

# Elite Trader's Secrets

Market Forecasting with the New Refined Elliott Wave Principle

Pattern Recognition System

*By Rich Swannell*

For the first time since its discovery in the 1930's, The Elliott Wave Principle has been statistically analyzed, verified, refined and improved. The strengths of Elliott have been verified, the weaknesses identified and corrected. The result is a more powerful and accurate market-forecasting tool than ever before available.

If you are serious about taking money out of the markets, you need this critical information.

"I wouldn't trade without it" - *Sam Bleecker*

"The analysis and direction that may happen is right most all the time." - *William Witt*

"The number of profitable trades I've made has more than doubled!" - *Al Biddinger*

"It's superior technical analysis." - *Jonathan Ravelas*

"It is often uncanny in its accuracy." - *Paul Holliman*

"A very accurate forecasting tool. Very helpful to understand what to trade and when." - *Elias Louca*

"A decade of gains in a fraction of the time." - *John Cody*

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## **About the Author**

Rich Swannell taught himself to program computers using a book – before he had ever seen a computer. It wasn't until he lost a lifetime's savings in the crash of '87 that he took a serious interest in technical analysis of the markets and then, some time later, the Elliott Wave Principle.

Using his unique ability to create problem-solving computer algorithms and his experience in the markets, Rich was able to produce the world's first computer software to analyze price data by all the rules and guidelines of the Elliott Wave Principle.

Using the distributed processing power of several thousand computers on an Internet grid, Rich and his team have since conducted the first ever-comprehensive analysis of each tenet of the Wave Principle.

Rich is passionate about developing and improving the Elliott Wave Principle, and is also heavily involved in philanthropic work in Third World countries.

## **Dedication**

Just down the road and around the corner, a small, black, emaciated girl stumbles alone through the darkness. Racked by hunger, thirst and disease, she peers through infected, tear-stained eyes into a world of pain and hopelessness.

Desperately she scavenges through refuse on bleeding feet in the vain hope of finding something... anything... edible - to help fill the emptiness. Naked and abandoned, this innocent child will die in silence tonight without experiencing a single act of love or compassion in a world that does not seem to care.

And then her tiny body will become food for starving pigs and rabid howling dogs.

I know this child. I've searched the world for her, and her sister, and her brother. I've held her in my arms. I've looked deeply into her soft, brown, trusting eyes.

I've seen her soul.

This book, our research, my company, and indeed my life, are dedicated to breaking the poverty cycle for her and all those many other precious children like her who have no voice.

Rich Swannell  
Trader, Entrepreneur, Philanthropist  
[www.hebronorphanage.org](http://www.hebronorphanage.org)

## **Acknowledgements**

Our development of the Elliott Wave Principle has only been made possible by the dedication of Robert Prechter, A.J. Frost and the great R. N. Elliott himself. If it were not for each of these heroes, I would have little to contribute.

## Introduction

Our latest discoveries are redefining the Wave Principle as a statistically sound market-forecasting tool.

Since the 1940's, when R. N. Elliott discovered patterns within the price charts of liquid markets - the result of mass human emotion, flowing from hope to fear, and back again - the Elliott Wave Principle has been the subject of constant controversy. It has been said that, if you were to place ten Elliott Wave technicians in a room to discuss the Elliott forecast on single chart, you would get at least twelve opinions - and possibly a considerable amount of bloodletting.

If even the best Elliott experts can't agree on a single chart, what chance does a trader have of being able to use the Elliott Wave Principle as a reliable forecasting tool?

Finding an answer to this question has taken me more than a decade.

This all-consuming quest has taken me around the world many times to work with some of the greatest minds in the industry. It has required hundreds of thousands of hours of computer programming, and the analysis of millions of charts. It has required the formation of a dedicated research team to collate a database of millions of Elliott Wave patterns and market forecasts. It has even required the help of many thousands of traders gifting their unused computer time to this extensive project so that our software could compare millions of these forecasts with subsequent real market action – and determine their accuracy.

The results may surprise you. They certainly surprised us.

We have discovered, through undeniable statistical evidence, that the most common Elliott Wave patterns are often significantly different in shape and frequency than previously understood. Up until now, all understanding of the Elliott Wave Principle was simply

the result of personal observation – herein lies the fundamental problem: human nature will tend to see what it expects to see. Elliott experts so often disagree with each other because, I believe, they have different opinions on the relative frequency and most common shapes of the various Elliott Wave patterns. These differences in understanding result in different labeling of the various patterns found within a chart.

The only way I could find to reliably solve this "human observation distortion" factor was to statistically analyze a large quantity of current charts, find the Elliott Wave patterns and document every one.

I am now delighted to report that, after nearly a decade of work on this project, the results are refining and redefining the Elliott Wave Principle into an even more accurate market forecasting tool.

Our statistical analysis has now uncovered the truth about the most common pattern shapes, their relative frequency, and even the likelihood of each market forecast being correct.

We have now proved statistically that the new "Refined" Elliott Wave Principle gives an undeniable forecasting advantage when trading liquid markets. We can even tell you the probability of each forecast being correct - a world-first in technical analysis of stocks and commodities - and the Elliott Wave Principle.

You can use the Refined Elliott Wave Principle to better and more reliably forecast any liquid market - and therefore increase your trading profits.

## **A Confession**

I need to make a confession ...

Until recently, I didn't know whether I could continue operating my company, Elliott Wave Research.

For more than a decade it has been my all-consuming passion to contribute to Elliott Wave Pattern Recognition technology in a very real way – technology that gives traders a truly measurable and distinct trading advantage when attempting to forecast future market movement.

To this end, I have devoted my career to the research and refinement of the leading pattern recognition technology – the Elliott Wave Principle.

We have discovered that Elliott Wave patterns change shape dependent on the time frame, market type (equities are different to commodities), and market direction. We have discovered that pattern shapes found in price data are not random. We have even discovered Fibonacci ratios in the relationships of Elliott Wave patterns.

But up until recently, one thing was still missing, one final “litmus test”. A test that would finally prove the usefulness of the technology we had so painstakingly developed.

This final test would prove once and for all whether the Refined Elliott Wave Principle was a valuable forecasting tool.

Remarkably, in the 70 years since R. N. Elliott discovered price patterns in price movements of liquid markets, no one has ever proved statistically whether or not the Elliott Wave Principle gives a trader a better-than-random chance of forecasting future market movement.



This was because, until now, no one had ever developed the necessary computer software or had sufficient computer power to identify a statistically significant number of tests to validate or invalidate the theory.

Until now ...

We were the first people, in the history of the Elliott Wave Principle, who had the software, resources and technology to carry out this investigation.

For me, the decision to go ahead and carry out this final test was a little like going to the doctor to be checked out for a suspected terminal illness. What if the result is bad? Would it be better not to know?

The test was relatively simple. We would analyze a large quantity of charts containing data up until about a year ago, including the most traded stocks and commodities in the U.S.A. We would then compare every forecast with the subsequent market movement – and determine how often (or not) the forecast was correct.

However, that would only be the first half of the final test. Any forecast is going to be correct some of the time – by pure random chance. We needed to determine the random probability of each forecast being correct, and compare our results using real market data.

Therefore, we would need to carry out the exact same analysis on random walk data (simulated chart data created with random number generators), and compare the results with real data.

As you could imagine, we were expecting that our forecasts on real market data would be correct more often than the forecasts created on random data. If so, the difference between the real and the random would be the actual, verifiable, measurable trading edge our technology could give a trader. Analysis of these “random walk” charts would be the statistical control group.

But what if our forecasts on real data were correct no more often than the forecasts using random data? If this were the result, then our technology, and a decade of work, would be proven worthless.

Although I firmly believed from the feedback of our clients that our forecasts were giving traders a real edge, we had no statistically verifiable proof. Our hope was that this final test would provide us with the evidence we had been looking for. However, and this was a big “however”, if the results were not favorable, it would also give us statistically verifiable and undeniable proof that our technology was totally worthless.

For weeks, and even months, I procrastinated. I found other “more important” tasks to complete. I postponed – I was terrified. What if the results showed that, for all the years of work, research and results, our technology did not give a trader a real advantage? What would I do? What were the implications for us, our team, our clients, and even the future of the Elliott Wave Principle?

Of course, I could possibly decide to cover up any bad results by simply telling no one – and carry on regardless. However, such a course of action would be totally against everything I believe in. In all integrity, I could not do it and still sleep soundly.

If the results were to prove unfavorable, to remain honest and true to my clients and myself, I would need to close my company down.

But what about our thousands of clients who use our software every day to make trading decisions? They had purchased the software in good faith that we would continue to support it. How could I close the company and do the right thing by them? Should we offer their money back?

Difficult questions.

So days turned into weeks, then into months, while I considered the options.

Finally, in a desperate bid to overcome the fear of potential failure and all its implications, I wrote the following letter to myself, printed it in large type, and placed it prominently on my office wall:

### Rich's Creed

I will do whatever it takes to determine once and for all if Elliott has a legitimate place in the world of technical analysis. I will follow my quest - to contribute to the Elliott Wave Principle - whatever may come. I will complete what I have worked so hard and so long to develop. And as a final "litmus test", I will honestly compare our best Refined Elliott Wave results with those of random walk data.

If I prove that our Refined Elliott Wave Principle is of value - real value, not contrived - I will take it to the trading community. I will take it to the scientific community. I will teach it in the journals. I will teach it to the masses. I will be the ambassador for the new Refined Elliott Wave Principle.

But if I find that it has no real value, I will discard it, and close down Elliott Wave Research to pursue something else of real value. I will find a way to do the right thing by my clients. I will neither let business nor profit persuade me from being totally and transparently honest with our findings.

So, to this end, let me discover the truth about Elliott, our new Refined Elliott, act with integrity, and pursue our findings - whatever they may be - with conviction, commitment and enthusiasm.

So be it.

I then commenced the final test.

Two months later I stood with my research team as we nervously watched the results of a million forecasts emerge from our bank of computers.

The final results?

*This is what we found:*

The higher the rating value of a pattern (the closer the pattern approximated the most commonly occurring Elliott Wave pattern shape), the more probable the forecast was of being correct. In contrast, when analyzing random walk data, the rating value had no bearing on the probability of the forecast being correct.

Except in one case only, for every wave of every Elliott Wave pattern where it is possible to make a forecast, the real data is more likely to give a correct forecast than random data. The random probability of a forecast being correct on a given wave is, let's say, an average of 45%, while the probability on a real market forecast for the same wave may be an average of 80%. Real probabilities ranged up to four times more likely than random.

We checked, and then double-checked the results.

**And The Implications Are:**

The implications of this research are profound - for the first time in history, the Refined Elliott Wave Principle has been statistically proven.

These forecast accuracy probabilities have now been placed into our Elliott Analysis software – to give an exact probability of each forecast being correct – a world-first for technical analysis of stocks and commodities.

We are also trading our personal and corporate funds using this technology – with good success.

So, in accordance with the creed I wrote months ago, I now commit to the following:

I will take it to the trading community. I will take it to the scientific community. I will teach it in the journals. I will teach it to the masses. I will be the ambassador for the new Refined Elliott

Wave Principle. To this end, let me act with conviction, commitment, integrity and enthusiasm.

So be it.

We have news. We have very good news for all traders of stocks and commodities - the Elliott Wave Principle is alive and well. We have statistically proven its strengths, identified and corrected its weaknesses, and the result is an exceptionally accurate market analysis method and forecasting tool.

Please join with us in sharing the benefits of years of research into the Elliott Wave Principle, and use this technology to increase your trading profits.

## **Basic Tenets of the Elliott Wave Principle**

Since the Elliott Wave Principle was discovered by its founder, R.N. Elliott, in the 1930's and 1940's, it has since gained wide acceptance as a legitimate market analysis and forecasting tool.

The Wave Principle, as it is sometimes called, is a detailed description of how groups of people behave. It shows that mass psychology swings from pessimism to optimism, and back again, in a natural sequence, creating specific measurable patterns.

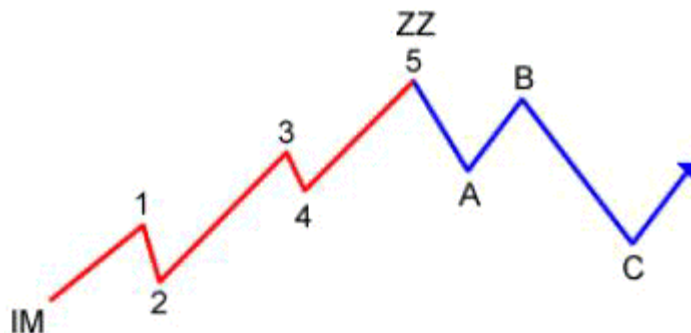
One of the most obvious places to see this phenomenon in action is in the financial markets, where changing investor psychology is recorded in the form of price movement. Using stock market data as his main research tool, R. N. Elliott isolated eleven patterns of movement, or "waves," that recur in market price data.

He named, defined and illustrated those patterns. He then described how these patterns 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.

The Wave Principle is a catalog of price patterns and an explanation of where they are likely to occur in the overall path of market development.

The markets often undergo periods of growth, alternating with phases of non-growth or decline, building fractally into similar patterns of increasing size.

The Elliott Wave Principle shows that the markets move in five wave patterns with the larger trend, then pull back in three - or five - wave corrections, before continuing with the larger trend.



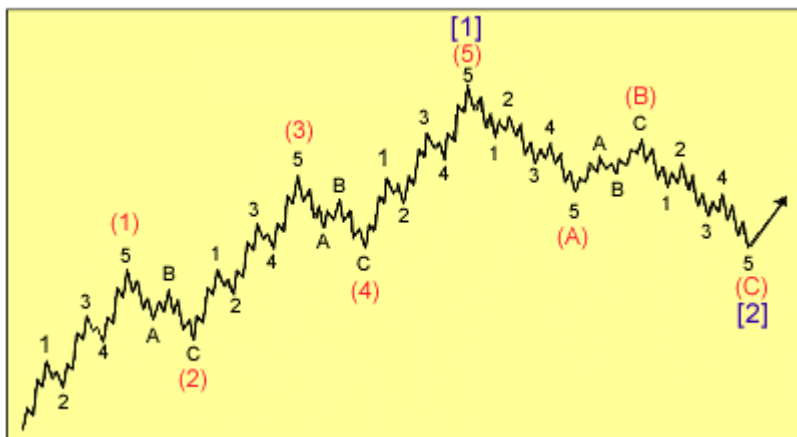
*The market moves up in five waves, then pulls back, before continuing with the larger trend.*

Patterns moving with the larger trend are always five wave patterns, and are labeled with the numbers 1-2-3-4-5. Patterns moving against the larger trend are generally three-wave patterns, but can be either three - or five - wave patterns, and are labeled with letters.

An impulsive wave is composed of five sub-waves and moves in the same direction as the trend of the next larger size.

A corrective wave is usually composed of three sub-waves and moves against the trend of the next larger size.

As the diagram shows, these basic patterns link to form five-wave and three-wave structures of increasingly larger size (larger "degree" in Elliott terminology).



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. Within a corrective wave, Waves A and C may be smaller-degree impulsive waves, consisting of five sub-waves.

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 sub-waves, because it moves against the larger downtrend.

Variations in corrective patterns involve repetitions of the three-wave theme, creating more complex structures with names such as, "Zigzag," "Flat," "Triangle" and "Double Sideways."

Each type of market pattern has a name and a structure that is specific under Elliott Wave rules and guidelines, yet variable enough in other aspects to allow for limited diversity within patterns of the same type.



For a particular pattern to be verified as an Elliott Wave, all its **rules** must be obeyed precisely. In contrast, its **guidelines** do not have to be strictly obeyed. However, when market movement can be interpreted in two or more ways according to the rules, the pattern obeying the most guidelines, or most important guidelines, is preferred. This pattern becomes known as the preferred count and has the highest probability of being correct.

It is important to understand that patterns of all degrees are operating in the market at the same time. Because they interact continually, they will never appear exactly as they did in the past.

The Elliott technician is concerned with probabilities. The Wave Principle does not show us the future with absolute certainty; it allows us to see what is likely to happen. As the market unfolds, waves can distort, probabilities can change and target ranges will need to be altered. This is a normal day at the office for an Elliott technician.

## **Liquidity**

Liquid markets are, by definition, traded by a large crowd of traders. Although it is nearly impossible to determine what a single trader will do, it is possible to determine the statistical probability of what a large crowd of traders will do. Mass crowd psychology comes into play, the result of mass human emotion as it swings from fear to hope, and back again.

Liquidity is essential for consistent Elliott Wave behavior. Stocks such as those on the S&P or NASDAQ and currencies, for example, show strong and dependable Elliott Wave patterns. These markets are driven by mass psychology, or human emotion. No one trader, institution, or government can manipulate these markets. They are truly liquid, driven by supply and demand.

Conversely, thinly traded markets, such as speculative stocks or commodities, do not show consistent Elliott behavior. This is also

the reason why markets that are manipulated by a few large traders, institutions or governments - such as Gold futures - are often poor candidates for Elliott analysis.

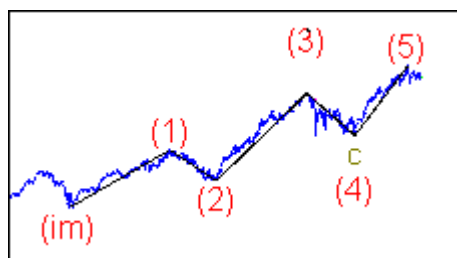
## Brief Overview of Each of the Eleven Elliott Wave Patterns

### Impulsive or Motive Waves - Moving with the Larger Trend

Impulsive or Motive waves are always moving with the larger trend, consist of five waves, and are labeled 1-2-3-4-5.

#### Impulse: (IM)

An Impulse is a five-wave pattern, labeled 1-2-3-4-5, moving in the direction of the larger trend.



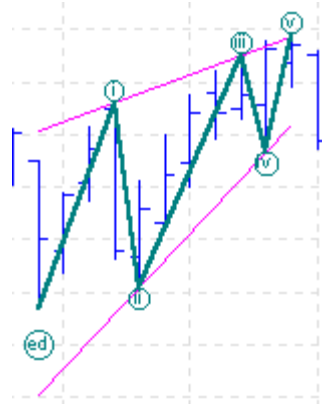
*Impulse*

#### Diagonal – also known as a Diagonal Triangle: Leading (LD) and Ending (ED)

A Diagonal is a common 5-wave Motive pattern, labeled 1-2-3-4-5, that moves with the larger trend. Diagonals move within two contracting channel lines drawn from Waves 1 to 3, and from Waves 2 to 4.

There exist two types of Diagonals: Leading Diagonals (LD) and Ending Diagonals (ED). They have a different internal structure and are seen in different positions within the larger degree pattern.

Ending Diagonals are much more common than Leading Diagonals.



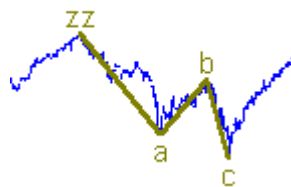
*Ending Diagonal*

### Corrective Waves - Moving Against the Larger Trend

Corrective patterns are either 3 - or 5 - wave patterns, labeled with letters, and move against the larger trend.

#### Zigzag:

A Zigzag is a 3-wave structure labeled A-B-C, generally moving counter to the larger trend. It is one of the most common corrective Elliott patterns.



*Zigzag*

#### Double and Triple Zigzags (DZ and TZ):

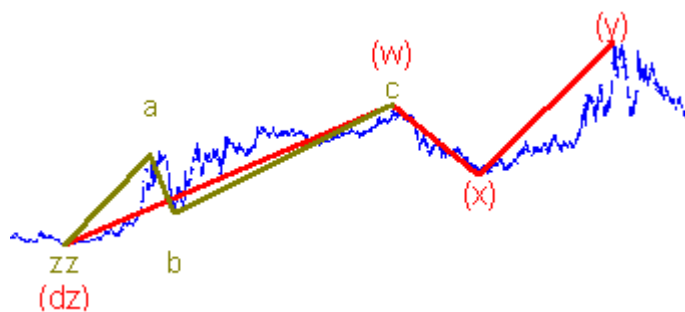
Double and Triple Zigzags are similar to Zigzags and are typically two or three Zigzag patterns strung together with a joining wave called an “x” wave. They are corrective in nature.

