Statement of Paul A. McCulley
Managing Director, PIMCO
Before the Financial Crisis Inquiry Commission
May 6, 2010

Chairman Angelides, Vice-Chairman Thomas, and honorable Members of the Commission, my name is Paul McCulley and I am a managing director and portfolio manager with PIMCO. On behalf of my colleagues at PIMCO, I thank you for the invitation to appear before this distinguished Commission today.

I am especially honored to be invited to testify at your hearings on the Shadow Banking System. My comments today will try to offer a framework for understanding the nature of the "shadow banking system," [1] and linking it to the core functions performed by the conventional banking system. I will conclude with some thoughts on lessons learned from the financial crisis.

Before I turn to this topic, I would like to provide a brief overview and background of PIMCO and my role with the firm. PIMCO is an investment management firm founded in 1971, based in Newport Beach, California. PIMCO employs approximately 1,300 people, some 900 of whom work in our two U.S. offices. We also have 9 offices outside of the U.S. PIMCO manages retirement and investment assets for more than 8 million people in the U.S. and millions more around the world. Our clients include pension funds that represent public sector employees at the state and local level, unions, universities, foundations, endowments and private companies that employ Americans from all walks of life.

Specifically, an investment manager is hired to invest money on behalf of clients based on contractual guidelines that they establish with us. Our objective is to protect and enhance our clients' assets and help them achieve their investment goals over time. We do not conduct investment banking or proprietary trading activities.

---

[1] Paul McCulley, The Shadow Banking System and Hyman Minsky's Economic Journey, *PIMCO* (May 2009), http://media.pimco-global.com/pdfs/pdf/GCB%20Focus%20May%2009.pdf?WT.cg_n=PIMCO-US&WT.ti=GCB%20Focus%20May%2009.pdf.

In terms of my role with PIMCO, I joined the firm in 1999 and serve as head of PIMCO's Short-Term Desk. I am also a member of the firm's Investment Committee and a generalist portfolio manager.

Let me now turn to the substantive issue that you have asked me to speak about today: the role of the shadow banking system in the financial crisis of 2007-2009.

The Shadow Banking System and the Financial Crisis

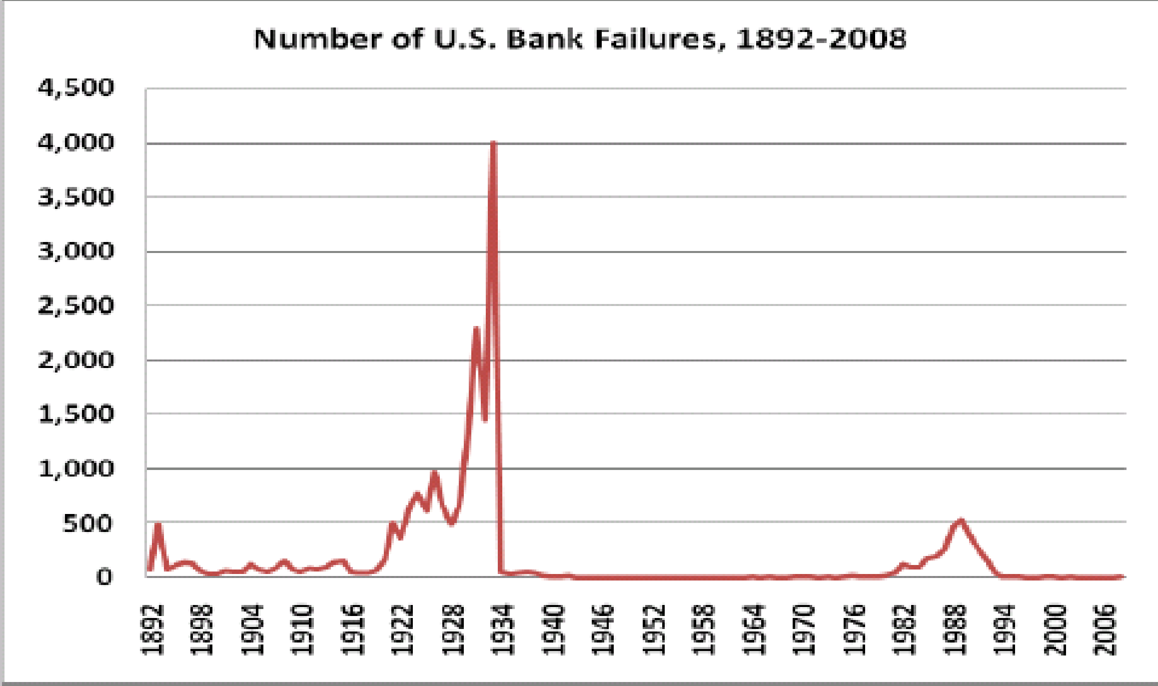
Banking is fundamentally defined as the business of transforming savings into investment in our economy, while simultaneously acting as the nation's payments system. Traditionally, we think of this activity in the context of conventional banks, which issue deposits and then turn them into loans. Technically, this activity is called maturity, liquidity and quality transformation. Simply put, this means that banks transform their deposit base into loans that are of longer maturity, less liquidity and lower credit quality than their liabilities.

