Dynamic Time Analysis

How To Make High-Probability Time Targets
For Any Market Condition

By Robert Miner
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A Special Tutorial Series for Subscribers to the DT Reports

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Lesson One

Time Cycle Ratios, Time Retracements and Alternate Time Projections

This tutorial will be a review for many subscribers of the basic dynamic time projection techniques used in the Dynamic Trader Futures Report, and especially for those who have taken the time to study my *Dynamic Trading* book. However, it is important to regularly review the basics to ensure subscribers easily follow along with the method and terminology we use in the DT Reports. Plus, as this series progresses, there will be instruction how some additional practical application of dynamic time analysis that is not included in the book. What ever your background, it will be well worth your while to review each tutorial.

Time analysis is done in exactly the same manner as the more familiar price analysis except we use units of time rather than units of price.

Dynamic time analysis measures and proportions the range in *time units* of past cycles and projects forward to project the high probability support and resistance time zones. Many of the same dynamic ratios used for price analysis are used for time analysis.

The Fib ratio series of .382, .50, .618, 1.00, 1.618 and 2.618 are the most typical ratios used although .50 and 1.00 are not technically a part of the Fib ratio series.

Pivots on the price chart identify the reference points used in the analysis. All time projections are made *in advance*. New projections may be made as soon as a new swing is confirmed.

The three key time projection techniques that make the time target zones are:

1) Time Cycle Ratios (TCR)
2) Time Retracements (Ret)
3) Alternate Time Projections (ATP)

Time Cycle Ratios (TCR)

Time Cycle Ratio is a term I coined over 15-years ago when I first began writing about this approach to time analysis to describe any type of time projection that is made by proportioning a time range between any two pivots and projecting forward from either the second pivot or a third pivot.

On the charts in the report, you will see the TCR abbreviation by the first pivot date whenever two pivots are used to make a projection. For those with the Dynamic Trader program, these projections are made from the Fib-T (2-pivot) icon.

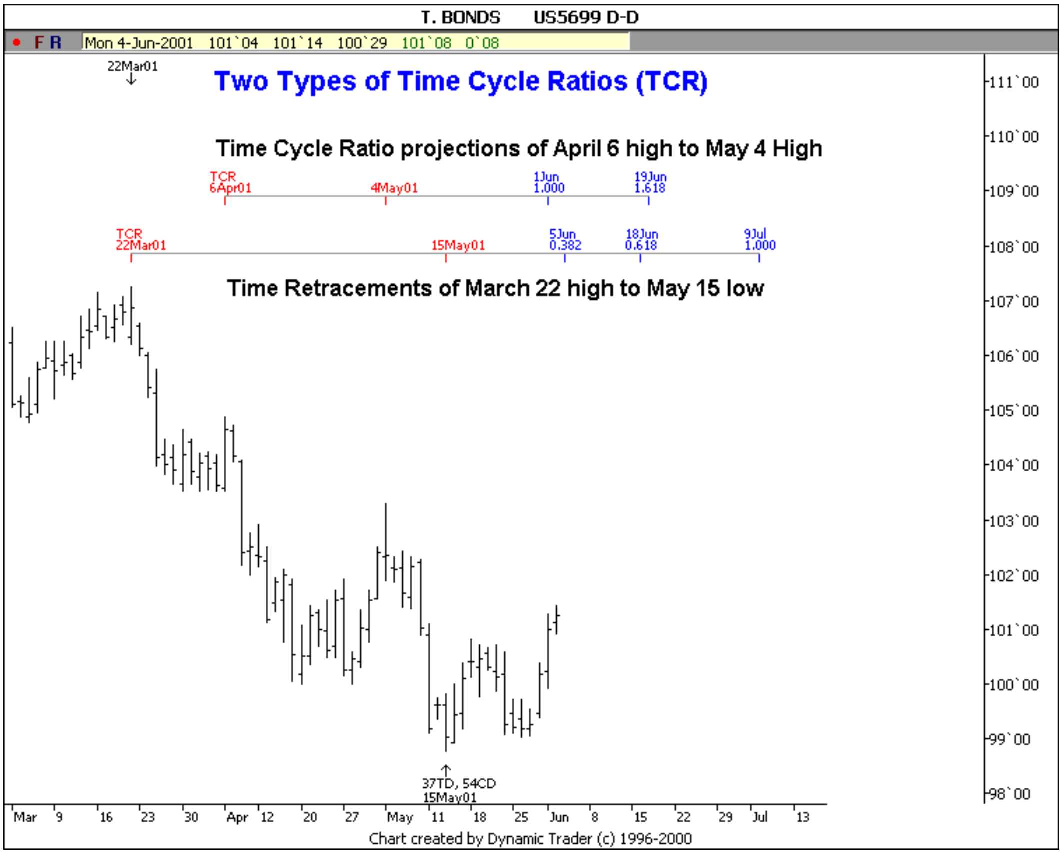
A TCR may be made from any two pivots, they do not have to be a consecutive low-to-high, high-to-high, high-to-low or low-to-low.

Time Retracements (Ret)

A Time Retracement is a retracement of time units of the time range of a low-to-high or high-to-low swing. Time retracements will often act as time support, resistance or trend termination in the same manner that price retracements will often as act as price support, resistance or trend termination. Time retracements use two pivots and are one type of Time Cycle Ratio.

The typical ratios we use for time retracements are 38.2%, 50%, 61.8%, 100% and 162%.

Let’s look at a chart example on the following page.



The daily bond continuous chart above shows both time retracements from a high to a low and a time-cycle-ratio projection of two consecutive highs.

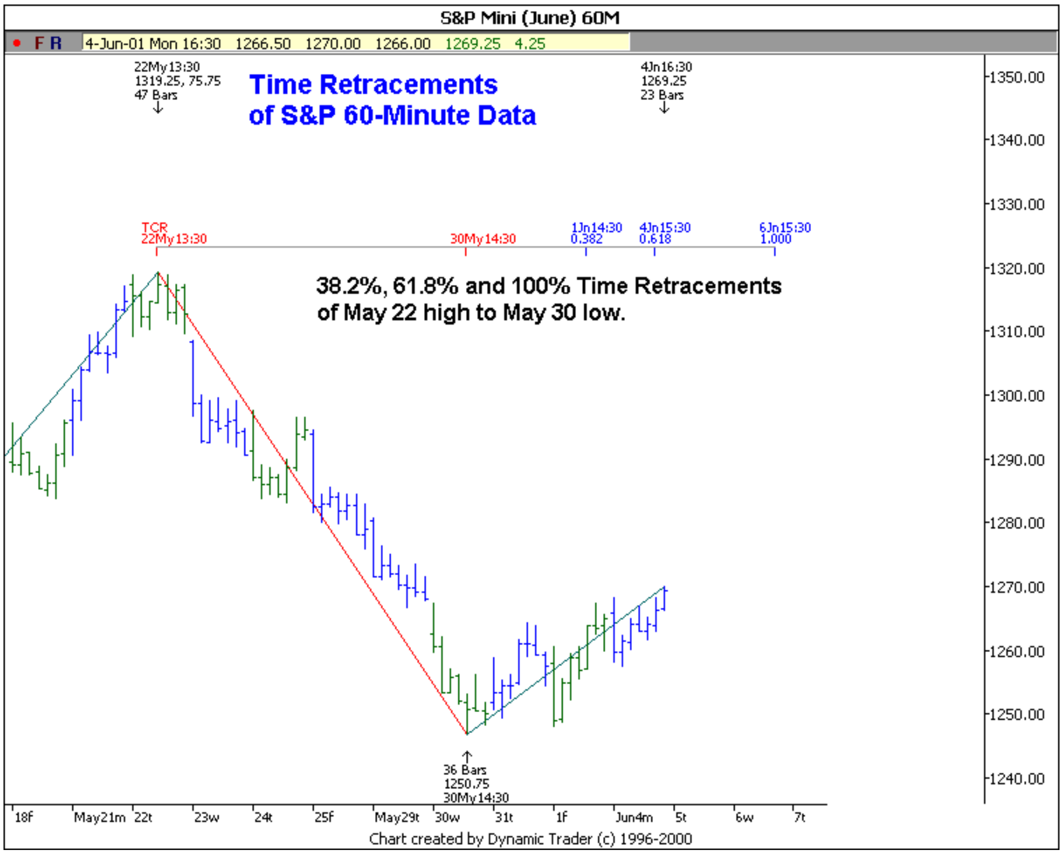
The time retracement is made by measuring the time from the March 22 high to the May 15 low, multiplying the number of time units by the appropriate ratio and projecting forward the resulting number of time units from the second pivot which is the May 15 low.

The 38.2% time retracement of the March high to May low is June 5. The time range from the March 22 high to May 15 low is 37 trading days (TD). 38.2% x 37 TDs is 14 TDs. Fourteen TDs forward from the May 15 low is June 5.

The high-to-high time cycle ratio projection is made in the same manner. The time range between the two highs are multiplied by the appropriate ratio and the result is projected forward from the second high.

The 100% TCR of the April 6 high to May 4 high is June 1. The time range from April 6 to May 4 is 19 TDs. Nineteen TDs forward from May 4 is June 1.

Time Cycle Ratios including time retracements may be made on data of any time frame. The next chart below shows time retracements for the recent minor decline of the June S&P on the 60-minute data.



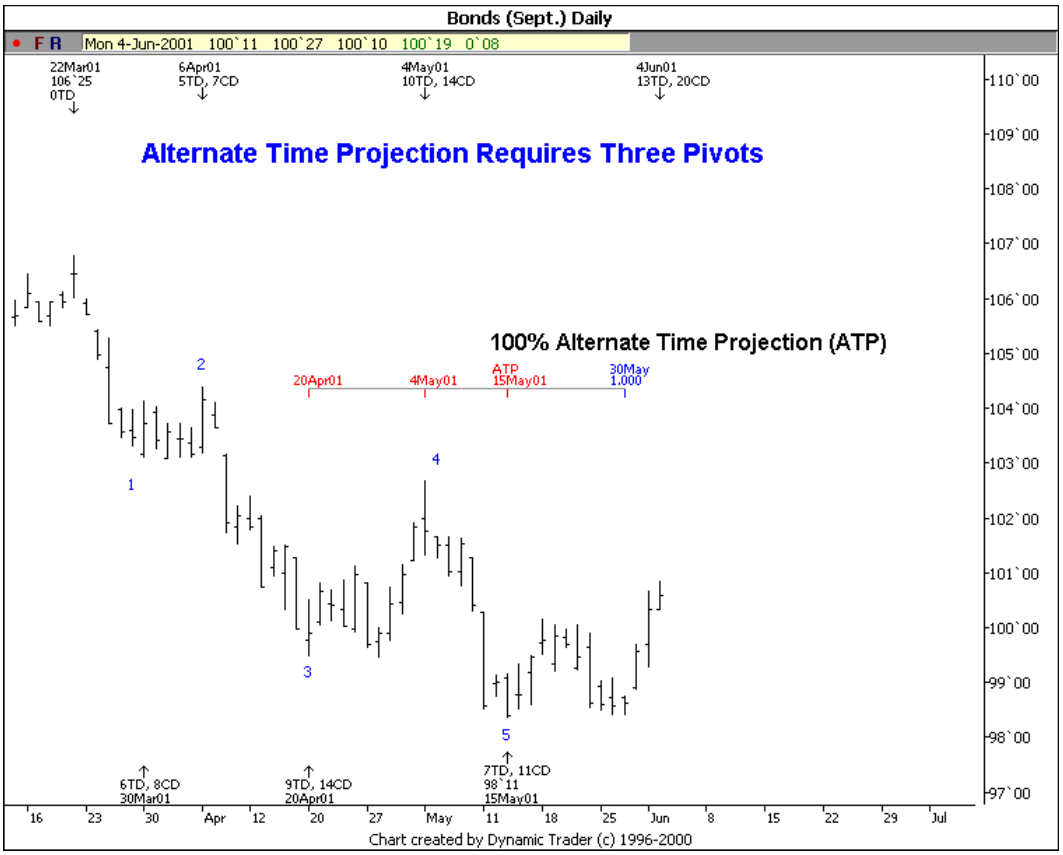
<u>Practical Application</u>: A correction to a five-wave trend is usually at least a 38.2% time retracement of the trend.