Triple Zigzags are rare.

Zigzags, Double Zigzags and Triple Zigzags are also known as Zigzag family patterns, or “Sharp” patterns.

Double Zigzags are labeled w-x-y, while Triple Zigzags are labeled w-x-y-xx-z.

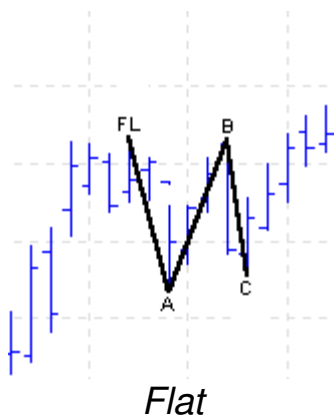
Only a Double Zigzag is illustrated below.



*Double Zigzag*

### **Flat (FL):**

A Flat is a three-wave pattern, labeled A-B-C, that moves mostly sideways. It is corrective, counter-trend and is a very common Elliott pattern.



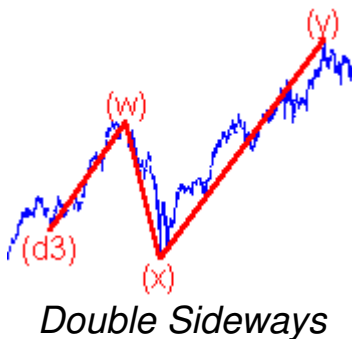
### Double and Triple Sideways:

Double and Triple Sideways patterns (also known as Double 3's and Triple 3's) are similar to Flats, and are typically two or three corrective patterns strung together with a joining wave, called an "x" wave. They are all corrective in nature.

Triples are rare.

Doubles are labeled w-x-y, while Triples are labeled w-x-y-xx-z.

Only a Double Sideways is illustrated below.



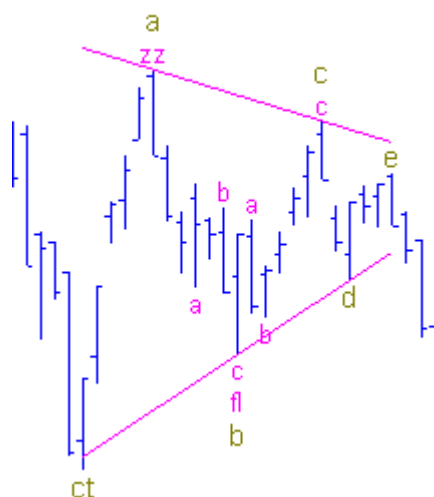
### Triangle (CT and ET):

A Triangle is a common 5-wave corrective pattern, labeled A-B-C-D-E, that moves counter-trend.

Triangles move within two channel lines drawn from Waves A to C, and from Waves B to D.

A Triangle is either Contracting (CT) or Expanding (ET) depending on whether the channel lines are converging or expanding.

Expanding Triangles are rare.



*Contracting Triangle*

### **Degree or Time Frame:**

An Elliott pattern may span minutes, days, years or even centuries. To indicate the approximate time span of an Elliott pattern, it is labeled with one of ten possible “degrees”.

- 0) Submicro** – minutes to hours
- 1) Micro** - hours to days
- 2) Subminuette** - days to weeks
- 3) Minuette** - days to months
- 4) Minute** - weeks to months

- 5) **Minor** - weeks to quarters
- 6) **Intermediate** - months to quarters
- 7) **Primary** - months to years
- 8) **Cycle** - quarters to years
- 9) **Supercycle** - years
- 10) **Grand Supercycle** – decades or longer

Every Elliott Wave pattern is, in itself, the building block of a larger Elliott pattern, also known as the “next larger degree”.



## Research Results

As a trader and investor, I set out a decade ago to answer two critical questions:

1. Do the world's stocks and commodities markets display any regular price pattern movements?
2. And if they do, can these patterns help me take more money out of the market?

Over the years I have purchased, dissected and studied every trading system I have been able to obtain. I've invested significant sums of money purchasing trading systems, and then spent years programming computers to determine the resulting theoretical profitability of each. By trading what looked to be the best performing systems, I found, to my disappointment, that very few trading system work consistently in real world markets - no matter how good they look in theory.

Many trading systems show consistent theoretical profits. However, because of slippage and gaps in thinly traded markets, I found that my profit margins tended to drop dramatically when trading real money.

Of all the trading systems and theories I've studied, the Elliott Wave Principle made particular sense to me as a logical method of predicting trader psychology. The Wave Principle defines common patterns found in the price data of liquid markets. By identifying the beginning of common Elliott patterns, it is possible to calculate the probability of those patterns completing and thus, where and when the market is likely to change direction.

However, I was dismayed to discover how frequently my Elliott Wave forecasts were incorrect! Noting Elliott's forecasting failures established my ongoing commitment to study real market data and to find the most accurate forecasting system possible.

Again and again I would find verifiable Elliott Wave patterns within real market data. Yet it seemed that very few of them were similar in shape to what most Elliott technicians would regard as “typical” Elliott patterns. It bothered me just how rarely I found the so-called “common” Elliott patterns in real price data.

Another aspect of the Elliott Wave Principle which concerned me was that the entire market analysis and forecasting system has been based on and developed entirely by “personal” observation, rather than objective statistical analysis. Any human observer is going to be affected to some degree by his or her preconceived beliefs about what they are looking for.

It is contended that this is the primary reason different expert Elliott technicians can have such radically different views on the market outlook – which has resulted in undue criticism of the Wave Principle by outside observers.

### **From Theory to Science**

So I determined it was time to develop the Elliott Wave Principle from a theory based on personal observation to a science based on consistent, statistical and mathematical analysis.

But how could that be achieved?

Firstly, I needed to create a computer program that would accurately identify Elliott Wave patterns in price data. This had never been done before – probably because of the inherent complexity of the Wave Principle. So for the next eight years I worked with a small team of highly competent computer programmers. I also consulted extensively with the leaders in Elliott Wave technology. The resulting quarter of a million lines of computer code more accurately found Elliott patterns according to the many rules and guidelines of the Wave Principle than any other software program.

In order to help fund this ongoing research into the Elliott Wave Principle, I made the software, known as The Elliott Wave Analyzer, available to other traders. It contained the most accurate Elliott analysis available – a valuable asset for any trader. This Elliott analysis engine was the perfect vehicle to achieve my quest – to develop the Elliott Wave Principle from a theory to a statistically verifiable science.

My Elliott engine was designed to find Elliott Wave patterns within chart data, and to sort them according to predefined “guidelines” so as to identify the most “common” Elliott patterns. The more closely the “fit” of real market patterns with identifiable “common” Elliott patterns the more likely these “fits” will complete in predictable ways, and thus serve to forecast future market movement with the greatest probability of being correct.

However, in many cases these guidelines completely relied on and were wholly determined by personal observation. Essentially, these subjective guidelines were elevated to “mythical” status by some Elliott proponents and under laid the entire foundation of Elliott Wave forecasting. To transcend this fundamental flaw and to take Elliott from the realm of myth to the realm of science, we needed a scientific method for testing Elliott guidelines against real world data, and of generating a new list of field-tested and proven objective guidelines.

But we had a problem.

Pattern recognition requires enormous computer processing power. Even if we had hundreds of computers, it would still take decades to create a large enough database of Elliott patterns to give us the statistically significant data we needed to refine the Elliott Wave Principle.

To solve this problem, I created a screen-saver that included a new Elliott engine designed to find any pattern that obeyed the basic tenets of the Elliott Wave Principle – no matter how obscure or unlikely. This screen saver would gather up all such patterns and

send me the details over the Internet. Every pattern would be added to an Elliott database.

I then invited my clients and their associates to join with me in this study by installing my screen-saver. Thousand of our clients have been contributing their unused computer processor time to this study, and the results have been astounding.

By using this Elliott Wave database, we are now able to redefine what a common Elliott pattern really looks like, based on statistical analysis of current real world market data. This is a world-first for the Elliott Wave Principle.

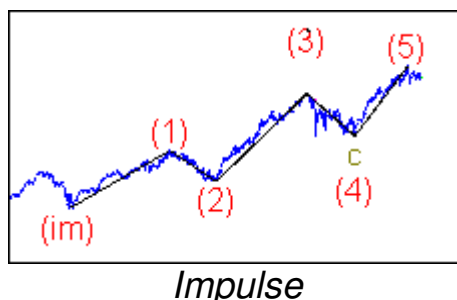
It is important to note that we have worked entirely within the basic tenets of the Elliott Wave Principle. We have accurately redefined the most common shapes of Elliott patterns. We have not changed the Wave Principle, but simply made it statistically testable, objective and, ultimately, much more accurate.

We are now able to define every facet of the Elliott Wave Principle – based on solid verifiable statistical data and analysis. No more opinions. No more conjectures. No more arguments. Just facts.

In time, I believe traders will rediscover the Elliott Wave Principle and view it in an entirely new light.

Now that we have a scientific method of determining every facet of the Elliott Wave Principle, and an Elliott Wave database that grows daily, our understanding of the Elliott Wave Principle is becoming more accurate because of the sheer fact that we are able to access more and more statistics based on real-world patterns.

Let me give you an example of how this works:



An Impulse pattern is made up of five waves, or moves. Each wave is labeled at its end.

The Elliott Wave Principle defines the primary aspects of an Impulse wave as:

1. Wave 2 does not fall below the starting price of Wave 1.
2. Wave 3 is not the shortest wave by price movement when compared to Wave 1 and Wave 5.
3. Wave 4 does not overlap the range of Wave 2.

The Elliott Wave Principle states that once this five-wave pattern is complete, the market will retrace (drop back in price) somewhere between 1% and 100% of its climb.

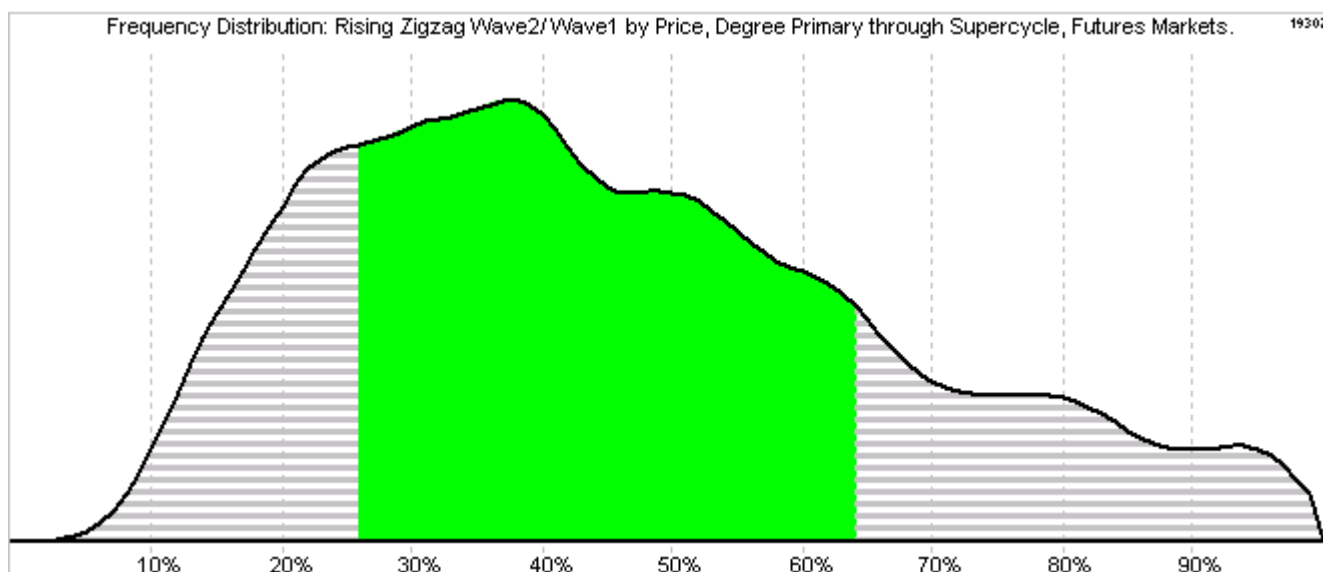
### **Seashells, Spiral Galaxies and Price Patterns in Market Data**

Elliott Waves can, at times, show a close connection to the Fibonacci sequence, where each number is the sum of the two previous numbers. This produces an infinite series of numbers: 1, 1, 2, 3, 5, 8, 13, 21, and so on. Fibonacci ratios are commonly found in nature, such as within the structure of spiral galaxies and seashells.

An Elliott technician will expect the most likely retracement to be ratios found when comparing adjacent numbers in the Fibonacci sequence – such as 38%, 50%, 62% and so on.

When we examine every rising long-term commodities based Zigzag pattern in our Elliott Wave database, and graph the

frequency of Wave 2 divided by Wave 1 by price, we find results that look like this:



*Wave 2 on Wave 1 by Price*

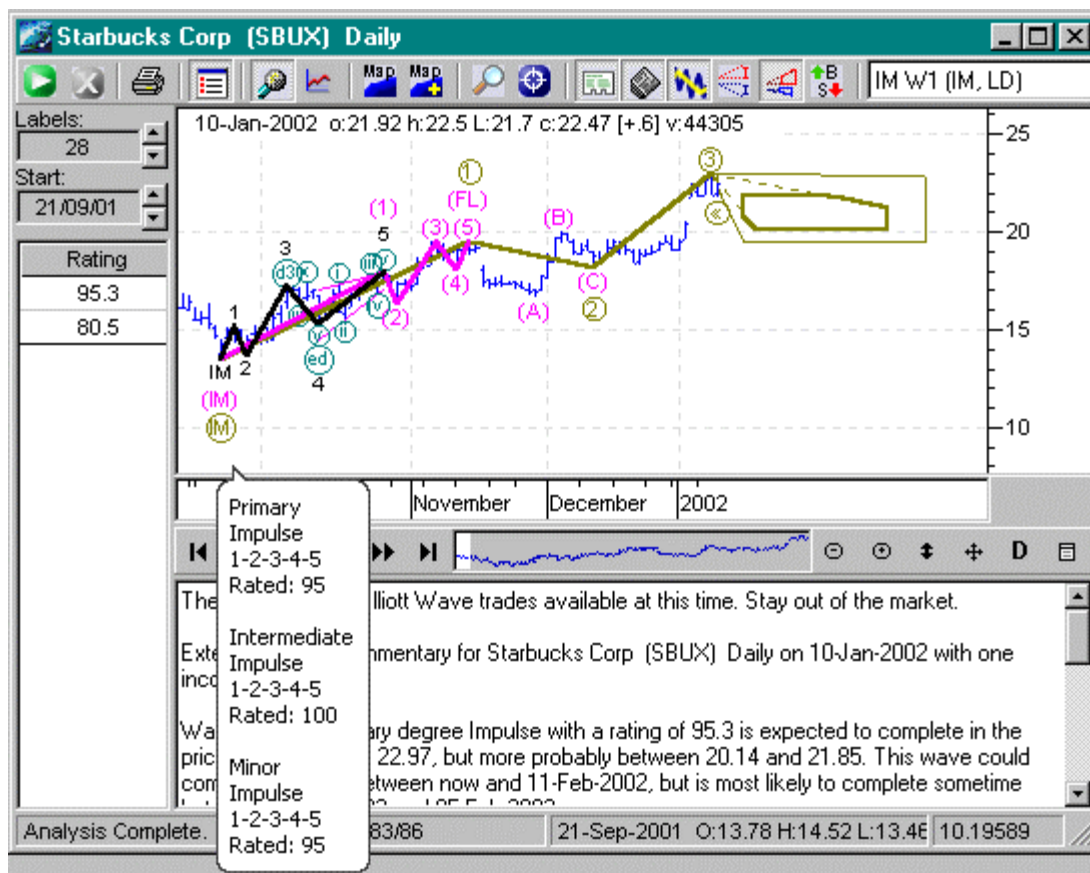
As you can see from this frequency histogram, the most common Wave 2 retracement is about 38% - a common Fibonacci ratio.

### **Predictive Power of Each Elliott Wave**

The second phase of our research was to check the predictive power of each wave of each Elliott pattern.

Forecasting the markets is achieved by identifying an incomplete Elliott Wave and calculating the area in price and time where the pattern is most likely to complete.

To research this we ran the Elliott Wave Analyzer over one year-old (or older) price charts – including the most heavily traded stocks on the U.S. exchanges. The software then made a forecast - being a market prediction in price and time.



*Example output of the Elliott Wave Analyzer software when forecasting the likely conclusion of an incomplete pattern.*

Then we checked what the market did after the analysis, and whether the software's forecast was proven correct or incorrect by the subsequent market movement.

Statistical analysis was prepared, comparing results by market, by time frame, by pattern "fit" (how closely the pattern resembles the most common shape for that market and time frame), and by each wave within each Elliott Wave pattern.

To our amazement, we found a wide diversity in forecasting accuracy. Forecasts based on some patterns were incredibly accurate, while others were of little or no forecasting use.

It then occurred to us that there was an inherent random probability of a forecast being correct. What was this probability? We didn't know.

So we set out to calculate it accurately.

This was eventually achieved by creating hundreds of thousands of simulated price charts that looked like stocks or commodities charts, but were created by random number algorithms rather than crowd psychology. The Elliott Wave Analyzer then analyzed these charts and forecasts were created. We then checked to see how often the random price movement moved into the forecasted area. The results become the control group, or random probability of the forecast being correct.

The forecasted results on real data were then checked against the random data and in nearly every case, the forecasts using real data were superior to the forecast accuracy using random data. In only one case were the forecasted results no better than the control.

This proved, once again, that the Elliott Wave Principle is of great value to the trader.

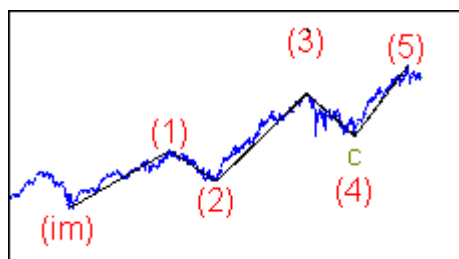
Our research and statistical analysis has now uncovered the truth about the most common pattern shapes, their relative frequency, and even the reliability of each market forecast being correct.

We have now proven statistically that this new *Refined* Elliott Wave Principle can give an undeniable forecasting advantage when trading liquid markets.

Any trader willing to learn to apply this new technology can use the Refined Elliott Wave Principle to better and more reliably forecast any liquid market – and therefore increase their trading profits.



