

# The Best of Trader's Classroom

A collection of the best of the best lessons from  
**Jeffrey Kennedy's *Trader's Classroom***

elliottwave

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Dear trader,

In 1999, Bob Prechter asked me to edit *Monthly Futures Junctures*, a brand new service designed to find and recommend the best opportunities in commodity markets. I accepted the role and immediately loved it. Like many analysts, I enjoy the challenge of finding the clearest wave patterns among dozens of markets. But I soon found myself needing to scratch another itch—teaching.

I began my career as a small trader, so I know firsthand how hard it can be to get simple explanations of methods that consistently work. In more than 15 years as an analyst since my early trading days, I've learned many lessons, and I don't think that they should have to be learned the hard way.

That's why I decided to start writing *Trader's Classroom* sections for *Monthly Futures Junctures*. The response has been great. Now I'm pleased to present to you the very best of the best my *Trader's Classroom* lessons.

If you enjoy the following lessons, there are plenty more where these came from. Dozens of other valuable lessons appear in *The Trader's Classroom Collection* of eBooks. What's more, I have many lessons left to teach, and I offer new *Trader's Classroom* lessons in each issue of *Monthly Futures Junctures*.

You can learn more about these products and services by following these links:

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Welcome to *The Best of Trader's Classroom*,

A handwritten signature in black ink, appearing to read 'JK', with a long, sweeping flourish extending to the right.

Jeffrey Kennedy  
Senior Commodity Analyst  
Elliott Wave International

# Contents

- 1 Why Do Traders Fail?
- 3 The Three Phases of a Trader's Education: Psychology, Money Management, Method
- 4 How To Make Yourself a Better Trader
  - Define Yourself: What Kind of Trader Are You?
  - Why Emotional Discipline is Key to Success
- 6 Ready, Aim ... Fire: Knowing When To Place a Trade
- 8 How the Wave Principle Can Improve Your Trading
- 11 How the Wave Principle Fits Certain Trading Styles: Corrective Patterns
- 20 How To Use the Wave Principle To Set Protective Stops
- 22 What It Takes To Be a Consistently Successful Trader
- 23 How To Use Bar Patterns To Spot Trade Setups
- 28 Origins and Applications of the Fibonacci Sequence
  - How To Identify Fibonacci Retracements
  - How To Calculate Fibonacci Projections
- 35 How To Apply Fibonacci Math to Real-World Trading
- 41 Trading in the Zone: The Best Place for High-Opportunity Trade Setups
- 43 Appendix A: A Capsule Summary of the Wave Principle

# Why Do Traders Fail?

## Because of Inadequate Trading Systems

I think that, as a general rule, traders fail 95% of the time, regardless of age, race, gender or nationality. The task at hand could be as simple as learning to ride a bike for the first time or as complex as mapping the human genome. Ultimate success in any enterprise requires that we accept failure along the way as a constant companion in our everyday lives.

I didn't just pull this 95% figure from thin air either. I borrowed it from the work of the late, great Dr. W. Edward Deming, who is the father of Total Quality Management, commonly known as TQM. His story is quite interesting, and it actually has a lot to do with how to trade well.

Dr. Deming graduated with degrees in electrical engineering, mathematics and mathematical physics. Then, he began working with Walter A. Shewhart at Bell Telephone Laboratories, where he started applying statistical methods to industrial production and management. His early work with Shewhart resulted in a seminal book, *Statistical Method from the Viewpoint of Quality Control*.

Since American industry spurned many of his ideas, Deming went to Japan shortly after World War II to help with early planning for the 1951 Japanese Census. Impressed by Deming's expertise and his involvement in Japanese society, the Japanese Union of Scientists and Engineers invited him to play a key role in Japan's reconstruction efforts. Deming's work is largely responsible for why so many high quality consumer products come from Japan even to this day.

In turn, Japanese society holds Dr. W. Edward Deming in the highest regard. The Prime Minister of Japan recognized him on behalf of Emperor Hirohito in 1960. Even more telling, Deming's portrait hangs in the lobby at Toyota headquarters to this day, and it's actually larger than the picture of Toyota's founder.

So why do people fail? According to Deming, it's not because people don't try hard enough or don't want to succeed. People fail because they use inadequate systems. In other words, when traders fail, it's primarily because they follow faulty trading systems—or they follow no system at all.

So what is the right system to follow as a trader? To answer this question, I offer you what the trader who broke the all-time real-money profit record in the 1984 United States Trading Championship offered me. He told me that a successful trader needs five essentials:

### *1. A Method*

You must have a method that is objectively definable. This method should be thought out to the extent that if someone asks how you make decisions to trade, you can quickly and easily explain. Possibly even more important, if the same question is asked again in six months, your answer will be the same. This is not to say that the method cannot be altered or improved; it must, however, be developed as a totality before it is implemented.

### *2. The Discipline to Follow Your Method*

'Discipline to follow the method' is so widely understood by true professionals that among them it almost sounds like a cliché. Nevertheless, it is such an important cliché that it cannot be ignored. Without discipline, you really have no method in the first place. And this is precisely why many consistently successful traders have military experience—the epitome of discipline.

### 3. Experience

It takes experience to succeed. Now, some people advocate “paper trading” as a learning tool. Paper trading is useful for testing methodologies, but it has no real value in learning about trading. In fact, it can be detrimental, because it imbues the novice with a false sense of security. “Knowing” that he has successfully paper-traded during the past six months, the novice believes that the next six months trading with real money will be no different. In fact, nothing could be farther from the truth. Why? Because the markets are not merely an intellectual exercise, they are an emotional one as well. Think about it, just because you are mechanically inclined and like to drive fast doesn’t mean you have the necessary skills to win the Daytona 500.

### 4. The Mental Fortitude to Accept that Losses Are Part of the Game

The biggest obstacle to successful trading is failing to recognize that losses are part of the game, and, further, that they must be accommodated. The perfect trading system that allows for only gains does not exist. Expecting, or even hoping for, perfection is a guarantee of failure. Trading is akin to batting in baseball. A player hitting .300 is good. A player hitting .400 is great. But even the great player fails to hit 60% of the time! Remember, you don’t have to be perfect to win in the markets. Practically speaking, this is why you also need an objective money management system.

### 5. The Mental Fortitude to Accept Huge Gains

To win the game, make sure that you understand why you’re in it. The big moves in markets come only once or twice a year. Those are the ones that will pay you for all the work, fear, sweat and aggravation of the previous 11 months or even 11 years. Don’t miss them for reasons other than those required by your objectively defined method. Don’t let yourself unconsciously define your normal range of profit and loss. If you do, when the big trade finally comes along, you will lack the self-esteem to take all it promises. By doing so, you abandon both method and discipline.

\* \* \*

So who was the all-time real-money profit record holder who turned in a 444.4% return in a four-month period in 1984? Answer: Robert Prechter ... and throughout the contest he stuck to his preferred method of analysis, the Wave Principle. To learn more about what a successful trader really needs, refer to the November 1986 *Elliott WaveTheorist* Special Report written by Robert Prechter.

# The Three Phases of a Trader's Education: Psychology, Money Management, Method

Aspiring traders typically go through three phases in this order:

1. *Methodology*—The first phase is that all-too-familiar quest for the Holy Grail—a trading system that never fails. After spending thousands of dollars on books, seminars and trading systems, the aspiring trader eventually realizes that no such system exists.
2. *Money Management*—So, after getting frustrated with wasting time and money, the up-and-coming trader begins to understand the need for money management, risking only a small percentage of a portfolio on a given trade versus too large a bet.
3. *Psychology*—The third phase is realizing how important psychology is—not only personal psychology but also the psychology of crowds.

But it would be better to go through these phases in the opposite direction. I actually read of this idea in a magazine a few months ago but, for the life of me, can't find the article. Even so, with a measly 15 years of experience under my belt and an expensive Ph.D. from S.H.K. University (i.e., School of Hard Knocks), I wholeheartedly agree. Aspiring traders should begin their journey at phase three and work backward.

I believe the first step in becoming a consistently successful trader is to understand how psychology plays out in your own make-up and in the way the crowd reacts to changes in the markets. The reason for this is that a trader must realize that once he or she makes a trade, logic no longer applies. This is because the emotions of fear and greed take precedence—fear of losing money and greed for more money.

Once the aspiring trader understands this psychology, it's easier to understand why it's important to have a defined investment methodology and, more importantly, the discipline to follow it. New traders must realize that once they join a crowd, they lose their individuality. Worse yet, crowd psychology impairs their judgment, because crowds are wrong more often than not, typically selling at market bottoms and buying at market tops.

Moving onto phase two, after the aspiring trader understands a bit of psychology, he or she can focus on money management. Money management is an important subject and deserves much more than just a few sentences. Even so, there are two issues that I believe are critical to grasp: (1) risk in terms of individual trades and (2) risk as a percentage of account size.

When sizing up a trading opportunity, the rule-of-thumb I go by is 3:1. That is, if my risk on a given trading opportunity is \$500, then the profit objective for that trade should equal \$1,500, or more. With regard to risk as a percentage of account size, I'm more than comfortable utilizing the same guidelines that many professional money managers use—1%-3% of the account per position. If your trading account is \$100,000, then you should risk no more than \$3,000 on a single position. Following this guideline not only helps to contain losses if one's trade decision is incorrect, but it also insures longevity. It's one thing to have a winning quarter; the real trick is to have a winning quarter next year and the year after.

When aspiring traders grasp the importance of psychology and money management, they should then move to phase three—determining their methodology, a defined and unwavering way of examining price action. I principally use the Wave Principle as my methodology. However, wave analysis certainly isn't the only way to view price action. One can choose candlestick charts, Dow Theory, cycles, etc. My best advice in this realm is that whatever you choose to use, it should be simple. In fact, it should be simple enough to put on the back of a business card, because, like an appliance, the fewer parts it has, the less likely it is to break down.

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# How To Make Yourself a Better Trader

## Define Yourself: What Kind of Trader Are You?

As a trader, it is imperative that you define your approach to the markets. For instance, do you follow the trend or do you like to play breakouts? Are you a commodity trader or an index trader at heart? What's your trading time frame, five minutes or five weeks? Moreover, how do you analyze markets, fundamentally or technically? Do you prefer using a black box type trading system or making your own calls?

My trading style is to trade with the trend. Specifically, I like to buy pullbacks in uptrends and sell bounces in downtrends. My markets are commodities, and my time frame is three to five days. If I catch a trade that has some legs to it, and it lasts a little longer, that's fine with me. Bottom line, though, I'm a take-the-money-and-run kind of guy. This is who I am as a trader.

In addition to the Wave Principle, I include basic chart reading and bar patterns in my analysis. While I do use a few select technical studies in arriving at my decisions, I have always believed that "price" is the ultimate indicator and that everything else is secondary.

Remember, success in trading comes from the consistent application of a proven methodology. If you don't define your methodology, then your trading style could change with each new issue of Stocks and Commodities magazine. Trying a variety of analytical techniques rather than consistently following one is a problem for traders, and it's also a great way to lose your trading account.

[September 2004]

## Why Emotional Discipline is Key to Success

To be a consistently successful trader, the most important trait to learn is emotional discipline. I discovered this lesson the hard way—trading full-time a few years ago. I remember one day in particular. My analysis told me the NASDAQ was going to start a sizable third wave rally between 10:00-10:30 the next day... and it did. When I reviewed my trade log later, I saw that several of my positions were profitable, yet I exited each of them at a loss. My analysis was perfect—it was like having tomorrow's newspaper today. Unfortunately, I wanted to hit a home run, so I missed hitting singles and doubles.

I now call this emotional pitfall the "Lottery Syndrome." People buy lottery tickets to win a jackpot, not five or ten dollars. It is easy to pass up a small profit in hopes of scoring a larger one. Problem is, home runs are rare. My goal now is to hit for singles and doubles, so I don't let my profits slip away.

Since learning that lesson, I've identified other emotional pitfalls that I would like to share. See if any of these descriptions sound familiar.

### *1. Inability to Admit Failure*

Have you ever held on to a losing position, because you "felt" that the market was going to come back in your favor? This behavior is the "Inability to Admit Failure." No one likes being wrong, and for traders, being wrong usually costs money. What I find interesting is that many of us would rather lose money than admit failure. I now know that being wrong is much less expensive than being hopeful.

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## *2. Fear of Missing the Party*

Another emotional pitfall that was especially tough to overcome is what I call the “Fear of Missing the Party.” This one is responsible for more losing trades than any other. Besides encouraging overtrading, this pitfall also causes you to get in too early. How many of us have gone short after a five-wave rally just to watch wave five extend?

The solution is to use a time filter, which is a fancy way of saying, wait a few bars before you start to dance. If a trade is worth taking, waiting for prices to confirm your analysis will not affect your profit that much. Anyway, I would much rather miss an opportunity than suffer a loss, because there will always be another opportunity.

This emotional pitfall has yet another symptom that tons of people fall victim to – chasing one seemingly hot market after another. For instance, because metals have been moving the past few years, everyone wants to buy Gold and Silver. Of course, the worst time to get into a market is usually when everyone is talking about it. To avoid buying tops and selling bottoms, I have found that it’s best to look for a potential trade where (and when) no one else is paying attention.

## *3. Systems Junkie*

My own biggest, baddest emotional monster was being the “Systems Junkie.” Early in my career, I believed that I could make my millions if I had just the right system. I bought every newsletter, book and tape series that I could find. None of them worked. I even went as far as becoming a professional analyst – guaranteed success, or so I thought. Well, it didn’t guarantee anything really. Analysis and trading are two separate skills; one is a skill of observation, the other is a skill of emotional control. Being an expert auto mechanic does not mean you can drive like an expert, much less win the Daytona 500.

I am not a psychologist or an expert in the psychology of trading. These lessons are just a few I’ve learned along the way... at quite a cost most times. But if you are serious about trading, I strongly recommend that you spend as much time examining your emotions while you are in a trade as you do your charts before you place one. What you discover may surprise you.

Recommended reading: “The Disciplined Trader” and “Trading In The Zone” by Mark Douglas

[February 2004]

## Ready, Aim ... Fire: Knowing When To Place a Trade

A very important question you need to answer if you are going to use the Wave Principle to identify high-probability trade setups is, “*When does a wave count become a trade?*”

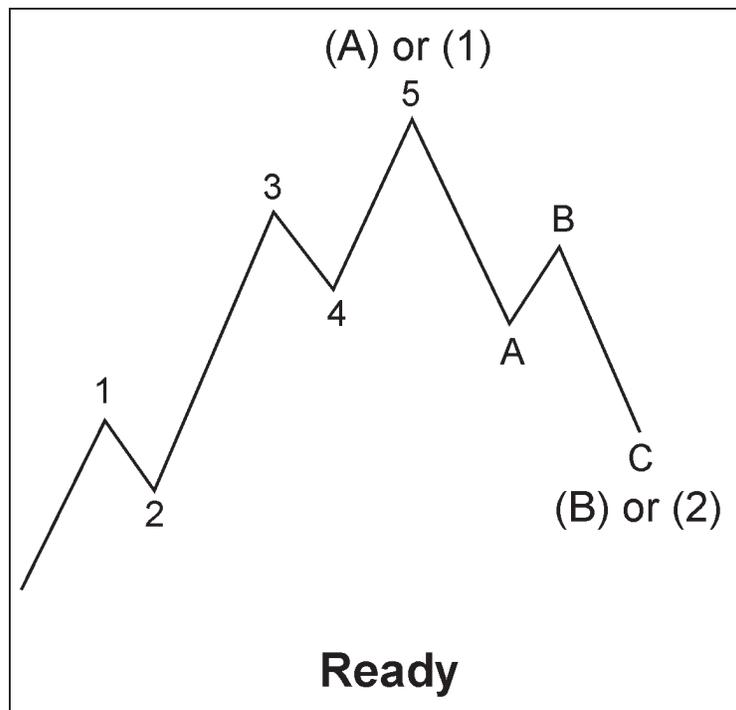
To answer this question, let me draw upon the steps required to fire a firearm:

Step 1 (Ready)—Hold the rifle or pistol still ... very still.

Step 2 (Aim)—Focus and align your sights.

Step 3 (Fire)—Pull the trigger without tensing your hand.

If you follow these steps, you should at least hit what you’re aiming at, and, with a little practice, you should hit the target’s bull’s-eye more often than not.



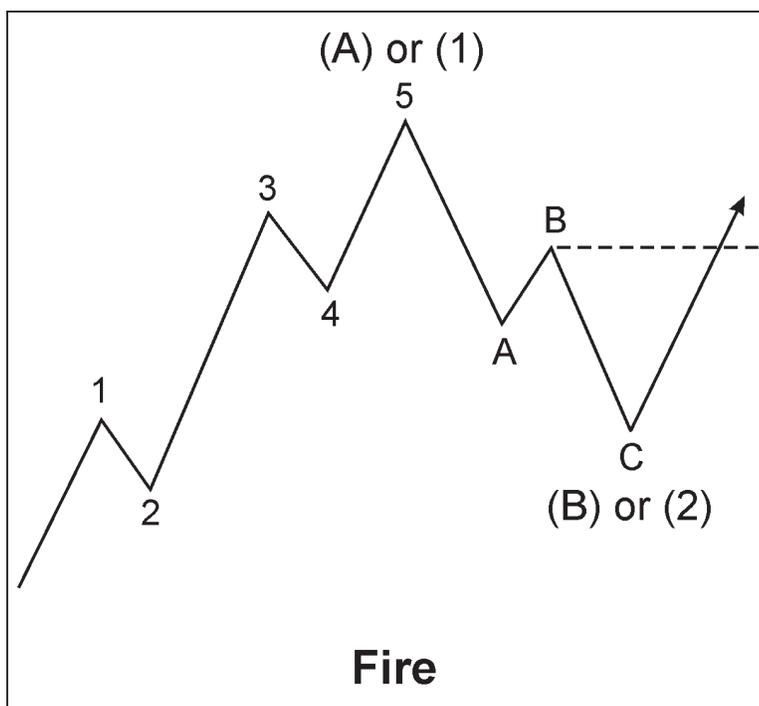
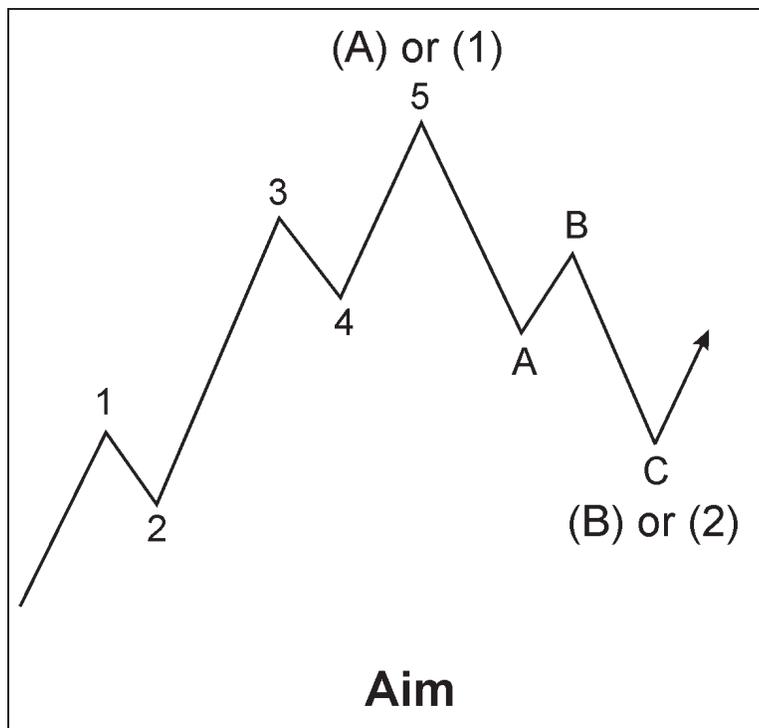
As an Elliottician and a trader, I employ a similar three-step approach to decide when to place a trade. Figure 1 shows a schematic diagram of a five-wave advance followed by a three-wave decline- let’s call it a Zigzag. The picture these waves illustrate is what I call the *Ready* stage.

In Figure 2, prices are moving upward as indicated by the arrow. At this stage, I begin to *Aim* as I watch price action to see if it will confirm my wave count by moving in the direction determined by my labeling.

Once prices do indeed begin to confirm my wave count, I then determine the price level at which I will pull the trigger and *Fire* (that is, initiate a trade). And, as you can see in Figure 3, that level is the extreme of wave B.

Why do I wait for the extreme of wave B of a Zigzag to give way before initiating a position? Simple. By waiting, I allow the market time to either prove or disprove my wave count. Moreover, once the extreme of wave B is exceeded, it leaves behind a three-wave decline from the previous extreme. As you know, three-wave moves are corrections according to the Wave Principle, and as such, are destined to be more than fully retraced once complete. An additional bonus of this approach is that it allows me to easily and confidently determine an initial protective stop, the extreme of wave C.

Remember, all markets have a wave count; however, all wave counts don't offer a trading opportunity. So the next time you think you have a wave count, rather than just blindly jumping in, first steady yourself, wait while you aim, and then—if price action does indeed confirm your wave count—pull the trigger. Also, it is important to note that this is my way of applying the Wave Principle practically, but it's by no means the only way.



# How the Wave Principle Can Improve Your Trading

Every trader, every analyst and every technician has favorite techniques to use when trading. But where traditional technical studies fall short, the Wave Principle kicks in to show high probability price targets. Just as important, it can distinguish high probability trade setups from the ones that traders should ignore.

## Where Technical Studies Fall Short

There are three categories of technical studies: trend-following indicators, oscillators and sentiment indicators. Trend-following indicators include moving averages, Moving Average Convergence-Divergence (MACD) and Directional Movement Index (ADX). A few of the more popular oscillators many traders use today are Stochastics, Rate-of-Change and the Commodity Channel Index (CCI). Sentiment indicators include Put-Call ratios and Commitment of Traders report data.

Technical studies like these do a good job of illuminating the way for traders, yet they each fall short for one major reason: they limit the scope of a trader's understanding of current price action and how it relates to the overall picture of a market. For example, let's say the MACD reading in XYZ stock is positive, indicating the trend is up. That's useful information, but wouldn't it be more useful if it could also help to answer these questions: Is this a new trend or an old trend? If the trend is up, how far will it go? Most technical studies simply don't reveal pertinent information such as the maturity of a trend and a definable price target—but the Wave Principle does.