Historically, when Americans needed a loan for their home, business (and starting in the 20th century) automobile, or to help finance a child's college education, they would go to their neighborhood bank and borrow the funds from that institution. Structurally, and when conducted properly, this activity delivers value to the borrower in the form of funds that they do not currently have, and in return provides profit for the bank in terms of higher interest that the borrower pays for the loan than the bank pays depositors for their savings.

The defining characteristic of the system of banking from time immemorial rests on the proposition that the public's collective *ex ante* demand for an asset that trades at par on demand is greater than the public's *ex post* demand for such an asset. The system therefore necessarily requires faith on the part of depositors that their money is safe. Up through the early 20th century, banks in the U.S. were prone to runs because depositors did not have sufficient confidence in the banking system that they could get their money anytime they wanted at par.

Major Financial "Panics" of the 19th Century	
Name	**Cause**
Panic of 1819	The Second Bank of the United States, worried about land speculation, abruptly reined in lending, causing a six-year depression.
Panic of 1837	The Specie Circular, under which the federal government would accept land payment only in gold and silver, helped start a run on banks and the failure of more than 800 of them.
Panic of 1857	Failure of the New York City branch of Ohio Life Insurance and Trust Co. led to bank runs and widespread bankruptcies.
Panic of 1873	Speculation in railroads led to the insolvency of Philadelphia bank Jay Cooke and Co. Eighty-nine of the nation's 364 railroads went bankrupt.
Panic of 1893	Controversy over the gold standard provoked "Industrial Black Friday" on the stock market. More than 500 banks and 16,000 businesses failed.

Source: Samuel Rezneck, *Business Depressions and Financial Panics: Collected Essays in American Business and Economic History* (1969), *available at* http://www.fdic.gov/bank/analytical/regional/ro20062q/na/2006_summer01.html.



Source: Gary Gorton, *Slapped in the Face by the Invisible Hand: Banking and the Panic of 2007* 3 (May 9, 2009), http://www.frbatlanta.org/news/CONFEREN/09fmc/gorton.pdf.

The cycle of bank runs in the 19th and early 20th centuries led Congress to enact legislation creating the Federal Reserve System in 1913 and the Federal Deposit Insurance Corporation in 1933, which, among other things, made it clear to the public

that the U.S. Government was the lender of last resort; in other words that their money was safe at U.S.-insured banks.

The establishment of these backstops significantly diminished the frequency of bank runs because depositors did not feel it necessary to actually ask for their money. In the terminology of Professor Gary Gorton of Yale University, FDIC-insured deposits issued by banks with access to the Federal Reserve's discount window are "informationally insensitive." That is, holders of such deposits do not have to do any due diligence or gathering of information to feel comfortable holding such deposits. While technically they are the liability of the issuing bank, they are viewed by the public as backed by the full faith and credit of the government. While it is true that such backstops may increase moral hazard in the conventional banking system by eliminating the pressure on savers to carefully examine which banks they entrust with their money, these safeguards have enabled our economy to grow while limiting the volatility and significant economic costs caused by bank runs.

