



MMTA Course One – Cycles and Chart Patterns in Financial Markets



Long-Term Cycles in US stock indices - continued

Module Lesson Eight



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Objectives

- In this module you will learn about:
 - Applying basic cycle tenets
 - Secondary lows in long-term cycles
 - 4-year cycle in stocks
 - List of instances and table of performance for 4-year cycles

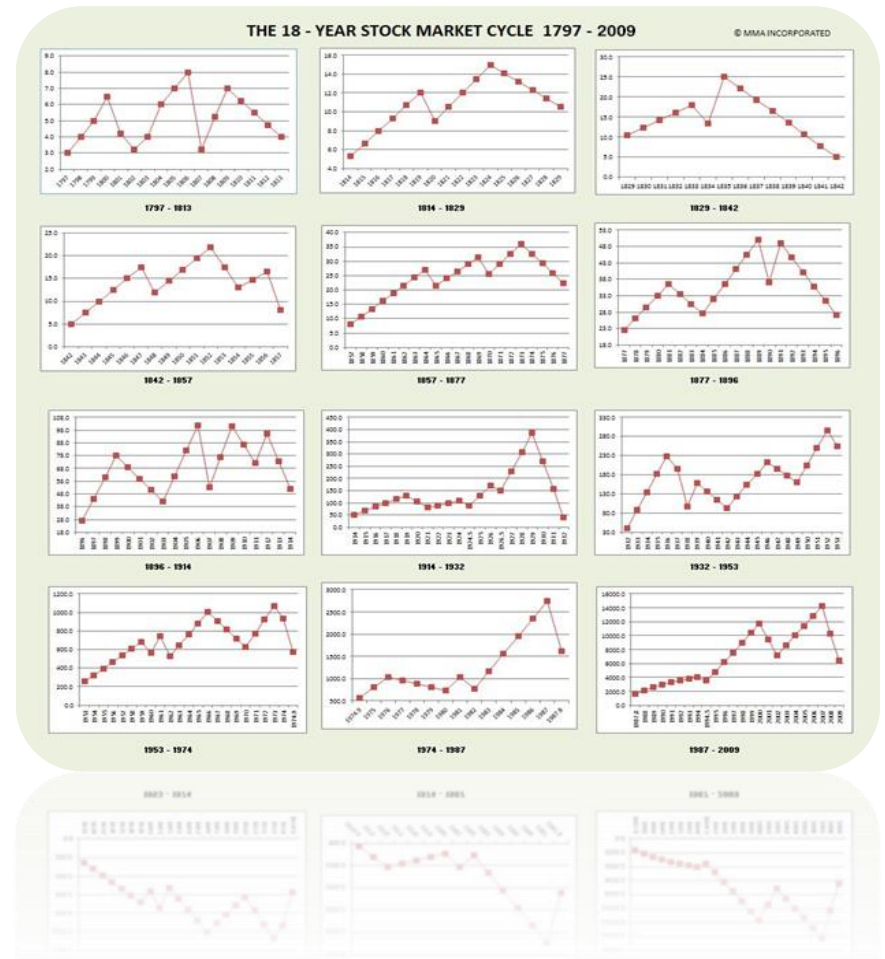


Every Cycle is Part of a Longer-Term Cycle by a Multiple of 2 or 3

Review and Application of Cycles Theory to
Long-Term Stock Market Cycle – Part 1

Long-Term Stock Market Cycle

- Each cycle is part of longer-term cycle by a multiple of 2 or 3
 - 18-year cycle in U.S. stocks has a range of 13-22 years
 - Mean periodicity is 17.5 years using all instances



Long-Term Stock Market Cycle

Remove Two Furthest Cycles (13 years)

- 10 of 12 cycles occurred at:
 - 15 and 22 year intervals
 - Mean cycle length:
18.5 years for 83% of cases

Remove Longest Cycle (22 years)

- 9 of 12 cycles occurred at:
 - 15 and 21 year intervals
 - Mean cycle length:
18.5 years for 75% of cases

Two Methods to Determine Longer-Term Cycles



Two Methods: Determining Longer-Term Cycles

Review Actual Occurrences

- Find range with 80% occurrences
- Take the midpoint of range
- Calculate mean periodicity as cycle length

Results

Series of cycles:

- 18.5 years
- 37.5 years
- 75 years
- 148 years

Method 2: Determining Longer-Term Cycles

Lesser Cycle:

- Find mean periodicity of probable phase of lesser cycle (sub-cycle within)
- Round to nearest whole number
- Apply multiple of 2 or 3 for each successive greater cycle
- Probable periodicity of lesser cycle = 18 years
- Multiply probably periodicity consecutively by 2

Results

Series of longer-term cycles:

- 36 years
- 72 years
- 144 years

Practical Application – Cycle Chains



Cycle Chains Results Method 2

- 18-year
- 36-year
- 72-year
- 144-year

Cycle Chains Results Method 1

- 18.5 year
- 37.5 year
- 75-year
- 148-year

Note: At this point, we are using method #2 to determine longer-term cycles

Secondary Lows

**Review and Application of Cycles
Theory to Long-Term Stock Market
Cycle – Part 2**

Secondary Lows

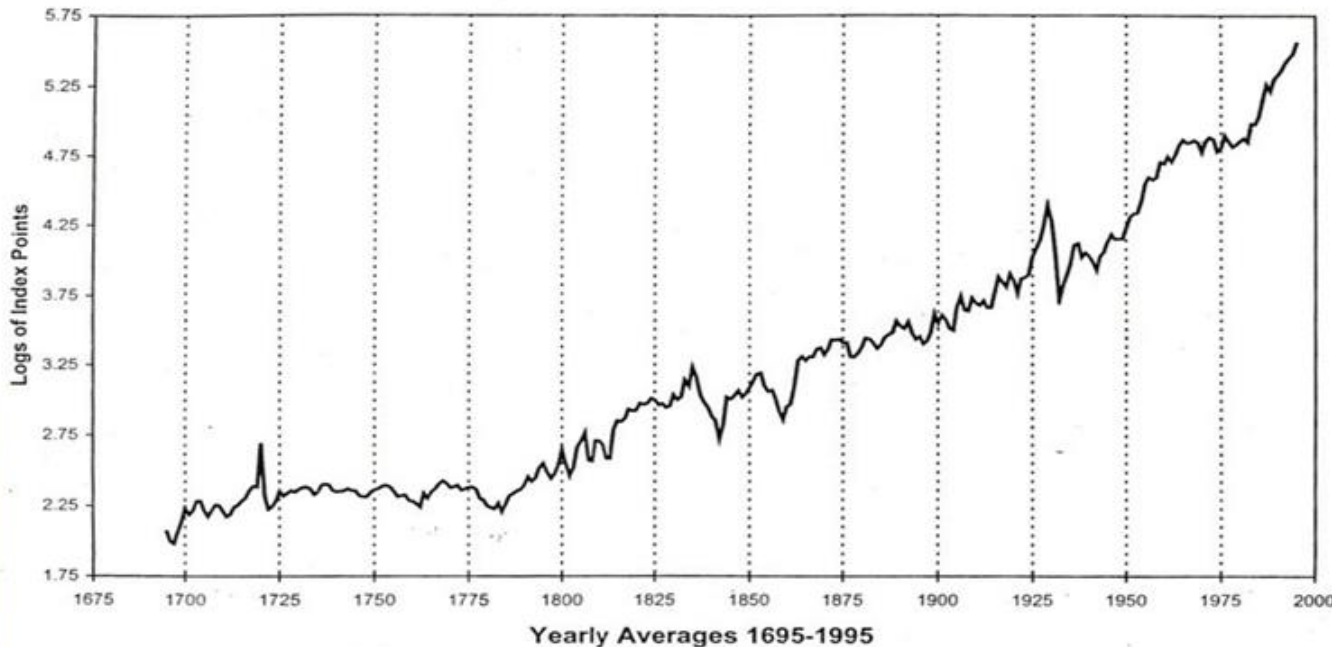
Long-term cycles in U.S. stock indices are usually followed by a secondary low a few years later.

The long-term 72-year and/or 90-year stock market cycle is usually followed by a secondary low 6-22 years later.

The secondary low can be slightly lower or higher than the low that started the cycle.

It is more normal if it is higher in a bull market.

Foundation Long-term Stock Index



Secondary Lows

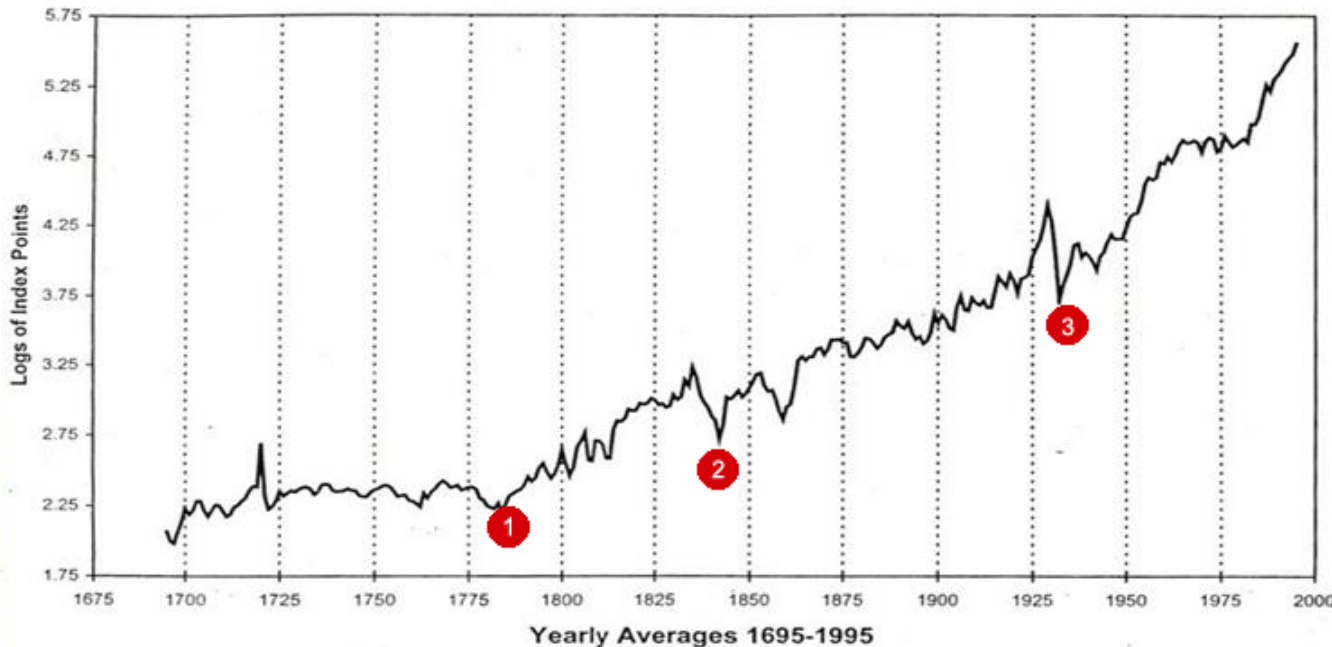
(1) Notice that the 72-year cycle low in 1784 was a secondary low to the 1762 trough, 22 years later.

- The former was the 90-year cycle trough
- The later was the 72-year cycle trough

(2) The 90-year cycle low of 1842 was followed by a secondary low in 1857. This secondary low became the end and start of the 72-year cycle.