## How Does the Wave Principle Improve Trading?

Here are five ways the Wave Principle improves trading:

### *1. Identifies Trend*

The Wave Principle identifies the direction of the dominant trend. A five-wave advance identifies the overall trend as up. Conversely, a five-wave decline determines that the larger trend is down. Why is this information important? Because it is easier to trade in the direction of the dominant trend, since it is the path of least resistance and undoubtedly explains the saying, "the trend is your friend." Simply put, the probability of a successful commodity trade is much greater if a trader is long Soybeans when the other grains are rallying.

### *2. Identifies Countertrend*

The Wave Principle also identifies countertrend moves. The three-wave pattern is a corrective response to the preceding impulse wave. Knowing that a recent move in price is merely a correction within a larger trending market is especially important for traders, because corrections are opportunities for traders to position themselves in the direction of the larger trend of a market.

### *3. Determines Maturity of a Trend*

As Elliott observed, wave patterns form larger and smaller versions of themselves. This repetition in form means that price activity is fractal, as illustrated in Figure 2-1. Wave (1) subdivides into five small waves, yet is part of a larger five-wave pattern. How is this information useful? It helps traders recognize the maturity of a trend. If prices are advancing in wave 5 of a five-wave advance for example, and wave 5 has already completed three or four smaller waves, a trader knows this is not the time to add long positions. Instead, it may be time to take profits or at least to raise protective stops.

Since the Wave Principle identifies trend, countertrend, and the maturity of a trend, it's no surprise that the Wave Principle also signals the return of the dominant trend. Once a countertrend move unfolds in three waves (A-B-C), this structure can signal the point where the dominant trend has resumed, namely, once price action exceeds the extreme of wave B. Knowing precisely when a trend has resumed brings an added benefit: It increases the probability of a successful trade, which is further enhanced when accompanied by traditional technical studies.

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#### 4. Provides Price Targets

What traditional technical studies simply don't offer—high probability price targets—the Wave Principle again provides. When R.N. Elliott wrote about the Wave Principle in *Nature's Law*, he stated that the Fibonacci sequence was the mathematical basis for the Wave Principle. Elliott waves, both impulsive and corrective, adhere to specific Fibonacci proportions, as illustrated in Figure 2-2. For example, common objectives for wave 3 are 1.618 and 2.618 multiples of wave 1. In corrections, wave 2 typically ends near the .618 retracement of wave 1, and wave 4 often tests the .382 retracement of wave 3. These high probability price targets allow traders to set profit-taking objectives or identify regions where the next turn in prices will occur.

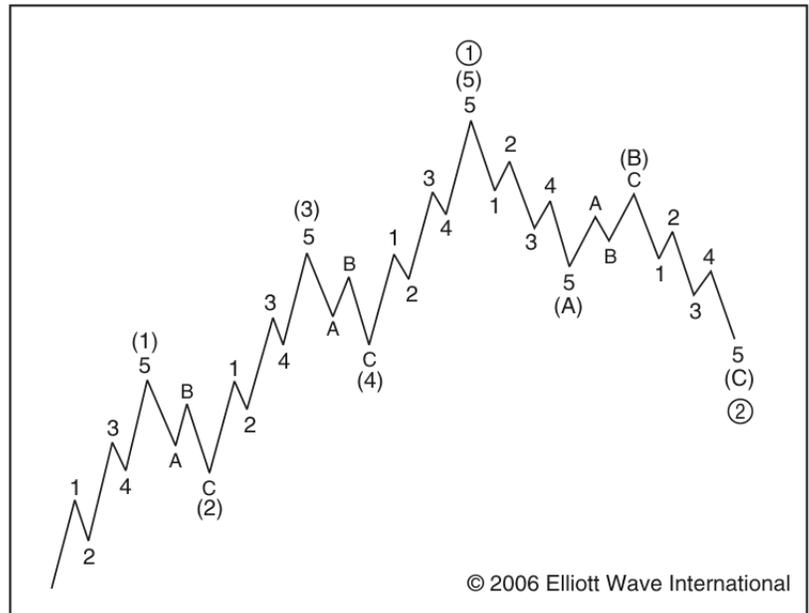


Figure 2-1

#### 5. Provides Specific Points of Ruin

At what point does a trade fail? Many traders use money management rules to determine the answer to this question, because technical studies simply don't offer one. Yet the Wave Principle does—in the form of Elliott wave rules.

**Rule 1:** Wave 2 can never retrace more than 100% of wave 1.

**Rule 2:** Wave 4 may never end in the price territory of wave 1.

**Rule 3:** Out of the three impulse waves—1, 3 and 5—wave 3 can never be the shortest.

A violation of one or more of these rules implies that the operative wave count is incorrect. How can traders use this information? If a technical study warns of an upturn in prices, and the wave pattern is a second-wave pullback, the trader knows specifically at what point the trade will fail—a move beyond the origin of wave 1. That kind of guidance is difficult to come by without a framework like the Wave Principle.

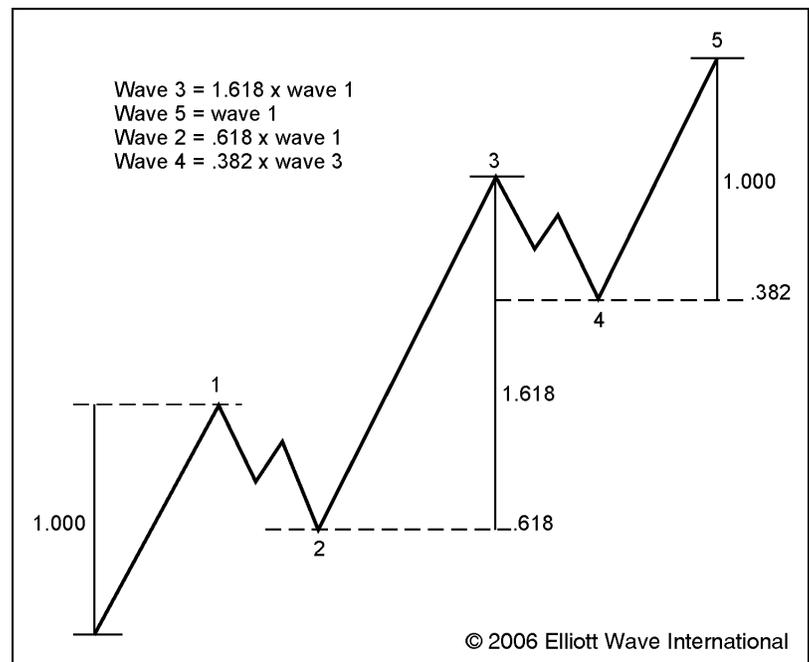


Figure 2-2

## What Trading Opportunities Does the Wave Principle Identify?

Here's where the rubber meets the road. The Wave Principle can also identify high probability trades over trade setups that traders should ignore, specifically by exploiting waves (3), (5), (A) and (C).

Why? Since five-wave moves determine the direction of the larger trend, three-wave moves offer traders an opportunity to join the trend. So in Figure 2-3, waves (2), (4), (5) and (B) are actually setups for high probability trades in waves (3), (5), (A) and (C).

For example, a wave (2) pullback provides traders an opportunity to position themselves in the direction of wave (3), just as wave (5) offers them a shorting opportunity in wave (A). By combining the Wave Principle with traditional technical analysis, traders can improve their trading by increasing the probabilities of a successful trade.

Technical studies can pick out many trading opportunities, but the Wave Principle helps traders discern which ones have the highest probability of being successful. This is because the Wave Principle is the framework that provides history, current information and a peek at the future. When traders place their technical studies within this strong framework, they have a better basis for understanding current price action.

[JULY 2005]

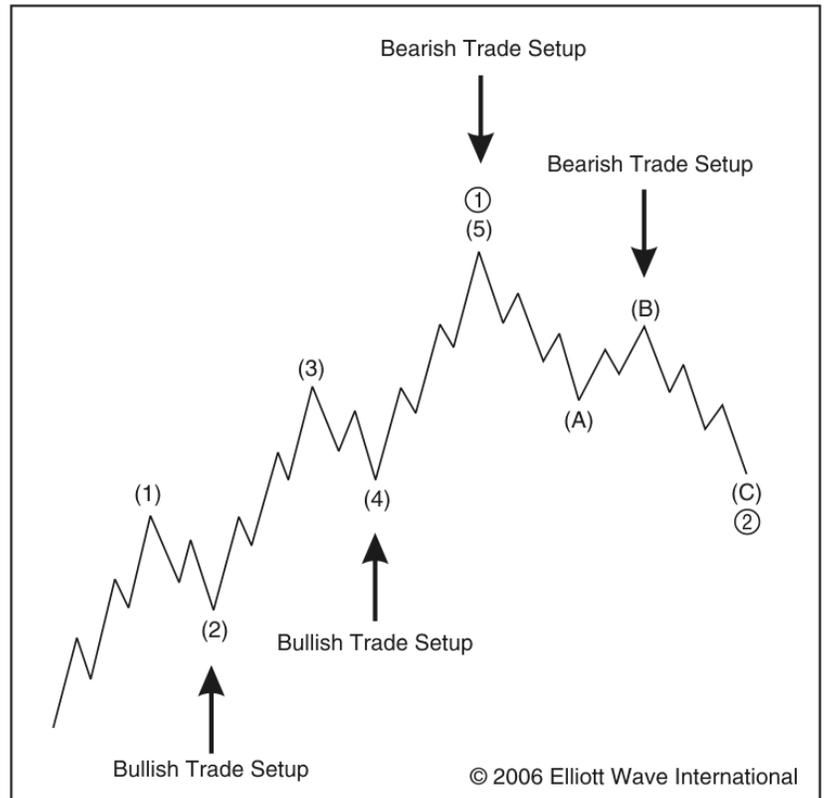


Figure 2-3

# How the Wave Principle Fits Certain Trading Styles: Corrective Patterns

So how does the Wave Principle fit into my trading style? Simple. R.N. Elliott's work on corrective wave patterns allows me to identify countertrend moves within trending markets. Because I'm familiar with these patterns and characteristics, I can determine the most likely points where and when countertrend moves will end. The more you familiarize yourself with corrective wave patterns, the closer you are to being in the right place at the right time when the larger trend resumes.

That said, familiarizing yourself with any kind of wave pattern only helps if you can recognize it as it unfolds in real time. In my early years as an Elliott wave student, I relentlessly memorized all the wave patterns diagrammed in Frost and Prechter's *Elliott Wave Principle: Key to Market Behavior*. But when I looked for similar patterns on price charts, I had difficulty seeing them, because my eyes were trained to see line diagrams rather than real-world wave patterns. So in this review of corrective wave patterns, I am giving you the textbook line diagrams, along with some examples of real-world price charts.

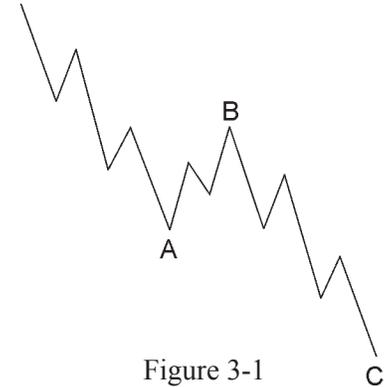


Figure 3-1

## 1. Zigzags

Figure 3-1 shows a single zigzag wave pattern in a bull market. Wave A subdivides into five waves, wave B three waves and wave C five waves. That's why Elliotticians commonly refer to waves A, B and C in a zigzag as a 5-3-5 pattern. In a bear market, this pattern would appear inverted as a three-wave advance. That's what you can see in Figure 3-2 (Wheat)—a single zigzag as a three-wave advance within a larger downtrending market. As you can see, I have drawn solid lines to highlight waves A, B and C.

Zigzags most often occur as a single wave pattern, but occasionally I observe double and even triple zigzags. In Figure 3-3 (Wheat), I have outlined the waves within a double zigzag. The proper notation of this pattern is (W)-(X)-(Y) because it indicates the actual degree of impulsive subdivisions of each pattern. However, I still prefer the old-school practice of simply using A-B-C-X-A-B-C, which is also shown in Chart 2.

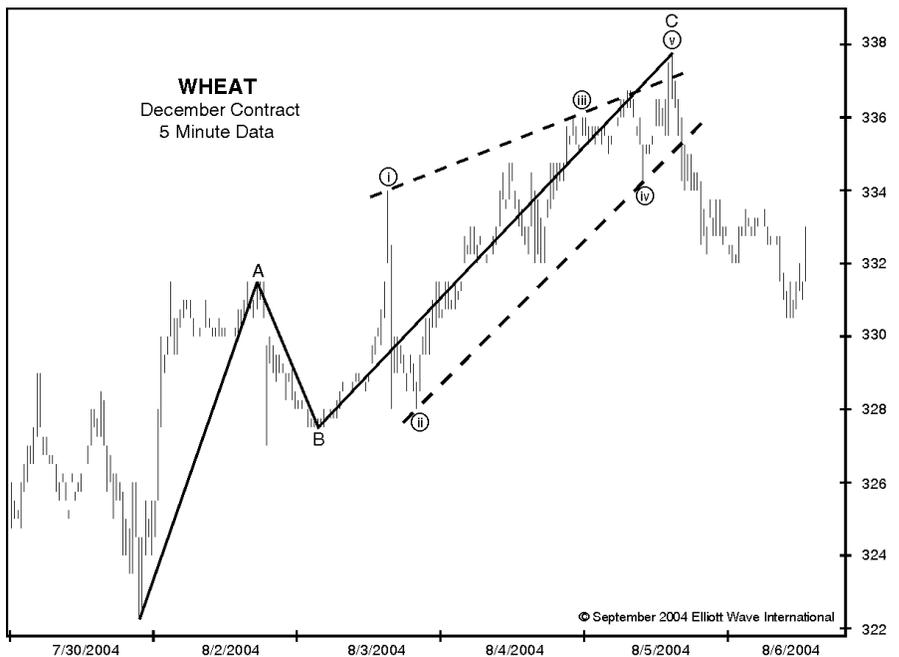


Figure 3-2

Another example of a zigzag is evident in Figure 3-4 (Live Cattle). Here, you'll see that wave B took the shape of a contracting triangle. At first glance, this may seem a little complicated until you realize that triangles are also corrective wave patterns, and, in this instance, wave B is correcting wave A.

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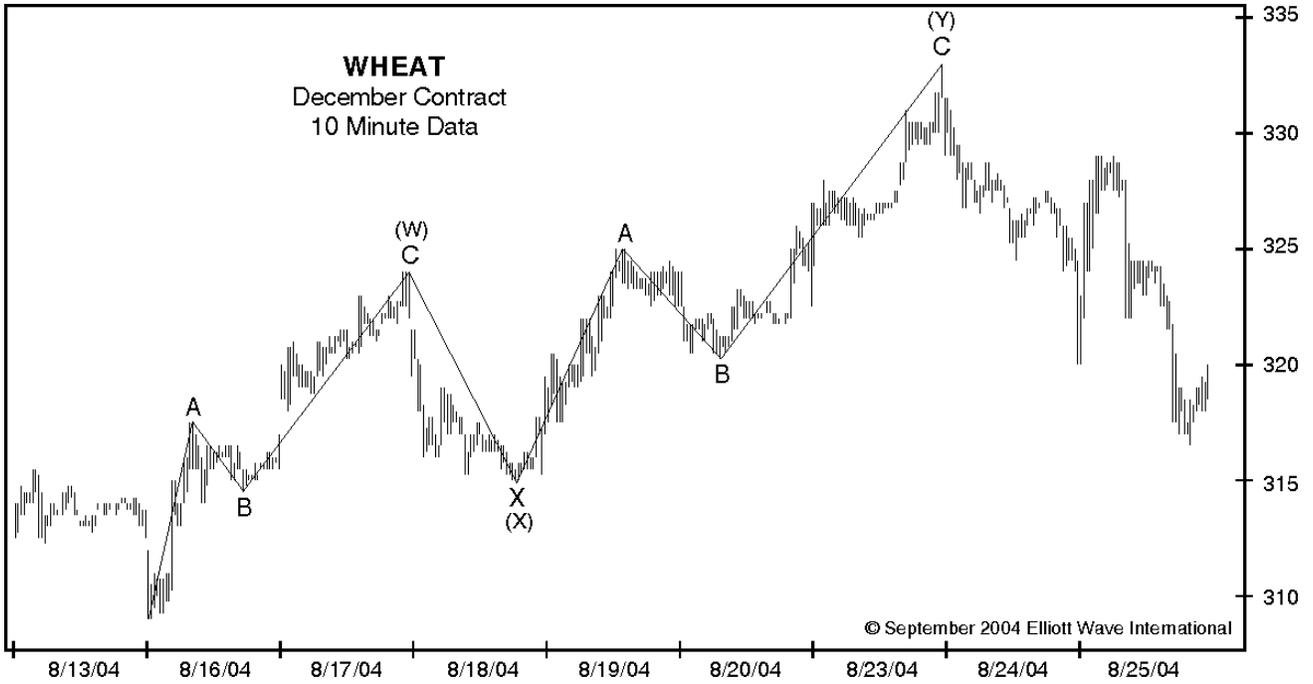


Figure 3-3

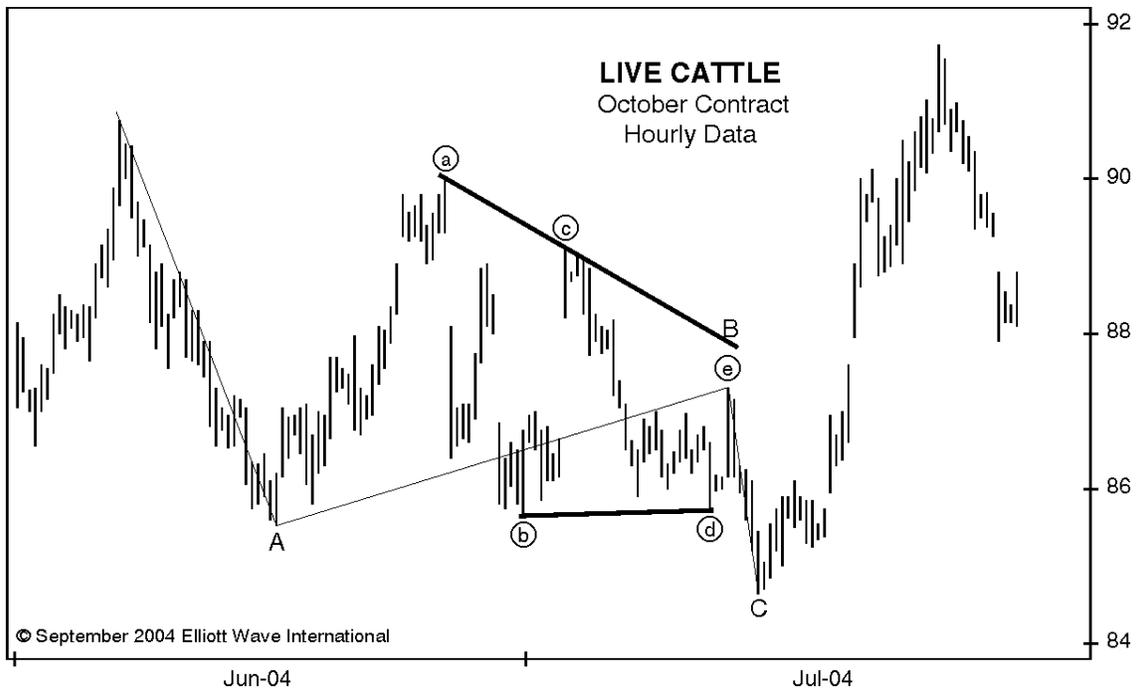
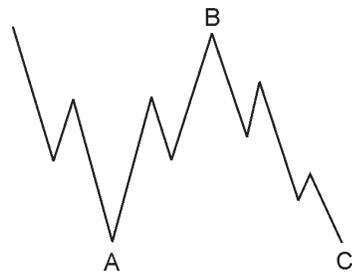


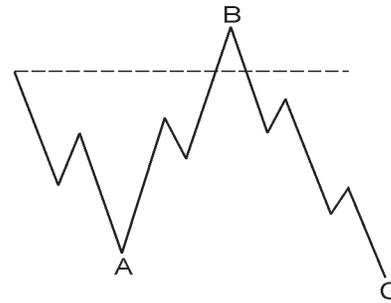
Figure 3-4

## 2. Flats

Flats are a group of corrective wave patterns that are especially common in commodity markets. This category includes regular flats and irregular or expanded flats. Two primary characteristics of flats make them easy to identify. First, both waves A and B subdivide into only three waves (3-3-5). Second, wave B ends near the origin of wave A or moderately beyond it. If wave B ends below the origin of wave A, the pattern is a regular flat correction (Figure 3-5). In the case of an expanded flat correction, Wave B pushes beyond the origin of wave A before prices reverse in wave C (Figure 3-6).



Regular Flat  
Figure 3-5



Expanded Flat  
Figure 3-6

An excellent example of a regular flat correction is evident in Figure 3-7 (Unleaded Gas). Notice how the subdivisions of each wave are easily discernible.

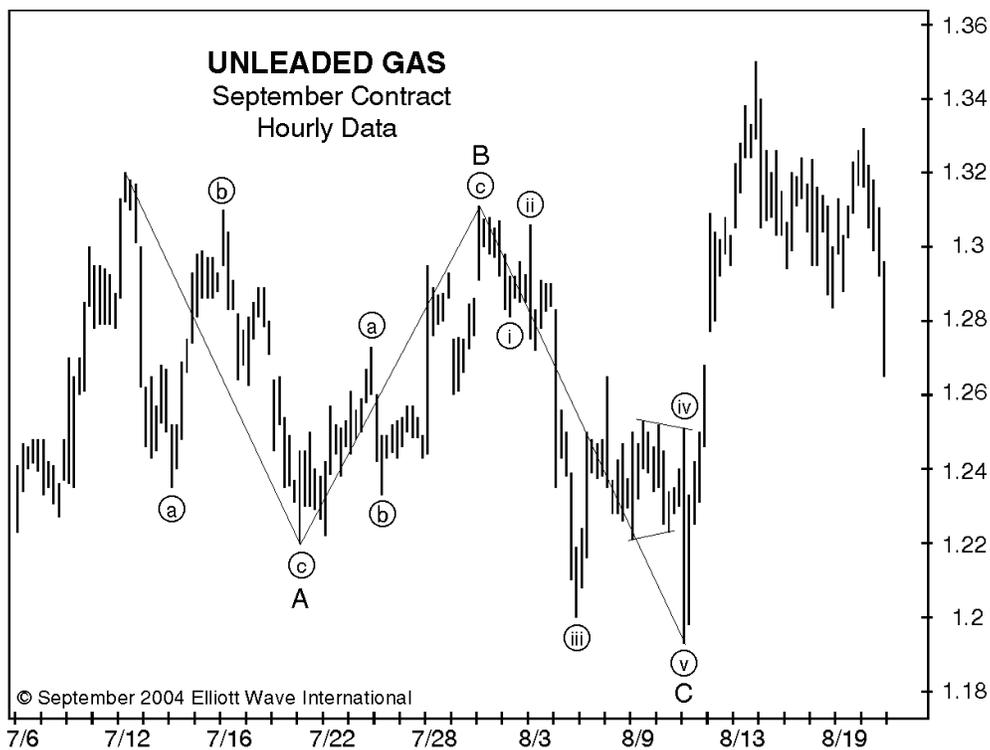


Figure 3-7

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Figure 3-8 (Lumber) shows a more complex example of a regular flat correction. As you can see, wave B ends near the origin of wave A, but not beyond it. Personally, when I'm labeling regular flats, I like to see wave B terminate within the range of the high bar that marks the origin of wave A. Now, at first glance, you might think that wave B is too impulsive to be a B wave. However, if you count the subdivisions within wave B, you'll see that there are seven. If you don't remember, seven equals three according to the Wave Principle, because a seven-wave move represents a double zigzag.

