

BEAR MARKETS



Fund Evaluation Group[®]
investment advisors



Objectives



Definition

A bear market is generally defined as a decline greater than 20% (peak to trough) over two months, during which time pessimism is the dominant mood of investors.

Study Objectives

This study takes the following steps to review the current and past bear markets. We use the S&P 500 due to the benchmark's wide recognition as a diversified market indicator.

- Examine the duration of bear markets and the subsequent recovery
- Review the current bear market
- Illustrate commonalities of previous bear markets while recognizing that each bear market is different, including:
 - Interest rate environment
 - Investor optimism
 - Market catalysts
- Provide a history of previous bear markets
- Offer keys to enduring a bear market

Bear Markets since 1950



Since 1950, bear markets declined 27.4% on average and lasted just under one year in duration; however, the recovery period lasted over 20 months.

This study found the following measures of bear markets:

- **Ten Occurrences**
 - Least time between bear markets: 784 days / 25.8 months (1966 & 1968-70)
 - Most time between bear markets: 2,834 days / 91.5 months (1990 & 1998)

- **Average Duration:**
 - Shortest duration: 45 days / 1.5 months (1998)
 - Longest duration: 630 days / 21 months (1973-74)

- **Average Recovery*:**
 - Shortest recovery: 129 days / 4.3 months (1998)
 - Longest recovery: 1,274 days / 42.5 months (1973-74)

Recovery is defined as the time required for the S&P 500 to recover losses since the inception of the defined bear markets.

Source: Standard & Poor's

Bear Markets since 1950



As illustrated by the charts below, investors who liquidated investments as a result of a bear market failed to participate in the often dramatic recovery, and reduced their portfolio's long-term return potential.

Bear Markets Since 1950

BEAR			RECOVERY			Returns ¹		
Time Period	Decline	Duration (months)	Time Period	Gain	Duration (months)	1 Yr	3 Yr	5 Yr
8/2/1956 - 10/22/1957	22%	14.9	10/22/1957 - 9/26/1958	27%	26.1	23%	40%	57%
12/12/1961 - 6/26/1962	28%	6.5	6/26/1962 - 4/12/1963	29%	16.1	23%	63%	76%
2/9/1966 - 10/7/1966	22%	8.0	10/7/1966 - 3/31/1967	25%	13.8	26%	37%	53%
11/29/1968 - 5/26/1970	36%	18.1	5/26/1970 - 3/19/1971	36%	28.0	32%	44%	28%
1/11/1973 - 10/3/1974	48%	21.0	10/3/1974 - 7/9/1976	81%	42.5	26%	53%	92%
9/21/1976 - 3/6/1978	19%	17.7	3/6/1978 - 8/4/1978	21%	22.7	18%	70%	112%
1/6/1981 - 8/12/1982	26%	19.4	8/12/1982 - 9/17/1982	21%	20.5	59%	105%	267%
8/25/1987 - 12/4/1987	34%	3.4	12/4/1987 - 4/21/1989	45%	20.1	15%	34%	97%
7/16/1990 - 10/11/1990	20%	2.9	10/11/1990 - 2/11/1991	26%	7.0	31%	15%	121%
3/24/00 - 10/9/2002	48%	30.6	10/9/2002 - 6/1/2007	43%	80.8	24%	59%	105%
Average	30%	14.3	Average	36%	27.8	28%	52%	101%

¹ Cumulative returns beginning on the first date of the bear market recovery

Source: Standard & Poor's

The Current Bear Market



When did the current bear market decline begin?

- The S&P 500 hit an all-time high on 10/09/07, closing at 1565.15

When did the decline officially become a bear market?