Alternate Time Projections (ATP)

Trends are often proportional to each other. Alternate Time Projections (ATP) measure the range of time of a past swing that was in the same direction as the current trend and project forward from the beginning of the current trend. The three typical ATP ratios are 61.8%, 100% and 162%.

In the Dynamic Trader software, alternate time projections are made with the Fib-T (3-pivots icon).

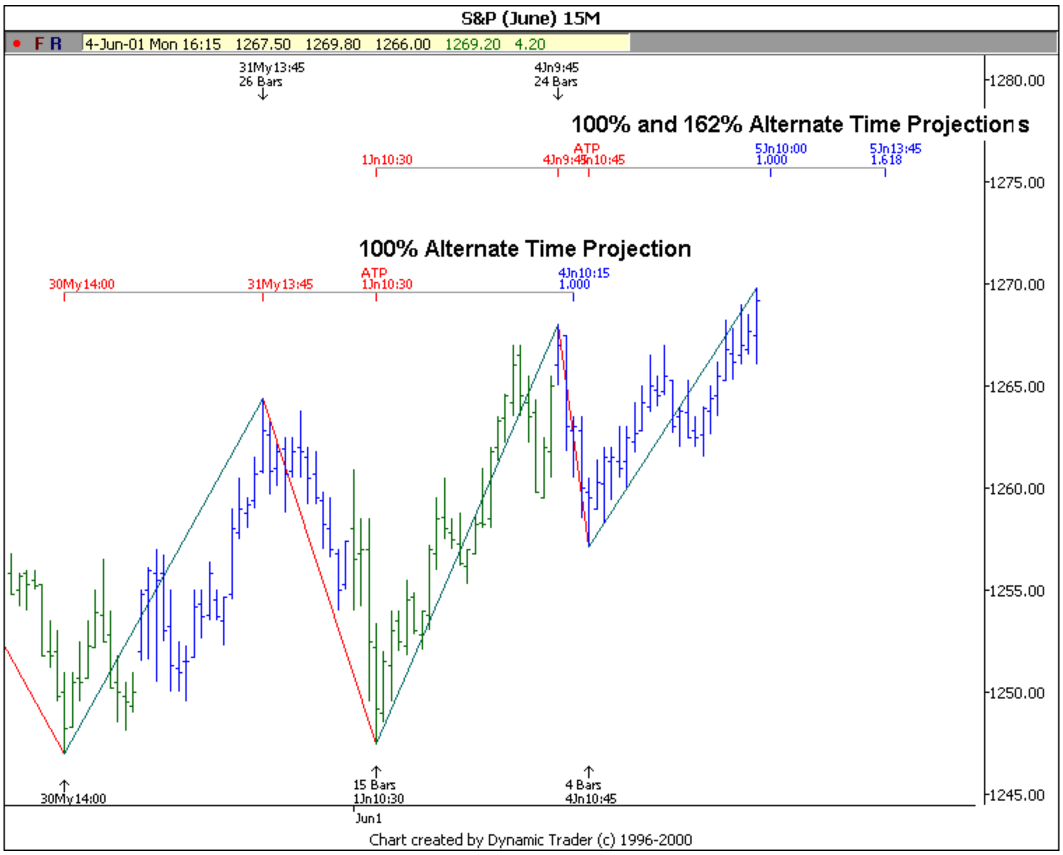
Let's look at a chart example.



The daily Sept. bond chart above shows the 100% alternate time projection of the April 20 low to May 4 high projected from the May 15 low. The 100% ATP falls on May 30. On May 30, the rally from the May 15 low was equal in time to the longest corrective rally since the March 22 high.

The 100% ATP is a key time target. A market that exceeds the 100% ATP has "overbalanced" the previous swing which is a signal the larger degree trend has changed. In this case, it is a warning that the rally from the May 15 low is a larger degree correction than any correction since March 22 high. There will be a tutorial on time and price "overbalance" in the future.

Alternate Time Projections may be made on any time frame data. The next chart shows alternate time projections on the June S&P 15-minute data.



The second high on the chart on June 4 was made just two bars before the 100% Alternate Time Projection of the prior advance. The first advance on the chart lasted 26 bars. The second advance made a high at 24 bars, two bars before the 100% ATP.

The 100% ATP of the second advance is projected from the June 4 low is on the 10:00 AM (EST) bar on June 5. The 162% ATP is on the 13:45 bar on June 5.

Time Target Zones

The ideal time target zones that are projected in advance are those relatively narrow time zones that include several time retracements and alternate time projections from different combinations of pivots. As this tutorial series progresses, we will see which combination of dynamic time projections are most helpful to discover in advance if there is a high probability time target zone to anticipated a trend change.

Calendar Days Verses Trading Days

Should we use calendar days or trading days to make dynamic time projections with daily data? Since we are using a ratio of the time range, it matters little, especially for the shorter term swings.

The 61.8% TCR of a 55 calendar day swing is 34 calendar days. Fifty five calendar days is 38 trading days. The 61.8% TCR of 38 trading days is 24 trading days (rounded up). Twenty-four trading days is the same range of time as 34 calendar days. Projecting forward either 34 calendar days or 24 trading days will give the same date, plus or minus one or two days depending on the time of holidays or weekends.

For practical purposes, it is easiest to use trading days except for the very long cycles of several months each.

Lessons Learned

The three dynamic time projection techniques are Time Cycle Ratios (TCR), Time Retracements (Ret) and Alternate Time Projections (ATP). The time projections are calculated *in advance* and prepare us for the high probability time targets when a market may find support, resistance or the termination of a trend. Subscribers should be familiar with each of these dynamic time projection techniques and their abbreviations.

New projections are made as a new swing is confirmed. The high probability target zones are where two or more of the projections coincide relatively close together.

Each projection on a chart in the DT Futures Report is labeled with the ratio and type of projection (TCR or ATP) depending on whether the projection was made with two or three pivots. There are no unique labels for Time Cycle Ratio projections using two pivots such as time retracements, high-high etc. as any two pivots may be used.

Lesson Two

Time Target Zones for Support, Resistance and Trend Change

By Robert Miner, Dynamic Traders Group, Inc.

In part one of this Dynamic Time Analysis tutorial series, we learned the basic dynamic time analysis methods including *Time Retracements, Alternate Time Projections and Time Cycle Ratios*. If you are not familiar with these terms and the method they represent, please review part one. This tutorial will assume you are very familiar with each of these three time projection techniques.

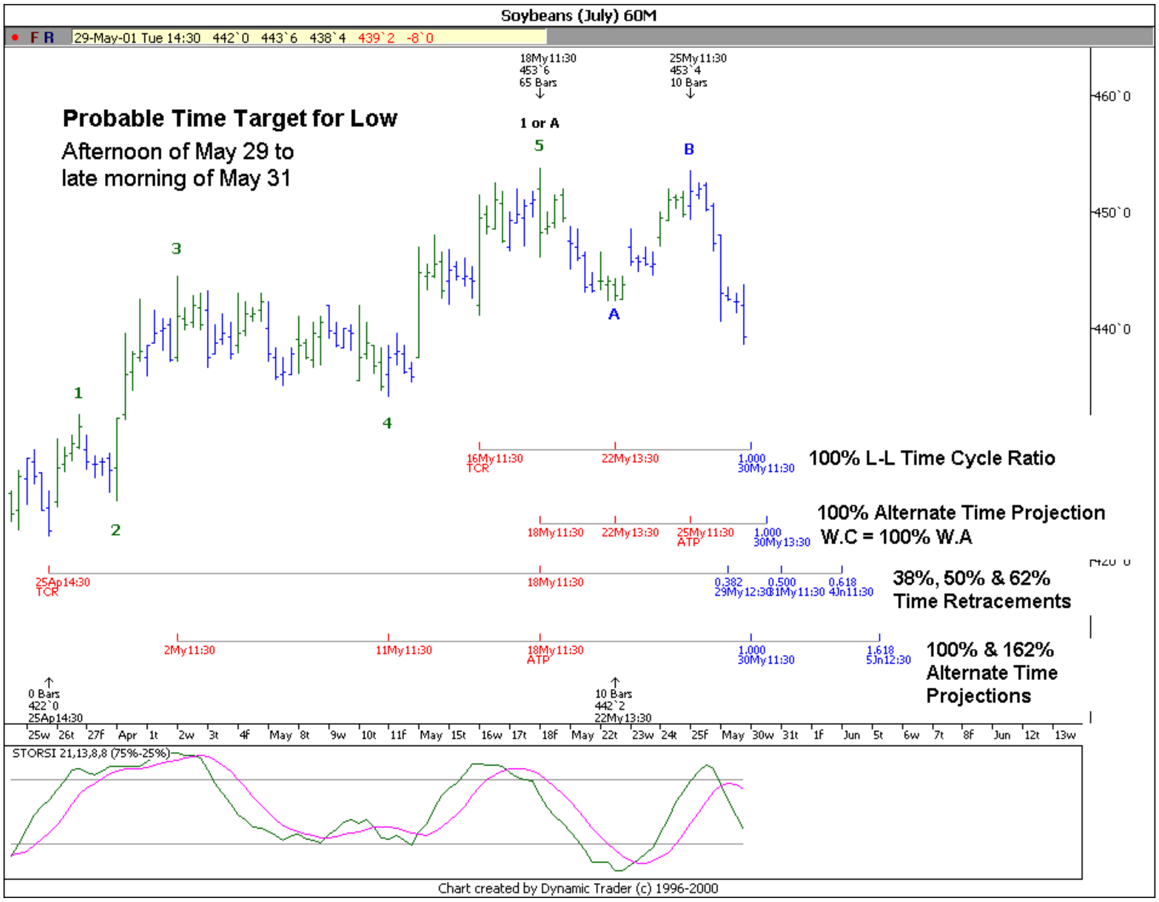
This week's lesson will show how we often can project in advance a relatively narrow range of time for support, resistance or trend reversal.

Time Target Zones

The most reliable time target zones are those relatively narrow time ranges that include dynamic time projections from several past swings and more than one degree of change. Ideally, the Time Target Zone will include at least one each of a Time Retracement, Alternate Time Projection and either Low-Low or High-High Time Cycle Ratio.

