

# Facts And Figures On Cycles And Their Implications For Institutional Investors

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**Investment  
Facts And Figures On Cycles  
And Their Implications For Institutional Investors**

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“Study history, study history” was one of the many pearls of advice that Sir Winston Churchill gave us. Every new recession and accompanying bear market presents us with the opportunity to study history and review the statistics of capital market cycles in order to gain some perspective on the current market environment and how to be best-positioned for the future. With market uncertainty at unprecedented levels, it is now even more imperative for investors to study capital market history to better understand how to cope with these challenging times. We do this as well as lay out some possible scenarios and strategies to consider in these settings.

**Financial Crises: A Hardy Perennial**

Perhaps one of the most surprising observations of economic history is that our current financial crisis is quite similar to other major banking crises that have occurred. (1)

What makes our situation appear so unique is that the ‘big five’ financial crises took place outside of North America in the following countries – Spain (1977), Norway (1987), Finland (1991), Sweden (1991), and Japan (1992). (2)

Our current crisis was caused by the same underlying factors that created these other financial crises including: (3)

- some form of financial liberalization/innovation
- debt accumulation
- asset price run-up

So, is ‘this time different?’ Not really, as this crisis has the typical ingredients that prior manias had.(4) It is no surprise then that Charles Kindleberger, the renowned expert on financial crises, labeled financial crises as “hardy perennials.” (5)

**Observations From Other Financial Crises (6)**

Typical banking crises illustrate a number of common characteristics, which can also be found in today’s environment. The general economy experiences a very deep downturn from peak to trough with output declining on average more than nine per cent and unemployment rising on average seven percentage points. The real value of government debt balloons, rising on average 86 per cent. In addition, the housing market experiences significant real declines with real house prices declining 35 per cent on average over six years. The stock market goes into a deep bear market with an average decline of 55 per cent over 3.5 years. More lessons on the stock market from capital market history will follow.

**Bear Market Pains**

*Exhibits 1 and 2* summarize the past 50+ years of stock market cycles.

The ‘typical’ bear market, defined as a 20 per cent drop from index peak, carried on for an average of 1.2 years (or 13.8 months). However, as the saying goes, “you can drown in a river of average depth of three feet” so we need to look beyond the simple average. The standard deviation for bear markets has been 0.7 years (or 7.9 months) indicating a high degree of variability in the potential length of a bear market. Bear markets have lasted anywhere from a quarter of a year to 2.1 years. Such variability also makes it very difficult to call the duration of a bear market. (7)

**Exhibit 1**

**US Bull & Bear Markets (1957 – 2008)**

Period	Market Type	# Months	Cumulative Return	Annualized Return	# Years	Cycle # of Months	Cycle # of Years
Nov 57 - Dec 61	Bull	50	74.3%	14.3%	4.2		
Jan 62 - Jun 62	Bear	6	-23.5%	-41.4%	0.5	56	4.7
Jul 62 - Nov 66	Bull	77	97.9%	11.2%	6.4		
Dec 66 - Jun 70	Bear	19	-32.9%	-22.3%	1.6	96	8.0
Jul 70 - Dec 72	Bull	30	62.3%	21.4%	2.5		
Jan 73 - Sep 74	Bear	21	-46.2%	-29.3%	1.8	51	4.3
Oct 74 - Dec 76	Bull	27	69.2%	26.3%	2.3		
Jan 77 - Feb 78	Bear	14	-19.0%	-16.5%	1.2	41	3.4
Mar 78 - Nov 80	Bull	33	61.4%	19.0%	2.8		
Dec 80 - Jul 82	Bear	20	-23.8%	-15.0%	1.7	53	4.4
Aug 82 - Aug 87	Bull	61	208.0%	24.8%	5.1		
Sep 87 - Nov 87	Bear	3	-30.2%	-76.2%	0.3	64	5.3
Dec 87 - May 90	Bull	30	56.9%	19.7%	2.5		
June 90 - Oct 90	Bear	5	-15.8%	-33.9%	0.4	35	2.9
Nov 90 - Aug 00	Bull	118	399.2%	17.3%	9.8		
Sep 00 - Sep 02	Bear	25	-46.3%	-25.8%	2.1	143	11.9
Oct 02 - Oct 07	Bull	61	90.0%	13.5%	5.1		
Nov 07 - Dec 31/08	Bear	14	-41.7%	-37.4%	1.2	75	6.3