- The S&P 500 officially entered a bear market on 7/9/08, closing at 1244.69
- Peak-to-trough decline of 20.5%

S&P 500 Index



Source: Standard & Poor's

Commonalities of Previous Bear Markets



Some common precursors of previous bear markets include:

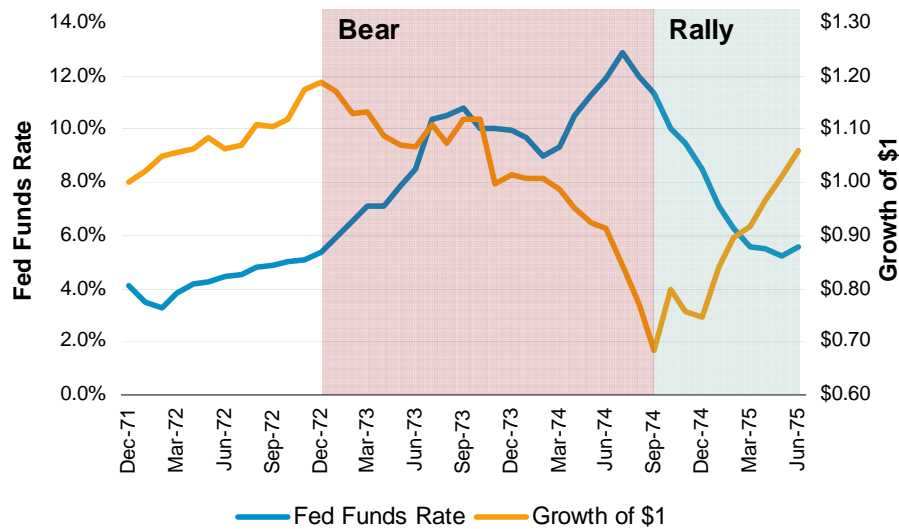
- A rising interest rate environment – When the Federal Reserve has attempted to slow economic growth by increasing the Fed Funds rate, the stock market has usually declined in anticipation of an economic slowdown. Not surprisingly, many bear markets are preceded by increases in the Fed Funds rate.
- An optimistic investing public following market advances – Price-to-earnings ratios have often been above historic averages prior to a bear market.
- A catalyst (or multiple catalysts) that sparks the initial wave of selling may or may not be an economic event, but lead to increased uncertainty in the markets.

Increasing Interest Rate Environment



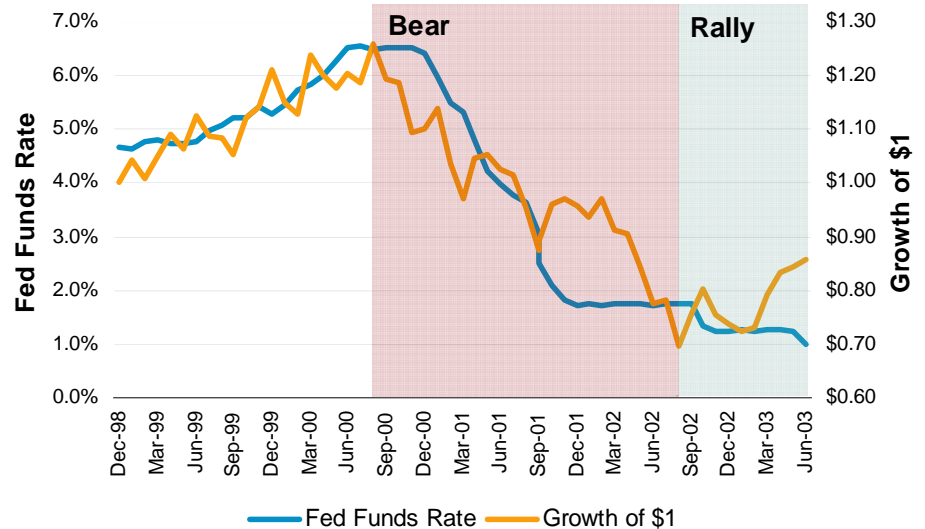
The following graphs show how raising the Fed Funds rate has preceded bear markets:

S&P 500 Growth of \$1 vs. Fed Funds Rate



Source: Bloomberg, Standard & Poor's

S&P 500 Growth of \$1 vs. Fed Funds Rate



Source: Bloomberg, Standard & Poor's

Prior to the steepest equity market drop during the 1973-1974 bear market, the Fed Funds rate increased from 4.0% to 10.0% through late 1973

