THE FINANCIAL MELTDOWN OF 2007-2008

A Multi-Vehicle Pileup On An Icy Expressway

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Treasury Strategies applauds the legislative and regulatory goals of improving U.S. financial system safety and soundness in the aftermath of the financial crisis. However, as we observe that process unfolding, we are concerned the desired outcome may be getting lost. To support maintaining focus on critical areas, this paper provides context and proportionality to the debate.

BACKGROUND

Treasury Strategies likens the events of 2007-2008 to a multi-vehicle accident on an icy expressway in the midst of a violent snowstorm.

The snowstorm, a long time in the making, is a real estate bubble brought about by public policies. These policies were designed to encourage high levels of home ownership. They actually stimulated high-risk mortgage lending practices, subsidies, tax credits, guarantees, and a myriad of other misplaced incentives.

The dangerous expressway, also a long time in the making, is the financial system. The icy surface was the result of easy money and low rates. Huge government agencies guaranteeing even the most poorly supported mortgages masked the potholes. Speed limits set by credit rating agencies were too fast for road conditions. Competing regulatory bodies were unable or unwilling to patrol the traffic.

In mid-2007, the lead car, a relatively small Bear Stearns real estate investment fund, slid out of control. The result led to a chain reaction pile-up over the next eighteen months involving dozens of vehicles. Some were 18-wheelers like AIG, Lehman, Freddie Mac and Fannie Mae. Others were sports cars like Cheyne Capital, SIVs and enhanced cash funds. Regular cars, both American and foreign made, were the collateral damage.

Treasury Strategies is concerned that the current legislative and regulatory process has lost focus and perspective. Considerable resources are being expended on what amounts to examining the airbags on car #13. Draconian regulation that could cause considerable long-term damage to the economy is being foisted upon the later-arriving, smaller vehicles. The process lacks an emphasis on addressing the highway conditions, the weather impacts and the 18-wheelers that were involved.

SYNTHESIS

Treasury Strategies analysis identifies four key concerns we believe should be the top priorities of legislators and regulators.

- **Regulatory Enforcement Gaps** – There were several categories of gaps. In some instances, regulators simply did not understand the complex financial products they were regulating. Some regulators failed to execute their oversight role. In many cases, institutions were subject to multiple regulatory bodies resulting in confusion and oversight gaps.
- **Management Failures** – In several instances cited on the following pages, management either took on unreasonable risk or exploited the asymmetric opportunities created by public policy incentives. In other cases, management was incapable of managing the complex dynamics of the instruments they created.
- **Credit Rating Agency Lapses** – Although these agencies say they only provide opinions, they play a pivotal market role due to rules requiring financial institutions to rely on ratings to assess risk and allocate capital. As a contributor to the highway pile-up, they failed to properly assess risk, to model inter-dependencies and to assign realistic credit ratings to instruments and firms. This led most market participants to take on far more risk than was prudent.
- **Unrealistic Public Policy** – At the heart of the matter was a set of public policies that proved toxic. These policies encouraged home ownership for everyone, even for borrowers with woefully insufficient repayment capacity. This ill-advised lending was exacerbated with guarantees, subsidies and incentives. The government, in the form of Fannie Mae and Freddie Mac, grew by leaps and bounds to dominate the market.

We will examine twenty-six events (firms and markets) that illustrate the chain reaction nature of the crisis. These are the twenty-six vehicles in the pile-up.

CAUSALITY AND MAGNITUDE

In our opinion, the causality table (page 4) provides context by illustrating the issues that contributed to each event.

As we mentioned, there were certainly many things going wrong in the period leading up to the crisis. Each incident, each vehicle in the crash, was impacted by these “wrongs” as well as the cumulative effect and market anxiety caused by each unfolding event. There is no way to list precisely what went “wrong” in each event. In this table, we use our judgment and information from both primary and secondary sources to offer an opinion about each event.

What Went Wrong?

