

This Too Shall Pass

Major Financial Shocks and Market Recoveries, 1970-2008

Robert Bannon, CFA, Chief Risk Officer
Genworth Financial Wealth Management, Inc.

A major investment bank implodes and files for bankruptcy. The validity of an entire market for counterparty-based securities is called into question. The Federal Reserve pumps tens of billions into the market through its emergency borrowing facility to prevent wholesale financial panic. The US government takes an 80% stake in one of the country's largest financial companies. Lenders seize up and suddenly become unwilling to lend to virtually anyone. Top government officials call a sitdown of major industry leaders to beg them to bail out one of their brethren. And the equity market plunges in despair.

Events of September 2008? Hardly. Every event that seems so spectacularly unique in September 2008 has pretty much happened before in our economy. Different firms, different agencies and different names (although in some cases the same firms, agencies and even names), but we've been through all of this before. And survived. We even rebounded, and flourished. In the words of Abraham Lincoln, "this too shall pass."

A Review of Historical Shocks

The research team of Genworth Financial Wealth Management did an exhaustive review of the greatest scandals, disasters, implosions and shocks that rocked the US financial markets since 1970. In the Appendix to this research report we review, in chronological order, 30 of the most disturbing pieces of news to ever hit the modern financial markets. The investment banks that have been brought low or even imploded (Salomon, Drexel, Kidder Peabody), the spectacular bank failures (Continental Illinois, Franklin National), the corporate and municipal bankruptcies and near-bankruptcies (Chrysler, Orange County, New York City, Enron), wars, scandals, bubble burstings, Asian contagions, Presidents being impeached or shot, and much more.

Aside from the historical interest of taking such a random walk down Wall Street's memory lane, what value can we extract from a review like this? The research team drew two useful lessons from this review: first, nothing ever is unique. Most everything that we have witnessed in September 2008 has happened previously, or at least a very close facsimile – and the world did not end. Second, we were surprised at how the markets reacted after each event we examined. Markets tend to weaken and droop as a scandal/disaster/shock dribbles out (or explodes on the scene, as the case may be), but in short order markets tend to absorb, digest and move on. Let's take a closer look at these two lessons.

Past as Prologue

Most of the financial shocks that occurred during September 2008 have occurred in years gone by. Let's take a look at a few examples:

Collapse of a Major Investment Bank – Lehman Brothers was not the first investment bank of note to implode or file for bankruptcy. Several others have done so, and for reasons far more scandalous than simply making an incorrect bet on an economic sector like real estate. Drexel Burnham Lambert collapsed in 1986 under the weight of scandal and the breakdown of the junk bond market. Kidder Peabody was weakened beyond salvage by a rogue trader in 1994 (as was Barings Bank in 1995). Salomon Brothers was brought low by their own scandal in 1991. All of these top line Wall Street investment banks disappeared with hardly a ripple once they were gone.

Government Loans and Bailouts – The US government gave the Chrysler Corporation a large loan to prevent a bankruptcy and intervened to save Lockheed from going under.

Government Takeovers – Continental Illinois, the nation's 7th largest bank was taken over by the Federal government and run for 10 years. At their peak the feds owned 80% of Continental Illinois, roughly the same percentage they recently took (or reserved to take) with AIG, Freddie and Fannie. The government actually nationalized the nation's private rail system after the collapse of Penn Central in 1970.

Huddles to Find a Buyer – When hedge fund Long Term Capital Management leveraged itself to the hilt on a bad bet in 1998, the feds convened a late night confab of top bankers and lenders to each pony up billions to close down what might have been a market shattering portfolio if it had been dumped onto the market in firesale fashion. And the government scrambled to find a willing buyer for Continental Illinois. The eventual buyer? Bank of America, the same firm they recently asked to purchase Merrill.

Debt Buyback Agency – The government wants to set up a fund to buy and manage almost \$700 billion in bad assets from US financial institutions? Look no further than the Resolution Trust Corporation, established in 1989 to buy up bad assets from the nation's savings and loans. And while the S&L bailout eventually “only” cost \$125 billion, the feds alerted the markets at the time that the cleanup cost might run as high as \$500 billion – and that was in 1989, when \$500 billion was real money.

Collapse of the Counterparty System – Worried about credit default swaps, interest rate swaps, equity swaps and the collateral protections provided therein? Think that's the first time the market has been scared that a major OTC market might fall apart (and take other firms/markets with it) over counterparty misgivings? In 1981 when Lombard-Wall, a minor government securities dealer failed, federal courts determined that repo collateral belonged as part of the bankruptcy and could not be liquidated by the counterparties holding it. Eventually the problem was sorted out and the laws were changed, but for a time the markets were convinced that a major OTC market, the repo market, would come to an end because counterparties could not be relied upon.

Credit Crunch – Think banks will never again make a mortgage loan or even a commercial loan, not even to qualified borrowers? In 1982 Mexico defaulted on its loans, and several major Latin American countries were poised to follow suit. Major New York banks, stung by criticism of their loose lending practices, seized up on credit availability and threw the country into an extreme credit crunch. Tight fists eventually uncurled, and money for loans flowed yet again. Indeed, only 4 years later during the Reagan go-go years, levels of consumer and business (and sadly government) indebtedness reached historically high levels, leaving the 1982 credit crunch as a distant memory.