The first example below is July soybeans, 60-Minute data from the April 25 low to May 29. Beans made a high on May 18 and had been declining through May 29. The objective is to identify a time zone with the potential for a low.

The chart below shows the Time Retracements of the April 25 low to May 18 high, the Alternate Time Projections of the time range of Wave-A projected from the Wave-B high, the most recent Low-Low TCR and the Alternate Time Projections of the May 2-11 decline from the May 18 high.



May 30 includes one projection from each of the three sets of projections.

100% Low-Low TCR projection of the two recent minor lows.

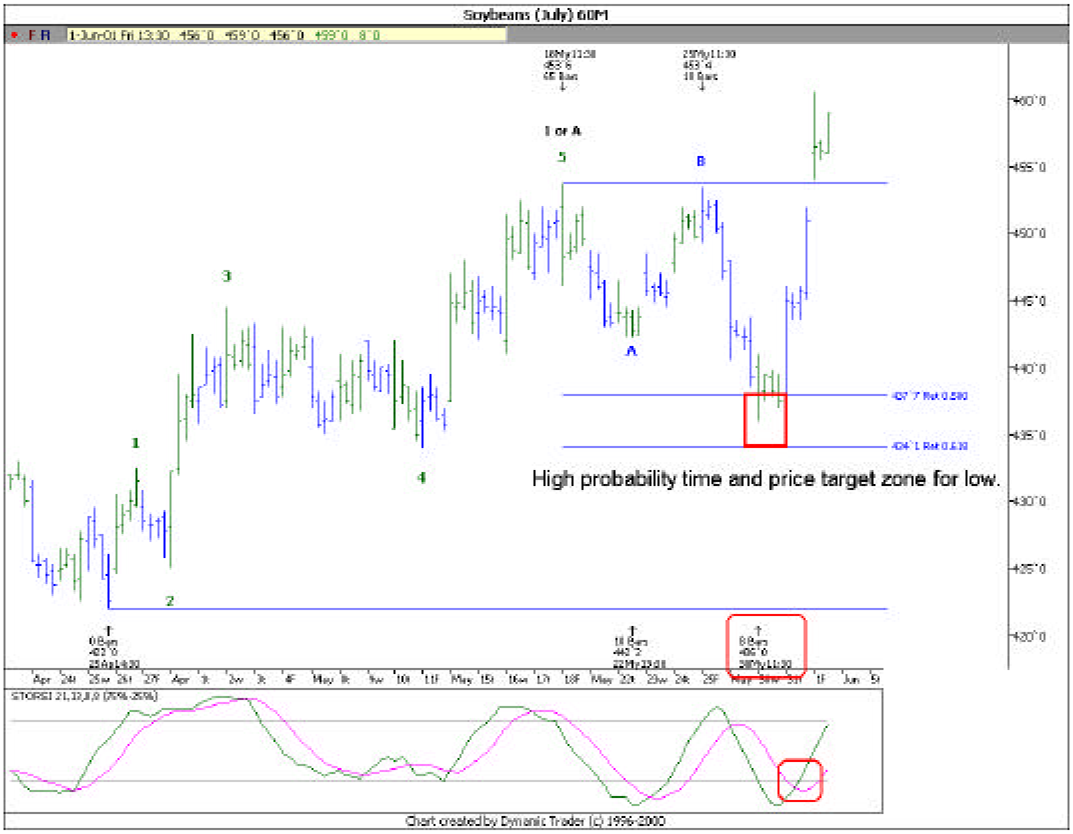
100% ATP where W.C = 100% W.A

100% ATP of the May 2-11 decline from the May 18 high.

May 29 and May 31 is the 38% and 50% Time Retracements of the April 25 low to May 18 high. This time retracement zone brackets the three May 30 time projections.

The high probability time target for the next low is from the **early afternoon of May 29** through the **late morning of May 31** with a focus on **May 30** where three of the four key projections are made.

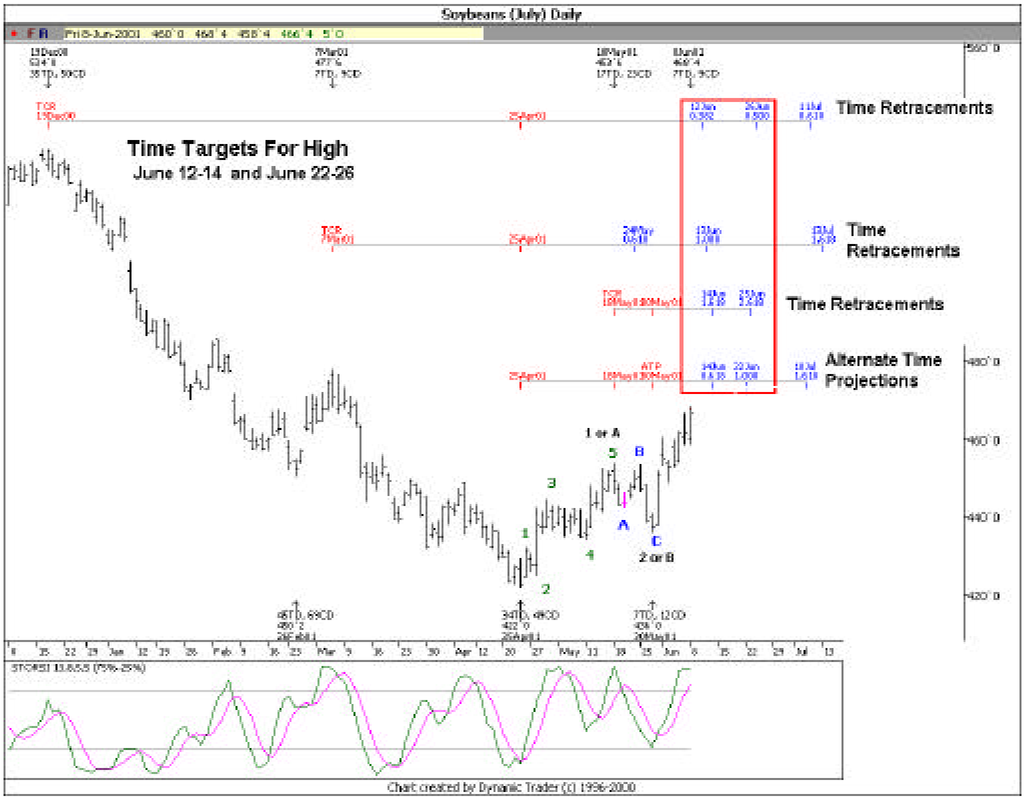
The time/price box shown in the next chart bounds the early afternoon May 29 through late morning May 31 Time Target Zone with the 50%-62% price retracement zone for a time/price zone with a high probability of making a low. The low was made precisely in this time/price zone that was projected in advance.



This first example shows how we make the key time projections in advance to see if there is a relatively narrow time range that includes at a projection from each of at least two or three of the sets of projections.

Now that you know how it is done on an after-the-fact example, let's take another look at beans right up through today, June 11, the date this tutorial is prepared and make dynamic time projections for the next potential high.

The next chart is daily data of July beans from the Dec. 19, 2000 high through Friday, June 8. Four sets of Dynamic Time Projections have been made.



From the top down, the Dynamic Time Projection sets are:

1. 38%, 50% and 62% Time Retracements of the Dec. 19 high to April 25 low.
2. 62%, 100% and 162% Time Retracements of the March 7 high to April 25 low.
3. 162% and 262% Time Retracement of May 18 high to May 30 low.
4. 62%, 100% and 162% Alternate Time Projections of April 25 low to May 18 high from the May 30 low.

There are two time periods that include one projection from either three or four of the four sets of projections. They are **June 12-14** and **June 22-26.** One of these two periods should result in a high of the same degree or larger as the May 18 high which was followed by a 12 CD decline. If beans are advancing into either of these Time Target Zones, we would be alert to the pattern and price position for a potential trend change.

The next chart is the 60-Minute, July Soybean data from the April 25 low through June 8. It includes the detail of two of the projections shown on the daily chart above plus the minor 100% high-high projection.

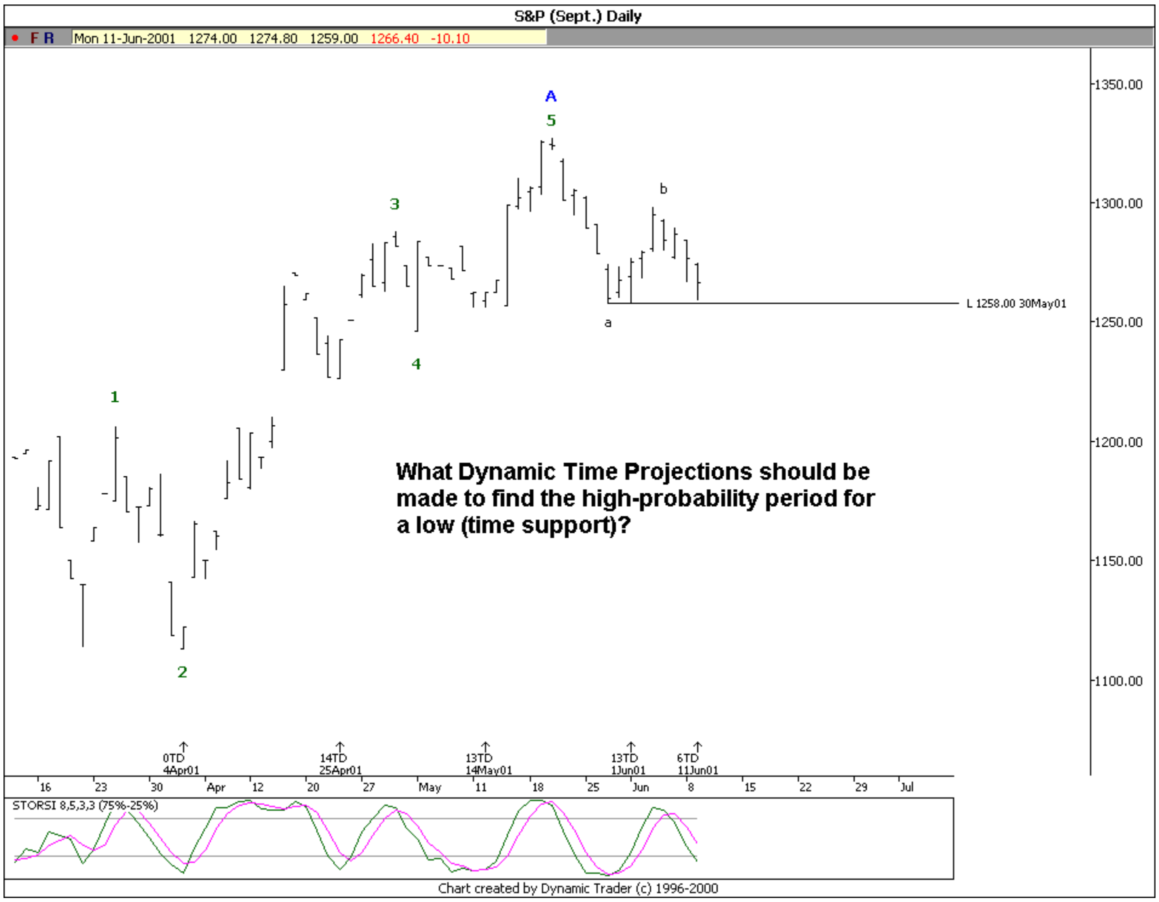
We can see here also the **June 13-14** and **June 21-25** (Thursday-Monday) periods are the next potential time targets. The same projection on the intraday data may show as plus or minus a trading day from the daily data projection depending if the actual high or low the projection was made from was made early or late in the day.