## Impulses – the Fundamental Elliott Wave Pattern

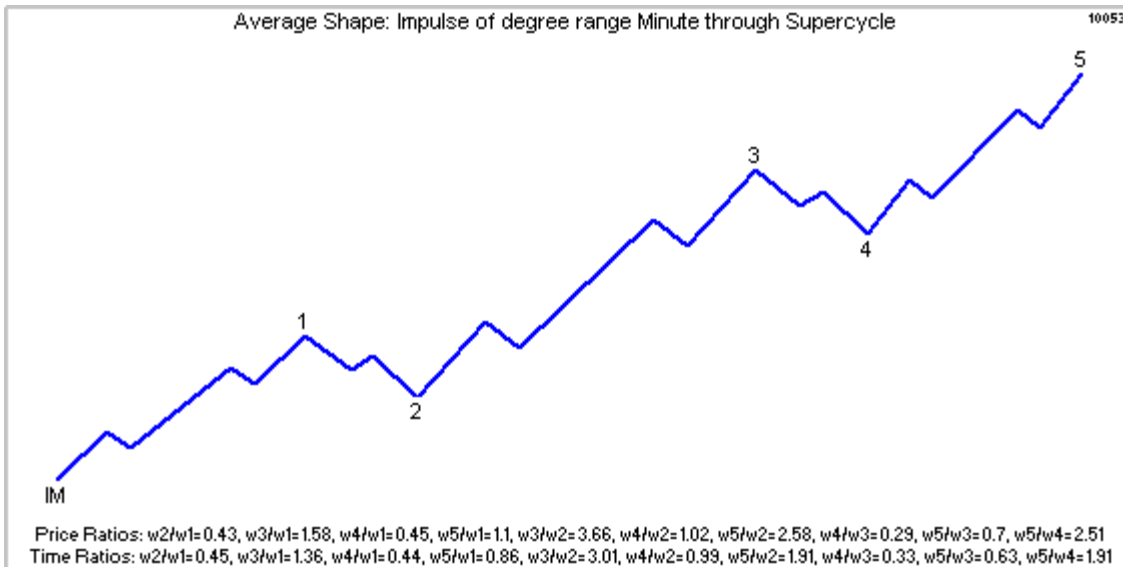


*Impulse*

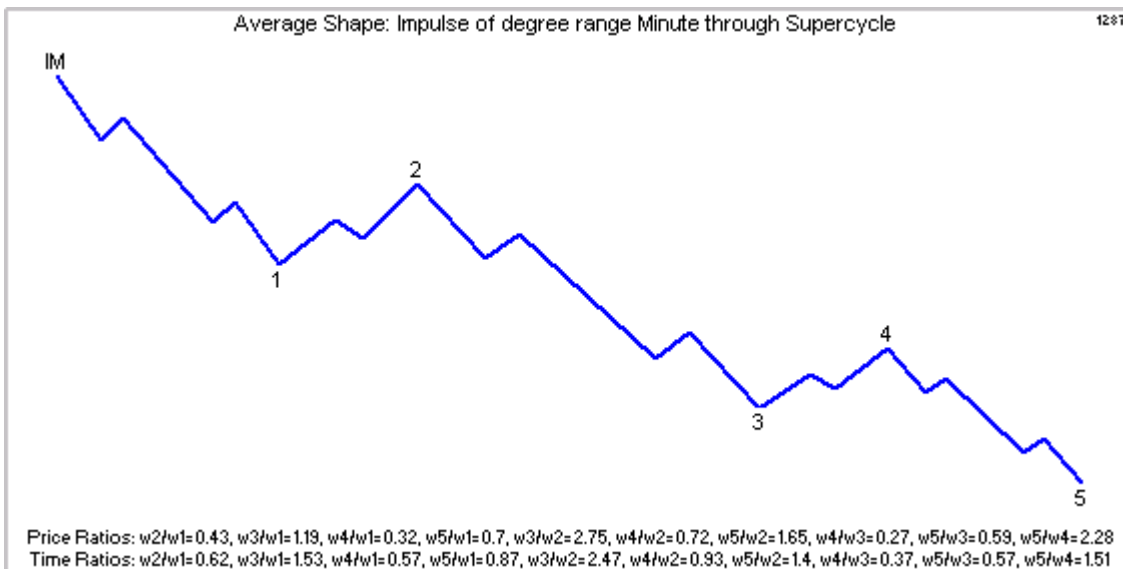
An Impulse has five waves, three of them moving in the direction of the larger trend, and two retracements (or corrections) moving against the larger trend. Each wave is labeled at its end, and numbered 1 through 5. A rising Impulse will always start at, or just after, a major low.

Note that all Elliott Wave patterns may be inverted. It follows then, that in a falling market, an inverted Impulse will always start at, or just after, a major high.

An Elliott Wave pattern can vary considerably in shape and still be within the confines of the pattern's guidelines. The following illustrations show the most common shapes found in real markets.



*The most common shape for a rising Impulse*



*The most common shape for a falling Impulse*

The most common shape of an Impulse varies considerably, depending on the type of market (equity or commodity contract), the time frame, and the direction of the pattern (rising or falling).

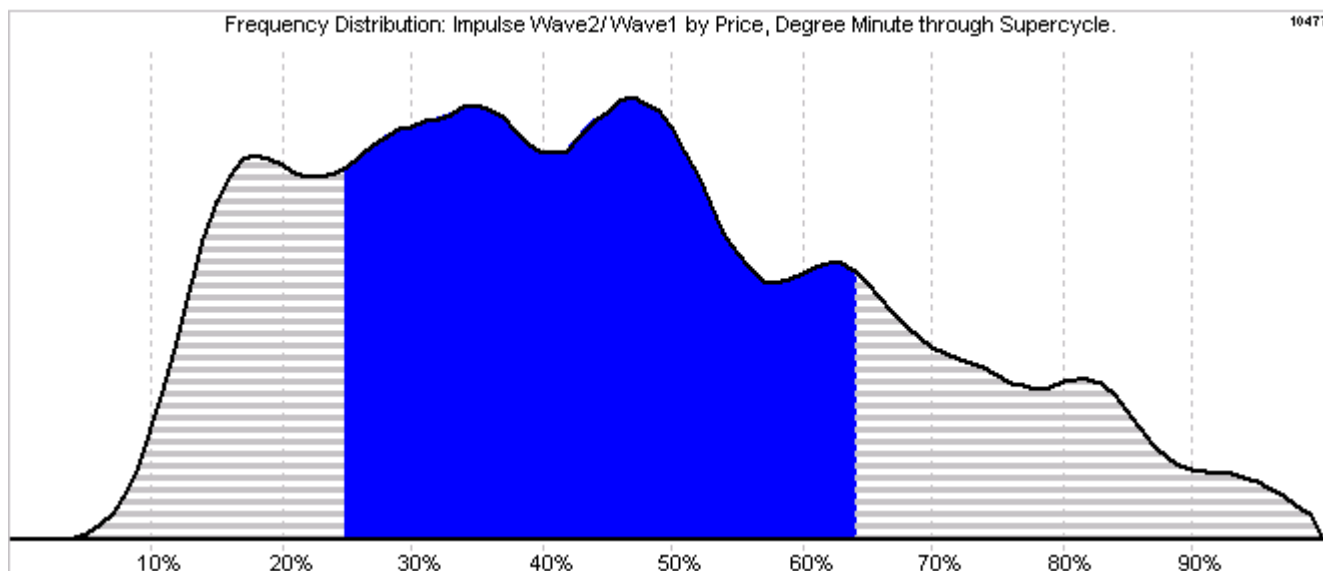
*For a more comprehensive breakdown of patterns shapes, refer to the Appendix.*

These differences in the average pattern shape are the result of an entirely different psychology of the trading public – which makes sense considering that some markets are rising while others are falling, some are equities (stocks) while others are commodities based.

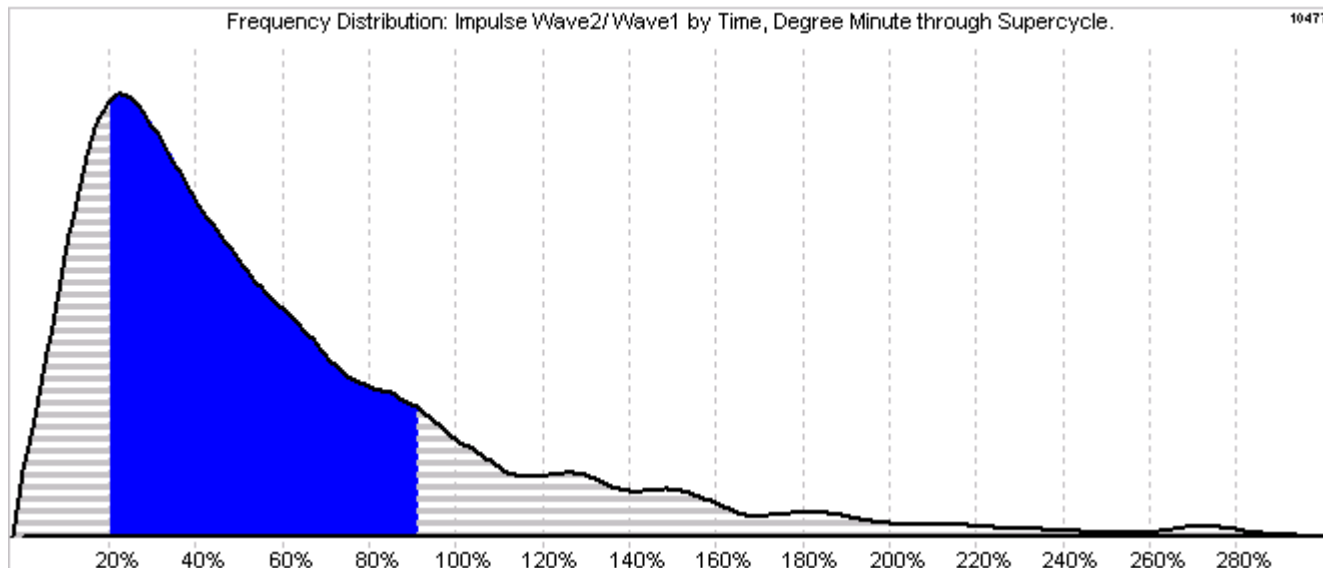
The charts above show the **weighted average** shape of an Impulse, and list the **weighted average** price and time ratios. There can be a wide variation from the average. We will now examine the more interesting Frequency Distribution Histograms of these ratios.

Note the chart above with the heading: “**Equities: Short-Term: Rising**” You will see the various wave ratios specified. Take particular note of the Wave2/Wave1 ratio (listed as “w2/w1”). The Histogram below shows the frequency distribution of that ratio.

The following Frequency Distribution Histogram shows the retracement of Wave 2 on Wave 1 by price is usually between about 25% and 65%.



The heavily shaded area represents the middle 60% of the total area – that is, 60% of the time the retracement of Wave 2 on Wave 1 will be in the heavily shaded area.



This Frequency Distribution Histogram shows the expected ratio of Wave 2 on Wave 1 by time. Note that Wave 2 rarely takes longer to complete than Wave 1, and that Wave 2 usually completes in 20%-90% of the time taken by Wave 1.

*A comprehensive list of Frequency Distribution Histograms for all relevant price and time ratios can be found in the Appendix – separated into commodities and equities markets, short- and long-term, and rising and falling markets.*

### **The Elliott rules for an Impulse are:**

- Wave 1 must itself be an *Impulse* or a *Leading Diagonal* pattern.
- Wave 2 can be any corrective Elliott Wave pattern except a *Triangle*.
- No part of Wave 2 can retrace more than 100% of Wave 1.
- Wave 3 must be an *Impulse*.

- Wave 3 must be longer than Wave 2 by price.
- Wave 4 can be any corrective Elliott Wave pattern.
- Waves 2 and 4 cannot overlap (share common price area).
- Wave 5 must be an *Impulse* or an *Ending Diagonal*.
- Wave 5 must be at least 70% of the length of Wave 4 by price.
- Wave 3 must never be the shortest by price when compared to Waves 1 & 5.

### Rule of Alternation:

A commonly held belief about Impulse waves is that Waves 2 and 4 are usually alternative in pattern type between “Sharp” and “Sideways” corrective waves. A Sharp Correction is a Zigzag, Double or Triple Zigzag, while a Sideways Correction is a Flat, Double or Triple 3. This rule states that if Wave 2 is a Sharp Correction, then Wave 4 will usually be a Sideways Correction, and if Wave 2 is a Sideways Correction, then Wave 4 will generally be a Sharp Correction.

Our research has confirmed this rule, although we have found that alternating Waves 2 and 4 is not as common as generally believed by many Elliott technicians.

| <u>Wave 2</u>      | <u>Wave 4</u> | <u>Percent of Total</u> |
|--------------------|---------------|-------------------------|
| Sharp              | Sharp         | 8.7%                    |
| Sharp              | Sideways      | 53.6%                   |
| Sideways           | Sharp         | 8.2%                    |
| Sideways           | Sideways      | 29.6%                   |
| <b>Alternating</b> |               | <b>61.8%</b>            |

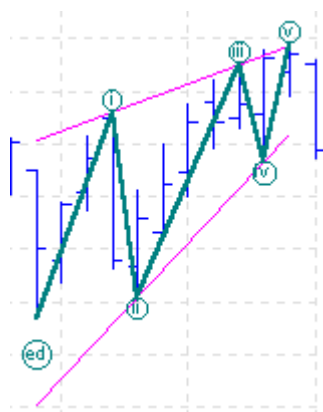
This information is crucial for an Elliott Wave trader. There are a number of conclusions we can draw from this information. For instance, if wave 2 is a Sharp family pattern (also known as a Zigzag family pattern), then is it almost certain that Wave 4 will be a Sideways family pattern. (53.6:8.7=86% certain.)

Note also that if Wave 2 is a Sideways Correction, Wave 4 is very likely NOT to alternate. (29.6:8.2=78% certain.)

## Diagonal Triangle

### Diagonals – the only other Elliott pattern to move with the larger trend:

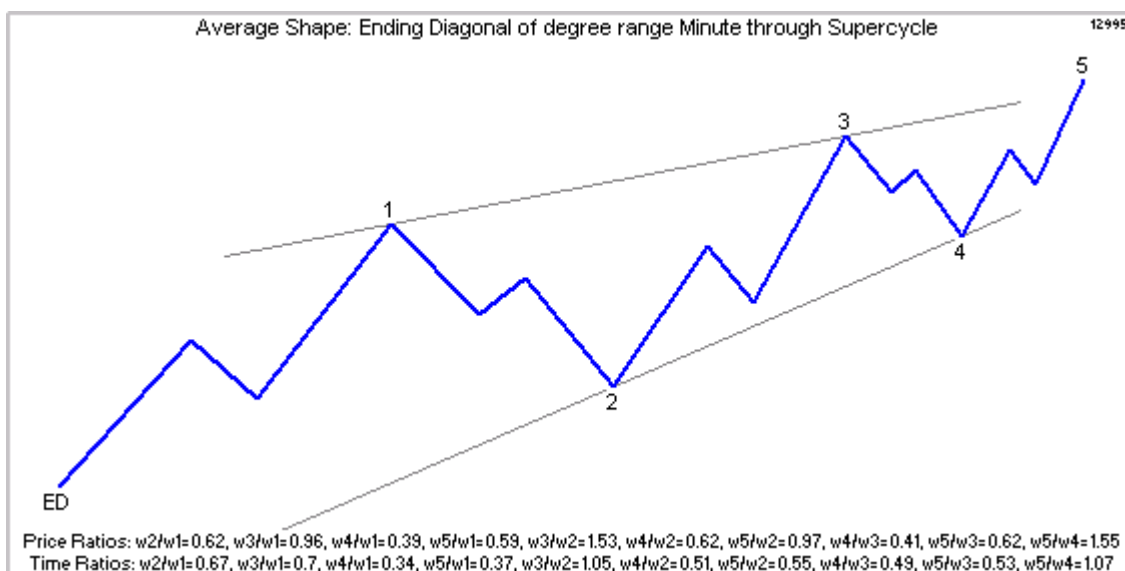
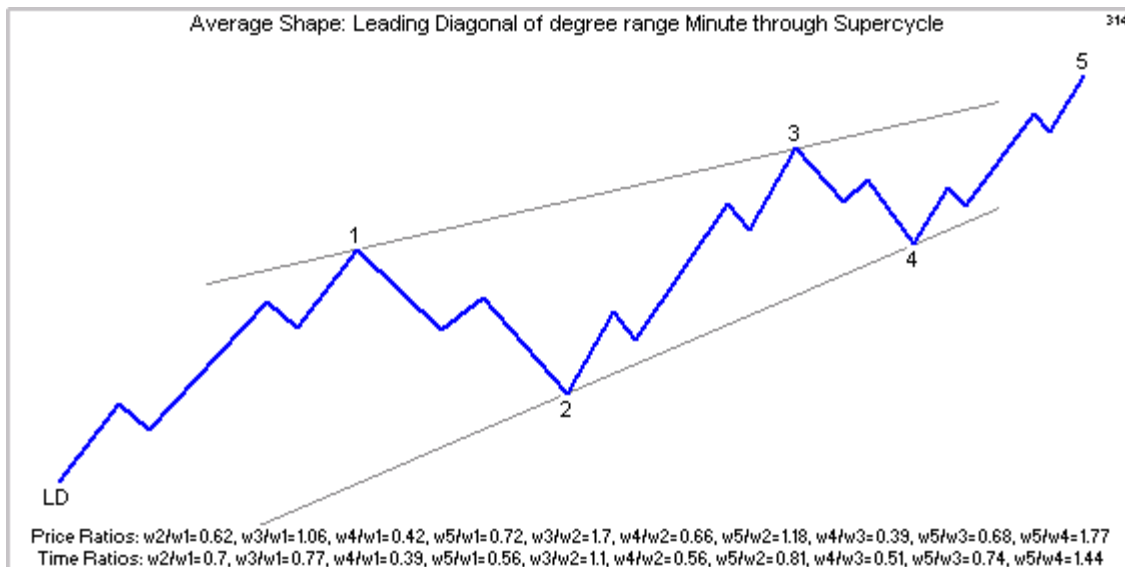
Other than an Impulse, the only other Elliott Wave pattern that moves with the larger trend is known as a “Diagonal” (also known as a Diagonal Triangle). There are two types of Diagonals, known as *Leading Diagonals* and *Ending Diagonals*. Both are Impulsive patterns in that they move with the larger trend.



*Example of an Ending Diagonal*

Our research has identified many thousands of *rising* Diagonals, but not one instance of a *falling* Leading Diagonal. In addition, only a few instances of falling Ending Diagonals in commodities markets were identified in the hundreds of thousands of charts analyzed. Falling Diagonals are much more commonly found in stock market price data.

The most common shapes of Diagonals vary considerably, depending on the type of market (equity or commodity contract), the time frame, and the direction of the pattern (rising or falling).



The Elliott Wave rules governing Diagonals are as follows:

- *Diagonals* move within two converging channel lines.
- Wave 1 of a *Leading Diagonal* is an Impulse or a *Leading Diagonal*.
- Waves 1, 3 and 5 of an *Ending Diagonal* are always a *Zigzag* family pattern.



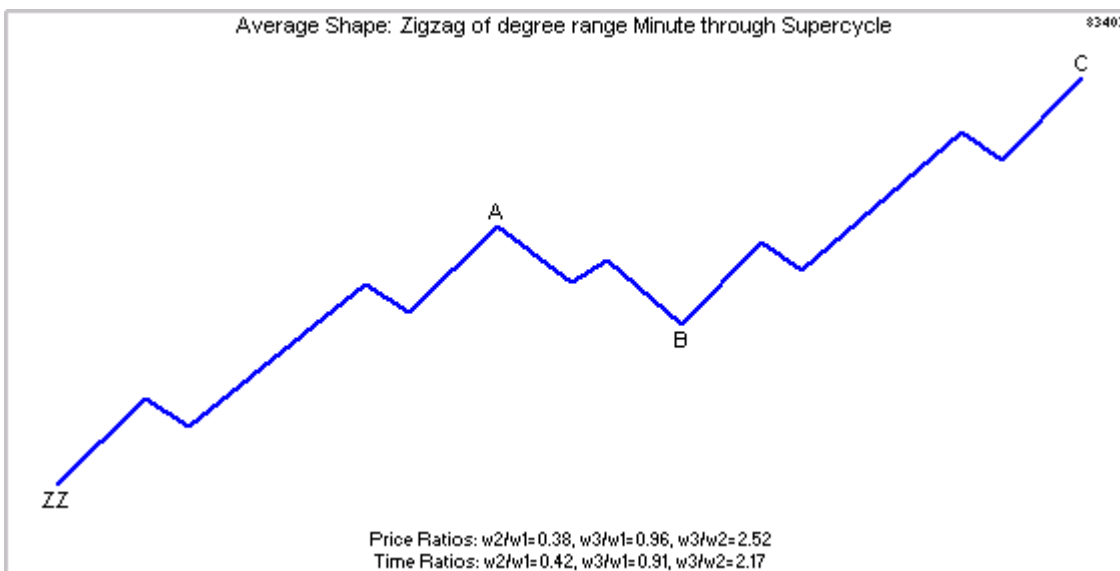
- Wave 2 may be any corrective pattern except a *Triangle*.
- Wave 2 is never longer than Wave 1 by price.
- Wave 3 of a *Leading Diagonal* is an *Impulse*.
- Wave 3 is always greater than Wave 2 by price.
- Wave 4 may be any corrective pattern.
- Waves 2 and 4 must share some common price territory (must overlap).
- Wave 5 of a *Leading Diagonal* is either an *Impulse* or *Ending Diagonal*.
- Wave 5 must be at least 50% of Wave 4 by price.
- Wave 3 must not be shortest by price when compared with Waves 1 and 5.