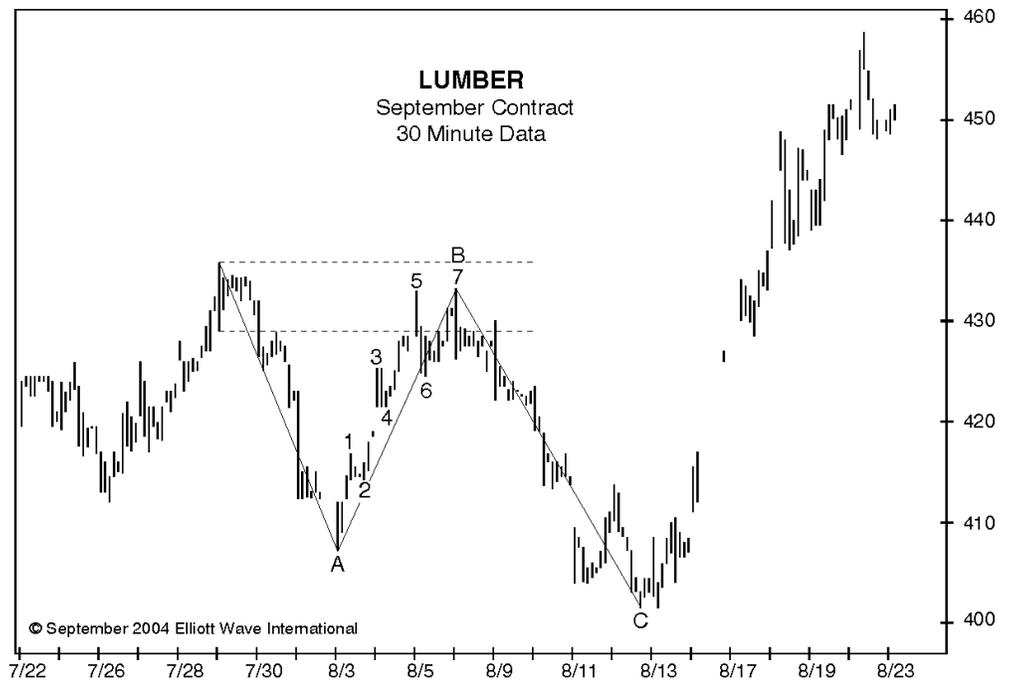


Figure 3-8

Now look at Figure 3-9 (Live Cattle). I wouldn't initially label this pattern as a flat correction, because wave B ended well above the origin of wave A. Normally, I like to see wave B terminate a little closer to this level. However, in this instance, wave A is clearly a three-wave structure, and wave B failed to end within the range of the hourly bar that marks the origin of wave A by only a tick. You may also notice that wave C ended in a slight failure or truncation at 89.87. A failed wave or truncated wave occurs when prices are unable to register a new extreme when they normally would.

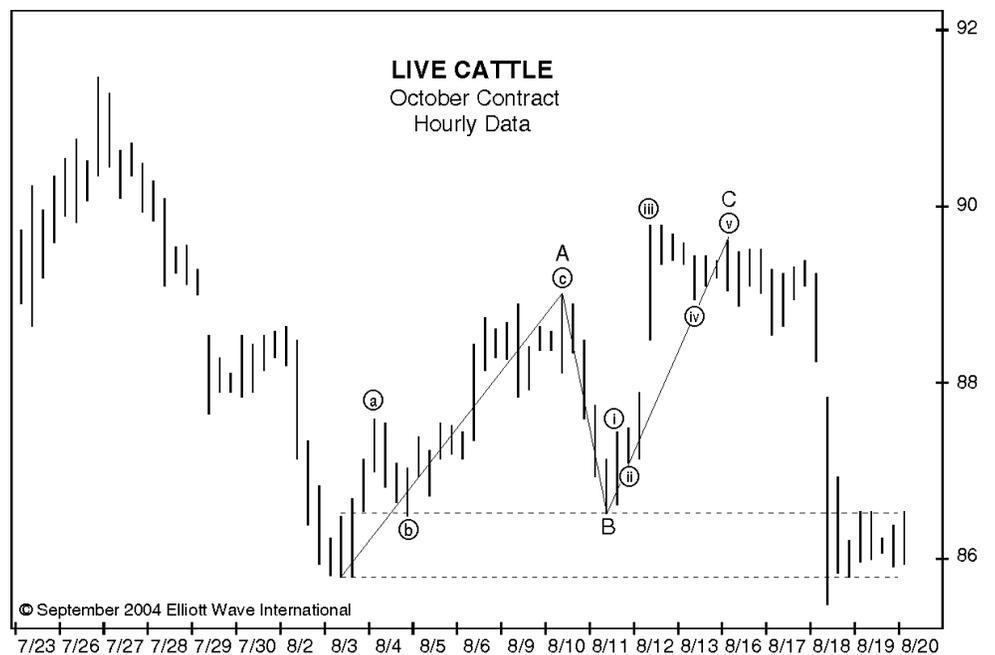


Figure 3-9

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Figures 3-10, 3-11 and 3-12 (Coffee, Lean Hogs and Sugar) all show examples of expanded flats. In each instance, you'll see that wave B ends moderately beyond the extreme of wave A, which is this pattern's distinguishing characteristic. As with every other example, I have included a solid line to clarify the primary subdivisions.

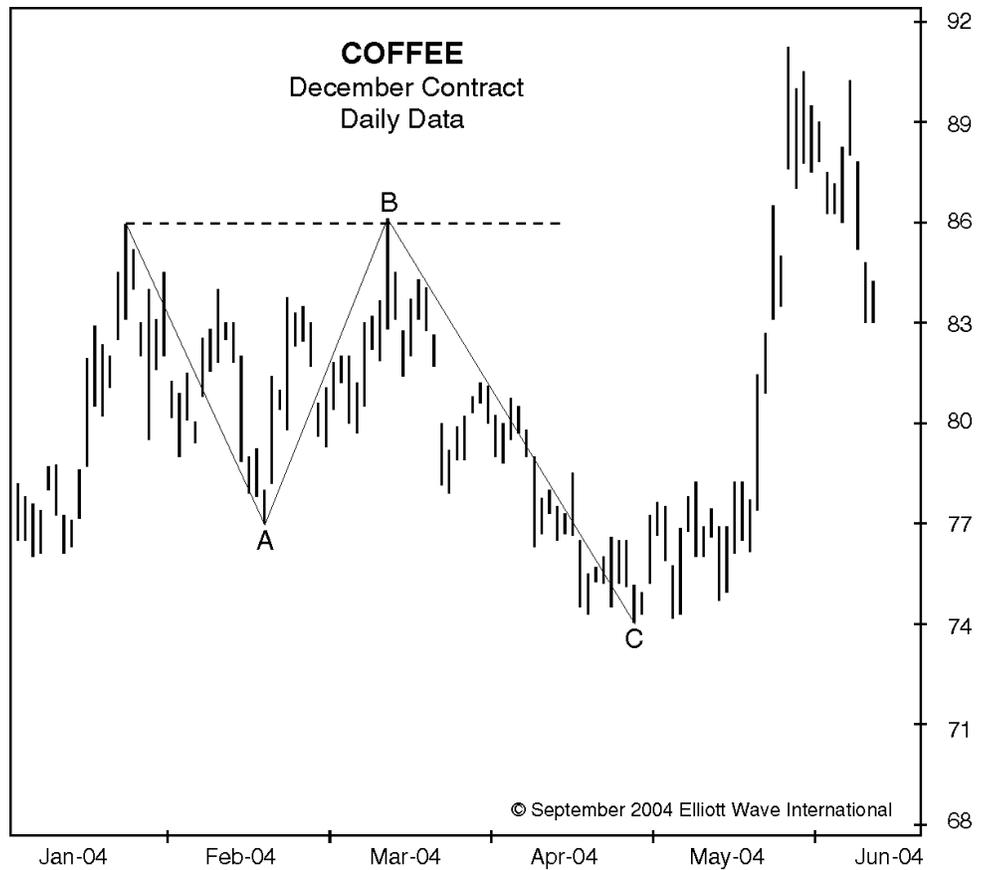


Figure 3-10



Figure 3-11

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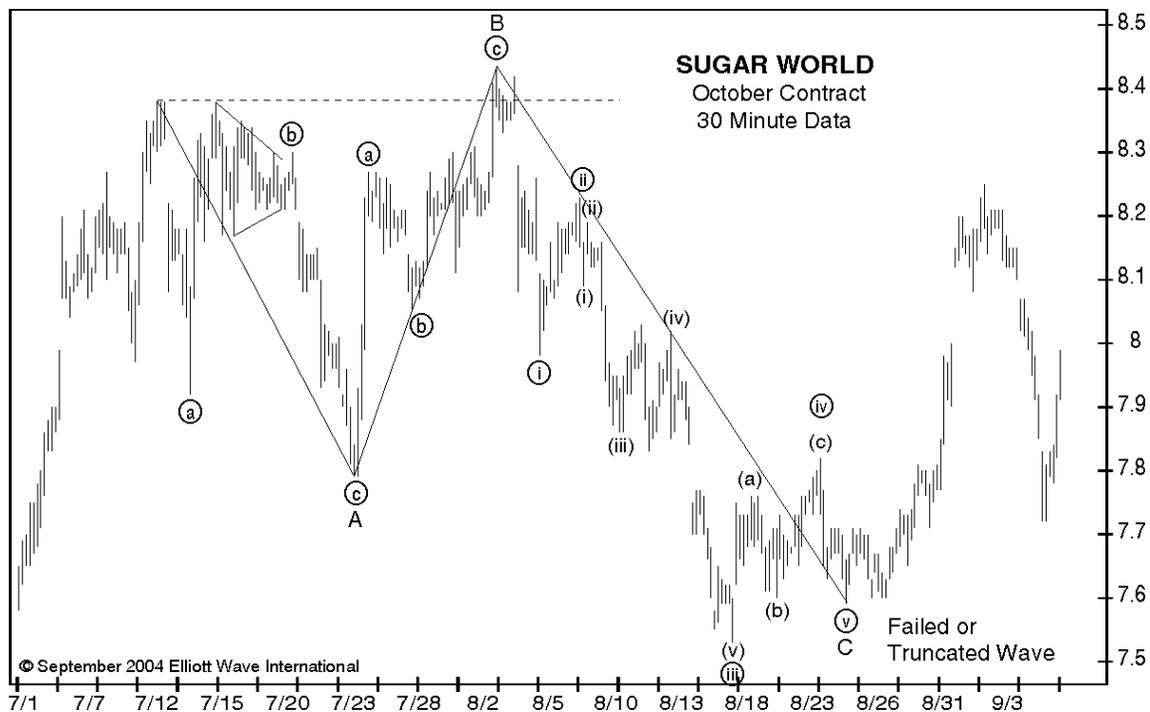


Figure 3-12

### 3. Triangles

Triangles are probably the easiest corrective wave pattern to identify, because prices simply trade sideways during these periods. Figure 3-13 shows the different shapes triangles can take, although I find the symmetrical or contracting variety most common. While they may be easy to spot, they can be nasty little fellows, too. To an options trader, triangles represent time decay (and no price movement), which decreases an option's value.

Depending on a triangle's size, it can represent to futures traders the depletion of what I call "emotional capital." Let me explain. As a trader, your trading account represents one form of capital (dollars), while your state of mind represents another (emotions). Have you ever had a losing trade that was devastating or a series of losers that made you question yourself or your methodology? Too often, the result is that you either hesitate or pass on the next signal. Triangles, especially the big ones with wide price swings, can eat away at your emotional capital, because you don't know if the market is going to go your way, or if you'll be stopped out of the position. Often, a negative frame of mind translates into bad trading decisions or missed opportunities.

Although sometimes troublesome, triangles offer an important piece of forecasting information—they only occur just prior to the final wave of a sequence. This is why triangles are strictly limited to the wave four, B or X positions. In other words, if you run into a triangle, you know the train is coming into the station.

### Corrective Wave (Horizontal) Triangles

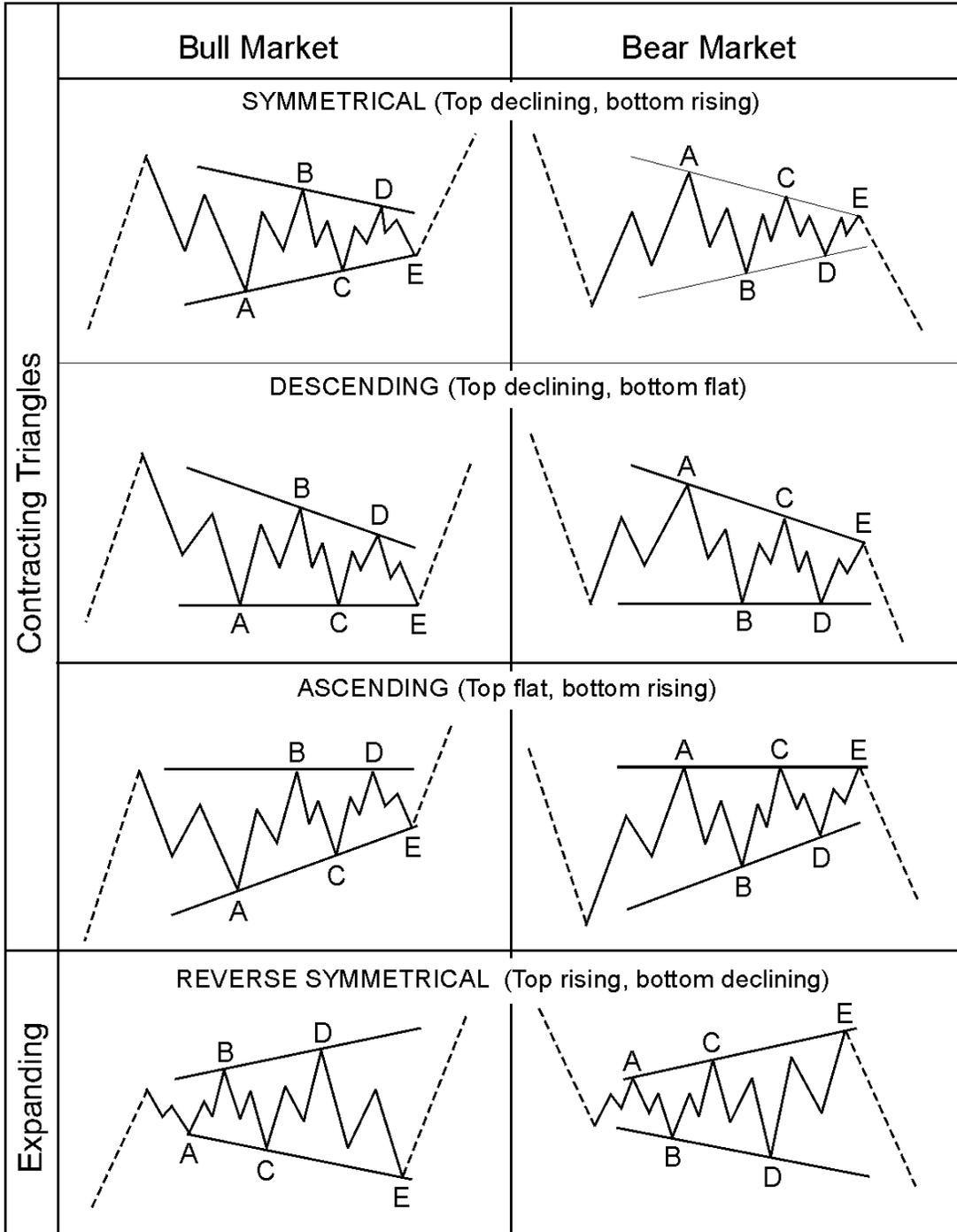


Figure 3-13

Figures 3-14, 3-15 and 3-16 (Live Cattle, Feeder Cattle and Oats) illustrate contracting triangles in the real world. Figures 3-15 and 3-16 show a slight variation of a contracting triangle, called a running triangle. A running triangle (see Figure 3-12) occurs when wave B makes a new extreme beyond the origin of wave A. This type of corrective wave pattern occurs frequently in commodities.

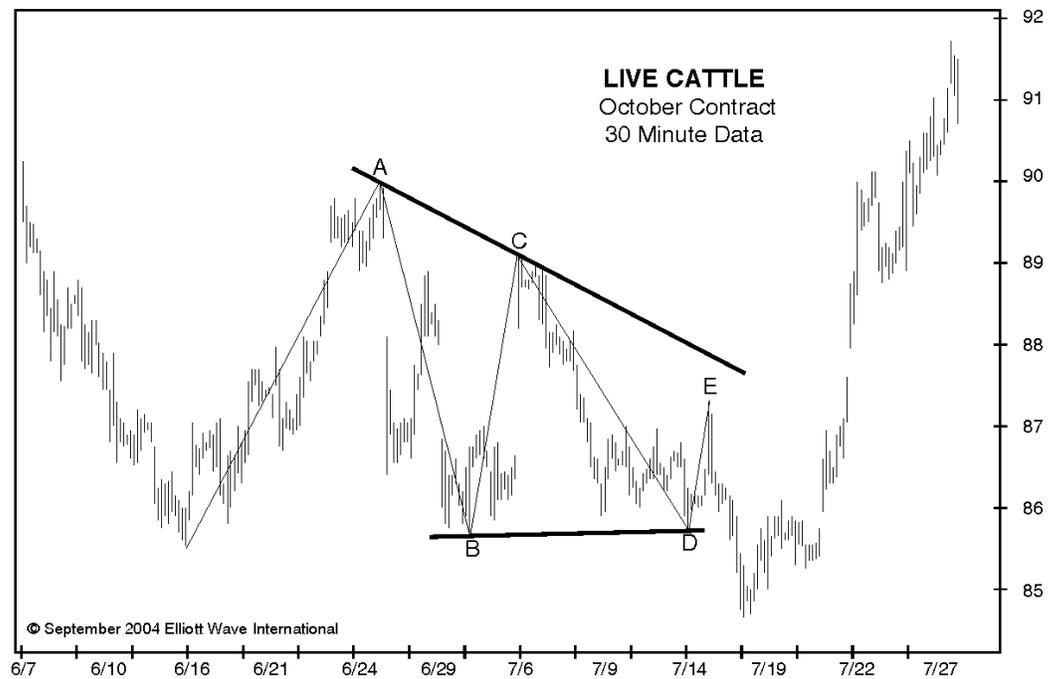


Figure 3-14

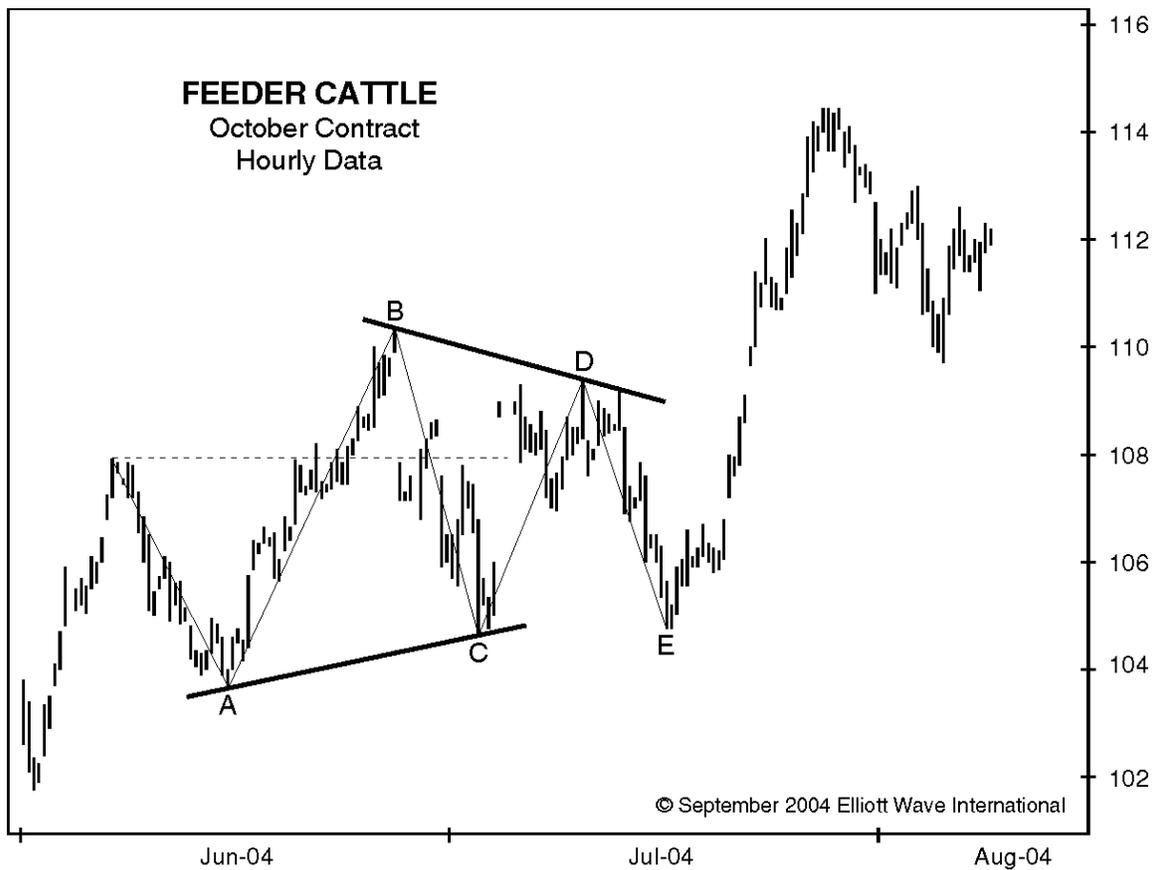


Figure 3-15

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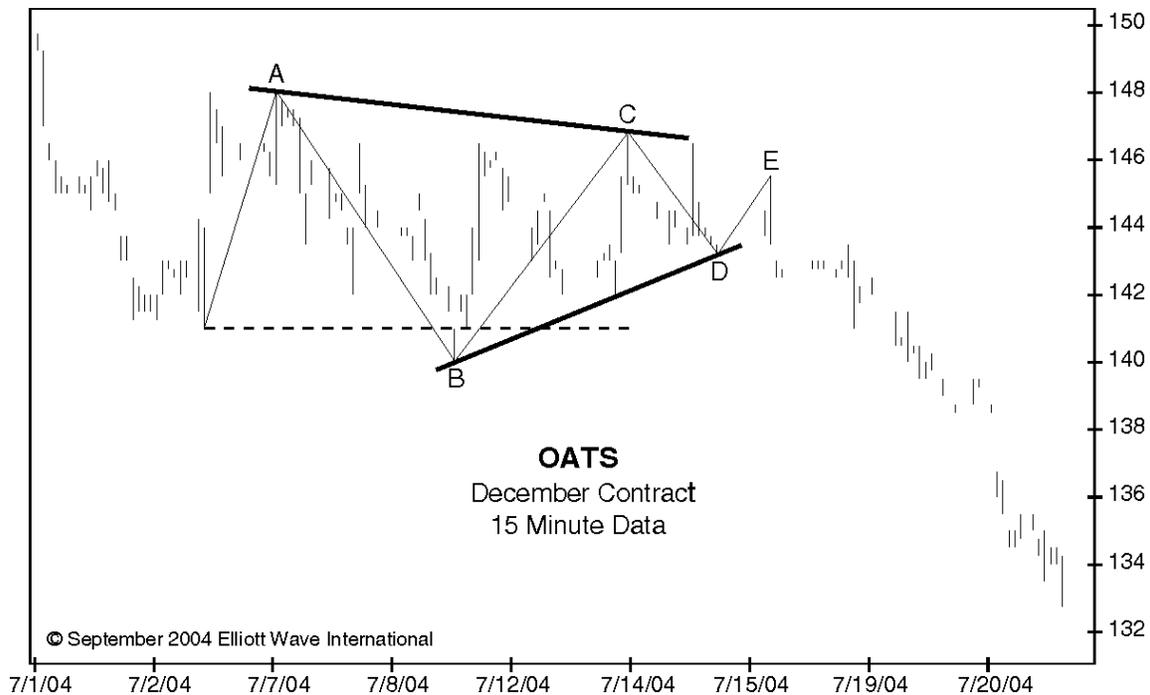