Markets Plunge – As we all know, equity markets plunge from time to time, on bad news or just out of pure animal spirits. The crash of 1987, the mini-crash of 1989, the bursting of the dot-com bubble of 2000 are but a few examples. But, generally speaking, the faster the crash, often the faster the recovery.

Fed Pumps in the Cash – The Fed has been reported to have pumped more than \$100 billion into the economy in September to save the money market funds, save commercial paper, save major banks – pretty much save the world. But the Fed has done this before. The Fed let Continental Illinois come to its emergency lending window day after day for billions over the course of several months to help finance its operations (considering Continental's CD's were selling for 30% yields, the discount window was a reasonable bargain). And the Fed pumped massive amounts of liquidity into the economy during the market crash of 1987.

How Do Markets React to Major Financial Shocks?

Ok, so everything that is occurring now has occurred before. But does that mean that the markets don't suffer? That the markets don't flail and collapse and stay low for months or even years to come? The answer, quite simply, is no. Consider the data provided in the table below:

Event Name	Event Type	Key Date	Months to Market Improvement ¹
Penn Central Bankruptcy	Bankruptcy	Jun-70	7
Lockheed near bankruptcy	Near Bankruptcy	Feb-71	0
Arab Oil Embargo	Financial Crisis	Oct-73	12
Watergate/Nixon Resignation	Political Crisis	Aug-74	2
Franklin National Bank Collapse	Bankruptcy	Oct-74	2
NYC Near Bankruptcy	Near Bankruptcy	Oct-75	1
Chrysler Loan	Near Bankruptcy	Sep-79	2
President Reagan Shot	Political Crisis	Mar-81	1
Lombard-Wall Inc. Repo Failure	Financial Crisis	Aug-82	1
Latin American Debt Crisis	Financial Crisis	Aug-82	1
Continental Illinois	Bankruptcy	May-84	2
Drexel Burnham Lambert	Bankruptcy	May-86	2
S&L Industry Crisis	Bankruptcy	Jan-87	1
US Stock Market Crash of '87	Financial Crisis	Oct-87	2
Mini Crash of 1989	Financial Crisis	Oct-89	1
Gulf War I	Political Crisis	Aug-90	4
Salomon Treasury Bond Scandal	Financial Crisis	May-91	1
ERM Collapse	Financial Crisis	Sep-92	2
Kidder Peabody	Financial Crisis	Oct-94	1
Orange County Bankruptcy	Bankruptcy	Dec-94	1
Barings Bank Collapse	Bankruptcy	Feb-95	0
Asian Financial Crisis	Financial Crisis	Jul-97	2
Long Term Capital Management	Bankruptcy	Aug-98	1
Impeachment of President Clinton	Political Crisis	Dec-98	2
Dot Com Bubble Burst	Financial Crisis	Jan-00	30
9/11 Terrorist Attacks	Political Crisis	Sep-01	12
Enron Scandal	Bankruptcy	Oct-01	1
War in Iraq	Political Crisis	Mar-03	1
Collapse of Refco	Bankruptcy	Oct-05	3
Amaranth Advisors	Bankruptcy	Sep-06	0

Median Time to Recover:	1.5
Average Time to Recover:	3.3

¹ Months to Market Improvement indicates the approximate amount of time that elapsed until the S&P 500 Index either recovered to its level prior to the Event, or until the S&P 500 Index began a path of sustained improvement following the Event. For more details on each Event and its recovery, please refer to the Appendix.

We examined the US equity market, as measured by the S&P 500 index, before, during and after every major financial crisis that we reviewed. In some cases this was clear cut, such as in the case of the assassination attempt on Ronald Reagan. Clearly no one in the market knew that was forthcoming, so the analysis of how the market dipped and turned around is relatively easy to identify. For other problems that built up over many years, such as the Latin American Debt Crisis or the S&L Industry Crisis, identifying the key point of crystallization for the event is difficult – see the Appendix for those items that dragged on.

As the Table above indicates, in the vast majority of cases the US equity market shakes off even the worst financial market shocks and disasters in 1-4 months, provided that the crisis has come to a head. Watergate, for example, dragged on for more than two years, and dragged the markets down with it. But following President Nixon's resignation, two months later the market was headed higher. Interestingly, the same pattern occurred for the Clinton impeachment, in which the market fell for the two months from impeachment to Senate trial, then rallied again after he was acquitted. Gulf War One was yet another example – sour market in the runup, market rally after we secured the borders of Kuwait.

But what about events equivalent to today? There are several in the table, and virtually all of those have a quick recovery time. The collapse and seizure of the largest bank in history (Continental Illinois), the scramble to find a bailout syndicate for Long Term Capital Management, the implosions of investment banks Drexel Burnham, Kidder Peabody and Salomon Brothers, and various high profile corporate bankruptcies – all of which were shrugged off by the markets once the actual final events (such as the filing of the bankruptcy) was complete.

