



***“The Roles and Responsibilities  
of a Systemic Regulator”***

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It is a pleasure to be with you today. The topics being discussed at this conference are of great importance to us all – market participants as well as policymakers. We share a keen interest in the return to stability, and future vibrancy, of the financial infrastructure that underpins economies around the world.\*

The financial crisis of the past two years has made it clear that significant gaps exist in global financial regulation. In the United States, the crisis made absolutely necessary a great deal of unprecedented intervention in financial markets. To avoid an even deeper crisis, the U.S. Treasury provided capital infusions to a large number of commercial banks, the FDIC substantially expanded

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\* Of course, the views I express today are my own, not necessarily those of my colleagues on the Board of Governors or the Federal Open Market Committee (the FOMC).

its guarantees over bank liabilities, and the Federal Reserve expanded its discount window activities to support the liquidity needs of banks and other financial-market participants.

Notably, this support for the financial system has, out of necessity, gone well beyond commercial banks to include financial institutions that did not have access to deposit insurance and often did not have the oversight of a bank regulator. Money market mutual funds were provided insurance from the U.S. Treasury, and now have access to liquidity in the event of significant demand for redemptions. Credit facilities have been established by the Federal Reserve to support renewed issuance of commercial paper and to revive the securitization market. The largest investment banks were provided access to the Federal Reserve's discount window, and have either been acquired by commercial banks or become bank holding companies. Insurance companies have received access to TARP funds.<sup>1</sup> These proactive steps have been difficult but absolutely crucial, in my view, to avoiding much worse outcomes.

The United States is not alone in this type of necessary support for financial markets. Central banks and financial regulators across the globe have adopted a variety of programs, many of which are similar to those adopted in the U.S. This government intervention has been necessitated by concerns that financial markets were in danger of significant *systemic* problems, where the failure of one or more financial institutions could create contagious losses of confidence that would destabilize a broad set of financial-market participants around the globe.

My remarks today will focus on the roles and responsibilities of a so-called "systemic regulator".<sup>2</sup> Please note that when I speak here of a systemic regulator I am sharing my own general views of that role, in broad terms, rather than discussing any specific proposal currently under consideration.<sup>3</sup>

Furthermore, I am specifically focusing on the activities of a systemic risk regulator that involve so-called macroprudential analysis<sup>4</sup> – or in shorthand, macroprudential *supervision*. There are

*other* aspects of systemic risk regulation, such as resolution authority, that do not necessarily need to be the responsibility of the entity that supervises systemically important institutions. As Chairman Bernanke noted in a March speech on financial reform to address systemic risk, “Financial stability...could be further enhanced by a more explicitly macroprudential approach to financial regulation and supervision [...] Macroprudential policies focus on risks to the financial system as a whole... [and] a macroprudential approach would complement and build on the current regulatory and supervisory structure, in which the primary focus is the safety and soundness of individual institutions and markets.”<sup>5</sup>

Indeed, I would like to begin by highlighting some differences between a macroprudential supervisor and one focused on traditional bank-solvency oversight. I will then touch on the characteristics of two types of institutions that render them “systemically important” – first, large and highly leveraged institutions, where losses of capital could have a magnified impact on the economy; and second, financial institutions that have extensive counterparty exposure to other financial institutions and financial markets, such that their failure could create significant problems for domestic and international counterparties in “domino” fashion. Note that most of the institutions likely to fit this definition are, or have recently become, bank holding companies that are already under the supervision of the Federal Reserve – although systemic regulation would differ from the traditional supervisory responsibilities of the Federal Reserve.

I plan to then discuss some of the roles and responsibilities a systemic regulator should have, in order to prevent contagious failures. In particular I will argue that the systemic regulator should have the ability to do the following three things, at a minimum, at systemically important institutions:

- *First, supervise capital structure* to minimize the potential for problems originating at such institutions to spill over to others.<sup>6</sup> This can, perhaps, be pursued by limiting debt instruments

that qualify for capital; requiring banks to hold additional capital during expansionary periods; and mandating higher capital ratios for systemically important firms.

- *Second, supervise liquidity risk and asset-liability management* to minimize the likelihood, and impact, of runs on institutions.
- *Third, supervise risk management* so that systemically important institutions have robust and effective means of evaluating risk, thus minimizing the likelihood of needing government support to avoid the spread of contagious instability.