Since the creation of the Federal Reserve and the FDIC, conventional banking has inherently been a joint venture between the private sector and the public sector – deposits are made "informationally insensitive" to the public by the safety nets from the government, allowing conventional bankers to redeploy those deposits into longer dated, riskier loans and securities, earning a net interest margin.

Given the fact that conventional banking is indeed a joint venture between the private sector and the public sector, conventional banking has been regulated: if the public is responsible for underwriting deposit insurance, then the government rightfully imposes regulation regarding how banks operate, notably how much capital and liquidity they must hold, as well as the types of activities in which they may engage.

In recent decades, the shadow banking system developed to provide many of the same lending and intermediary functions of conventional banks, also sharing their same profit motive. Today, many Americans fund their home loans, car loans and student loans via institutions that are part of the shadow banking system, accessing funds from around the world through the securitization market.

Outstanding Amounts Various Non-Mortgage Asset-Backed Securities ($bil.)							
	Automobile	Credit Card	Home Equity	Manufactured	Student		
	Loans	Receivables	Loans	Housing	Loans	Other	Total
1996	71.4	180.7	51.6	14.6	10.1	76.0	404.4
1997	77.0	214.5	90.2	19.1	18.3	116.7	535.8
1998	86.9	236.7	124.2	25.0	25.0	233.7	731.5
1999	114.1	257.9	141.9	33.8	36.4	316.7	900.8
2000	133.1	306.3	151.5	36.9	41.1	402.9	1,071.8
2001	187.9	361.9	185.1	42.7	60.2	443.4	1,281.2
2002	221.7	397.9	286.5	44.5	74.4	518.2	1,543.2
2003	234.5	401.9	346.0	44.3	99.2	567.8	1,693.7
2004	232.1	390.7	454.0	42.2	115.2	593.6	1,827.8
2005	219.7	356.7	551.1	34.5	153.2	640.0	1,955.2
2006	202.4	339.9	581.2	28.8	183.6	794.5	2,130.4
2007	198.5	347.8	585.6	26.9	243.9	1,069.7	2,472.4
2008	137.7	314.1	395.5	20.0	239.5	1565.0	2,671.8

Source: Gary Gorton, *Slapped in the Face by the Invisible Hand: Banking and the Panic of 2007* 26 (May 9, 2009), http://www.frbatlanta.org/news/CONFEREN/09fmc/gorton.pdf (citing Bond Market Association, Bloomberg).

One of the distinctions between shadow and conventional banks, however, is that while the latter are subject to an extensive regulatory framework, the former typically are not. To the extent there is an overarching 'regulatory' framework of the shadow banking system, the *de facto* regulators are the rating agencies.[2]

How do shadow banks work? In order to serve a similar function as conventional banks, shadow banks need to create an asset that is perceived by the public as "just as good" as a bank deposit. This in turn means creating an asset that is "informationally-insensitive," meaning that the holder does not need to do material due diligence, but can just take it on faith that the asset can be turned into cash at par on demand. Many different examples of the shadow banking system have developed over the past several