Only a few events had lasting impact beyond just a few months, such as the 9/11 attacks, the burst of the dot-com bubble, and the Arab Oil Embargo. But even in those cases a market rally was eventually on the horizon.

Conclusion

The hype surrounding a major financial disaster or shock can be overwhelming – especially in this day and age of 24/7 news channel coverage, talk radio and internet bloggers. And without doubt the current set of crises, while similar to ones that have occurred in the past, is still a much greater simultaneous combination of shocks and disasters than has ever before occurred at one single time.

Markets, however, are incredibly efficient mechanisms. Once news is fully known, once government bailout programs have been established, once certainty reigns again, markets generally begin the long march upward, which is their natural state within a long-term growing economy. Bailing out on

the equity market due to a financial crisis coming to a head has shown, again and again, to be an unwise course of action, even for only a short period of time.

Appendix: Chronology of Financial Shocks

Penn Central Bankruptcy (1970) – The two major railroad companies in the US greater Northeast merged in 1968, along with several smaller rail companies. The merger was a disaster from the start – clashing cultures, union difficulties, deteriorating tracks and equipment all combined to lead to shipment delays, passenger delays and even serious accidents. To maintain a façade of success, however, the company borrowed heavily, tried to diversify into real estate and other non-transportation ventures, and continued to pay high dividends to shareholders despite a deteriorating cash position. Financial markets were shocked on June 21, 1970, then, as Penn-Central filed for bankruptcy, the largest corporate bankruptcy in US history to that point and indeed the death-knell of private-sector passenger rail service in the United States (the government created Amtrak and then Conrail to replace the failed private sector enterprises). Stocks fell 10% from their May highs down to their August lows on the railroad company implosion.

Market Reaction: The market shook off this concern relatively quickly, however, and rebounded back above the May highs by January of the following year. **Time to recovery: roughly 6-7 months.**

Lockheed Near-Bankruptcy (1971) – In the early 1960's, the Lockheed Aircraft Company was a leader in producing aircraft for both civilian and military purposes. The race during the 1960's to build a wide-body jet to compete with Boeing's 747 and McDonnell-Douglas' DC-10 drove Lockheed to try to develop the ill-fated L-1011. Already embroiled in serious battles with the Pentagon over cost over-runs for several military aircraft (with the Pentagon finally deciding to withhold all payments for all development), Lockheed was dealt a severe blow when Britain's Rolls-Royce company, the maker of the engines for the L-1011, went bankrupt in January 1971. Lockheed came within days of having to file for bankruptcy itself, saved only by efforts at both the US and British government level – Britain nationalized Rolls-Royce and the US government guaranteed the payments for the engine deliveries, forestalling the bankruptcy for Lockheed, although Lockheed never fully recovered and abandoned the passenger plane business in the early 1980's. Ironically the markets pretty much shrugged off the possible loss of one of the largest companies in the US.

Market Reaction: Stocks held firm for several months after the near bankruptcy, dipped 3% or 4% during the summer, but recovered to full strength by year's end. **Time to recovery: Zero months.**

Arab Oil Embargo (1973) – The Yom Kippur War, fought between Israel and a coalition of Arab states, greatly inflamed Mideast tensions in 1973. While Israel was victorious in the war, OPEC (along with additional oil producing states) decided, on October 17, 1973, to enforce an embargo of oil deliveries to all countries that had supported Israel, including the United States. The coalition also agreed to restrain production and raise world oil prices significantly as well. The barrel price of oil nearly quadrupled overnight, rising to an unheard of \$12 per barrel (well, ok, that sort of pales in

comparison to today's triple digit prices, but it was shocking then). The oil embargo was officially lifted on March 17, 1974.

Market Reaction: An immediate market drop in the first month of more than 9%, and nearly a 16% decline in the market by the time the embargo was lifted in March 1974. A trough was found a year later in October 1974 and the market began to recover, although the market remained listless for the rest of the decade. **Time to recovery: Technically the October 1973 high was not seen again until January 1980. However, the markets reached their lows and began a moderate recovery within 12 months.**

Watergate/Nixon Resignation (1972-74) – A bungled attempt to wiretap the Democrat headquarters in June 1972 in the runup to the November Presidential elections eventually came back to haunt the Nixon Administration. An increasing series of press revelations and Congressional hearings eventually led to the first-ever resignation of a sitting US President, just days before a likely impeachment vote in the US House and possible trial in the US Senate. Nixon resigned on August 9, 1974.

Market Reaction: Certainly the market had a long time to see this one coming, since the whole affair built to a crescendo over a period of nearly 26 months. Arguably the Watergate affair took its toll over that 26 month period, although there were many other world market events occurring during that period, most notably the 1973 Arab Oil Embargo discussed above. From its high in November 1973, the stock market fell nearly 38% in the nine months running up to Nixon's resignation. Nixon's resignation, and the subsequent assumption of the US Presidency by the far less controversial Gerald Ford, immediately triggered a wave of relief. **Time to Recovery: Markets recovered within two months of Nixon's resignation.**

Franklin National Bank Collapse (1974) – At one time Franklin National Bank was the 20th largest bank in the United States. The bank was at the vanguard of the developing financial services industry, inventing such unique services as drive-up teller windows. When the bank collapsed under mysterious circumstances on October 8, 1974, it was then the largest bank failure in US history. The tales emanating from the bank's collapse, including Mafia connections, drug financing, influence peddling in the Nixon administration, accounting irregularities, currency trading fraud and eventually the felony convictions of top officers (and the cyanide death in prison of its Mafia-linked Vice Chairman) shocked the financial community.