Figure 3-16

*One Last Thought*

Labeling corrective waves in real time can be tricky. Sometimes, corrections are extremely clear, demonstrating textbook qualities. More often than not, though, you'll encounter complex wave patterns that are mentally taxing to properly identify. The intricacies of each of these patterns are numerous and well deserving of more detailed study. To become more familiar with corrective wave patterns, review your copy of the *Elliott Wave Principle* or the videotape or DVD entitled "Characteristics of Corrective Waves" (VHS/DVD #4), which is part of our home study video course.

[September 2004]

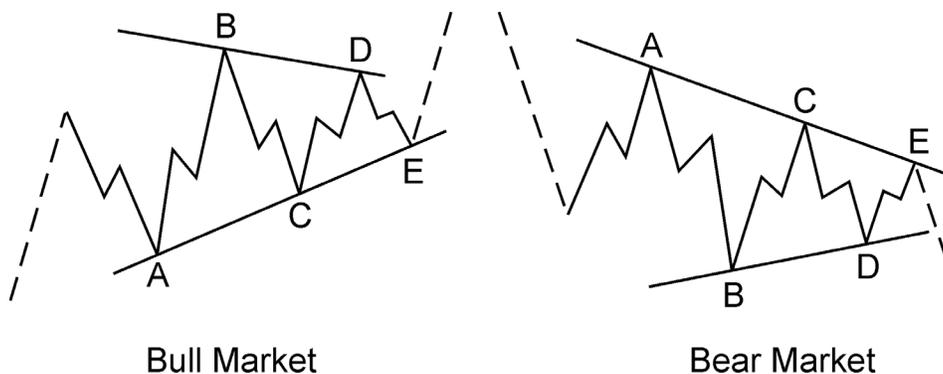


Figure 3-17

For more Trader's Classroom lessons, go to <http://www.elliottwave.com/classroombooks>

# How To Use the Wave Principle To Set Protective Stops

I've noticed that although the Wave Principle is highly regarded as an analytical tool, many traders abandon it when they trade in real-time—mainly because they don't think it provides the defined rules and guidelines of a typical trading system.

But not so fast—*although the Wave Principle isn't a trading "system," its built-in rules do show you where to place protective stops in real-time trading.* And that's what I'm going to show you in this lesson.

Over the years that I've worked with Elliott wave analysis, I've learned that you can glean much of the information that you require as a trader—such as where to place protective or trailing stops—from the three cardinal rules of the Wave Principle:

1. Wave two can never retrace more than 100% of wave one.
2. Wave four may never end in the price territory of wave one.
3. Wave three may never be the shortest impulse wave of waves one, three and five.

**Let's begin with rule No. 1:** Wave two will never retrace more than 100% of wave one. In Figure 4-1, we have a five-wave advance followed by a three-wave decline, which we will call waves (1) and (2). An important thing to remember about second waves is that they usually retrace more than half of wave one, most often a making a .618 Fibonacci retracement of wave one. So in anticipation of a third-wave rally—which is where prices normally travel the farthest in the shortest amount of time—you should look to buy at or near the .618 retracement of wave one.

*Where to place the stop:* Once a long position is initiated, a protective stop can be placed one tick below the origin of wave (1). If wave two retraces more than 100% of wave one, the move can no longer be labeled wave two.

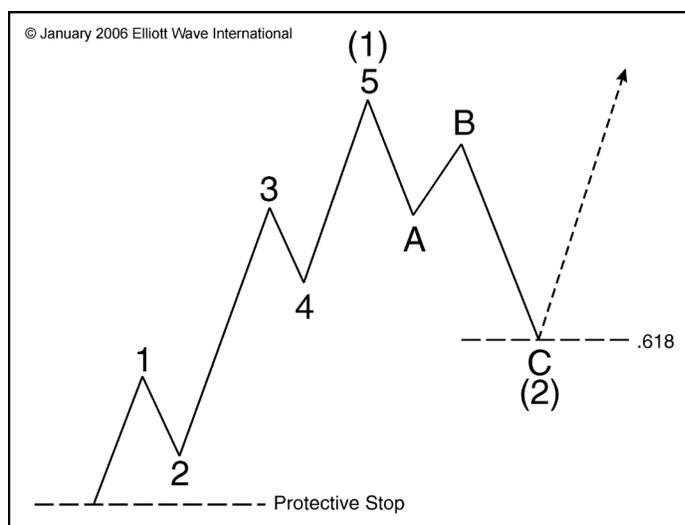


Figure 4-1

**Now let's examine rule No. 2:** Wave four will never end in the price territory of wave one. This rule is useful because it can help you set protective stops in anticipation of catching a fifth-wave move to new highs. The most common Fibonacci retracement for fourth waves is .382 of wave three. So after a sizable advance in price in wave three, you should look to enter long positions following a three-wave decline that ends at or near the .382 retracement of wave three.

*Where to place the stop:* As shown in Figure 4-2, the protective stop should go one tick below the extreme of wave (1). Something is wrong with the wave count if what you have labeled as wave four heads into the price territory of wave one.

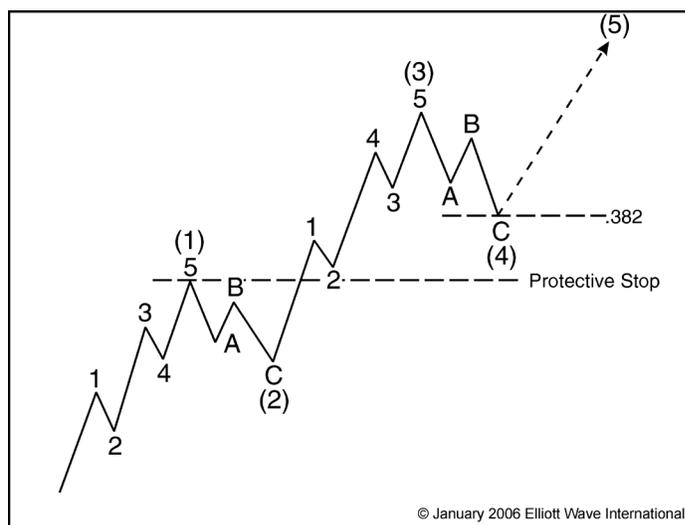


Figure 4-2

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**And, finally, rule No. 3:** Wave three will never be the shortest impulse wave of waves one, three and five. Typically, wave three is the wave that travels the farthest in an impulse wave or five-wave move, but not always. In certain situations (such as within a Diagonal Triangle), wave one travels farther than wave three.

*Where to place the stop:* When this happens, you can consider a short position with a protective stop one tick above the point where wave (5) becomes longer than wave (3) (see Figure 4-3). Why? If you have labeled price action correctly, wave five will not surpass wave three in length; when wave three is already shorter than wave one, it cannot also be shorter than wave five. So if wave five does cover more distance in terms of price than wave three—thus breaking Elliott’s third cardinal rule—then it’s time to re-think your wave count.

[January 2006]

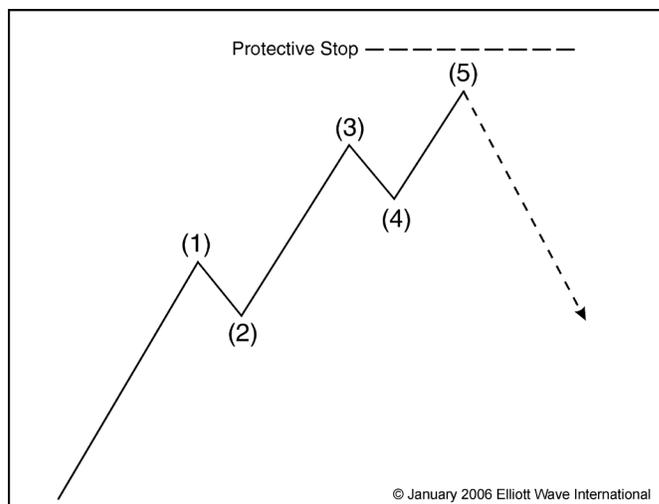


Figure 4-3

# What It Takes To Be a Consistently Successful Trader

What does it take to be a consistently successful trader? It takes having a clearly defined trading method and the discipline to follow it. But these, by themselves, aren't enough. Being a consistently successful trader also requires sufficient capital, money management skills and emotional self-control, to name just a few essential traits.

But out of all these characteristics I have mentioned—and the many I haven't—what is the most important quality of a consistently successful trader? I believe it is *patience*: the patience to move on only the highest probability trades.

Let's look at how counting waves and labeling them can teach the importance of being patient. We all know that the Wave Principle categorizes three-wave moves as corrections and, as such, countertrend moves. We also know that corrective moves demonstrate a strong tendency to stay within parallel lines, and that within A-B-C corrections the most common relationship between waves C and A is equality. Furthermore, we know that the .618 retracement of wave one is the most common retracement for second waves, and that the .382 retracement of wave three is the most common retracement for fourth waves.

Knowing that all of these are traits of countertrend moves, why do traders take positions when a pattern demonstrates only one or two of these traits? We do it *because we lack patience*. We lack the patience to wait for opportunities that meet all of our criteria, be it from an Elliott wave or a technical perspective.

What is the source of this impatience? It could be from not having a clearly defined trading methodology or not being able to control emotions. However, I think impatience stems more from a sense of not wanting to miss anything. And because we're afraid of missing the next big move, or perhaps because we want to pick up some lost ground, we act on less-than-ideal trade setups.

Another reason traders lack patience is boredom. That's because—and this may sound odd at first—textbook wave patterns and ideal, high-probability trade setups don't occur all that often. In fact, I have always gone by the rule of thumb that for any given market there are only two or three tradable moves in a specific time frame. For example, during a normal trading day, there are typically only two or three trades that warrant attention from day traders. In a given week, short-term traders will usually find only two or three good opportunities worth participating in, while long-term traders will most likely find only two or three viable trade setups in a given month or even a year.

So as traders wait for these textbook wave patterns and ideal, high-probability trade setups to occur, boredom sets in. Too often, we get itchy fingers and want to trade any pattern that comes along that looks even remotely like a high-probability trade setup.

The big question then is, how do you overcome the tendency to be impatient? Understand the triggers that cause it: fear of missing out and boredom. The first step in overcoming impatience is to consciously define the minimum requirements of an acceptable trade setup and vow to accept nothing less. Next, feel comfortable in knowing that the markets will be around tomorrow, next week, next year and beyond, so there is plenty of time to wait for the ideal opportunity. Remember, trading is not a race, and over-trading does little to improve your bottom line.

If there is one piece of advice I can offer that will improve your trading skills, it is simply to be patient. Be patient and wait for only those textbook wave patterns and ideal, high-probability trade setups to act. Because when it comes to being a consistently successful trader, it's all about the *quality* of your trades, not the quantity.

[SEPTEMBER 2005]

# How To Use Bar Patterns To Spot Trade Setups

## 1. DOUBLE INSIDE BARS

While many of my co-workers jog, bicycle or play in bands for a hobby, I amuse myself by looking through old price charts of stocks and commodities. I try to limit the time I spend on my hobby to about a half-day on the weekends, but often it encompasses the whole weekend, especially if it's raining. Over the years I've made many observations and notes, a few of which I like to share here in *Trader's Classroom*. Let's look at a bar pattern that I call a "double inside day."

Many of you who subscribe to *Daily Futures Junctions* have seen me mention this bar pattern. Although this price formation is nothing new or groundbreaking, it is so important that I think everyone should be familiar with it. Why? Because it often introduces sizable moves in price—always a good reason for a trader to pay attention.

So let's begin with a basic definition: A double inside day, or bar, occurs when two inside bars appear in a row. An inside bar is simply a price bar with a high below the previous high and a low above the previous low. Figure 11-1 illustrates what a double inside bar pattern looks like. Notice that the range of price bar number two encompasses price bar number one, and price bar number three encompasses price bar number two.

Figures 11-2 through 11-5 (Wheat, Orange Juice, Feeder Cattle and Soybean Oil) show examples of double inside days and the price moves that followed. In each instance, I believe these formations introduced tradable moves.

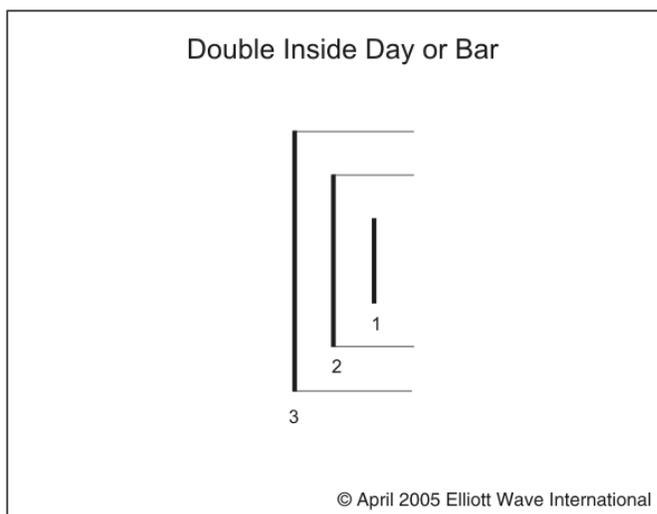


Figure 11-1

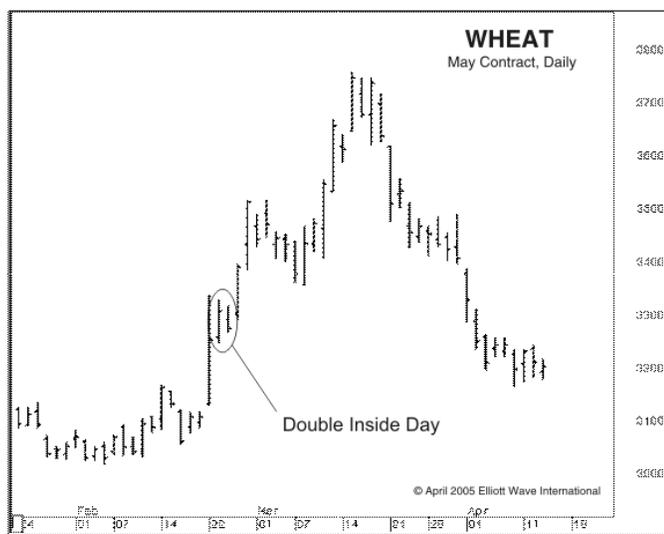


Figure 11-2

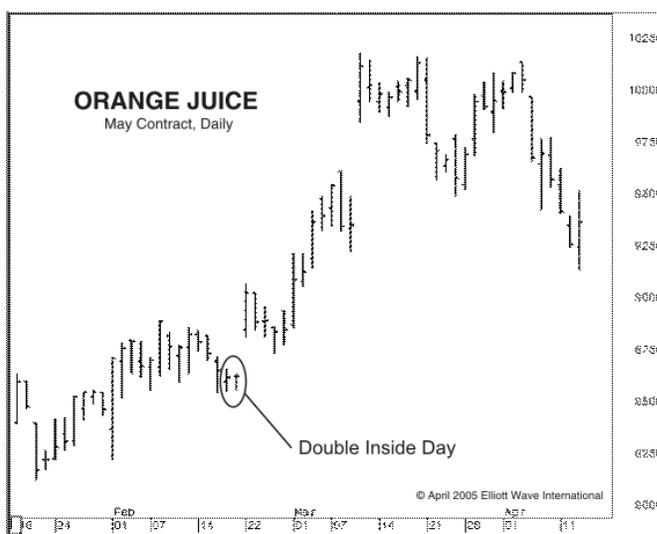


Figure 11-3

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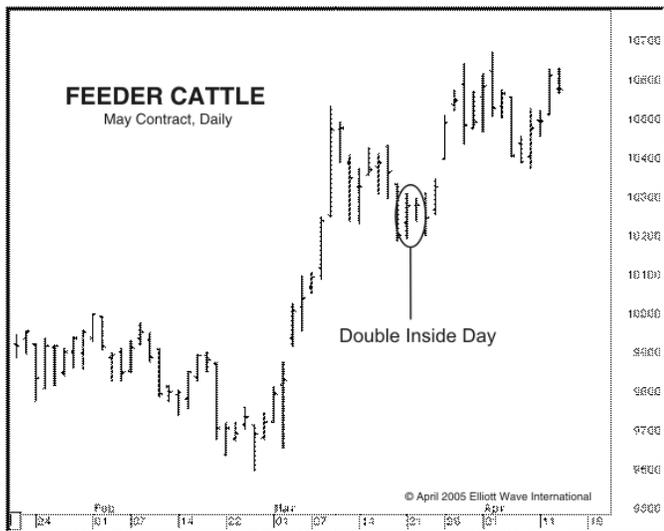


Figure 11-4

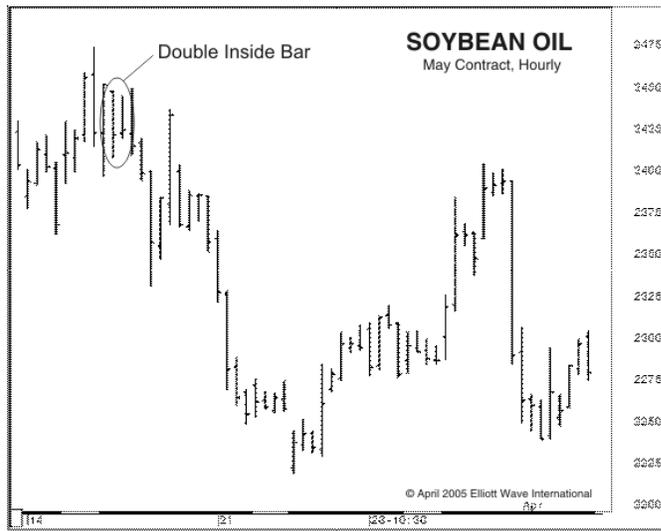


Figure 11-5

## 2. ARROWS

Now that we are all on the same side of the fence, let me introduce you to another price pattern that I call the “arrow.” An arrow is simply a modified double inside day formation. Instead of using three price bars, it requires four. In Figure 11-6, you can see that price bar number one is an inside bar and that price bar number two is an inside bar in relation to bars three and four.

- The high of bar two is below the high of bar three.
- The low of bar two is above the low of bar four.