If we consider the projections from both charts, **June 12-14** and **June 21-26** are the two Time Target Zones for a high. Is one more probable than the other? Each has about an equal number of projections. I would give a slight edge to the **June 21-26** period because it includes the 100% Alternate Time Projection of the April 25 low to May 18 high (Wave 1 or A) from the May 30 low (Wave 2 or B).

Soybean Time Targets for a High

June 12-14 and **June 21-26**

Let's make the Dynamic Time Projections for the current position of the S&P. Below is the daily chart through Monday, June 11. What time projections should be made?

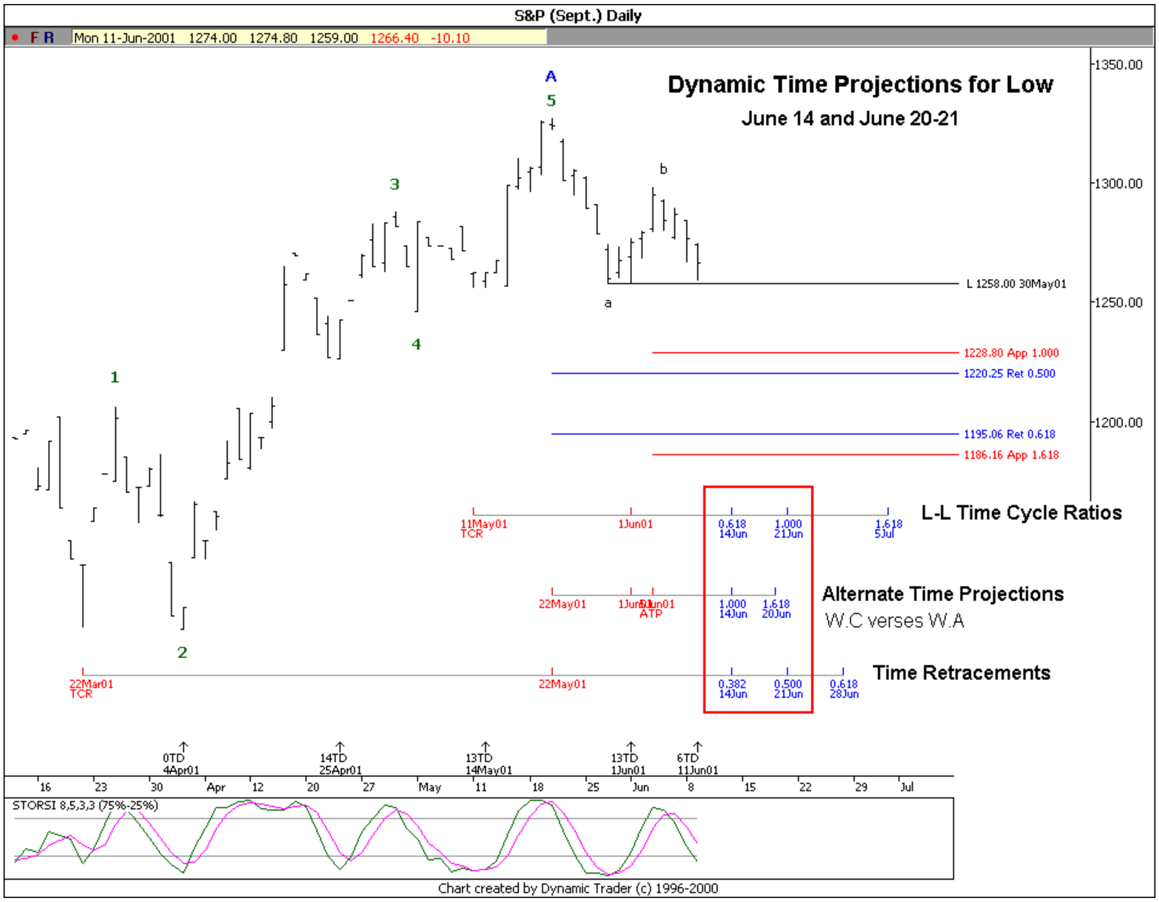


Since the S&P is declining from the May 22 high, the objective is to identify the high-probability time target for the next low. The next daily chart shows the three typical sets of projections we would make:

Recent Low – Low Time Cycle Ratio projections.

Time Retracements of the recent advance.

Alternate Time Projections of the recent decline.



There is one projection from each of the three sets that fall in either the **June 14** or **June 20-21** Time Target Zones. If the decline from the May 22 high is a correction, the corrective low should be made in one of these zones. Is one more probable than the other? My first choice would be **June 13-15** (June 14 +/- one trading day) because it includes the 100% ATP where W.C = 100% W.A.

S&P Time Targets for a Low

June 13-15 and June 20-21

Target Zones and Minimum Time Targets

These target zones help to identify the high-probability time targets for trend change. In the same manner, they also identify the minimum time target for a current trend. In the case of soybeans, the first time projection from the May 30 low was the June 12-14 period. In other words, the bull trend should not be complete prior to June 12, a projection almost two weeks following the May 30 low. In the current case of the S&P, from the June 5 high, the minimum projection for the decline is the June 13-15 period, a projection over a week after the June 5 high.

Target Zones and Trend Continuation

Usually, the assumption is if a market continues to trend past one Time Target Zone, it will continue to trend at least to the next target zone. In the case of the S&P, if the S&P makes a new daily and closing low after June 15, the odds are the decline will continue to June 20 or later. If beans make a new daily and closing high after June 14, the odds are the bull trend will continue to at least June 21, the first day of the next Time Target Zone.

Every high and low is not made precisely within the Time Target Zones projected in advance, but most are. Which projections are made is very objective. It is a bit subjective how we choose which group of projections are the most important. Usually we focus on the time around the one or two most important projections.

Never forget that time analysis is just one of the three key factors in Dynamic Trading analysis along with pattern and price analysis. The ideal trend-reversal trade set-ups are when a pattern appears near completion within the projected time and price zones for a probable trend reversal.

Lessons Learned

In this tutorial, we have learned how to make the basic dynamic time projections and how to identify the Time Target Zones that include at least one projection from each set of projections. We know that we can make these projections in advance. The Time Targets will help provide us with the minimum time target for the next trend change as well as the high probability zones when the next trend reversal should be made.

We will look at many more examples of making the dynamic time projections and Time Target Zones in advance in many market conditions in this series of tutorials until it becomes second nature to you.

Lesson Three

More Time Target Zones for Support, Resistance and Trend Change

By Robert Miner, Dynamic Traders Group, Inc.

In part one of this Dynamic Time Analysis tutorial series, we learned the basic dynamic time analysis methods including *Time Retracements, Alternate Time Projections and Time Cycle Ratios*. If you are not familiar with these terms and each method they represent, please review part one. This tutorial will assume you are very familiar with each of these three time projection techniques.

Part 2 in this series sent last week taught you how to project in advance a relatively narrow range of time for support, resistance or trend reversal that we often call Time Target Zones. The Time Target Zones are projected in advance and have a high probability of being the minimum targets for a trend or counter-trend swing or the end of a larger degree trend.

Parts one and two are in the archive section of the Subscribers page.

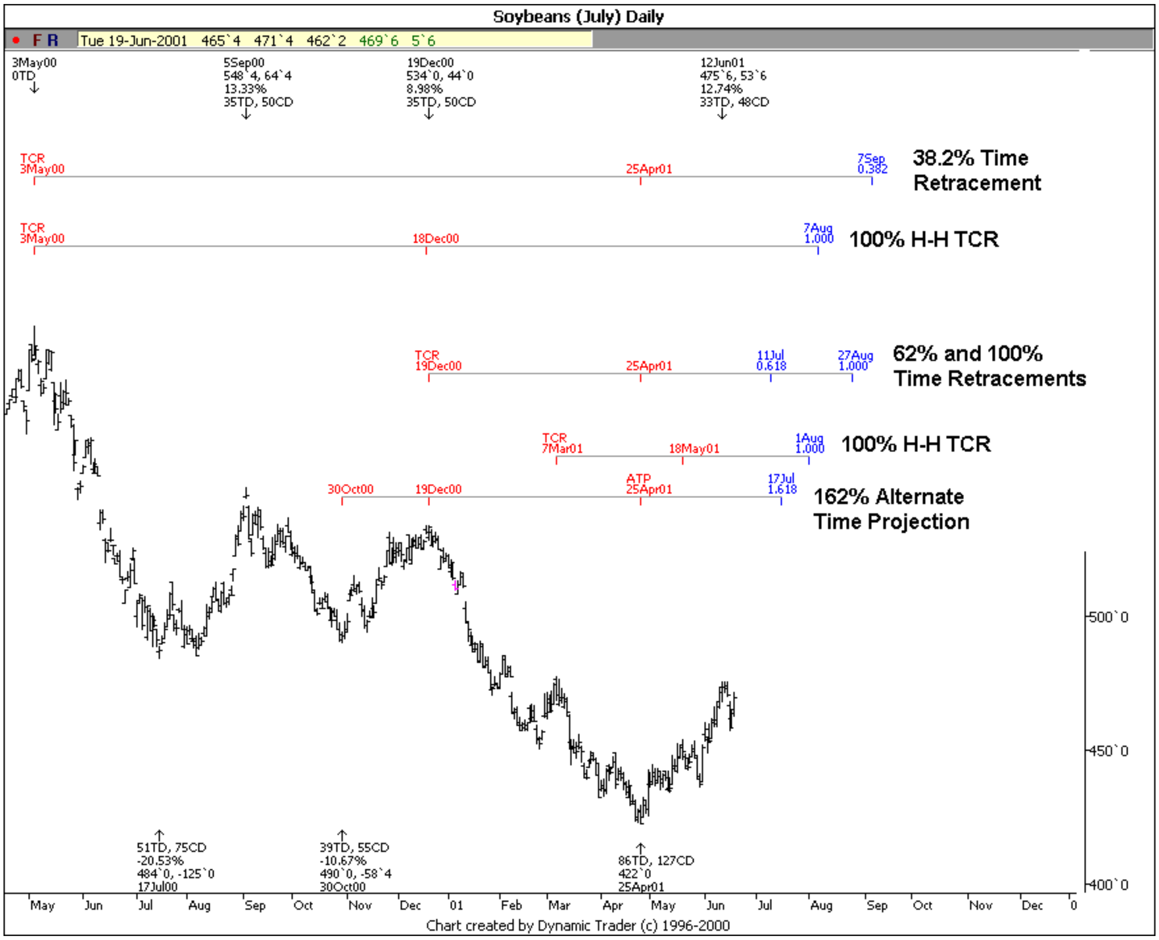
This week's lesson will use a current example of how to use both the longer and shorter term dynamic time projections to confirm or invalidate the a projected Time Target.