Market Reaction: By and large the financial markets, while titillated by the goings-on at Franklin, were apparently not bothered by the largest bank bankruptcy to date. Markets rallied in the month that followed, and the market found its cyclical trough only two months later. **Time to Recovery: Assuming even the market was reacting to the Franklin bankruptcy, the market started heading higher in two months.**

New York City Near-Bankruptcy (1975) – NYC Mayor Abraham Beame had his staff compose, type and prepare for distribution on October 17, 1975 a statement that said “the City of New York has insufficient cash on hand to meet debt obligations due today... This constitutes the default that we have struggled to avoid.” President Ford refused to provide a requested Federal grant to the city (leading to the infamous New York Post headline: “Ford to New York: Drop Dead”), but the feds did agree to provide a loan which, in conjunction with a huge loan from the NYC teachers union got the city through the crisis.

Market Reaction: It appears that the market dipped in the month running up to the possible bankruptcy of the largest city in the United States, but the rescue from the feds and the teachers union prevented any wide-scale market selloff. **Time to Recovery: One month.**

Chrysler Near-Bankruptcy (1979) – Competition from overseas, particularly from Japan, pressed the Chrysler Corporation to the point of bankruptcy. On September 7, 1979, Chrysler officially asked the US government for loan guarantees of \$1.5 billion, a relatively unprecedented event in modern US capitalism. On December 20, 1979 Congress passed, and on January 7 1980 President Jimmy Carter signed, effectively the Chrysler Bailout Plan. As part of the bailout a new CEO, Lee Iacocca, was brought in. His management style and public image helped restore confidence in the company, along with a re-tooling towards smaller cars and the sale of its defense-oriented subsidiary. Chrysler was back on its feet when, with great fanfare in 1983, Iacocca announced the final payoff of the bailout loan.

Market Reaction: Equity markets dropped more than 5% on news that a major US automaker needed a government bailout to avoid bankruptcy. Quick action on the bailout, coupled with Iacocca's smooth handling of the PR aspects of the move, limited the damage. The markets found their trough in November and headed higher thereafter. **Time to Recovery: two months.**

President Reagan Shot (1981) – Some financial market crises you can see coming and some you can't. The assassination attempt on President Reagan on March 30, 1981 was obviously unexpected. White House spin efforts at the time to make the event seem less critical than it actually was probably helped temper financial market reaction, and Reagan's quick recovery gave credence to the initial spin, however unjustified that might have been at the actual time he was incapacitated. *Market Reaction:* The market reaction was relatively quick, occurring in the first few days following the shooting. Reagan was released from the hospital only 12 days later, and by the end of April the market was higher than it was the day prior to Reagan being shot. The market bounced along for much of the summer and then began a slide towards the end of July of that year, although with Reagan fully recovered and re-engaged in official business, it is hard to argue that the slide that began in July (and continued for another 14 months) was related to Reagan having been shot. More

likely the long-term slide was the result of the 1980-82 economic recession in the United States. **Time to Recovery: Less than one month.**

Lombard-Wall Repo Failure (1982) – This event has actually passed into oblivion and is difficult to find in the history books, but it has major resonance for current-day events. A relatively obscure government securities trading firm on Wall Street with only 55 employees, Lombard-Wall filed for bankruptcy in August 1982, a result of bad bets on the direction of interest rates. Lombard-Wall had apparently not managed its long-term repo matched book very well, and found itself substantially in debt. While this bankruptcy might have only been a minor footnote in an otherwise turbulent year, one ramification of the Lombard-Wall failure did rock Wall Street – the ensuing decision by the presiding federal bankruptcy court that the securities serving as collateral for L-W's repo counterparties could not be liquidated, and were actually assets to be considered as part of the bankruptcy proceedings. Markets had hitherto always assumed (and it's usually clearly stated in the contract) that if you lend money and receive securities as collateral in a repo transaction, then you get to keep (and liquidate) the securities if the loaned funds are not returned. Not so, according to the federal courts – those were assets of the bankrupted firms, to be considered as part of any liquidation. Eventually government securities dealers prevailed upon Congress to amend Federal bankruptcy law to clarify the matter, and Title 11 was amended to enhance the protections afforded to holders of repo collateral.