To give you a peek at the bottom line, I will conclude that such responsibilities overlap with what is needed for effective oversight of potential discount window borrowing, if such borrowing is available to non-depository systemically important financial intermediaries. Monitoring solvency risk and liquidity risk are key elements of discount window analysis, and are also key components of macroprudential supervision.

### **Traditional and Macroprudential Oversight of Financial Institutions**

Oversight of financial institutions has traditionally focused on the safety and soundness of individual institutions, consumer protection, and investor protection. Today I am going to focus on the first – safety and soundness regulation – to highlight how it differs from macroprudential supervision.

Bank supervisors have long focused on understanding the likelihood that a bank could become insolvent, and then taking actions aimed at protecting government-insured deposits. One of the main tools employed to assess the probability that a bank could become insolvent has been to periodically rate institutions according to their capital, asset quality, management, earnings, liquidity, and

sensitivity to market risk (the so-called CAMELS rating). The higher the likelihood of insolvency, the higher the CAMELS rating – and the more aggressive the supervisory response.

Frequently, examiners spend significant time analyzing the adequacy of reserves, given asset quality. Reserve levels are calculated based on accounting standards that focus on *incurred* losses at the bank, rather than expected or unexpected losses. The incurred-loss model can sometimes be at odds with a more risk-based view that is more forward looking. By focusing on reserves in the manner defined by accounting rules, examiners are looking at history<sup>7</sup> rather than focusing on whether banks have adequately provided for future losses. During periods when asset prices are rising rapidly and when nonperforming loans tend to be low, this construct can result in lower estimates for incurred losses and thus lower reserves – while at the same time, earnings and capital will likely be growing.

Periods when earnings are strong and nonperforming loans are low are likely the times that a macroprudential supervisor would need to be particularly vigilant. Rising asset prices are often accompanied by increases in leverage, as financial institutions provide financing for sectors of the economy that are growing rapidly. This growth frequently occurs with lessened attention to underwriting standards, a greater willingness to finance long-run positions with short-term liabilities, and a greater concentration of loans in areas that have grown rapidly. So – unlike the focus on incurred losses and accounting reserves of traditional safety and soundness supervision – a systemic regulator would need to be focused on *forward-looking estimates of potential losses that could cause contagious failures* of financial institutions.

I should acknowledge that even in traditional supervision, examiners can also focus on future or unexpected losses – and in theory, capital is expected to provide protection for losses occurring outside the accounting reserve model. But in practice, this is not always the case.

## Lessons from the Current Financial Crisis

These nuances in supervision approaches – and, more generally, the need for a new and enhanced focus on supervision – are illuminated by the recent experience of some of the large investment banks during the financial crisis. As **Figure 1** highlights, from 2004 to 2006 there was very rapid growth in the issuance of asset-backed securities (ABS). As the figure shows, privately issued mortgage-backed securities outstanding grew by almost \$1.5 trillion over that period of just three years.

**Figure 2** shows that there was also rapid growth in financial assets outstanding for broker-dealers during this period. This growth in their balance sheets aggravated what were already very large leverage ratios – these firms were operating with less than half of the leverage *capital* ratio of many large commercial banks. The investment banks were very profitable during this period as the securitization of mortgages and the “tranching” of mortgage-backed securities provided substantial fee income.

One method for financing the growth was increased reliance on short-term repurchase or “repo” agreements. As shown in **Figure 3**, repo agreements outstanding expanded very rapidly between mid 2004 and mid 2007. This short-term financing of longer-term mortgage-backed securities made institutions particularly susceptible to any disruption to their ability to “roll” the short-term financing. While during this period broker-dealers were generating significant profits, they were accompanied by greater leverage and a riskier asset-liability mix.

Periods of market booms and other expansionary periods are precisely the times that macroprudential supervision would diverge from more traditional prudential supervision. Historically, prudential supervision has been largely reactive, becoming more activist as losses mount (or conditions otherwise deteriorate) at an institution. In contrast, a macroprudential supervisor should be particularly attuned to changes – especially dramatic ones – in such areas as leverage, asset-

liability mix, or underwriting standards. This requires the macroprudential supervisor to be willing and able to “lean against the wind” during booming markets or other periods. It is not that economic conditions are necessarily riskier in good times, but rather that economic actors become more confident and thus more willing to incur risks.