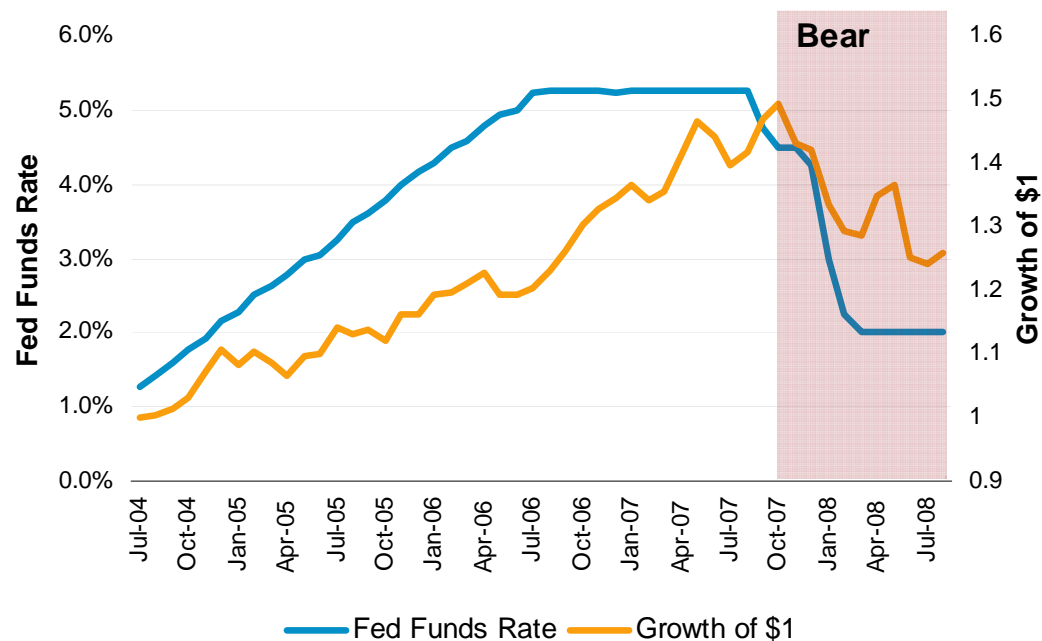
The bear market beginning in 2000 was preceded by a 2.0% point increase; the 1987 bear market (not shown) was preceded by a gradual rise in the Fed Funds rate of just over 1% point

Increasing Interest Rate Environment



The following graph shows rising interest rates that preceded the current bear market:

S&P 500 Growth of \$1 vs. Fed Funds Rate



Source: Bloomberg, Standard & Poor's

Prior to the current bear market starting in October 2007, the Fed Funds rate increased from 1.0% to 5.25%

