Applying TD Sequential to intraday charts

By Tom DeMark. "Futures", April 1997

When I entered the investment business more than 25 years ago, volume on the New York Stock Exchange was approximately 6 million shares a day. Stock quotations appeared on a ticker tape, and futures quotes were on a large wallboard.

I did my market timing research by poring over weekly printed charts with a magnifying glass. Analysis was limited to conclusions regarding daily price activity because intraday price data were not available until the 1980s. As such, once it became available, I was pleasantly surprised to see that the TD Sequential worked on intraday price movements as well.

My research showed price movement of most markets displayed a natural rhythmic motion that could be measured by a combination of factors that either compared closing price levels or closing prices with extreme price highs and lows. Simply put, TD Sequential consists of three distinct stages: setup, intersection and countdown.

Setup The initial setup phase consists of a series of at least nine consecutive closes less than the close four trading bars earlier for a buy setup and at least nine consecutive closes greater than the close four trading bars earlier for a sell setup. Setup establishes the environment or the context for the market and determines whether a trader should be looking to buy or sell the market.

I have added a caveat to the phrase "The trend is your friend." It is "...unless the trend is about to end." At that point it is not prudent to trade with the trend. Most of my market timing indicators, as is the TD Sequential, are designed to anticipate trend reversals.

Intersection Once the setup series has been defined, I review price activity beginning on day 8 of setup to determine whether the setup process has been perfected and countdown can begin. To accomplish this, I require a phase I refer to as intersection.

Intersection requires the high of bar 8 of a buy setup be greater than or equal to the low of bars 5, 4, 3, 2 or 1 of the buy setup. If this requirement is not met, then the high of bar 9 of the buy setup must be greater than or equal to the low of buy setup bar 6 or any other price bar back to bar 1 of the buy setup. If this is not fulfilled, then each successive price bar is compared until its high is greater than or equal to the low of the price bar three or more price bars earlier back to bar 1 of the buy setup.

For intersection to occur in a sell setup, the low of setup price bar 8, 9 or the first subsequent bar must be less than or equal to the high three or more price bars earlier all the way back to bar 1 of the sell setup.

Intersection is a required step because it assures that the rate of decline or advance is decelerating sufficiently to enter the final phase, which is countdown.

Countdown TD Sequential buy countdown consists of a series of 13 successive closes less than or equal to the low two price bars earlier. Once that has been accomplished, the market generally is in a low-risk buy entry zone. The TD Sequential sell countdown consists of a series of 13 successive closes greater than or equal to the high two price bars earlier. This generally indicates a low-risk sell entry zone.

Whereas setup requires the price comparisons be maintained consecutively, countdown does not apply such restrictions. To prevent high-level, low-risk buy countdown 13 entries and low-level, low-risk sell countdown 13 entries, I've installed the requirement that day 13 of a buy countdown be postponed until it occurs below day 8 of the buy countdown and, conversely, that day 13 of a sell countdown be postponed until it occurs above day 8 of the sell countdown. "Recycling" is a concern that could arise in a strongly trending market. Generally speaking, if a subsequent setup occurs prior to completion of countdown, then a new countdown process must begin.

TD Sequential in action The TD Sequential is versatile over various time frames. The charts of the March 1997 S&P 500 Index futures contract on Jan. 23 ("Market fall," left) show the contract declined from approximately 800 to 773, roughly a 27-point collapse, in 1 1/2 hours.

To demonstrate the sensitivity of the TD Sequential to identify the exact high and low on the chart to the minute, I've applied it to this time period. The respective sell countdown 13 and buy countdown 13 are not levels of entry; rather, they accurately define levels of low-risk entry. "Market fall" provides you with a perspective of how the price top and bottom were formed.
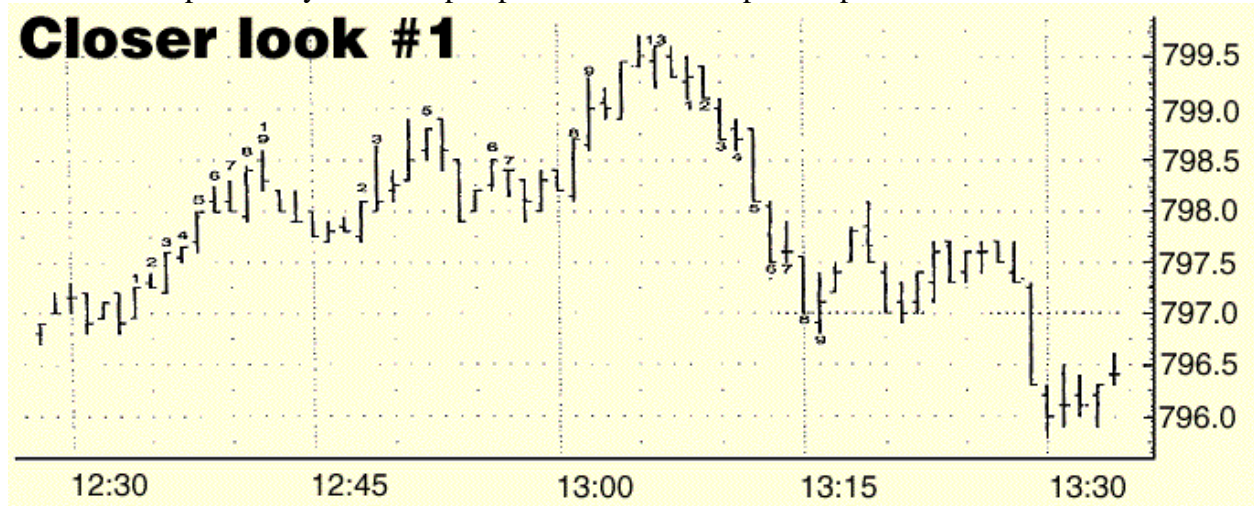
"Closer look #1 (above) and #2" (right) magnifies the sell setup period and the buy setup period to illustrate the simplicity in calculating the respective price setups and countdowns. Note that, in the case of the market advance, I insert both setup and countdown numbers above the price bar and, conversely, in the case of a market decline, the numbers appear beneath the respective price bars. Furthermore, it is apparent in "Market fall" that, coincident with the completion of the ninth bar of the sell setup (a series of nine or more consecutive closes greater than the close four price bars earlier), price has a tendency to retrace. A similar occurrence is observed at 1:45 p.m. when the ninth price bar of sell setup is recorded.

