

Study History, Study History: For Perspective on Financial Crises, Look to the Past

By studying the history of capital market cycles, investors can gain perspective on the current financial crisis and position themselves better for the future. This article examines the similarities between today's market conditions and previous recessions and bear markets, as well as looking at possible scenarios and corresponding investment strategies to consider.

by **Harry Marmer**

// “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. By doing so, we gain perspective on the current market environment and on 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. This article looks at previous cycles and lays out 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 unique is that the “big five” financial crises took place outside of North America in the following countries and years: 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 including³

- Some form of financial liberalization/innovation
- Debt accumulation
- Asset price run-up.

Subprime mortgages were a financial innovation designed to provide home ownership opportunities to riskier borrowers.⁴ In 1993, there were essentially no subprime mortgages.⁵ By 2006, 34% of all mortgage originations were subprime or near prime.⁶

Financial innovation continued as these subprime mortgages were then financed via securitization. This securitization process began in the form of asset-backed securities (ABS) that were known as *subprime residential mortgage-backed securities*.⁷ Subprime securitization morphed into further financial innovation as tranches were sold into collateralized debt obligations (CDOs).⁸

Continued demand resulted in more complex bundling with the creation of other investment vehicles such as synthetic CDOs (backed by credit derivatives linked to ABS) and CDOs squared (collections of CDOs).⁹

Not only was debt accumulation growing through subprime loans, but the level of risk of these loans was increasing as well.¹⁰ Leverage intensified, and by 2006 58% of subprime loan borrowers had less than 20% equity in their homes at the time they took out their mortgages. Easier lending and credit conditions led to an increase in second or vacation home purchases and, undoubtedly, housing speculation, which climaxed in a housing bubble.¹¹ U.S. house prices rose far faster than changes in economic fundamentals. For example, for the 23 years ending in 1997, the average U.S. house price rose 18%, adjusted for inflation. Over the period 1998-2005 inclusive, house prices rose almost 50%.

The “merry-go-round” continued as long as house prices continued to accelerate. Rising house prices encouraged more nonprime lending and riskier borrower terms as loan performance was good and homeowner equity was growing.¹² However, once house prices peaked and started to decelerate in 2006 and 2007, defaults started to rise and subprime loans could not refinance. Subprime mortgage originations ceased in August 2007.

So, “is this time different?” Not really, as this crisis has the typical ingredients that prior manias had.¹³ It is no surprise that Charles Kindleberger, the renowned expert on financial crises, labeled financial crises as “hardy perennials.”¹⁴

Learning From Other Financial Crises¹⁵

These typical banking crises illustrate a number of common characteristics, which can also be found in today’s environment. The general economy experiences very deep declines from peak to trough with output declining on average 9% and unemployment rising on average seven percentage points. The real value of government debt balloons, rising on average 86%. In addition, the housing market experiences significant real declines with real house prices declining 35% on average over six years. The stock market goes into a deep bear market with an average decline of 55% over 3.5 years. More lessons on the stock market from capital market history to follow.

Bear Market Pains

Tables I and II summarize the past 50-plus years of stock market cycles.

The “typical” *bear market* is defined as a 20% 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 their potential length. 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.¹⁶

Bear markets are financially and psychologically painful for investors. In prior cycles, the combined annualized return in bear markets was -26.7%. Such punishing returns tend to occur over a very short period of time relative to the

length of the entire cycle. Given the nonnormalcy of returns in equity markets, trying to time the bear market is a fruitless experience.¹⁷

Finally, the bear market pain has increased over recent history as equity market correlations have increased over time, leaving little benefits to global diversification.¹⁸

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.

Where Do We Go From Here?

From the depths of the current bear market, there is a range of potential paths. Three popular scenarios that we see, as illustrated in Figure 1, are a typical v-shape recovery, sideways movement with continued volatility and slow growth, or a protracted bear market. We have painted these environments employing return on investment as a determining variable.