CAUSALITY TABLE

	Troubled Instrument/Institution	Date	Regulatory Enforcement Gaps	Management Failures	Ratings Lapses	Public Policy
1	Bear Stearns Real Estate Funds	Jun 2007	Low	High	High	Low
2	Cheyne Finance Pic	Aug 2007	High	Medium	High	Low
3	Northern Rock	Sep 2007	Medium	Medium	Low	Low
4	BofA, GE, and Schwab Enhanced Cash Funds	Nov 2007	Medium	High	High	Low
5	Florida Local Government Investment Pool	Nov 2007	High	Medium	High	Low
6	Countrywide Financial	Jan 2008	High	High	Low	High
7	UBS, Citi, and Merril Auction-rate Securities	Feb 2008	High	Medium	Low	Low
8	Bear Sterns	Mar 2008	High	High	High	Low
9	Indy Mac Bank	Jun 2008	High	High	Low	High
10	Fannie Mae	Sep 2008	High	High	High	High
11	Freddy Mac	Sep 2008	High	High	High	High
12	Merrill Lynch	Sep 2008	Medium	Medium	Medium	Low
13	Lehman Brothers	Sep 2008	High	High	High	High
14	Washington Mutual	Sep 2008	High	Medium	Low	High
15	Reserve Primary MMF	Sep 2008	Medium	High	Medium	Low
16	AIG	Sep 2008	High	Medium	High	Low
17	HBOS	Sep 2008	Medium	Medium	Low	Low
18	Morgan Stanley - BHC	Sep 2008	Low	Medium	Low	Low
19	Goldman Sachs - BHC	Sep 2008	Low	Medium	Low	Low
20	Commonfund	Sep 2008	Medium	Medium	Medium	Medium
21	Dexia Bank	Sep 2008	High	Low	Medium	Low
22	Wachovia Corporation	Oct 2008	High	High	Medium	Medium
23	Royal Bank of Scotland	Oct 2008	High	High	Medium	Low
24	GMAC	Dec 2009	High	Medium	Medium	Low
25	Federal Home Loan Banks	Jan 2009	Medium	Medium	High	High
26	U.S. Central Credit Union	Mar 2009	Medium	High	High	High

Source: Treasury Strategies

The magnitude table below provides the relative financial loss for each event. It illustrates the idea that not all headline events have nearly the same impact, and the table provides proportionality.

It is impossible to precisely size the losses associated with each collision. Losses were borne by debt investors, depositors, and shareholders.

In some cases, they were absorbed by government bailouts. Some investors were issued new securities of uncertain value. More problematic to quantify are situations involving a private sector merger in which losses were absorbed by the acquirer.

The purpose of this magnitude chart is to illustrate the relative order of magnitude of each of these events.

How Big Were the Problems?

MAGNITUDE TABLE

					Govt, Creditor, or Investor Losses			
	Troubled Instrument/Institution	Date	Public Sector Support No Direct Loss	Private Sector Rescue	$0-1	$1-10 ($ Billions)	$10-100	$100-1000
1	Bear Stearns Real Estate Funds	Jun 2007				■		
2	Cheyne Finance Pic	Aug 2007				■		
3	Northern Rock	Sep 2007				■		
4	BofA, GE, and Schwab Enhanced Cash Funds	Nov 2007				■		
5	Florida Local Government Investment Pool	Nov 2007			■			
6	Countrywide Financial	Jan 2008		X			■	
7	UBS, Citi, and Merril Auction-rate Securities	Feb 2008				■		
8	Bear Sterns	Mar 2008		X			■	
9	Indy Mac Bank	Jun 2008					■	
10	Fannie Mae	Sep 2008						■
11	Freddy Mac	Sep 2008						■
12	Merrill Lynch	Sep 2008		X				
13	Lehman Brothers	Sep 2008						■
14	Washington Mutual	Sep 2008		X		■		
15	Reserve Primary MMF	Sep 2008			■			
16	AIG	Sep 2008						
17	HBOS	Sep 2008					■	
18	Morgan Stanley - BHC	Sep 2008	X					
19	Goldman Sachs - BHC	Sep 2008	X					
20	Commonfund	Sep 2008			■			
21	Dexia Bank	Sep 2008				■		
22	Wachovia Corporation	Oct 2008		X				
23	Royal Bank of Scotland	Oct 2008					■	
24	GMAC	Dec 2009					■	
25	Federal Home Loan Banks	Jan 2009				■		
26	U.S. Central Credit Union	Mar 2009					■	

Source: Treasury Strategies

THE SLOW MOTION PILE-UP

Timeline of Events

1 Bear Stearns Real Estate Funds Failure – 6/22/2007

In June 2007, the bursting real estate bubble began to bleed into the financial markets as two Bear Sterns subprime hedge funds (High Grade Structured Credit Strategies Fund and High Grade Structured Credit Strategies Enhanced Leverage Fund) lost nearly $2 billion in value. This was the onset of a series of subsequent troubles for Bear Stearns.

The sudden failure of these funds set off major financial waves. It triggered a slow exodus from other hedge funds, and heralded the subsequent failure of other investment instruments with real-estate exposure such as Asset-Backed Commercial Paper, Structured Investment Vehicles, and Enhanced Cash Funds.

