

Building

Market timing should never take place in a vacuum. We'll explain how to construct a "forecast grid" that will provide a framework to help you trade with a higher degree of accuracy and confidence.

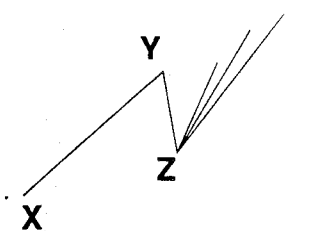
By Cynthia Kase

Experienced futures traders know trading with a strategy can be much more profitable and less risky than trading from timing signals only. If you combine a strategy with technical timing, trade performance can be improved by:

- taking first signals aggressively in the direction of the trend.
- taking first signals following turns at important key points.
- exiting aggressively at important key points.
- taking only second confirmed signals against the trend.
- keeping stops wide during minor corrections in a major trend.
- trading larger size, longer term, in the direction of the trend.
- trading smaller size, shorter term, against the trend.

Wave analysis is one method traders use to develop a broader market view, even though many are frustrated by complex Elliott rules. A general understanding of Elliott wave is important for forecasting, but performing detailed wave counts is absolutely not necessary.

Building on the past

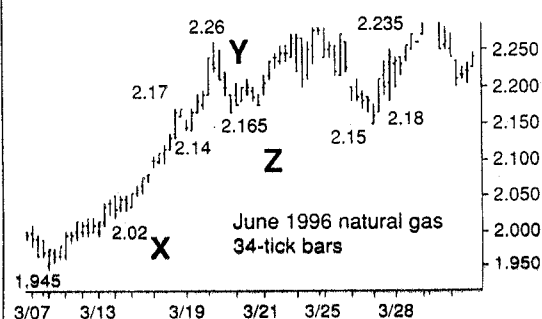


Impulse expansions based on XY.
Corrective expansions based on YZ.
Corrections based on XY.

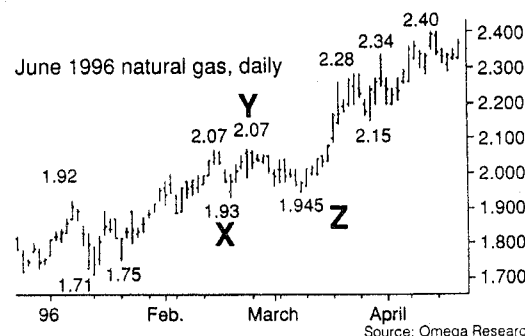
XY is the impulsive wave, YZ is the corrective wave. Projections are based on the dimensions of these price segments.

Forecasting roadblocks Elliott wave is messy for a number of reasons: differences between the perpetual chart and the first or second nearby contracts; aberrations caused by expirations and roll-overs, and seasonality, which causes some waves to break normal rules.

Figuring it out



Projecting off X, Y and Z, 2.34 and 2.40 appeared as confluent prices and future market targets.



Also, a specific contract month may become active after the commodity already has been in a major trend. The contract could expire mid-trend, leaving an incomplete wave count behind.

Finally, because as many as five or six layers of wave counts can exist, attempting to update a detailed wave count day-to-day is, practically speaking, a waste of time.

Keep it simple The solution is to understand the magnitude and relationship rules that dictate how waves form, rather than become orthodox Elliott practitioners. Therefore, we recommend counting waves only for the big picture and the current minor wave the market is trading in. What are the most important Elliott wave ele-

a trading

ments to understand?

- Markets trend in five waves and generally correct in three.
- In a trend there are usually three impulse waves and two corrective waves.
- Wave three is never the smallest wave and is usually the largest wave, except when wave five extends.
- Corrections usually retrace between 21% and 89% of the wave they are correcting.

A general understanding of Elliott wave rules, combined with Fibonacci retracements and extensions, forms the basis of most of our forecasting. We also combine these rules with forecasts from formations like gaps, head and shoulders, etc., when they appear.

A little math The key to forecasting is first to apply the magnitude rules to the various waves to produce forecast targets. Then, look for "confluence numbers," that is, forecasts performed on different waves, and different sections and portions of waves, that all point to the same price.

To start, label all of the highs and lows for each wave. Point X is the beginning of each impulse move, Point Y the end of the impulse move (and the beginning of the correction), and Point Z the end of the correction (see "Building on the past," left). Then, run these values through a number of formulas contained in what we'll call the "forecast grid," and evaluate the output.

First, we'll look at the formulas using the June 1996 natural gas contract. We'll see two highly confluent prices that appear repeatedly and eventually were met prior to expiration of the contract: \$2.34 and \$2.40.

