**APPENDIX I**

## Characteristic of Nominal and Real Stock Returns

Stock returns could be characterized as a random walk, which means stock returns change should be random and unpredictable. Random walk evolving stock returns are the necessary consequence of intelligent investors competing to discover relevant information on which to buy and sell stocks before the rest of the market becomes aware of that information. Therefore, a random walk would be the natural result of stock returns that always reflect all current knowledge.

**APPENDIX II**

## Dow Theory

Dow Theory is the oldest theory in technical analysis, the theory has been around for almost 100 years, yet in today's volatile and technology driven market, the basic theory still remain valid. Dow Theory stated that prices fully reflect all existing information. Knowledge available to participants including traders, analysts, portfolio managers, market strategists and investors is already discounted in the price action. Movement caused by unpredictable events such as acts of god will be contained within the overall trend.

The two indicators used are The Dow Jones Industrial Average (DJIA) and The Dow Jones Transportation Average (DJTA). The DJIA is the key indicator of underlying trend, while the DJTA usually serves as a check to confirm or reject that signal. The Dow theory developed primarily around stock market average, it holds that prices progressed into waves patterns which

consisted of three magnitude- primary, secondary and minor as shows in Figure I

**Figure I      Dow Theory Trends**
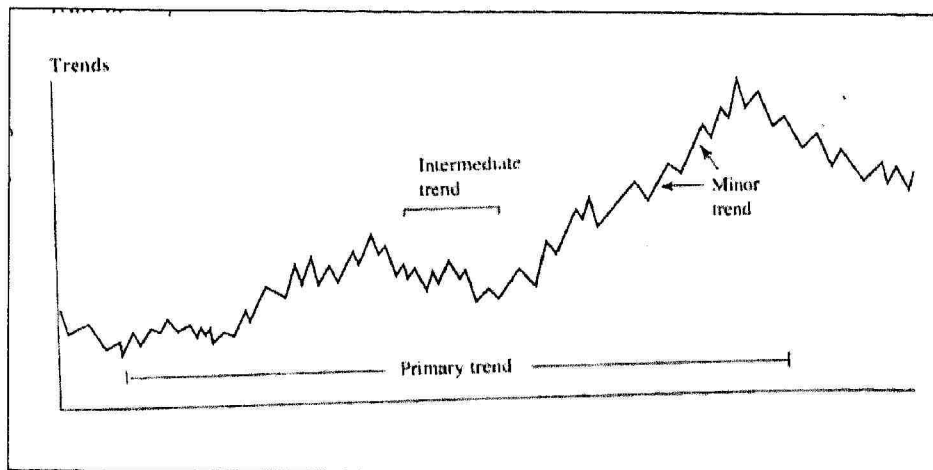


Source : Melanie F. Bowman and Thom Hartle, *Dow Theory*, 1990, pp.690

The primary trend is the long-term movement of prices, lasting from several months to several years. Secondary or intermediate trends are caused by short-term deviations of prices from the underlying trend line. This deviations via corrections when prices revert back to trend values. Finally, the tertiary or minor trends are daily fluctuations of little importance.

Dow Theory is based on the notion of predictably recurring price patterns. The empirical evidence supported a theory called the Efficient Markets Hypothesis (EMH).The basic reasoning behind the EMH is that in competitive financial environment, the active management which take into consideration of market timing and security selection should not be expected to work in long term. The EMH holds that if any pattern is exploitable, many investors would attempt to profit from such predictability, which would ultimately move stock prices and cause the trading strategy to 'self-destruct'.

**APPENDIX III**

**Basic Rules for Impulse Waves and Justification**

According to Elliott Wave Theory, the basic rules for Impulse Waves are as follows:

- Waves 2 never retraces 100 % of waves 1

- Waves 3 always travels beyond the end of waves 1

- Waves 4 never moves past the end of waves 1 (overlap)

- Waves 3 never the shortest of the impulse waves within a large impulse wave

One of the Elliott Wave specialist, Robert Prechter justified the pattern of each wave. Waves 1 included the changing of market opinion from bearish to bullish. It often is driven by a rebound from depressed prices and is the shortest of the rising impulse waves. Basically, the bargain hunting has begun.

Waves 2 is a retrenchment of Wave 1, not all of the gain from Wave 1 are erased because market participant have used this rally to sell their losing portions at slightly better prices. This wave often presents itself as the right shoulder of a head and shoulders pattern. Waves 3 presents when the reversal pattern completed by the first two waves break into new trend. This is the longest and strongest of the impulse waves, at least in the financial markets, as most technical patterns have signaled the new trend and market participants now rush in to follow it.