---

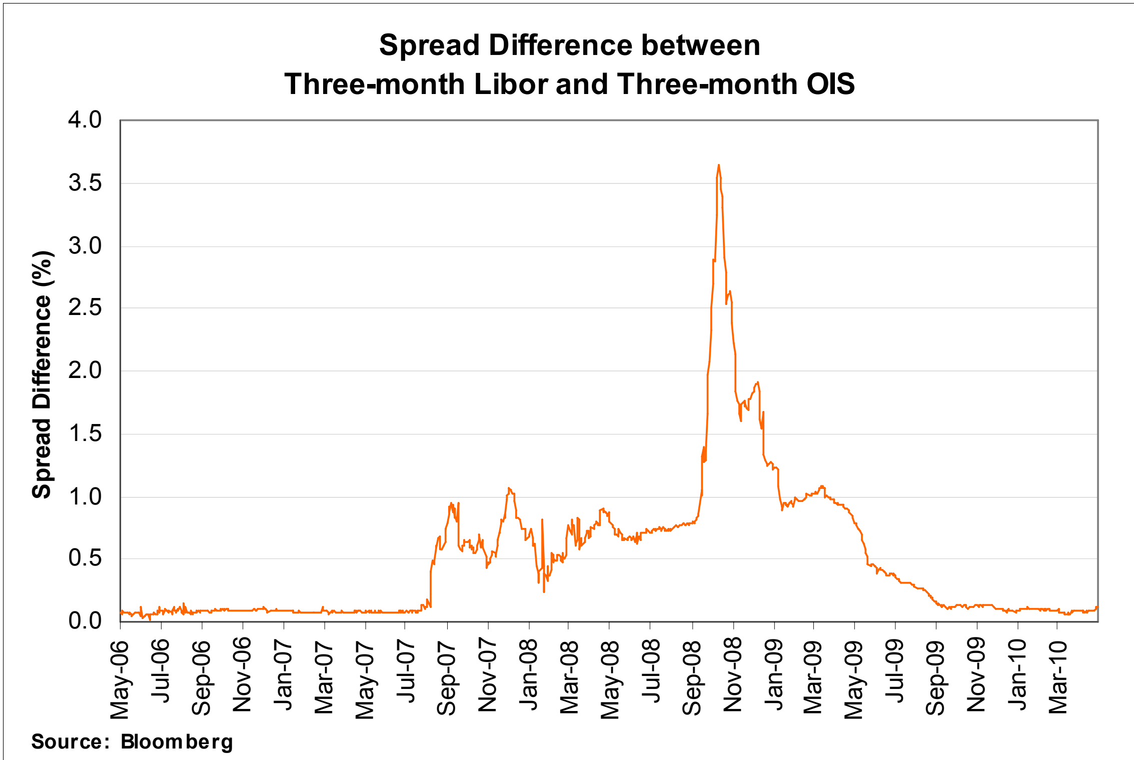
[2] Paul McCulley, The Shadow Banking System and Hyman Minsky's Economic Journey, *PIMCO* 2 (May 2009), http://media.pimco-global.com/pdfs/pdf/GCB%20Focus%20May%2009.pdf?WT.cg_n=PIMCO-US&WT.ti=GCB%20Focus%20May%2009.pdf ("Since shadow banks don't have access to the same governmental safety nets that real banks have, they don't have to operate under meaningful regulatory constraints, notably for the amount of leverage they can use, the size of their liquidity buffers and the type of lending and investing they can do. To be sure, shadow banking needed some seal of approval, so that providers of short-dated funding could convince themselves that their claims were de facto "just as good" as deposits at banks with access to the government's liquidity safety nets. Conveniently, the friendly faces at the rating agencies, paid by the shadow bankers, stood at the ready to provide such seals of approval. Moody's and S&P would put an A-1/P-1 rating on the commercial paper, which in turn would be bought by money market funds. Of course, it's inherently an unstable structure. The rating agencies face an in-built problem of putting ratings on new innovations, because they haven't had a chance to observe a historical track record – to see their performance over a full cycle.").