The first formulas project impulse expansions smaller than, equal to or larger than the initial price wave. Multiply XY by the Fibonacci ratios 0.618, 1 and 1.618, and add the results to Z to generate price targets.

Smaller Than Rule (S): Sprice = Zprice + 0.618 (Yprice-Xprice)

Equal To Rule (E): Eprice = Zprice + 1 (Yprice-Xprice)

Larger Than Rule (L): Lprice = Zprice + 1.618 (Yprice-Xprice)

The June 1996 natural gas contract was highly confluent at \$2.34 and \$2.40. Using the XYZ points of 2.02, 2.26, 2.165, shown on "Figuring it out" (left), we calculate:

The forecast grid

The various projection formulas easily can be entered into a spreadsheet to produce a reference table like the example shown here for NGV6. We suggest setting up the formulas as follows:

Trio number				
x	start impulse			
y	end impulse	% retrace		
z	end correction	smaller	equal	larger
if a/b is wave 3	it	target 3 log		3x
if a/b is wave 1	io	on extension if xy=vv1		ix
normal C or %	nc	extended C or 5		xc

Confluence table for NGV6, \$1.75 target

Trio Number	X	Y	Z	Rule Supporting \$1.75 Expectation
1	2.840	1.980	2.270	S
2	2.400	2.025	2.350	L
3	2.350	1.980	2.270	NC
4	2.270	2.080	2.135	3x
5	2.080	1.850	1.920	IO
6	1.980	1.900	1.950	3x
7	1.955	1.850	1.920	L, IO, NC
8	1.920	1.855	1.890	IO

Sample spreadsheet with forecast grid, NGV6

1.00				
x	2.840			
y	1.980	0.337		
z	2.270	1.739	1.410	0.879
if a/b is wave 3	1.801	target 3 log		0.962
if a/b is wave 1	1.511	on extension if xy= vv1		1.042
normal C or %	1.081	extended C or 5		-0.107
2.00				
x	2.400			
y	2.025	0.867		
z	2.350	2.118	1.975	1.743
if a/b is wave 3	1.824	target 3 log		1.442
if a/b is wave 1	1.499	on extension if xy= vv1		0.973
normal C or %	1.832	extended C or 5		1.314
3.00				
x	2.350			
y	1.980	0.784		
z	2.270	2.041	1.900	1.671
if a/b is wave 3	1.801	target 3 log		1.406
if a/b is wave 1	1.511	on extension if xy= vv1		1.042
normal C or %	1.759	extended C or 5		1.247
4.00				
x	2.270			
y	2.080	0.289		
z	2.135	2.018	1.945	1.828
if a/b is wave 3	2.046	target 3 log		1.746
if a/b is wave 1	1.991	on extension if xy= vv1		1.902
normal C or %	1.872	extended C or 5		1.610

Smaller Than Rule: = 2.165 + 0.618 (2.26-2.02) = \$2.31

Equal To Rule: = 2.165 + (2.26-2.02) = \$2.41

Another important projection is called the Rule of Three projection, calculated by multiplying the log of (XY) by three, adding that value to the log of X and then taking the exponential. This rule is a very accurate way to estimate the end of an entire move very early in the formation.

Rule of Three Target (3X) = $e^{(\ln X + 3 * (\ln Y - \ln X))}$

framework

Here, it's important to feel confident the market is in wave one. However, in ambiguous cases, what's important is whether the result supports a confluence price.

Looking at a daily chart of the same contract ("Figuring it out," page 40, second chart), let's pick the points 1.93, 2.07, 1.945. The rule of three formula produces a target of \$2.38, close to the \$2.40 target:

$$\text{Rule of Three Target (3X)} = e^{(\ln 1.93 + 3 * (\ln 2.07 - \ln 1.945))} = \$2.38$$

Projecting to wave C After reading "Eye Of The Beholder" by Tom DeMark (*Futures*, December 1995), we added the following projection math. This technique also employs the XY projection (where XY may be wave one) to project the end of wave 5 or C.

$$\text{End of Wave 5 or C, normal (NC)} = X + 1.382(X-Y)$$

$$\text{End of Extended Wave 5 or C (XC)} = X + 2 * 1.382(X-Y)$$

Going back to the previous example's three points, we can calculate an XC target:

$$\text{End of Extended Wave 5 or C (XC)} = 1.93 + 2 * 1.382(2.07 - 1.93) = \$2.32$$