Soybeans – Next High?

Part 2 of this series showed how we made the June 12-14 and June 21-26 Time Target Zones for a probable high for beans. As of June 19, the date this tutorial is prepared, the high for beans is June 12, right in the first potential target zone. If beans take out the June 12 high, we found the next potential target for a high is Thursday – Tuesday, June 21-26. Let's see if we can use the more recent short-term swings from the past week to narrow down that time target and see what the next target may be if beans continue to advance beyond June 26.

The daily chart below includes all of the longer term time retracements, alternate time projections and high-high time cycle ratios of the major swings since the May, 2000 high.

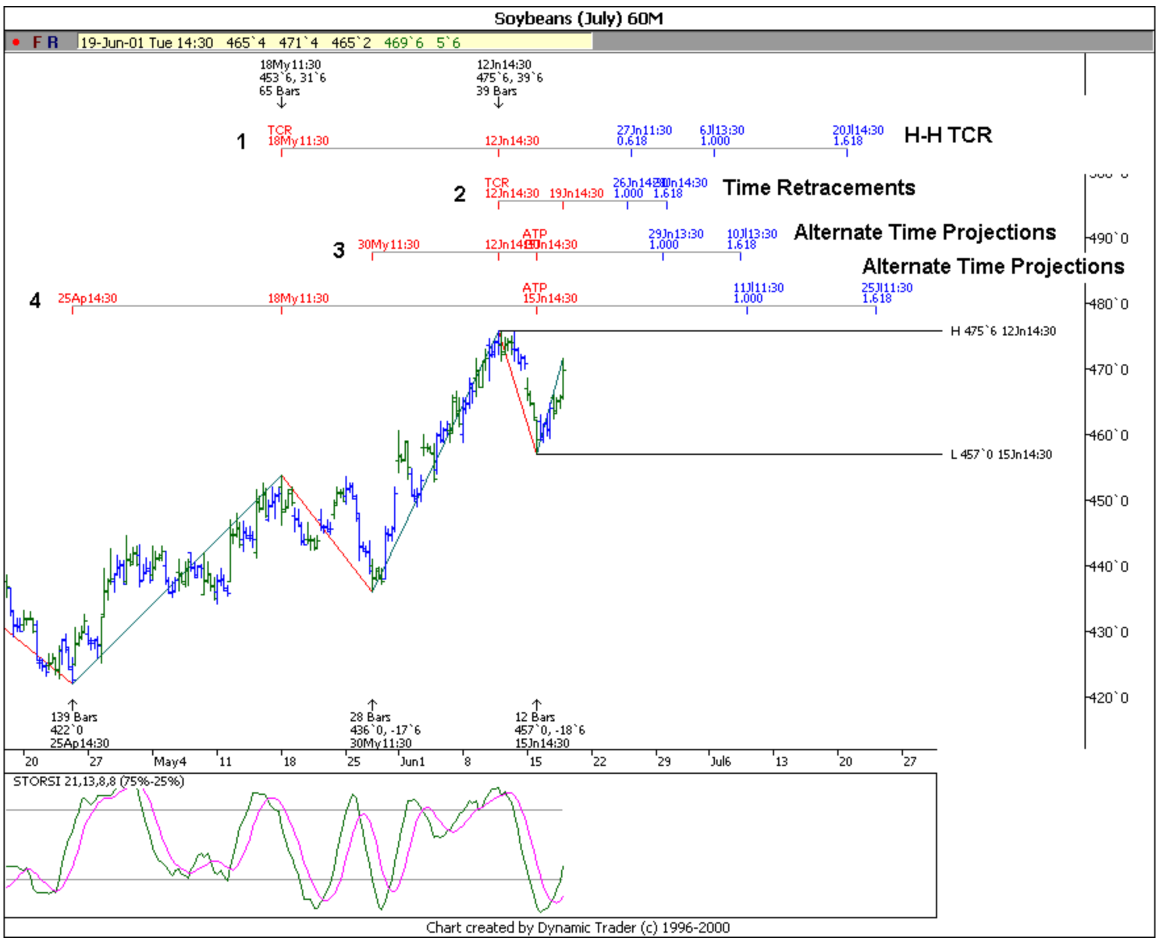
Is there a relatively narrow range of time that includes a cluster or group of dynamic time projections that should be considered a Time Target Zone?



These projections are spread out fairly evenly from July 11 to Sept. 7. There might be some emphasis on the early part of this period – July 11 – Aug. 7 – but there is no 2-5 trading day period that includes three or four projections.

These projections do not point to a high probability time target zone for a change in trend. Lesson learned – Don't try to make something out of nothing. While we might want to be alert on some of these dates, they would only be significant if some short-term projections fell on the dates and/or there were some time counts on these dates. A later tutorial in this series will teach you how to use trading and calendar day counts. From the time projections shown above, we cannot come up with a specific narrow-range time target for a trend change.

Now let's move to the short-term data and see if we find more useful information. The next chart is 60-minute data since the April 25 low. Four sets of projections are shown. These projections are valid as long as the June 15 low is not taken out. If beans decline below the June 15 low at 457 before making a new high, the projections are invalidated.



The top set of projections labeled #1 are the 61.8%, 100% and 162% high to high time cycle ratio projections. The second set is the time retracements of the last minor decline. The third set is the 100% and 162% alternate time projections of the most recent swing up, May 30 low to June 12 high, projected from the June 15 low. The fourth set of projections are the 100% and 162% alternate time projections of the second most recent advance, April 25 low to May 18 high, from the June 15 low.

The first thing we can do is eliminate the two "out-liers" on July 20 and 25. They don't coincide with any other projections and are far out from most of the projections.

The first coincidental period is the afternoon of June 26 to the morning of June 27 which includes two projections – the 62% high-to-high TCR from set #1 and the 100% time retracement from set #2.

The second coincidental period is the afternoon of June 29 which includes the 100% ATP from set #3 and the 162% time retracement from set #2.

The July 6 projection from set #1 is out by itself so it shouldn't be considered.

The third coincidental period is the afternoon of July 10 to the morning of July 11 which includes a projection from set #3 and #4.

Can one of the three coincidental periods be singled out as more valid than the others? Or, can at least one of the three be eliminated from contention?

Recall from last week's tutorial, #2 is this series, that the recent swing on the daily data projected the relatively broad period of June 21-26 as the most probable Time Target Zone for a high in June. The first period described above in the June 26-27 period begins at the extreme of the daily data projection. The second period, June 29, is three trading days later. We should begin by eliminating the third period, July 10-11 for now.

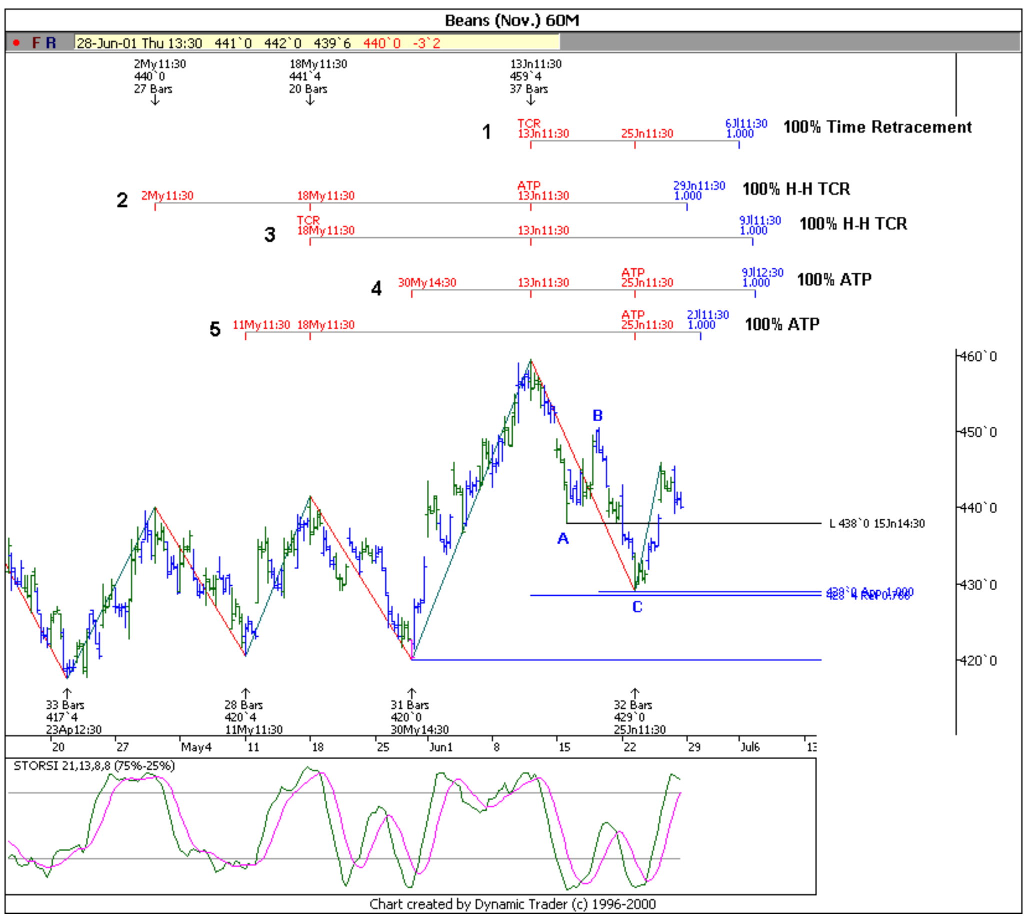
There is nothing about the individual short-term projections in either the June 26-27 or June 29 periods that makes one of those periods stand out. So, we should concentrate on the June 26-27 period because it partially overlaps with the larger degree target for a potential high of June 21-26 shown in last week's tutorial.

