

## CHAPTER 1

# Using Moving Averages and Relative Strength Performance to Beat the Index

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*Relative Strength Index, Money  
Flow Index, Keltner Channels,  
and Standard Deviation, with  
Apple Exhibits*

### KNOW THE PLAYING FIELD

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There are fundamental and technical ways to make money in the stock market. The fundamental techniques require education—an MBA or CFA would help—and long hours of research about the financial data of a stock and prospects for future growth. Further, since Wall Street, sell-side analysts are highly paid to do this, you are competing with professionals, while you may be only an amateur fundamental analyst. It is possible, but not probable, that you will be a better stock picker than the professional analysts. Professional fundamental analysis is widely available and free, so use it instead of doing it yourself. Value Line is free at your local library. Online brokers supply such reports as the Standard & Poor's analyst reports free of charge, and most brokers supply a reputable fundamental service or their own fundamental, so called sell-side analysts.

The second way is technical analysis. It can be learned quickly, just by reading this book, and used to make money in the markets. Looking

at charts first, and then reading what the fundamental analysts have to say, is an easy way to make profits in the stock market. Doing fundamental research and then looking at the charts is the hard way. I could never understand why some portfolio managers insisted on doing it the hard way. The system is rigged against them because the first call they receive is from a highly paid, sell-side fundamental analyst with his recommendation to buy a stock. The caller hooks right into the portfolio manager's fundamental bias. The first step in their stock selection process is wrong. The portfolio manager should be looking at charts first, and then he should call the analyst for the fundamentals. This book suggests that you not make the same mistake as the portfolio manager.

Many chart readers, using technical analysis, don't care what the fundamental analysts are saying because they are interested only in price movements and making money based on those price movements. Most *known* information from the analysts and everyone else, including illegal inside information, is already in the price of a stock. That does not mean the price is right or fairly valued. For example, misinformation leads to incorrect pricing. A false rumor circulated about a takeover will take price up. That price will be wrong because important misinformation is creating demand and taking price up. Technical analysis will correctly measure that demand and will be wrong when the truth comes out and price reverses back to where it was.

When you see a comment in print or hear it on TV, it is usually too late to act on because it is already in the market price short term, but it is still valuable information to use for your long-term investing. You wait until the price pulls back from its current, frothy high created by the media blitz and then you buy on weakness like the pros. Traders do just the reverse, riding the momentum created by the media.

Of course, there are always breaking news stories that the market knew nothing about, are not in the price, and immediately affect the price as the announcement is made. This is why all the Wall Street traders (but not portfolio managers) are glued to the news feed looking for positive and negative surprises or rumors.

Wall Street is a whisper business, and all the valuable information is passed over lunch, on the golf course, or whispered on the phone in coded words. It is not given to reporters or put on TV, because valuable research needs a customer willing to pay. It is not given away free in the press or on CNBC, Fox, or Bloomberg. What is given away free is "hype," when the longs or shorts want to get the investing public to move the price on a position they have already taken. It may be good information, but the small investor hears it last from the media when price is frothy and it is about to pull back. The only time there is a level playing field for the small investor is when there is breaking news and it catches the pros completely by surprise.

Then the small investor and the pro have the same information at the same time. This is also true for the small trader versus the professional trader. Stay tuned to CNBC, Fox, and Bloomberg for the news that nobody knew.

David Einhorn, a famous hedge fund manager, exposed Green Mountain Coffee when he went public with his thesis on why the stock was a poor investment. Even if you were the last to hear this research from Einhorn, you made money on Green Mountain as it went down. Sometimes it pays to listen to the TV news or attend conferences to hear speakers like Einhorn. (We will look at Green Mountain Coffee in Chapter 8.)