Corrective expansions The next set of rules concerns expansions of the corrective portion of a move (YZ). In this case, YZ is multiplied by 1.618, 1.618 squared or 1.618 cubed.

$$\text{IT (if the third wave is being corrected): ITprice} = \text{Zprice} + (\text{Yprice} - \text{Zprice}) * 1.618^1$$

$$\text{IF (if the first wave is being corrected): IFprice} = \text{Zprice} + (\text{Yprice} - \text{Zprice}) * 1.618^2$$

$$\text{IX (if the first wave correction extends): IXprice} = \text{Zprice} + (\text{Yprice} - \text{Zprice}) * 1.618^3$$

Using the XYZ points from the first example, we find IF:

$$\text{IF} = 2.165 + 1.618^2 * (2.26 - 2.165) = \$2.41$$

Corrections In the case of corrections, or retracements, we are forecasting the end of a corrective move (Z). We expect the market to retrace 21%, 34%, 50%, 62% or 89% (Fibonacci-based retracement percentages) of the previous move. Often a smaller (21% or 34%) retracement of a larger wave is confluent with a larger (62% or 89%) retracement of a smaller wave.

$$\% \text{ retrace target} = Y - ((\text{Retrace \%}/100) * (X - Y))$$

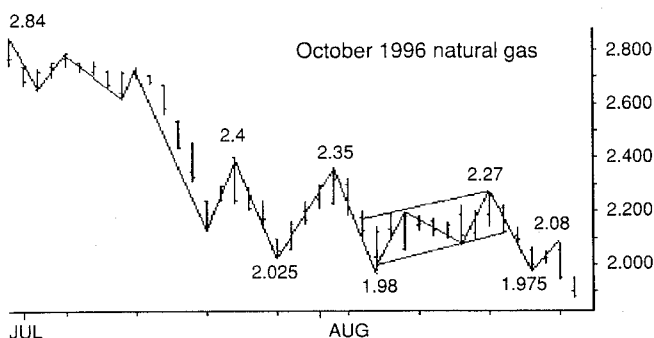
In the June natural gas contract, the market had been in an up move, so projecting higher is not possible with this technique. However, the up move on the perpetual chart was corrective of an overall bearish move down (see "Making sense of the market," page 42). In this case, the most recent down leg on the perpetual was from \$2.45 down to \$2.23.

$$50\% \text{ retracement} = \$2.45 - 0.50 * (\$2.45 - \$2.23) = \$2.34$$

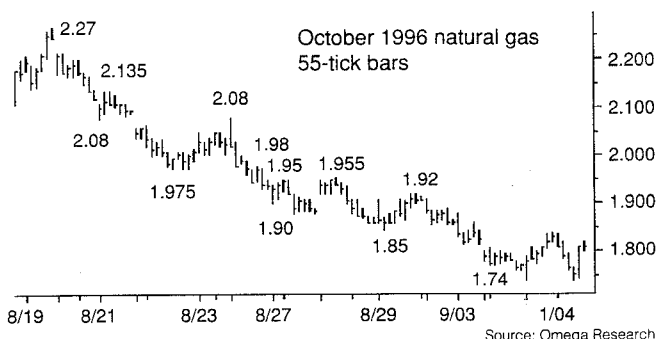
$$78\% \text{ retracement} = \$2.45 - 0.78 * (\$2.45 - \$2.23) = \$2.40$$

It's apparent how we have begun to build up evidence for the two targets in question without excessive concern about wave counts. The following table gives more

Making sense of the market



The forecast grid technique makes it possible to project price even in ambiguous wave counts like the one shown here.



supportive evidence, using points shown on the previous charts, for these prices.

Confluence table for NGM6, \$2.34 and \$2.40 targets

X	Y	Z	\$2.34	\$2.40
1.69	1.92	1.71	XC	3X
1.75	2.07	1.93		NC, I
1.93	2.07	1.945	XC	3X
1.945	2.17	2.14	E	NC
2.02	2.26	2.165	S	E, IF
2.095	2.26	2.165	E	L, IF
2.15	2.235	2.18	IF, I	3X, IX, XC

The October natural gas displayed aberrant formations that made identifying a definitive wave count difficult (see "Making sense of the market"). The first two waves are tiny compared to the third. Then three similarly sized waves appear. The first of these was followed by a simple correction, the second by a complex correction. Putting the XYZ points on both the top and bottom charts and then entering the points in the forecast grid clarifies the situation. It was this approach that led us to project a price of \$1.75, despite an unclear wave count. The market traded to \$1.74 within two weeks (see "Forecast grid," page 41).

FM

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