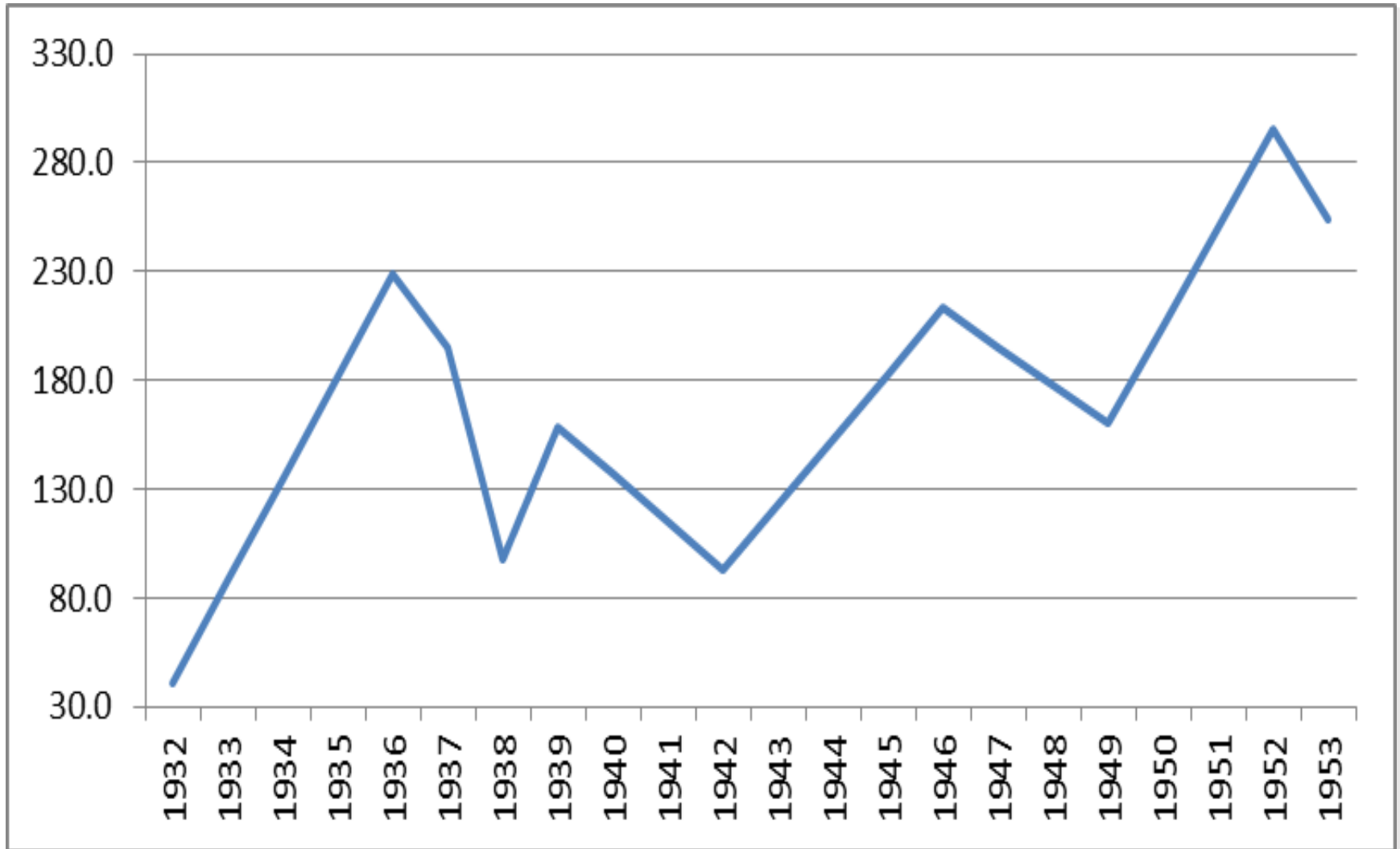
(3) The 1932 low could be both a 90-year and 72-year cycle trough. It was followed by secondary lows in 1938 and 1942, as shown in the next slide...