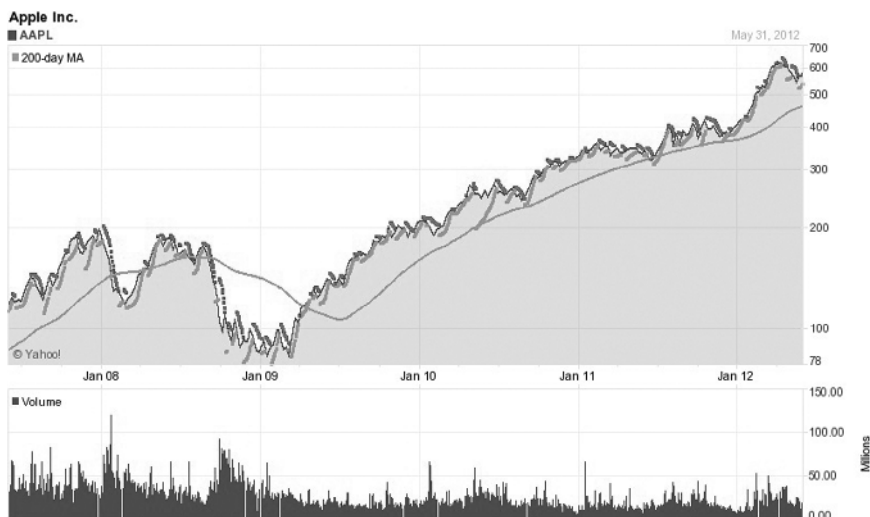
### **APPLE COMPUTER'S 200-DAY MOVING AVERAGE**

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The first and easiest way to make money in the stock market is to buy a company whose products are really “cool” and whose products you are using yourself. Peter Lynch was a proponent of this approach for the small investor. Such companies are making plenty of money and growing with new products. Apple is a good example. It is also possible that a company is making popular products that you are using and the company is losing money on every sale they make. You don't want this company! So always check the chart first and then the fundamental analysts to avoid these momentum chart traps. Just because the chart is good does not mean it has good fundamentals and is a solid, real company. Penny stock scams show stocks with good charts and companies with no fundamental reason for existing.

Notice in Exhibit 1.1 that the initial, long-term buy signal for Apple in 2009 is when price moved above the 200-day moving average. This technical analysis signal is widely used by most long-term investors. It is the solid trend line moving up under price on Exhibit 1.1. That long-term uptrend is still in place. Portfolio managers dream of stock moves like this one, where price moves from \$100 to \$600 in less than four years. Is it any wonder that almost every portfolio manager has Apple in his or her portfolio? The small investor has a better chance of quickly buying this stock at its low and selling it at its high, unlike the portfolio manager with millions of shares to buy.

Also notice that every time the sellers showed up in red, taking price down on the chart, they were quickly stopped, not even able to move price down to the 200-day moving average. The first real test by the sellers taking price down to test the 200-day line did not happen until the middle of 2011. Price still failed to violate the 200-day, long-term uptrend. Every test by the sellers that fails to break below the 200-day long-term uptrend is a confirmation signal that the positive uptrend will continue. It is a signal to buy on weakness for long-term investors. This is the first and most important technical analysis signal for investors.



**EXHIBIT 1.1** AAPL, May 31, 2012, 5-Year Chart

Source: Yahoo.com.

We did know that Apple was a great company led by Steve Jobs and they were coming out with fabulous products. Fundamentally, analysts liked the stock and it was “Growth At a Reasonable Price.” (GARP stocks usually have a good PEG [PE/G], which is a favorable price-earnings ratio (PE), compared to the 5-year growth rate [G].)

Technically, the chart showed that price was going up. So you buy it, using the 200-day uptrend signal at the end of 2009. When price stops going up, you sell it, using the 200-day signal when price breaks below the 200-day as it did twice in 2008. That is the easiest way to make money in the stock market and beat the index. As the 200-day trend started up in 2009, both the fundamental analysis and the technical analysis were completely “in sync.” When you have both going for a stock, it is hard to lose money, except in a market crash or a negative surprise, as discussed later in the Herbalife and Green Mountain chapters (Chapters 4 and 8). (Note that the overall market crash even took Apple down below the 200-day in 2008. When it broke above the 200-day, it was a golden opportunity for the long-term investor to “buy cheap.”)

## 20-, 50-, AND 200-DAY MOVING AVERAGES

We can show you the basic signals of the 20-, 50-, and 200-day moving averages with any stock. But Apple is a very exciting story and is

in almost every investor's portfolio. In Exhibit 1.1, we show the 200-day moving average for Apple and its long and uninterrupted uptrend since the bottom in 2009. Likewise, in Exhibit 1.2, we show the 20-, 50-, and 200-day exponential moving averages (EMAs) for Apple. EMAs weight recent data more heavily, whereas the simple moving average weights each day equally.