Now let’s look at some examples. In Figures 11-7 through 11-9 (Cotton, Coffee and Soybeans), it’s easy to see that each arrow introduced a tradable move much like our double

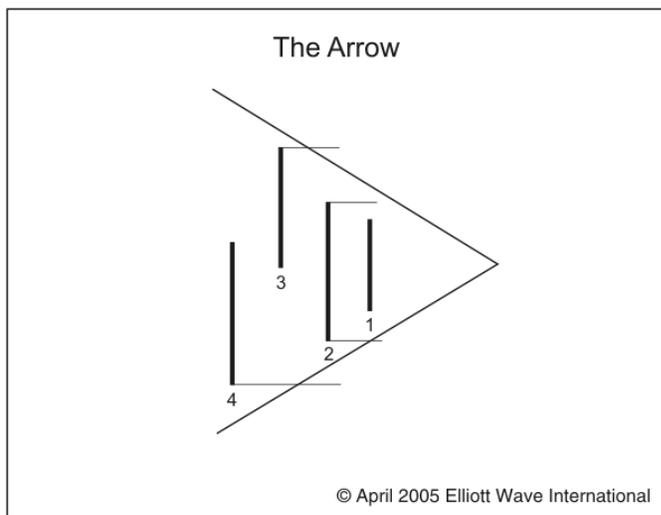


Figure 11-6



Figure 11-7

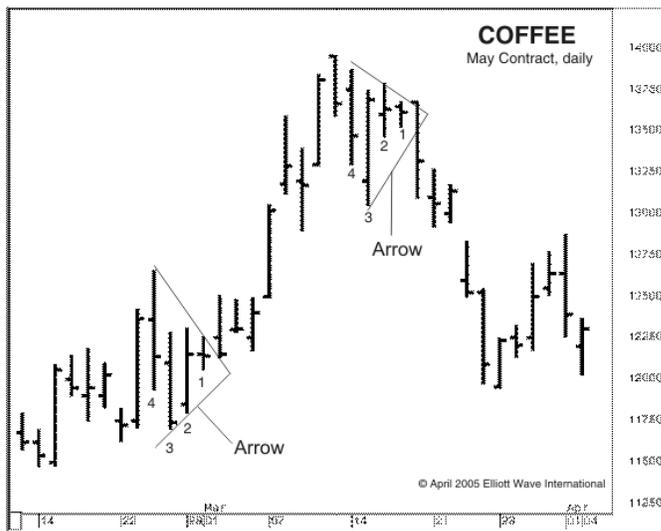


Figure 11-8

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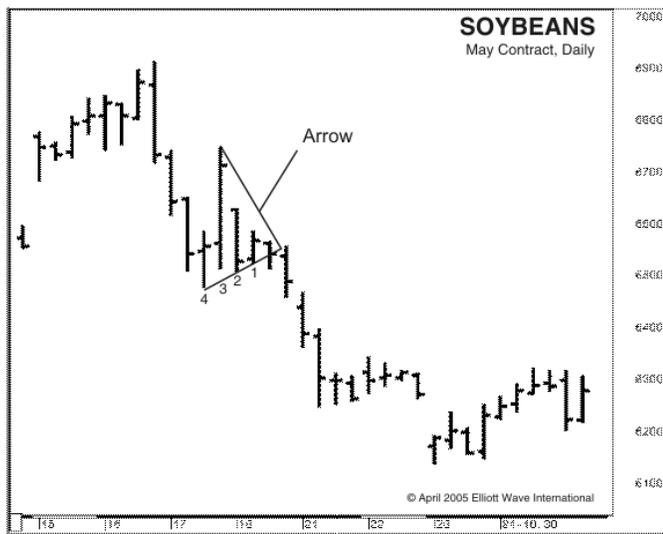


Figure 11-9

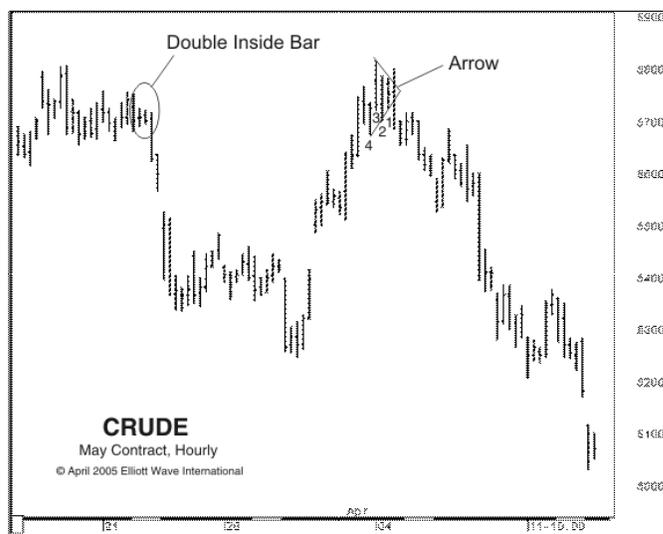


Figure 11-10

inside day formation did. One way to think of an arrow is that it is simply a *hidden* double inside day, or bar. I've saved the best for last. On the left hand side of Figure 11-10 (Crude Oil), you can see a double inside bar that introduced a selloff in just a few short hours from 57.08 to 53.40. On the right hand side of the chart, you can see an arrow formation that included the (then) all-time high in Crude Oil at 58.20 and led to about an \$8 drop in prices soon after. That's what I mean by a sizable move in price.

[APRIL 2005]

### 3. POPGUNS

I'm no doubt dating myself, but when I was a kid, I had a popgun—the old-fashioned kind with a cork and string (no fake Star Wars light saber for me). You pulled the trigger, and the cork popped out of the barrel attached to a string. If you were like me, you immediately attached a longer string to improve the popgun's reach. Why the reminiscing? Because "Popgun" is the name of a bar pattern I would like to share with you this month. And it's the path of the cork (out and back) that made me think of the name for this pattern.

The Popgun is a two-bar pattern composed of an outside bar preceded by an inside bar, as you can see in Figure 11-11. (Quick refresher course: An outside bar occurs when the range of a bar encompasses the previous bar and an inside bar is a price bar whose range is encompassed by the previous bar.) In Figure 11-12 (Coffee), I have circled two Popguns.

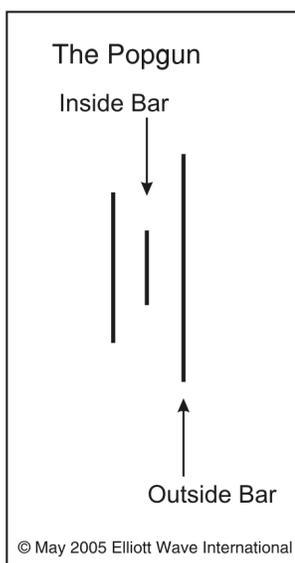


Figure 11-11

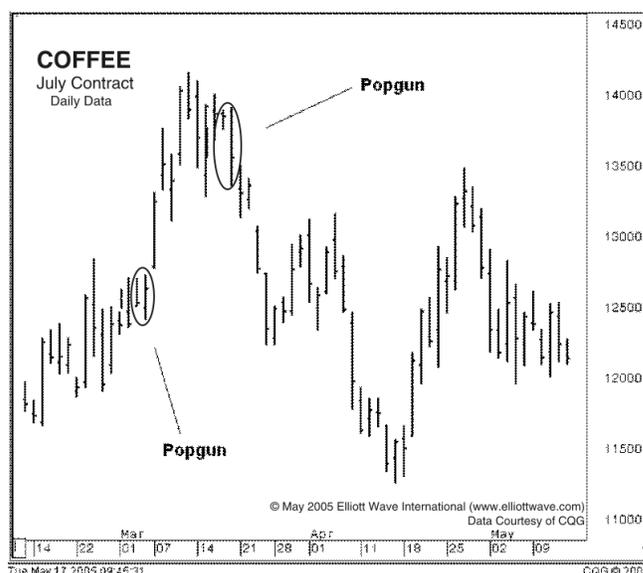


Figure 11-12

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So what's so special about the Popgun? It introduces swift, tradable moves in price. More importantly, once the moves end, they are significantly retraced, just like the popgun cork going out and back. As you can see in Figure 11-13 (Coffee), prices advance sharply following the Popgun, and then the move was significantly retraced. In Figure 11-14 (Coffee), we see the same thing again but to the downside: prices fall dramatically after the Popgun, and then a sizable correction develops.

How can we incorporate this bar pattern into our Elliott wave analysis? The best way is to understand where Popguns show up in the wave patterns. I have noticed that Popguns tend to occur prior to impulse waves—waves one, three and five. But, remember, waves A and C of corrective wave patterns are also technically impulse waves. So Popguns can occur prior to those moves as well.

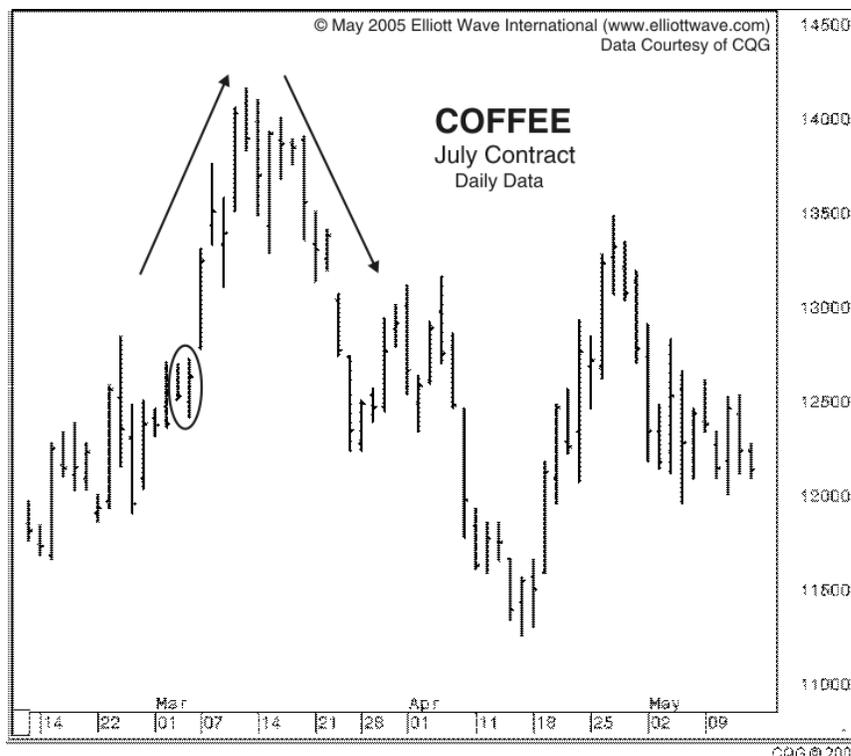


Figure 11-13

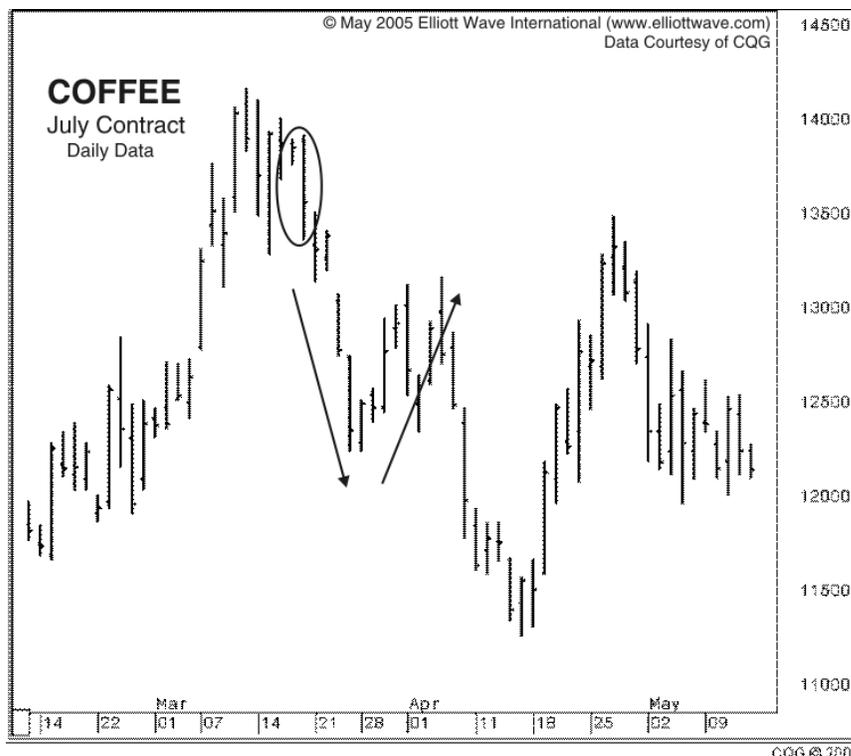


Figure 11-14

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As with all my work, I rely on a pattern only if it applies across all time frames and markets. To illustrate, I have included two charts of Sirius Satellite Radio (SIRI) that show this pattern works equally well on 60-minute and weekly charts. Notice that the Popgun on the 60-minute chart (Figure 11-15) preceded a small third wave advance. Now look at the weekly chart (Figure 11-16) to see what three Popguns introduced (from left to right): wave C of a flat correction, wave 5 of (3) and wave C of (4).

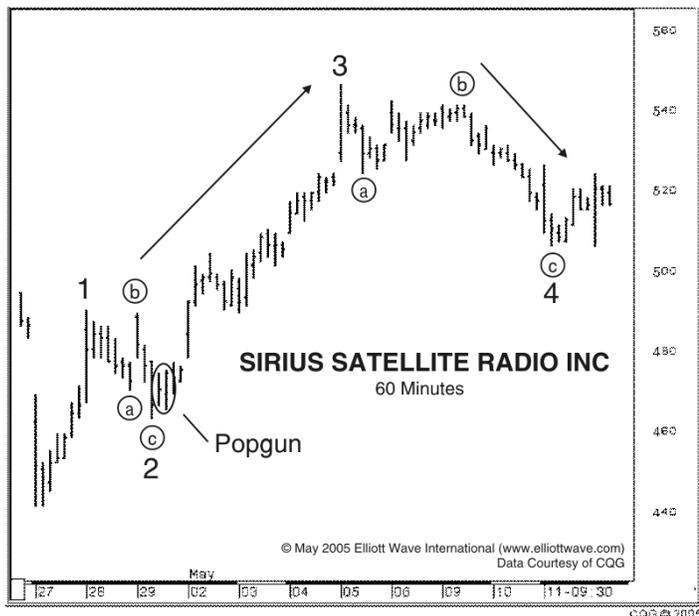


Figure 11-15

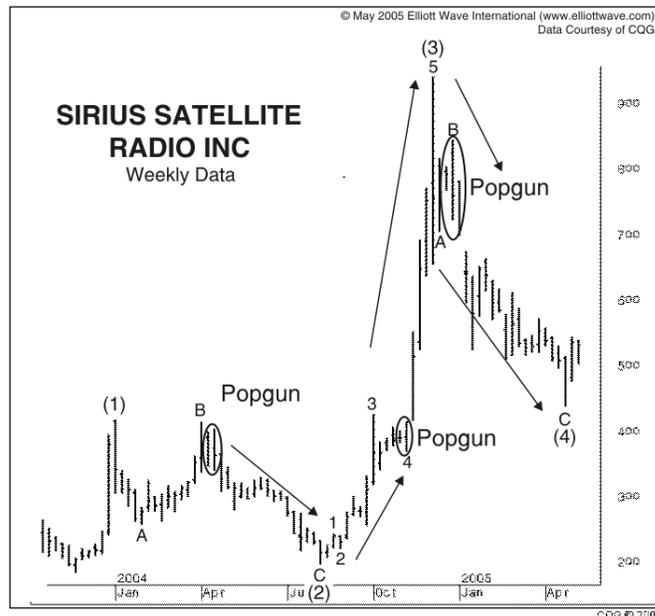


Figure 11-16

There's only one more thing to know about using this Popgun trade setup: Just be careful and don't shoot your eye out, as my mom would say.

[MAY 2005]

# Origins and Applications of the Fibonacci Sequence

## From Fibonacci to Elliott

You can tell that a trendy word or phrase has reached “buzzword” status when it is more often used to impress than to explain. A few years ago, the buzzword I heard most often was “win-win,” a concept popularized by Stephen Covey. Technical analysts, in recent years, have unfortunately elevated “Fibonacci” to the same level. A better understanding of Fibonacci may not save the term from buzzword status, but it will provide some insight to its popularity.

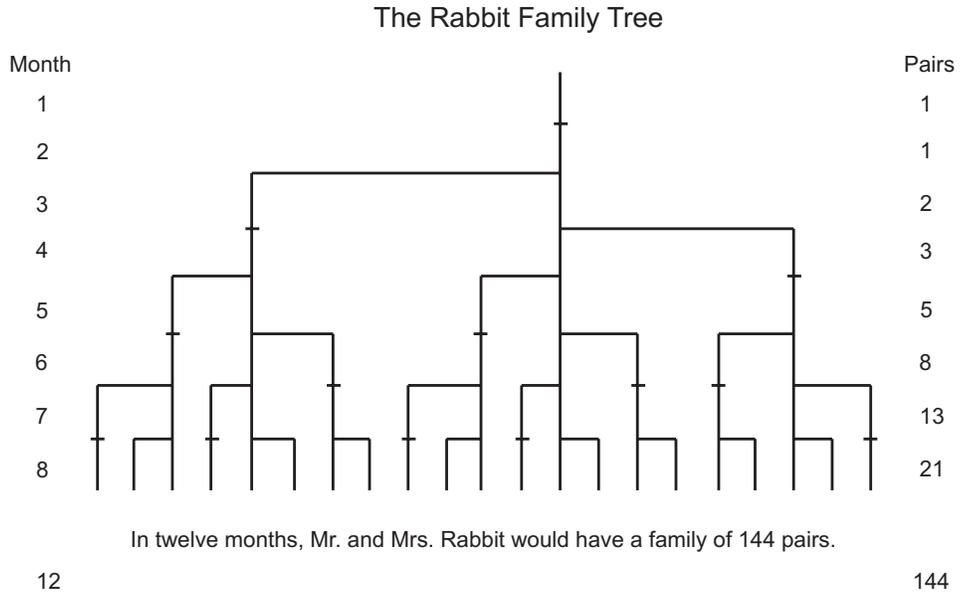


Figure 5-1

Leonardo Fibonacci da Pisa was a thirteenth-century mathematician who posed a question: How many pairs of rabbits placed in an enclosed area can be produced in a single year from one pair of rabbits, if each gives birth to a new pair each month starting with the second month? The answer: 144.

The genius of this simple little question is not found in the answer, but in the pattern of numbers that leads to the answer: 1, 1, 2, 3, 5, 8, 13, 21, 34, 55, 89, and 144. This sequence of numbers represents the propagation of rabbits during the 12-month period and is referred to as the Fibonacci sequence.

## **Fibonacci Ratio Table**

NUMERATOR		1	2	3	5	8	13	21	34	55	89	144	
DENOMINATOR	1	1.00	2.00	3.00	5.00	8.00	13.00	21.00	34.00	55.00	89.00	144.00	→
	2	.50	1.00	1.50	2.50	4.00	6.50	10.50	17.00	27.50	44.50	72.00	↘
	3	.333	.667	1.00	1.667	2.667	4.33	7.00	11.33	18.33	29.67	48.00	↘
	5	.20	.40	.60	1.00	1.60	2.60	4.20	6.80	11.00	17.80	28.80	↘
	8	.125	.25	.375	.625	1.00	1.625	2.625	4.25	6.875	11.125	18.00	↘
	13	.077	.154	.231	.385	.615	1.00	1.615	2.615	4.23	6.846	11.077	↘
	21	.0476	.0952	.1429	.238	.381	.619	1.00	1.619	2.619	4.238	6.857	↘
	34	.0294	.0588	.0882	.147	.235	.3824	.6176	1.00	1.618	2.618	4.235	↘
	55	.01818	.03636	.0545	.0909	.1455	.236	.3818	.618	1.00	1.618	2.618	↘
	89	.011236	.02247	.0337	.05618	.08989	.146	.236	.382	.618	1.00	1.618	↘
	144	.006944	.013889	.0208	.0347	.05556	.0903	.1458	.236	.382	.618	1.00	↘

Towards perfect ratios

Figure 5-2

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The ratio between consecutive numbers in this set approaches the popular .618 and 1.618, the Fibonacci ratio and its inverse. (Relating non-consecutive numbers in the set yields other popular ratios - .146, .236, .382, .618, 1.000, 1.618, 2.618, 4.236, 6.854....)

Since Leonardo Fibonacci first contemplated the mating habits of our furry little friends, the relevance of this ratio has been proven time and time again. From the DNA strand to the galaxy we live in, the Fibonacci ratio is present, defining the natural progression of growth and decay. One simple example is the human hand, comprised of five fingers with each finger consisting of three bones.

In addition to recognizing that the stock market undulates in repetitive patterns, R. N. Elliott also realized the importance of the Fibonacci ratio. In Elliott's final book, *Nature's Law*, he specifically referred to the Fibonacci sequence as the mathematical basis for the Wave Principle. Thanks to his discoveries, we use the Fibonacci ratio in calculating wave retracements and projections today.

### How To Identify Fibonacci Retracements

The primary Fibonacci ratios that I use in identifying wave retracements are .236, .382, .500, .618 and .786. Some of you might say that .500 and .786 are not Fibonacci ratios; well, it's all in the math. If you divide the second month of Leonardo's rabbit example by the third month, the answer is .500, 1 divided by 2; .786 is simply the square root of .618.

There are many different Fibonacci ratios used to determine retracement levels. The most common are .382 and .618. However, .472, .764 and .707 are also popular choices. The decision to use a certain level is a personal choice. What you continue to use will be determined by the markets.

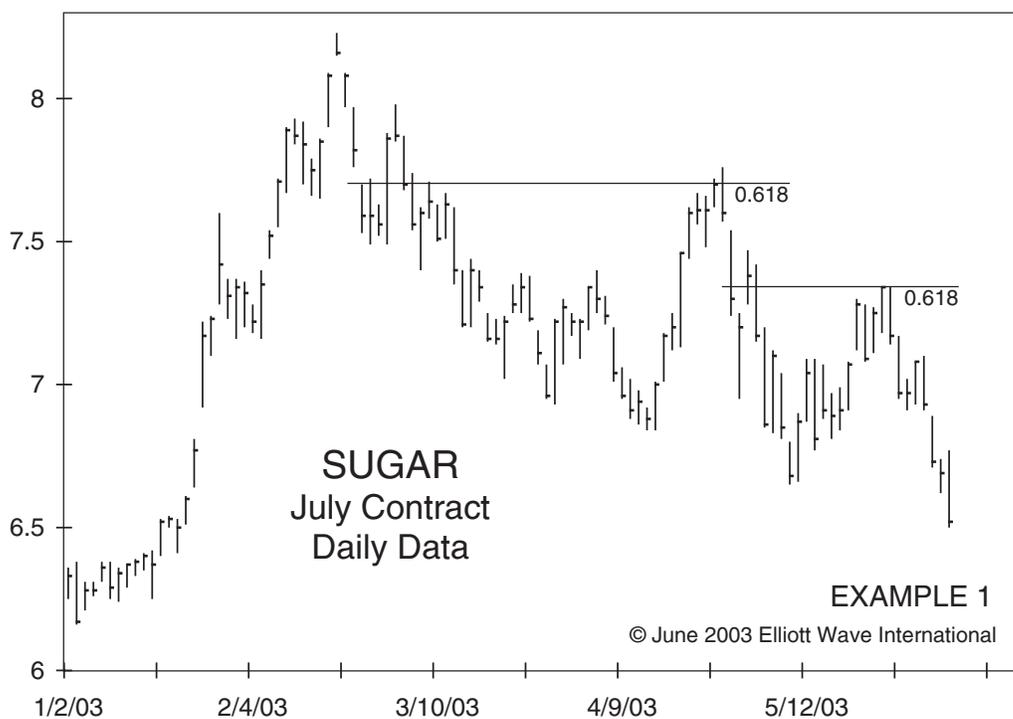


Figure 5-3

The accompanying charts demonstrate the relevance of .236, .382, .500, .618 and .786. It's worth noting that Fibonacci retracements can be used on any time frame to identify potential reversal points. An important aspect to remember is that a Fibonacci retracement of a previous wave on a weekly chart is more significant than what you would find on a 60-minute chart.