## Zigzag

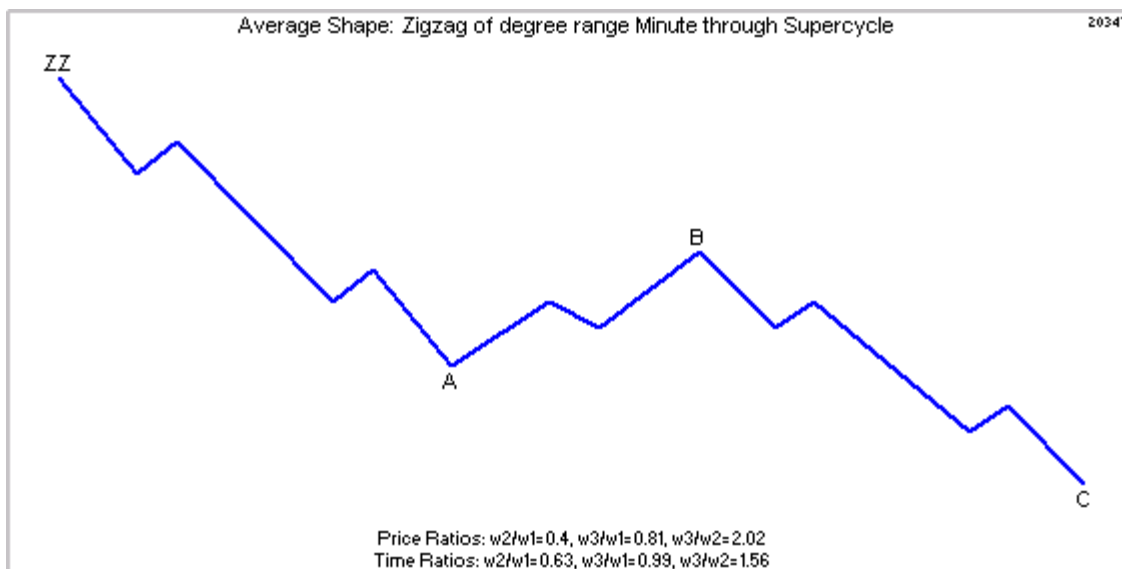


*Zigzag correction*

A Zigzag has three waves labeled A-B-C, and moves against the larger degree trend. Zigzags are a very common corrective pattern.



*The most common shape for a rising Zigzag*



*The most common shape for a falling Zigzag*

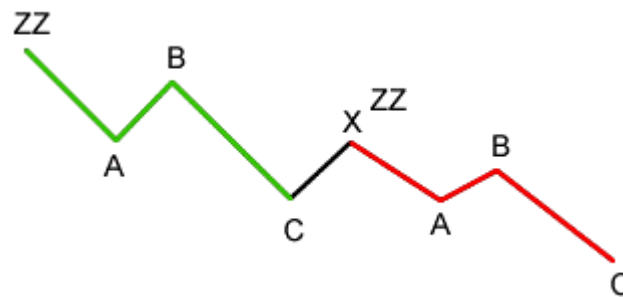
### Rules for Zigzags:

- Wave A must be an *Impulse* or a *Leading Diagonal*.
- Wave B can only be a corrective pattern.
- Wave B must be shorter than Wave A by price distance.
- Wave C must be an *Impulse* or an *Ending Diagonal*.
- Wave C may not be an *Ending Diagonal* if Wave A is a *Leading Diagonal*.

## Double and Triple Zigzags

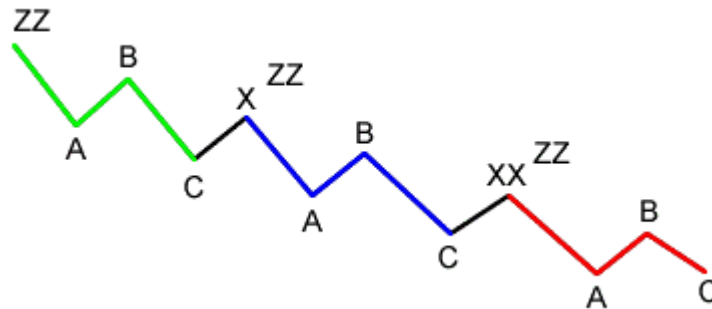
A common variation of the Zigzag pattern is the Double Zigzag and the Triple Zigzag – also known as Double and Triple 3 Sharps. These three patterns together are known as the Zigzag family, or the Sharp family of patterns.

Double Zigzags are very common while Triple Zigzags are rare.



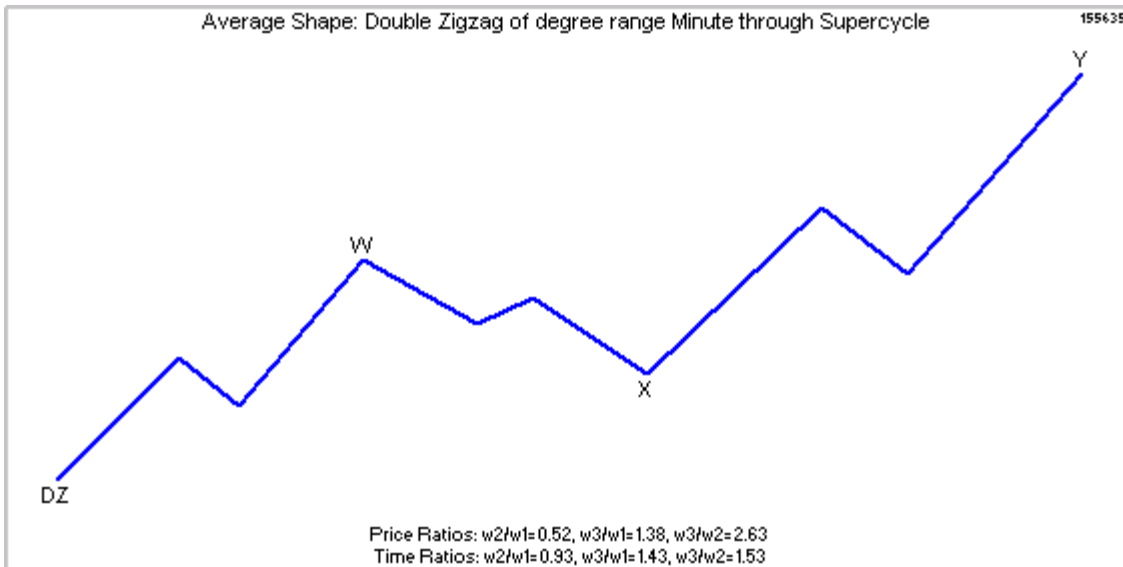
*Double Zigzag*

The Double Zigzag is made up of two Zigzag patterns connected by a relatively short corrective pattern called an “x” wave.

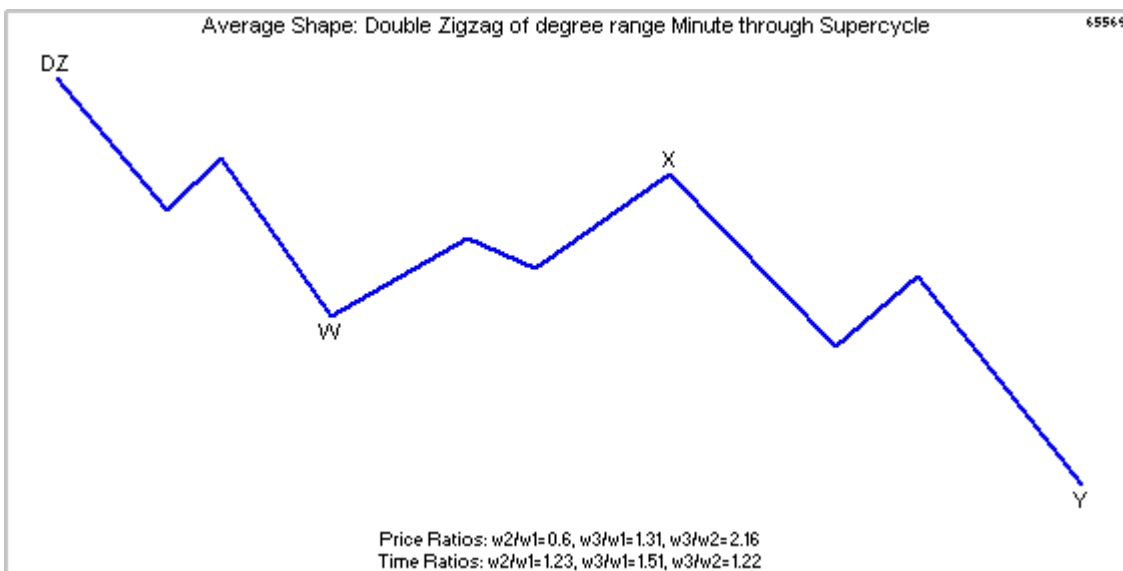


*Triple Zigzag*

The Triple Zigzag is made up of three Zigzag patterns connected by relatively short corrective patterns, known as the “x” wave and the ‘xx’ wave.

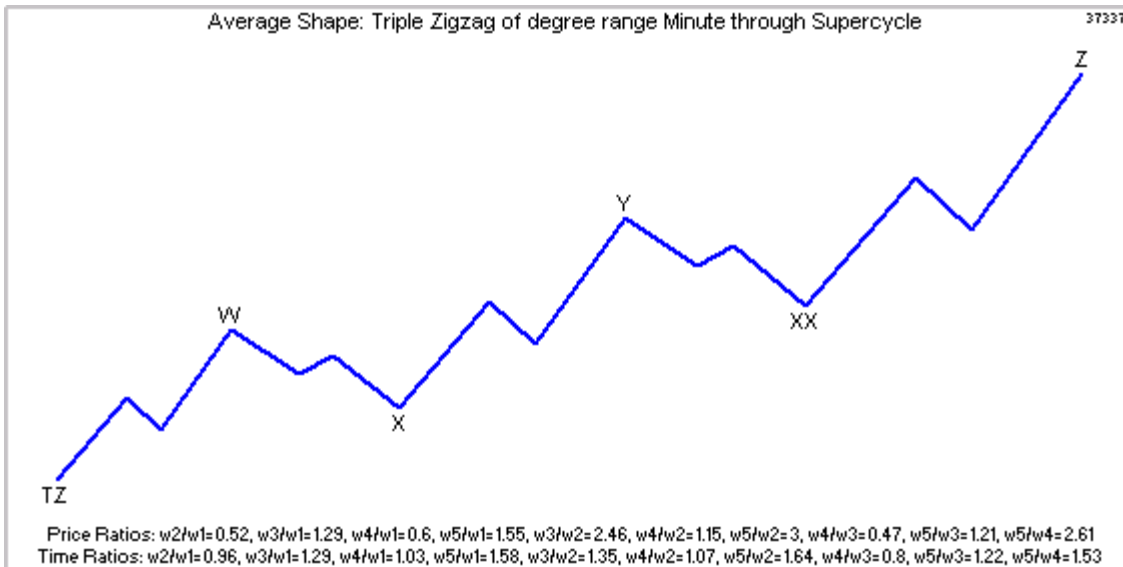


*The most common shape for a rising Double Zigzag*

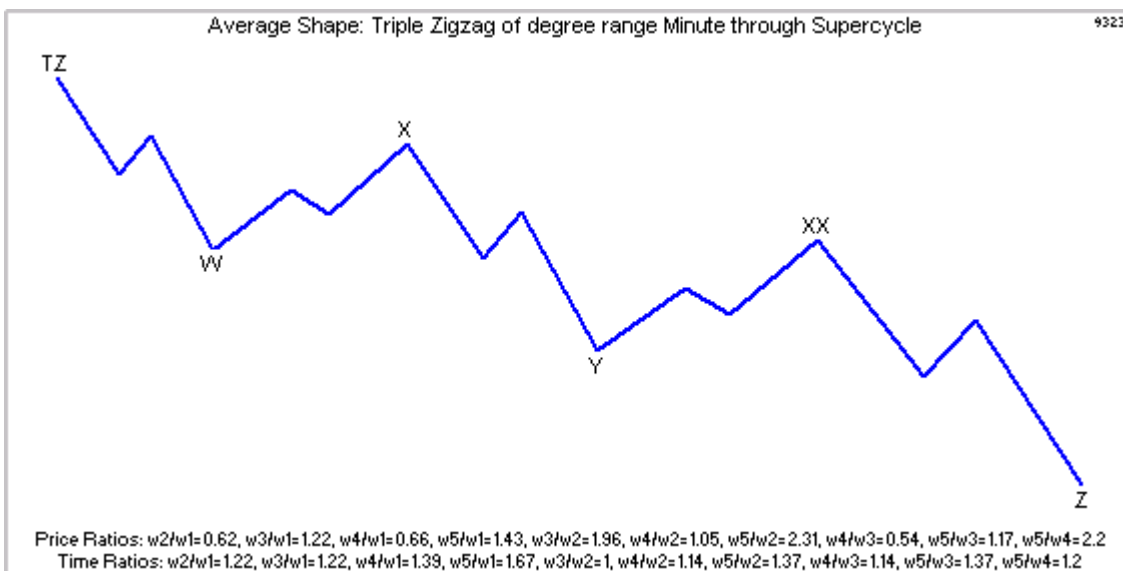


*The most common shape for a falling Double Zigzag*

## Triple Zigzag



*The most common shape for a rising Triple Zigzag*



*The most common shape for a falling Triple Zigzag*

### Rules for Double and Triple Zigzags:

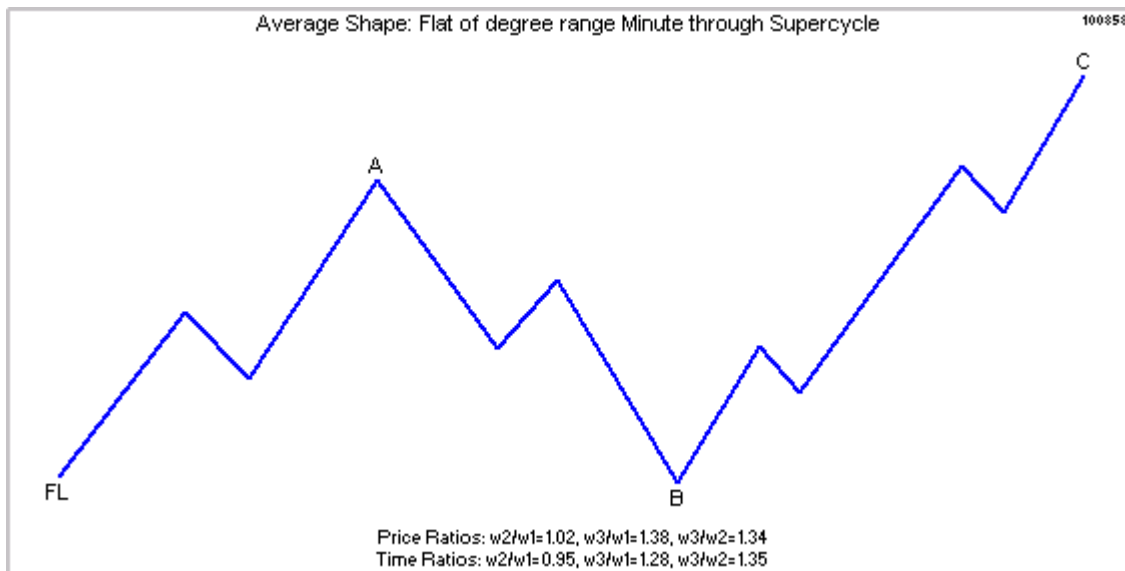
- Wave W must be a *Zigzag*.
- Wave X can be any correction except an *Expanding Triangle*.

- Wave X must be smaller than wave W by price.
- Wave Y must be a *Zigzag*.
- Wave Y must be equal to or longer than Wave X by price.
- Wave XX can be any correction except an *Expanding Triangle*.
- Wave XX must be smaller than Wave Y by price.
- Wave Z must be a *Zigzag*.
- Wave Z must be equal to or larger than Wave XX by price.

## Flat

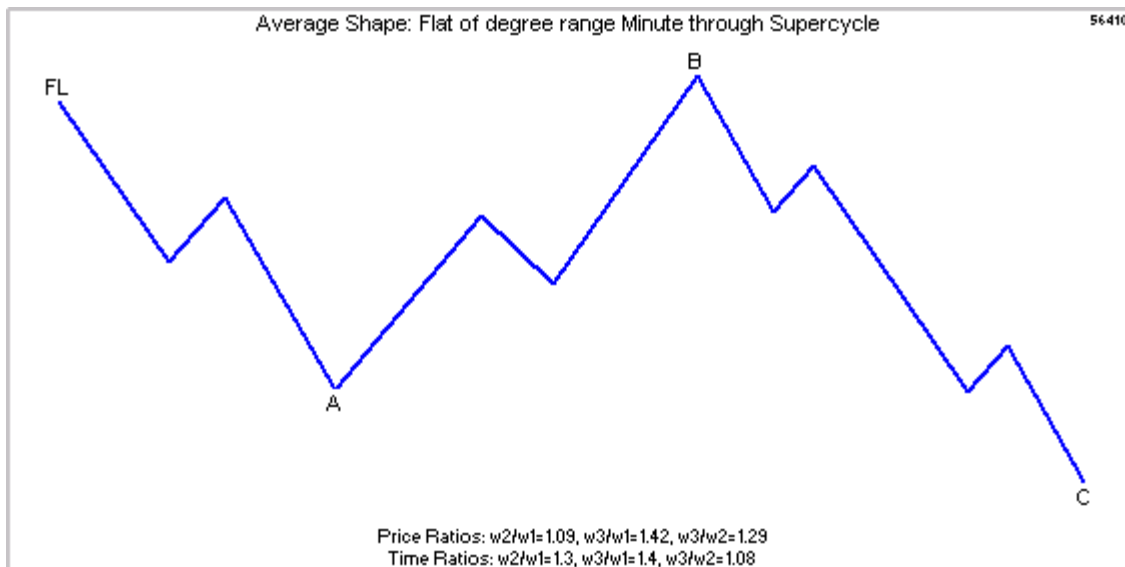
Flats are another very common family of corrective patterns. They differ to Zigzags in that they tend to move sideways rather than strongly up or down - hence the name "Flat".

In contrast, Zigzags (or Sharps – as they are known) move "sharply" or strongly up or down.



