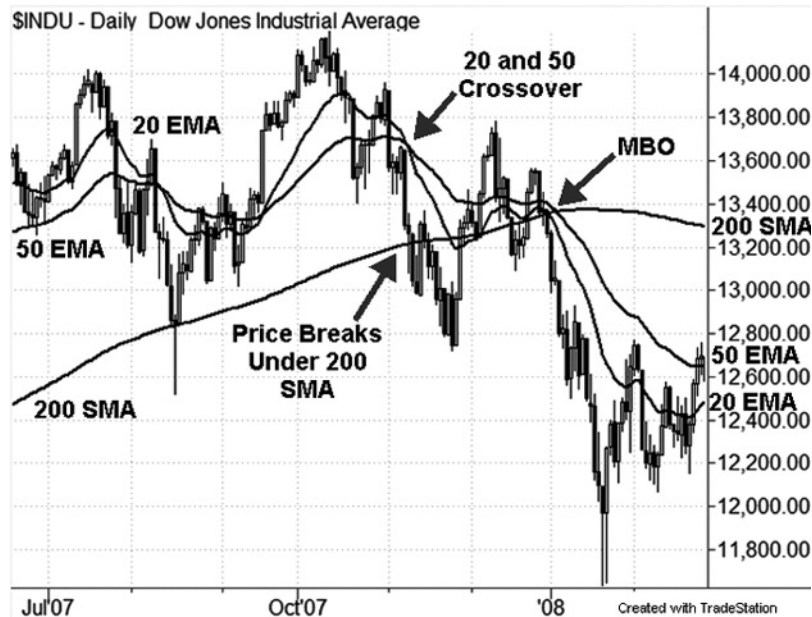
When assessing trends using moving averages, it is important to understand the chart image of the strongest confirmed uptrend.

The most bullish orientation consists of price being above the 20-period moving average, the 20-period moving average being greater than the 50-period moving average, and both the 20- and 50-period moving averages being greater than the 200-period moving average.

Using the same logic, the most bearish orientation would show price beneath the 20 period moving average, the 20-period moving average beneath the 50-period moving average, and both the 20- and 50-period moving averages being beneath the 200-period moving average.

Figure 1.5 shows us the transition from the Most Bullish Orientation possible to the Most Bearish Orientation from July 2007 to February 2008. Starting in July, we see price above the 20-day exponential moving average (20 EMA), the 20-day EMA above the 50 day-exponential moving average (50 EMA), and both of these averages being above the 200-day simple moving average (200 SMA). Price then takes a sudden dip from 14,000 to 12,600 into August 2007 as the 20-day EMA crosses briefly under the 50-day EMA yet price bounces (fails to close) above the 200-day SMA.

The uptrend then continues as price makes one final higher high in October 2007, peaking above 14,000 before reversing, breaking back under the 20 and 50 EMA but this time closing under the 200-day SMA in November 2007 at the same time the 20-day moving average crossed bearishly under the 50-day moving average (the short term average crossed under the intermediate term average). Moving Average crossovers are precursors to trend reversals, but like the Pure Price Method, need confirmation that price has officially reversed trend.



**FIGURE 1.5** Dow Jones Daily Chart: Transition from Uptrend to Downtrend using the 20-, 50-, and 200-day Moving Averages

Price rallied back to 13,600 in December 2007 (though the 20-day average remained bearishly under the 50-day moving average) and then fell sharply down through the triple-convergence of the 20-, 50-, and 200-day moving averages at the 13,300 level as the new year dawned in January 2008. This time, both the 20 and 50 period moving averages crossed under the rising 200-day moving averages, heralding an official trend reversal in early January as the chart adopted the Most Bearish Orientation possible.

Recall that the Pure Price Method called for an early trend reversal at the exact time when price formed a lower swing low (November's 12,800 low), rallied to form a lower swing high (December's 13,800 peak), and then declined to take out the prior low from November, creating a succession of a lower high followed by breaking to a new low. In this example at the peak of 2007, both the Pure Price Method and the Moving Average Method (at least on the daily chart) gave a long-term sell signal simultaneously.