Soybeans - Next Time Target for a High – June 25-27

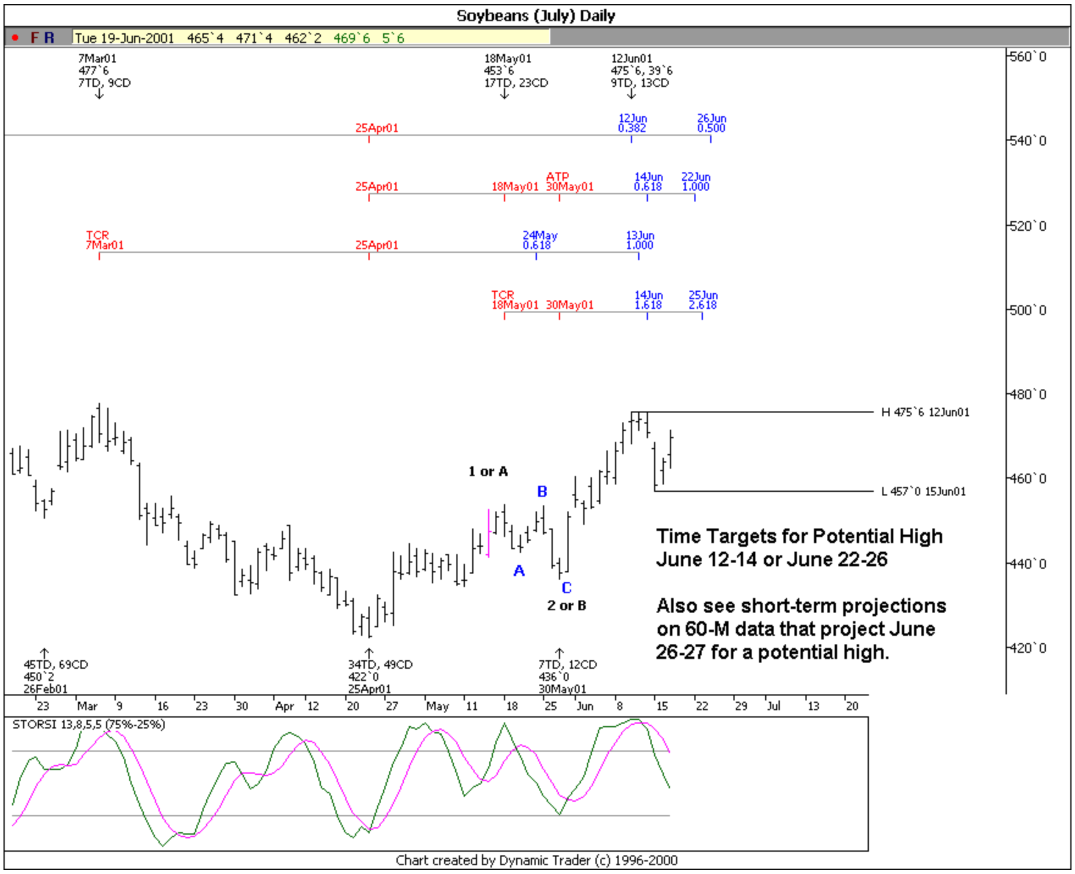
If beans continue to advance to above the June 12 high which was made right in the June 12-14 Time Target Zone, the next high probability time for a high would be Monday-Wednesday, June 25-27. This period includes both intermediate-term and short-term Dynamic Time Projections. *If beans first decline below the June 15 low*, this time target is not valid and we would make the Dynamic Time Projections for the next potential low.

Since the April 23 low, beans have made a fairly regular series of swings as of June 25. Let's project the next probable time zone for a high *if the recent time rhythm continues*. If the next high is made outside the time projection, it will signal if beans are strong or weak.

The chart below is Nov. beans, 60-minute data from the April 25 low through the morning of June 28. I have made five sets of time projections labeled 1-5. Take a look at the chart, then we will see what is significant about these projections.



The daily chart below shows some of the time projections of recent swings shown in last week's tutorial. The recent high was made on June 12, right in the June 12-14 target. The next target for a high if beans continue to advance is June 25-27 which includes time projections from the daily chart below and the 60-minute data above.



Lessons Learned

In the first three tutorials in this series, we have learned how to make the three basic types of dynamic time projections, how to recognize the Time Target Zone clusters of projections and how to update the target zones with the longer and shorter term time frames.

In the next week's tutorial, we will see if there are dynamic time projections that are helpful to project the minimum and maximum time targets for a trend or counter trend.

Lesson Four

More Time Target Zones

By Robert Miner, Dynamic Traders Group, Inc.

In part one of this Dynamic Time Analysis tutorial series, we learned the basic dynamic time analysis methods including *Time Retracements, Alternate Time Projections and Time Cycle Ratios*. If you are not familiar with these terms and each method they represent, please review part one. This tutorial will assume you are very familiar with each of these three time projection techniques and their common application.

Part 2 in this series taught you how to project in advance a relatively narrow range of time for support, resistance or trend reversal that we often call Time Target Zones. The Time Target Zones are projected in advance and have a high probability of being the minimum targets for a trend or counter-trend swing or the end of a larger degree trend.

Part 3 showed examples of projecting the potential time targets in advance for the current position of a market.

This week's lesson will also use a current example of how to use the Time Cycle Ratio, Time Retracements and Alternate Time Projections to identify a critical time zone in advance.

Parts one, two and three are in the archive section of the Subscribers Page on our web site.

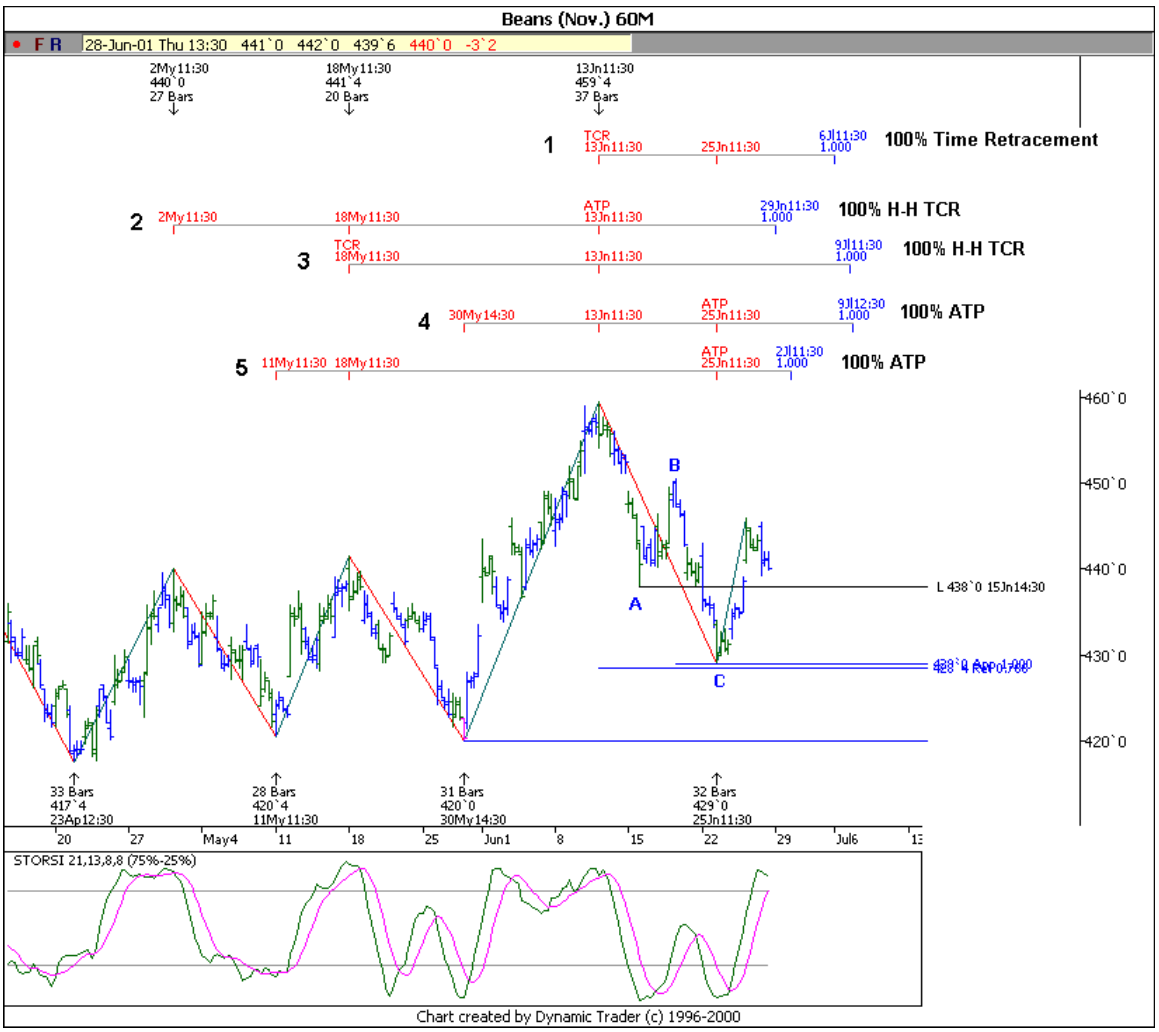
Critical Time Zones Signal Market Strength or Weakness

Last week's lesson projected the time target of June 25-27 for a potential high in beans if beans continued to immediately advance above the June 13 high. Beans did not advance but declined into a June 25 low. At this point in time, we don't know if the June 25 low is the end of an ABC correction or if beans are going to continue lower. Let's use our Dynamic Time Analysis to identify a critical time zone that will help to signal the position of beans.

While this approach to time analysis for this example will be a little different than projecting a time target for trend reversal as shown in the prior tutorials, we will use the same three types of time projections – Time Cycle Ratios, Time Retracements and Alternate Time Projections.

Since the April 23 low, beans have made a fairly regular series of swings as of June 25. Let's project the next probable time zone for a high *if the recent time rhythm continues*. If the next high is made outside the time projection, it will signal if beans are strong or weak.

The chart below is Nov. beans, 60-minute data from the April 25 low through the morning of June 28. I have made five sets of time projections labeled 1-5. Take a look at the chart, then we will see what is significant about these projections.



Time Projections From June 25 Low

1. 100% Time Retracement of the most recent high to low.

2. 100% alternate high-high TCR projection.
3. 100% high-high TCR projection of the most recent two highs.
4. 100% Alternate Time Projection of the most recent advance projected from the June 25 low.
5. 100% Alternate Time Projection of the May 11-18 advance projected from the June 25 low.

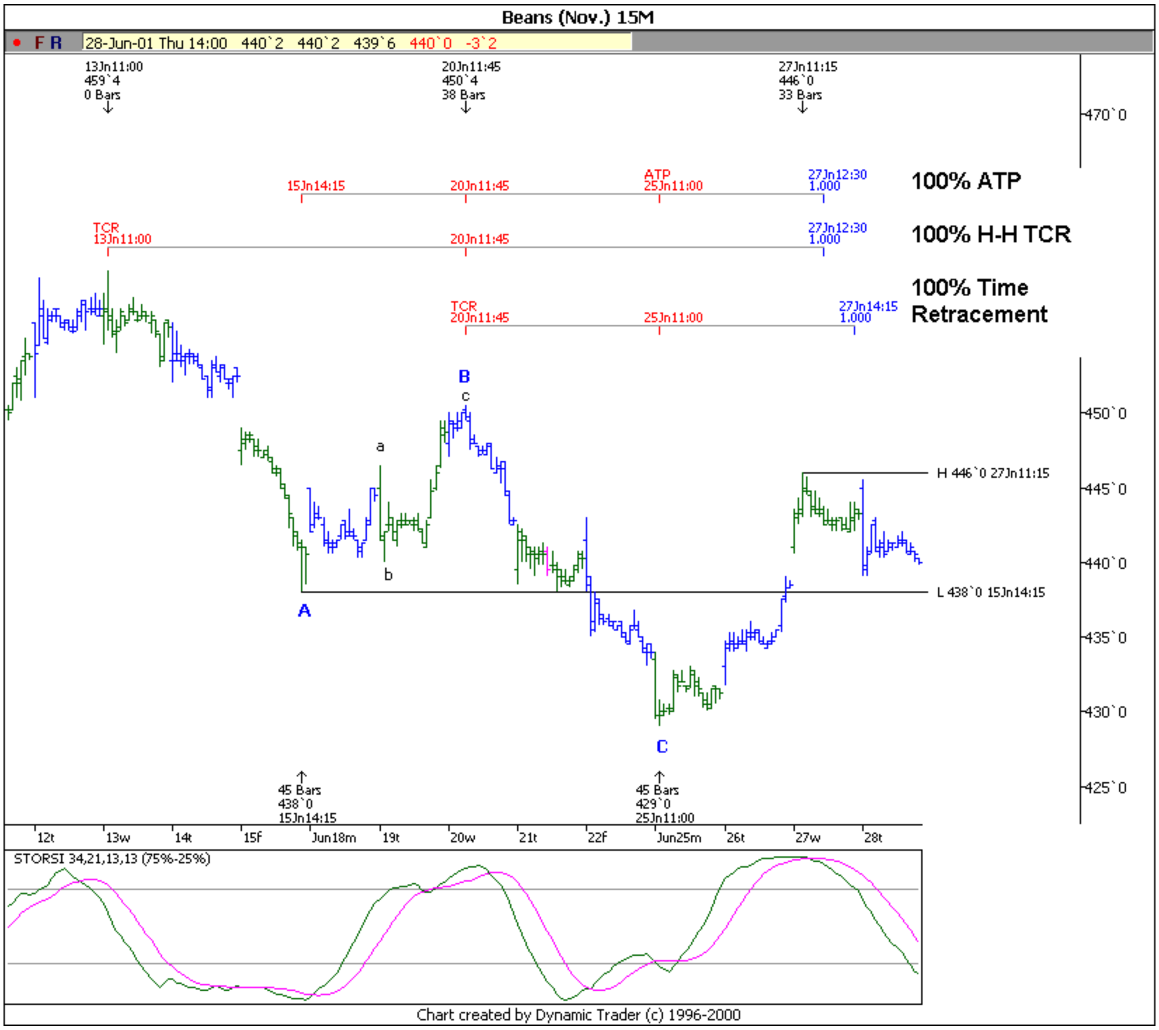
The earliest projection is on June 29 and the latest on July 9. This is a very broad period of time, especially considering we are using the relatively short term swings on the 60-minute data. But it does provide us with a critical piece of information.