Bear Market is defined as a 20% Decline from the S&P 500 Index's Peak

Bear markets are financially and psychologically painful for investors. In prior cycles, the combined annualized return in bear markets was minus 26.7 per cent. Such punishing returns tend to occur over a very short period of time relative to the length of the entire cycle. Given the non-normalcy of returns in equity markets, trying to time the bear market is a fruitless experience. (8)

Finally, the bear market pain has increased over recent history as equity market correlations have increased over time leaving little benefits to global diversification. (9)

The current bear market has surpassed the average length of previous bear markets and its downturn is approaching what would be reminiscent of either the 2000/02 bear market or the 1973/74 bear market. We look at potential market paths next.

## Exhibit 2

### US Bull & Bear Market Statistics (1957 – Dec 2008)

	Bull	Bear	Total Cycle
Average Duration (Months)	54.1	13.8	67.9
Average Duration (Years)	4.5	1.2	5.7
Standard Deviation (Months)	29.7	7.9	33.4
Standard Deviation (Years)	2.5	0.7	2.8
Range (Months)	27 - 118	3 - 25	35 - 143
Range (Years)	2.3 - 9.8	0.3 - 2.1	2.9 - 11.9
	S&P 500	Bull	Bear
Combined Annualized Return	6.2%	17.5%	-27.9
Combined Annualized Return of Total Return Index	9.7%	N/A	N/A
Number of Months	614	487	127

### Where Do We Go From Here?

From the depths of the current bear market, there are a range of potential paths. Three popular scenarios that we see, as illustrated below in *Exhibit 3*, are:

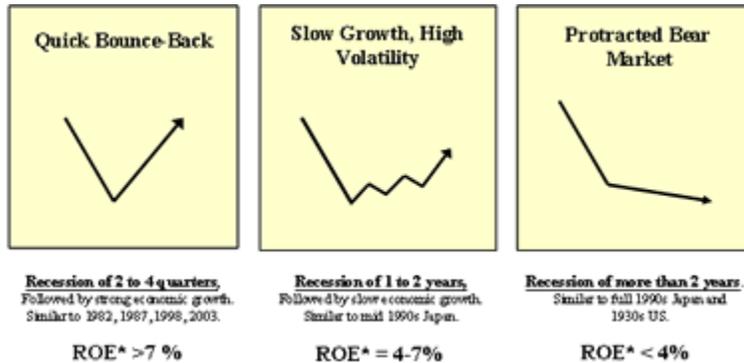
- a typical V-shape recovery

- sideways movement with continued volatility and slow growth
- a protracted bear market

We have painted these environments employing ROE as a determining variable.

**Exhibit 3**

**Market will be Contingent on Levels of ROE**



\*ROE refers to real ROE, which equals to nominal ROE net of inflation

**The V-Shape Scenario**

If government and market forces help the stock market snap back up as in prior V-shape scenarios, one of the best opportunities for institutional investors will be in small cap equities. It is a well-known secret that small cap stocks outperform large cap stocks coming out of a market bottom. Based on our experience, *Exhibit 4* reveals that small caps outperform large caps about three months after the market has bottomed hitting an inflection point between the third and fourth months. Correctly positioning for this will be pivotal for institutional investors.