Market Reaction: Impact was limited to the money markets only. After a very brief couple of days of stock market dislocation (more likely the result of a major oil merger deal gone sour that same week), the markets charged off into a substantial bull rally the very next month. **Time to Recovery: Less than 1 month.**

Latin American Debt Crisis (1982) – Probably the exact opposite of a crisis like the Reagan assassination attempt, this financial crisis was years, even decades in the making and widely known/anticipated. Starting in the mid-1960's, many Latin American countries (most notably Mexico, Brazil and Argentina) had begun to borrow heavily from international creditors for their industrialization efforts – particularly from major US banks. The malaise of the 1970's and probably a little bit of internal mismanagement in the borrowing countries made the repayment of these loans more and more tenuous. The crisis reached its zenith in August of 1982, when Mexico announced that it had to suspend servicing of its outstanding debt. A credit crunch ensued, not entirely different from the one occurring today, in which banks simply stopped lending. Governments in Brazil and Argentina collapsed and were replaced. Debt relief and restructuring occurred, and the economic growth of the 1980's generally stabilized the problem.

Market Reaction: Hard to say given the slow build-up of the problem over many years (and the many other events occurring simultaneously), but by the time that Mexico announced its inability to repay its loans, the market had incorporated its concerns fully. In fact, once the crisis actually broke and

forced governments to change and banks to restructure their loans the pressure was lifted. Markets began a strong bull move the very next month which lasted for several years. **Time to Recovery: Less than one month.**

Continental Illinois Collapse (1984) – At one time Continental Illinois was the 7th largest bank in the United States. A concentrated position in the bank's portfolio in loans to Texas and Oklahoma oil companies was unfortunately in place just in time for a major downturn in the economies of both states. Institutional investors became aware of the bank's vulnerability, and a major run on the bank took place in May 1984. The US Federal Reserve kept Continental Illinois on life support for several months through its emergency discount window borrowing facility (the same facility being used in the current credit crunch), while the FDIC injected billions in capital and sought a white knight to buy the firm. The Federal government eventually owned roughly 80% of the bank before selling the remnants of the bank to Bank of America ten years later (an interesting set of parallels to current events). Bank shareholders lost all value in their shares, although bondholders generally recouped their par investment.

Market Reaction: The equity market weakened about 4% over the two month period following the run on the bank, but generally the market was satisfied that the situation was being handled by the government. Equities rebounded sharply over the ensuing months. **Time to Recovery: two months.**

Drexel Burnham Lambert Implosion (1986) – Bear Stearns was not the first investment bank to fall on hard times and Lehman Brothers was not the first to file bankruptcy. In the mid-1980's, Drexel Burnham had risen to become the 5th largest investment bank in the country, buoyed by its prominent position as a major player in the junk bond market. On May 12, 1986, a senior officer of Drexel (Dennis Levine) was charged with insider trading. Then US Attorney Rudolph Giuliani took up the investigation from there, and eventually pressured senior Drexel trader Michael Milken to plead guilty to multiple felonies (although not insider trading). Giuliani criminally pursued Milken individually and Drexel as a corporation for several years, along with the SEC. Drexel eventually filed for bankruptcy in February 1990. The market for junk bonds also faded substantially, as default rates rose from 4% to 10% on average, and the leveraged buyout and hostile takeover trend of the 1980's began to flag.

Market Reaction: At most the markets pulled back 3% or 4% in the aftermath of the initial accusations against Drexel. The markets rebounded shortly thereafter and continue to rebound strongly until collapsing about 15 months later in the crash of 1987. **Time to Recovery: Two months.**

S&L Industry Crisis (1982-1989) – As with the Latin American debt crisis, the S&L crisis built up over several years and in fact wound down over several years, so it is difficult to highlight the actual "crisis point" on which we could examine the market's reaction. A good starting point for the crisis is the

passage of the Garn-St. Germain Act of 1982, which substantially changed how S&L's were managed, and a good ending point to the crisis was probably the passage of the FIRREA law in 1989 which established the Resolution Trust Corporation. Events before Garn-St. Germain certainly contributed, such as the raising of deposit insurance levels and the expansion of S&L authority to lend in risky areas, and events after FIRREA were also relevant, such as the actual winding down of hundreds of S&L's. A key event during the time was probably the run on Ohio-based Home State Savings Bank in March 1985, which brought national attention to the S&L crisis, particularly when the governor declared a bank holiday to stop the run from spreading to other financial institutions. *Market Reaction:* The S&L crisis took place during the go-go heyday of the 1980's, and hence the event barely made a ripple in equity markets, despite the widespread press and Congressional attention to the matter. The bull market only came to an end with the Market Crash of 1987. **Time to Recovery: Less than 1 month.**

Market Crash of 1987 (1987) – On Black Monday, October 19, 1987, world stock markets crashed. The crash in the Dow was the largest one-day percentage decline in the history of US stock markets. A bevy of explanations for the event have been offered in its aftermath, ranging from the impact of program traders (particularly those that were implementing the popular “portfolio insurance” strategy of the era) to a multi-country monetary policy dispute that had been festering for several months, and for which the then US Treasury Secretary, James Baker, made provocative statements about US support for the dollar and other currencies.