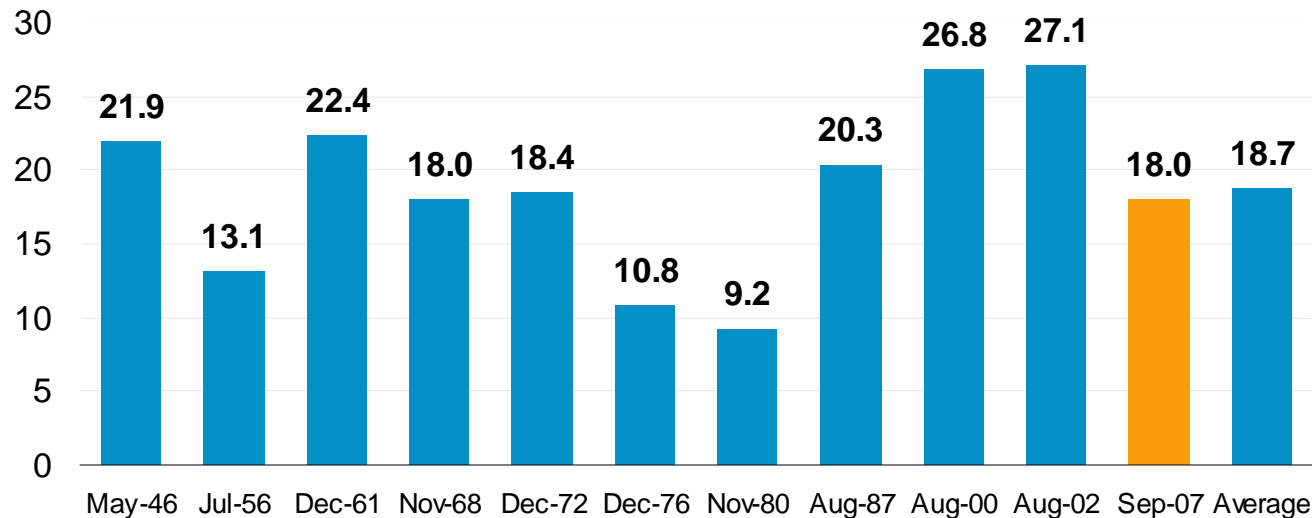
High Valuations over Historic Average

Excessive optimism can precede a bear market:

- Although difficult to quantify, investors are usually optimistic prior to a bear market
- The graph below shows the S&P 500 price to 12-month trailing earnings ratio (P/E) prior to significant market declines, the average of all periods since 1926 is 14.8x
- Out of the prior 10 bear markets studied, 7 began with the P/E ratio in the high teens or greater, well above the long-term average of 14.8x
- The P/E ratio in the month prior to the current bear market (September 2007) was only modestly higher (18x) than the long-term historical average due to strong earnings growth

P/E in Prior Bear Markets:

Price to trailing 4-Quarter EPS



Source: Bloomberg

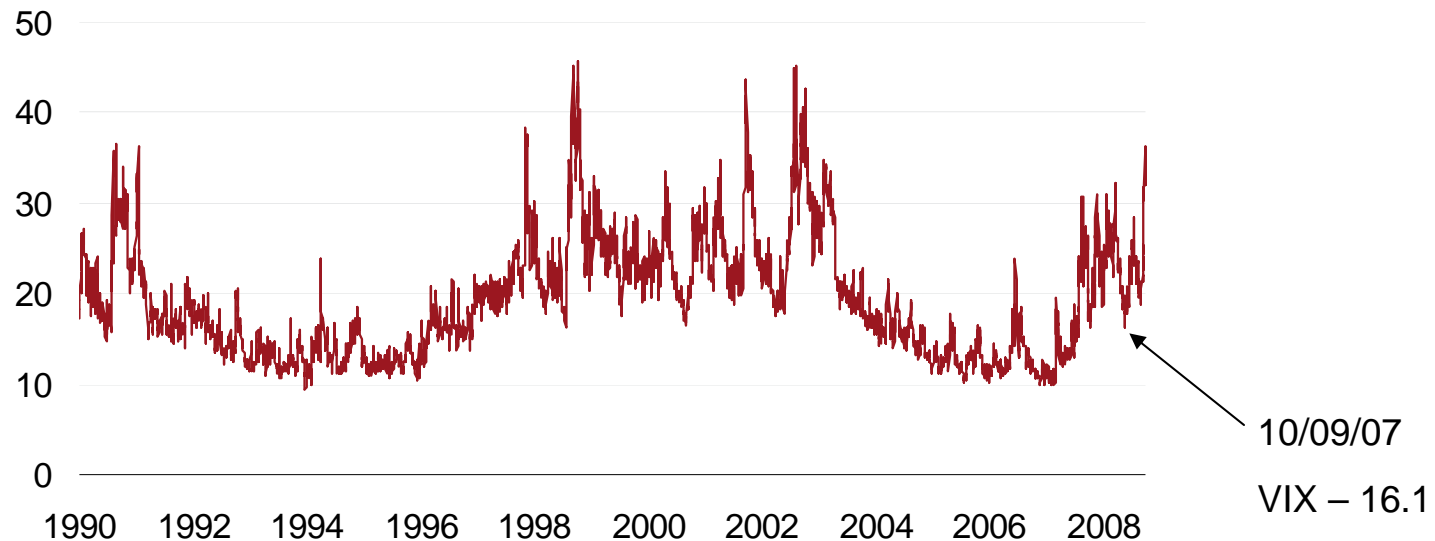
Optimism Among Investors



Optimism can also be seen as a lack of fear

- The following graph illustrates the value of the CBOE Volatility Index (VIX) for all available data
- During volatile (bearish) times, the VIX moves higher as demand increases for put options, used for portfolio protection
- Some of the lowest levels in the VIX's history occurred in early 2007
- Low levels of the VIX do not necessarily precede market declines, but substantiate optimism