Another key ingredient in the financial crisis was the fact that several large U.S. institutions were highly leveraged and had extensive counterparty exposures. Such exposures are particularly likely to accumulate when institutions trade extensively outside of traditional exchanges. Thus, while firms such as AIG and Lehman Brothers had no significant depository, their counterparty exposures created the possibility of contagious failures. Thus, both firms had attributes that made them systemically important – they were highly leveraged institutions and they had extensive counterparty exposures. A significant complicating factor, I would add, was their importance in international markets as well as domestic markets. This greatly complicated the ability to easily restructure, or to use traditional bankruptcy procedures.

While it sounds obvious, it is important to note that a systemic regulator would need the ability to monitor systemically important institutions. In the most recent period, this would have required understanding things like the risks in the originate-to-distribute model of lending and securitizing; and the ability to link the rapid expansion in asset-backed securities to increased leverage and liquidity risk. Systemic risk could potentially have been reduced had there been a systemic regulator that questioned and resisted the increased leverage and liquidity risk, and potentially required an increase in capital reserves and possibly the use of debt instruments that could be converted to equity should the firms face a liquidity or solvency crisis.

## **The Role of the Discount Window**

In more normal times, the discount window is intended to fill two roles – first to serve as a “safety valve” by providing liquidity to solvent firms that is not otherwise available in the market; and secondly, to help facilitate orderly resolutions of insolvent depository institutions. Both roles have characterized discount window lending during the current crisis in the United States. During the crisis, both discount window roles have also been extended to non-depository institutions – for example, the Primary Dealer Credit Facility enabled approved broker-dealers to have access to the discount window when interbank funding markets were under stress. Traditional discount window lending requires continuous monitoring of firms to ensure they are solvent in order to gauge the level of credit risk that the firm poses to the Federal Reserve as lender, and to determine whether funding needs of a firm have transitioned from liquidity to solvency concerns.

The establishment of the Primary Dealer Credit Facility has raised the issue of whether *any* firm deemed systemically important should have access to the discount window facility. As can be seen in **Figure 4**, the Primary Dealer Credit Facility was actively used during spikes in financial stress during the recent crisis. These are the very times where making the distinction between liquidity and solvency risk will be most important. If systemically important firms are granted access to the discount window, discount window operations will – much like the role of a macroprudential supervisor – have to involve evaluating the solvency and liquidity risk of such systemically important firms in order to gauge the level of credit and other risks posed to the Federal Reserve, and ultimately the taxpayer, by extending credit to the firms.

## **Concluding Observations**

I will leave you with a few summary observations. As I mentioned at the outset and hopefully illustrated in my remarks, a systemic regulator should have the ability to supervise capital structure,



supervise liquidity risk and asset-liability management, and supervise risk management – all to minimize the likelihood of systemically important institutions negatively impacting market functioning and economic stability, proving “contagious” to counterparties, and possibly needing government support to avoid further spreading damage or instability.

A systemic regulator or macroprudential supervisor would need not only the ability to monitor systemically important institutions, but also the *ability to change behavior* if firms are financing a boom by increasing leverage and liquidity risk. It follows that legislation that aims to design an effective systemic regulator needs to provide the regulator with the authority to make such changes. Understanding the activities of systemically important firms would require a clear picture of their leverage, their liquidity, and their risk management. Furthermore, to be truly effective in “leaning against the wind,” such a regulator would need the ability to *prevent* the build-up of excessive leverage or liquidity risk.

It is noteworthy that the role of closely monitoring solvency and liquidity risk on an ongoing basis would be very similar to what might be expected of discount-window operations, were the discount window to be made available to systemically important institutions regardless of whether they owned a depository institution. This of course suggests the logic of a role for the discount-window operator – in the U.S., the Federal Reserve – in macroprudential supervision.

Thank you.

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**NOTES:**

<sup>1</sup> The U.S. government’s Troubled Asset Relief Program

<sup>2</sup> Technically, “regulator” refers to the writer of rules, regulations, and policies while “supervisor” refers to the enforcer of such. Here I use the terms “systemic regulator” and “macroprudential supervisor” in a more generic sense reflective of common usage in the financial and policymaking communities, and am not intending to comment on the issue of rule-writing versus enforcement.

<sup>3</sup> I have considered this topic in several recent speeches:

In a recent talk (“Could a Systemic Regulator Have Seen the Current Crisis?”, available at <http://www.bos.frb.org/news/speeches/rosengren/2009/041509.htm>) I expressed my view that we need to have organizations with explicit responsibility for financial stability (that is, charged with making sure that “contagious” failures of financial institutions do not occur, and alert to trends emerging across a swath of interconnected institutions and their counterparties).