If the recent time rhythm continues, the next high should be made in the broad period of **June 29-July 9**. *If a high is made prior to June 29, it is a sign of a weak market and the probable continuation of the bear trend to new lows. If a high is made after July 9, it is a signal of a strong market and the probable continuation of a bull trend to a new high.*

We can now go to a lower time frame or smaller degree of swings and see if we may discover a more narrow range time signal that may provide us with an earlier warning of the position of beans.

The next chart is 15-minute data from the June 13 high through the morning of June 28. The chart shows the common three sets of projections – 100% H-H, ATP and time retracement. All of these projections fall on June 27. The high through the end of this data is June 27. What is significant about June 27?

(Continued on the next page.)

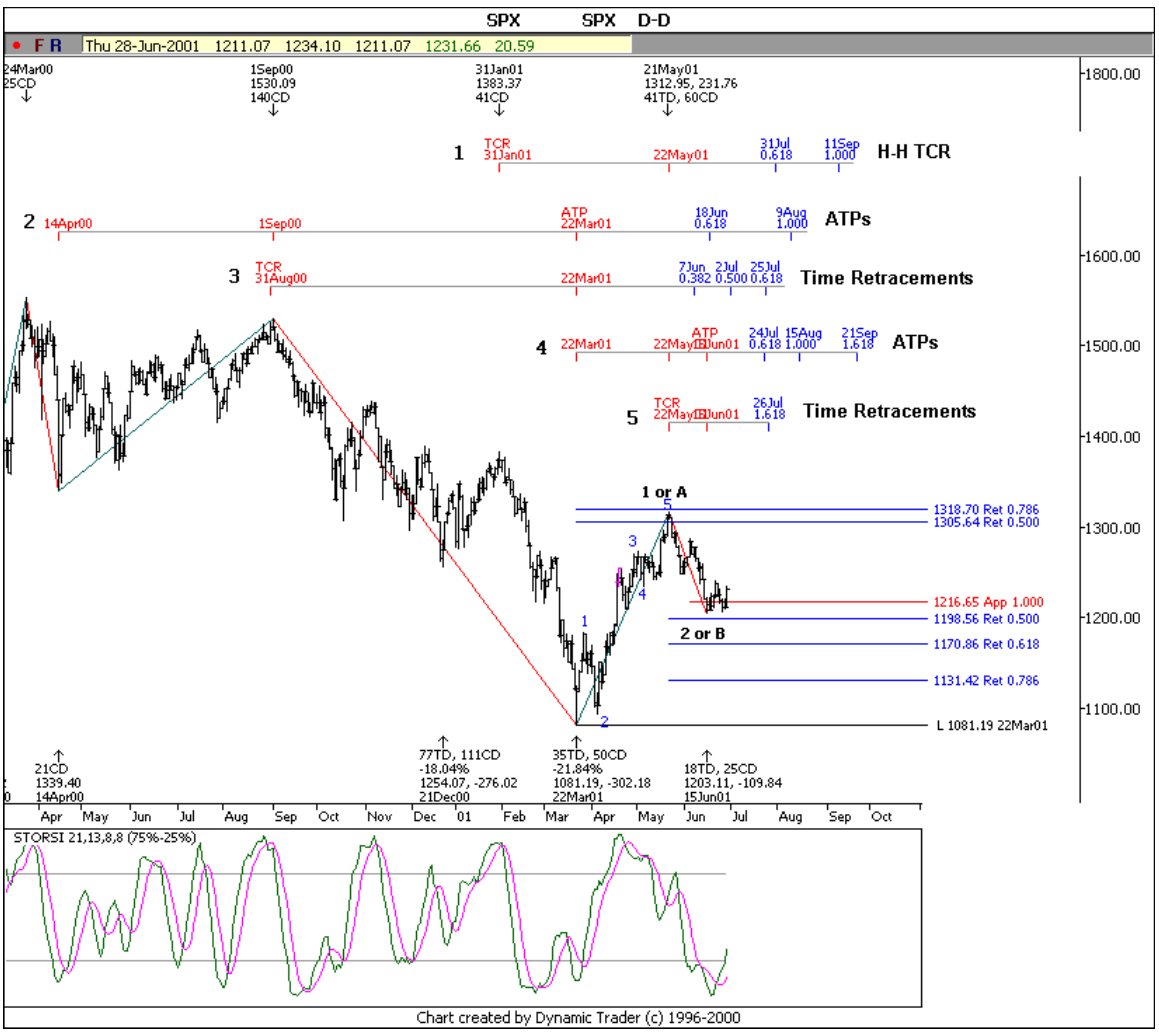


If beans continue to advance above the June 27 high, it is a minor bullish signal and would be the first signal June 25 may have completed an ABC low. This would imply that beans should continue to advance to above the June 13 high. If beans continued to decline from the June 27 high, it would be the initial signal the bear trend will continue to below the June 25 low.

S&P Time Target for a High

The next example is relevant to the current position of the S&P. We are going to make projections as if June 15 completed an ABC correction. It is too soon to know if this is the case, but the exercise is to learn how to make time projections *in advance*. Generally, there is no need to make new projections until a high or low is confirmed. In the present case, the S&P needs to close over the minor high of June 21 to signal June 15 may have completed an ABC low.

The chart below is daily S&P cash. It includes five sets of the typical projections.



Projections from the June 15 Low for a Potential High

1. Most recent high-high TCR projections.
2. ATPs of the April – Sept. rally projected from the March 22 low.
3. Time Retracements of the prior bear trend.
4. ATPs of the March – May rally projected from the June 15 low.
5. Time Retracements of the most recent decline.

These projections appear to be spread out over a very broad period of time. If we look closely, is there a relatively narrow range of time that includes a projection from at least three of four of these sets? July 24-31 includes a projection from four of the five sets. No other period has multiple projections that coincide within a fairly narrow range of time.

If the S&P continues to advance from the June 15 low, the first high probability time target for the next high is the July 24-31 period. If the S&P takes out the June 15 low, this Time Target would not be relevant.

How does this time target help us with a trading decision?

If the S&P continues to advance, we would anticipate the advance would continue to July 24 or later. Unless other factors strongly suggested otherwise between now and July 24, the assumption would be July 24 is the minimum time target for the next high of similar degree to the pivots used to make the time projections. Trades would be oriented to the long side at least until July 24.

New Lows in Beans or S&P?

What if beans first take out the June 25 low or the S&P first takes out the June 15 low before continuing higher? What would be the high probability time targets for the next low in each market?

Now you know how to project the Time Targets. I will leave it up to you for now to make the targets for the next potential low for each of these markets. If either of the markets make new lows in the next few trading days, we will make the time projections for a potential low in next week's tutorial and see how they compare with your projections.

Lessons Learned

You now know how to make the typical Dynamic Time Projections with the Time Retracements, H-H and L-L Time Cycle Ratios and Alternate Time Cycles. You know how to look for the relatively narrow ranges of time where projections from several sets coincide to identify a potential Time Target for the next low or high. You know how to use a smaller degree time frame to help provide an early signal of the trend direction. You also know how to use the projections to identify a relatively broad period of time that should be the minimum and maximum for the next high or low in an essentially trading range market.

The next tutorial in this series will once again include Dynamic Time Projection examples from one or two recent markets. We will then move on to how to add calendar and trading day counts and L-L and H-H Time Bands and Time Rhythm Zones to the Dynamic Time Projection Time Targets to further pinpoint the high probability targets for trend change.

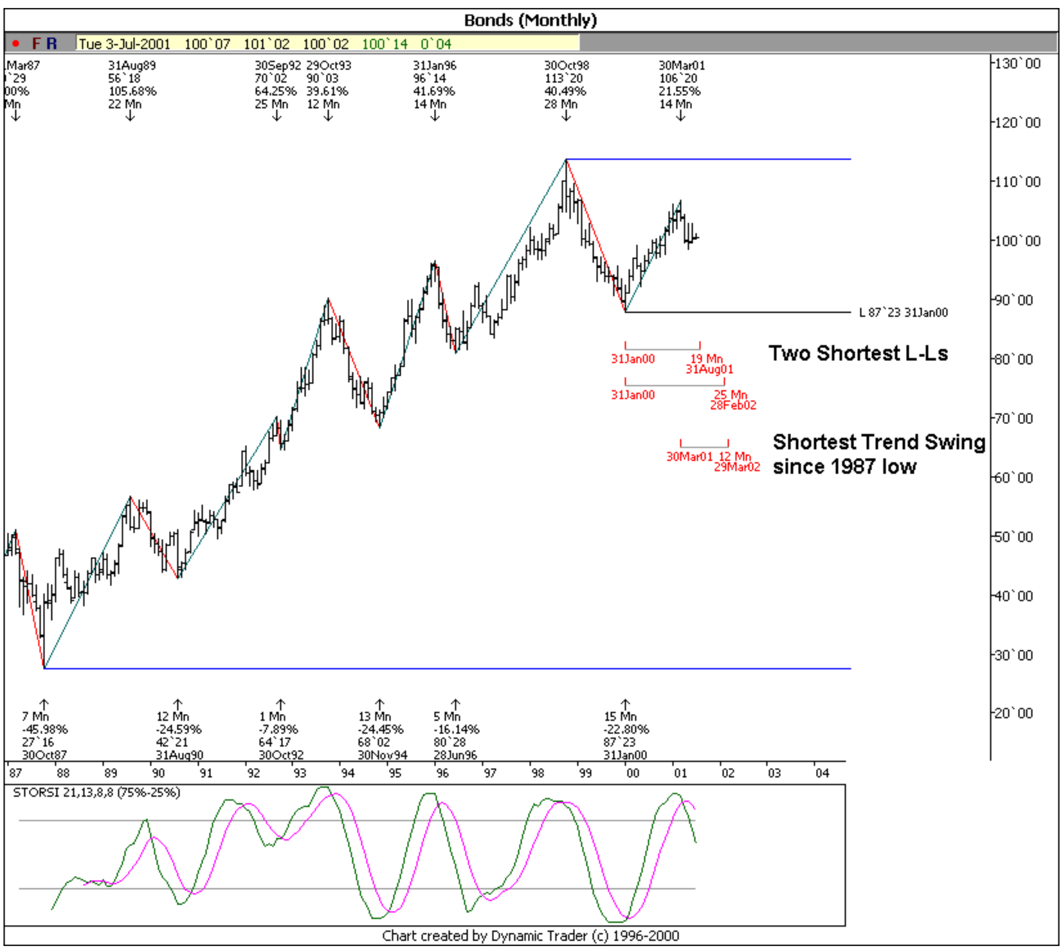
Lesson Six

Time Target for a Bond Low

This week's lesson will also use a current example of how to use the Time Cycle Ratio, Time Retracements and Alternate Time Projections to identify a critical time zone in advance.