Waves 4 is the consolidation phase of the advance, its structure is fairly complex, yielding many common continuation patterns such as triangles. This wave never drops below the peak of wave 1. The final wave of advance, Wave 5 often shows a divergence with such technical indicators as cumulative volume and relative strength.

**APPENDIX IV**

**Dow Jones Industrial Average from 1920-1962**
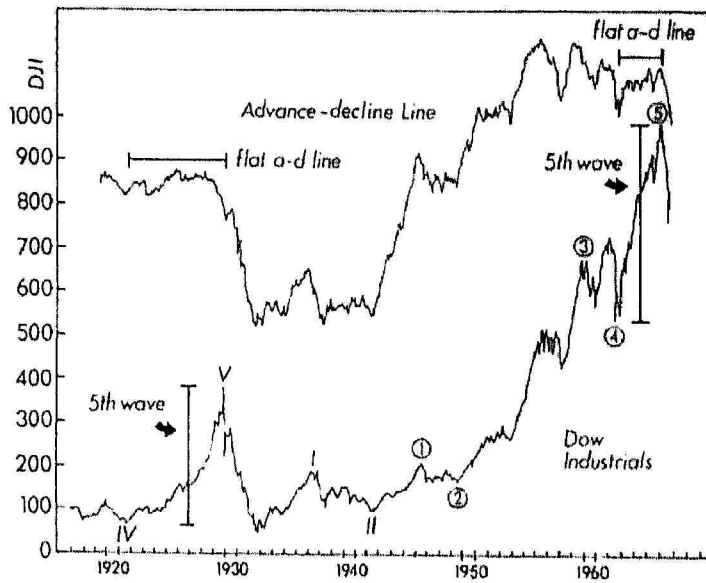


Source : Source: Frost and Prechter, *Elliott Wave Principle*, 1989, pp. 229

**APPENDIX V**

(i)    Fibonacci Ratio            Wave 5 = 0.618  or equality of Wave 1
       Case Study of Malaysia     Wave 5 = 4.6 of Wave 1

       Wave 1 : 297.28-269.1 = 28.18
       Wave 5 : 448.71-317.2 = 131.5


(ii)   Fibonacci Ratio            Wave 2 = 0.618  of Wave 1
       Case Study of Malaysia     Wave 2 = 0.374 of Wave 1

       Wave 1                     : 367-271.76 = 95.24
       Wave 2                     : 331.24-367 = 35.7


(iii)  Fibonacci Ratio            Wave 5 = 0.618 or equality of Wave 1
       Case Study of Malaysia     Wave 5 = 1.15 of Wave 1

       Wave 1                     : 367-271.96 = 95.24
       Wave 5                     : 630.29-520.57 = 109.72


(iv)   Fibonacci Ratio            Wave 2 = 0.618 of Wave 1
       Case Study of Malaysia     Wave 2 = 2.2 of Wave 1

       Wave 1                     :745.36-545.44 = 199.92
       Wave 2                     :745.36-302.91 = 442.45


v)     Fibonacci Ratio            Wave 5 = 1.618  of Wave 1 to Wave 3
       Case Study of Malaysia     Wave 5 = 1.16 of Wave 1 to Wave 3

       Wave 1 to Wave 3           : 811.1-545.44  = 265.66
       Wave 5                     : 984.24-675.45 = 308.79


vi)    Fibonacci Ratio            Wave 5 = 0.618  or equality of Wave 1
       Case Study of Malaysia     Wave 5 = 4.5 of Wave 1

       Wave 1                     : 297.93-268.77 = 29.16
       Wave 5                     : 449.04-317.63 = 131.41


(vii)  Fibonacci Ratio            Wave 5 = 0.618 or equality of Wave 1
       Case Study of Malaysia     Wave 5 = 1.16 of Wave 1

       Wave 1                     : 366.47-271.54 = 94.93
       Wave 5                     : 630.59-519.86 = 110.73

|        |                       |                                       |
|--------|-----------------------|---------------------------------------|
| (viii) | Fibonacci Ratio       | Wave 2 = 0.618 of Wave 1              |
|        | Case Study of Malaysia | Wave 2 = 2.2 of Wave 1               |
|        |                       |                                       |
|        | Wave 1                | :743.84-545.05 = 198.79              |
|        | Wave 2                | :743.84-302.84 = 441.00              |
|        |                       |                                       |
| ix)    | Fibonacci Ratio       | Wave 5 = 1.618 of Wave 1 to Wave 3   |
|        | Case Study of Malaysia | Wave 5 = 1.16 of Wave 1 to Wave 3    |
|        |                       |                                       |
|        | Wave 1 to Wave 3      | : 811.24-545.05 = 266.19             |
|        | Wave 5                | : 984.17-675.45 = 308.72             |