2 Cheyne Finance – First SIV Default – 8/28/2007

The UK-based Cheyne Finance Plc, a structured investment vehicle (SIV), held 48% of its assets in residential mortgage-backed securities. A majority of the assets were U.S. subprime. On Aug 28, 2007, the fund announced that mark-to-market losses had triggered an "enforcement event," which caused the fund to begin wind-up proceedings. Investors shouldered the loss, which totaled around $4 billion.[1]

This large and unexpected announcement added to deep concerns already unsettling the market. This anxiety may have contributed to a run on Northern Rock bank several days later.

3 Failure of Northern Rock – 9/14/2007

By August 2007, with losses on subprime mortgage securities mounting, global investor demand for these instruments fell. UK bank Northern Rock's dependence on the real estate market, coupled with reliance on short-term funding, left it crippled as the real estate market began to collapse.

On September 12, 2007, Northern Rock asked the Bank of England for liquidity, prompting a depositor run on the bank. To stem the run, the British government announced it would guarantee all Northern Rock deposits. This nationalization added £25 billion in loans and £30 billion in guarantees to the national debt.[2]

Northern Rock's situation evidences the worldwide nature of the problems building at that time. Investors around the globe owned mortgage-backed securities, all of which were suspected of toxicity.

4 Failure of Enhanced Cash Funds (ECFs) – 11/14/2007

Enhanced cash funds are ultra-short bond funds designed to generate yields greater than money market mutual funds. They generate these higher yields by extending maturities and taking on a bit more risk. The demise of these funds began with their exposure to subprime mortgages. ECF losses were significantly greater than what was expected of cash-like investments.

The first ECF to lose value was a $5 billion General Electric fund. Stress quickly spread to ECFs managed by Bank of America ($40 billion Strategic Cash Portfolio) and Charles Schwab ($13 billion Yield Plus). Several other smaller funds also suffered losses.

Some investors saw their assets frozen for a period of time. Others received portfolio securities in lieu of cash. Still others sold their ECFs at a discount. We estimate that total losses to investors exceeded $1 billion.

5 Florida Local Government Investment Pool (LGIP) Freezes – 11/29/2007

The Florida LGIP is an investment pool for local government entities' excess cash. It was exempt from registering as a money market fund and therefore was not subject to diversification requirements, maturity constraints, or risk limitations.

In 2007, the fund began investing in mortgage-backed debt and lesser-quality asset-backed commercial paper. These investments lost value and fell below the state's investment criteria. Public disclosure that a fraction of the pool was invested in subprime-related debt led to a credit-related panic. Investors withdrew $12 billion from a fund that was valued at $27 billion in September 2007.

To stop the run, redemptions were frozen. Investors, mainly state schools, municipalities and local agencies, were temporarily unable to withdraw money from the fund. The pool re-opened on December 6, 2007, as two funds: Fund A containing non-toxic assets (86% of the remaining assets) and Fund B with the toxic assets (14%). Both funds were placed with a new manager.

6 Countrywide Financial Rescued by Bank of America – 1/11/2008

By early 2007, Countrywide Financial, the nation's largest mortgage lender, warned of financial turmoil ahead as the impact of the subprime mortgage crisis began to fully emerge. In June 2007, one in four of their subprime loans was delinquent.[3] Countrywide stock plummeted 48%, prompting Bank of America's $2 billion infusion in return for a 16% stake. In January 2008, following rumors of bankruptcy, Countrywide was purchased by Bank of America for $4 billion.

Following the acquisition, Bank of America incurred billions of dollars in losses due to the real estate market collapse. These losses intensified as scandals surfaced. Bank of America was left with the responsibility of remedying the fraud. Cumulative losses to Bank of America are currently estimated at $40 billion.

7 UBS, Citi, and Merrill Lynch Auction-Rate Securities Freeze – 2/7/2008

Auction-rate securities (ARS) are long-term bonds with rates reset every 7 to 35 days. They were marketed by underwriters such as Citi, UBS and Merrill Lynch as alternatives to money market funds, suitable for corporate and retail cash management. Liquidity in these investments relied on the success of the auction, which was supported as needed when the securities' underwriters acted as bidders of last resort. In early 2008, the ARS market totaled about $330 billion.[4]

Although the liquidity dimension of ARS was questioned in public comment situations, some firms selling ARS failed to disclose to investors the true nature of auction-dependent liquidity. When underwriters stopped their practice of last-resort bidding, auctions failed and securities that had been seen as short-term cash investments reverted to 10-20 year bonds. Billions of dollars were frozen in this market.

The frozen market prompted regulators to investigate the leading ARS underwriters. Burned investors claimed they had not been fully informed of the securities' risks. Furthermore, they argued that the lack of details regarding the auctions kept them from properly assessing the crucial role underwriters played as bidders.