The line well below price, near the volume bars shown at the bottom of Exhibit 1.2, is in an uptrend starting at the left, bottom corner of the chart. It is the long-term 200-day moving average used by most portfolio managers as a key technical indicator of long-term trend. The upper line, moving up just below price on the chart, starting in January 2012, is the 20-day moving average. You can see that it quickly changes when price changes direction. It follows the short-term trend of price. Traders and hedge fund managers watch this short-term indicator.

Between the 20-day line at the top and the 200-day at the bottom part of the chart, you will see another line, which is the 50-day moving average. This is an intermediate trend line. When it drops down to the 200-day, portfolio managers become worried, as supply takes price lower and threatens the bullish uptrend shown by the 200-day.

As indicators of supply and demand, these moving averages provide a very visual picture and clear buy and sell signals that identify supply and demand. From January to April 2012 in Exhibit 1.2, you can see demand as all three moving averages are in an uptrend. Apple is a short-term, intermediate-term, and long-term buy, according to these signals. Demand is in control and taking price up.

The first sign of trouble is when price breaks below the 20-day the week of April 9, a signal that this price move up is over short term and



**EXHIBIT 1.2** AAPL, July 6, 2012, Daily Chart

Source: StockCharts.com.

price has topped out at \$644. Now supply is in control and taking price down short term. The 20-day uptrend turns to a downtrend, confirming that Apple is now in a short-term selling cycle. Then price breaks below the 50-day and now you go from a short-term selling cycle to a more worrisome intermediate selling cycle. Another bearish signal of supply occurs when the 20-day breaks below the 50-day. You can see that this happens in Exhibit 1.2 before price bottoms at \$522 during the week of May 7.

Finally, there are some signs of demand as price bounces up from \$522 but on light volume, indicating light demand. The 50-day line is no longer in an uptrend but going sideways to down. Another good sign of demand is when the 20-day breaks back above the 50-day during the week of June 25. Price is now also above the 50-day, yet another sign of demand. At last at the beginning of July, the 20-day turns up and the 50-day turns up. The selling cycle is over and demand is taking price up.

Although this was a 19 percent selloff from \$644 to \$522, the 50-day never turned into a downtrend and the 200-day uptrend was never even threatened. For the portfolio manager and small investor this was a “buy on weakness” signal given by the moving averages. Moving averages are very valuable technical analysis signals and the first and easiest to learn and use.

## **RELATIVE STRENGTH VERSUS THE S&P 500 INDEX**

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Relative strength performance versus the Standard & Poors (S&P) 500 Index is the key to analyzing any large-cap (capitalization) stock, and is revealing when viewed in Exhibit 1.3. In this chapter, we will exploit the easiest and most powerful examples of technical analysis signals that tracked the demand that took Apple price up so dramatically. Relative strength is simply the comparison of a stock’s price movement to the price movement of the index. This is a simple, straight forward arithmetic ratio. It is then plotted and shown in Exhibit 1.3 as “AAPL: \$SPX.” Notice the uptrend in the line created when the stock price is doing better than the index. As long as this line is in an uptrend, it classifies the stock as one that is outperforming the index. The trend line is calculated as a 20-week EMA. If you want to outperform the index this is the signal to watch.

There is no magic in these signals. Demand takes price up, and these signals measure that demand. It goes without saying that you must check the fundamentals of any stock you trade or invest. Portfolio managers do that “due diligence” for you, and you can rely on their published stock



**EXHIBIT 1.3** AAPL, July 6, 2012, Weekly  
 Source: StockCharts.com.

picks. They may not be good stock picks for performance, but they do have good fundamentals. The chart will tell you whether they are outperforming stock picks. Some stocks will be “special situations,” for example, takeover candidates, and the charts won’t help. Use Bloomberg, CNBC, *Baron’s*, the *Wall Street Journal*, and *Investor’s Business Daily* as sources for takeovers. Relative strength and the moving averages will help you beat the index and keep you rotating into winners and out of losers. These are important technical signals identifying demand, which takes price up, and supply, which takes price down.