Market Reaction: Stock markets had already begun to sour over the previous summer, reaching their peak in late August and declining steadily from there. Indeed, from the August peak to the day before the market crash the market declined a substantial 16%. Following the day of the crash, markets generally rose or held steady, and the market level at the close on the crash generally held as the low from that point forward. Markets did not break back through their August highs, however, until almost two years later. **Time to Recovery: A difficult question to answer because it depends on when you think the “crash” actually started. From the August highs the market took two months to hit their low (Black Monday) and start heading higher. From the October meltdown, however, markets needed no time at all to start recovering.**

Market Mini-Crash of 1989 (1989) – Helping to fuel the technical belief that Octobers are jinxed, the markets followed up the Crash of October 1987 with a mini-crash in October 1989 (and for those of you who are even more calendar-superstitious, the mini-crash took place on Friday the 13th). There is a healthy debate over what caused this Friday the 13th meltdown, but it is a fact that the meltdown began within moments after the breakdown of a huge LBO deal for United Airlines. Others have blamed the final death throes of the junk bond market, but the UAL deal breakdown appears to be a strong suspect. The 6% day-over-day decline came just four days after the markets had reached an all-time high. *Market Reaction:* Unlike the previous crash of 1987, the market had a bit of trouble

finding its footing for a few months after this mini-crash. In the first 2-3 months the market held up well, but a year later the markets were off 12% from their pre-mini-crash highs. It is difficult to ascribe this downturn to the mini-crash itself, however, since a minor economic recession was underway during that follow-up year. **Time to Recovery: Less than one month.**

Gulf War I (1990-91) – On August 2, 1990, Iraqi President Saddam Hussein launched an invasion of neighboring Kuwait. On January 17, 1991, a coalition of 34 countries, led by the United States, attacked the forces of Iraq in Kuwait. President Bush declared a cease-fire 100 hours later, and on February 27 declared that Kuwait had been liberated. World tensions, not to mention the price of oil, shot higher during this six month period.

Market Reaction: The immediate reaction to Saddam's invasion was a market decline over about 3 days of 6%. Further declines during the runup to hostilities brought the markets down 17% below their immediate pre-invasion levels. The actual onset of the US invasion of Kuwait kicked off a sustained and significant market rally for the rest of the calendar year.

Market Reaction: The market reaction to Saddam's invasion was very negative, while the reaction to the US response was very positive. **Time to Recovery: About 4 months after Saddam's invasion, immediately after the US invasion.**

Salomon Treasury Bond Scandal (1991) – Salomon Brothers, a major Wall Street investment bank and the largest government bond trader of the day, was caught trying to rig five US Treasury auctions over the period December 1990 and May 1991. They submitted bids not only for their own inventory but also bids for fictitious clients, in order to circumvent max participation rules and to corner the market for those on-the-run securities. Inches from a felony indictment as well as from a lifetime ban on serving as a Primary Dealer for the government in US bonds, Salomon's Board agreed to fire its top five executive officers, pay a \$300 million fine, and let Warren Buffet come in to straighten things out. Salomon never really recovered from the scandal, and the most famous bond firm on Wall Street slipped into oblivion following a series of takeovers and restructurings.

Market Reaction: As a general rule of thumb, Wall Street appears capable of quickly shrugging off the loss of any one single Wall Street firm, no matter how high and mighty. Following the suspension of Salomon from being able to deal in government bonds on August 16, 1991, the market ended the month at a higher level only two weeks later. And while the market bounced above and below its August levels by small amounts for the rest of the year, by early 1992 the market had regained its footing and was inching higher.

Time to Recovery: Less than 1 month.

ERM Collapse (1992) – It was the British Treasury against George Soros and the Brits lost. From the establishment of the European Exchange Rate Mechanism (ERM) in 1979 as a means of maintaining stability of European exchange rates until October 1990, the one major country to resist the pegging

system was Great Britain. Prime Minister Margaret Thatcher was eventually persuaded by her economic advisers to join, along with a commitment to not let the British Pound swing by more than 6%. Political pressures brought about by monetary policy differences between England and Germany, coupled with dramatic political failures in the effort to create a European Union and a unified European currency, put significant downward pressure on the Pound. Leading the selling of the Pound were US hedge funds, most notably one managed by George Soros. The British Treasury spent billions defending the Pound and raised interest rates drastically, but to no avail. Eventually the British Treasury relented and embarrassingly had to withdraw their commitment to the ERM on September 16, 1992, only two years after joining the arrangement. Other countries such as Italy also breached their bands as well. England was plunged into recession and the Conservative party eventually lost its control on power. The ERM was re-established, but with broader bands.

Market Reaction: Spillover effects of the turmoil in foreign exchange markets (and in foreign economies) were surprisingly strong. US equity markets fell about 4% over the next two months, but the markets soon recovered and forgot about the turmoil overseas. **Time to Recovery: two months**

Kidder Peabody Implosion (1994) – Kidder Peabody was a well known investment bank and trading house with roots going back to 1865. Kidder Peabody was initially implicated in the insider trader scandals of the mid-to-late 1980's, although the connection was via a former employee and was somewhat tenuous. A second and more meaningful scandal erupted in 1994 when Kidder's 1993 Employee of the Year, Joseph Jett, was accused of fabricating most of his trades and trading profits in government zero coupon securities. The sharp overstatement of profits was an embarrassment to publicly-traded parent company General Electric, who quickly sold Kidder Peabody in October 1994 to Paine Webber, which dropped the unit's well-known but recently besmirched name.