Bonds – Monthly

The chart below is monthly bond data from the Oct. 1987 low. It shows the major trend and counter-trend swings. If bonds completed a major corrective high in March, what should be the *minimum* time target before the next major low should be made? What would be the logical time projections to give us the minimum time target for the next comparable low?



I first measured the time range from low-low for the major swings shown on the chart above. The low-low time counts are not shown on the chart above. The two shortest low-low cycles were 19 and 25 months. We assume the next comparable low will probably be made in the time range of the prior low-lows. Nineteen months from the Jan. low is Aug. 2001 and 25 months is Feb. 2002. If bonds continue to decline beyond Aug., they will probably not make a low prior to next year based on the recent low-low time rhythm of the past 13 years.

Bonds were in a bull trend from Oct. 1987 to Oct. 1998. What is the range of the momentum cycles, low-high, during that period? These bull cycles were in the direction of the trend. The range was 12-28 months.

Twelve months from the March 2001 high is March 2002. Based on the trend swings of the past 13 years, bonds should not make a low of comparable degree to all the trend reversal highs and lows shown on the monthly chart prior to March 2002.

Momentum Trends

You may have two questions about the comments above. The first, what are momentum cycles? They are not necessarily obvious price pivot highs and lows. Momentum cycles are the extreme highs and lows of the momentum indicator or when the indicator makes a cross over. The momentum trends represent when a market slows down and speeds up its trend. The momentum cycles usually closely coincide with the price pivots, but not always.

Are we just concerned with the price lows and highs in a market are is it just as useful to know when a trend is beginning another cycle up whether it is from an extreme price low or not?

Trend Swings

I also measured the range of time of the trend swings of the momentum cycles (low-high) during the 1987-1998 bull market but projected that range from the March high. How can we justify comparing the time ranges of low-high swings with a potential high-low swing?

If the major trend is down from the Oct. 1998 high, each bear swing down is a “trend swing.” Each decline is in the direction of the larger degree trend just as each rally between Oct. 1987 to Oct. 1998 was in the direction of the larger degree trend.

If we compare the bear swings in a bear market with the bull swings in a bull markets, we are comparing trend swings with trend swings. If we are interested in the potential minimum to maximum range of time of trend swings, it wouldn't make sense to compare the corrections in a bull trend (high-low swings) with the trend swings in a bear trend (high-low swings) would it?

There will be more on momentum trends and trend swings in a future tutorial.

So far, we have learned from comparing major low-low ranges and trend ranges, *if bonds decline beyond Aug*., the decline will probably last to Feb. or later next year. This itself is a very useful piece of information to have, particularly after Aug. if bonds continue lower.

These time projections were made from the long-term trends represented on the monthly data. Let's move to a shorter time frame and see what the next potential Time Target Zone is for bonds on the daily chart.

Time Target for Next Shorter Term Low for Bonds

The last four Dynamic Time Analysis Tutorials have taught you how to make the time projections to see if there is a specific probable Time Target for the next high or low in a market.

Without even looking at a chart but assuming a high is complete and we want to project the next potential low, what are the first sets of projections we would make and what ratios would we use?

1. Time Retracements of larger degree – **38%**, 50%, **62%**
2. Time retracements of the immediate swing in the opposite direction as the current trend – 62%, 100%, **162%**
3. Alternate Time Projection of most recent comparable trend in the same direction – 62%, **100%, 162%.**
4. Most recent low-low Time Cycle Ratio – 62%, **100%**, 162%

The ratios in bold tend to be the most important for each of these four sets of projections. Once these projections are made, we look to see if there is a relatively narrow range of time that includes one projection from two or three and preferably all four sets of projections. The same procedure and basic set of projections are initially made in almost all situations.

Next Bond Low?

Let's move to the daily chart and see when the next intermediate term low that may last at least a few weeks might be made.

If we assume bonds completed a corrective high in June, the four sets of projections described above have been made on the chart below.

1. Low to low Time Cycle Ratios.
2. Alternate Time Projections of last bear swing down projected from the June high.
3. Time Retracements of the most recent rally into the June high.
4. Time Retracements of the larger degree trend from the Jan. 2000 low to the March 2001 high.

Is there a relatively narrow range of time that includes at least one projection from three or even four of these sets?

Aug. 15-31 includes one projection from each of the four sets. No two other projections are even within two weeks of each other.

Next Probable Time Target For Bond Low – Aug. 15-31

If bonds do not take out the June high and continue to decline to below the May low, the next potential Time Target for a low that is comparable to the pivots shown on the daily chart above is Aug. 15-31. This implies any rally between now and mid-Aug. is probably just a minor correction in the bear trend and the corrective rally is likely to only last a few days.

However, if bonds first take out the June high, this time target for a low is voided and we will then project the potential time target for the next high.

What side of the market should a trader favor for the next few weeks based on the potential time target? As long as bonds do not exceed the June high - the short side.

The time targets project the targets if a trend continues. If the trend is voided, new targets must be made.

Continued on the next page.

Dynamic Time Analysis Summary

Over the past five weeks, I have presented tutorials how to make a high-probability Time Target projection for a change of trend comparable to the pivots used to make the projections. We have used time frames from monthly to 60-minutes. These Time Target Zones have only used the dynamic time projection approach and not included CD or TD counts or other time techniques.

Below is a summary of the Dynamic Time Analysis approach including which projections to make, which ratios to use and how to quickly determine if there is a high probability cluster of time projections that prepare the trader for a trend change in the future.

The Three Most Common Dynamic Time Projections

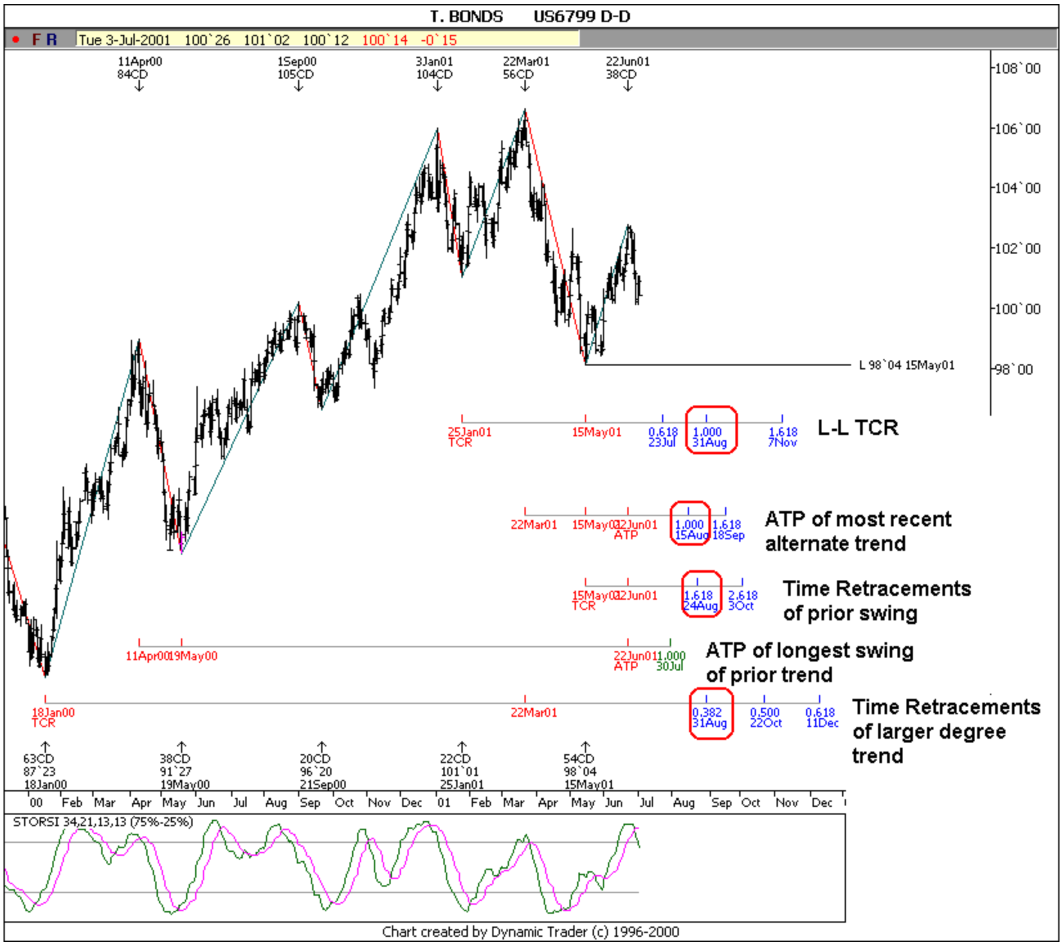
1) Time Cycle Ratios (TCR) – 62%, 100%, 162%
2) Time Retracements (Ret) – 38%, 50%, 62%, 100%, 162%
3) Alternate Time Projections (ATP)

The most common Time Cycle Ratios are the low-low or high-high projections from the two most recent confirmed pivots.

Typically, two Time Retracements are made. One is the time retracements of the larger degree trend. The second is the Time Retracements of the most recent trend in the opposite direction of the current trend.

The two most relevant Alternate Time Projections are the immediate alternate trend that was in the same direction of the current trend and the longest alternate trend of the prior larger degree trend.

The next chart shows each of these time projections.



Time Target Zone

Once each set of projections have been made, we look to see if there is a relatively narrow range of time where a projection from 3 or 4 of the sets coincide. If so, it becomes a Time Target Zone with a high degree of probability of making a trend reversal of similar degree to the reversal pivots used to make the projections.

Time Is Just One Factor

Time analysis is just one of the three major factors in Dynamic Trading. The time position of a market should only be considered within the context of the price and pattern position. It is when time, price and pattern all coincide to signal the same trend position that the high probability trades are identified.