

MARKET MONITOR DECEMBER 1, 2008

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A BRIEF HISTORY OF BEAR MARKETS

There can be little doubt that we are in a serious bear market. Since their October 2007 peak, broad stock market indexes have fallen approximately 45% for domestic equities and 55% for international issues. Although we don't know when the current bear market will end, the decline has exceeded the two worst bear markets since World War II.¹ Combined with a global financial crisis, deteriorating economies around the world and declining corporate earnings growth, it is possible that this bear market will be with us for some time.

- What exactly is a bear market?
- How bad are they?
- What "causes" a bear market? Causal factors versus timing (why now?)
- How do they end?

¹ As of November 30, 2008.

BEAR MARKETS SINCE 1900

The following table shows significant market declines since 1900 using the S&P 500® total return index.

BEAR MARKETS AND RECESSIONS IN THE U.S. SINCE 1900

BEAR MARKETS				RECESSION		POST-BEAR RETURN	
MONTH AND YEAR		% DECREASE FROM MARKET HIGH	DURATION MONTHS	BEGIN	END	% INCREASE FROM MARKET LOW	DURATION MONTHS
TOP	BOTTOM						
Oct-07	Nov-08+	-47.3	13+	Dec-07	–		
Sep-00	Oct-02	-46.2	25	Mar-01	Nov-01	62.3	59
Jul-90	Oct-90	-19.2	3	Jul-90	Mar-91	391.0	118
Sep-87	Nov-87	-32.9	2			80.6	31
Nov-80	Aug-82	-20.2	21	Jul-81	Nov-82	305.3	60
				Jan-80	Jul-80		
Jan-73	Oct-74	-45.1	21	Nov-73	Mar-75	204.3	72
Nov-68	May-70	-32.8	18	Dec-69	Nov-70	89.2	31
Feb-66	Oct-66	-19.3	8			58.7	24
Dec-61	Jun-62	-26.8	6	Apr-60	Feb-62	98.4	41
Jul-57	Oct-57	-19.9	3	Aug-57	Apr-58	115.1	45
Jan-53	Sep-53	-15.3	8	Jul-53	May-54	59.0	45
				Nov-48	Oct-49		
May-46	May-47	-25.3	12	Feb-45	Oct-45	65.0	67
Nov-38	Apr-42	-33.9	41			214.0	48
Mar-37	Mar-38	-51.3	12	May-37	Jun-38	66.8	7
Feb-34	Mar-35	-28.9	13			148.6	23
Sep-32	Feb-33	-38.9	5	Aug-29	Mar-33	120.9	12
Sep-29	Jul-32	-83.8	34	Aug-29	Mar-33	115.4	19
				Oct-26	Nov-27		
				May-23	Jul-24		
Nov-19	Aug-21	-26.3	21	Jan-20	Jul-21	657.1	84
Nov-16	Dec-17	-38.4	13	Aug-18	Mar-19	79.9	22
Nov-12	Oct-14	-26.7	11	Jan-13	Dec-14	77.2	48
				Jan-10	Jan-12		
Jan-07	Nov-07	-36.8	10	May-07	Jun-08		59
Jun-01	Oct-03	-25.7	28	Sep-02	Aug-04		38
Minimum		-15.3	2			62.3	7
Maximum		-83.8	28			214.0	118
Average 1901-2002		-33.0	15			158.4	45
Average 1946-2002		-27.5	12			139.0	54

Sources: Author's calculations based on S&P 500 monthly returns and NBER Business Cycle Dating Committee.

The first thing to note is that although extended downturns have been relatively infrequent since 1975, they are far from unusual. We are now in the 12th market drop of 15% or more since World War II and the 22nd downturn since the beginning of the last century (on average, about one has occurred every five years).