*The most common shape for a rising Flat*





*The most common shape for a falling Flat*

### Rules for Flats:

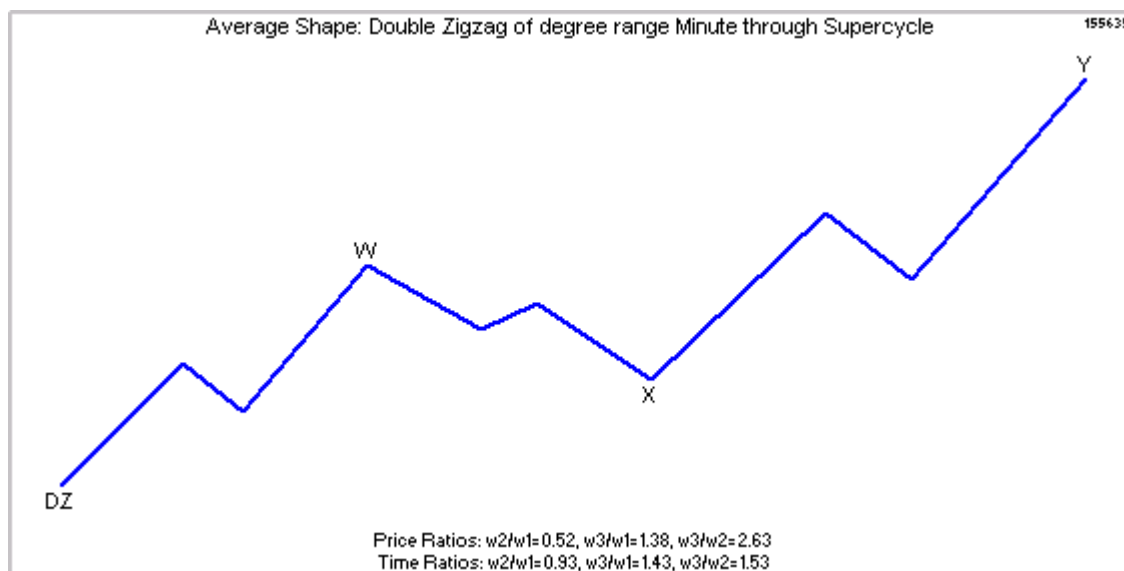
- Wave A can be any corrective pattern.
- Wave B can be any corrective pattern except a *Triangle*.
- Wave B must retrace Wave A by at least 50% (by price).
- Wave B must be less than twice the price length of Wave A.
- Wave C can only be an Impulse or an *Ending Diagonal*.
- Wave C must be no more than 3 times the price length of Wave A.
- Wave C must be no longer than twice the price distance of both Waves A and B.
- Wave C must share some common price territory with Wave A.

## Double and Triple Sideways Patterns

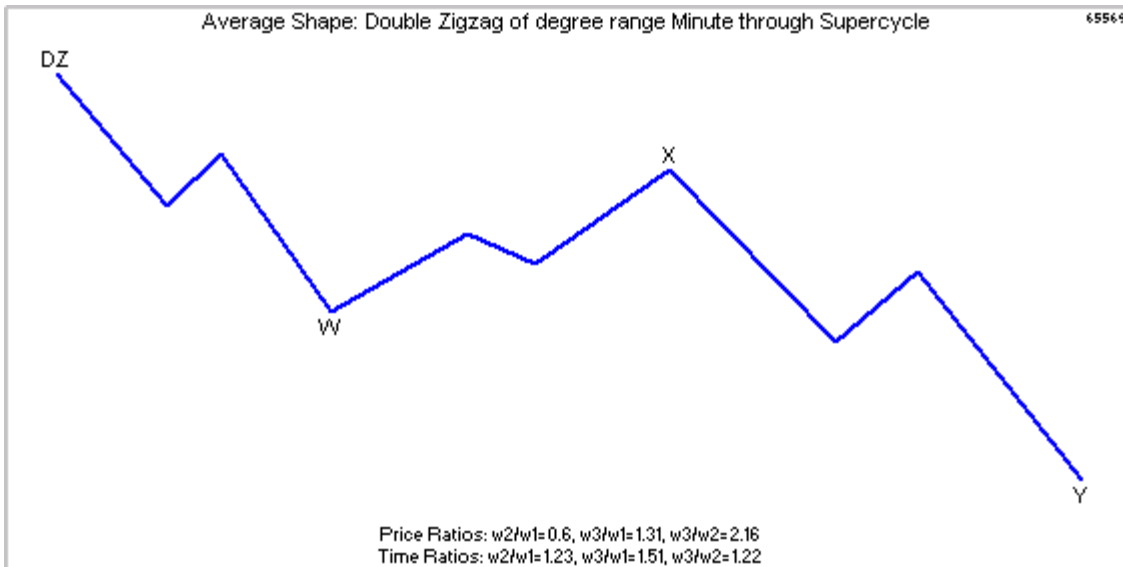
In the same way that Zigzags have variations known as Double and Triple Zigzags (also known as Double and Triple Sharps), Flats have similar variations known as Double and Triple Sideways patterns (also known as Double and Triple 3's.)

Double Sideways patterns are very common, while Triple Sideways patterns are rare.

A Double Sideways pattern is made up of two Flats connected by a corrective pattern. A Triple Sideways pattern is made up of three Flats connected by corrective patterns.

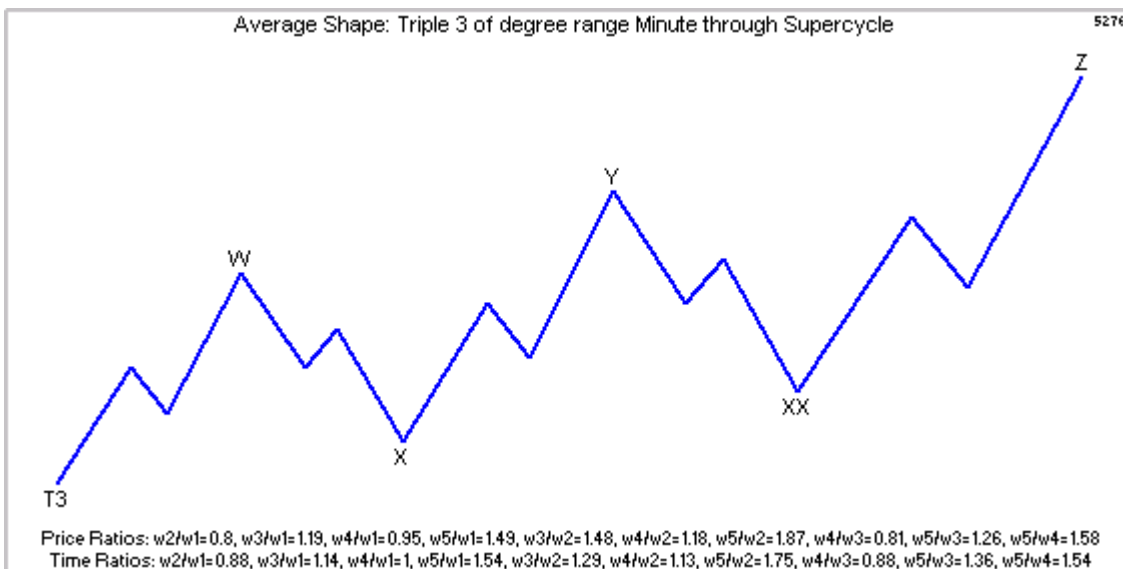


*The most common shape for a rising Double Zigzag*

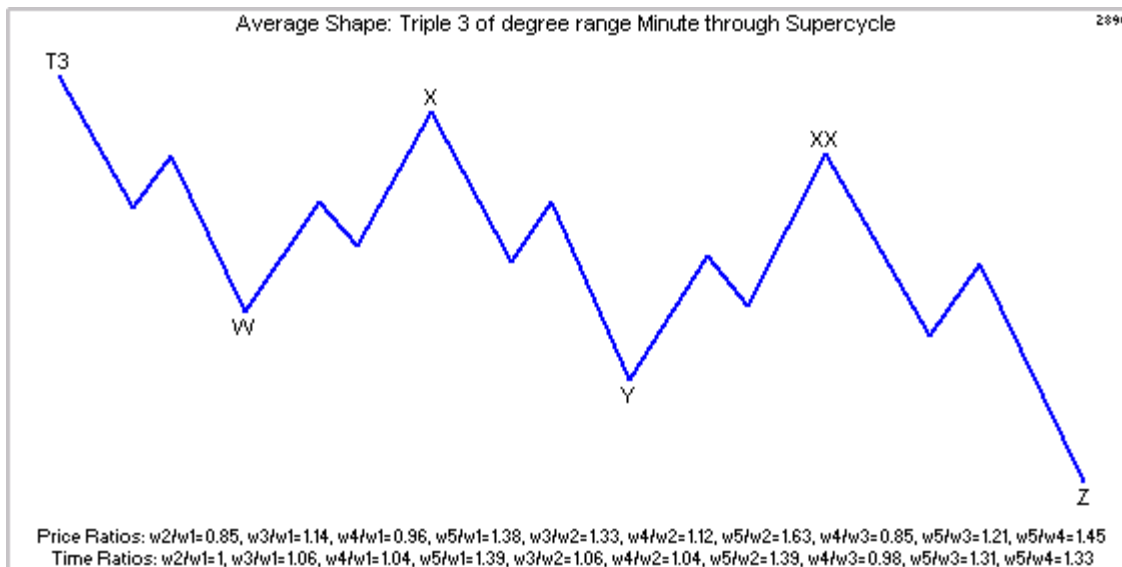


*The most common shape for a falling Double Zigzag*

### Triple Sideways



*The most common shape for a rising Triple Sideways*



*The most common shape for a falling Triple Sideways*

### Rules for Double and Triple Sideways Patterns:

- Wave W may be any corrective pattern except a *Triangle*, or a *Double* or *Triple* pattern.
- Wave X may be any corrective pattern except a *Triangle*, or a *Double* or *Triple* pattern.
- Minimum Wave X retracement is 50% of Wave W.
- Maximum retracement of Wave X on Wave W is 400%.
- Wave Y may be any corrective pattern except a *Double* or *Triple* pattern.
- Wave Y must be greater than Wave X by price except if it is a *Triangle*.
- Wave XX may be any corrective pattern except a *Triangle*, or a *Double* or *Triple* pattern.
- Minimum XX wave retracement is 50% of Y.
- Maximum retracement of Wave XX on Wave Y is 400%.
- Wave Z may be any corrective pattern except a *Double* or *Triple* pattern. However Z cannot be a *Zigzag* if Y is a *Zigzag*.
- Wave Z must be greater than Wave XX by price.

## Triangle

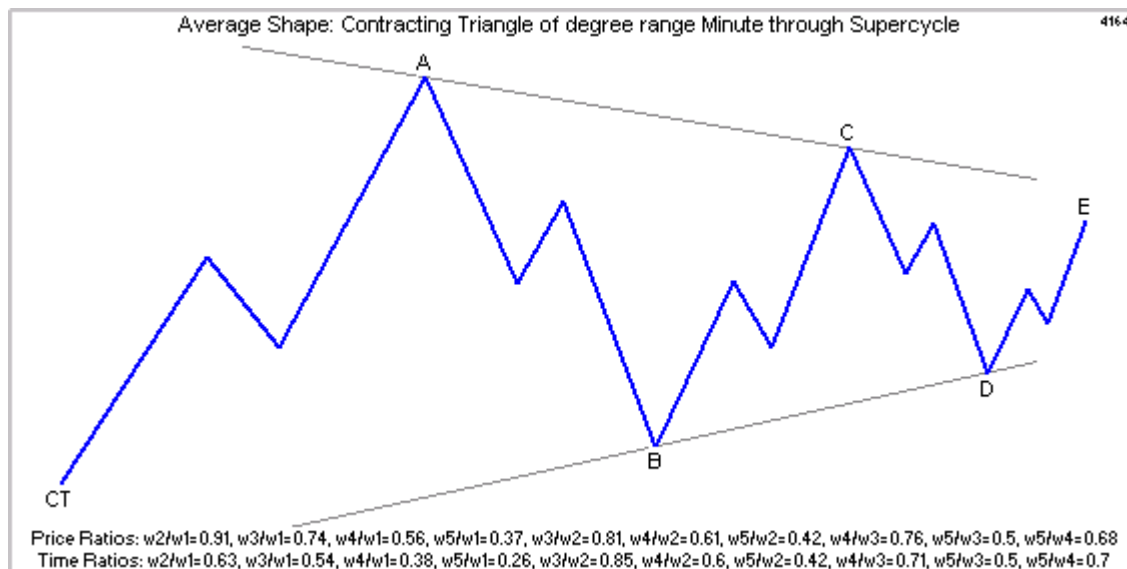
Triangles are five-wave structures, labeled A-B-C-D-E, that move within two converging or diverging channel lines drawn from the ends of Waves A and C, and the ends of Waves B and D.

Triangles are corrective in nature.

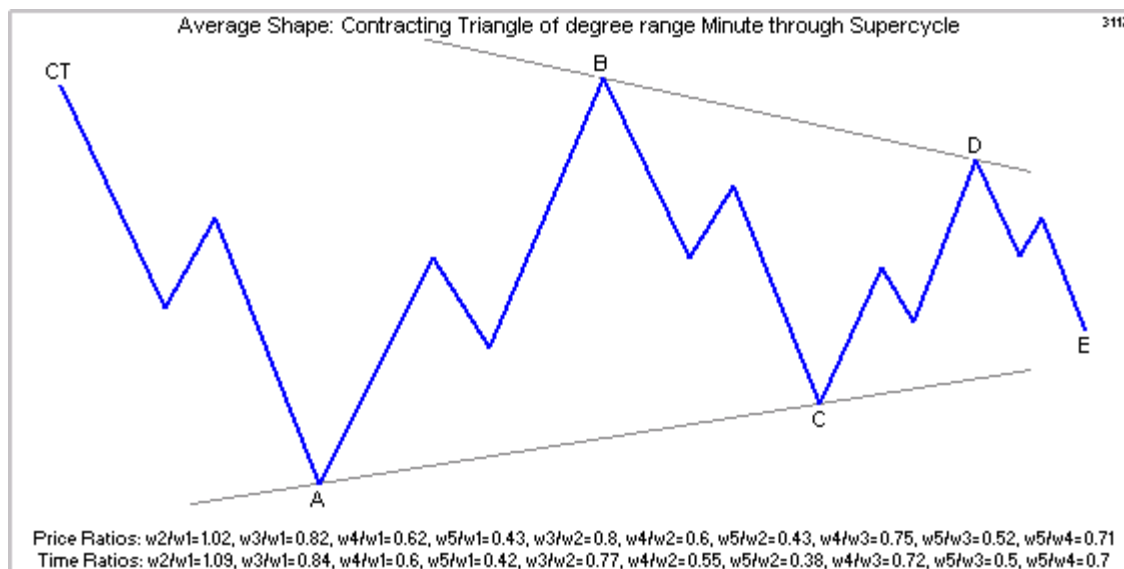
There are two types of Triangles: Contracting and Expanding.

### Contracting Triangles:

Contracting Triangles are reasonably common.



*The most common shape for a rising Contracting Triangle*



*The most common shape for a falling Contracting Triangle*

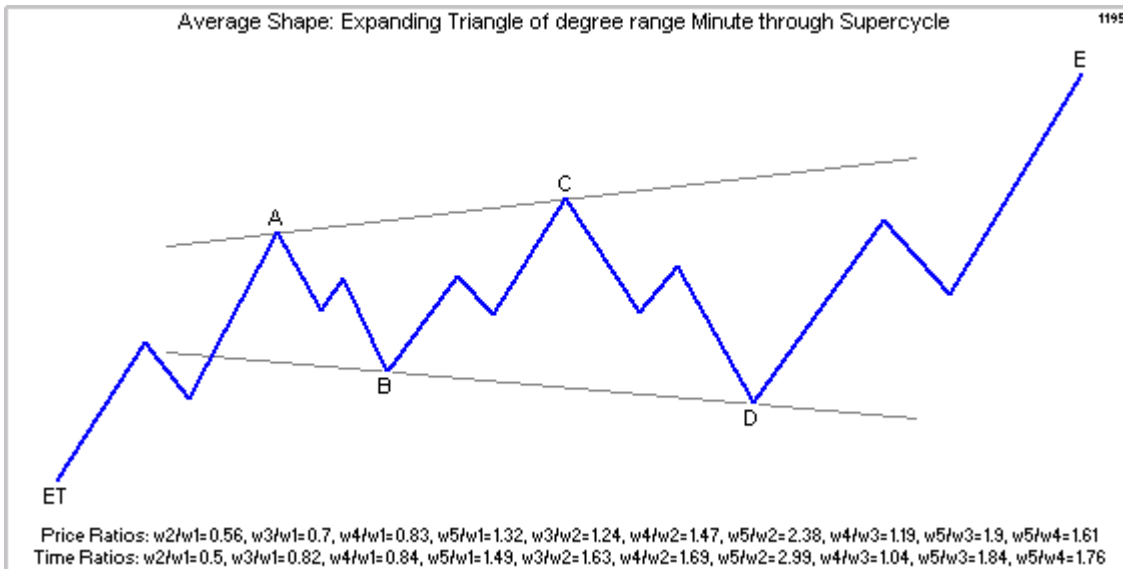
### The Rules for Contracting Triangles are as follows:

- Wave A can only be a *Zigzag*, *Double* or *Triple Zigzag*, or a *Flat* pattern.
- Wave B can only be a *Zigzag*, *Double* or *Triple Zigzag* pattern.
- Wave C and D can be any corrective pattern except a *Triangle*.
- Waves A, B, C and D must move within or close to within the A-C & B-D channel lines.
- The intersection of the channel lines must occur beyond the end of Wave E.
- The channel lines must converge. They cannot be parallel.
- One of the channel lines may be horizontal.
- Wave E can be a *Zigzag*, *Double* or *Triple Zigzag*, or a *Contracting Triangle*.
- Wave E must be less than Wave D by price, and Wave E must be more than 20% of Wave D by price.
- Either Wave A or Wave B must be the longest wave by price.
- Wave E must end in the price territory of A.

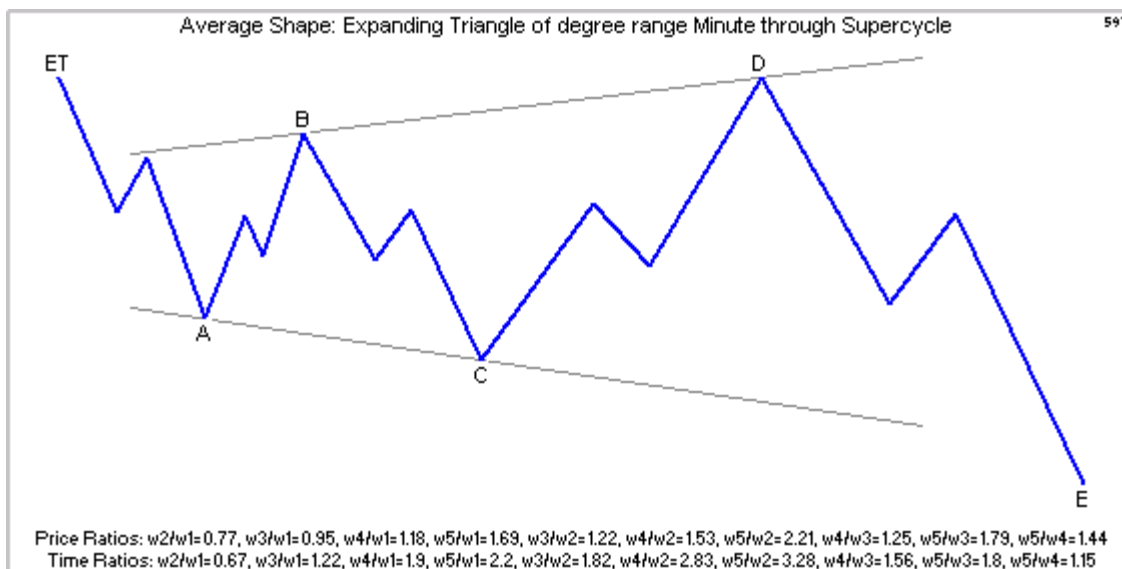
- Wave E must move within or close to within the B-D channel line.

### Expanding Triangles:

The final pattern to discuss is the Expanding Triangle, a relatively uncommon Elliott Wave pattern.