With five chances, there are not many things I couldn't accomplish. Likewise, with five retracement levels, there won't be many pullbacks that I'll miss. So how do you use Fibonacci retracements in the real world, when you're trading? Do you buy or sell a .382 retracement or wait for a test of the .618 level, only to realize that prices reversed at the .500 level?

The Elliott Wave Principle provides us with a framework that allows us to focus on certain levels at certain times. For example, the most common retracements for waves two, B and X are .500 or .618 of the previous wave. Wave four typically ends at or near a .382 retracement of the prior third wave that it is correcting.

In addition to the above guidelines, I have come up with a few of my own over the past 10 years. The first is that the best third waves originate from deep second waves. In the wave two position, I like to see a test of the .618 retracement of wave one or even .786. Chances are that a shallower wave two is actually a B or an X wave. In the fourth-wave position, I find the most common Fibonacci retracements to be .382 or .500. On occasion, you will see wave four retrace .618 of wave three. However, when this occurs, it is often sharp and quickly reversed. My rule of thumb for fourth waves is that whatever is done in price, won't be done in time. What I mean by this is that if wave four is time-consuming, the relevant Fibonacci retracement is usually shallow, .236 or .382. For example, in a contracting triangle where prices seem to chop around forever, wave e of the pattern will end at or near a .236 or .382 retracement of wave three. When wave four is proportional in time to the first three waves, I find the .500 retracement significant. A fourth wave that consumes less time than wave two will often test the .618 retracement of wave three and suggests that more players are entering the market, as evidenced by the price volatility. And finally, in a fast market, like a "third of a third wave," you'll find that retracements are shallow, .236 or .382.

In closing, there are two things I would like to mention. First, in each of the accompanying examples, you'll notice that retracement levels repeat. Within the decline from the February high in July Sugar (Figure 5-3), each countertrend move was a .618 retracement of the previous wave. Figure 5-4 demonstrates the same tendency with the .786 retracement. This event is common and is caused by the fractal nature of the markets.

Second, Fibonacci retracements identify high probability targets for the termination of a wave; they do not represent an absolute must-hold level. So when using Fibonacci retracements, don't be surprised to see prices reverse a few ticks above or below a Fibonacci target. This occurs because other traders are viewing the same levels and trade accordingly. Fibonacci retracements help to focus your attention on a specific price level at a specific time; how prices react at that point determines the significance of the level.

[July 2003]

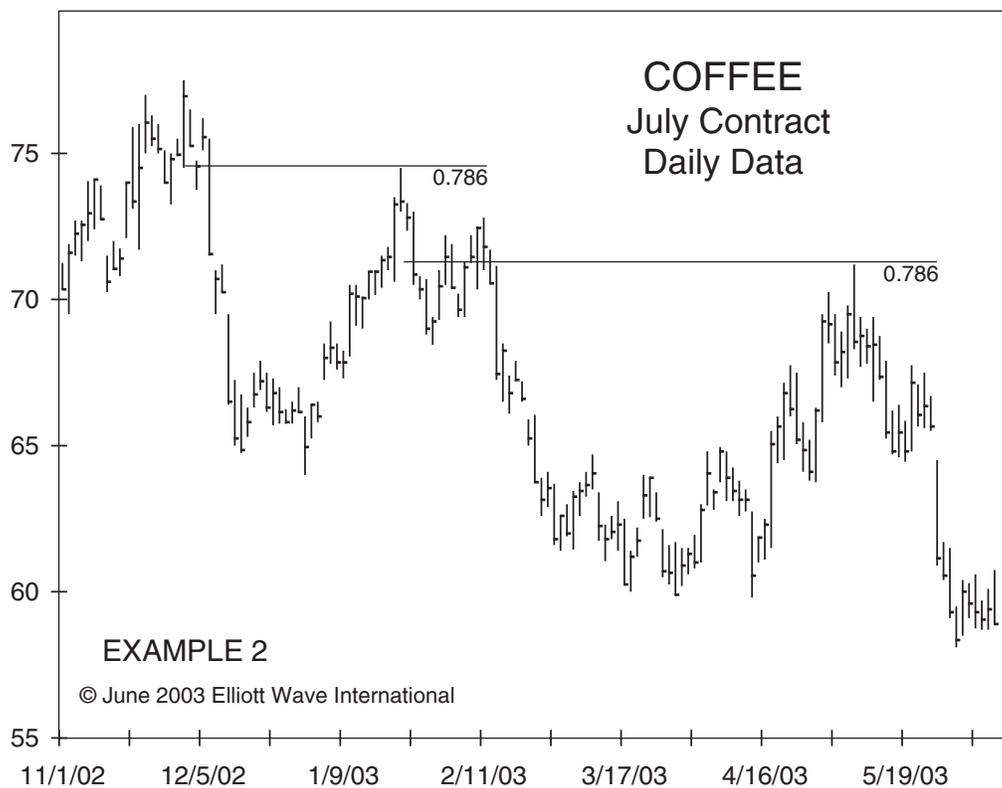


Figure 5-4

## How To Calculate Fibonacci Projections

The Fibonacci ratio isn't just helpful for labeling retracements that have already occurred, it's equally helpful when projecting future market moves.

### Impulse Waves

Beginning with impulse waves three and five, the primary Fibonacci ratios are 1.000, 1.618, 2.618 and 4.236. The most common Fibonacci multiples for third waves are 1.618, 2.618 and least often, 4.236. To calculate a wave-three projection, you take the distance traveled in wave one, multiply it by 1.618, and extend that sum from the extreme of wave two. The result is a high probability target for wave three.

In Figure 5-5, a 1.618 multiple of wave 1 identifies 643 as an ideal objective for wave 3 up from the August low. The wave 3 high came in at 635, moderately below our objective. Sometimes prices will fall short of an objective, while exceeding it at other times. Fibonacci projections and retracements identify highly probable areas or regions of termination, not absolute objectives. Figure 5-6 illustrates a third wave rally that attained a 2.618 multiple of wave 1.

There is little difference between calculating fifth waves and third waves, except that with fifth waves we have more "history," namely in waves one and three. Within a five-wave move, wave three will typically be the "extended" wave, while waves one and five will tend toward equality (see Figure 5-7). So our first Fibonacci ratio is equality (1.000) between waves one and five. When wave five is the extended wave (as is often the case in commodities), wave five will equal a Fibonacci multiple of waves one through three.

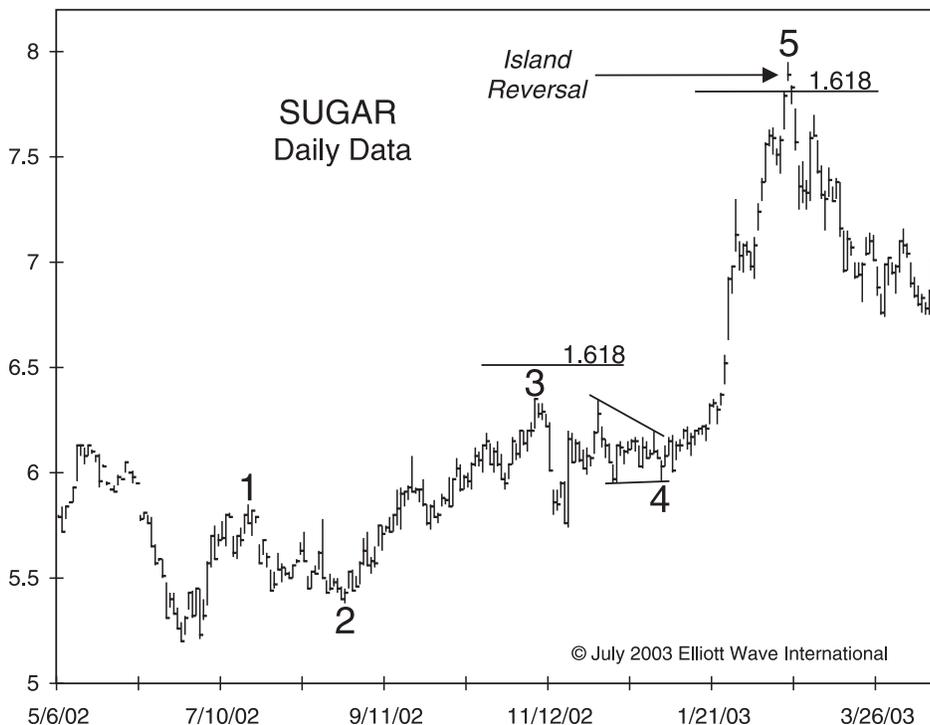


Figure 5-5

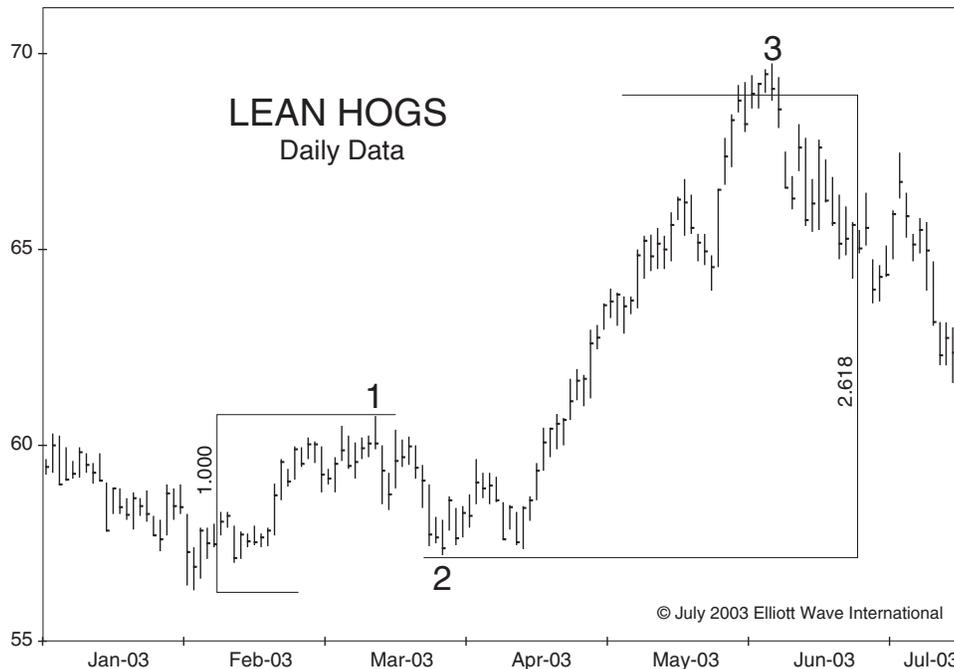


Figure 5-6

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In Figure 5-7, we see that wave 5 was the extended wave within this impulsive sequence and that it pushed moderately above the 1.618 multiple of waves 1 through 3 at 782 before reversing dramatically.

For you die-hard technicians, that lonely little bar at the top of the chart just above 782 (February 20th) is an “island reversal.” (see Figure 5-5). This pattern occurs when the low on a bar is above the previous day’s high, and the high on the following day is below the preceding low. At highs, this chart pattern has a bearish implication, and vice versa at lows. Seeing this traditionally bearish chart pattern—especially when Elliott wave analysis identified a highly probable termination point for wave 5—was a red flag for the ensuing decline.

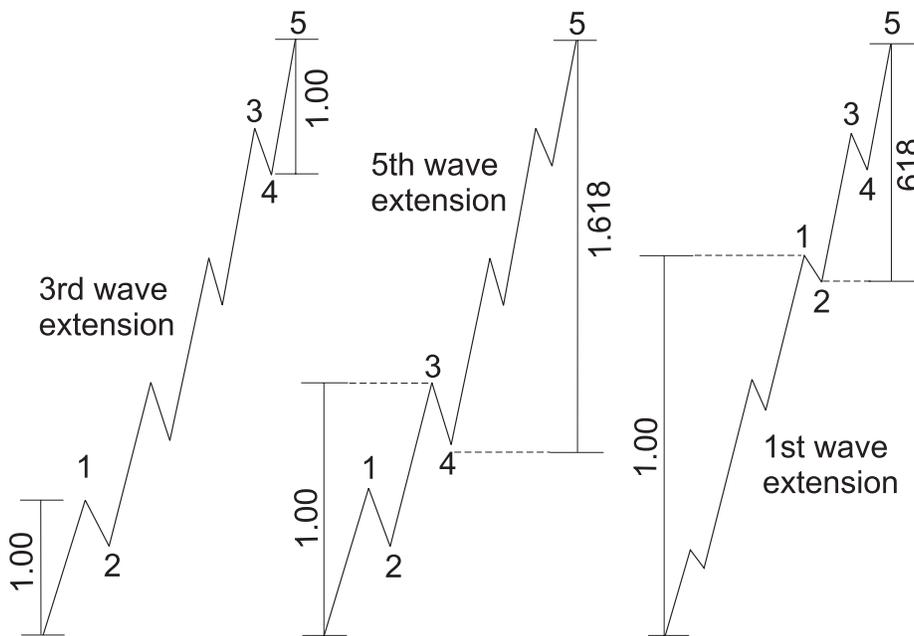


Figure 5-7

When wave one is the extended wave, waves three through five will tend toward a .618 relationship of the distance traveled in wave one.

### Corrective Waves

Corrective patterns fall into three categories: Zigzags, Flats and Triangles. You can project the probable path of Zigzags and Flats using the same method we use for impulsive moves as long as you observe that corrective patterns commonly involve different Fibonacci ratios.

A Zigzag subdivides as 5-3-5. Five waves within wave A, three waves within wave B and five waves within wave C. Normally, waves C and A will tend toward equality, much like waves five and one when wave three is extended (see Figure 5-8). Sometimes you will see wave C equal a 1.382 multiple of wave A or even a 1.618 multiple of wave A. When wave C equals a 1.618 multiple of wave A, and it is indeed a true corrective pattern, it can reflect increased volatility or imply that certain market participants are trying to stop out as many traders as they can before the correction is fully retraced.

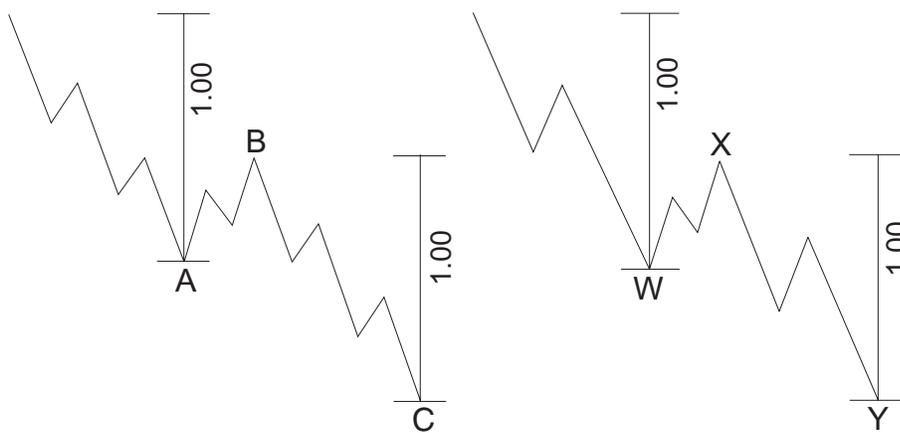


Figure 5-8

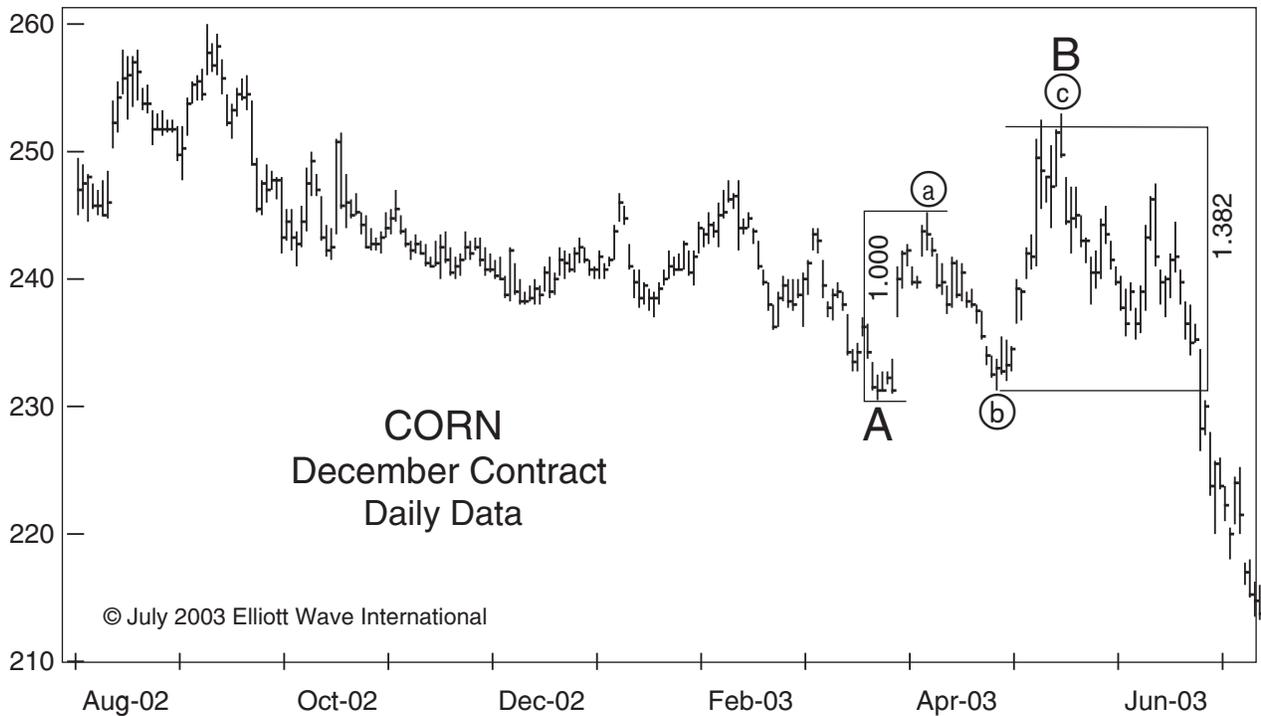


Figure 5-9

Flat corrections subdivide as 3-3-5; waves A and B consist of three waves, and wave C, as always, is made up of five. Within a normal flat correction, each wave tends toward equality. Wave B will end at or near the origin of wave A, and wave C will finish just below the extreme of wave A. In addition to waves A and C tending toward equality, I often find that wave C will equal a 1.382 multiple of wave A (Figure 5-9). An expanded flat correction subdivides just like a normal or regular flat, except that wave B exceeds the origin of wave A. In this case, wave C will equal either a 1.618 multiple of wave A or a .618 multiple of wave A extended from the extreme of wave A (see Figure 5-10).

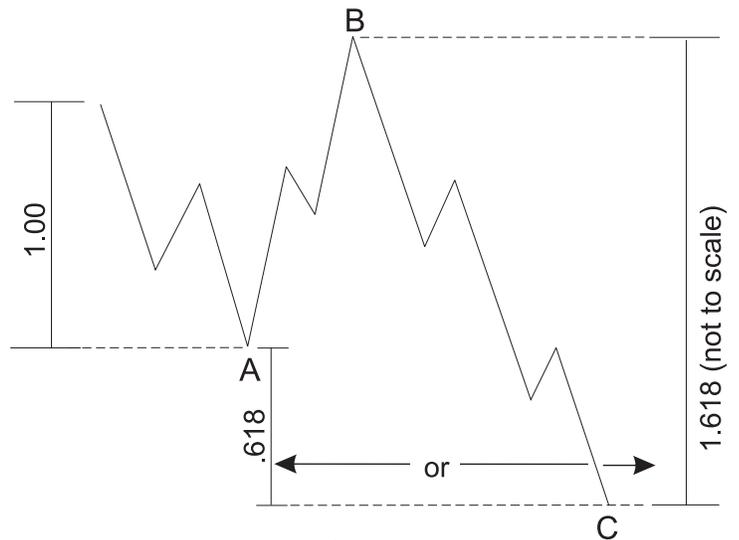


Figure 5-10

Because of the unique way that triangles unfold, you should use Fibonacci retracements, rather than projections, to evaluate price targets for triangle corrections. Typically, alternating waves within a triangle will adhere to a .618 or .786 relationship. For example, waves E, D and C will equal approximately a .618 relationship of waves C, B and A, respectively.