CBOE Volatility Index (VIX)



Source: Bloomberg

Catalysts to Spark Selling



Rising interest rates, high valuations, and a sense of optimism among investors can set the stage, but a catalyst (historically some negative fundamental, geopolitical, or economic event) is needed to spark a bear market

- A bear market does not usually spawn on its own
- A catalyst, a fundamental reason to sell, must take place
- The confluence of multiple catalysts is usually needed to spark a bear market
- Crisis events alone don't always lead to bear markets (Ned Davis Research, Inc.)

Event	Reaction Dates	% Gain/Loss	Days Post Event		
			22	63	126
Fall of France	05/09/1940 – 06/22/1940	-17.1	-0.5	8.4	7.0
Pearl Harbor	12/06/1941 – 12/10/1941	-6.5	3.8	-2.9	-9.6
Truman Upset Victory	11/02/1948 – 11/10/1948	-4.9	1.6	3.5	1.9
Korean War	06/23/1950 – 07/13/1950	-12.0	9.1	15.3	19.2
Eisenhower Heart Attack	09/23/1955 – 09/26/1955	-6.5	0.0	6.6	11.7
Sputnik	10/03/1957 – 10/22/1957	-9.9	5.5	6.7	7.2
Cuban Missile Crisis	10/19/1962 – 10/27/1962	1.1	12.1	17.1	24.2
JFK Assassination	11/21/1963 – 11/22/1963	-2.9	7.2	12.4	15.1
U.S. Bombs Cambodia	04/29/1970 – 05/26/1970	-14.4	9.9	20.3	20.7
Kent State Shootings	05/04/1970 – 05/14/1970	-4.2	0.4	3.8	13.5
Arab Oil Embargo	10/18/1973 – 12/05/1973	-17.9	9.3	10.2	7.2
Nixon Resigns	08/09/1974 – 08/29/1974	-15.5	-7.9	-5.7	12.5
U.S.S.R. in Afghanistan	12/24/1979 – 01/03/1980	-2.2	6.7	-4.0	6.8
Hunt Silver Crisis	02/13/1980 – 03/27/1980	-15.9	6.7	16.2	25.8
Falkland Islands War	04/01/1982 – 05/07/1982	4.3	-8.5	-9.8	20.8
U.S. Invades Grenada	10/24/1983 – 11/07/1983	-2.7	3.9	-2.8	-3.2
U.S. Bombs Libya	04/15/1986 – 04/21/1986	2.6	-4.3	-4.1	-1.0
Financial Panic '87	10/02/1987 – 10/19/1987	-34.2	11.5	11.4	15.0
Invasion of Panama	12/15/1989 – 12/20/1989	-1.9	-2.7	0.3	8.0
Gulf War Ultimatum	12/24/1990 – 01/16/1991	-4.3	17.0	19.8	18.7
Gorbachev Coup	08/16/1991 – 08/19/1991	-2.4	4.4	1.6	11.3
ERM U.K. Currency Crisis	09/14/1992 – 10/16/1992	-6.0	0.6	3.2	9.2
World Trade Center Bombing	02/26/1993 – 02/27/1993	-0.5	2.4	5.1	8.5
Russia, Mexico, Orange County	10/11/1994 – 12/20/1994	-2.8	2.7	8.4	20.7
Oklahoma City Bombing	04/19/1995 – 04/20/1995	0.6	3.9	9.7	12.9
Asian Stock Market Crisis	10/07/1997 – 10/27/1997	-12.4	8.8	10.5	25.0
U.S. Embassy Bombings Africa	08/07/1998 – 08/10/1998	-0.3	-11.2	4.7	6.5
Russian LTCM Crisis	08/18/1998 – 10/08/1998	-11.3	15.1	24.7	33.7
WTC and Pentagon Terrorist Attacks	09/10/2001 – 09/21/2001	-14.3	13.4	21.2	24.8
Mean		-7.1	3.8	6.8	12.5
Median		-4.6	3.9	6.7	12.1

Source: Ned Davis Research

What caused the bear market of 1973-1974?