Neither one of these methods in isolation are magic and neither one will give you a perfect buy or sell signal at the absolute top. However, both methods satisfy the weight of the evidence requirement when making trading and investment decisions regarding trend reversals. You will find your results improve when you use the two methods in conjunction, rather than in isolation. The goal is to assess the chart evidence in an unbiased fashion and identify objective rather than subjective turning points that can be classified at exact prices. You can identify the exact price when an uptrend officially shifts into a downtrend (or vice versa) using either method.

**Simple versus Exponential Moving Averages** There is a difference in what type of moving average you use on your chart. While most traders use simple moving averages, other traders prefer to use exponential averages when assessing trend structure. Simple moving averages weight each day equally, making the price 50 days ago equal to yesterday's price in the calculation of a 50-day moving average. Simple moving averages tend to be smoother and reflect a true average of price changes over time. As a result, simple moving averages are slower to respond to swift recent changes in price and have a longer lag time as a result.

In contrast to a simple moving average, an exponential moving average places more emphasis on the recent bars and a lesser importance on the past. In fact, exponential averages can also be described as exponential weighted moving averages, which take into account recent price changes faster than simple, equal-weighted moving averages. As a result, EMAs tend to react quicker to sudden recent price changes; furthermore, traders often value EMAs due to their quicker reactivity and reduced lag than simple moving averages. This is another compromise you must make as a trader: Exponential averages react quicker to recent changes but may result in more whipsaws than simple averages, which react slower to recent changes but are less prone to false signals.

While there is little difference between a 20 period EMA or SMA, the difference is magnified the longer the period you use. Experiment for yourself to find the right combination for you. In most charting examples, unless specified, I will be using the 20 EMA, 50 EMA, and 200 SMA. On my charts, I always color the 20 EMA green, the 50 EMA blue, and the 200 SMA red. I use the 200 SMA instead of the 200 EMA because most traders watch and react to the 200 simple moving average, which tends to have more importance than a 200 EMA, but this is still a matter of personal preference and experience.

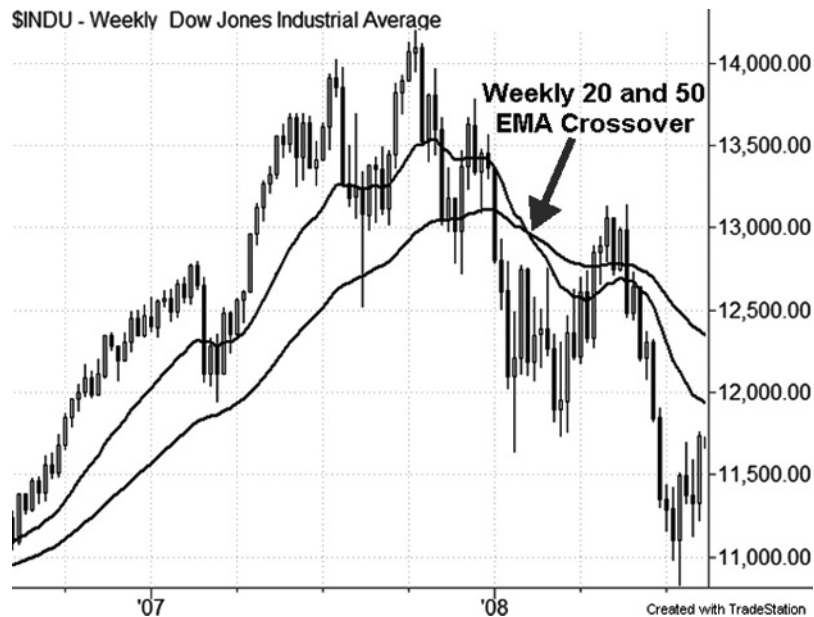
**Trend Reversals** Like the Pure Price Method, we are looking for objective evidence and an exact price (or date) to identify a trend reversal, which will always be signaled shortly after an absolute top or bottom has formed. Using the Moving Average Method, the following must take place for a market to shift from an uptrend to a downtrend on a daily chart:

- Price must first break under the 20-day then the 50-day moving average
- The 20-day average must cross under the 50-day moving average
- Price must cross under the 200-day moving average
- The 20- and 50-day averages must then cross under the 200-day average
- Price officially shifts to a downtrend when all criteria have been fulfilled.

Figure 1.5 shows the usual progression from uptrend to downtrend using the moving average method as a guide. These steps need not be sequential, as a trend reversal is signaled when all criteria have been met.