#### Non-traditional Application

So far we have covered the traditional application of Fibonacci ratios to various Elliott wave patterns. A non-traditional approach that uses the previous wave to project the current wave. For example, wave four would be used to calculate wave five or wave B to project wave C. The most significant Fibonacci ratios I have found using this technique are 1.382 and 2.000. To apply this reverse Fibonacci technique, multiply the previous wave by 1.382 or 2.000 and add the sum to

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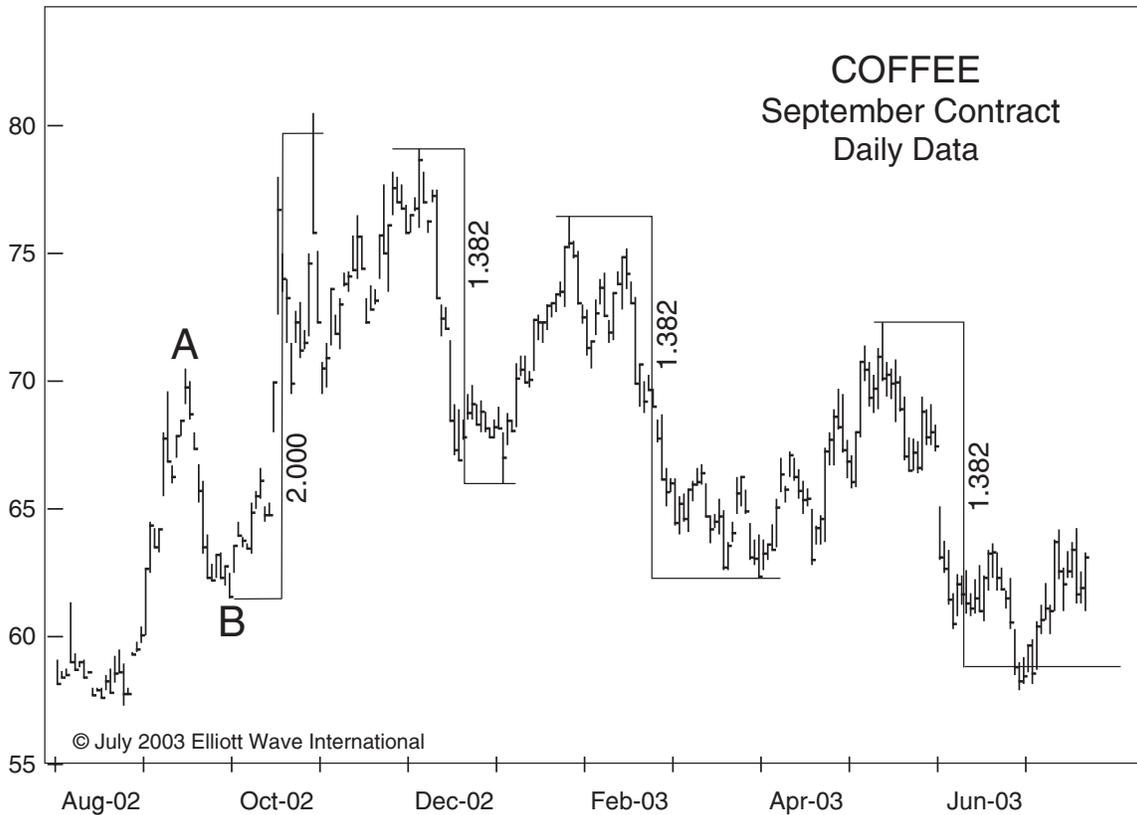


Figure 5-11

the origin of the developing wave. For example, in Figure 5-11, the distance between point A and point B is multiplied by 2.000 and projected upward from point B. The objective for this advance was 7950 while the actual high came in at 8050. As you work your way from left to right, you can see that each significant decline in Coffee since the October 2002 high adhered to a 1.382 multiple of the previous wave.

As Figure 5-11 illustrates, this technique has merit. However, it is presented to illustrate the versatility of Fibonacci and the inherent mathematical nature of markets, and is not a substitute for the traditional method of calculating wave retracements and projections. I use both applications in order to identify concentrations of Fibonacci objectives. As I often mention, the more numerous the Fibonacci relationships, the more significant the identified region or Fibonacci cluster. By combining Fibonacci retracements and Fibonacci projections together, you can truly begin to identify the most highly probable area that prices will react to or strive to attain.

#### More Information

Additional information on the application of Fibonacci ratios and Elliott wave theory can be found in *Elliott Wave Principle: Key to Market Behavior*, by A.J. Frost and Robert Prechter. Even after 10 years of wave counting, I continue to view this book as the definitive work on the subject and reference it often. To learn more about the history of Fibonacci, see *Leonard of Pisa* by Joseph and Frances Gies. Both books are available in the [elliottwave.com](http://www.elliottwave.com) bookstore.

[July 2003]

# How To Apply Fibonacci Math to Real-World Trading

Have you ever given an expensive toy to a small child and watched while the child had less fun playing with the toy than with the box that it came in? In fact, I can remember some of the boxes I played with as a child that became spaceships, time machines or vehicles to use on dinosaur safaris.

In many ways, Fibonacci math is just like the box that kids enjoy playing with imaginatively for hours on end. It's hard to imagine a wrong way to apply Fibonacci ratios or multiples to financial markets, and new ways are being tested every day. Let's look at just some of the ways that I apply Fibonacci math in my own analysis.

## • Fibonacci Retracements

Financial markets demonstrate an uncanny propensity to reverse at certain Fibonacci levels. The most common Fibonacci ratios I use to forecast retracements are .382, .500 and .618. On occasion, I find .236 and .786 useful, but I prefer to stick with the big three. You can imagine how helpful these can be: Knowing where a corrective move is likely to end often identifies high probability trade setups (Figures 7-1 and 7-2).

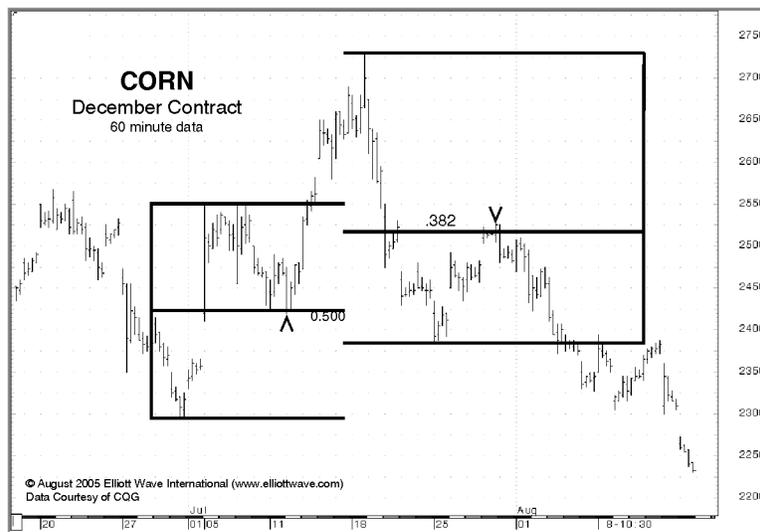


Figure 7-1

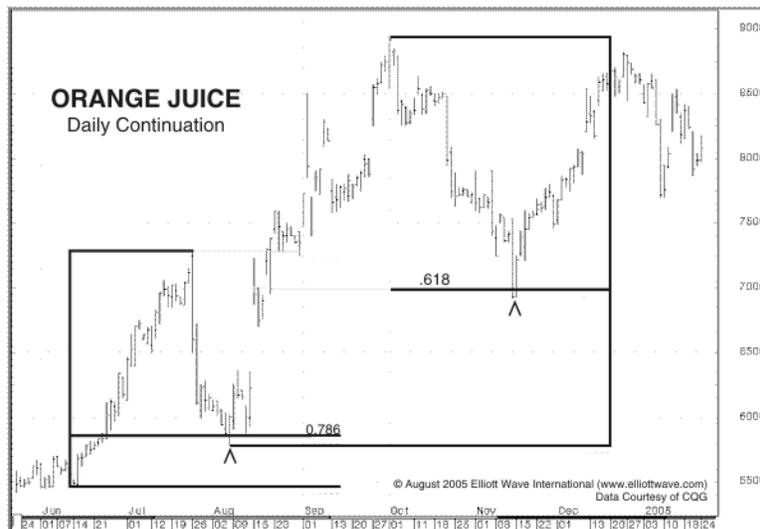


Figure 7-2

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• **Fibonacci Extensions**

Elliotticians often calculate Fibonacci extensions to project the length of Elliott waves. For example, third waves are most commonly a 1.618 Fibonacci multiple of wave one, and waves C and A of corrective wave patterns often reach equality (Figures 7-3 and 7-4).

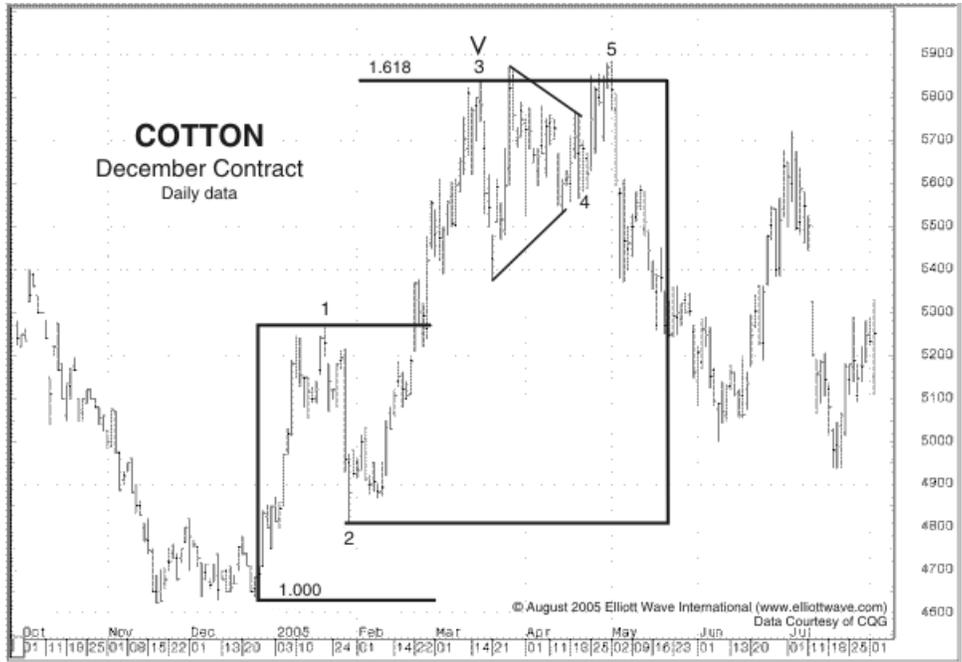


Figure 7-3

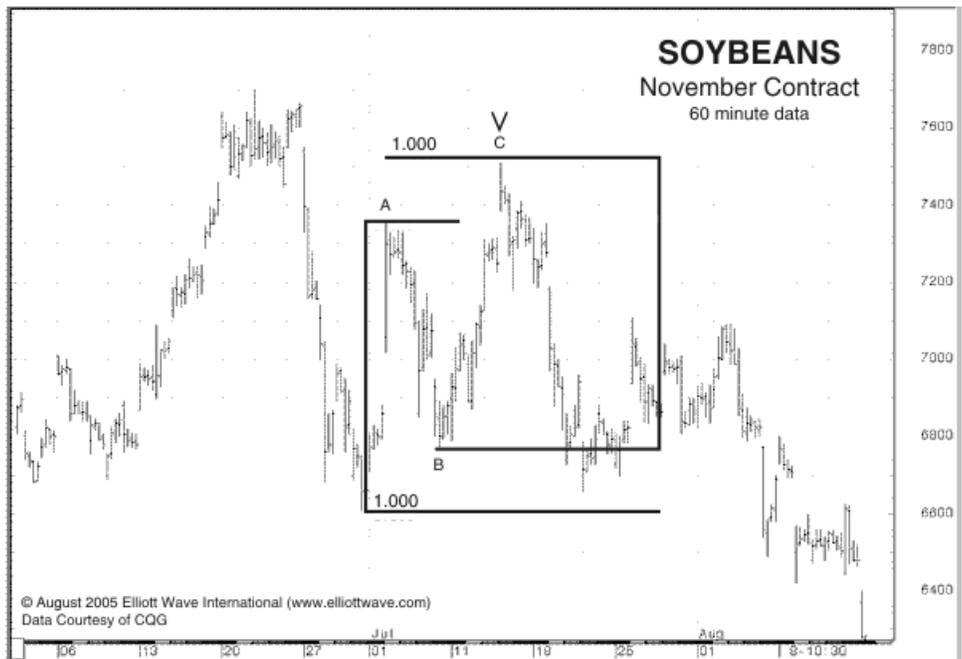


Figure 7-4

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One approach I like and have used for a number of years is a “reverse Fibonacci” application, which uses primarily 1.382 and 2.000 multiples of previous swings to project a price target for the current wave (see Figure 7-5). I have found that this method has a lot of value, especially when it comes to identifying trade objectives.

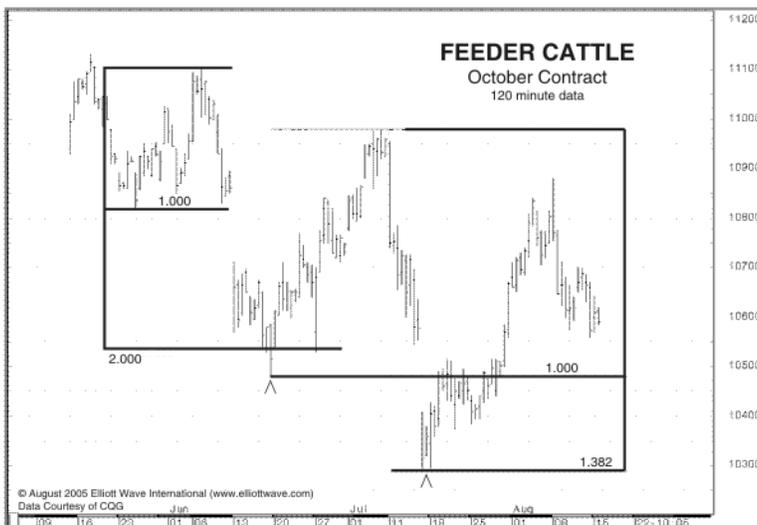


Figure 7-5

• **Fibonacci Circles**

Fibonacci circles are an exciting way to use Fibonacci ratios, because they take into account both linear price measurements and time. Notice in Figure 7-6 how the January 2005 advance in Cotton ended right at the 2.618 Fibonacci circle or multiple of the previous swing. Again in Figure 7-7, we see how resistance created by the 2.618 multiple of a previous swing provided excellent resistance for the February rally in Wheat. Moreover, the arc created by this Fibonacci circle provided solid resistance for price action during July and August of that year as well.

Fibonacci circles are an exciting way to use Fibonacci ratios, but they come with a word of warning: because this technique introduces time into the equation, it is scale-sensitive, meaning that compression data will sometimes distort the outcome.

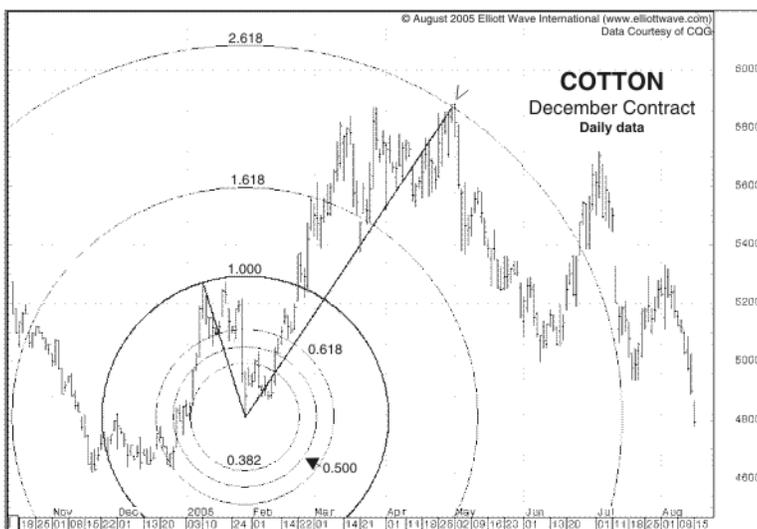


Figure 7-6

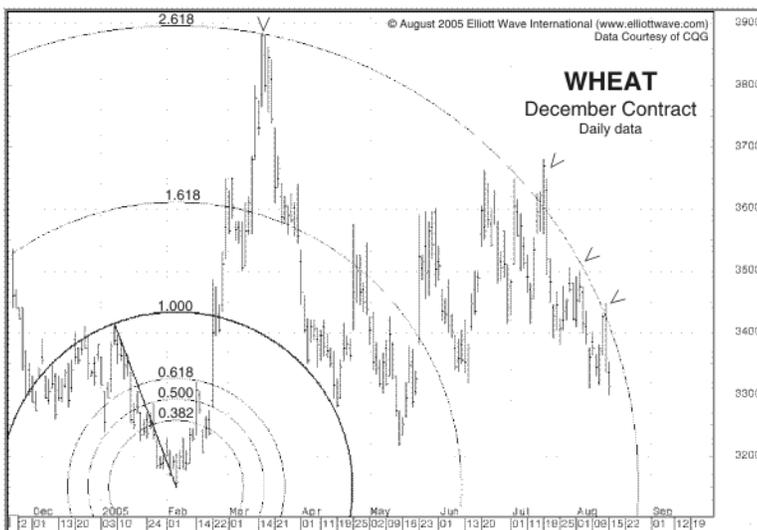


Figure 7-7

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• **Fibonacci Fan**

The Fibonacci fan is another exciting approach using Fibonacci retracements and multiples that involve time. Notice how the .500 Fibonacci fan line in Figure 7-8 identified formidable resistance for Cocoa in June 2005. A Fibonacci fan line drawn from the March and June peaks came into play in July and again in August by identifying support and resistance (i.e., 1.618 and 1.000) (Figure 7-9).



Figure 7-8



Figure 7-9

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**• Fibonacci Time**

And, finally, there is Fibonacci time. Figure 7-10 illustrates probably the most common approach to using Fibonacci ratios to identify turning points in financial markets. As you can see, it simply requires multiplying the distance in time between two important extremes by Fibonacci ratios and projecting the results forward in time. This timing approach identified two excellent selling points in Pork Bellies, one of which was the market’s all-time high, which occurred at 126.00 in May of 2004.

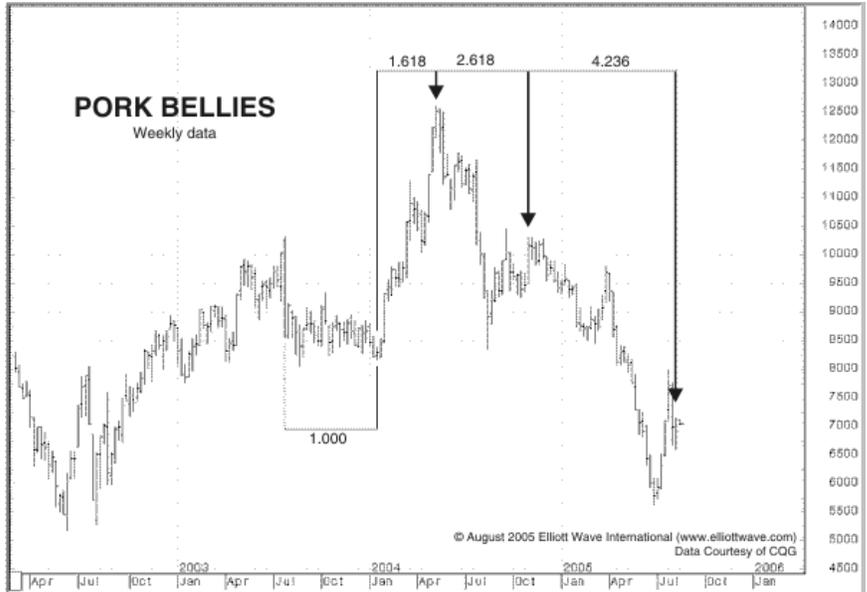


Figure 7-10

Another way to time potential turns in financial markets is to use the Fibonacci sequence itself (i.e., 1, 1, 2, 3, 5, 8, 13, 21, etc.). In Wheat, beginning on March 15, 2005 it is easy to see how this approach successfully identified several significant turns in price (Figure 7-11). Also notice how this methodology points to early October as potentially important. [Editor’s note: Wheat prices made two-month highs with a double top on September 30 and October 12, then fell 14% into late November.]

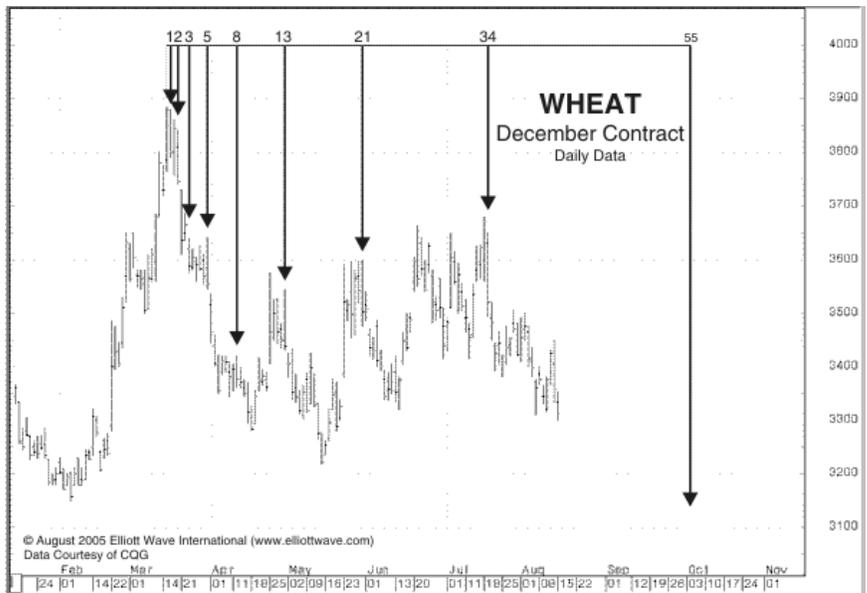


Figure 7-11

A pioneer in the research of Fibonacci relationships in time is Christopher Carolan of Calendar Research. To acquaint yourself with his ground-breaking research into this field, check out his website, [www.calendarresearch.com](http://www.calendarresearch.com).

**Conclusion**

In the end, just as there is no wrong way to play with a box, there is no wrong way to apply Fibonacci analysis to financial markets. What is even more exciting, there are ways of applying Fibonacci to market analysis that haven’t been revealed or discovered yet. So take your Fibonacci box and have fun, and, remember, you are limited only by your imagination. If you find something new, let me know.

[AUGUST 2005]

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## Who Was Fibonacci and Why Is He Famous?

For a brief history on the Fibonacci sequence, here's an excerpt from Section V of *Trader's Classroom Collection: Volume 1* (pp. 20-21):

"Leonardo Fibonacci da Pisa was a thirteenth-century mathematician who posed a question: How many pairs of rabbits placed in an enclosed area can be produced in a single year from one pair of rabbits, if each gives birth to a new pair each month, starting with the second month? The answer: 144.

"The genius of this simple little question is not found in the answer but in the pattern of numbers that leads to the answer: 1, 1, 2, 3, 5, 8, 13, 21, 34, 55, 89, and 144. This sequence of numbers represents the propagation of rabbits during the 12-month period and is referred to as the Fibonacci sequence.