Foundation Long-term Stock Index



1932: Could be both: 90-year or 72-year cycle troughs

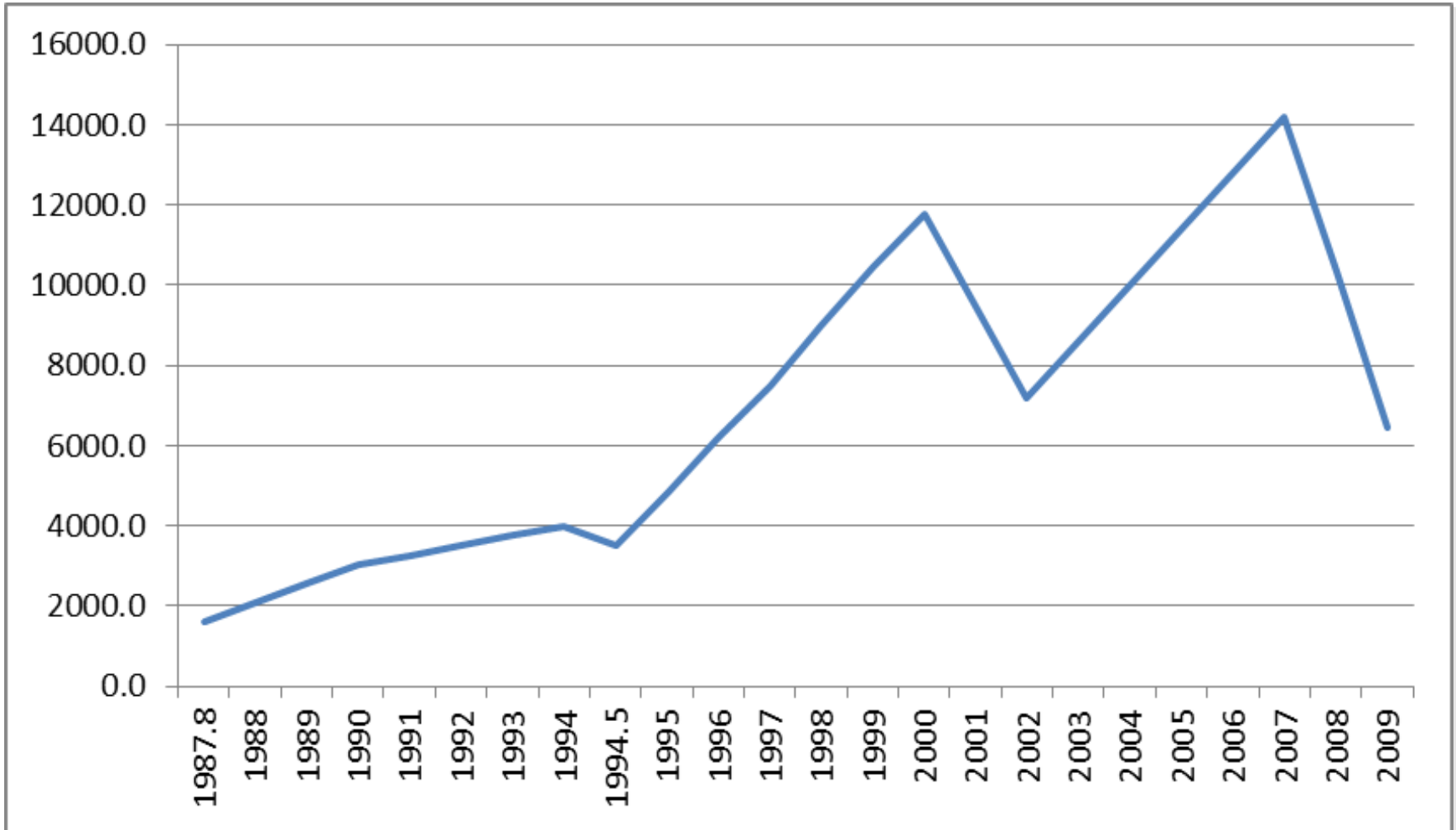
- Secondary lows followed in 1938 and 1942



Given the history of secondary lows within 6-22 years following a long-term 72- or 90-year cycles:

Can you find:

- Secondary low to 72-year cycle of 2009?
- Was it a secondary low (lower) to the low of 2002, 7 years earlier?



Secondary lows are often seen in 18-year and 36-year cycles

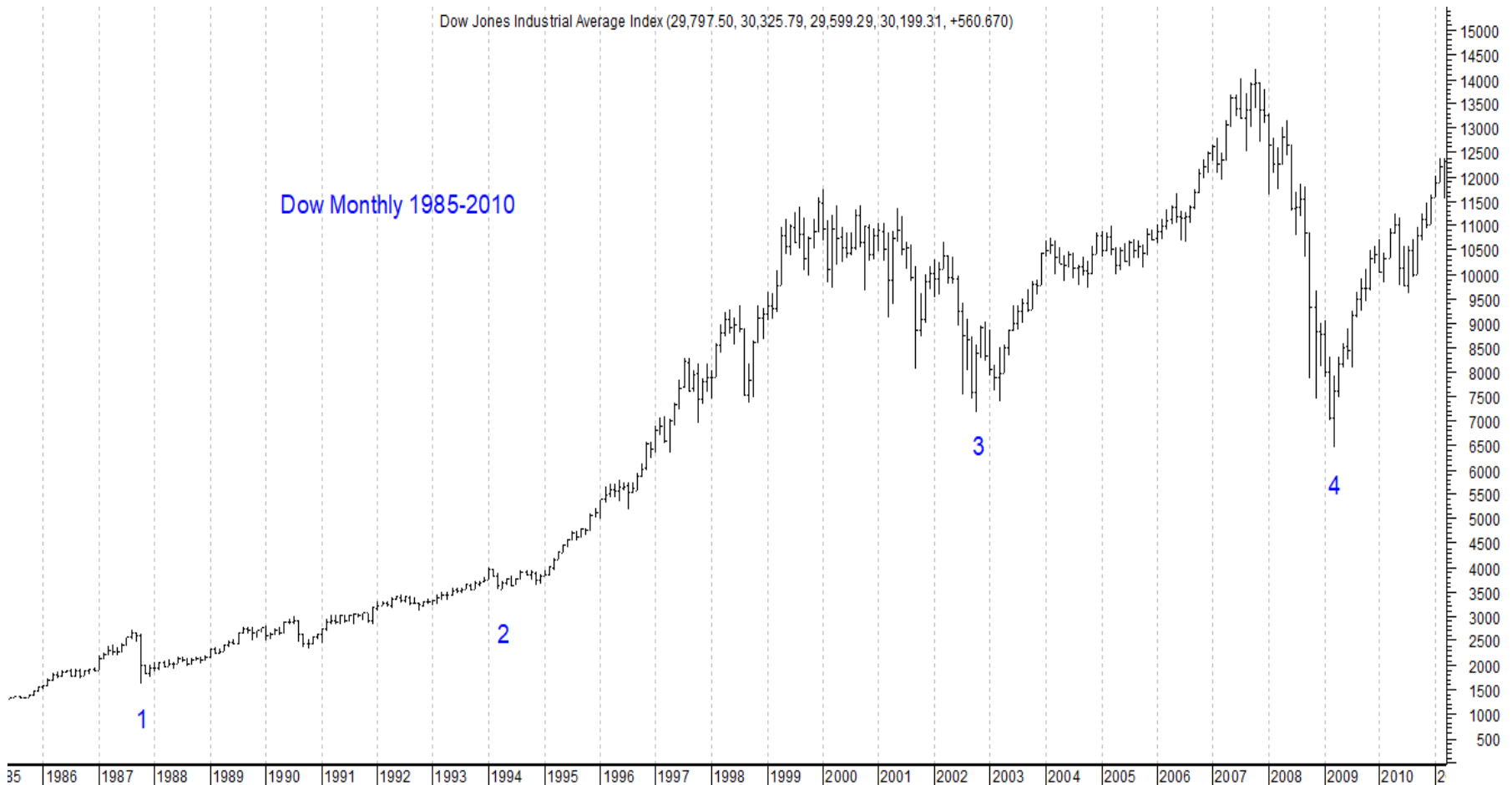
- Notice secondary lows after 36-year low in 1974 and 18-year low in 1987