**Exhibit 4**

**Median Returns after Market Trough (10)**

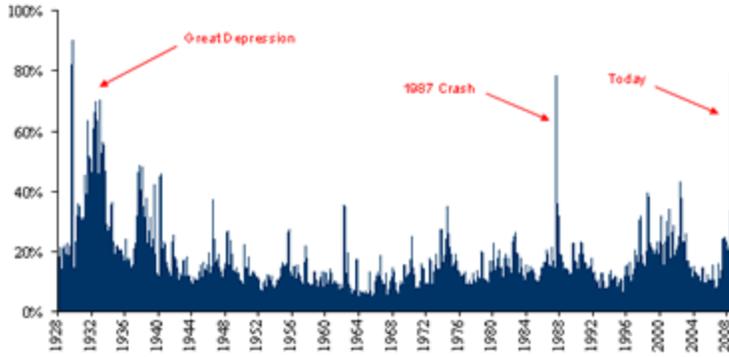
	1 Month	2 Month	3 Month	4 Month	5 Month	6 Month	9 Month	12 Month
Russell 2000	7.4%	11.8%	21.6%	31.0%	34.8%	35.1%	37.9%	45.1%
S&P 500	8.0%	12.0%	14.7%	16.6%	18.5%	18.7%	23.5%	25.6%
Difference	-0.5%	-0.3%	6.9%	14.4%	16.4%	16.4%	14.4%	19.5%

**What if Extreme Volatility Continues?**

*Exhibit 5* illustrates that we are currently living through an extreme level of market volatility seen only periodically through capital market history. This result should not be surprising as it is a well established fact that stock market volatility is higher in recessions and is directly linked to volatility in macroeconomic fundamentals. (11)

**Exhibit 5**

**S&P 500 30 Day Rolling Volatility (1928 – 2008)**



Persistent volatility could play its way through two possible scenarios:

- Slow Growth High Volatility Scenario
- Protracted Bear Market

Either way, investors would benefit from incorporating some form of short selling strategy in the mix. Our recommendation would be that investors consider an allocation to either true market neutral or long/short strategies. For example, in *Exhibit 6* we illustrate the risk reduction benefits of employing a Canadian Long/Short strategy.

**Exhibit 6**

**Hillsdale Canadian Long/Short Volatility vs. TSX – 180 Days Rolling**



*Exhibit 7* illustrates how a true market neutral strategy would be beta neutral and would also act as a cushion relative to a wide variety of asset class beta risks. From a diversification perspective as shown in *Exhibit 8* below, a true market neutral should act as an excellent diversifier relative to traditional asset class strategies.

**Exhibit 7**

**Hillsdale Market Neutral Beta vs. Major Indices**  
**Since Inception in April 2000, As of December 31, 2008**

	Indices	Hillsdale Beta
Equities	MSCI World Index (USD)	0.07
	TSX Composite (CAD)	0.15
	S&P 500 (USD)	0.02
	Russell 2000 (USD)	0.01
	Russell 2000 Value (USD)	0.01
	Russell 2000 Growth (USD)	0.00
Credit Spread	ML High Yield - 10 Year Gov Bonds (USD)	0.03
Yield	US 10 Year Gov Bond Yield (USD)	-0.06
	Cdn 10 Year Gov Bond Yield (CAD)	-0.09
	Cdn 91 Day T-Bills (CAD)	-0.03
Commodities	Crude Oil (USD)	0.03
	GOLD Spot (USD)	0.11
Volatility	VIX (USD)	0.00

## Exhibit 8

### Return Correlations from Jan 1994 – Dec 31, 2008

	S&P TSX	S&P 500	MSCI EARS	Scotiabank Macleod Universe	CSFB M&B Equity Index	Cdn 91 Day T-Bill
S&P/TSX*	1.00					
S&P 500*	0.64	1.00				
MSCI EARS*	0.63	0.74	1.00			
Scotiabank Macleod Universe*	0.21	0.13	0.06	1.00		
CSFB M&B Equity Index*	-0.08	0.19	0.10	-0.14	1.00	
Cdn 91 Day T-Bill*	0.07	0.13	0.06	0.01	0.14	1.00