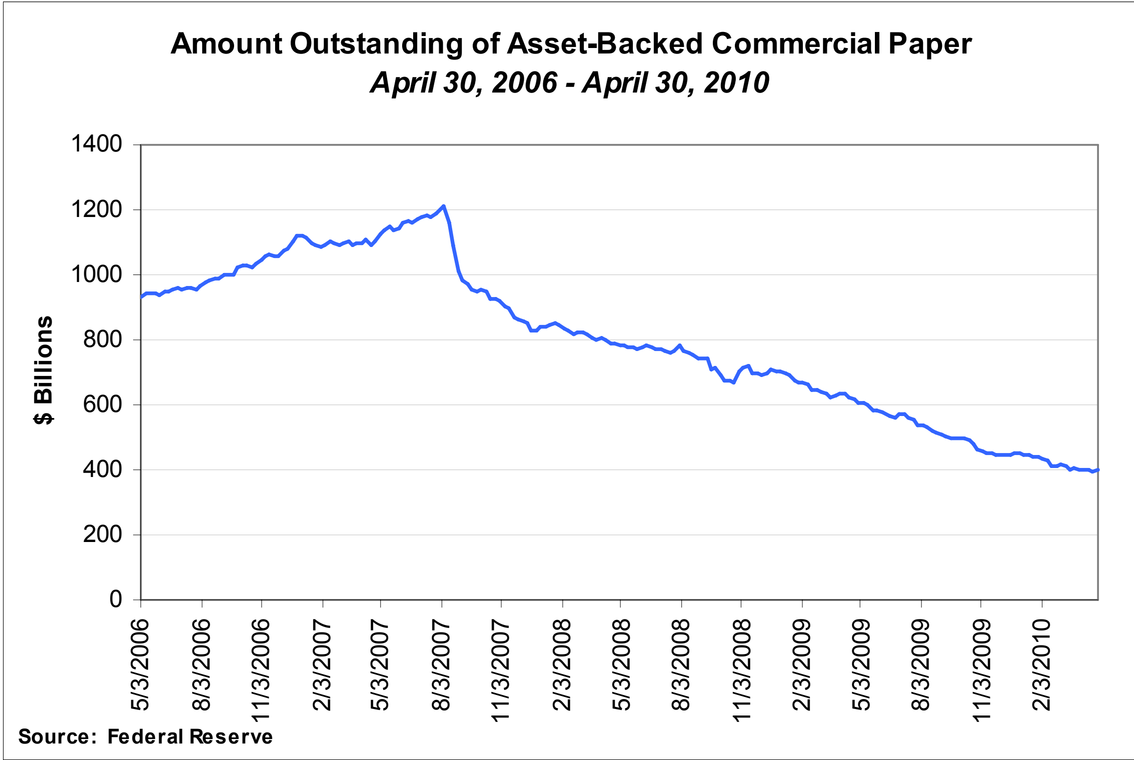
decades, including structured investment vehicles (SIVs), investment banks like Bear Stearns and Lehman Brothers, and finance companies like CIT.

The shadow banking system essentially dis-intermediated many of the activities of the conventional banking system: deposits became un-insured money market instruments and loans became securitizations. And like the conventional banking system prior to the establishment of the FDIC and the Fed, the shadow banking system was inherently vulnerable to runs if its liabilities were to become "informationally *sensitive*" – that is, if the holders of the shadow banking system's short-dated liabilities concluded they could no longer take it on faith that they could get their money back on demand at par, a run could ensue.

And indeed, a run on the shadow banking system was one of the defining characteristics of the most recent financial crisis. A pivotal moment was August 9, 2007, when Bank Paribas (BNP) said that it could not value the toxic mortgage assets in three of its off-balance sheet vehicles, and that, therefore, the liability holders, who thought they could get out at any time, were frozen.[3] This began the liquidity crisis in the shadow banking system, as the investing public rightly concluded that even the most senior, short-dated liabilities of the system had become "informationally-sensitive." The following charts show the breakdown in unsecured interbank lending, as reflected by the extraordinary widening in LIBOR spreads, and the precipitous fall in the volume of outstanding Asset Backed Commercial Paper that were triggered by the events of August 9th.

[3] Sebastian Boyd, BNP Paribas Freezes Funds as Loan Losses Roil Markets, *Bloomberg*, Aug. 9, 2007, http://www.bloomberg.com/apps/news?pid=20601087&refer=home&sid=aNIJ.UO9Pzxw (last visited May 3, 3010) ("BNP Paribas SA, France's biggest bank, halted withdrawals from three investment funds because it couldn't 'fairly' value their holdings after U.S. subprime mortgage losses roiled credit markets.").