Market Reaction: In the pantheon of Wall Street scandals this was pretty minor. The market had a slight 3% drop in the month the scandal was announced (June), but finished the rest of the year with positive gains. **Time to Recovery: One month.**

Orange County Bankruptcy (1994) – Orange County, California was forced to file for bankruptcy on December 6, 1994 due to the investment decisions made by its longtime Treasurer, Robert Citron. Mr. Citron managed several short-term investment funds for the County. Citron used repurchase agreements, collateralized by the County's government securities holdings, to take significantly leveraged bets on Floating Rate Notes. The bet was for rates to fall – they rose. Orange County was left with effectively a margin call of roughly \$2 billion, and was forced into bankruptcy.

Market Reaction: Arguably the markets may have been aware of the Orange County bankruptcy coming during November 1994, pulling back about 4%. But considering that the equity market went on to post positive gains in 18 of the next 20 consecutive months, it's a fair bet to say that Orange County's bankruptcy was not a significant drag on stocks. **Time to Recovery: one month.**

Barings Bank Collapse (1995) – Not every Wall Street crisis gets a movie made from it starring big name actors (Ewan McGregor), but this one did. Barings Bank, with a pedigree dating back to before the Revolutionary War, was forced to declare itself insolvent on February 26, 1995, and would eventually sell itself to ING for one pound due to the actions of a rogue trader. The rogue trader, Mr. Nick Leeson, managed to build up an enormous futures exposure for the Bank over a period of three years, hiding losses that eventually mounted to \$1.4 billion. Mr. Leeson was supposed to be engaging in arbitrage by buying Japanese equity futures on the Singapore exchange and selling them on the Osaka exchange, except he left out the selling part. His enormous bet on the positive future of Japanese equities turned sour when a severe earthquake devastated the key commercial town of Kobe in Japan on January 17, 1995. Oh, the name of the movie? Rogue Trader. Developed from Nick Leeson's best seller of the same name.

Market Reaction: No negative reaction. The market never dipped below the level of the day prior to Barings insolvency for the remainder of 1995. **Time to Recovery: zero months.**

Asian Financial Crisis (1997) – Also known as the “Asian Contagion,” this crisis was basically the equivalent of the ERM Collapse of 1992, except with Thailand playing the role of Great Britain. Unable to support its currency any further due to its extensive debt, the Thai government allowed its currency to float on July 2, 1997, and it quickly collapsed. The crisis spread throughout Asia (to varying degrees), with falling Asian currencies, falling Asian stock markets, rising debt levels and slowing economies. Fear prevailed that the slump would spread beyond Asia, but it never actually did, as the Western world was in the midst of its dot-com explosion. Most Asian economies had recovered from the “contagion” by 1999.

Market Reaction: Stock market growth was patchy throughout the rest of 1997, and arguably the 6% market drop in August was likely caused, in part, by the Asian Contagion. But the market rebounded, rising in 8 of the next 10 months. **Time to Recovery: Two months.**

Collapse of Long Term Capital Management (1998) – LTCM was a US-based hedge fund founded by numerous luminaries in 1994, including two Nobel laureates in economics and several top executives from Salomon Brothers. Their business model was to exploit small inefficiencies, identified through quantitative methods, by taking huge offsetting arbitrage trades. Initial returns were phenomenal, and the hedge fund raised upwards of \$5 billion in assets under management. To exploit their identified market anomaly, however, the firm had to juggle hundreds of billions (at one point in excess of \$1.25 trillion) in notional value positions. Unusual market conditions in 1998, particularly the Russian Financial Crisis in August and September 1998, caused key spreads to widen that were otherwise expected by LTCM to narrow. Clients abandoned the fund in droves in September 1998, although LTCM was unable to scale down its positions significantly due to market conditions. The New York Fed arranged for a multi-firm, multi-billion dollar bailout of LTCM. Market conditions eventually

improved, spreads returned to normal and the parties that helped with the bailout actually made a small profit, but it was too late to help re-establish LTCM.

Market Reaction: It's difficult to separate out the market's concerns about the underlying causes of LTCM's problems (such as the Russian defaults and associated flights to quality), vs. the impact of LTCM's leverage and precarious financial position, because they were intertwined and occurring simultaneously. In any event, however, the market fell sharply in July and August, nearly 16%. By September, however, as the bailout was organized, markets calmed and moved higher. Positive markets returns of 6% to 8% were registered each month for the remainder of the year, starting in September. **Time to Recovery: One month.**

Impeachment of President Bill Clinton (1998) – What started out as a financial investigation into an obscure real estate parcel on the Whitewater River in Arkansas turned into a lurid tale of sex, perjury and Presidential impeachment. President Bill Clinton was impeached by the US House of Representatives on December 19, 1998. A trial in the US Senate followed, and President Clinton was acquitted by the US Senate on February 12, 1999. Events were made public in late 1998 that led to the impeachment, so the public and the markets had a substantially long lead time to digest.