\* All Indices are Total Returns in \$Cdn

### Concluding Thoughts

Business and market cycles are the rhythm and pulse of capitalism. Recessions and bear markets are painful times for investors as they create higher levels of volatility and increasing uncertainty. The economy can take a number of paths in the future, favouring either long strategies, specifically small cap, or strategies that require a manager to employ short selling skills. Whatever the direction of the market, periods of extreme volatility demand that investors employ a rigorous risk budgeting methodology in order to hold the line against unnecessary risk. For investors who believe that high levels of volatility will persist in the future, market neutral or long/short strategies would be favourable strategies to employ in such an environment.

It is perhaps at times like this, where one feels the futility of studying capital market history. However, our view is that such knowledge can help us better cope with challenging market times and improve planning.

Harry Marmer is executive vice-president, institutional investment services, Hillsdale Investment Management Inc.

1 There have been 18 major postwar banking crises in the developed world. For more details, please read Reinhart, Carmen M., and Kenneth S. Rogoff. 2008. 'Is the 2007 U.S. Subprime Crisis So Different? An International Historical Comparison.' American Economic Review Vol. 98 No. 2: 339-344

2 'The Aftermath of Financial Crises,' by Carmen Reinhart and Kenneth Rogoff, NBER Working Paper 14656, Page 3, January 2009)

3 'Is the 2007 U.S. Sub-Prime Financial Crisis So Different? An International Historical Comparison,' by: Carmen M. Reinhart, University of Maryland and the NBER, and Kenneth S. Rogoff, Harvard University and the NBER, February 2008. A fourth cause of

crisis has been current account deficits. However, it is difficult to correlate how the U.S. current account deficit helped to create the current credit crisis.

4 Renowned monetary economist Michael Bordo also argues that the current crisis is part of a “perennial pattern” Professor Bordo is more blunt in his assessment as to the causes of the current crises: major changes in regulation, lax oversight, relaxation of normal standards of prudent lending, and a prolonged period of abnormally low interest rates. These points are discussed in more detail in ‘An Historical Perspective on the Crisis of 2007 –2008,’ by Michael Bordo.

5 ‘Financial Crisis: A Hardy Perennial,’ is actually the title of a chapter in his book on financial crises, entitled ‘Manias, Panics and Crashes: A History of Financial Crises,’ New York: Basic Books, 1989.

6 This section draws heavily on ‘The Aftermath of Financial Crises,’ by Carmen Reinhart and Kenneth Rogoff, NBER Working Paper 14656, Page 3, January 2009).

7 The high degree of variability in both business and market cycles indicates that describing business and market fluctuations as having some element of cyclical nature is rather misleading. However, re-labeling these systems as business and market “periodicities” just does not ring quite right!

8 Much has been written on market timing being a low odds investment strategy, see for example page 34-35 in ‘Perspectives on Institutional Investment Management,’ by Harry Markowitz, for a summary of these studies. Javier Estrada adds to the empirical proof against market timing by illustrating that the outliers from non-normal return distributions (i.e. black swans) can have an enormous impact on long-term performance. See ‘Black Swans and Market Timing: How Not To Generate Alpha,’ Journal of Portfolio Management, Fall 2008, pages 20-34.

9 ‘Hillsdale 2008 Market Outlook,’ by Chris Guthrie and Arun Kaul, January 2008

10 Source: Russell, S&P Index Services (S&P 500 Capital Returns) Based On 4 Market Bottoms from 1978 to 2008 (Bear Markets Ending July 82, November 87, October 90, September 02)

11 Robert Officer led the pioneering work on linking stock market volatility and business cycles in his piece ‘The Variability of the Market Factor of the New York Stock Exchange,’ Journal of Business, 1973. Francis Diebold and Kamil Yilmaz complete the link by finding a clear link between macroeconomic fundamentals and stock market.