## KELTNER CHANNELS

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A quick glance at Exhibit 1.1 and you will notice that the latest move up in price started in January 2012. It came to a peak that was a much larger move than the previous peaks. You can see this more clearly in Exhibit 1.3 by introducing channels around the prices on the chart. The break above the channel at the beginning of 2012 was very bullish and signaling the surprise, and the beginning of a strong move up to a new high. Strong demand is seen not only in this breakout of price above the upper channel line, but also in the spikes of volume to the upside as it does this.

Our other signals in Exhibit 1.3, which we will explain later in this chapter, show price peaking and becoming overbought at the \$644 top followed by the expected drop in price when these signals become overbought as they move to the upper limits of the signal. Thus, the pullback in price for Apple was not a surprise. When price bottomed, it was another opportunity to buy Apple on weakness, because the up channel around price on the chart remained so positive even after the pullback from \$644 to \$522. The formula is: Uptrend Keltner channel + bottom in price = buy on weakness.

## MEAN REVERSION

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When price becomes overbought and overextended, it usually reverts back down to the mean or average of the price move up. In the middle of the upper and lower bands of the Keltner channels in Exhibit 1.3 is such a mean calculated as a 20-day EMA, the dotted line. The EMA gives a heavier weighting to recent data than the simple moving average method. Notice how price comes off the \$644 peak of the move up and returns to that mean dotted line at \$522. It is still on the uptrend shown by the dotted line. Price then continues to follow that dotted line uptrend without breaking below it. Despite the bearish pullback of price to the mean, it is still very bullish for Apple because it does not violate the dotted line uptrend and price resumes its uptrend. This is another signal to “buy on weakness.”

Exhibit 1.3 shows the price of Apple as far back as March 2010. Notice the Keltner channels the computer has calculated and placed around the prices. You can see there is a nice fit on the price movements. The chart service automatically does this for you, and all you have to do is indicate that you want to use these Keltner channels on your chart. The basic chart service is free at [StockCharts.com](http://StockCharts.com). They also explain all the signals in their “chart school” section. The mathematics of these signals is readily



available at StockCharts.com, on the Internet, and in many other books, and will not be duplicated here.

## **BREAKOUT SIGNAL**

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Notice the breakout above the upper channel line in February 2012 along with the increasing volume identifying very strong demand taking price much higher. *This is an enormous buy signal.*

The channels assist your eyes to see the very positive change taking place in price, thus identifying strong demand. When you see this signal, it is too late to buy Apple on weakness as price goes ballistic. However, traders will play the upward momentum with delight, and some investors will be tempted to chase price.

## **APPLE'S TOP AT \$644**

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The next question is: When will this very unusual move up end and why will it end? To help answer this question you look at the three signals that appear above price in Exhibit 1.3. Each of these will identify how overbought the price is becoming, and each will signal the inevitable pullback that must always come when a stock price gets ahead of itself. Portfolio managers have to sell this stock, not because of poor fundamentals, and not because it is overvalued, but because they simply have too much of Apple relative to their total portfolio.

They will sell Apple because they have to manage their risk, and at the new lofty prices, they have too much dollar exposure to Apple compared to the rest of their portfolio. Each portfolio manager has a target for the amount of Apple he wants in his portfolio (e.g., 3 percent of the total value of the portfolio). When price goes up rapidly, he has to sell some of his Apple, even though he loves the stock and it is undervalued. Thus, supply is not created by the fundamentals, which are very attractive, but by the rules of risk management that force portfolio managers to sell winners because they have too much of it in their portfolio as a result of the price going up dramatically.

This is frequently and incorrectly identified as *profit taking*. It is not profit taking but risk management selling. The lower prices that result from this type of selling are a gift to small investors, enabling them to buy on weakness because they don't have any risk management problem, especially if they are first-time buyers of Apple. None of the more than 35 analysts following Apple are recommending a sell.

## RELATIVE STRENGTH INDEX (RSI)

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You can see that all of the indicators shown at the top of the Apple weekly price chart in Exhibit 1.3 are topping out at \$644 and turning down. The relative strength index (RSI) is an overbought/oversold oscillator signal completely different than relative strength versus the S&P 500 Index, which is a performance signal. RSI oscillates or moves up and down between a 0 and 100 scale on the chart. Above the 70 line it is overbought, and below 30 it is oversold. On the chart in Exhibit 1.3 you can see RSI is well above the 70 mark almost to 90 when price tops out at \$644. RSI is a favorite signal for traders whose strategy is short selling stocks that are overbought and buying (i.e., going long ones that are oversold). Short selling involves borrowing stock from your broker and selling it. You buy it back after the price drops, booking the profit between the buy and sell price. After buying the stock, you return it to the broker you borrowed it from.