A popular belief is that the onset of a bear market can be precisely defined as a decline of 20% or more in a broad market index (Dow Jones Industrial Average, S&P 500[®], Russell 3000[®], etc.). However, a somewhat intuitive, qualitative definition of bear markets may be more helpful: A bear market is one where the prices of securities are falling and widespread investor pessimism causes further selling, which in turn causes prices to drop repeatedly until confidence is restored. In addition, volatility often accompanies a bear market, with wide intraday and interday swings in stock prices as investors' focus narrows to immediate rather than long-term news, prompting some to engage in bouts of panic selling.

So the term "bear market" can cover a wide variety of market declines that behave in different ways. Both in 1987, when the S&P 500 total return index declined over 20% in

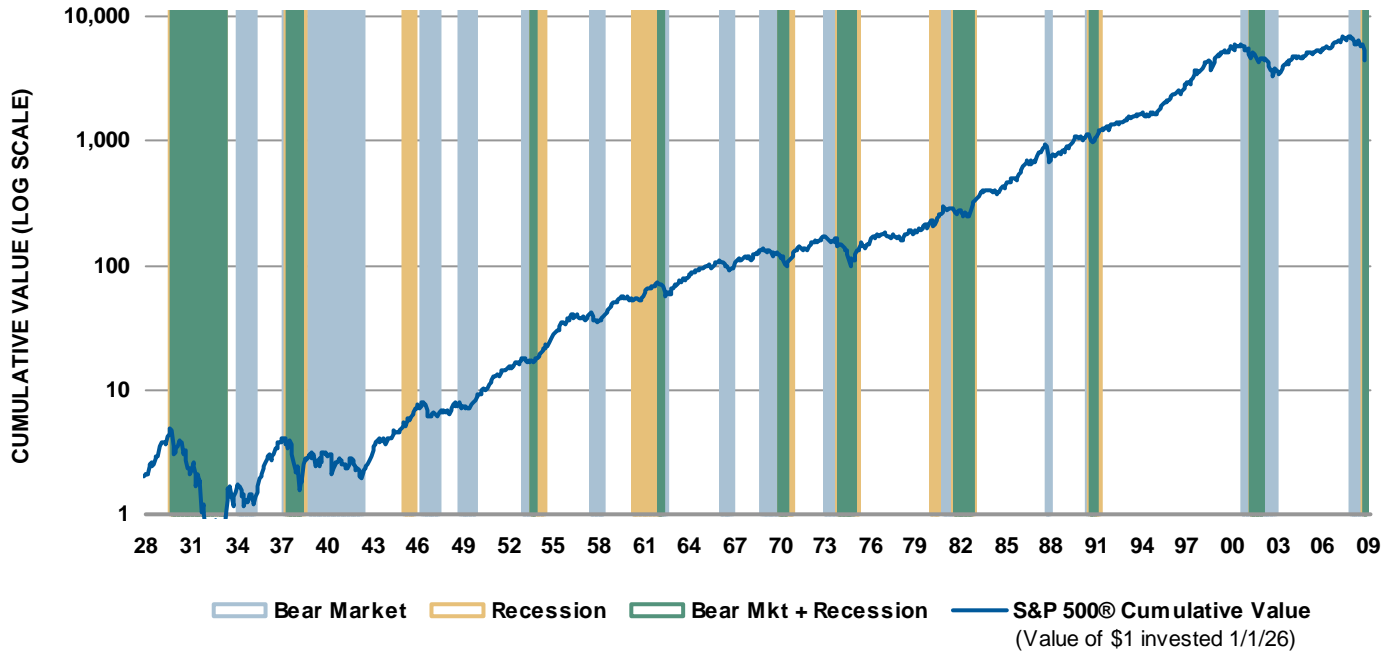
one day (the largest single-day decline in its history), and in 1990, when it fell nearly 20% over three months, recoveries followed rapidly. In contrast, bear markets that started in 1973 and 2000 each lasted nearly two years.