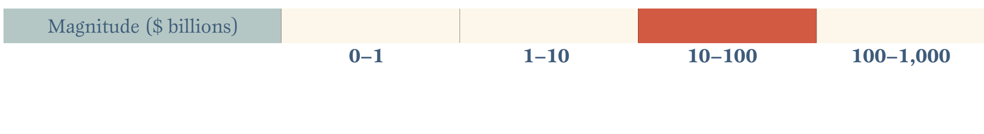
After various private lawsuits were filed, the SEC required some firms to restore liquidity through repurchase of the securities at par value. Approximately $55 billion was repaid to investors. As of March 2012, $55-100 billion remained frozen in ARS. Many investors sold their ARS at losses in order to access their cash.[5]

8 Bear Stearns Collapses – 3/18/2008

Bear Stearns was heavily involved in securitizing subprime mortgages and asset-backed securities. As losses mounted in the subprime market and as mortgage-backed securities were declining in value, Bear Stearns actually increased its position in these instruments and expanded its leverage. As investors began to recognize the extent of the problems, they stopped buying commercial paper and banks demanded more collateral. This left Bear Stearns without sufficient cash to operate.

Ultimately, in March 2008 the New York Fed arranged and underwrote the bailout of Bear Stearns through a sale to JPMorgan. As part of this rescue, the New York Fed extended a $30 billion, 10-year credit, backed by Bear Stearns' assets.

Significantly, this bailout reinforced market expectation that the Fed would bail out other large, troubled firms; this expectation was particularly germane to the Lehman Brothers situation.



9 IndyMac Bank Run and Conservatorship – 7/11/2008

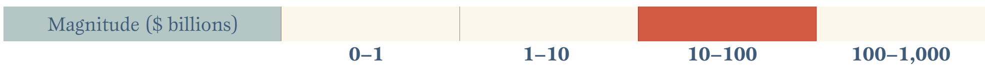
IndyMac Bank was known for its aggressive business model and its focus on non-traditional mortgage products. However, as problems with its subprime, "no doc" and reduced payment mortgages came to light, IndyMac suffered from liquidity problems due to insufficient customer deposits and lack of opportunities to sell its mortgage loans.

Following a public questioning by Charles Schumer of the Senate Banking Committee, IndyMac experienced a credit-driven deposit run. A total of $1.55 billion of deposits (7.5%) were withdrawn during late June 2008. As a result, the FDIC placed IndyMac Bank into conservatorship due to liquidity concerns.

According to the Audit Report of the Department of Treasury OIG, the Office of Thrift Supervision (OTS) was aware of certain accounting lapses at IndyMac. The report cited OTS for insufficient oversight.[6]

At the time of its conservatorship, IndyMac depositors were FDIC-insured to $100,000. In July 2010, Dodd-Frank retroactively increased FDIC coverage for IndyMac customers to $250,000 on interest-bearing accounts, and non-interest-bearing accounts were granted unlimited coverage. This legislation led to a significant increase in customer deposits covered by the FDIC at IndyMac and five other banks.[7]

The FDIC paid out $10.7 billion in 2008, and another $5.4 billion in 2010 after the retroactive insurance increases mandated by Dodd-Frank.[8] Finally, in selling the remains of IndyMac to OneWest Bank, the FDIC recorded a loss of $10.7 billion.[9]



10-11 Freddie Mac and Fannie Mae Conservatorship – 9/08/2008

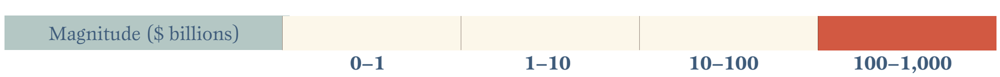
These Government-Sponsored Enterprises (GSEs) guarantee mortgages. With the collapse of the mortgage-backed securities market, they experienced unprecedented losses of more than $100 billion.[10]

Given the role they played in sustaining the housing market, Fannie and Freddie were taken into conservatorship by the Federal Housing Finance Agency to prevent their imminent insolvency. It is important to note these were highly profitable private companies that simultaneously enjoyed unlimited government support.

The GSE status enjoyed by both institutions created the perception the federal government would intervene if they ran into financial trouble. Taking both entities into conservatorship and backing them with up to $200 billion in government capital sent the erroneous signal that other large institutions would be bailed out. Yet Lehman Brothers was allowed to collapse a week later with no bailout.