The V-Shape Scenario

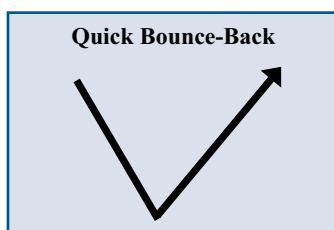
If government and market forces help the stock market snap back up as in prior v-shape scenarios, one of the best opportunities for institutional investors will be in small cap equities. It is a well-known secret that small cap stocks outperform large cap stocks coming out of a market bottom. Based on our experience, Table III 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.

What if Extreme Volatility Continues?

Figure 2 illustrates that we are currently living through

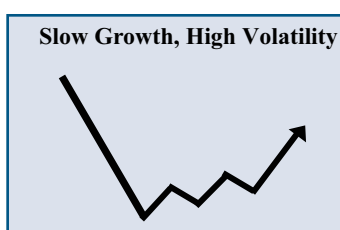
FIGURE 1

Market Will Be Contingent on Levels of Return on Equity (ROE)



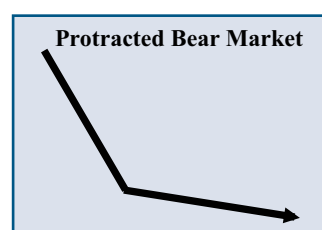
Quick Bounce-Back
 Recession of two to four quarters,
 Followed by strong economic growth.
 Similar to 1982, 1987, 1998, 2003

ROE* >7%



Slow Growth, High Volatility
 Recession of one to two years,
 Followed by slow economic growth.
 Similar to mid-1990s Japan

ROE* = 4-7%



Protracted Bear Market
 Recession of more than two years
 Similar to full 1990s Japan and
 1930s United States

ROE* < 4%

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

TABLE I

U.S. Bull and 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 68	Bull	77	97.9%	11.2%	6.4		
Dec 68-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%	-29.8%	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		
Jun 90-Oct 90	Bear	5	-15.8%	-33.9	0.4	35	2.9
Nov 90-Aug 00	Bull	118	399.2%	17.8%	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.

TABLE II

U.S. Bull and Bear Market Statistics (1957-December 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

TABLE III

Median Returns After Market Trough¹⁹

	One Month	Two Month	Three Month	Four Month	Five Month	Six Month	Nine 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%
<i>Difference</i>	-0.5%	-0.3%	6.9%	14.4%	16.4%	16.4%	14.4%	19.5%

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 economic indicators such as gross domestic product growth, employment and consumption growth.²⁰

Persistent volatility could play its way through two possible scenarios: a **slow-growth, high-volatility scenario** or a **protracted bear market**. Either way, investors would benefit from incorporating some form of short-selling strategy in the mix. We recommend that investors consider an allocation to either true market neutral or long/short strategies. For example, Figure 3 illustrates the risk reduction benefits of employing a Canadian long/short strategy.

Table IV illustrates how a true market-neutral strategy would be *beta neutral* (a strategy that avoids market risk) and would also act as a cushion relative to a wide variety of asset class beta risks. From a diversification perspective, as shown in Table V, a true market neutral should act as an excellent diversifier relative to traditional asset class strategies.