Market Reaction: Markets were not pleased with the possibility of the removal of the political head of the United States. Equity markets fell about 7% between the impeachment and the acquittal and then began to recover, although the recovery was short-lived thanks to the popping of the dot-com bubble. **Time to Recovery: Two months.**

Technology Bubble Burst (2000) – The dot-com bubble began roughly in 1995, although it is hard to say exactly when. More precise is when it came to an end – the market reached a high in March of 2000. Driven by low interest rates, amazing technological advances and money to lend, entrepreneurs came out of every crevice to launch new business ventures in hardware, software and related services. Many of these startups were criticized for having no feasible long-term business model, no cash flow and more tech knowledge than business experience, but nevertheless the march to higher market levels continued unabated for several years. Eventually the bubble burst, although causal factors are hard to pin down. The declaration in federal court of Microsoft as a monopoly, six consecutive hikes in interest rates by the Federal Reserve, and perhaps just an exhaustion of the novelty of the internet all may have played a role.

Market Reaction: Once the bubble reached its zenith in March 2000, the broad equity markets pulled back nearly 28% over the next year and a half. Signs that the market might start a new bull move were starting to be seen, only to be cut short by the impact of September 11th. **Time to Recovery: 30 months.**

Terrorist Attacks of September 11th (2001) – Very little needs to be said here, since every reader is well aware of the events that transpired on that day – and the military consequences that occurred roughly a month thereafter.

Market Reaction: The immediate reaction to 9/11 was a 12% decline before the end of the month. A rally to higher levels did ensue beginning in October, and markets held stable until about April of 2002, when they resumed a slide. By October 2002 the markets were back on track. **Time to Recovery: Conservatively we might say 12 months here, even though technically markets did rally back fairly quickly.**

Enron Scandal and Bankruptcy (2001) – The high-flying and innovative energy company of the 1990's came to a screeching halt in October 2001 when financial accounting irregularities began to appear. By early November the company admitted that five years of earnings had been overstated, and on December 2, 2001 Enron had filed for bankruptcy. A follow-up criminal investigation indicts numerous top officers of Enron and brings down the venerable accounting firm of Arthur Andersen.

Market Reaction: Coming on the heels of the 9/11 attacks and unraveling in the middle of the Afghan war effort, it is difficult to ascertain if Enron was pulling markets lower. As best as can be seen, Enron itself had little effect on the market. The markets closed higher on the last day of the month in which Enron filed for bankruptcy. **Time to Recovery: Less than one month.**

War in Iraq (2003) – In October 2002 President Bush asked for and received from Congress the authority to use force to compel Iraq to turn over any weapons of mass destruction. Following a build-up of forces in the region and repeated failed attempts to inspect suspected WMD sites, President Bush ordered the start of hostilities against Iraq on March 20, 2003. On April 9th the Iraqi capital of Baghdad fell to coalition forces, and by April 15 the coalition declared the invasion portion of the war to be over. US and coalition forces continue to occupy Iraq to the present day, suffering ongoing casualties from guerilla activities.

Market Reaction: The market dipped briefly after Congress authorized the use of force but then recovered and rallied. The market dipped again, more strongly, in the two month run-up to the onset of hostilities in March 2003. Following the cessation of hostilities in April 2003, the market began a sustained rally. **Time to Recovery: Less than one month.**

Collapse of Refco, Inc. (2005) – Refco was the largest retail broker of futures and derivatives in the United States in 2005, with over 200,000 clients. While clients had posted assets with Refco of roughly \$4 billion, public filings showed Refco had in excess of \$75 billion in notional positions. Just two months after the formerly private company had gone public with a prestigious NYSE listing, the company announced it had suspended its CEO for hiding more than \$400 million in debts personally owed to the company. Refco filed for bankruptcy on October 19, 2005. The actual size of the assets and liabilities during Refco's bankruptcy were always unclear and in dispute. Equally unclear was

how the investment bankers, law firms and accounting firms that had performed extensive due diligences on Refco just 3-4 months before (for the August IPO) could have missed such malfeasance and accounting fraud. Similarly, regulatory approvals were called into question given that regulators had taken adverse action against Refco more than 100 times while it was a private company.

Market Reaction: US equity markets dipped roughly 2% in the month that Refco filed for bankruptcy, but solidly rebounded throughout 2006. **Time to recovery: three months.**

Amaranth Advisers (2006) – The hedge fund initially established by Amaranth during the early 2000's was to exploit its founder's convertible arbitrage strategy. During 2004-2005, however, the hedge fund switched its attentions to energy trading. As with LTCM, Amaranth attempted to profit from small arbitrage convergences in spreads between derivative contracts. And as with LTCM, the spreads went the wrong way. Losses in excess of \$6 billion piled up for the hedge fund. On September 29, 2006 the fund suspended operations and liquidated its assets.

Market Reaction: The impact of Amaranth was small and limited to the energy derivatives market. No bailout consortium or government assistance was provided. US equity markets did not miss a beat on the collapse of Amaranth, reporting positive returns in eight of the nine subsequent months. **Time to Recovery: Zero months.**