"The ratio between consecutive numbers in this set approaches the popular .618 and 1.618, the Fibonacci ratio and its inverse. (Other ratios that can be derived from non-consecutive numbers in the sequence are: .146, .236, .382, 1.000, 2.618, 4.236, 6.854...)

"Since Leonardo Fibonacci first contemplated the mating habits of our furry little friends, the relevance of this ratio has been proved time and time again. From the DNA strand to the galaxy we live in, the Fibonacci ratio is present, defining the natural progression of growth and decay. One simple example is the human hand, comprising five fingers with each finger consisting of three bones. [Editor's note: In fact, the August 2005 issue of *Science* magazine discusses Fibonacci relationships on the micro- and nano- level.]

"In addition to recognizing that the stock market undulates in repetitive patterns, R.N. Elliott also realized the importance of the Fibonacci ratio. In Elliott's final book, *Nature's Law*, he specifically referred to the Fibonacci sequence as the mathematical basis for the Wave Principle. Thanks to his discoveries, we use the Fibonacci ratio in calculating wave retracements and projections today."

### Note:

Find the rest of this lesson in Volume 1 of *Trader's Classroom Collection*:  
[www.elliottwave.com/subscribers/traders\\_classroom/](http://www.elliottwave.com/subscribers/traders_classroom/)

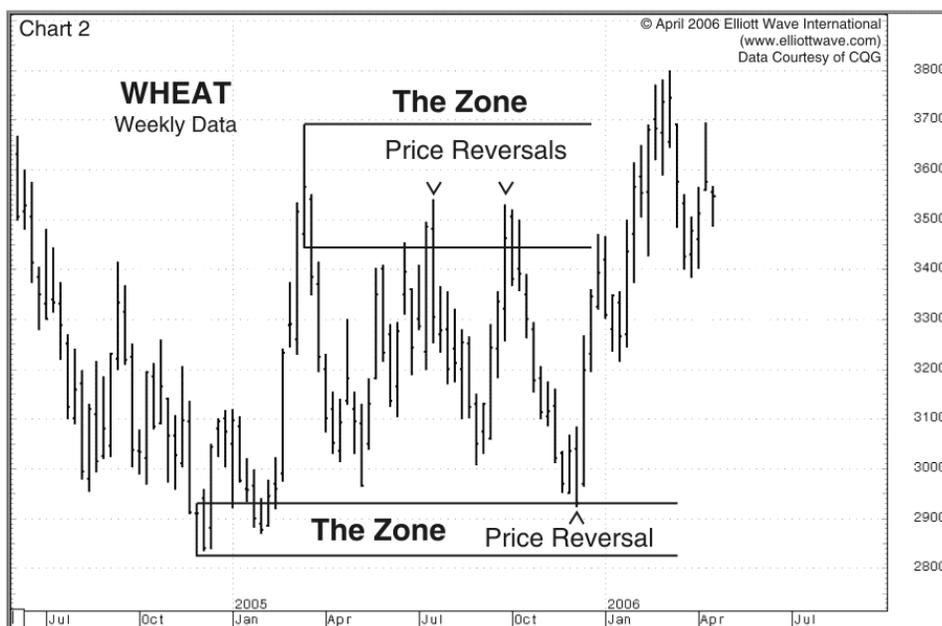
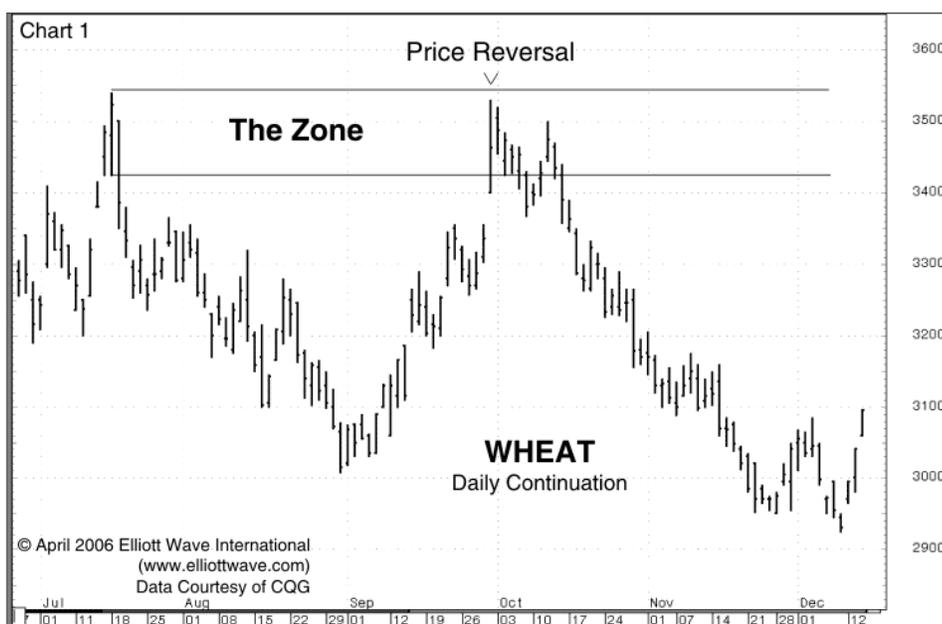
## Trading in the Zone: The Best Place for High-Opportunity Trade Setups

Have you ever had the experience of “being in the zone”? It’s that special place of intense mental focus where it seems that nothing else exists and that you can seemingly do no wrong. Lots of athletes talk about “being in the zone” when they play at their peak. Some people encounter the zone while playing golf or skiing; others, while doing yard work or making a sales call. One of my first experiences with this almost magical place came when I was a kid playing the video game called Pac-Man. Some people talk about “being the ball” when they hit a great shot. Well, there were times when I wasn’t just playing Pac-Man—I was the Pac-Man.

So what does the zone have to do with analysis? In my world, it’s that special place on a price chart that seems to offer frequent high probability trade setups. I call it The Zone. Where do you find The Zone on a price chart? It is the range of the price bar that includes a long-standing price extreme.

Let’s look at Chart 1 (Wheat, daily continuation) to see what I mean. Notice that I drew two horizontal lines from the high and low points of the bar in mid-July 2005. This range is what I call The Zone. The high of this bar, 354, was the highest high in Wheat in a six-month period. As you can see, when prices revisited The Zone between 354 and 343 in late-September 2005, a significant sell off resulted. This is why The Zone of a price chart is so important; it’s where prices often reverse.

To show you how useful and reliable this technique is, I am including two more charts of Wheat on different time frames. In Chart 2, you can see that, once you draw in The Zones on your chart, they can prepare you for reversals. In this case, weekly Wheat offered three distinct trading opportunities (i.e., two shorts and one long).

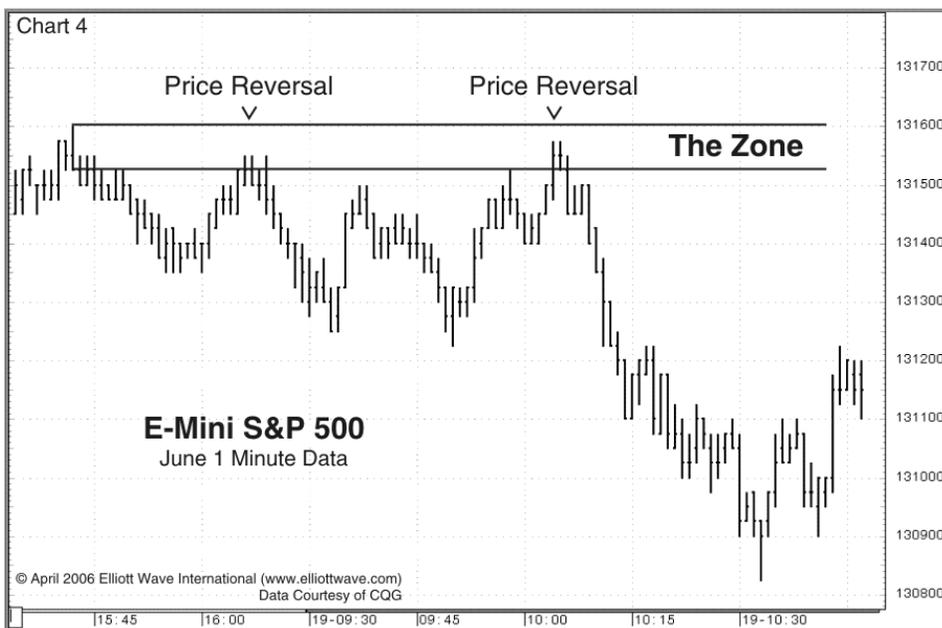
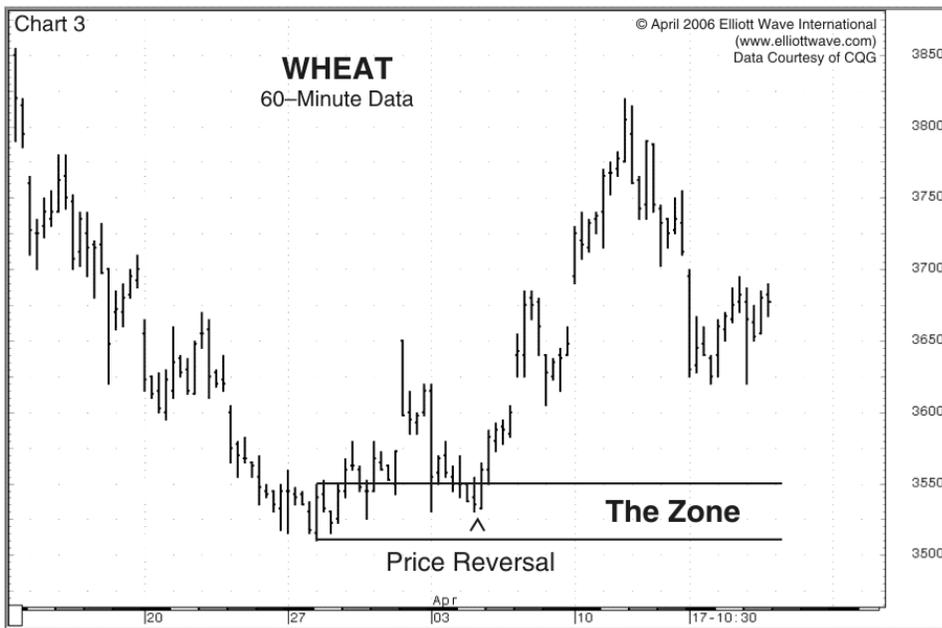


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On the much smaller time frame of 60 minutes, Chart 3 shows that The Zone drawn from the lowest low provided a high probability buy side trade setup.

Chart 4 is even more exciting, because it demonstrates how The Zone applies even on a 1-minute chart. As you can see, The Zone identified two distinct trading opportunities on the 1-minute chart of the E-mini S&P.

Since this column is called Trader’s Classroom, I’ve decided to give each of you some homework this month: Take your favorite market and identify its Zone on intraday, daily, weekly and monthly time frames. By doing this, you’ll be able to identify for yourself where reversals in price are most likely to occur ... and you’ll be in The Zone.



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## Appendix A: A Capsule Summary of the Wave Principle

The Wave Principle is Ralph Nelson Elliott’s discovery that social, or crowd, behavior trends and reverses in recognizable patterns. Using stock market data as his main research tool, Elliott isolated thirteen patterns of movement, or “waves,” that recur in market price data. He named, defined and illustrated those patterns. He then described how these structures link together to form larger versions of those same patterns, how those in turn link to form identical patterns of the next larger size, and so on. In a nutshell, then, the Wave Principle is a catalog of price patterns and an explanation of where these forms are likely to occur in the overall path of market development.

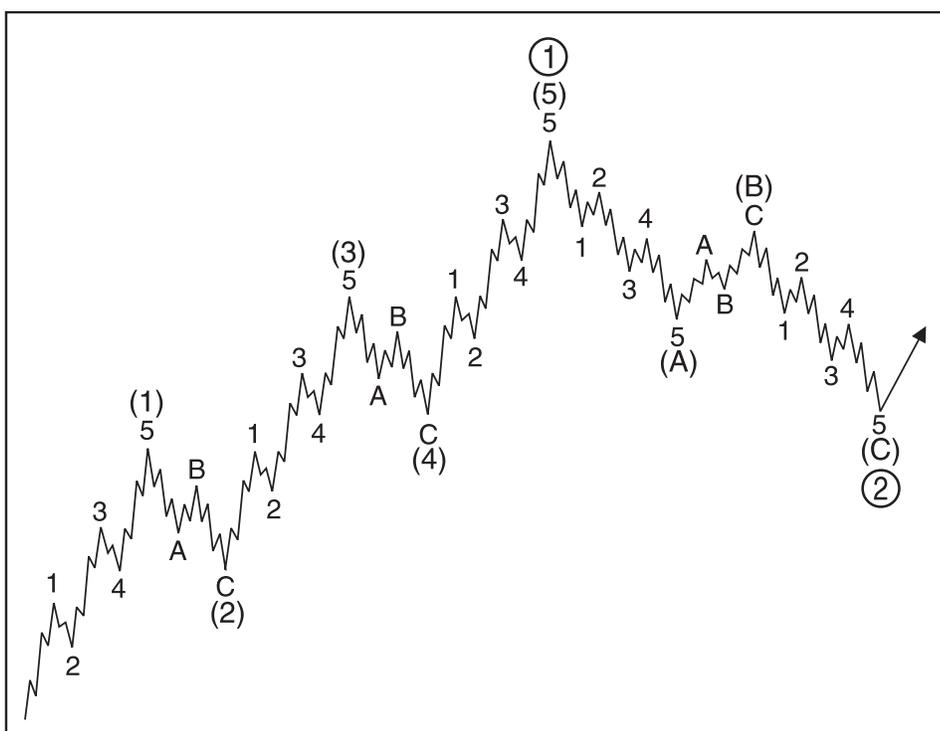
### Pattern Analysis

Until a few years ago, the idea that market movements are patterned was highly controversial, but recent scientific discoveries have established that pattern formation is a fundamental characteristic of complex systems, which include financial markets. Some such systems undergo “punctuated growth,” that is, periods of growth alternating with phases of non-growth or decline, building fractally into similar patterns of increasing size. This is precisely the type of pattern identified in market movements by R.N. Elliott some sixty years ago.

The basic pattern Elliott described consists of impulsive waves (denoted by numbers) and corrective waves (denoted by letters). An impulsive wave is composed of five subwaves and moves in the same direction as the trend of the next larger size. A corrective wave is composed of three subwaves and moves against the trend of the next larger size. As Figure A-1 shows, these basic patterns link to form five- and three-wave structures of increasingly larger size (larger “degree” in Elliott terminology).

In Figure A-1, the first small sequence is an impulsive wave ending at the peak labeled 1. This pattern signals that the movement of one larger degree is also upward. It also signals the start of a three-wave corrective sequence, labeled wave 2.

Waves 3, 4 and 5 complete a larger impulsive sequence, labeled wave (1). Exactly as with wave 1, the impulsive structure of wave (1) tells us that the movement at the next larger degree is upward and signals the start of a three-wave corrective downtrend of the same degree as wave (1). This correction, wave (2), is followed by waves (3), (4) and (5) to complete an impulsive sequence of the next larger degree, labeled wave ①. Once again, a three-wave correction of the same degree occurs, labeled wave ②. Note that at each “wave one” peak, the implications are the same regardless of the size of the wave. Waves come in degrees, the smaller being the building blocks of the larger. Here are the accepted notations for labeling Elliott wave patterns at every degree of trend (see Figure A-2):



*Figure A-1*

Wave Degree	5s With the Trend					3s Against the Trend		
Grand Supercycle	Ⓘ	Ⓜ	Ⓝ	Ⓧ	Ⓟ	ⓐ	ⓑ	ⓒ
Supercycle	(I)	(II)	(III)	(IV)	(V)	(a)	(b)	(c)
Cycle	I	II	III	IV	V	a	b	c
Primary	Ⓛ	Ⓜ	Ⓝ	Ⓧ	Ⓟ	Ⓐ	Ⓑ	Ⓒ
Intermediate	(1)	(2)	(3)	(4)	(5)	(A)	(B)	(C)
Minor	1	2	3	4	5	A	B	C
Minute	⓲	⓳	⓴	⓵	⓶	ⓐ	ⓑ	ⓒ
Minuette	(i)	(ii)	(iii)	(iv)	(v)	(a)	(b)	(c)
Subminuette	i	ii	iii	iv	v	a	b	c

Figure A-2

Within a corrective wave, waves A and C may be smaller-degree impulsive waves, consisting of five subwaves. This is because they move in the same direction as the next larger trend, i.e., waves (2) and (4) in the illustration. Wave B, however, is always a corrective wave, consisting of three subwaves, because it moves against the larger downtrend. Within impulsive waves, one of the odd-numbered waves (usually wave three) is typically longer than the other two. Most impulsive waves unfold between parallel lines except for fifth waves, which occasionally unfold between converging lines in a form called a “diagonal triangle.” Variations in corrective patterns involve repetitions of the three-wave theme, creating more complex structures that are named with such terms as “zigzag,” “flat,” “triangle” and “double three.” Waves two and four typically “alternate” in that they take different forms.

Each type of market pattern has a name and a geometry that is specific and exclusive under certain rules and guidelines, yet variable enough in other aspects to allow for a limited diversity within patterns of the same type. If indeed markets are patterned, and if those patterns have a recognizable geometry, then regardless of the variations allowed, certain relationships in extent and duration are likely to recur. In fact, real world experience shows that they do. The most common and therefore reliable wave relationships are discussed in *Elliott Wave Principle*, by A.J. Frost and Robert Prechter.

### Applying the Wave Principle

The practical goal of any analytical method is to identify market lows suitable for buying (or covering shorts), and market highs suitable for selling (or selling short). The Elliott Wave Principle is especially well suited to these functions. Nevertheless, the Wave Principle does not provide certainty about any one market outcome; rather, it provides an objective means of assessing the relative probabilities of possible future paths for the market. At any time, two or more valid wave interpretations are usually acceptable by the rules of the Wave Principle. The rules are highly specific and keep the number of valid alternatives to a minimum. Among the valid alternatives, the analyst will generally regard as preferred the interpretation that satisfies the largest number of guidelines and will accord top alternate status to the interpretation satisfying the next largest number of guidelines, and so on.

Alternate interpretations are extremely important. They are not “bad” or rejected wave interpretations. Rather, they are valid interpretations that are accorded a lower probability than the preferred count. They are an essential aspect of investing with the Wave Principle, because in the event that the market fails to follow the preferred scenario, the top alternate count becomes the investor’s backup plan.

### **Fibonacci Relationships**

One of Elliott's most significant discoveries is that because markets unfold in sequences of five and three waves, the number of waves that exist in the stock market's patterns reflects the Fibonacci sequence of numbers (1, 1, 2, 3, 5, 8, 13, 21, 34, etc.), an additive sequence that nature employs in many processes of growth and decay, expansion and contraction, progress and regress. Because this sequence is governed by the ratio, it appears throughout the price and time structure of the stock market, apparently governing its progress.

What the Wave Principle says, then, is that mankind's progress (of which the stock market is a popularly determined valuation) does not occur in a straight line, does not occur randomly, and does not occur cyclically. Rather, progress takes place in a "three steps forward, two steps back" fashion, a form that nature prefers. As a corollary, the Wave Principle reveals that periods of setback in fact are a requisite for social (and perhaps even individual) progress.

### **Implications**

A long-term forecast for the stock market provides insight into the potential changes in social psychology and even the occurrence of resulting events. Since the Wave Principle reflects social mood change, it has not been surprising to discover, with preliminary data, that the trends of popular culture that also reflect mood change move in concert with the ebb and flow of aggregate stock prices. Popular tastes in entertainment, self-expression and political representation all reflect changing social moods and appear to be in harmony with the trends revealed more precisely by stock market data. At one-sided extremes of mood expression, changes in cultural trends can be anticipated.

On a philosophical level, the Wave Principle suggests that the nature of mankind has within it the seeds of social change. As an example simply stated, prosperity ultimately breeds reactionism, while adversity eventually breeds a desire to achieve and succeed. The social mood is always in flux at all degrees of trend, moving toward one of two polar opposites in every conceivable area, from a preference for heroic symbols to a preference for anti-heroes, from joy and love of life to cynicism, from a desire to build and produce to a desire to destroy. Most important to individuals, portfolio managers and investment corporations is that the Wave Principle indicates in advance the relative magnitude of the next period of social progress or regress.

Living in harmony with those trends can make the difference between success and failure in financial affairs. As the Easterners say, "Follow the Way." As the Westerners say, "Don't fight the tape." In order to heed these nuggets of advice, however, it is necessary to know what is the Way, and which way the tape. There is no better method for answering that question than the Wave Principle.

To obtain a full understanding of the Wave Principle including the terms and patterns, please read *Elliott Wave Principle* by A.J. Frost and Robert Prechter, or take the free *Comprehensive Course on the Wave Principle* on the Elliott Wave International website at [www.elliottwave.com](http://www.elliottwave.com).

# THE BEST OF TRADER'S CLASSROOM

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Elliott Wave International, Inc.

For information, address the publisher:

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Post Office Box 1618

Gainesville, Georgia 30503 USA

[www.elliottwave.com](http://www.elliottwave.com)

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The Elliott Wave Principle is a detailed description of how markets behave. The description reveals that mass investor psychology swings from pessimism to optimism and back in a natural sequence, creating specific patterns in price movement. Each pattern has implications regarding the position of the market within its overall progression, past, present and future. The purpose of this publication and its associated service is to outline the progress of markets in terms of the Elliott Wave Principle and to educate interested parties in the successful application of the Elliott Wave Principle. While a reasonable course of conduct regarding investments may be formulated from such application, at no time will specific recommendations or customized actionable advice be given, and at no time may a reader or caller be justified in inferring that any such advice is intended. Readers must be advised that while the information herein is expressed in good faith, it is not guaranteed. Be advised that the market service that never makes mistakes does not exist. Long-term success in the market demands recognition of the fact that error and uncertainty are part of any effort to assess future probabilities.

**Please note:** *In commodities, continuation chart wave counts often are not the same as the daily chart wave counts. This can be because different crop years are represented on each chart, or simply because a daily chart begins its life much higher than the current month to reflect carrying charges (or even much lower because a near term "shortage" is not expected to last until it becomes the lead contract). Of course, what happens on the nearby daily chart does have to make sense within the context of what is unfolding on the continuation charts.*