The Basics of the Wave Principle

The e-learning Series for Traders

Presented by Wayne Gorman, Senior Tutorial Instructor

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The Basics of the Wave Principle

1.00 Introduction — Ralph Nelson Elliott’s Discovery
2.00 Motive Waves
3.00 Corrective Waves
4.00 Rules
5.00 Guidelines
6.00 Wave Personalities
7.00 Fibonacci Relationships
8.00 Summary
Financial Market Behavior Characteristics

- Emotional (Unconscious)
- Subjective
- Impulsive
- Ignorance and Uncertainty
- Herding

Values Cannot Revert To Anything
The Wave Principle

Financial Markets are Patterned
Ralph Nelson Elliott
(1871 – 1948)

• Crowd behavior trends and reverses in recognizable patterns, that he called waves.

• These structures link together to form larger versions of the same patterns and how those, in turn, become the building blocks for patterns of the next larger size and so on.

• In 1938, he coined this phenomenon The Wave Principle.

• *Nature’s Law — The Secret of the Universe*
The Basic Pattern

Wave 1

Wave 2

Wave 3

Wave 4

Wave 5

1.05
① and ② = 2 waves
(1), (2), (3), (4), (5), (A), (B), (C) = 8 waves
1, 2, 3, 4, 5, A, B, C, etc. = 34 waves
<table>
<thead>
<tr>
<th>Wave Degree</th>
<th>5’s With the Trend</th>
<th>3’s Against the Trend</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Supermillennium</td>
<td>1 2 3 4 5</td>
<td>A B C</td>
</tr>
<tr>
<td>2 Millennium</td>
<td>(1) (2) (3) (4) (5)</td>
<td>(A) (B) (C)</td>
</tr>
<tr>
<td>3 Submillennium</td>
<td>1 2 3 4 5</td>
<td>A B C</td>
</tr>
<tr>
<td>4 Grand Supercycle</td>
<td>1 2 3 4 5</td>
<td>① ② ③ ④ ⑤</td>
</tr>
<tr>
<td>5 Supercycle</td>
<td>(I) (II) (III) (IV) (V)</td>
<td>(a) (b) (c)</td>
</tr>
<tr>
<td>6 Cycle</td>
<td>I II III IV V</td>
<td>a b c</td>
</tr>
<tr>
<td>7 Primary</td>
<td>1 2 3 4 5</td>
<td>A B C</td>
</tr>
<tr>
<td>8 Intermediate</td>
<td>(1) (2) (3) (4) (5)</td>
<td>(A) (B) (C)</td>
</tr>
<tr>
<td>9 Minor</td>
<td>1 2 3 4 5</td>
<td>A B C</td>
</tr>
<tr>
<td>10 Minute</td>
<td>① ② ③ ④ ⑤</td>
<td>a b c</td>
</tr>
<tr>
<td>11 Minuette</td>
<td>(i) (ii) (iii) (iv) (v)</td>
<td>(a) (b) (c)</td>
</tr>
<tr>
<td>12 Subminuette</td>
<td>i ii iii iv v</td>
<td>a b c</td>
</tr>
<tr>
<td>13 Micro</td>
<td>① ② ③ ④ ⑤</td>
<td>A B C</td>
</tr>
<tr>
<td>14 Submicro</td>
<td>(1) (2) (3) (4) (5)</td>
<td>(A) (B) (C)</td>
</tr>
<tr>
<td>15 Miniscule</td>
<td>1 2 3 4 5</td>
<td>A B C</td>
</tr>
</tbody>
</table>
A More Realistic Wave Depiction
The Wave Principle

Mankind’s progress (popularly measured by stock market valuation) is not a straight line, random or cyclical.

Growth and thereby social systems are moving in a pattern consisting of five waves up and three waves down.