Spread Difference between
Three-month Libor and Three-month OIS
Spread Difference (%)
4.0
3.5
3.0
2.5
2.0
1.5
1.0
0.5
0.0
May-06
Jul-06
Sep-06
Nov-06
Jan-07
Mar-07
May-07
Jul-07
Sep-07
Nov-07
Jan-08
Mar-08
May-08
Jul-08
Sep-08
Nov-08
Jan-09
Mar-09
May-09
Jul-09
Sep-09
Nov-09
Jan-10
Mar-10
Source: Bloomberg


Amount Outstanding of Asset-Backed Commercial Paper
April 30, 2006 - April 30, 2010
$ Billions
1400
1200
1000
800
600
400
200
0
5/3/2006
8/3/2006
11/3/2006
2/3/2007
5/3/2007
8/3/2007
11/3/2007
2/3/2008
5/3/2008
8/3/2008
11/3/2008
2/3/2009
5/3/2009
8/3/2009
11/3/2009
2/3/2010
Source: Federal Reserve

The Crisis *of* the System

The crisis *within* the shadow banking system did not become disorderly and paralyzing to the financial system until September 15, 2008, the day that it became a crisis *of* the shadow banking system. That day, of course, was when Lehman Brothers failed. So why was one aspect of the crisis apparently containable and orderly, and another uncontrollable and disorderly? The answer has to do with legal authority.

In March 2008, the Federal Reserve evoked Section 13-3 of the Federal Reserve Act[4] in order to make a loan that facilitated the merger of Bear Stearns, which was under a vicious run, into JPMorgan. Concurrently, the Fed opened its balance sheet to the investment banks that were primary dealers, including, most importantly, the institutions that were referred to as "the big four." The program under which this was carried out was called the Primary Dealer Credit Facility.[5]

Markets calmed for a time. But when Lehman experienced a similar run to that which engulfed Bear Stearns, the Federal Reserve could not facilitate a Bear-like rescue, because, according to Fed Chairman Bernanke, Lehman lacked adequate collateral which

---

[4] That section provides:

> In unusual and exigent circumstances, the Board of Governors of the Federal Reserve System, by the affirmative vote of not less than five members, may authorize any Federal reserve bank, during such periods as the said board may determine, at rates established in accordance with the provisions of section 357 of this title, to discount for any individual, partnership, or corporation, notes, drafts, and bills of exchange when such notes, drafts, and bills of exchange are indorsed or otherwise secured to the satisfaction of the Federal reserve bank: *Provided*, That before discounting any such note, draft, or bill of exchange for an individual or a partnership or corporation the Federal reserve bank shall obtain evidence that such individual, partnership, or corporation is unable to secure adequate credit accommodations from other banking institutions. All such discounts for individuals, partnerships, or corporations shall be subject to such limitations, restrictions, and regulations as the Board of Governors of the Federal Reserve System may prescribe.

Federal Reserve Act § 13-3, 12 U.S.C. § 343 (2006).

[5] Primary Dealer Credit Facility: Frequently Asked Questions, *Federal Reserve Bank of New York*, http://www.newyorkfed.org/markets/pdcf_faq.html (last visited May 3, 2010) ("The Primary Dealer Credit Facility (PDCF) is an overnight loan facility that will provide funding to primary dealers in exchange for any tri-party-eligible collateral and is intended to foster the functioning of financial markets more generally.").

therefore constrained the Fed's legal authority to intervene.[6] In the wake of Lehman's failure, the on-going run on the shadow banking system morphed into an intensely disorderly process, which was further exacerbated by the Reserve Primary Money Market Fund "breaking the buck,"[7] owing to its holdings of Lehman commercial paper.

Extraordinary actions by our government, and governments around the world, were required to stop the liquidity crisis. What the government had to do was to provide the shadow banking system with similar safety nets as the conventional banking system. And the Federal Reserve, the FDIC and the Treasury did essentially that.

The Federal Reserve created a host of special lending facilities, serving as a liquidity provider of last resort to the entire financial system, including money market funds holding Asset Backed Commercial Paper. The FDIC increased deposit insurance limits, totally uncapping them on transaction accounts, while creating its Temporary Liquidity Guarantee Program,[8] which allowed financial institutions – conventional banks and shadow banks as well – to issue, for a fee, unsecured debt with the full faith and credit of the United States. The Treasury Department created an insurance program for

