

# CRS Report for Congress

## The Emergency Economic Stabilization Act and Current Financial Turmoil: Issues and Analysis

**October 31, 2008**

Baird Webel  
Analyst in Financial Economics  
Government and Finance Division

Edward V. Murphy  
Analyst in Financial Economics  
Government and Finance Division



Prepared for Members and  
Committees of Congress

# The Emergency Economic Stabilization Act and Current Financial Turmoil: Issues and Analysis

## Summary

The current financial instability became widely apparent in the credit markets in August 2007. Although initially thought to be limited to subprime mortgages, increasing defaults on prime mortgages caused losses that rippled through the financial system; the effects have been particularly severe because U.S. mortgage-backed securities (MBS) had previously been viewed as low risk investments. Beginning in early 2008, multiple failures in large financial institutions prompted case-by-case government interventions to address these failures. Dissatisfaction with these ad hoc responses was cited by the Treasury in proposing a broader response focusing on government purchase of troubled mortgage-related assets, hoping to stem uncertainty and fear by removing these assets from the financial system. In early October 2008, Congress passed, and the President signed, the Emergency Economic Stabilization Act of 2008 (EESA, Division A of H.R. 1424/P.L. 110-343), creating the Troubled Assets Relief Program (TARP).

TARP includes two primary programs: a troubled asset purchase program and a troubled asset insurance program. Troubled assets under the program are first defined as mortgages and mortgage-related assets, but the Treasury is also authorized to purchase any assets if so doing promotes financial stability. The total amount of assets to be purchased or insured is limited to \$700 billion, with a possible congressional resolution of disapproval when the amount exceeds \$350 billion. Taxpayers are to be at least partially protected from losses through the provision of equity or debt considerations and through insurance premiums from the financial institutions participating in TARP. Participating institutions are also required to abide by certain limits on executive compensation. In addition to aiding financial institutions, TARP aims to aid homeowners directly through provisions promoting mortgage restructuring and extending tax relief for homeowners who have mortgage debt forgiven.

On October 14, following enactment of EESA, Treasury announced the creation of a voluntary Capital Purchase Program. Under this program, up to \$250 billion will be injected into financial institutions through government purchases of preferred shares. This program is substantially different from the original Treasury proposal, which focused on removing mortgage-related assets from the financial system rather than directly bolstering financial institutions' capital reserves. It is being undertaken under the broad authority provided in the law to make any asset purchases that promote financial stability.

This report briefly introduces aspects of the current financial instability. Following this, it outlines the EESA legislation and the steps that Treasury has taken to implement EESA. Finally, the report concludes with a more in-depth analysis of the current financial instability, including potential causes of financial instability in general, some sources of the current instability, and how financial instability may spill over into the broader economy. It will be updated as warranted by market and legislative events.

## Contents

Introduction .....	1
The Troubled Assets Relief Program .....	2
Executive and Congressional Proposals .....	2
Provisions of TARP as Enacted .....	3
Asset Purchase Program .....	3
Asset Insurance Program .....	3
Size of the Programs .....	4
Private Equity and Debt Considerations .....	4
Oversight Provisions .....	4
Assistance to Homeowners .....	4
Executive Compensation .....	5
Mark-to-Market Accounting .....	5
Increase in Deposit Insurance .....	6
Assistance to Financial Institutions Holding Fannie Mae/ Freddie Mac Preferred Stock .....	6
Duration of Program .....	6
Treasury Actions Since Enactment .....	6
Asset Purchase .....	7
Asset Insurance .....	7
Preferred Share Purchase .....	8
Homeowners Assistance .....	9
Potential Causes of Financial Instability .....	9
Confidence and the Credit Cycle .....	10
Information Asymmetries .....	11
Moral Hazard .....	12
Network Externalities .....	12
Collective Action .....	12
Sources of Current Market Turmoil .....	13
Expectations, Mortgage Defaults, and Asset Prices .....	13
Liquidity and Uncertainty .....	17
Capital Adequacy and Leverage .....	17
Too Complex to Fail? .....	18
Evidence of the Real Effects of Financial Market Turmoil .....	19
Wealth Effect? .....	22
Bank Balance Sheets and Tightening Credit Markets .....	22
Reinforcing Delinquencies and Foreclosures in Housing Markets .....	23
Difficulties of Using Debt Financing to Fund Purchases .....	23
Conclusion .....	24
Appendix. Glossary of Terms Related to Disruption of Financial Markets .....	25