Freddie Mac

Fannie Mae



12 Merrill Lynch Rescued, Acquired by Bank of America – 9/14/2008

Merrill Lynch, one of the largest broker dealers in the world, became a major syndicator of mortgage-backed securities. It was also a major underwriter of auction-rate securities and a major player in the collateralized debt obligation market. All of these markets were negatively impacted by the housing and financial crises. The value of these securities held by Merrill Lynch was declining rapidly.

After four quarters of losses in the range of $20 billion, Merrill recognized that it was still holding securities with estimated unrealized losses of an additional $20 billion. Bank of America came to the rescue by acquiring the firm at a substantial discount from its pre-2007 market value.

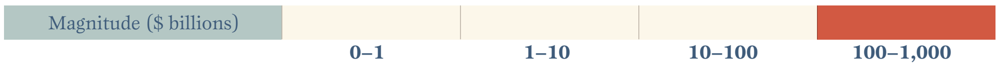
13 Lehman Brothers Bankruptcy – 9/15/2008

Lehman Brothers maintained one of the most highly leveraged balance sheets in the securities industry. Following the rescue of Bear Stearns, Lehman continued to grow its balance sheet by investing in subprime assets, commercial real state and leveraged loans.

After disclosing multi-billion dollar losses, Lehman could not retain lender and counterparty confidence, and could not raise sufficient liquidity to meet current obligations. Markets widely expected Lehman would be rescued like Bear Stearns, Fannie Mae, Freddie Mac, and others before. However, the U.S. government decided to the contrary. The company filed for bankruptcy on Sept 15, 2008.[11]

The government's decision to allow Lehman to fail sent panic through the markets. Lehman's network of derivatives and credit default swaps was extensive. Main street investors held its commercial paper, which kept an investment grade rating until the very end. Investors around the world were left wondering who might ultimately be stung by the Lehman losses. The markets were shaken.

Estimates of Lehman losses still vary widely. Treasury Strategies estimates Lehman-related losses at more than $100 billion. Legal fees alone currently exceed $1.2 billion.



14 The Run on Washington Mutual – 9/15/2008

Washington Mutual Bank was a high-volume initiator of high-risk mortgage loans that were then packaged into mortgage-backed securities. The bank had large incentives for loan officers to churn out as many mortgages as possible, most of which required little or no documentation. Surprisingly, even though the bank was active in the non-traditional mortgage market, it was not subject to many OTS regulatory enforcements prior to 2008.

The collapse of Lehman Brothers unnerved WaMu depositors. They staged a credit-driven run on the bank, withdrawing $16.7 billion, or about 9% of the bank's total deposits.

Fearing further loss of confidence and other bank runs, the OTS seized WaMu and placed it in FDIC receivership. On September 26, JPMorgan Chase acquired Washington Mutual in a $1.88 billion transaction arranged by the FDIC. Analyst estimates of WaMu losses prior to the JPMorgan transaction run as high as $20 billion.

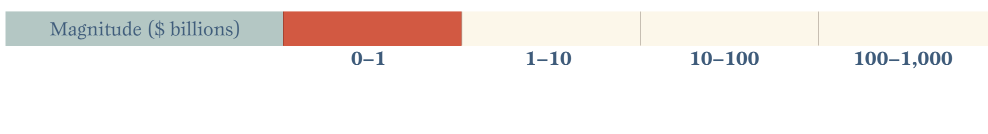
15 Reserve Primary Fund 'Breaks the Buck' – 9/16/2008

In a change to its conservative strategy, in 2007 the Reserve Primary Fund started buying commercial paper to increase yield. Investors were attracted to the higher yield, and assets grew significantly from $30 billion to $67 billion in one year.

By September 2008, the Reserve held $785 million of Lehman Brothers commercial paper. According to the Report of the Financial Crisis Inquiry Commission, after the government helped to rescue Bear Sterns, the Reserve Fund's portfolio management "assumed that the federal government would similarly save the day if Lehman or one of the other investment banks, which were much larger and posed greater apparent systemic risks, ran into trouble."

Lehman's default led to a credit and liquidity-driven run by Reserve investors, who redeemed $40 billion within two days. The Reserve could not meet these demands in cash, and announced that the Primary Fund's net asset value had fallen below $1.00 per share (known as breaking the buck). Redemptions were frozen.

In January 2010, the last remaining assets of the Reserve Primary Fund were distributed to investors. Overall, investors recovered more than $0.99 on the dollar – leading to total losses of less than $800 million.