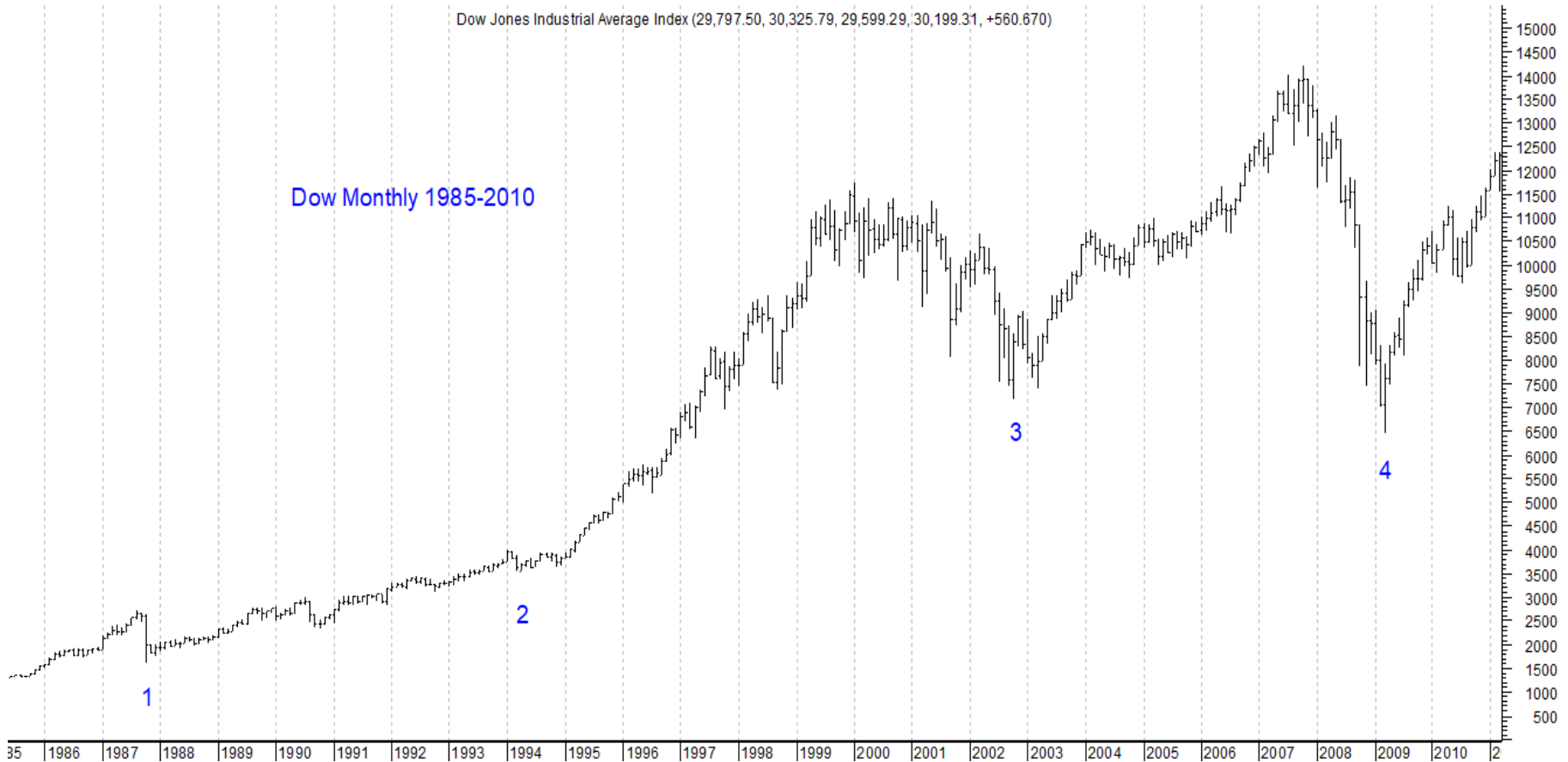
Secondary Lows: Following 36-Year Trough in 1974

Observe: Secondary lows in:

- 1978, 1980, and 1982 (4, 6, and 8 years later)
- After the 1987 trough, a secondary low occurred in 1990



Secondary low occurred in 1990



The 4-Year Stock Market Cycle

Review and Application of Cycles Theory to
Long-Term Stock Market Cycle – Part 4

4-Year Stock Market Cycle

- 9-year or 6-year sub-cycle within the greater 18-year cycle
- Within 18-year cycle, historically , there have been:
 - Three to five 4-year cycles (typically five)
- In last instance:
 - Might be 6 if considering the 22-year cycle bottomed in March 2009 in lieu of October 2002

Occurrences of 4-year Cycles in U.S. Stocks Since 1893

- Occurrences of 4-year cycles in U.S. stocks since 1893 is shown on the next slide
- Cycles are separated according to:
 - 18-year cycles
 - Notice the 3-5 phases of 4-year cycles within each
 - Exception: Perhaps the last instance had 6 phases