This pattern reflects the alternation of growth and non-growth or decline.
The Wave Principle

Predict Market Direction

Identify turning Points

Provide Guidance for Entering and Exiting Positions
Motive (Numbered) Phase

(1) Wave A

Corrective (Lettered) Phase

Wave C

Wave 1

Wave 2

Wave 3

Wave 4

Wave 5
MOTIVE WAVES

Key Characteristics

• Five-wave structures, numbered 1-5
• In the direction of the main trend of one larger degree
• Wave 2 cannot retrace more than 100% of wave 1
• Wave 3 can never be the shortest and is often the longest
MOTIVE WAVES

Five-Wave Structures

• Impulse
  1. Extensions
  2. Truncations

• Diagonal Triangles
IMPULSE WAVES

Key Characteristics

• Wave 4 never enters the price territory of wave 1.
• Actionary waves 1, 3 and 5 are motive waves.
• Wave 3 is always an impulse wave.
Real Estate Loans as a % of Total Commercial Loans and Leases at U.S. Banks

Monthly Data

(1) (2) (3) (4) (5)

EXTENSIONS

Key Characteristics

• Elongated impulse wave
• Appears in either wave 1, 3 or 5
• Often seen in wave 3 for the stock market
• Often seen in wave 5 in commodities
Third Wave Extension
of
Third Wave Extension

Fifth Wave Extension
of
Fifth Wave Extension

Five waves of Minor degree

Five waves of Intermediate degree

Five waves of Primary degree
DJIA, monthly data

*log scale*

© January 2004 Elliott Wave International
DJIA, monthly data

log scale
TRUNCATIONS

Key Characteristics

• Wave 5 does not exceed the end of wave 3
• Contains necessary five subwaves
• Often occurs after a strong third wave
Swiss Market Index
since the late 1980's

truncated fifth wave
The fifth wave fails to achieve a new high.
DIAGONAL TRIANGLES

Key Characteristics

• Wave 4 almost always moves into the price territory of wave 1
• Waves 1, 3 and 5 are composed of three subwaves, not five
• Found at termination points of larger pattern, indicating exhaustion of larger pattern
• Normally has wedge shape within two converging lines
Diagonal Triangles
U.S. BOND FUTURES
HOURLY

As presented in the
October 29, 1993
Elliott Wave Theorist

diagonal triangle

background chart courtesy of TELETRAC
SUMMARY

The Wave Principle = Graphic of Mass Psychology

Motive Waves = 5 Wave Structures, Main Trend of One Larger Degree

Types of Motive Waves = Impulse, Diagonal Triangle

Impulse: Waves 1, 3, 5 = 5 Impulse Subwaves

(Extensions, Truncations)

Wave 4 ≠ Price Territory of Wave 1

Diagonal Triangle: Waves 1, 3, 5 = 3 Subwaves

Wave 4 = Price Territory of Wave 1

Signal = Imminent Major Trend Reversal
Characteristics of Corrective Waves

Zigzag
Characteristics of Corrective Waves

Flat

A

B

C
Characteristics of Corrective Waves

Triangle
Horizontal Triangles

- **Bull Market**
  - SYMMETRICAL (Top declining, bottom rising)

- **Bear Market**
  - SYMMETRICAL (Top declining, bottom rising)

- **Contracting Triangles**
  - DESCENDING (Top declining, bottom flat)

- **Expanding Triangles**
  - ASCENDING (Top flat, bottom rising)

- **REVERSE SYMMETRICAL** (Top rising, bottom declining)
# Barrier Triangles

Proper List of Elliott Wave Triangles

<table>
<thead>
<tr>
<th>Bull Market</th>
<th>Bear Market</th>
</tr>
</thead>
<tbody>
<tr>
<td>CONTRACTING (upper line declining, lower line rising)</td>
<td>A</td>
</tr>
<tr>
<td>BARRIER (inner line contracting, outer line flat)</td>
<td>A</td>
</tr>
<tr>
<td>EXPANDING (upper line rising, lower line declining)</td>
<td>A</td>
</tr>
</tbody>
</table>

© Robert R. Prechter 2005
Running Triangles

Bull Market

Bear Market

3.08
Tokyo 10-Year JGB
Monthly

© April 2005 Elliott Wave International
Data Courtesy of CQG
Characteristics of Corrective Waves