In a subsequent talk (“Challenges in Resolving Systemically Important Financial Institutions”, available at <http://www.bos.frb.org/news/speeches/rosengren/2009/050509.htm>), I made some observations related to questions about the powers a systemic regulator would have needed in order to mitigate some of the problems we have seen.

And in remarks at a recent panel discussion I shared my belief that the ways that financial institutions and markets, and financial matters such as liquidity and securitization, interact with the real economy – and, unfortunately, contributed to the length and severity of this recession – must be well understood, and worked into preventive measures and supervisory frameworks (available at <http://www.bos.frb.org/news/speeches/rosengren/2009/060509.htm>).

<sup>4</sup> The IMF and OECD define macroprudential analysis as “The assessment and monitoring of the strengths and vulnerabilities of financial systems. It encompasses quantitative information from both FSIs and macroeconomic indicators that provide (1) a broader picture of economic and financial circumstances such as GDP growth and inflation, along with information on the structure of the financial system, and (2) qualitative information on the institutional and regulatory framework—particularly through assessments of compliance with international financial sector standards and codes—and the outcome of stress tests.” (<http://stats.oecd.org/glossary/detail.asp?ID=6214>)

<sup>5</sup> The speech is available at <http://www.federalreserve.gov/newsevents/speech/bernanke20090310a.htm>

<sup>6</sup> In economic terms, limit the externality provided by systemically important firms.

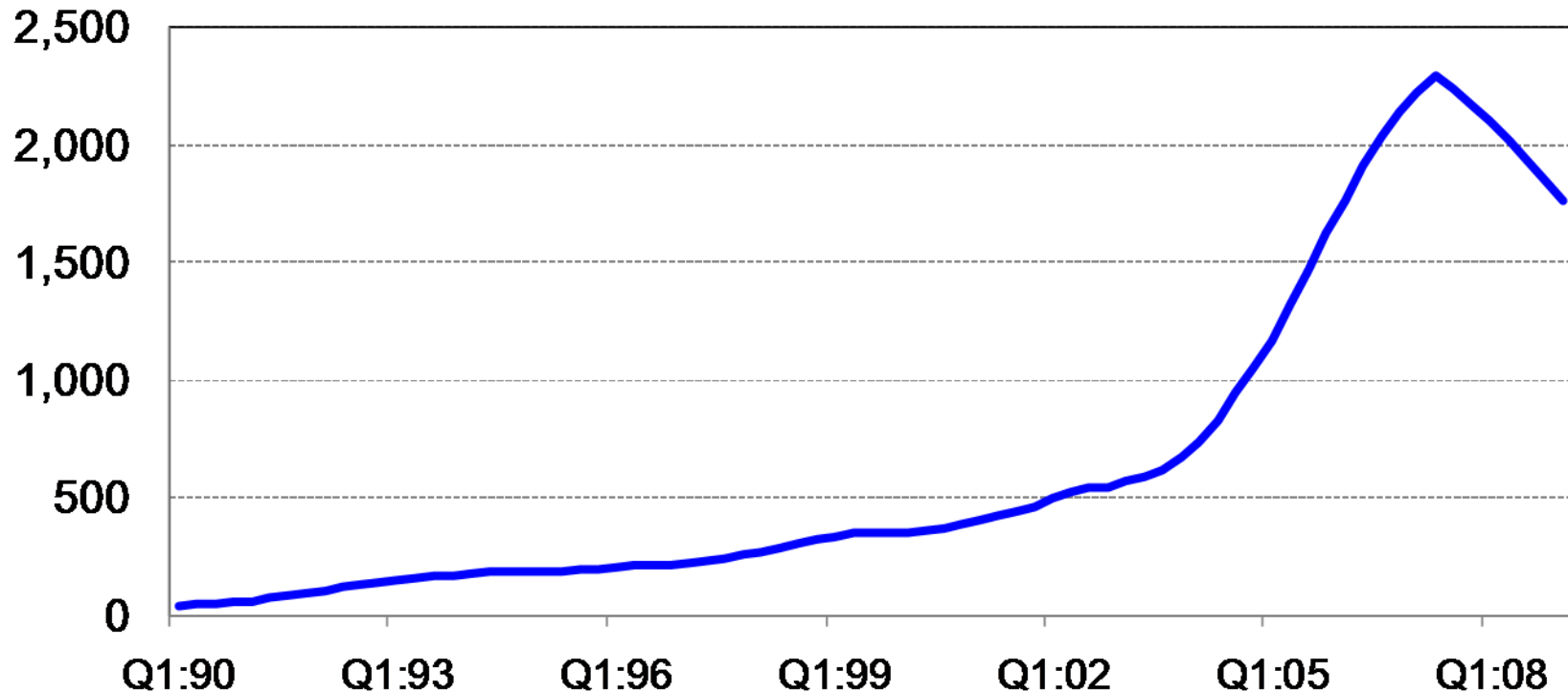
<sup>7</sup> That is, ensuring banks do not understate the losses that have already occurred.