During U.S. bear markets that have been recorded since 1900, the average fall in the S&P 500 total return index from peak to trough was about 33%. Until recently, the largest losses were a 46% decline during the tech stock meltdown from 2000 to 2002; two bear markets associated with the Great Depression (from 1929 to 1932, when the market fell nearly 85% and from 1937 to 1938, when it declined over 50%); and a 45% drop from 1973 to 1974 that was accompanied by a stagflationary recession.

Another popular belief is that market downturns are harbingers of recessions.² To examine this relationship, we can use the preceding table as well as the following chart showing the effect of historical S&P 500 total returns on the value of \$1 invested in 1926 (note that the vertical axis is shown in a logarithmic scale to make it easier to see changes all along the curve).

² The Business Cycle Dating Committee, National Bureau of Economic Research, determines when the U.S. has entered and exited a recession. In doing so, the committee focuses on real GDP, personal income less transfer payments, in real terms, employment, manufacturing, industrial production, the volume of sales of the manufacturing and wholesale-retail sectors adjusted for price changes, and selected other measures.

STOCK MARKET RETURNS, BEAR MARKETS, AND RECESSIONS (LOG SCALE)



Sources: Author's calculations based on S&P 500 total returns, NBER Business Cycle Dating Committee.

Since 1900, twelve bear markets started at least three months before the onset of accompanying economic declines. However, seven bear markets started after or essentially simultaneously with recessions or depressions,³ three bear markets occurred in the absence of a measurable recession,⁴ and four recessions happened without noticeable market downturns.⁵

In the next chart, we see the relationship among returns, bear markets, and recessions for the shorter period from 1985 to 2008 in greater detail. This time, we use an arithmetic rather than a logarithmic scale. From all of these sources it appears that, although there may be a tendency for bear markets to foreshadow recessions, the relationship is by no means predictable.⁶

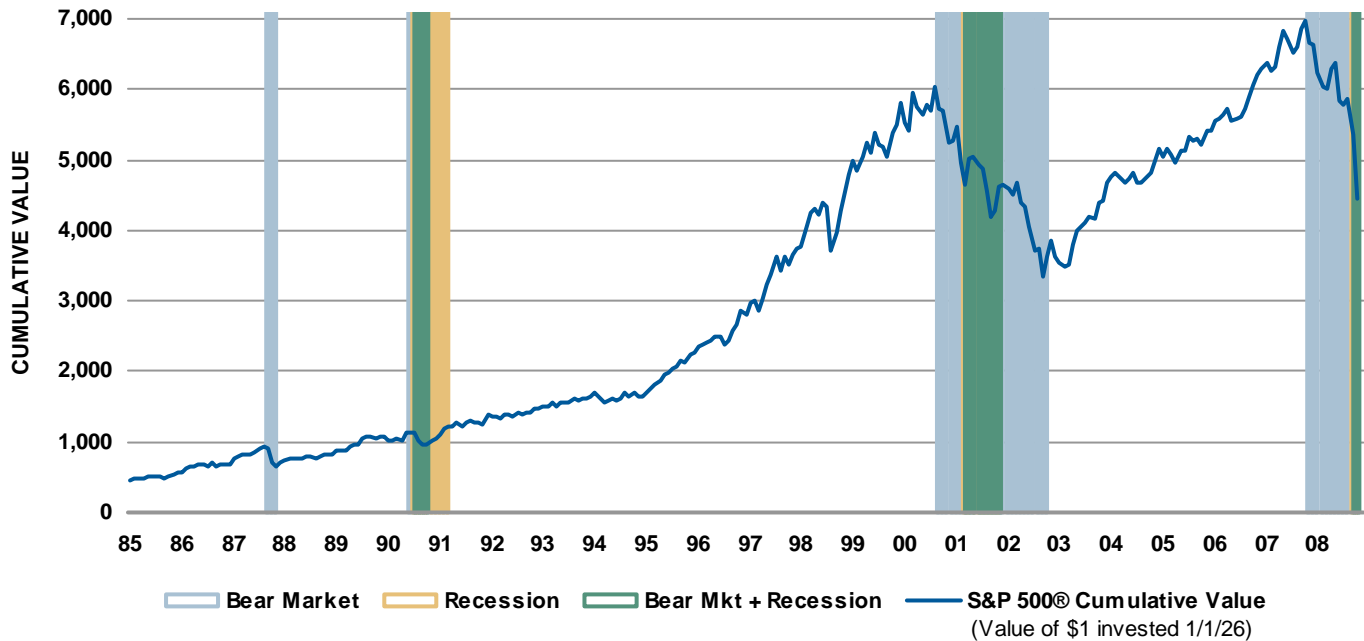
³ 1919-21, 1929-32, 1932-33, 1946-47, 1957, 1961, and 1990.