Combination

Flat | Any Three | Triangle

Combination
COTTON
July Contract
Daily Data

© April 2004 Elliott Wave International
## Corrective Waves Summary

<table>
<thead>
<tr>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>Shape</th>
<th>Position</th>
</tr>
</thead>
<tbody>
<tr>
<td>Zigzag</td>
<td>5</td>
<td>3</td>
<td>5</td>
<td></td>
<td>Sharp</td>
<td>Wave 2</td>
</tr>
<tr>
<td>Flat</td>
<td>3</td>
<td>3</td>
<td>5</td>
<td></td>
<td>Sideways</td>
<td>Wave 4</td>
</tr>
<tr>
<td>Triangle</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>Sideways</td>
<td>Wave 4</td>
</tr>
<tr>
<td>Combination</td>
<td>X wave</td>
<td></td>
<td></td>
<td></td>
<td>Sideways</td>
<td>Wave 4</td>
</tr>
</tbody>
</table>
Rules

• Of waves 1, 3 and 5, wave 3 can never be the shortest wave.

• Wave 2 can never retrace more than 100% of wave 1.

• The end of wave 4 can never overlap the orthodox end of wave 1.

Strong Guideline

• No portion of wave 4 can enter the price territory of wave 1 or wave 2.
Rules

Wave 2 always retracts less than 100% of wave 1.

Wave 3 is never the shortest of waves 1, 3 and 5.

Wave 4 does not overlap the price territory of wave 1.

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Rules

Wave 2 always retraces less than 100% of wave 1.
Rules

Wave 2 always retraces less than 100% of wave 1.

This five-wave move cannot be the start of a new trend. It can be wave C of a corrective pattern.
Rules

What might this be?

Significant Bottom

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Rules

What might this be?
Rules

Wave 3 is never the shortest of waves 1, 3 and 5. This could be part of a wave 3 extension.
Rules

Significant Bottom

What might this be?

© 2003 Elliott Wave International
Rules

What might this be?
Wave 4 does not overlap the price territory of wave 1. This could be the start of a 3\textsuperscript{rd} wave extension or an A-B-C correction.
Guidelines

• Equality
• Alternation
• Depth
• Channeling
• Throw-Over
• Volume
• Post-Triangle Thrust Measurement
Guidelines

Wave Equality

• Two of the motive waves in a five-wave sequence will tend toward equality in time and magnitude.

• This is generally true of the two non-extended waves.

• For example, if wave 3 is extended then waves 1 and 5 will tend toward equality.
Equality

THE RUSSELL 2000
Daily Data

© December 2004 Elliott Wave International
Equality

U.S. Dollar Index
Weekly Data

2001 2002 2003 2004

(1) (2) 1 2 3 4 5 (3) (4) (5)

© 2004 December Elliott Wave International
Guidelines

Alternation

Within Impulse Waves

• If wave 2 is a sharp correction, expect wave 4 to be a sideways correction, and vice versa.

• Sharp corrections never include a new price extreme. Example: Zigzags

• Sideways corrections usually include a new price extreme. Examples: Flats, Triangles, and Combinations

• Diagonal triangles do not display alternation in subwaves 2 and 4.
Alternation within Impulse Waves

Bull

Sideways

Sharp

Sideways

Sharp

Sharp

Sideways

Bear
Alternation within Impulse Waves

COFFEE
May Contract
(Daily)

Data Courtesy CQG
© March 1999 Elliott Wave International
Alternation within Impulse Waves

The Euro's Subdivisions
(Euro, 500-min. Bar)
Alternation within Impulse Waves
Alternation within Impulse Waves
Guidelines

Alternation

Within Corrective Waves

• If a correction begins with a flat a-b-c structure for wave A, then expect a zigzag a-b-c structure for wave B, and vice versa.

• If a large correction begins with a simple a-b-c zigzag for wave A, wave B will stretch out into a more complex a-b-c zigzag.
Guidelines

Alternation within Corrective Waves
Guidelines

Alternation within Corrective Waves

Diagram showing the alternation between simple and complex waves within corrective waves.
Alternation within Corrective Waves

July 1984 Cotton

(3)
Alternation within Corrective Waves

July 1985 Coffee (1)
Alternation within Corrective Waves

Singapore Hourly

Zigzag 5-3-5
Guidelines

Depth of Corrective Waves

Corrections, especially when they are fourth waves, tend to register their maximum retracement within the span of travel of the previous fourth wave of one lesser degree and most commonly near its terminus.
Guidelines