*The most common shape for a rising Expanding Triangle*



*The most common shape for a falling Expanding Triangle*

### The Rules for Expanding Triangles are as follows:

- All five waves must be *Zigzag*, *Double* or *Triple Zigzag* patterns.
- Wave B must be shorter than Wave C by price, but more than 40% of Wave C by price.
- Waves A, B, C and D must move within, or close to within, the A-C & B-D channel lines.
- Wave C must be shorter than Wave D by price, but more than 40% of Wave D by price.
- Wave A must move within, or close to within, the A-C channel line.
- The intersection of the channel lines must occur before the beginning of Wave A.
- The channel lines must diverge. They cannot be parallel.
- Neither channel line may be horizontal.
- Wave E must be longer than D but less than 40% of Wave E by price.
- Either A or B will be the shortest wave by price.
- Wave E must end in the price territory of A



- Wave E must move within, or close to within, the B-D channel line.

## Internal Pattern Structure

Our research also investigated the internal makeup of each pattern – important information for a trader wanting to know how to label a chart correctly.

The following table details what patterns make up each wave of an Impulse.

Four categories of Impulses are listed: those based on stocks, those based on commodities, rising patterns and falling patterns.

All values are expressed as percentages.

For example, in the table below, Wave 1 of a rising Impulse in a stock market is itself an Impulse 86% of the time. The remaining 14% of the time it is a Leading Diagonal.

### Legend

- **IM** – Impulse
- **LD** – Leading Diagonal
- **ED** – Ending Diagonal
- **ZZ** – Zigzag
- **DZ** – Double Zigzag
- **TZ** – Triple Zigzag
- **FL** – Flat
- **D3** – Double Sideways
- **T3** – Triple Sideways
- **CT** – Contracting Triangle
- **ET** – Expanding Triangle

### Stocks Rising

| Wave | IM  | LD | ED | ZZ | DZ | T |    |    | C  |    |    |
|------|-----|----|----|----|----|---|----|----|----|----|----|
|      |     |    |    |    |    | Z | FL | D3 | T3 | T  | ET |
| 1    | 86  | 14 |    |    |    |   |    |    |    |    |    |
| 2    |     |    |    | 32 | 11 | 5 | 33 | 16 | 2  |    |    |
| 3    | 100 |    |    |    |    |   |    |    |    |    |    |
| 4    |     |    |    | 20 | 4  | 2 | 35 | 22 | 3  | 11 | 2  |
| 5    | 77  |    | 23 |    |    |   |    |    |    |    |    |

| Stocks Falling | Wave |     |    |    |    |    |        |    |    |    |        |    |
|----------------|------|-----|----|----|----|----|--------|----|----|----|--------|----|
|                |      | IM  | LD | ED | ZZ | DZ | T<br>Z | FL | D3 | T3 | C<br>T | ET |
|                | 1    | 87  | 13 |    |    |    |        |    |    |    |        |    |
|                | 2    |     |    |    | 32 | 11 | 5      | 33 | 16 | 2  |        |    |
|                | 3    | 100 |    |    |    |    |        |    |    |    |        |    |
|                | 4    |     |    |    | 21 | 4  | 2      | 36 | 22 | 3  | 12     | 2  |
|                | 5    | 78  |    | 22 |    |    |        |    |    |    |        |    |

| Commodities Rising | Wave |     |    |    |    |    |        |    |    |    |        |    |
|--------------------|------|-----|----|----|----|----|--------|----|----|----|--------|----|
|                    |      | IM  | LD | ED | ZZ | DZ | T<br>Z | FL | D3 | T3 | C<br>T | ET |
|                    | 1    | 92  | 8  |    |    |    |        |    |    |    |        |    |
|                    | 2    |     |    |    | 41 | 9  | 1      | 40 | 9  |    |        |    |
|                    | 3    | 100 |    |    |    |    |        |    |    |    |        |    |
|                    | 4    |     |    |    | 32 | 3  | 1      | 47 | 8  |    | 4      | 5  |
|                    | 5    | 91  |    | 9  |    |    |        |    |    |    |        |    |

| Commodities Falling | Wave |     |    |    |    |    |        |    |    |    |        |    |
|---------------------|------|-----|----|----|----|----|--------|----|----|----|--------|----|
|                     |      | IM  | LD | ED | ZZ | DZ | T<br>Z | FL | D3 | T3 | C<br>T | ET |
|                     | 1    | 94  | 6  |    |    |    |        |    |    |    |        |    |
|                     | 2    |     |    |    | 42 | 8  | 1      | 39 | 10 |    |        |    |
|                     | 3    | 100 |    |    |    |    |        |    |    |    |        |    |
|                     | 4    |     |    |    | 31 | 3  | 1      | 48 | 8  |    | 6      | 4  |
|                     | 5    | 94  |    | 6  |    |    |        |    |    |    |        |    |

As may remember from the rules of an Impulse, Wave 1 can be either an Impulse or a Leading Diagonal. Note that Leading Diagonals appear in Wave 1 twice as often in stock markets than commodities markets.

It is also interesting to note that Ending Diagonals appear in Wave 5 about three times as often in stock markets than commodities markets.

You will also see that Contracting Triangles are twice as common in Wave 4 in stock markets than commodities markets. However, in contrast, Expanding Triangles are twice as common in commodities markets for Wave 4.

This information is critical when deciding the most likely labeling of a given wave. It stands to reason that the more often you can label a wave correctly, the more often your forecast will be correct.

Please refer to the Appendix for tables on each of the other Elliott Wave Patterns.

## Accurate Market Forecasting

You are about to discover how to more accurately forecast the market using the results of our Elliott Wave Research.

To forecast with a high degree of accuracy requires a thorough knowledge of the basic tenets of the Elliott Wave Principle. You will need to be familiar with the shapes and internal structure of at least five of the most commonly found Elliott Wave patterns.

These are:

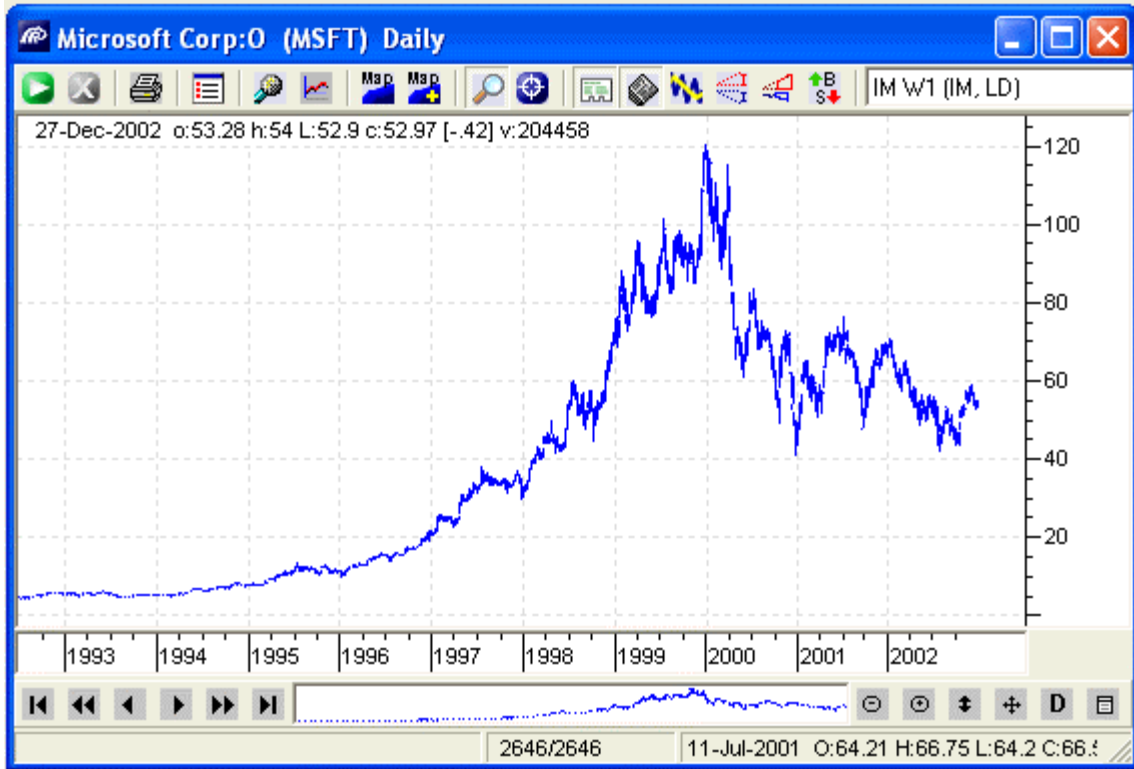
1. Impulses.
2. Zigzags.
3. Double Zigzags (or Double Sharps).
4. Flats.
5. Double Sideways (or Double Threes).

*If you do not have the time to invest into learning this information, you may wish to use our forecasting service – a series of recommendations generated by our powerful software, the Elliott Wave Analyzer. For more information, visit us at:*

**[www.ElliottWaveResearch.com](http://www.ElliottWaveResearch.com)**

Assuming you have an understanding of the five Elliott Wave patterns above, let's analyze a commonly traded equity or stock: Microsoft.

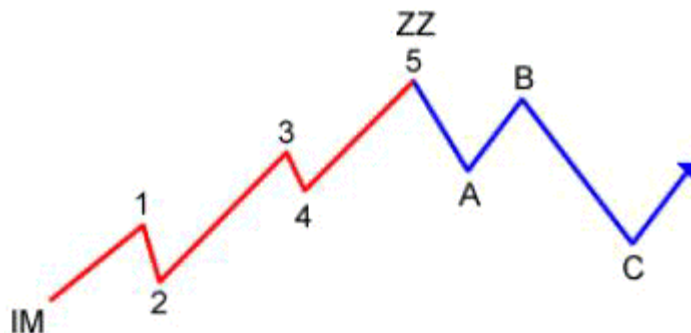
The principles we are about to use can be applied to any liquid instrument, long- or short-term, rising or falling, commodities, indexes or stocks.



As you can see, Microsoft reached an all-time high early in 2000, and has since fallen to under half that value.

A long and sustained rise is always an Impulsive pattern, so the movement from 1992 through to 2000 can safely be considered an Impulse. We are not concerned how to label the internal structure of this Impulse because it makes no difference to the final result. What we can be certain of is that the Impulse ended in early 2000.

An Impulse is, itself, Wave 1 of an Impulse of one larger degree.



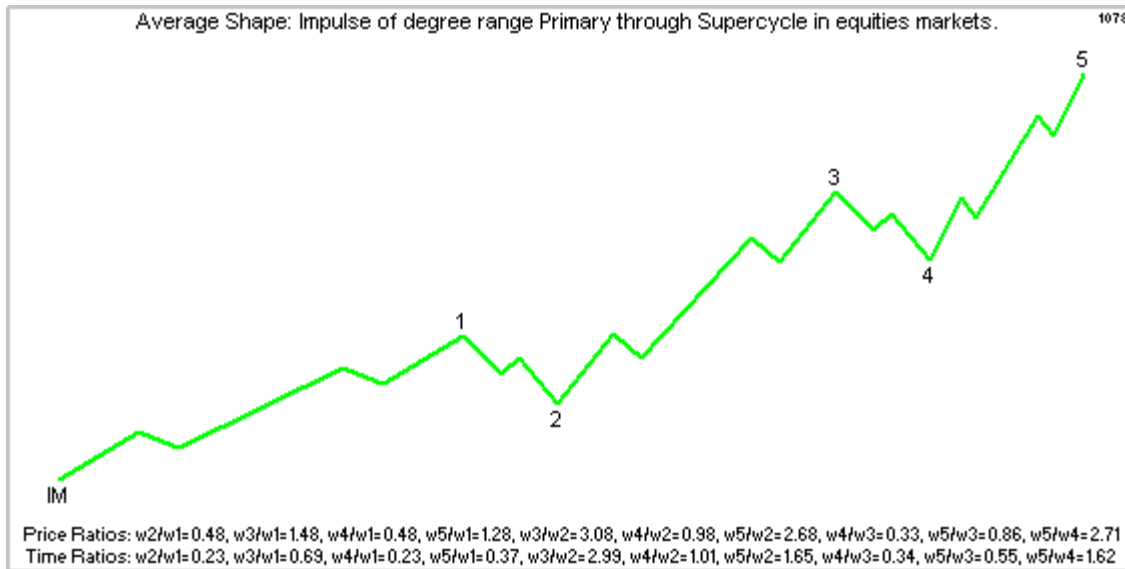
Now that we know that the top of 2000 was the end of an Impulse, we also know that the retracement since that time is Wave 2 of a larger degree Impulse. If you check the rules for an Impulse, you will see that Wave 2 can be any corrective wave except a Triangle.

Note from the research into the **Rule of Alternation**, Wave 2 is most commonly a Zigzag or Double Zigzag. In any case, Wave 2 will be a three-wave move down.

For the purpose of this discussion, we will assume Wave 2 is a Zigzag. For the present time, it makes no difference to the outcome.

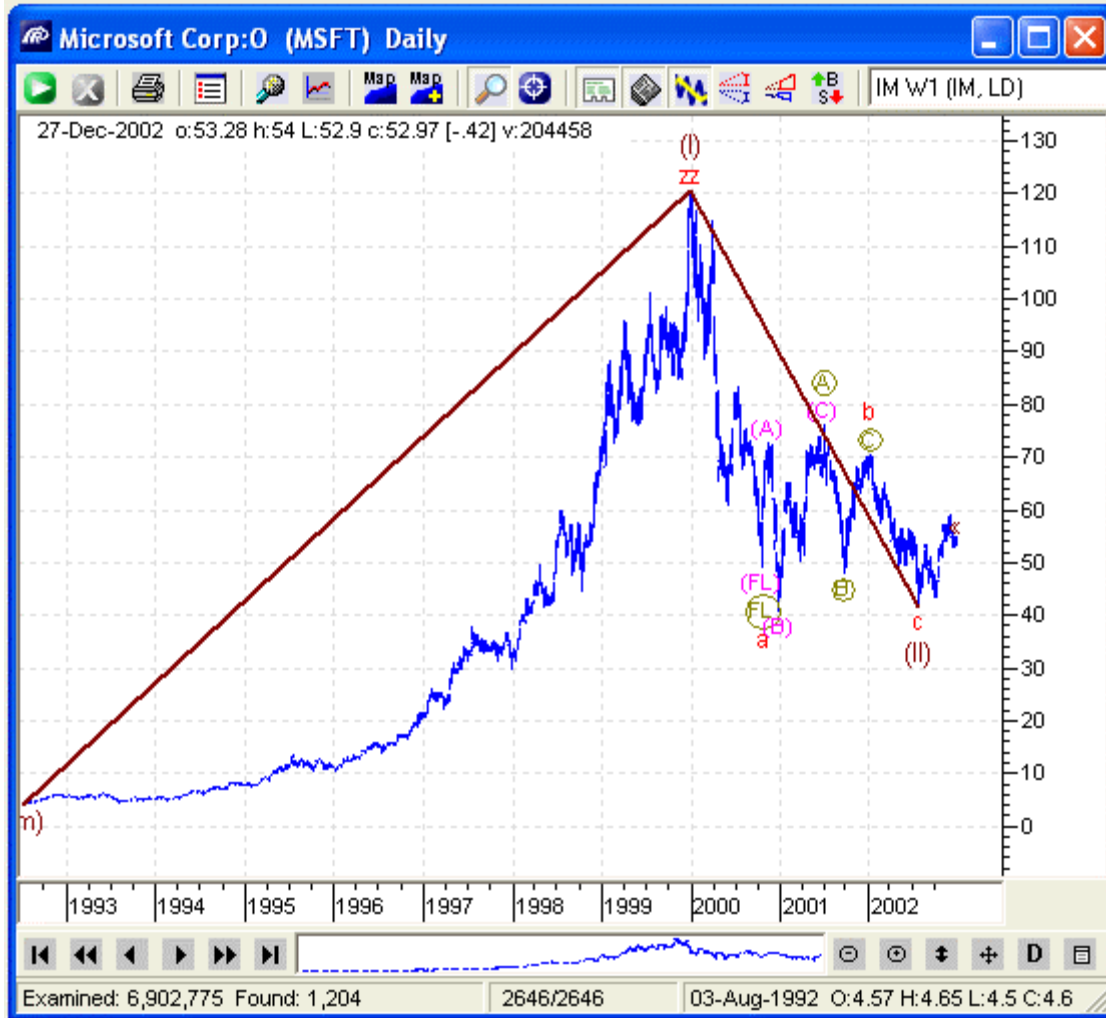
You will find the following chart in the Appendix in the Impulse section:

Equities: Long Term: Rising

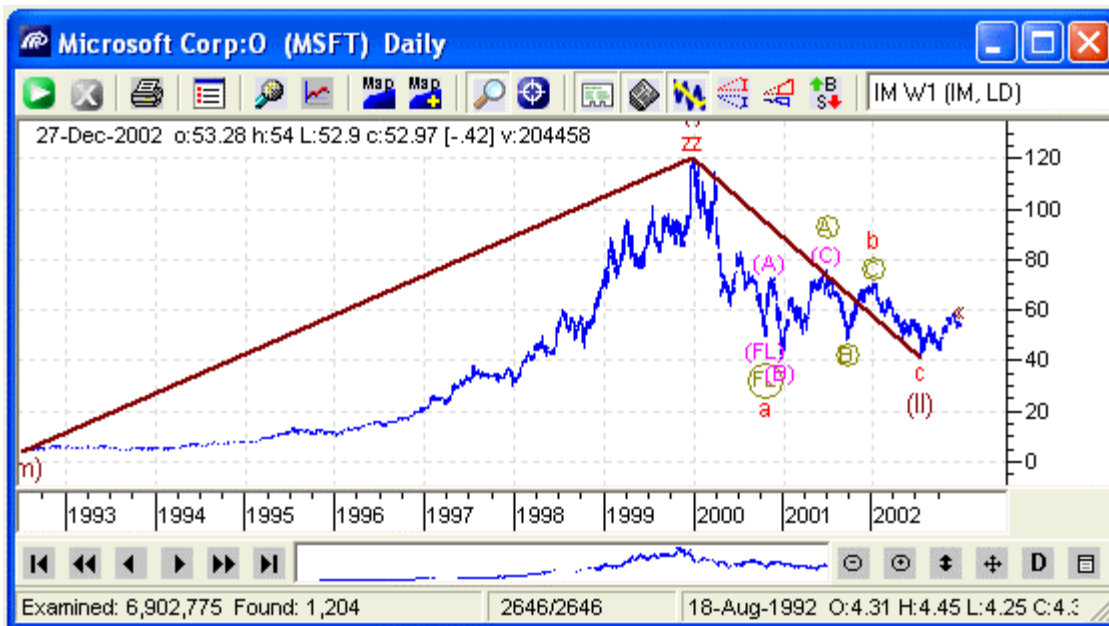


Now we will place labels on the Microsoft chart:





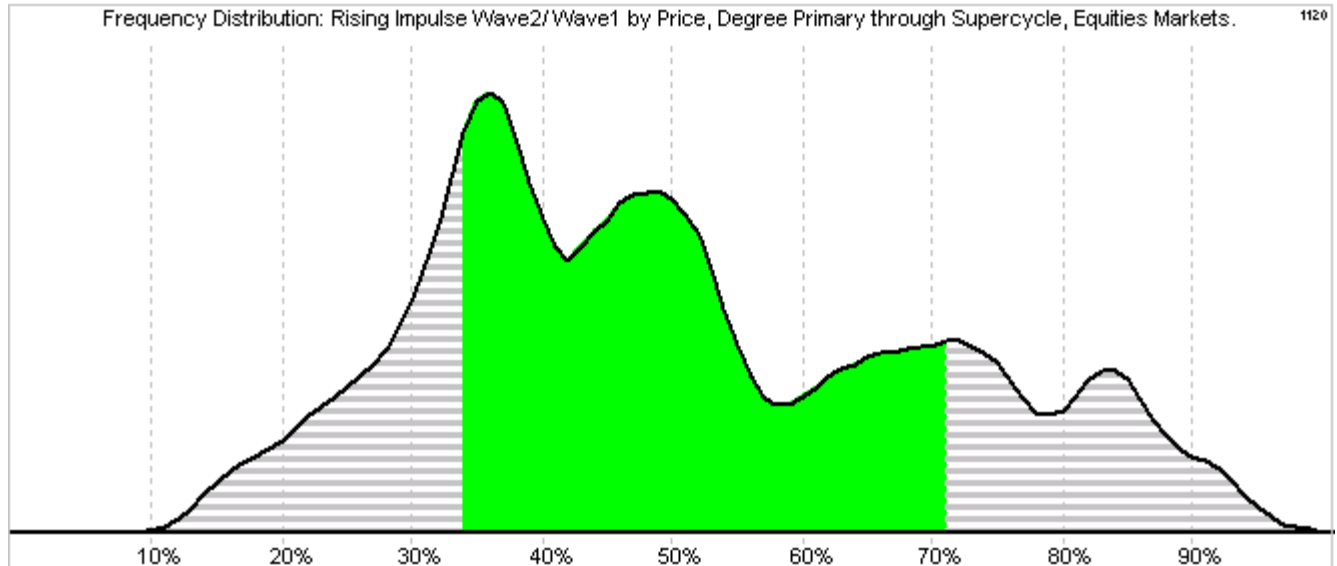
To allow us to compare the Impulse shape more directly with the theoretical average shape, we will change the height of the chart to look like this:



Now we can directly compare Waves 1 and 2 with the same waves in the Average Shape chart above. Take special note of the Ratios listed at the bottom of the chart. The relevant ratios are “Price Ratios: W2/W1”, and “Time Ratios: W2/W1”. Compare these values with the ratios shown on the Microsoft chart and you will notice that Wave 2 has already retraced further and taken more time than the pattern on the Average Shape chart.