Buy setups demonstrate a similar behavior only in reverse. At approximately 1:15 p.m. the ninth price bar of buy setup (a series of nine or more consecutive closes less than the close four trading bars earlier) was recorded, and prices subsequently rallied. A similar event took place at 2:10 p.m.
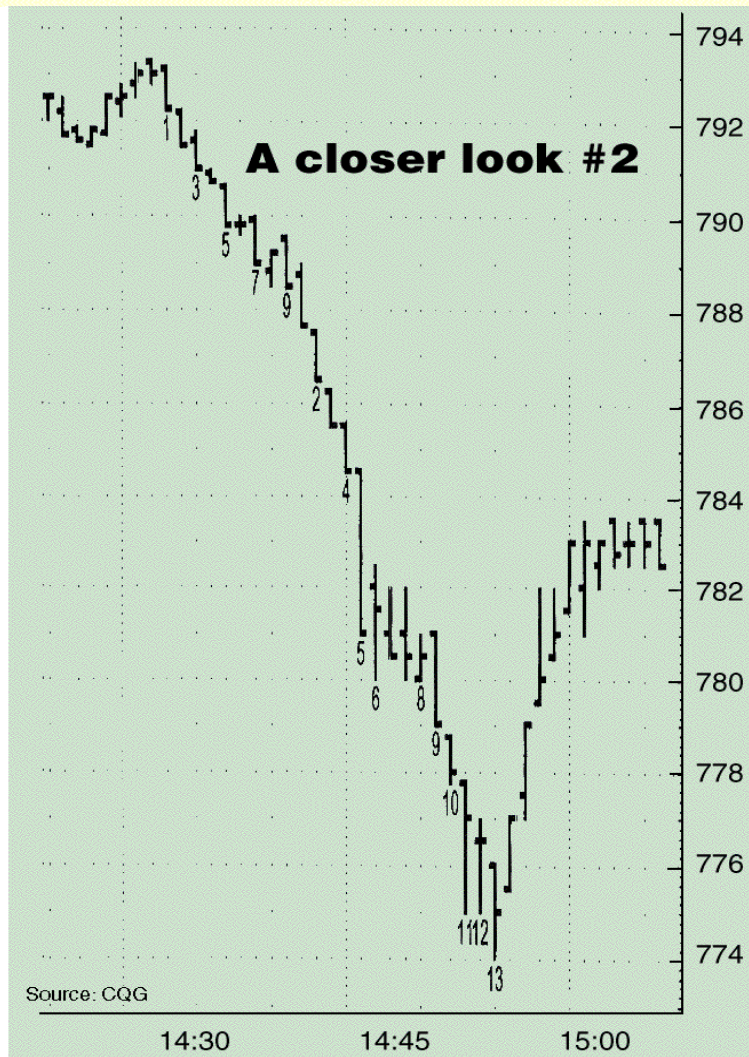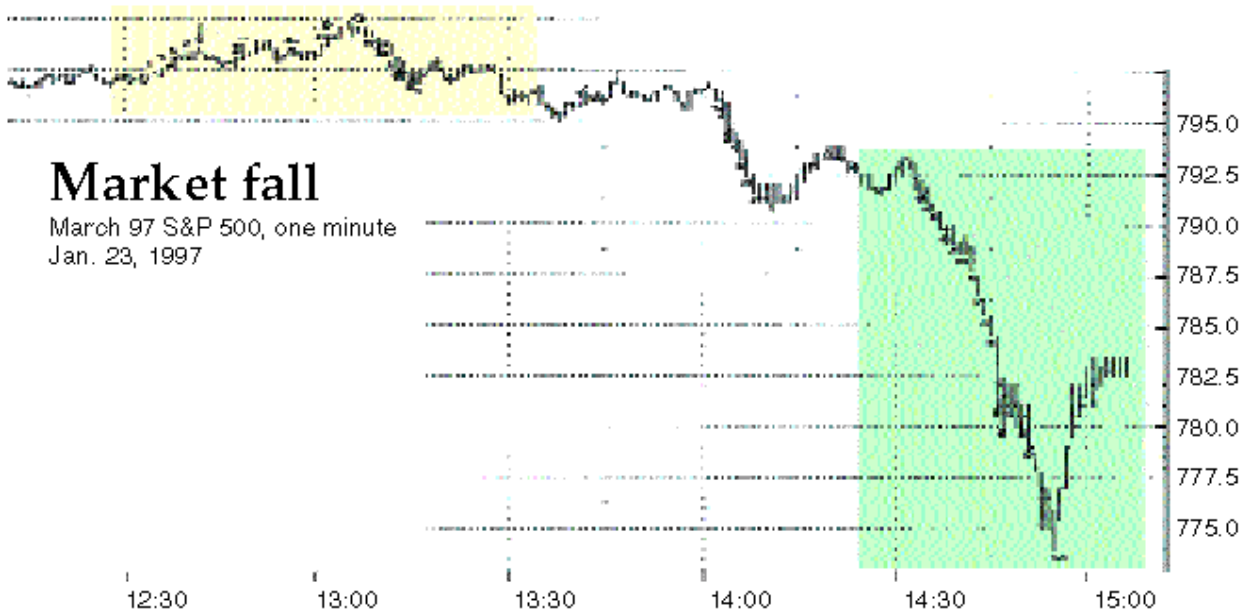
Market fall