⁴ 1938-42, 1966, and 1987.

⁵ 1910-12, 1923-24, 1926-27, and 1948-49.

⁶ It is easier to draw the conclusion that bear markets predict recessions if we use the Dow Jones Industrial Average or the S&P 500 price return index instead of the total return index. Dividends are not as volatile as prices, so the total return index tends to turn down later than the price index. The downturn of the total return index would more likely be concurrent with or subsequent to the onset of a recession than a price return index would be.

STOCK MARKET RETURNS, BEAR MARKETS, AND RECESSIONS 1985-2008



Sources: Author's calculations based on S&P 500 total returns, NBER Business Cycle Dating Committee.

BEAR MARKET TYPES OR CAUSES

Bear markets generally occur as a result of three types of shocks that can arrive together or separately: a policy of monetary restraint by the Federal Reserve, a sudden loss of market liquidity, or the outbreak of war.

FEDERAL RESERVE ACTIONS A CATALYST

By far the most common cause of bear markets is tight monetary policy. Between 2003 and 2006, the Federal Reserve raised the Fed Funds rate from a historical low of 1.00% to a more commonly seen 5.25%. Nevertheless, this rise squeezed over-leveraged institutions and individuals, because the gap between short-term and long-term interest rates nearly disappeared. This reduced or eliminated profits for many in the credit markets, who depended on short-term borrowing to fund long-term investments and significantly reduced investors' interest in the stock market.

Other Fed-driven bear markets include the Volcker Recession from 1981 to 1983, when the Fed tried to put a stop to inflation run amok. At one point, Fed funds hit 18%, about 4 percentage points more than the yield on medium- and long-dated government bonds at the time. From June 1981 to July 1982, the S&P 500 fell about 20% and didn't reach new highs for 26 months.

LOSS OF MARKET LIQUIDITY A KEY FACTOR

Liquidity, or the lack of it, is instrumental in the current financial crisis and bear market. Investment banks, mortgage lenders, and consumers had "levered up" (increased their borrowing) in the early part of the decade when short-term interest rates were low in order to pour money into mortgages and "low-risk," highly rated mortgage-backed securities. Subsequent rising interest rates and falling investor confidence in asset-backed securities and credit default swaps caused lenders to back

away from providing capital to investment banks, hedge funds, and other institutions. The banks were forced to pay back short-term loans at a time when there was very little capital available for further debt issuance. In the rush to “delever” (reduce borrowing), institutions and individuals sold their only liquid assets, in many cases stocks, thus precipitating and extending the current bear market.

The classic example of a liquidity crisis is the October 1987 stock market crash. Despite a rising interest-rate environment, stock market valuations rose to the high end of historic measures. Fund managers had convinced themselves that a new financial derivative called “portfolio insurance” would enable them to exit stocks instantly if the market turned against them by selling short S&P 500[®] futures contracts. Unfortunately, the strategy depended on market participants’ being prepared to buy S&P futures in a falling market. In the first real test of the strategy, market participants had neither the capital nor the stomach to take that side of the trade. Peak to trough, the S&P 500 Index fell 25% and did not reach a new high for 21 months.

OUTBREAKS OF WAR SOMETIMES A CONTRIBUTOR

Interestingly, the most recent U.S. war in Iraq did not lead immediately to a bear market. The U.S. began military operations in Iraq in early 2003, during a sustained bull market that lasted until 2007. So the current bear market is not directly connected to the outbreak of war.