# Figure 1

## Privately Issued 1-4 Family Mortgage-Backed Securities Outstanding\*

Q1:1990 - Q1:2009

Billions of Dollars



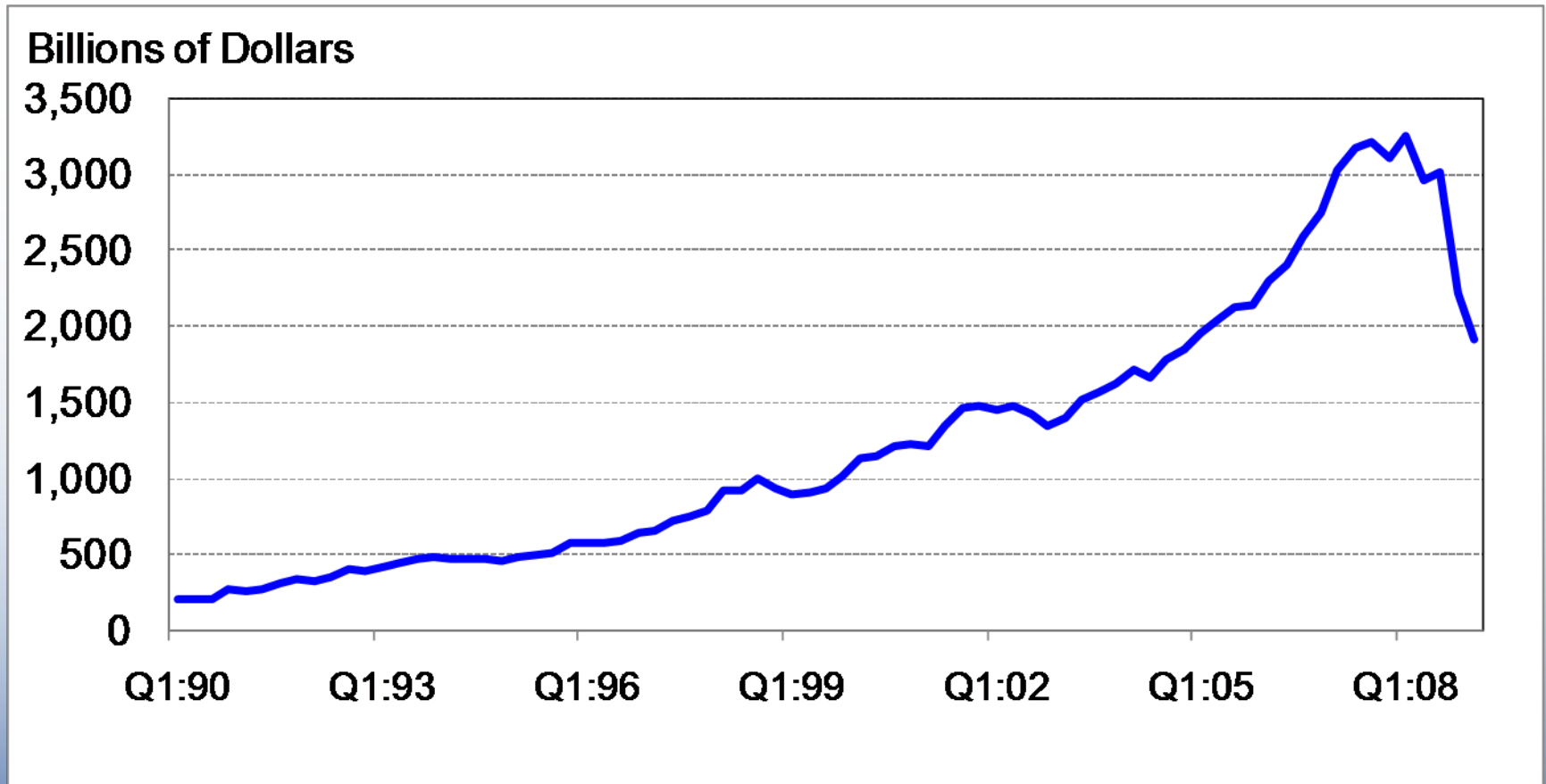
\*Agency- and GSE-backed mortgage securities are excluded.