To confirm a trend reversal on the weekly chart, it is often only necessary to watch for a bearish cross of the 20-week average under the 50-week average while price remains under these averages. You will often wait far too long if you wait for price and the shorter





**FIGURE 1.6** Dow Jones Weekly Chart: Transition from Uptrend to Downtrend Using the 20- and 50-week Exponential Moving Averages

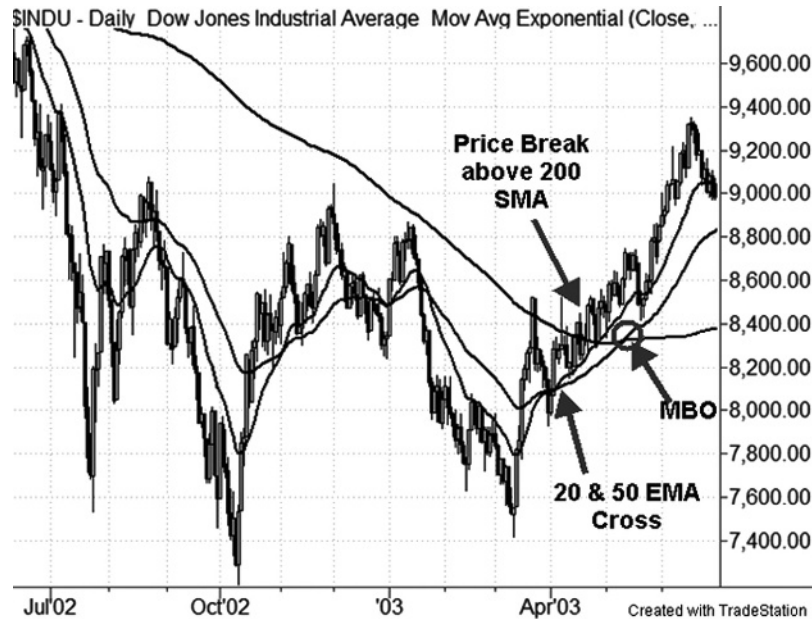
term averages to cross under the 200-week moving average, so give greater importance to the crossover of the 20- and 50-week moving average, rather than waiting for price to cross under the 200-week average for final confirmation.

Let's view one more example of the Weekly Chart of the Dow Jones Industrial Average as it peaks in October 2007. Compare Figure 1.6 with Figure 1.4, both of which are identical charts that highlight the two main methods of trend classification.

Unlike the daily chart which uses three moving averages, the weekly chart trend reversals are best identified with the 20- and 50-week moving averages. You may find yourself waiting too long for price and the shorter term averages to cross under the 200-week moving averages, especially after a powerful uptrend has completed. Notice how the 20-week EMA crosses under the 50-week EMA in February 2008, one month after the daily moving average chart confirmed a downtrend.

While the classifications of price swings will not differ greatly using the Pure Price Method on daily or weekly charts (swing highs and lows should be similar), you can get a lead or a lag using the Moving Average Method on daily versus weekly charts, but the lag usually is only a few months. The same logic is true when a market transitions from a downtrend into an uptrend, as seen in the reversal in 2003 in Figure 1.7.

After peaking in January 2000 above 11,600, the Dow Jones Average fell steadily into a downtrend until bottoming officially (triple bottom) in March 2003 at 7,400. However, when did the Moving Average Method on the daily chart officially signal the end of the downtrend?



**FIGURE 1.7** Dow Jones Industrial Average Showing a Transition from Down to Up in Mid-2003

The official change is labeled Most Bullish Orientation (MBO) to represent the official trend reversal which fulfilled all requirements: the 20-day EMA crossed above the 50-day EMA in April 2003 while price broke and closed above the 200-day SMA shortly after in late April. To complete the reversal, both the 20- and 50-day EMAs crossed bullishly above the 200-day SMA in May 2003 while price traded at the 8,600 level.

How did the Pure Price Method signal a reversal? The index was in a steady progression of forming lower swing lows and lower swing highs until it formed a higher swing low for the first time in March 2003 off the 7,400 level. Price then rallied in a single swing to take out the high established in December 2002 at the 9,000 level, which then created both a higher low and official higher high, flipping the trend to the upside by breaking back above 9,000 to a new swing high in June 2003. Notice that the Moving Average Method had a slight lead to calling an official bottom, but again this is not always the case.