## MONEY FLOW INDEX (MFI)

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The money flow index (MFI) identifies Apple as being overbought and vulnerable to a pullback with a shaded signal above the line in February 2012, well before the peak in price at \$644 in April 2012. As you can see in Exhibit 1.3, above 80 on the scale is overbought and below 20 is oversold. The MFI in Exhibit 1.3 goes well above 80 to the 90s, an extreme overbought reading, as price peaked at \$644. Thus, this signal is very useful to the portfolio manager who wanted to sell Apple into price strength before price topped out and started its trip down from \$644 to \$522.

The MFI is like the RSI but includes volume as well as price. It is also known as *volume-weighted RSI*. Since portfolio managers like to sell into strength, this is where they start selling when these two signals are overbought. They don't wait for these two indicators to break down because by then it is too late. Portfolio managers are selling in size (millions of shares) and have to sell well before price actually tops out and turns down as indicated by these signals. In fact, it is the early selling by the portfolio managers that turns these indicators down. Then the traders join in to make money as price falls and their short selling helps to take price down even more.

This short selling exaggerates the real supply and forces price into an oversold position where it becomes a bargain. It is at these bargain prices that short sellers buy to cover their short and return the borrowed stock to their broker. To a certain extent, short sellers create their own profits by driving price down, which is one of the reasons short sellers are hated. This is not real supply, but it has the same results as real supply. Short sellers are

the masters of the self-fulfilling prophecy. They force price down because they think it should go down. Short sellers are not popular with portfolio managers or investors, but they should be because they drive prices down to bargain basement levels when it comes to stocks like Apple. Everyone loves a bargain. The price always bounces back up to where it belongs once the shorts have made their profits and are gone. The market is not efficient but it tries to be.

Traders and hedge funds make money when the price of a stock goes down by selling borrowed stock at a high price and buying it back at a low price so they can return the borrowed shares to their broker. They pocket the profit of selling high and buying back low. Normally, you buy low and sell high to make money. Short sellers do just the reverse and sell high first and then buy low to make a profit. Stock borrowed from their broker enables them to do that.

## **STANDARD DEVIATION (STDDEV)**

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In Exhibit 1.3, StdDev is emphasizing the abnormal and enormous move to the upside—just in case you are “chart blind” and don’t see it in the price—just by looking at the price chart and the Keltner channel. This signal measures volatility in price and shows enormous moves like this when price makes big, volatile moves. It is calculated based on the average price or mean and the closing price. It just amplifies and confirms what you are seeing on the chart in price movements. For those who can’t see it just by looking at the price moves, this signal makes it explicit that something unusual is happening in price movements. Just compare the big move up to all the moves that came before it in Exhibit 1.3 and you will see how significant this is.

## **RELATIVE STRENGTH PERFORMANCE, AAPL: \$SPX**

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Finally, the relative strength (AAPL: \$SPX) signal in Exhibit 1.3 shows a dramatic change in the slope of the upward trend for this performance line. If the stock price is doing better than the index, then the plotted line moves up. This indicates that price has become a strong outperformer versus the S&P 500 Index. It means demand has become very strong for this stock. This is the type of stock you want to own to do better than the index. That is why the demand is so strong because every professional has to exceed the index (benchmark) over the long term or lose his or her job. Therefore, they buy stocks with a positive trend in relative strength and sell stocks

with a long-term negative trend in this indicator and the 200-day moving average.

The trend line in relative strength is calculated on the chart using a 20-week EMA. Violation of the trend line is an important signal of change in price trends. Portfolio managers are forced to sell stocks that continue to underperform the market, just as they are forced to sell stocks that have a downtrend in the 200-day moving average. There is no secret as to why stocks continue to sell off; it takes a long time for a firm like Fidelity to sell off an enormous position in a stock like Apple. Small portfolio managers have it much easier, and the small investor has it the easiest of all.