To clarify just how far Wave 2 can vary from the average, we will take a look at the Wave Ratio Frequency Distribution Histogram in the Appendix.

Here you will find the following chart showing the distribution of Wave 2 retracement on Wave 1 by price for rising Impulses in long-term stock markets:

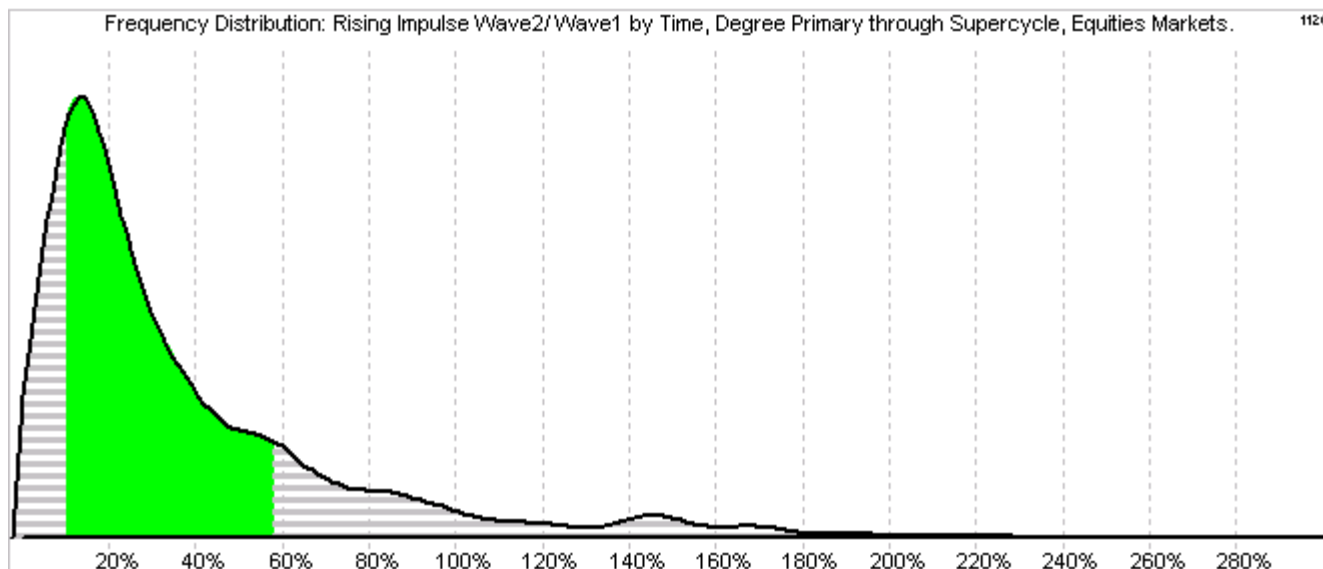


The shaded area represents 60% of the total area under the graph. This means that for 60% of the time, the retracement is between about 35% and 70%.

(Green-shaded graphs indicate long-term charts, while Red-shaded graphs indicate-short term.)

Microsoft has retraced about 70% since 2000, which is at the upper end of the shaded area. Although it could easily continue retracing (moving down), the probability of it continuing further is only about 20%. As far as price is concerned, we can quite safely say that the pattern should now either complete or be very close to completing.

Now let's look at the Wave 2 on Wave 1 time ratio for the same pattern:

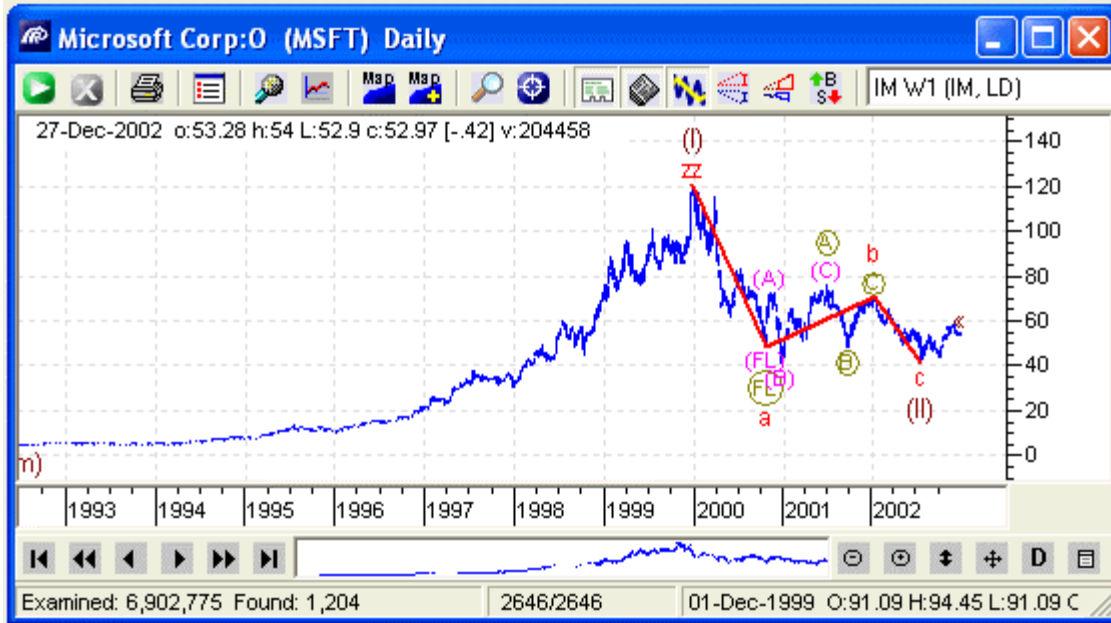


Wave 2 on the Microsoft chart has now taken about 35% of the time taken by Wave 1, which is marginally more than average but well within the 60% range. This would indicate that Wave 2 may well end now, but could extend.

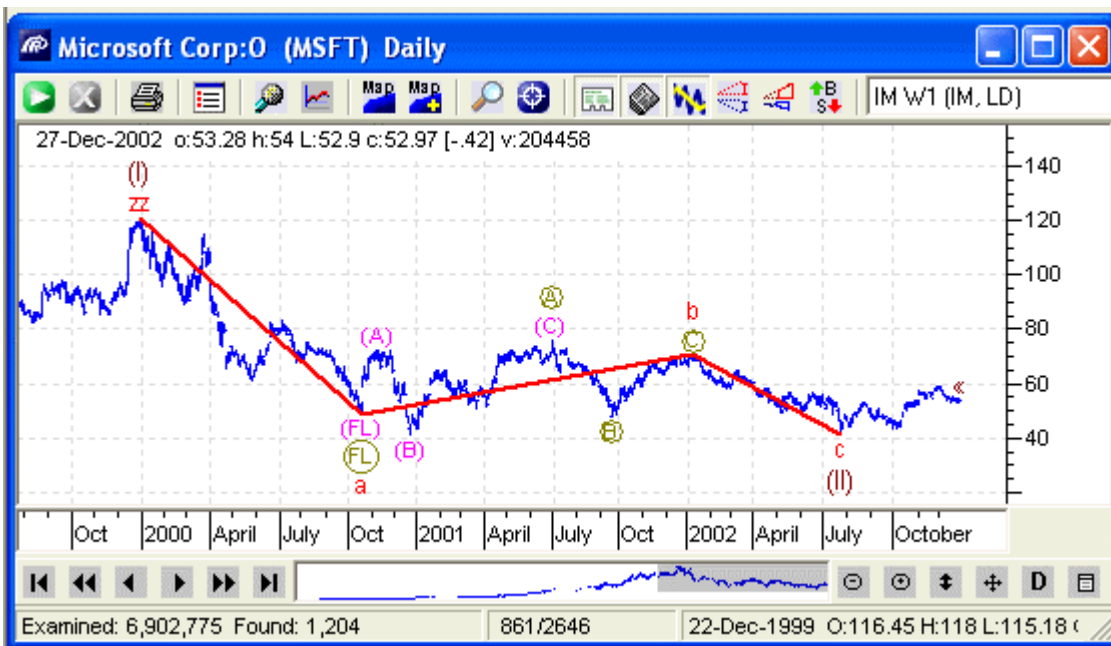
There is still plenty of time for Wave 2 to extend. If Wave 2 had already taken, let's say, 80% of the time taken for Wave 1, then we could see from the chart above that very few patterns of this type show Wave 2 taking that long – and we could expect the wave to complete very soon. However, with the current length of Wave 2, we could expect Wave 2 to either complete or to quite possibly extend.

In summary, price tells us the wave is about to, or will very soon complete, while time is indeterminate. We can therefore assume Wave 2 to be complete or be close to it.

We will now look at the internal structure of Wave 2, being a Zigzag:



Zooming in on Wave 2 only, we see the following:



Wave 2 is currently labeled as a Zigzag. As mentioned above, the most common choices for Wave 2 of an Impulse are Zigzags, Double Zigzags, Flats and Double Sideways patterns.

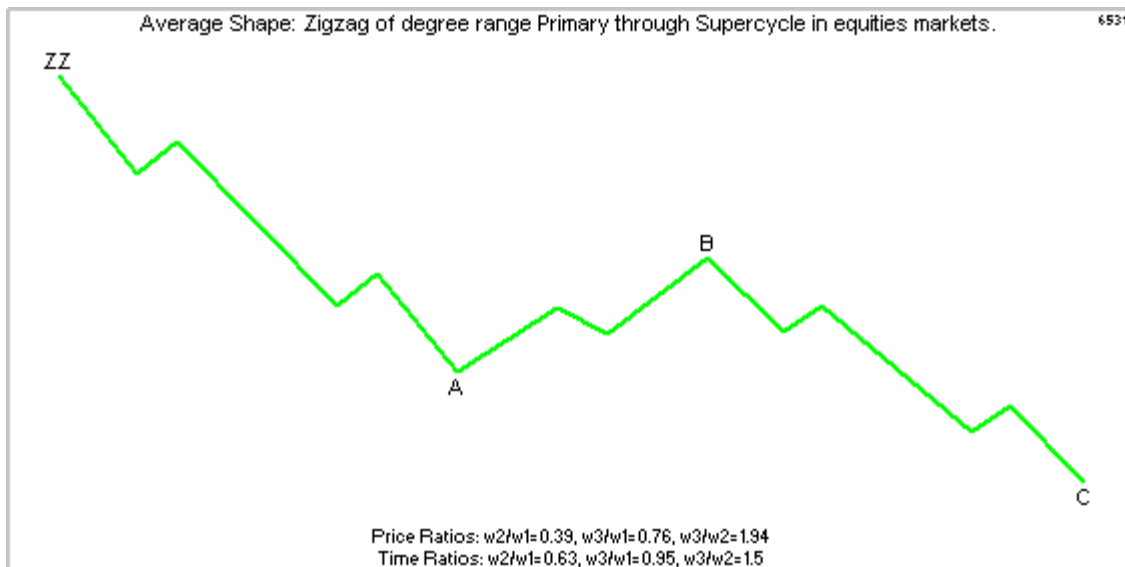
Which one of these patterns should we choose?

In this particular instance, the choice is easy. Take a close look at Wave A of the Zigzag, and you will notice that it is definitely a five-wave structure:



The only corrective pattern that has a five-wave structure in Wave A is a Zigzag. In all other possible corrective patterns, Wave A is a three-wave structure. Therefore, the choice is easy. We must label this retracement a Zigzag.

We will now compare the chart with the completed Zigzag above to the relevant Average Shape chart you will find in the Appendix under Zigzag:



The Average Shape differs considerably from our Microsoft example: Wave 2 is much shorter, and Wave 3 is longer.

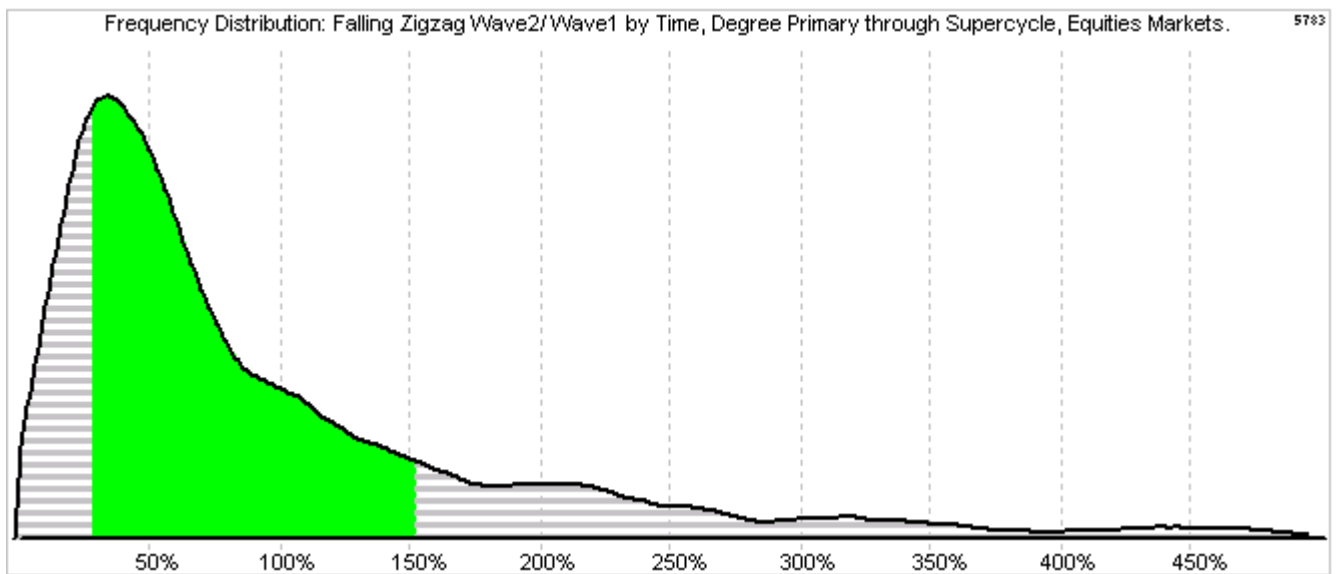
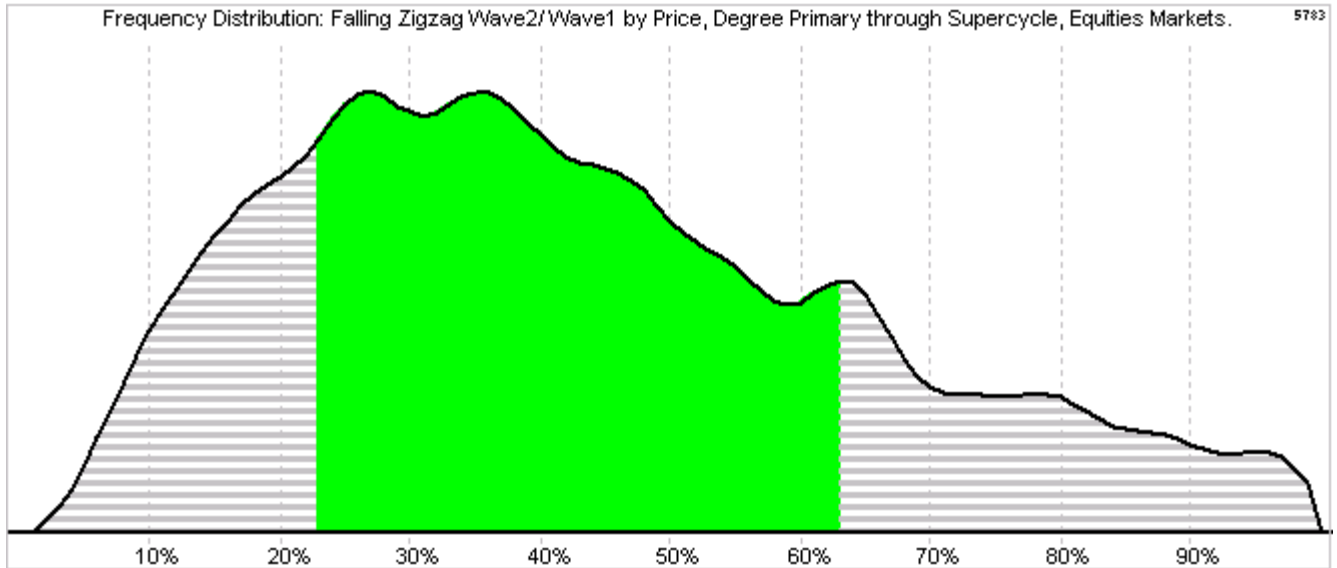
A quick calculation shows the Zigzag in the Microsoft chart has the following approximate ratios:

Price  $w2/w1=0.30$ ,  $w3/w1=0.40$   
Time  $w2/w1=1.5$ ,  $w3/w1=0.7$

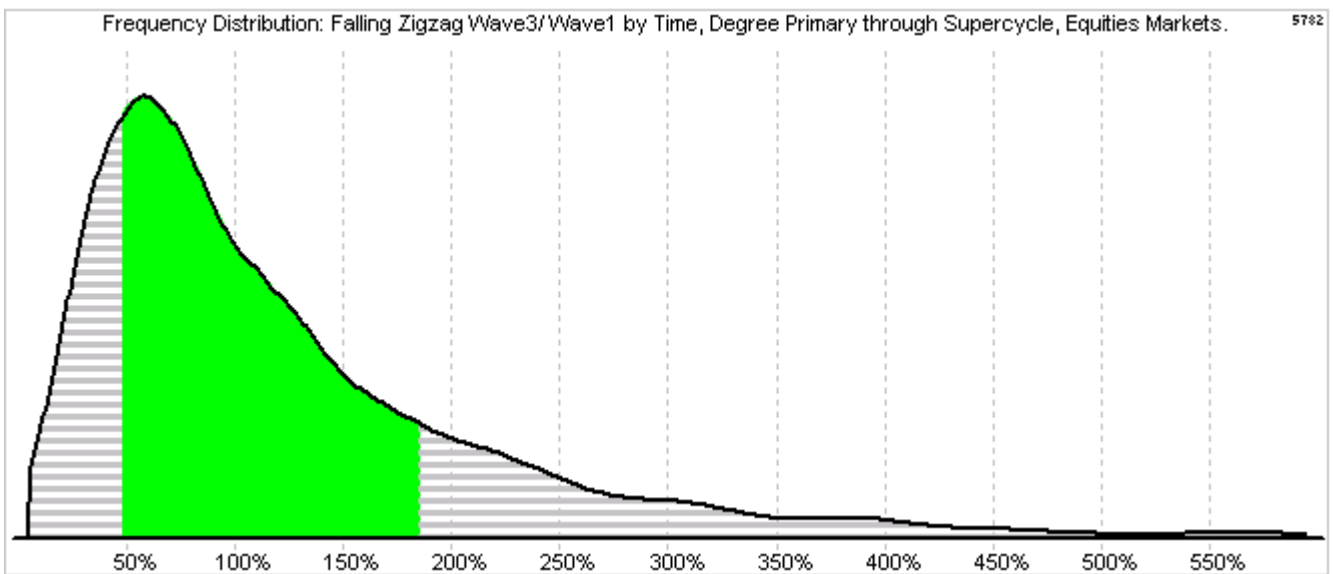
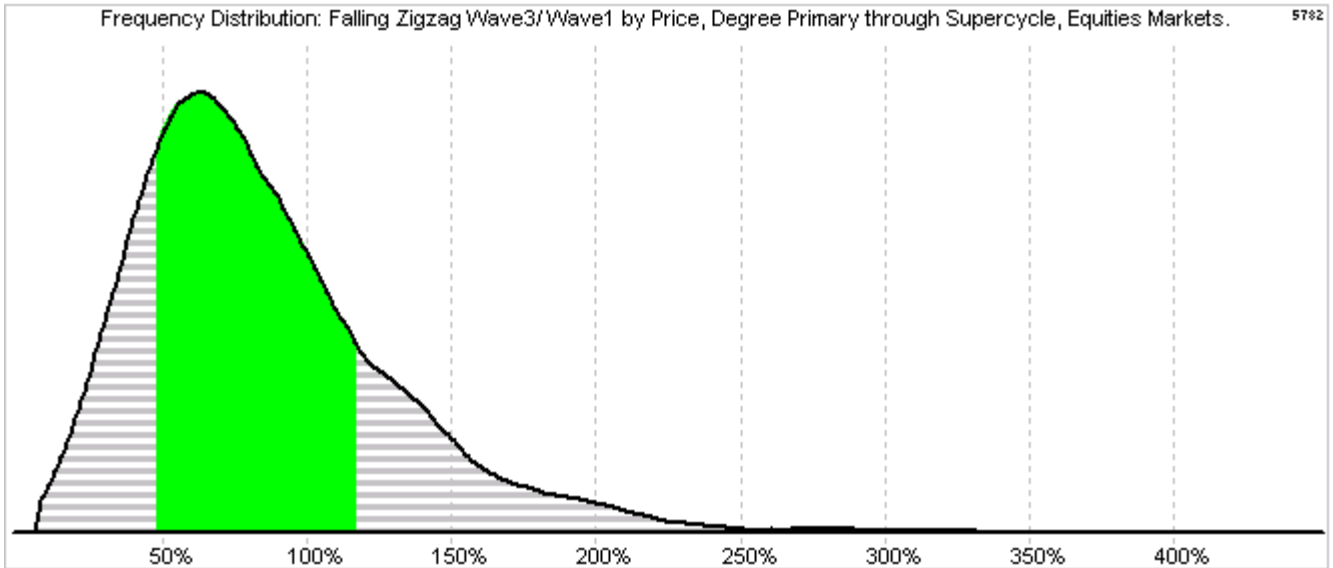
Compare these values with the ratios at the bottom of the Average Shape chart above, and note the differences.

We will now compare the Ratio Frequency Distribution Histograms to determine if these ratio values are within acceptable limits to allow us to label the pattern as a legitimate Zigzag.

You will find the following Histograms in the Appendix under Zigzags:

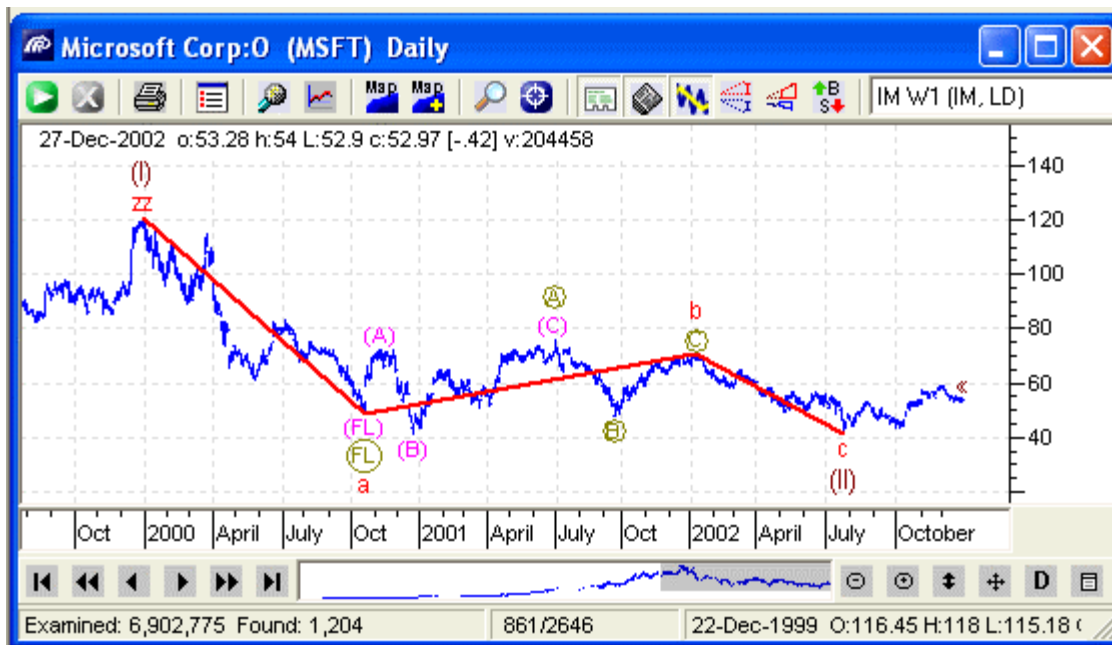






Note that the ratios are all within acceptable limits, each one well within the green shaded area (being the middle 60%) except for the Time Ratio  $w2/w1$ , which was near the edge of the green-shaded area.

Now let's take another look at the Microsoft chart labeling:



Note that we have labeled Wave B a Flat pattern. You will remember from the rules of a Zigzag that Wave B can be any corrective pattern. It is obvious from a quick look at Wave B that it is not a Triangle, and is moving primarily sideways. This would indicate a Flat or Double 3.

Take note of the following table:

| Wave | IM | LD | ED | ZZ  | DZ | TZ | FL  | D3  | T3 | CT | ET |
|------|----|----|----|-----|----|----|-----|-----|----|----|----|
| B    | 0% | 0% | 0% | 25% | 6% | 2% | 43% | 13% | 1% | 9% | 2% |

Internal Wave B Structure for Falling Zigzags in Stock Markets

Our research has uncovered the probability of every Elliott Wave pattern being a given Elliott Wave pattern. Note that Wave B (of a Falling Zigzag in stock markets - above) is a Flat (FL) pattern 43% of the time. This makes a Flat pattern the most probable choice; much more likely than a Double 3 (D3), which has a probability of only 13%.

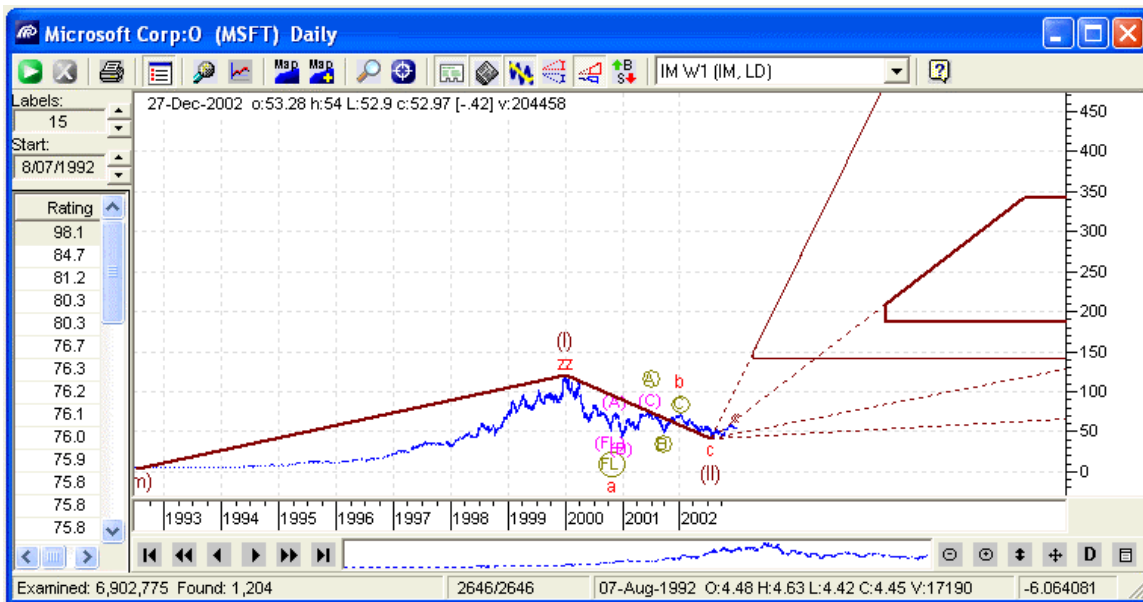
You will find a complete list of internal structure probability tables in the Appendix.

The final task is to determine if Wave C of the Zigzag is complete, as labeled, or should be labeled as incomplete. Wave C of a Zigzag is always a five-wave structure; so let's take a close look at Wave C in the Microsoft chart now:

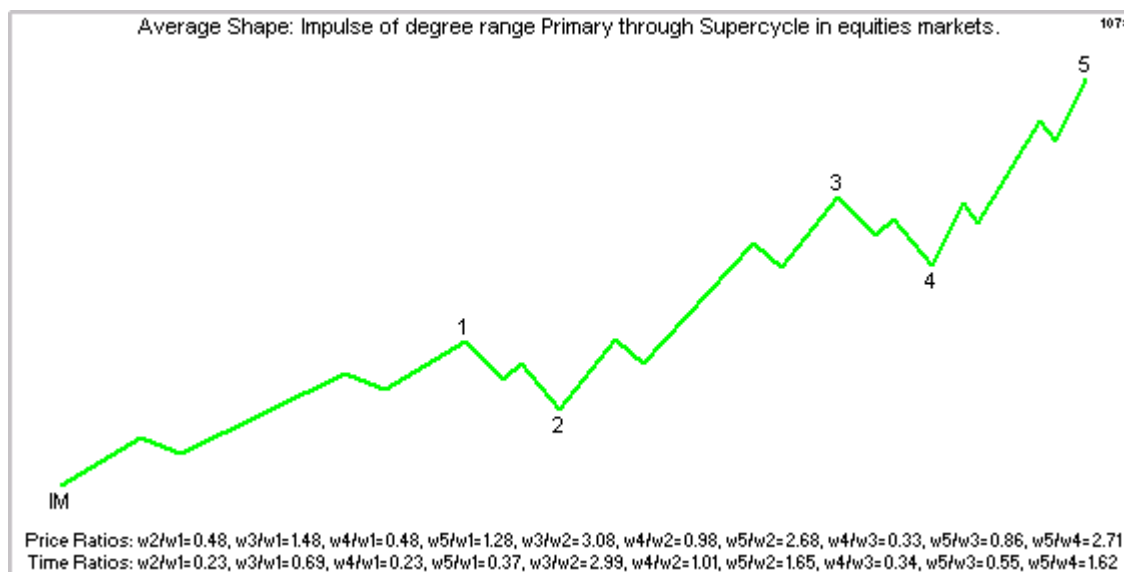


As you can see, Wave C is clearly a five-wave structure, which would indicate that it is probably complete.

Assuming that the labeling is correct, it would indicate that Microsoft is now at the beginning of a long-term Impulse Wave 3.



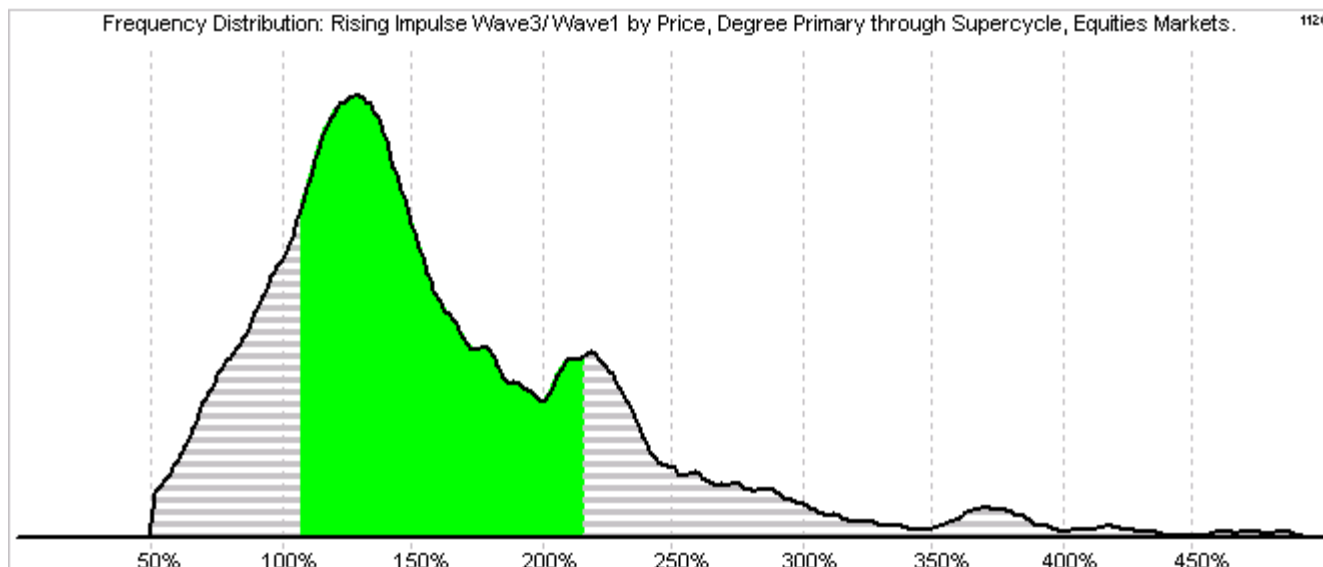
Compare this with the average shape of an Impulse of this type, and you can form an idea of what to expect.



To forecast the most likely price and time target for the end of Wave 3, we carry out the following calculations.

As you can see from the ratios at the bottom of the Average Shape chart, the Wave3/Wave1 ratio for price is about 150%. Microsoft moved up about 115 points during the course of Wave 1. Therefore, you can expect that Wave 3 will see Microsoft move up another  $\$115 \times 150\% = \$172$ . From a Wave 3 starting point of about \$42, this gives you a target price of well over \$210.

You can refer to the Histograms in the Appendix for more clarification:



Here we can see that the possible Wave 3/Wave 1 ratio range of the forecast is between about 50% and 500%. However, about 60% of the time, the Wave 3/Wave 1 ratio ranges from about 110%, through to about 220%. This gives us an absolute range for the forecast, and then, within these values, an inner range of high probability – a “bull’s-eye” target, if you will.

A similar calculation can be made to produce time targets for Wave 3.

### **Calculating the Accuracy of a Forecast:**

As a final verification of the value of our research, we carried out several million forecasts on real data, then checked to see what the market subsequently did – and whether the projected target area proved to be correct.

We then did the same analysis on data that was generated by random number algorithms. Although a “random walk” chart appears to look like a genuine price chart, it was not created through mass human psychology, as real price charts are. The

accuracy of the forecasts based on random walk charts was considered to be the control group.

As you can see, there is always a random probability of a forecast being correct. The result of the random-walk control group specifies this random probability exactly. The difference between the random and real results is your trading advantage.

As it happens, the closer the pattern shapes correlated to the Weighted Average Shapes (those in the Appendix), the higher the probability of the forecast being correct.

The following table contains the results of this research. It specifies the probability of a forecast being correct – based on incomplete waves and how close the shapes are to the “norm”.

### **Forecasting Accuracy Probabilities Table**

| <b>Pattern</b> | <b>Wave</b> | <b>Control</b> | <b>Lower</b> | <b>Upper</b> |
|----------------|-------------|----------------|--------------|--------------|
| <b>IM</b>      | 2           | 45%            | 70%          | 74%          |
| <b>IM</b>      | 3           | 13%            | 40%          | 75%          |
| <b>IM</b>      | 5           | 53%            | 97%          | 99%          |
| <b>ED</b>      | 4           | 80%            | 88%          | 94%          |
| <b>ED</b>      | 5           | 84%            | 95%          | 97%          |
| <b>ZZ</b>      | 2           | 45%            | 53%          | 76%          |
| <b>ZZ</b>      | 3           | 45%            | 51%          | 68%          |
| <b>DZ</b>      | 2           | 65%            | 82%          | 94%          |
| <b>DZ</b>      | 3           | 24%            | 40%          | 46%          |
| <b>FL</b>      | 2           | 34%            | 44%          | 52%          |
| <b>FL</b>      | 3           | 72%            | 72%          | 72%          |
| <b>D3</b>      | 2           | 53%            | 56%          | 72%          |
| <b>D3</b>      | 3           | 64%            | 86%          | 89%          |
| <b>CT</b>      | 4           | 64%            | 75%          | 78%          |
| <b>CT</b>      | 5           | 75%            | 95%          | 98%          |

In the Microsoft example above, we have an incomplete Impulse Wave 3. Using the Wave Ratio Distribution Frequency Histograms found in the Appendix, we can calculate a price and time target.

The table above shows that the random probability of the forecast being correct for an Impulse Wave 3 as 13%. The probability of the forecast being correct ranges from 40% to 75% - depending on how closely Waves 1 and 2 show “normal” Elliott behavior.

Note that the values of a Flat Wave 3 are no better than random. This is the only wave of a common Elliott pattern that cannot be used to forecast accurately. The value of 72% is quite high – simply because the target area is relatively large in comparison to the pattern size.

While the most common Elliott Wave patterns (IM, ZZ, DZ, FL, D3) give excellent results, it is Ending Diagonals and Contracting Triangles that give outstandingly accurate forecasts – with probabilities in the high nineties! You can't get much better than that!

### **Summary:**

Once you have mastered this powerful technology, you will have an outstanding advantage in forecasting the direction of the market more accurately than ever before.

You may be interested to know that the Elliott Wave Analyzer software does all these calculations automatically and much more accurately, because it accesses the Elliott Wave database directly. In addition to Price and Time, the software also examines Volume, Internal Structure, Relative Slope and nine other comparison factors – far too complex to perform manually. Although you can achieve a significant advantage in your trading by simply using the Price and Time information in this document, you can gain even more accuracy using our software.

To download a free fully functional trial of the Elliott Wave Analyzer, go to: [www.ElliottWaveResearch.com](http://www.ElliottWaveResearch.com)

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## Appendix

The Appendix consists of more than 500 charts and tables, and can be found at: [www.ElliottWaveResearch.com](http://www.ElliottWaveResearch.com)

The charts have been produced by analyzing a large number of graphs with The Elliott Wave Analyzer 3, and collating the results. Equity graphs have been generated from data gathered from stocks in the S&P500, while the commodity graphs have been produced with data retrieved from the 30 most liquid commodities traded in the U.S.A.

The appendix has not been included in the release of this eBook because:

- 1) Our research is an ongoing project, and the resulting charts are continually being updated and made more accurate. By placing them on our website, you are assured of getting the very best and latest results.
- 2) The sheer size of the Appendix would have increased the download time of this document more than 600%.

Please visit our website and follow the links to: “Elite Trader’s Secrets”, then select: “Appendix”.

For more information, contact us at:

[info@ElliottWaveResearch.com](mailto:info@ElliottWaveResearch.com)