4-Year Cycles in U.S. Stocks Since 1893

- Notice the 3-5 phases of 4-year cycles
- There are 33 completed cases

1.	July	1893			
2.	Aug	1896	- 37		
3.	Sep	1900	- 49		
4.	Nov	1903	- 38		
5.	Nov	1907	- 48		
6.	Sep	1911	- 46		
7.	Dec	1914	- 39		
8.	Dec	1917	- 36		
9.	Aug	1921	- 44		
10.	Mar	1926	- 55		
11.	Nov	1929	- 44		
12.	July	1932	- 32		
13.	Mar	1938	- 68		
14.	Apr	1942	- 49		
15.	Oct	1946	- 54		
16.	June	1949	- 32		
17.	Sep	1953	- 51		
18.	Oct	1957	- 49		
19.	June	1962	- 56		
20.	Oct	1966	- 52		
21.	May	1970	- 43		
22.	Dec	1974	- 55		
23.	Mar	1978	- 39		
24.	Aug	1982	- 53		
25.	Oct	1987	- 62		
26.	Oct	1990	- 36		
27.	Nov	1994	- 49		
28.	Oct	1998	- 47		
29.	Oct	2002	- 48		
30.	July	2006	- 45		
31.	Mar	2009	- 32		
32.	Oct	2011	- 31		
33.	Aug	2015	-46		
34.	Mar	2020	-55		

What is the range of all occurrences so far?



1.	July	1893		18.	Oct	1957	- 49
2.	Aug	1896	- 37	19.	June	1962	- 56
3.	Sep	1900	- 49	20.	Oct	1966	- 52
4.	Nov	1903	- 38	21.	May	1970	- 43
5.	Nov	1907	- 48	22.	Dec	1974	- 55
6.	Sep	1911	- 46	23.	Mar	1978	- 39
7.	Dec	1914	- 39	24.	Aug	1982	- 53
8.	Dec	1917	- 36	25.	Oct	1987	- 62
9.	Aug	1921	- 44	26.	Oct	1990	- 36
10.	Mar	1926	- 55	27.	Nov	1994	- 49
11.	Nov	1929	- 44	28.	Oct	1998	- 47
12.	July	1932	- 32	29.	Oct	2002	- 48
13.	Mar	1938	- 68	30.	July	2006	- 45
14.	Apr	1942	- 49	31.	Mar	2009	- 32
15.	Oct	1946	- 54	32.	Oct	2011	- 31
16.	June	1949	- 32	33.	Aug	2015	- 46
17.	Sep	1953	- 51	34.	Mar	2020	-55

Shortest: 31 months | Longest: 68 months

Thus: Mean period between all cases = $31+68 = 99/2$, or 49.5 months.

Orb = 18 months.

1.	July	1893		18.	Oct	1957	- 49
2.	Aug	1896	- 37	19.	June	1962	- 56
3.	Sep	1900	- 49	20.	Oct	1966	- 52
4.	Nov	1903	- 38	21.	May	1970	- 43
5.	Nov	1907	- 48	22.	Dec	1974	- 55
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17.	Sep	1953	- 51	34.	Mar	2020	-55

How many of these 33 instances would comprise 80% of the field?



1.	July	1893		18.	Oct	1957	- 49
2.	Aug	1896	- 37	19.	June	1962	- 56
3.	Sep	1900	- 49	20.	Oct	1966	- 52
4.	Nov	1903	- 38	21.	May	1970	- 43
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6.	Sep	1911	- 46	23.	Mar	1978	- 39
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16.	June	1949	- 32	33.	Aug	2015	- 46
17.	Sep	1953	- 51	34.	Mar	2020	-55

$33 \times 80\% = 26.4$. If we omit the shortest and longest cycles from this population, we will determine the “normal” range of occurrences.

1.	July	1893		18.	Oct	1957	- 49
2.	Aug	1896	- 37	19.	June	1962	- 56
3.	Sep	1900	- 49	20.	Oct	1966	- 52
4.	Nov	1903	- 38	21.	May	1970	- 43
5.	Nov	1907	- 48	22.	Dec	1974	- 55
6.	Sep	1911	- 46	23.	Mar	1978	- 39
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There are 3 cases of 32 month cycles (1932, 1949, and 2009) and 1 of 31 month cycle (2011).

The next shortest is 36 months. So let's eliminate the 31 and 32 month cycles.

1.	July	1893		18.	Oct	1957	- 49
2.	Aug	1896	- 37	19.	June	1962	- 56
3.	Sep	1900	- 49	20.	Oct	1966	- 52
4.	Nov	1903	- 38	21.	May	1970	- 43
5.	Nov	1907	- 48	22.	Dec	1974	- 55
6.	Sep	1911	- 46	23.	Mar	1978	- 39
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Next: Identify 3 longest cases: 68 (1938), 62 (1987), and 56 (1962). Next shortest = 55 (occurs 2xs). 56 is so close to 55; but the 62 & 68 months are far away; so -- omit the 62- & 68 month instances.

1.	July	1893		18.	Oct	1957	- 49
2.	Aug	1896	- 37	19.	June	1962	- 56
3.	Sep	1900	- 49	20.	Oct	1966	- 52
4.	Nov	1903	- 38	21.	May	1970	- 43
5.	Nov	1907	- 48	22.	Dec	1974	- 55
6.	Sep	1911	- 46	23.	Mar	1978	- 39
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16.	June	1949	- 32	33.	Aug	2015	- 46
17.	Sep	1953	- 51	34.	Mar	2020	-55

27 of the 33 cycles (81.8%): Range = 36-56 months. Thus: Actual mean cycle = 46 month; Orb = 10 months; Range = 36-56 months. This indicates the “normal” 4-year cycle.

1.	July	1893		18.	Oct	1957	- 49
2.	Aug	1896	- 37	19.	June	1962	- 56
3.	Sep	1900	- 49	20.	Oct	1966	- 52
4.	Nov	1903	- 38	21.	May	1970	- 43
5.	Nov	1907	- 48	22.	Dec	1974	- 55
6.	Sep	1911	- 46	23.	Mar	1978	- 39
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Other Considerations

The 4-year stock market cycle - Continued

First four 18-year segments (1896-1914, 1914-1932, 1932-1953, & 1953-1974), exhibit a pattern of five 4-year cycles (phases).