Using the ‘weight of the evidence’ model, both the Pure Price and Moving Average Methods signaled an official trend reversal together in May 2003. Price formed a higher low then took out a recent higher high (an uptrend is defined as a series of higher highs and higher lows) and the daily triple-moving averages crossed bullishly while price remained above them all, creating the Most Bullish Orientation possible.

With both methods signaling a trend reversal, the objective evidence called for a bullish investment and trading posture going forward as a new trend emerged. Traders who remained short after May 2003 did so squarely against the odds. Using the Pure Price and Moving Average Methods, you’ll no longer have to guess when a trend has reversed.

Instead, you'll know the point of maximum probability using simple, objective evidence that a trend has reversed. The methods are not perfect, but certainly work better than gut feelings, intuition, or trying to catch falling knives (that is trader speak for trying to buy every single new low in hopes of a trend reversal, which often leads to large losses and unfortunately the end of some trading careers).

**PINPOINTING THE TREND REVERSAL IN 2009**

Can you spot the objective trend reversal, using both the Pure Price and Moving Average Methods as the market transitioned from downtrend to uptrend off the March 2009 bottom? Study the chart in Figure 1.8 before reading the answer.

At what exact index level did the trend officially reverse from down to up? Let's take a look. The 20- and 50-day EMAs crossed bullishly in April 2009 but because of the severity of the recent sell-off and downtrend in 2008, it took three more months for price and both moving averages to cross back above the 200-day average, doing so in mid-July 2009 to signal an official trend reversal (using the Moving Average Method) at 8,500. That signified a potential turn in trend, but a 20/50 moving average crossover does not officially reverse a trend in play, though it is a required precursor for any trend to reverse.

The Pure Price Method signaled an official trend reversal shortly thereafter when price crested above the June 2009 swing high just shy of 9,000. We can label the



**FIGURE 1.8** Dow Jones Daily Chart: Identify the Exact Point of a Trend Reversal

two-month correction phase from May to July as a down-swing, which formed a higher low at the 8,000 level as price swung back to take out the most recent high (creating a new swing high) at the 9,000 level which also broke above the January 2009 high for extra measure. The new series of higher lows and higher highs confirmed an official trend reversal just after the Moving Averages crossed to the Most Bullish Orientation possible—the first time since we saw them cross negatively in a downside trend reversal as seen on the daily chart in Figure 1.5. Do we thus call the downtrend reversed officially in mid-July 2009 when price rose above the 200-day SMA and above the June swing high at 8,700? Officially, yes, but let us see one final component that places the weight of the evidence so convincingly in favor of the bulls as to be objectively impossible to refer to price above 9,000 as remaining in a downtrend.

Price rose to the 9,000 index level in January 2009 to form a key swing high prior to the final low in March. Thus, the 9,000 level represents a past swing high that would be further, or perhaps final, bullish evidence of a reversal if buyers pushed through this level. The powerful swing off the July 2009 low did just that, with price breaking above not only the most recent swing high at 8,700 in June 2009, but the prior high six months in January at 9,000. To be absolutely sure that price had completed all requirements from the Pure Price Method and the Moving Average Method, the objective and final declaration from a change in trend from down to up triggered on July 30, 2009 when price broke and closed above the January 2009 high of 9,088.

As of July 30, 2009, price formed a series of higher highs and higher lows, crossed above the 200-day simple moving average, rose after the bullish crossing of the 20- and 50-day EMA, and finally closed above the past swing high from January 2009. This example reveals the logical and objective chart analysis you should use when classifying trends, which reveals to you the type of trading strategies to use for the highest probability, lowest risk set-ups.

Now that you know where to begin by assessing the trend structure when you first look at a chart, let's add an extra dimension to your analysis: assessing the strength or weakness of a confirmed trend in place. To do this, we will study the momentum principle, which helps us assess the probabilities of a confirmed trend continuing, or setting up for a potential future reversal. In other words, learning how to interpret price momentum can clue you in early for a potential trend reversal ahead of waiting for the official price and moving average method to give you a pure signal, and thus you will identify early warning signs of potential reversal ahead of the official signal from price alone.