In contrast, when Iraq invaded Kuwait in July 1990, the S&P 500 fell 19% in three months and gained back the entire loss within six months. With the outbreak of World War II in Europe in 1938 to 1939, the S&P 500 fell 33% during subsequent years before bottoming out in 1942, a few months after Pearl Harbor.

During the 1960s, the Cold War heated up between the Bay of Pigs invasion (April 1961) and the Cuban Missile Crisis (October 1962). Even though the economy had begun an expansion that lasted until the end of the decade, the specter of nuclear annihilation caused the S&P 500 to fall 27% by June 1962.

A NIGHTMARE BEAR MARKET

In the decade leading up to the 1929 stock market crash, the Dow gained 443%. However, away from the cities, farm prices collapsed, as agricultural productivity soared, leading to excess supply and widespread poverty. Brokerage firms made it possible for clients to purchase securities using little of their own money, allowing up to 90% margin; banks were permitted to invest in stocks, also on margin; and the Federal Reserve Bank, just 16 years old at the time, had neither the tools nor the experience of the modern Fed. In the summer of 1929, the Fed began raising rates to cool off the stock market.

That October, in a sudden break of confidence, the market plunged sharply, falling 58% by January 1931. A brief rally that summer was eclipsed by more selling, ultimately taking the S&P 500 down 83% from its high. The capital of individuals and banks was vaporized by forced selling due to margin calls; a wave of bank failures wiped out families’ savings and corporations’ working capital. This was the most extreme liquidity crisis in modern economic history. Neither the actions of the Federal Reserve nor the New Deal policies of the Franklin D. Roosevelt presidency could restore liquidity and confidence—it took the deficit spending of World War II to turn the U.S. economy around. The Dow did not reach a new high until 1945—16 years later.

BRINGING THE CURRENT BEAR MARKET INTO PERSPECTIVE

So far, the current bear market looks a lot more like those experienced during the Depression than any other bear markets since then. That does not mean the United States is entering a depression. Far from it. U.S. Gross Domestic Product could contract between 2% and 4% this year, compared to about 30% in the months after 1929. Unemployment during the Depression rose to 25% or more, and the stock market fell by over 80%, while current unemployment is over 7% and the stock market is down about 45%. Today a large number of the most important financial institutions are on life support, but during the Depression many similar institutions failed completely, taking life savings with them because deposit guarantees were either limited or nonexistent.

However, there are some lessons to be learned from the Great Depression. One is that bear markets caused by financial crises are typically among the most severe. In addition, then, as now, fundamental institutional issues in the financial system, including the role of oversight organizations and mechanisms, leverage limits, and risk management, have all played a critical role in the rush to sell liquid stocks. Then, as now, investor confidence has plummeted, with some individuals exiting the markets and fleeing to the supposed safety of cash.

The good news is that we *have* learned some lessons from the Great Depression. Government has stepped in more quickly to lower interest rates, increase the money supply, shore up failing financial institutions, buy up distressed securities, and promise individual mortgage relief. Safety mechanisms put into place during the Great Depression and its aftermath, such as deposit insurance and bank regulation, have provided further support. Today long-term

investors also understand far better than their predecessors the importance of asset allocation as a way of reducing risk compared to having a concentrated portfolio of stocks.

While the current bear market is severe and history tells us that there is no way to predict how long it will last, we do know that bear markets have always been followed by bull markets. In contrast to the average bear market, which lasts 12-15 months (and, as we've seen, a fall in return of 27% to 33%), the average bull market lasts four to four-and-a-half years and enjoys a total return of 140% to 160% during that time.

Unfortunately, it is close to impossible to determine how long a bear market will last. Historically, markets have bounced back. Investors would be wise to position their portfolios to take advantage of a recovery when it occurs and thus capture the fullest effect of a market rebound.

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