Depth of Corrective Waves

① and ② = 2 waves
(1), (2), (3), (4), (5), (A), (B), (C) = 8 waves
1, 2, 3, 4, 5, A, B, C, etc. = 34 waves
Depth of Corrective Waves

Japanese Yen/ U.S. Dollar

© March 2005 Elliott Wave International
Depth of Corrective Waves

The Euro's Subdivisions
(Euro, 500-min. Bar)
Guidelines

Channeling

A parallel trend channel typically marks the upper and lower boundaries of impulse waves and zigzag corrective waves.
Guidelines

Channeling in Impulse Waves
Channeling in Impulse Waves

DJIA, monthly data

log scale

© July 2004 Elliott Wave International
Channeling in Impulse Waves

DJIA, monthly data

log scale

© July 2004 Elliott Wave International
Channeling in Impulse Waves
Channeling in Impulse Waves
Guidelines

Channeling in Zigzags
Channeling in Corrective Waves
Channeling in Corrective Waves
Guidelines

Throw-Over
Guidelines — Volume

Waves < Primary Degree

Normally, 3\textsuperscript{rd} wave volume > 5\textsuperscript{th} wave volume
5\textsuperscript{th} wave volume \geq 3\textsuperscript{rd} wave volume = 5\textsuperscript{th} wave extension

Waves > Primary Degree

Higher volume in 5\textsuperscript{th} waves
All-time high volume at terminal points in bull markets

• Volume often spikes briefly at the throw-over point of a parallel trend channel line or a diagonal triangle resistance line.

• Volume contracts in corrective waves.
Volume

SOYBEANS
Daily Continuation
Post-Triangle Thrust Measurement
Gold Traces out a Clear Five-Wave Decline
(June Gold-All Session, Hourly Bar)
Gold Traces out a Clear Five-Wave Decline
(June Gold-All Session, Hourly Bar)
Summary

- Two motive waves in a five wave sequence will tend toward equality.
- If the second wave is sharp, then the fourth wave is usually sideways, and vice versa.
- Corrective waves usually end in the span of the previous fourth wave of one lesser degree.
- Impulse waves tend to be bounded by a channel composed of two parallel lines.
- A throw-over/throw-under occurs when wave 5 terminates beyond the trend channel.
- The post-triangle thrust measurement estimates price target for the next wave in the pattern of one larger degree.
Wave Personality

Idealized Elliott Wave Progression

FINAL ADVANCE
Market performance and fundamentals improve, but not to levels of wave 3. Psychology creates overvaluation.

POWERFUL WAVE
Strength, Breadth, Best fundamentals, Increasing real prosperity. By the end, the underlying trend is considered up. Wave often subdivides. Is never the shortest wave.

REBOUND from undervalued levels. Recognition of survival.

SURPRISING DISAPPOINTMENT
Signals that best part of growth phase has ended. Does not enter price territory of wave 1.

TEST OF LOWS
Fundamental conditions often as bad as or worse than those at the previous bottom. Underlying trend considered down. Does not carry to new low.

BOTTOM
Large degrees: question of existence, survival; depression, war. Intermediate degrees: recession, "panic", limited wars. Minor degrees: often accompanied by "bad news".

6.00
Wave Personality

Idealized Corrective Wave

TOP
Large degrees: prosperity and peace appear
guaranteed forever. Arrogant complacency reigns.
Intermediate degrees: economic
improvement, good feeling.
Minor degrees: often accompanied by
“good news.”

TECHNICAL BREAKDOWN
Trendlines broken.
Viewed as buying opportunity.

NARROW, EMOTIONAL ADVANCE
Technically weak, selective.
Results in non-confirmations.
Fundamentals weaken subtly.
Aggressive euphoria and denial.