16 Surprise $85 Billion First Rescue of AIG – 9/16/2008

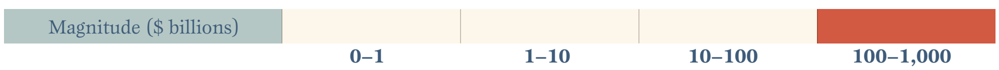
AIG was one of the largest firms in the credit default swap (CDS) and derivatives markets. Essentially, this was the business of providing insurance to lenders. If a company defaulted on a loan, AIG would repay the lender. As the real estate bubble burst and subprime default rates skyrocketed, AIG was required to post collateral against the swaps and ultimately repay the lenders.

For much of 2008, AIG grappled with a liquidity shortfall and increasing collateral requirements. Rumors of trouble increased following the Lehman collapse. Nonetheless, three major rating agencies each issued investment grade ratings on September 15, 2008. The following evening, the NY Fed stunned markets by announcing an $85 billion bailout of AIG.

This rescue, on the heels of three investment grade ratings, clearly took the market by surprise and rattled it to its foundations.

This unexpected, behemoth rescue added substantial fuel to the discussion of "too big to fail." The lack of transparency in the CDS market, and regulators' inability to even estimate the amount of CDS exposure, were suddenly in a hot spotlight. Finally, the ratings process failure that affirmed an investment grade rating for a company requiring a bailout of this magnitude was mind-boggling. These events created new moral hazard throughout the financial services industry and increased pressure on regulators to develop far better understanding of, and appropriate regulations for, system-wide risk.

Ultimately, as a result of additional bailout assistance, the total AIG rescue tab to taxpayers was approximately $182 billion.



17 HBOS Bailout – 9/18/2008

Halifax Bank of Scotland (HBOS) was the largest mortgage lender in the UK. Around the time of the Bear Stearns takeover, HBOS's share price plummeted almost 20% on rumors of a funding crisis, which triggered a chain of difficulties for the organization.

The bank successfully raised capital in July 2008, but soon encountered more trouble. On September 16, one day after the Lehman Brothers collapse, HBOS's share price dropped again by 22%. The following evening, Lloyds Bank announced its government-mandated takeover of HBOS.

In October 2008, the UK government injected £17 billion in HBOS and Lloyds, for a 41% stake in Lloyds.[12]

18 Morgan Stanley Becomes a Bank Holding Company – 9/21/2008

Beginning with the Lehman collapse on September 15, 2008, Morgan Stanley's Prime Brokerage services suffered massive liquidations. Hedge funds pulled out more than $32 billion over three days. Although their liquidity pool was strong, assets shrank by more than 50% within one week.

In need of emergency liquidity, Morgan Stanley applied to become a Bank Holding Company.
The Fed approved this application on September 21, 2008 – without the five-day antitrust waiting period. This action allowed the firm access to the Fed's Discount Window as well as the government bailout program (TARP).

On September 29, Morgan Stanley accepted a $9 billion financial injection from Mitsubishi UFJ in return for a 21% stake in the former investment bank.

Morgan Stanley received $10 billion in TARP funding and repaid the entire amount, including interest and dividends, by June 2009.

Magnitude ($ billions)				
*No explicit losses	**0–1**	**1–10**	**10–100**	**100–1,000**

19 Goldman Sachs Becomes a Bank Holding Company – 9/21/2008

During most of the financial crisis, Goldman Sachs seemed sound. However, after the AIG emergency bailout, nervous Goldman investors withdrew their funds and the value of its stock plummeted.

After several unsuccesful attempts to raise significant amounts of long-term, unsecured debt in the public market, Goldman Sachs petitioned to become a Bank Holding Company. In a move that shocked Wall Street, both Morgan Stanley and Goldman Sachs received approval without the five-day antitrust waiting period. This move allowed them access to TARP funds and overnight funding at the Federal Reserve.

Goldman received $10 billion in TARP funds and later repaid its loan in full.

Magnitude ($ billions)				
*No explicit losses	**0–1**	**1–10**	**10–100**	**100–1,000**

20 The Commonfund Freezes – 9/29/2008

For more than 1000 educational institutions, the Short-Term Commonfund was an investment vehicle for liquidity earmarked for payroll and other operating expenses. It invested mostly in high-quality commercial paper from blue-chip companies. However, 15% of its assets were held in asset-backed mortgage securities, which declined in value to $0.89 on the dollar.

Because of its structure, the fund was not registered as a money market fund. Thus, it was not subject to the diversification, risk and maturity requirements of money funds.

The Intermediate-Term Commonfund, primarily used by 200+ colleges for long-term investments, also held investments in asset-backed securities that could not be sold at par value.

Wachovia Bank, the Commonfund's Trustee, announced a freeze of the Short-Term and Intermediate-Term Commonfund. At the same time, it resigned as Trustee.