## SUPPLY AND DEMAND

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Forced selling by portfolio managers creates the downward spiral in the price of a stock. Portfolio managers are the creators of supply and demand in any stock. Traders, hedge funds, and computer programs will try to front run the selling by portfolio managers, sometimes creating flash crashes, as in the case of Herbalife, Green Mountain Coffee, and Facebook. We will discuss these stocks in detail in later chapters.

As the price of Apple pulls back from \$644 to \$522, analysts are talking about 12-month high-end targets of \$800 to \$1,000. The fundamentals are great and not the reason for any pullback. The reasons for the pullback may be many, but they are not fundamental reasons. They are purely technical. That is why technical analysis is so important to the small investor. The small investor can wait, while those portfolio managers who are forced to sell Apple at these overextended prices bring price down and the traders join in the selling to make it worse. The small investor can wait for the pullback to test the 50-day moving average and possibly the 200-day in order to buy on weakness at bargain low prices. Stocks, like anything else, can always be bought at a discount to the recently high prices, a discipline every small investor must learn and every pro already knows and practices.

Again, just by looking at price and volume you can see demand and supply in action. In this case, look at volume increasing as price moves up to overbought at \$644 in Exhibit 1.3. This is caused by demand. Then look at volume spiking again as price drops from \$644 to \$522. This is caused by supply. If portfolio managers had decided to exit Apple in a big way, you would see enormous volume spikes continuing. Someday in the future this will happen—be ready for it. But, as you can see, volume drops off at \$522 and price starts to bounce up on light volume. Apple is saved this time around.

What you are seeing is a lack of continuing, high volume supply. Price is dropping not because of strong, continuous supply but rather selling caused by some portfolio managers forced to sell because they have too much Apple. As soon as the traders catch on to this type of selling, they jump right in to sell. Just as quickly as the traders see technical signals reversing, they will reverse and start buying. There may be some slightly bad news having nothing to do with fundamentals. The traders are taking advantage and front running the selling that is taking place. If you are a day trader, you can join in with them.

But if you are a small investor, then understand that the traders and the portfolio managers are giving you a gift by driving price down. You wait until they are finished. You wait for the buy signals and you buy at a nice discount to the \$644 high. You buy at \$530 or higher at \$557 as the bounce starts after the pullback in price is finished. Even if you wait until \$557 to buy, you will still be doing much better than buying at the \$644 top. Now that the sellers are done, and price is moving up, the next step is to retest that \$644 high. See the technical analysis buy signals such as performance relative strength and the 200-day uptrend confirmed by the 50-day uptrend on Exhibit 1.3 that point to a retest of \$644.

What you have seen in the Apple chart is a very strong uptrend stock, with enormous demand taking price up to \$644. Then an overbought top, identified by the signals we show at the top of Exhibit 1.3, namely RSI, StdDev, and MFI. When these signals break to the downside, you know that the demand that created the top is exhausted and supply is taking price down for the short term.

## **SUMMARY**

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In this chapter, the first thing to be learned is the basic lesson of technical analysis: how, by just looking at changes in volume and price, you can visually see demand taking price up and supply taking price down. Technical analysis signals help those who cannot “see” this demand-and-supply action by just looking at volume and price. The old time “tape readers” did this in their head without the benefit of computer signals or technical analysis signals. Some of today’s day traders still do the same. High-frequency trading “algorithms” (algorithms or computer programs) are blind and brainless, but have cloned and automated the tape readers of old.

The signals of the 20-, 50-, and 200-day moving averages show you when demand and supply are coming into the market based on price alone. As price drops below the 20-, 50-, and 200-day, like dominoes falling, price goes from a short-term sell to an intermediate-term sell to a long-term sell.

The same is true on the way up as price breaks above these moving averages spelling out demand.

The RSI and MFI signals introduce the concept of overbought and oversold and are used by traders to buy on weakness and sell into strength. The MFI uses both volume and price. Performance relative strength is the most important signal for portfolio managers and investors because it enables them to rotate out of poor performers with excellent fundamentals (value traps) into outperforming stocks with good fundamentals in order to beat the index. Like the 200-day trend, it is an important, long-term buy and sell signal. Keltner channels help you to see price trend and important breakouts or breakdowns in price identifying very unusual, strong demand or supply.