A recession combined with inflation

- In spite of a slowing economy, the consumer price index (CPI) rose by more than 10% year-over-year by 1974

The Nifty Fifty bubble burst

- By 1972, approximately 50 of the largest capitalization stocks traded at stratospheric valuations, many at more than 80 times earnings, before cascading lower

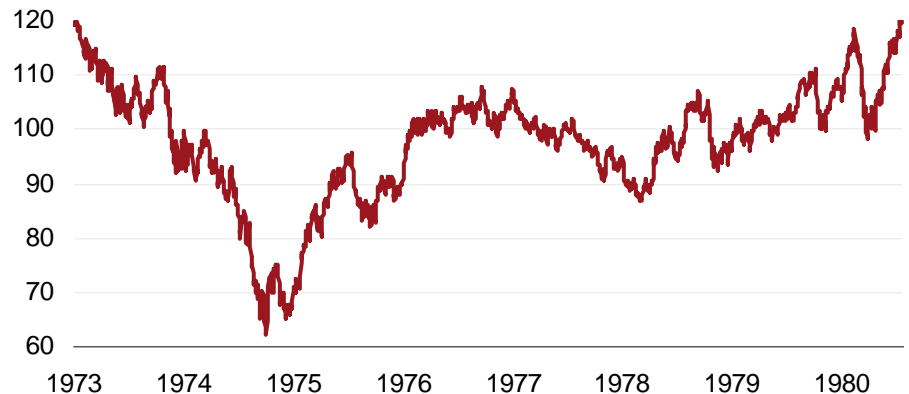
Oil embargo

- In late August 1973, Saudi Arabia, Libya, and other Arab states proclaimed an oil embargo on the United States that sent oil prices 400% higher over the ensuing 6 months

Political scandal

- The Watergate scandal (as well as the Vietnam War) eroded public confidence in government and thwarted investor confidence

S&P 500 Index



Source: Standard & Poor's

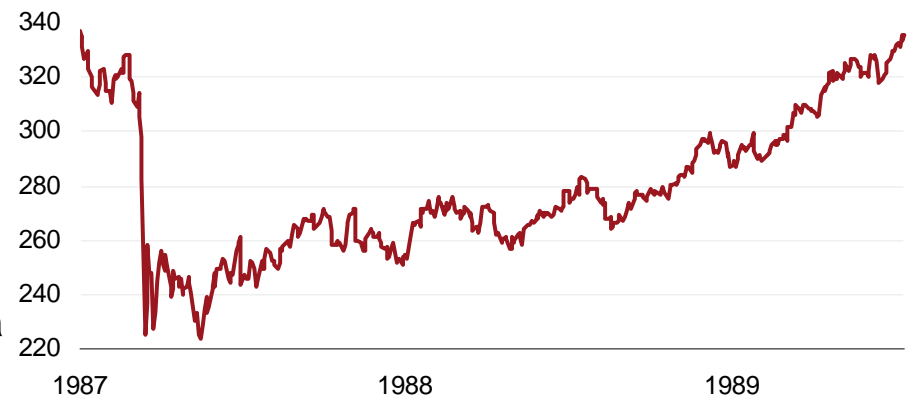
What caused the stock market crash of 1987?



The following are common explanations:

- Growing budget and trade deficits- especially with Japan
- Rising interest rates and bear market in bonds
- Slowing economic growth
- A reaction to overvaluation
- Highly optimistic out-of-the money put selling
- Program trading that exacerbated selling into a runaway crash

S&P 500 Index



Source: Standard & Poor's

Psychological factors certainly played a key role

- The markets had been declining prior to October 19th
- After several years of positive returns, investors feared a decline and were prompted by the initial drop to sell at all costs
- Many feared similarities to the 1929 crash that also began on a Monday in October

Outcome

- After the 1987 crash, market “circuit breakers” were enacted to limit program trading after a record intraday decline and even closed trading after a substantial intraday drop
- Optimism quickly turned to pessimism and the Federal Reserve injected liquidity into the system
- The markets rallied 45% in the subsequent 20 months

What caused the bear market of 2000-2002?