After the freeze, investors were able to withdraw only 10% of their investments from the Short-Term Commonfund. By the end of 2008, investors had access to 70% of their assets. On March 5, 2010, the last distribution from the Short-Term Commonfund was made. With this distribution, the fund held no remaining assets or liabilities.

21 Dexia Bail Out – 9/30/2008

Dexia, a Belgian bank, was hit hard due to its U.S. exposure as well as its involvement in a multi-million dollar loan to Depfa bank, a troubled German bank.

After being downgraded by Moody's, Dexia received €6.4 billion from the French, Belgian and Luxembourg governments. As well, a €150 billion state guarantee was established, covering liabilities toward credit institutions and institutional counterparts, bonds and other debt securities.

Through its U.S. subsidiary, Dexia Delaware LLC, Dexia gained access to the Fed's Discount Window and drew approximately $50 billion from the Federal Reserve.

22 Wachovia Bank Failure and Acquisition by Wells Fargo – 10/12/2008

Wachovia Bank's downfall began with its purchase of Golden West Financial Corporation, a lender that specialized in payment-option adjustable rate mortgages. The transaction price was $24 billion; but just two years later, losses on the acquisition exceeded the purchase price by $2 billion.[13]

After Washington Mutual was seized, Wachovia's losses increased and the OCC pressured Wachovia to put itself up for sale. An appropriate deal did not materialize. The FDIC decided to sell Wachovia's banking operations to Citigroup in an open bank transfer of ownership. For a price of $2.1 billion, Citigroup was to absorb losses up to $42 billion and the FDIC would cover the rest. In exchange, the FDIC would receive $12 billion in preferred stock and warrants from Citigroup.

Though Citigroup was at that time providing the liquidity that allowed Wachovia to continue operating, Wells Fargo and Wachovia announced their agreement to merge in an all-stock transaction requiring no FDIC involvement, thus nullifying the Citigroup deal.

23 Royal Bank of Scotland Bailout – 10/13/2008

Beginning in 2000, RBS followed an aggressive expansion strategy that included the 2007 takeover of parts of ABN AMRO. Due to the high price of that acquisition, as well as the credit crunch, RBS's reserves ran low and it issued new rights for £12 billion in June 2008. However, it still lacked sufficient liquidity.

On October 13, 2008, RBS received a £20 billion UK government infusion in exchange for 57.9% of RBS's ordinary and preferred shares. This investment was part of a government bailout plan for RBS, Lloyds and HBOS, which totaled £37 billion.

On January 10, 2009, the preferred shares were switched to ordinary shares, increasing the government stake to 70%. On the same day, RBS announced trading losses for 2008 and was forced to sell more shares to the government. As a result, the government stake grew to 75%. In November 2009, the government invested another £25.5 billion, increasing its stake to 84%.

Through its subsidiaries ABN AMRO North America, AMSTEL Funding, and TASMAN Funding, RBS gained access to the Fed's Discount Window and borrowed heavily during the period from October 2008 to July 2009.

24 GMAC becomes a Bank Holding Company – 12/24/2008

After investing heavily in the subprime mortgage business, GMAC ran out of funds. On December 24, 2008, the Federal Reserve approved GMAC's application to become a Bank Holding Company, allowing it access to TARP funds.

To receive bailout funds, GMAC relinquished its exclusive right to provide financing to General Motors auto buyers. This contract had been in place for 10 years and allowed GM to provide below-market interest rates.[14]

GMAC has received $16.3B in TARP funds under the Automotive Industry Financing Program. To date none of the funds have been paid back.

The U.S. Treasury has directly infused funds into GMAC three times totaling $5.5 billion. At this point, the Treasury is a 74% shareholder in the firm.

25 Federal Home Loan Banks' Liquidity Issues – 1/1/2009

In early 2009, Moody's reported that eight of the twelve Federal Home Loan Banks (FHLBs) could run low on cash due to toxic mortgage securities.[15]

As government-sponsored banks, FHLBs provide stable, low-cost funding to member institutions by selling debt, issuing capital stock and using deposits and other borrowings. When profit margins shrank, several Home Loan Banks began investing heavily in "private label" mortgage securities, which were not guaranteed by the U.S. government. Although these securities were to be held to maturity, accounting rules required the Banks to mark them to market. Thus, they incurred losses when the market crashed.

26 U.S. Central Credit Union Conservatorship – 3/20/2009

In 2008, the U.S. Central Credit Union (USCCU) experienced a $1.2 billion loss due to declining securities values, a $1 billion loss of deposits in perpetuity, and a $6.5 billion loss from other comprehensive income losses.[16] USCCU held private label mortgage-backed securities, 70% of which paid off as expected and held AA or AAA ratings; yet accounting rules forced write-offs as home values plummeted.