1.	July	1893		18.	Oct	1957	- 49
2.	Aug	1896	- 37	19.	June	1962	- 56
3.	Sep	1900	- 49	20.	Oct	1966	- 52
4.	Nov	1903	- 38	21.	May	1970	- 43
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This pattern of five 4-year sub-cycles within the greater 18-year cycle broke in the 1974-1987 instance. There were only three 4-year cycles within this contracted 13-year period.

1.	July	1893		18.	Oct	1957	- 49
2.	Aug	1896	- 37	19.	June	1962	- 56
3.	Sep	1900	- 49	20.	Oct	1966	- 52
4.	Nov	1903	- 38	21.	May	1970	- 43
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1987-2009 had: 6 instances of 4-year cycles. Change occurred (1974): Altered structure of 18-yr & 4-yr cycles. **Note:** Ea. case: Last 4-year cycle has distorted:
Basic principle of cycles theory

1.	July	1893		18.	Oct	1957	- 49
2.	Aug	1896	- 37	19.	June	1962	- 56
3.	Sep	1900	- 49	20.	Oct	1966	- 52
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The Natural Balance of Markets

Notice:

Expanded cycles are often followed by contracted cycles and vice-versa

The notion of cycles

Similar to Law of Synchronicity found in:

- Financial astrology
- Price behavior in markets

Notion is that cycles eventually balance out

If markets explode higher in price, they are usually followed by an immediate devastating decline in price.

- It is a universal principle of balance that is often seen in nature

Table of 4-Year Cycles

Table data: Cycle number, crest dates, trough dates, months up and down, low, high, percent up and down.

TABLE OF 4-YEAR CYCLES

<u>Cycle #</u>	<u>Trough</u>	<u>Crest</u>	<u>Trough</u>	<u>Mo Up</u>	<u>Mo Dn</u>	<u>Low*</u>	<u>High*</u>	<u>Low*</u>	<u>% Up*</u>	<u>%Dn*</u>
1.	7/1893	9/1895	8/1896	26	11	44.0	63.0	27.0	43.2%	57.1%
2.	8/1896	4/1899	9/1900	32	17	27.0	78.0	52.5	188.9%	32.7%
3.	9/1900	6/1901	11/1903	9	29	52.5	79.0	42.5	50.5%	46.2%
4.	11/1903	1/1906	11/1907	26	22	42.5	102.0	53.0	140.0%	48.0%
5.	11/1907	9/1909	1/1911	22	24	53.0	101.5	72.0	91.5%	29.1%
6.	9/1911	9/1912	12/1914	12	27	72.0	93.0	52.0	29.2%	44.1%
7.	12/1914	11/1916	12/1917	23	13	52.0	115.0	66.0	121.2%	42.6%
8.	12/1917	10/1919	8/1921	22	22	66.0	125.0	64.0	89.4%	48.8%
9.	8/1921	2/1926	3/1926	54	1	64.0	175.0	145.0	173.4%	17.1%
10.	3/1926	8/1929	11/1929	41	3	145.0	386.1	195.0	166.3%	49.5%
11.	11/1929	4/1930	7/1932	5	27	195.4	297.3	40.6	52.1%	86.3%
12.	7/1932	3/1937	3/1938	56	12	40.6	195.6	97.5	381.8%	50.2%
13.	3/1938	11/1938	4/1942	8	41	97.5	158.9	92.7	63.0%	41.7%
14.	4/1942	5/1946	10/1946	49	5	92.7	213.4	160.5	130.2%	24.8%
15.	10/1946	6/1948	6/1949	20	12	160.5	194.5	160.6	21.2%	17.4%
16.	6/1949	1/1953	9/1953	43	8	160.6	295.1	254.4	83.7%	13.8%

TABLE OF 4-YEAR CYCLES

<u>Cycle #</u>	<u>Trough</u>	<u>Crest</u>	<u>Trough</u>	<u>Mo Up</u>	<u>Mo Dn</u>	<u>Low*</u>	<u>High*</u>	<u>Low*</u>	<u>% Up*</u>	<u>%Dn*</u>
17.	9/1953	4/1956	10/1957	31	18	254.4	524.4	416.2	106.1%	20.6%
18.	10/1957	11/1961	6/1962	49	7	416.2	741.3	524.6	78.1%	29.2%
19.	6/1962	2/1966	10/1966	44	8	524.6	1001.1	735.7	90.8%	26.5%
20.	10/1966	12/1968	5/1970	26	17	735.7	994.7	627.5	35.2%	36.9%
21.	5/1970	1/1973	12/1974	32	23	627.5	1067.2	570.0	70.1%	46.6%
22.	12/1974	9/1976	3/1978	21	18	570.0	1026.3	736.8	80.1%	28.2%
23.	3/1978	4/1981	8/1982	37	16	736.8	1031.0	770.0	39.9%	33.9%
24.	8/1982	8/1987	10/1987	60	2	770.0	2746.7	1616.2	256.7%	41.1%
25.	10/1987	7/1990	10/1990	33	3	1616.2	3024.3	2344.3	87.1%	22.5%
26A.	10/1990	1/1994	4/1994	39	3	2344.3	4002.8	3520.5	70.7%	12.0%
26B.	10/1990	1/1994	11/1994	39	10	2344.3	4002.8	3612.1	70.7%	9.8%
27.	11/1994	7/1998	9/1998	44	2	3612.1	9412.6	7379.7	160.6%	21.6%
28.	9/1998	1/2000	10/2002	16	33	7379.7	11,908	7181.5	53.2%	39.7%
29.	10/2002	5/2006	7/2006	43	2	7181.5	11,709	10,658	63.0%	8.9%
30.	7/2006	10/2007	3/2009	15	17	10,658	14,280	6440.1	34.0%	54.9%