Source: Federal Reserve Board / Haver Analytics

# Figure 2

## Security Brokers and Dealers: Total Financial Assets Outstanding

Q1:1990 - Q1:2009

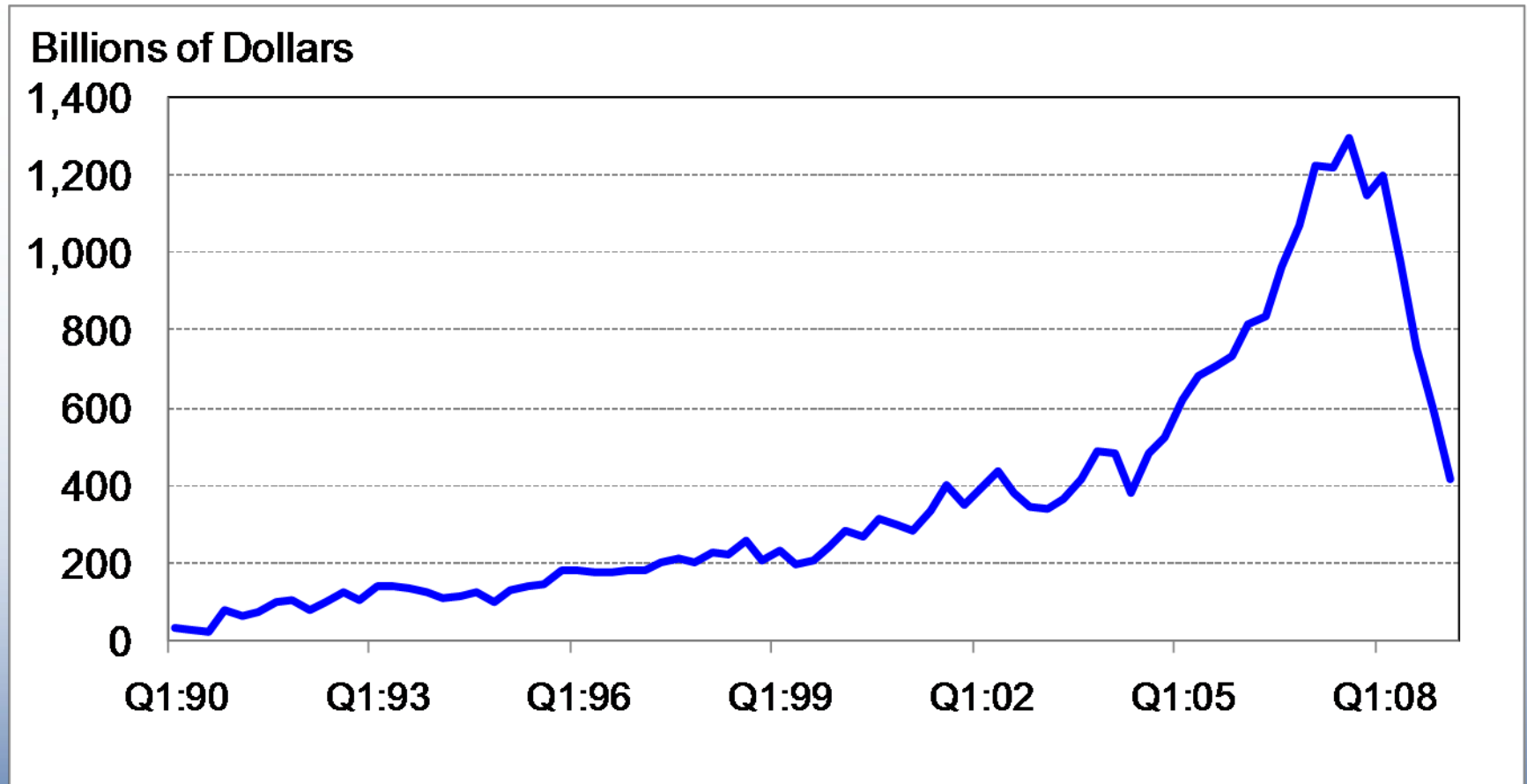


Source: Federal Reserve Board / Haver Analytics

# Figure 3

## Security Brokers and Dealers: Federal Funds and