In December 2008, the National Credit Union Share Insurance Fund injected $3.7 billion into USCCU. In January 2009, the National Credit Union Administration (NCUA) injected another $1 billion.

On March 20, 2009, NCUA took the U.S. Central Credit Union as well as the Western Corporate Credit Union under conservatorship. In December 2011, NCUA announced an orderly wind-down, because bidding for USCCU had not been successful.

CONCLUSION

The result of numerous failures, the financial crisis of 2007-2008 was a long time in the making.

As we have shown, there were four dominant issues:

- Regulatory enforcement gaps
- Management failures
- Credit rating agency lapses
- Unrealistic public policies

When early signs of market stress appeared, investors became tense and the markets wavered. Then a chain reaction occurred. At first, the incidents were small and infrequent. A few billion lost in two Bear Stearns real estate funds followed three months later by a few billion lost in a Cheyne structured investment vehicle.

These events and their magnitude accelerated. Losses grew larger and more frequent. Investors grew more fearful, exiting traditional asset classes and moving to higher ground.

The situation reached a panicked climax in September 2008. It seemed every other day brought another incident. Losses were now in the tens and hundreds of billions dollars. Failures of familiar names with solid credit ratings (i.e., Fannie Mae, Freddie Mac, Merrill Lynch, Washington Mutual and AIG) shook the market to its very foundation.

Governments around the world stepped in to buy or guarantee bank deposits, commercial paper, interbank debt, money funds, mortgages and even automobile companies.

It is our hope that this paper helps regulators focus on the four dominant issues that spawned the crisis. Treasury Strategies believes these are the four issues that need to be resolved.

APPENDIX A

The Anatomy of a Financial Run

Before evaluating a proposal's effectiveness in preventing a run, it is important to understand the anatomy of a financial run. Financial institutions are susceptible to runs because they support highly liquid short-term liabilities with less liquid and longer-term assets.

This maturity transformation is crucial to a well-functioning economy, because it facilitates the flow of funds from those with surplus to those with a shortage, in the form of deposits/investments and loans.

However, a maturity mismatch can be problematic when many investors want to withdraw funds over a short period of time. This is far more problematic with a bank than with a money fund. In a money fund, the difference between the average maturity of the assets and the liabilities can be measured in days or weeks. In a typical commercial bank portfolio, the difference is measured in months, if not years.

A run is caused by investors who believe if they wait too long to withdraw their money, they may lose some or all of it. It is this psychological aspect, combined with people's natural aversion to loss, that make runs so dangerous.

Three types of financial runs are relevant to financial institutions:

- Credit-driven runs occur as a result of a confirmed negative credit event in a security in which the institution invested; this leads investors to liquidate shares to limit possible losses.
- Liquidity-driven runs are precipitated by investors redeeming shares out of fear that, if they fail to do so immediately, they will be unable to do so later.
- Speculative runs occur as a result of rumors or speculation about what may or may not occur within a fund.

Although interrelated in terms of outcome, the proximate causes are quite different. Quite simply, the proximate cause of a credit-driven run is poor credit quality of the underlying assets. The proximate cause of a liquidity-driven run is a seizing up of the markets. The proximate cause of a speculative run is rumor based on a lack of transparency into the financial institution's assets and liabilities.

The Timing of a Financial Run

It is also important to understand that there are two ways in which a financial run plays out:

- Firestorm runs occur in a panic environment in which investors rush cash out at any price, notwithstanding any barrier. In today's electronic world, these are likely to play out within hours or a day or two at most.
- Prolonged runs occur when investors fail to roll over maturing investments or reinvest in instruments upon which the institution had come to rely.

Given the nature and speed of a firestorm run, it is unlikely that any intervention or barriers to exit would succeed in preventing that type of run. It is best to have safeguards in place that prevent the proximate causes of the run.

On the other hand, a prolonged run occurs over an extended period of time. It is usually quite visible well ahead of time. For example, investors refuse to roll over their maturing commercial paper or the holders of auction rate securities fail to bid at future auctions. Because of the slow nature of these runs, regulators have a number of tools at their disposal. However, efforts to inhibit the outflow of money have no usefulness because these runs are caused by investors refusing to reinvest rather than withdrawls.

APPENDIX B

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APPENDIX C

About Treasury Strategies

Treasury Strategies, Inc. is the leading treasury consulting firm working with corporations and financial services providers. Our experience and thought leadership in treasury management, working capital management, liquidity and payments, combined with our comprehensive view of the market, rewards clients with a unique perspective, unparalleled insights and actionable solutions.

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