March 97 S&P 500, one minute
Jan. 23, 1997

However, not every setup elicits such a response, as you can readily see at 2:35 p.m. when the ninth bar of a buy setup failed to generate any price movement to the upside.

To demonstrate the application of TD Sequential to other markets and time periods, I've included a five-minute chart of May 1997 coffee futures in "Coffee TD Sequential" (right), which identifies a TD Sequential high-risk buy countdown completion just prior to the Feb. 20 early morning price peak before a 10-point plus decline.

Also, in "Longer count" (right), the March S&P 500 Index futures chart on a 10-minute basis, I identify the TD Sequential nine-13 high-risk buy indication on Feb. 19, coincident with the price peak.

Although TD Sequential has worked effectively on a daily basis for more than two decades, only within the last five years has it become apparent that this technique can be applied to intraday price charts as well. Because it originally was designed to be applied to longer time periods, its ability to identify high- and low-risk entry zones on an intraday basis is a testimony to its adaptability and dynamic design.
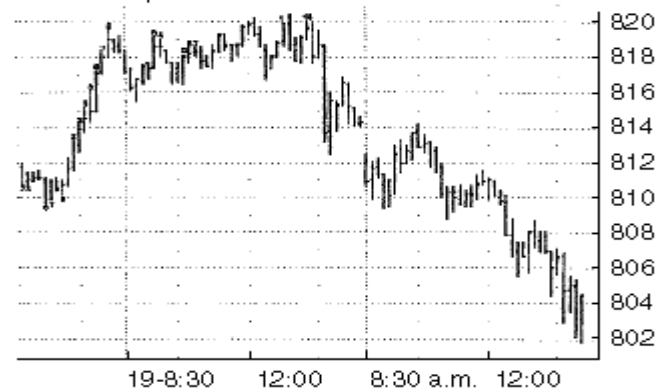
Coffee TD Sequential

May 97 coffee, five minute
Feb. 19-20, 1997

Dollars per lb.
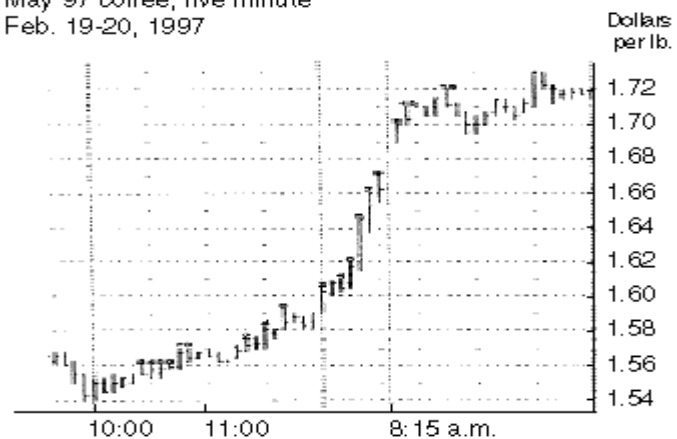
Stretching TD Sequential to a five-minute chart.

Longer count

March 97 S&P 500, 10 minute
Feb. 19-20, 1997

Stretching TD Sequential to a 10-minute chart.

Source: Both charts, CQG