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

Endnotes

1. There have been 18 major postwar banking crises in the developed world. For more details, read Carmen M. Reinhart 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: pp. 339-344, www.economics.harvard.edu/faculty/rogooff/files/Is_The_US_Subprime_Crisis_So_Different.pdf.
2. "The Aftermath of Financial Crises," by Carmen Reinhart and Kenneth Rogoff, *NBER Working Paper 14656*, p. 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 NBER and Kenneth S. Rogoff, Harvard University and 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. "The Subprime Panic," by Gary Gorton, *NBER Working Paper Series #14398*, October 2008, p. 1. As an extremely interesting aside, Gary Gorton had been employed by AIG to design its risk models.
5. "From Booms and Busts: The Case of Subprime Mortgages," by Edward Gramlich, *Economic Review*, Vol. 92, #4, Fourth Quarter 2007, p. 2.
6. "The Mortgage Crises: Let Markets Work, But Compensate the Truly Needy" by William Emmons, *The Regional Economist*, July 2008, p. 12. Subprime loans are characterized by weaker borrowers, and near-prime loans are characterized by riskier loan structure.
7. "The Subprime Panic," by Gary Gorton, *NBER Working Paper Series #14398*, October 2008, p. 5.
8. It would be a gross oversight to let politicians off the hook for helping to "fund" the subprime panic. In 2004, Congress encouraged Fannie Mae to "do more" to make housing affordable for everyone. Fannie stepped up loans to low-income borrowers and by 2008 had purchased or guaranteed at least \$270 billion in loans to risky borrowers—more than three times as much as in all its earlier years combined. For an excellent summary as to reasons for the demise of Fannie Mae see, "Pressured to Take More Risk, Fannie Reached Tipping Point," by Charles Duhigg, *The New York Times*, October 5, 2008, p. 1, www.nytimes.com/2008/10/05/business/05fannie.html?partner=rssnyt&emc=rss.
9. For a succinct summary as to how synthetic CDOs brought Merrill Lynch down, see "How the Thundering Herd Faltered and Fell," by Gretchen Morgenson, *The New York Times*, Sunday, November 9, 2008, p. BU1. www.nytimes.com/2008/11/09/business/09magic.html?_r=1.
10. "The Mortgage Crises: Let Markets Work, But Compensate the Truly Needy" by William Emmons, *The Regional Economist*, July 2008, p. 12.
11. This is discussed in more detail in "The 1998 -2005 Housing 'Bubble' and the Current 'Correction': What's Different this Time," by William Wheaton and Gleb Nechayev, *Journal of Real Estate Research*, Vol. 30, No. 1: (January-March) 1- 26. Of course, the first economist to call the U.S. housing bubble

FIGURE 2

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

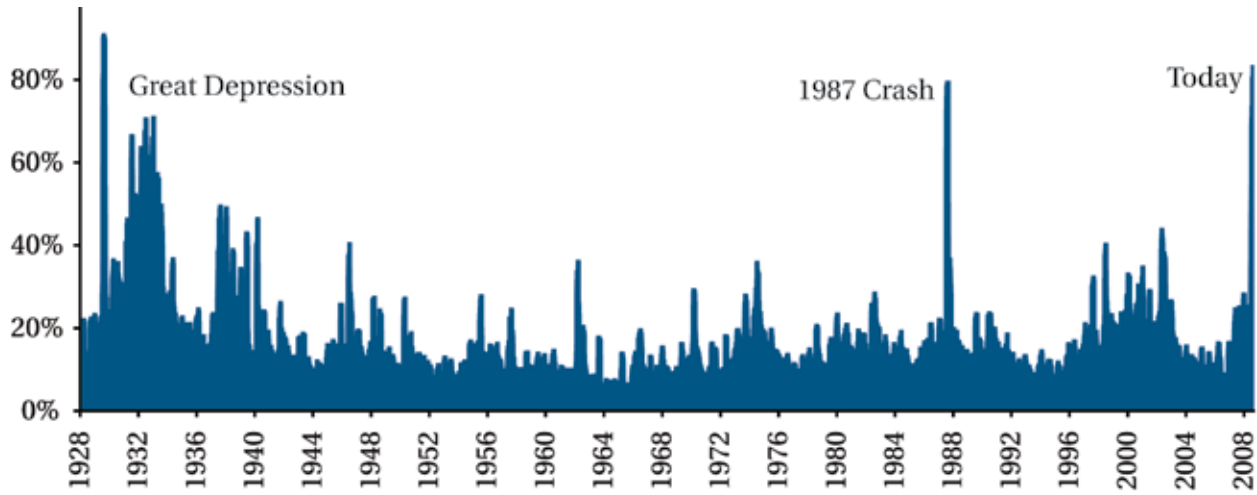
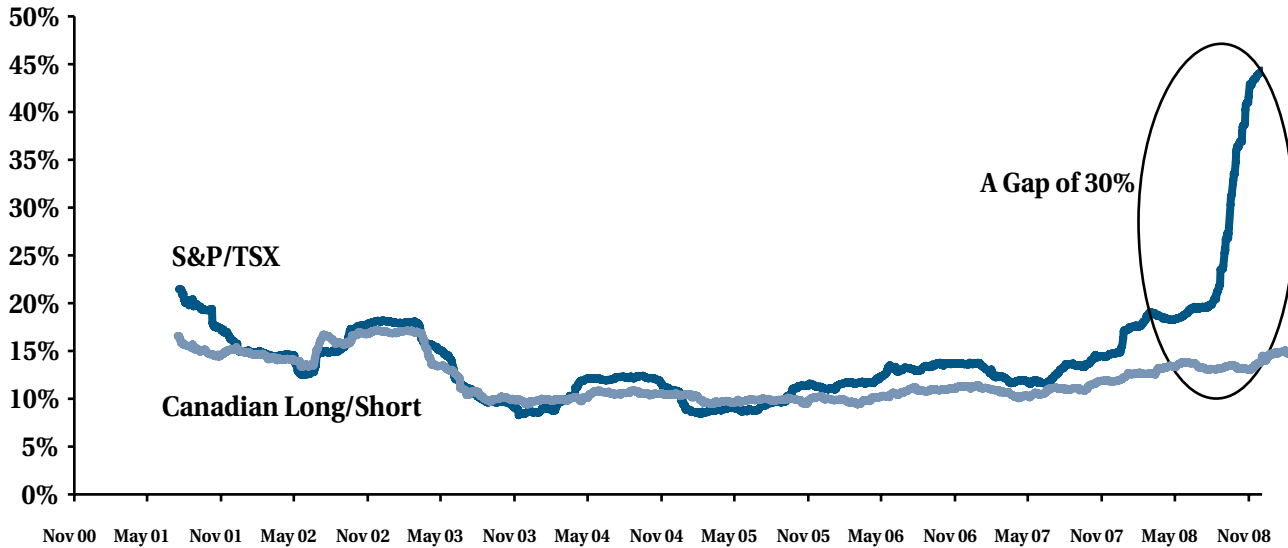