Security Repurchase Agreements Outstanding

Q1:1990 - Q1:2009

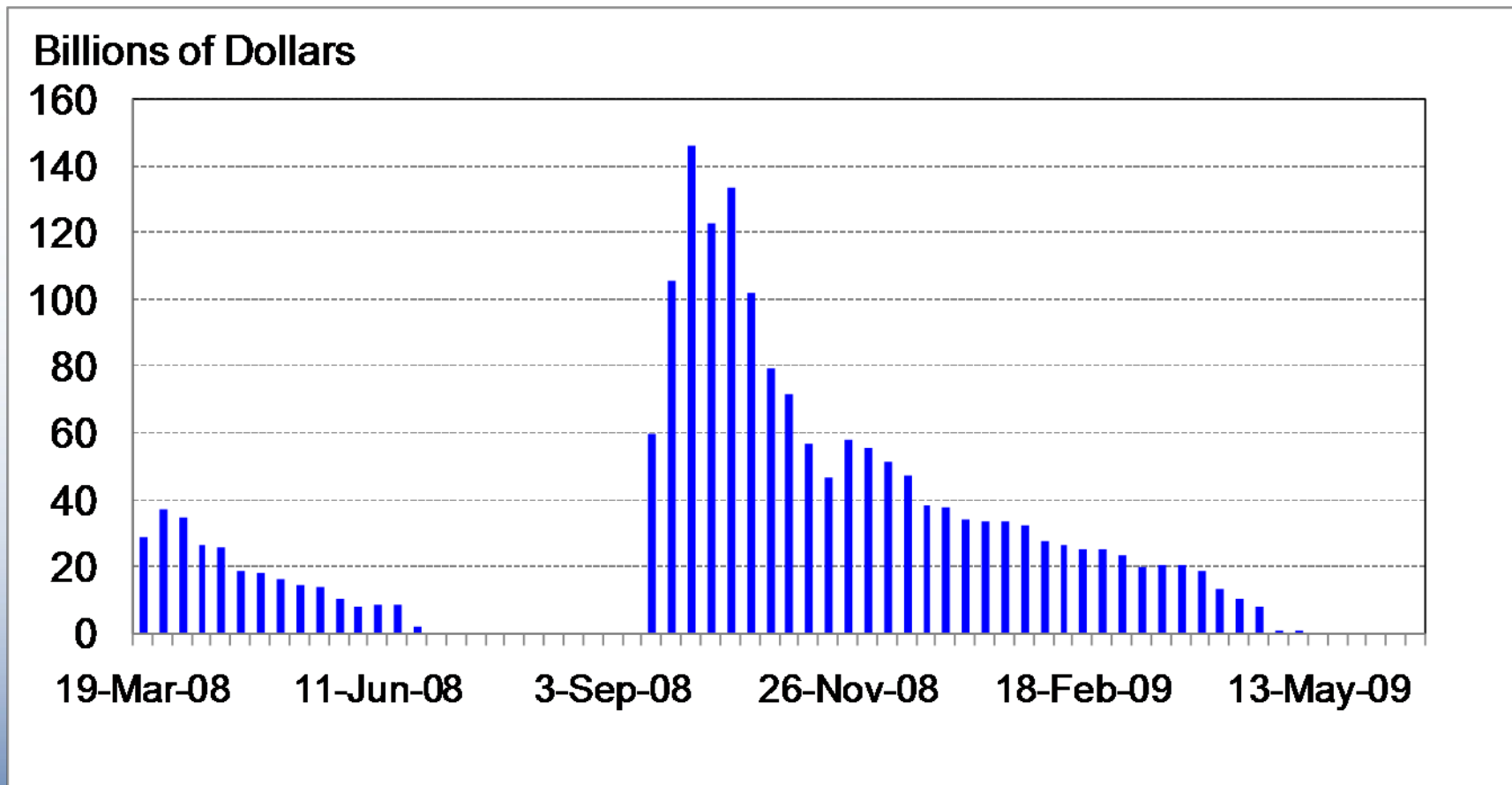


Source: Federal Reserve Board / Haver Analytics

# Figure 4

## Loans Outstanding at Federal Reserve Primary Dealer Credit Facility

March 19, 2009 - June 17, 2009



Source: Federal Reserve Board