TABLE OF 4-YEAR CYCLES

<u>Cycle #</u>	<u>Trough</u>	<u>Crest</u>	<u>Trough</u>	<u>Mo Up</u>	<u>Mo Dn</u>	<u>Low*</u>	<u>High*</u>	<u>Low*</u>	<u>% Up*</u>	<u>%Dn*</u>
31.	3/2009	5/2011	10/2011	26	5	6469.9	12876.0	10404.5	99.0%	19.2%
32.	10/2011	5/2015	8/2015	43	3	10404.5	18351.4	15370.0	76.4%	16.2%
33.	8/2015	2/2020	3/2020	54	1	15370.0	29568	18213	92.0%	38.40%

Table of 4-Year Cycles

Table of 4-Year Cycles shows:

- The crests and troughs of the 18-year cycles since 1893 -- by date and price.
- Number of months:
 - Cycle rallied from the start to its crest
 - Cycle declined

Percent gain and decline:

- The last two columns indicate:
 - Percentage of gain in the rallies to the crest
 - Percentage of decline from the crest to the trough that ended the cycle.

The range in the number of months up has been from a low of 5 months (1929) to a high of 60 months.

Table of 4-Year Cycles: Right Translations

Right translation 4-year cycle:

If number of months up exceeds the number of months down, then it was:

Right translation 4-year cycle



Practice:

Within 33 cases, how many have been:

- Right translation?
- Left translation?



Table: Omit Three Shortest and Longest

Table of 4-Year Cycles shows:

The range in the number of months up has been from:

- A low of 5 months (1929)
- To a high of 60 months (1937)

If we omit:

- 3 shortest and 3 longest = 80% range
 - 3 shortest are 5-9 months
 - 4 longest are 54-60 months (2 instances of 54)
 - Other 80% of rallies from start to the crest of the 4-year cycle occur within a range of 12-49 months

Indicates:

- 80% probability that the rally will last 12-49 months
- 90% probability rally will last at least 12 months
- 90% probability rally will be completed within 49 months

Table: Omit One Month Instance Plus...

The range in the number of months down from the 4-year cycle crest to its trough has been: 1-41 months

If we omit:

Two 1 month instances plus: 29, 33, & 41 months, then we find:

- 28 of 33 instances (84.8%):
Declined 2-27 months
- Right translation cycles:
Decline < 23 months
- 7 left translation cycles:
Declines 17-41 months
 - 5 lasting 24-33 months

Table: Bull Market Histories

2nd longest bull market:

- Ranges of % Appreciation:
From start of
4-year cycle to crest:
 - Low of 21.2%
(1946-1949)
 - High of 381%
(1932-1937)
- Was 2nd longest bull market
in tables shown

If we omit:

- 4 smallest gains:
 - 1911-1912
 - 1946-1948
 - 1966-1968
 - 2006-2007
- Then next gain is:
 - 39.9% (Rounded: 40%)
- Remove: 2 strongest gains:
 - 381% (1932-1937)
 - 256% (1982-1987)
- Next strongest gain is:
 - 188.9% in 1896-1899

Prior to current instance, only 10 cases
~(1/3) had triple digit gains (100% or >)
within their 4-year cycle.

Indicates:
80% of bull markets in 4-year cycle:
Stocks appreciated 40-190%

Table: Decline Histories

Percentage of loss ranges:

- Percentage of loss from 4-year cycle crest to its trough has ranged from:
 - Low of 8.9% (2006)
 - To most at 86.3% (1929-1932)

There is no case found:
Where first 4-year cycle declined $< 19\%$
(according to this study that began in 1893).

Interesting note: rate of decline in 1st 4-year cycle phase of longer-term cycle varied from 19.2-50.2%

If we omit:

- 86.3% decline in 1929-1932, & 3 cases of declines $< 14\%$

We find:

- 28 of 33 cases: Declines ranged 17-57%; and
- Only 7 cases declined $< 20\%$

In other words:

- 81.8% historical rate of frequency (probability) in which: $19\% >$ decline occurred from crest to trough in 4-year cycle.

QUIZ #8

Long-Term Cycles in U.S. Stock Indices: The Four-Year Cycle

QUIZ #8

1. Every cycle is part of a longer-term cycle by a multiple of _____.
2. What is the historical range of all the 18-year cycles in U.S. stocks?
3. What is the “normal” orb for the 18-year cycles in U.S. stocks where 75% of them occur? And what is the range where at least 80% of these cycles occur? Which one will we be using in this course?
4. What is a secondary low? What has been the interval of time between a 72- or 90-year low and its secondary low?

QUIZ #8

5. What is the historical range of all the 4-year cycles in U.S. stocks since 1893?
6. What is the actual normal periodicity for the 4-year cycle in U.S. stocks?
7. What is the range for this normal cycle?
8. When did the current 4-year cycle in U.S. stocks begin?
9. How long did the previous 4-year cycle last before this one?
10. When would the current 4-year cycle be due if it is to be a “normal” cycle?

QUIZ #8

11. How many 4-year cycles are usually in an 18-year cycle? Have there been any exceptions? When? What cycle principle did they share in common in relationship to the 18-year cycle?
12. If a given long-term cycle is a contraction, what is more likely to happen in the next instance of that cycle than usual?
13. What is the normal amount of time (range) that the 4-year cycle rallies from the start of the cycle to its crest?
14. What is the normal range of the percentage gain during that period?

QUIZ #8

15. What is the normal amount of time (range) that the 4-year cycle declines from the crest of the cycle to its trough?

16. What is the normal range of the percentage of loss during that period?

17. What is the probability that the decline from the crest to the trough of the 4-year cycle will be at least 20%?

18. In how many cases has the first 4-year cycle within the greater 18-year cycle declined less than 19%? Given that fact, is it more likely that the last 18-year cycle bottomed in 2002 or 2009? Why?

End of Module Lesson

Break