---

[6] Ben S. Bernanke, Chairman, Bd. of Governors of the Fed. Reserve Sys., Public Policy Issues Raised by the Report of the Lehman Bankruptcy Examiner, Testimony Before the House Committee on Financial Services (Apr. 20, 2010) (transcript available at http://www.house.gov/apps/list/hearing/financialsvcs_dem/bernanke_4.20.10.pdf) ("The Federal Reserve fully understood that the failure of Lehman would shake the financial system and the economy. However, the only tool available to the Federal Reserve to address the situation was its ability to provide short-term liquidity against adequate collateral; and, as I noted, Lehman already had access to our emergency credit facilities. It was clear, though, that Lehman needed both substantial capital and an open-ended guarantee of its obligations to open for business on Monday, September 15. At that time, neither the Federal Reserve nor any other agency had the authority to provide capital or an unsecured guarantee, and thus no means of preventing Lehman's failure existed.").

[7] John Waggoner, Reserve Primary Money Market Fund Breaks a Buck, *USAToday.com*, Sept. 16, 2008, http://www.usatoday.com/money/perfi/basics/2008-09-16-damage_N.htm ("If you want to know how severe the financial industry crisis is, here's further proof: The share price of the Reserve Primary fund, a money market mutual fund, has fallen below the sacred $1 mark, thanks to the Lehman Bros. meltdown.").

[8] Temporary Liquidity Guarantee Program Frequently Asked Questions, *Federal Deposit Insurance Corporation*, http://www.fdic.gov/regulations/resources/TLGP/faq.html (last visited May 3, 2010) ("On October 20, 2009, the FDIC established a limited, six-month emergency guarantee facility upon expiration of the Debt Guarantee Program. Under this emergency guarantee facility, certain participating entities can apply to the FDIC for permission to issue FDIC-guaranteed debt during the period starting October 31, 2009 through April 30, 2010. The fee for issuing debt under the emergency facility will be at least 300 basis points, which the FDIC reserves the right to increase on a case-by-case basis, depending upon the risks presented by the issuing entity.").

money market funds,[9] mirroring the FDIC's insurance for bank deposits. And, of course, the Treasury Department ultimately, after the passage of TARP, provided equity capital to financial institutions, both conventional banks and former shadow banks that had converted to bank holding companies.[10]

None of us can know the counterfactual, and ultimately historians will provide the final assessment of the actions taken by our government. But as we sit here today in the immediate post-crisis period, it is reasonable to assert that the response by the government was in fact absolutely necessary. Had the run on the shadow banking system not been arrested, the consequences for our economy would have certainly been much more severe, potentially catastrophic.

Conclusions

There are many conclusions to be drawn from the financial crisis. One of them is that our public officials responded boldly during a period of tremendous uncertainty and peril. And our nation owes them our gratitude. For me, the most important lesson is that the shadow banking system is indeed a banking system, engaged in the same type of activity as conventional banks: maturity, liquidity and credit quality transformation. Because the shadow banking system lacks the regulatory framework and FDIC and Federal Reserve backstops that the conventional banking system enjoys, its inherent vulnerability to runs persists.

Going forward, the realities of the shadow banking system should be understood and reform enacted accordingly. A key guidepost for reform of our financial regulatory

[9] Treasury Announces Guarantee Program for Money Market Funds, *Press Room U.S. Department of the Treasury*, http://www.ustreas.gov/press/releases/hp1147.htm (last visited May 3, 2010) ("The U.S. Treasury Department today announced the establishment of a temporary guaranty program for the U.S. money market mutual fund industry. For the next year, the U.S. Treasury will insure the holdings of any publicly offered eligible money market mutual fund – both retail and institutional – that pays a fee to participate in the program.").

[10] Treasury Announces TARP Capital Purchase Program Description, *Press Room U.S. Department of the Treasury*, http://www.ustreas.gov/press/releases/hp1207.htm (last visited May 3, 2010) ("Treasury today announced a voluntary Capital Purchase Program to encourage U.S. financial institutions to build capital to increase the flow of financing to U.S. businesses and consumers and to support the U.S. economy.").

structure is simple: what an institution does, not what it is called, should determine how it is regulated.

Mr. Chairman, Mr. Vice-Chairman, and honorable members of the Commission, I would like to thank you once again for the opportunity to appear before you today and for your work on behalf of our country.

I look forward to your questions.