FIGURE 3

Hillsdale Canadian Long/Short Volatility vs. TSX—180-Day Rolling



was Robert Shiller in "Long Term Perspective on the Current Boom in Home Prices," *Berkeley Electronic Press*, March 2006.

12. "The Mortgage Crises: Let Markets Work, But Compensate the Truly Needy" by William Emmons, *The Regional Economist*, July 2008, p. 13.
13. Renowned monetary economist Michael Bordo also argues that the current crisis is part of a "perennial patter." Bordo is more blunt in his assessment of 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.
14. "Financial Crisis: A Hardy Perennial" is actually the title of a chapter in Charles P. Kindleberger's book on financial crises,

Manias, Panics and Crashes: A History of Financial Crises, New York: Basic Books, 1989.

15. This section draws heavily on "The Aftermath of Financial Crises," by Carmen Reinhart and Kenneth Rogoff, *NBER Working Paper 14656*, p. 3, January 2009.
16. The high degree of variability in both business and market cycles indicates that describing business and market fluctuations as having some element of cyclicality is rather misleading. However, relabeling these systems as business and market "periodicities" just does not ring quite right!
17. Much has been written on market timing being a low odds investment strategy, see for example pages 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

TABLE IV

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

	Indexes	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—ten-year government bonds (USD)	0.03
Yield	U.S. ten-year government bond yield (USD)	-0.06
	Cdn. ten-year government 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

TABLE V

Return Correlations From January 1994 to December 31, 2008

	S&P TSX	S&P 500	MSCI EAFE	Scotia McLeod Universe	CSFB MN Equity Index	Cdn. 91-Day T-Bill
S&P/TSX*	1.00					
S&P 500*	0.64	1.00				
MSCI EAFE*	0.63	0.74	1.00			
Scotia McLeod Universe*	0.21	0.13	0.06	1.00		
CSFB MN 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 indexes are total returns in Can\$.

that the outliers from nonnormal 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, pp. 20-34.

- "Hillsdale 2008 Market Outlook" by Chris Guthrie and Arun Kaul, January 2008.
- Russell, S&P Index Services (S&P 500 Capital Returns) Based On 4 Market Bottoms from 1978-2008 (Bear Markets Ending Jul 82, Nov 87, Oct 90, Sep 02).
- 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 volatility. Refer to their *NBER Working Paper #14269*, "Macroeconomic Volatility and Stock Market Volatility Worldwide," August 2008.



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