WORST OF BEAR MARKET
Strength, breadth.
Prices decline relentlessly.
Fundamentals ultimately collapse in response.
Fibonacci Relationships In Financial Markets

The Golden Ratio

PHI Φ

.618 or 1.618
Golden Ratio, PHI, Φ

1 1 2 3 5 8 13 21 34... (to infinity)

1.000
0.667
0.625
0.619
0.618

Inverses:

1.000
1.500
1.600
1.615
1.619
1.618...
Golden Ratio, PHI, $\Phi$

\[
\begin{align*}
17 & \downarrow 352 \downarrow 369 \downarrow 721 \downarrow 1090 \downarrow 1811 \downarrow 2901 \downarrow 4712 \downarrow 7613 \downarrow 12,325 \ldots \text{ (to infinity)}
\end{align*}
\]

\[
\begin{align*}
.954 & \quad .661 \quad .624 \quad .619 \quad .618 \ldots
\end{align*}
\]

\[
\begin{align*}
.048 & \quad .512 \quad .602 \quad .616 \quad .618
\end{align*}
\]
Fibonacci Relationships are Seen in Time and Amplitude

- Retracements
- Multiples
Retracements
Retracements

SP-099: S&P 500 Index (Pit) Cash (Daily bars)
Retracements
Retracements

SP-099: S&P 500 Index (Pit) Cash (Daily bars) www.GenesisFT.com

- Levels: 1217.4, 0.382, 0.5, 1188.4, 1153.8, 1138.8, 1090.2
Multiples in Impulse Waves
Multiples in Impulse Waves

A PRECISE FIBONACCI PRICE RELATIONSHIP IN THE SUPERCYCLE: $V = \Phi (I \rightarrow III)$
DJIA Monthly Bar
1932-2001, log scale

In terms of multiples,
$V/I \rightarrow III = \Phi \%$, or
$8V = 5(I \rightarrow III)$. 

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Multiples in Impulse Waves

A PRECISE FIBONACCI PRICE
RELATIONSHIP IN THE
SUPERCYCLE: V/(I→III) = 5/8
DJIA Monthly Bar with
Daily Closing Price Extremes
1932-2001, log scale

In terms of a common factor,
(I→III) = 8x, and V = 5x,
where x = 3.0178.
Multiples in Impulse Waves

Net of waves 1 through 3 times .382 = percent movement of wave 5
Multiples within Corrective Waves — Zigzags
Fibonacci Time Relationships

In the year 2000, Wave III Top divides Wave (V) into two periods lasting a Fibonacci 34 years each. DJIA (log scale)

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Fibonacci Time Relationships

IN THE YEAR 2000, WAVE 3 TOP DIVIDES WAVE V INTO TWO PERIODS LASTING A FIBONACCI 13 YEARS EACH DJIA (log scale)

©February 2000 Elliott Wave International
Summary

• The Fibonacci Ratio (Φ), an irrational number approximating .618, known as the Golden Ratio, is found in nature, human biology, human thought, and aggregate human behavior such as the stock market.

• The Wave Principle is a robust fractal governed by Fibonacci mathematics.

• Sharp wave corrections tend to retrace 61.8% or 50% of the previous wave.

• Sideways corrections tend to retrace 38.2% of the previous wave.

• Subdivisions of impulse waves tend to be related by Fibonacci numbers .618, 1.0, 1.618 and 2.618.

• Subdivisions of corrective waves tend to be related by Fibonacci numbers .382, .618, 1.0 and 1.618.
The Basics of the Wave Principle

Summary
The Basic Pattern

Wave 1  Wave 2  Wave 3  Wave 4  Wave 5
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Wave 2 always retraces less than 100% of wave 1.

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Wave 3 is never the shortest of waves 1, 3 and 5.

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Equality

U.S. Dollar Index
Weekly Data

2001 2002 2003 2004

© 2004 December Elliott Wave International

8.06
Alternation within Impulse Waves

COFFEE
May Contract
(Daily)

Data Courtesy CQG
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Alternation within Corrective Waves

July 1985 Coffee

(1)
Depth of Corrective Waves
Channeling in Impulse Waves

Euro
Weekly Bar
Log Scale

US Dollar low here

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Throw-Over
Volume
Post-Triangle Thrust Measurement

Gold Traces out a Clear Five-Wave Decline
(June Gold-All Session, Hourly Bar)
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SP-099: S&P 500 Index (Pit) Cash (Daily bars)

www.GenesisFT.com
Multiples in Impulse Waves

A Precise Fibonacci Price Relationship in the Supercycle: \( V = \Phi (I \rightarrow III) \)

DJIA Monthly Bar
1932-2001, log scale

In terms of multiples,
\( V/I \rightarrow III = 9\%, \text{ or} \)
\( 8V = 5(I \rightarrow III). \)

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