A recession

- Three consecutive quarters of declining GDP growth in 2001

The technology bubble burst

- Six of the top 50 largest market cap stocks (all technology and telecom related) traded at more than 100 times earnings before cascading lower

Terrorist attacks of 9/11/01

- Fear and uncertainty dominated investors

Corporate scandals (WorldCom, Enron, etc.)

- Fraud and questionable accounting practices eroded investors' confidence in the markets

Uncertainty

- Additional terrorist attacks
- Impending wars in Afghanistan and Iraq
- Weak and/or questionable corporate earnings

S&P 500 Index



Source: Standard & Poor's

What caused the bear market starting in 2007?



The real estate bubble burst

- Deterioration in residential housing valuations
- Widespread delinquencies and foreclosures among adjustable rate mortgages as interest rates went higher

Credit crunch

- As the market experienced material losses in their securitized investments, the ease of obtaining credit abruptly ended
- Liquidity quickly evaporated for investment banks, and a full-blown credit crunch ensued

Financial sector turmoil

- Massive write-downs due to securitized investments (mortgage derivatives and asset-backed securities)
- Fannie Mae and Freddie Mac placed into conservatorship by the Federal Housing Finance Agency
- AIG's bailout by the government after near bankruptcy
- Lehman Brothers files for Chapter 11 bankruptcy
- Merrill Lynch bought by Bank of America after a near collapse
- Federal Deposit Insurance Corporation (FDIC) funding concerns, due to weakness in the banking industry and a lack of confidence in the rating agencies due to unprecedented rating downgrades

S&P 500 Index



Source: Standard & Poor's

Summary



The environment prior to a bear market is different each time, however certain factors usually precede a significant decline

- Rising interest rates
- High valuations
- Excessive optimism

Bear markets are touched off by one or more catalysts

- Usually a negative fundamental, geopolitical, or economic event
- Some bear markets are sparked by multiple catalysts in quick succession

Keys to enduring bear markets are education and strategic planning

- Recognize bear markets are a regular part of investing in the markets (occurring approximately every 5 years on average)
- Understand the risk of each asset class
- Maintain a broadly diversified portfolio
- Maintain a long-term focus
- View bear markets as a buying opportunity as valuations decline
- Remain committed to an Investment Policy Statement

Disclosure

- This report was prepared by Fund Evaluation Group, LLC, (FEG) an investment adviser registered under the Investment Advisers Act of 1940, as amended, providing non-discretionary and discretionary investment advice to its clients on an individual basis.
- The information herein was obtained from various sources; FEG does not guarantee its accuracy or completeness. The information in this report is given as of the date indicated. We assume no obligation to update this information, or to advise on further developments relating to issuers discussed in this report. The indices discussed in this report are unmanaged indices. An investor cannot invest directly in an index.
- Neither the information nor any opinion expressed in this report constitutes an offer, or an invitation to make an offer, to buy or sell any securities. FEG, its affiliates, directors, officers, employees, employee benefit programs and client accounts may have a long position in any securities of issuers discussed in this report. There is no assurance that any security discussed will remain in an account's portfolio at the time you receive this report.
- This research report is prepared for general circulation and is circulated for general information only. It does not address specific investment objectives, or the financial situation and the particular needs of any person who may receive this report. Investors should seek financial advice regarding the appropriateness of investing in any securities recommended in this report and should understand that statements regarding future prospects may not be realized. Past performance is not necessarily a guide to future performance.



Fund Evaluation Group[®]
investment advisors

201 East Fifth Street
Suite 1600
Cincinnati, OH 45202
Phone: 513.977.4400
Fax: 513.977.4430
information@feg.com
www.feg.com

Outer Offices: Indianapolis, IN / Detroit, MI / Rexburg, ID