## List of Figures

Figure 1. Index of ARM Foreclosure Rates, 2001 = 100 Prime ARMs Have Unexpectedly High Foreclosure Rates . . . . .	15
Figure 2. Index of FRM Foreclosure Rates, 2001=100 Fixed-Rate Subprime Loans Have Unexpectedly Low Foreclosure Rates . . . . .	16
Figure 3. Spread Between Commercial Paper and One-Month Treasuries . . . . .	21

## List of Tables

Table 1. Treasury Share Purchases Under the Capital Purchase Program . . . . .	8
--	---

# The Emergency Economic Stabilization Act and Current Financial Turmoil: Issues and Analysis

## Introduction

The Emergency Economic Stabilization Act (EESA)<sup>1</sup> became law on October 3, 2008. Intended to restore stability to the U.S. financial system, the act created a Troubled Assets Relief Program (TARP). TARP included two primary programs: a troubled asset purchase program and a troubled asset insurance program. This report briefly introduces characteristics of current financial instability. It also outlines the EESA legislation and the steps that Treasury has taken to implement EESA. Next, the report provides an in-depth analysis of financial instability, including potential causes of instability in general, and how it may spill over into the broader economy. Finally, the report assesses the causes of this period of financial instability. This report will be updated as warranted by market and legislative events.

Starting in the 1980s, non-bank lenders have originated increasing shares of U.S. mortgages. These non-bank lenders obtained their own funds through the conversion of mortgages into marketable securities (securitization), rather than by accepting consumer deposits as in the traditional banking model. In most cases, once a mortgage was made, the entity that originated the loan sold it to another institution, which then pooled a large number of these loans together. From this pool of loans, the institution then issued securities whose returns were based on the payments made on the underlying mortgages in the pool. For a variety of market and regulatory reasons, these mortgage-backed securities (MBS) became widely held by most financial institutions in the United States and by many institutions worldwide. In addition to the securities directly backed by mortgages, financial institutions created numerous other complex securities and derivatives based on the initial MBS. These secondary products, such as collateralized debt obligations (CDO) and credit default swaps (CDS) were also very widely held.

In 2006 and 2007, the rates of default and non-payment by mortgage holders increased significantly. This, in turn, ultimately caused the securities and derivatives based on these mortgages to lose value. In some cases, securities thought to be low risk were completely wiped out. These losses have rippled through the financial system, causing problems for institutions in a number of unexpected ways as well as stress to the general financial system. The failures of large financial institutions, including Bear Stearns, IndyMac, Fannie Mae, Freddie Mac, Lehman Brothers, and

---

<sup>1</sup> Division A of H.R. 1424/P.L. 110-343.

AIG, were part of this turmoil. Due largely to the uncertainty about what future mortgage default rates will be, what institutions are exposed to mortgage-related assets, and whether more institutions may fail unexpectedly, financial markets have nearly frozen at various points in time since August 2007.

Difficulties for individual financial institutions, and for financial systems as a whole, can often usefully be distinguished as problems of liquidity or of capital adequacy.<sup>2</sup> A firm suffering from liquidity problems has assets whose values significantly outweigh liabilities, but is unable to liquidate these assets fast enough to meet short-term obligations. A firm suffering from capital adequacy problems has an inadequate buffer between its assets and its liabilities; if its asset values fall or liability values rise unexpectedly, the firm may be unable to meet its liabilities even if its assets can be liquidated quickly. Insolvency could result. The classical prescription for addressing liquidity problems is for a lender of last resort (such as the Federal Reserve) to lend freely, but at high enough interest rates so that institutions do not take too many risks. Capital adequacy problems, particularly when widespread, can be more difficult to address. In past crises, steps have included directly bolstering firms' capital<sup>3</sup> and sweeping insolvent, or near insolvent, firms out of the system.<sup>4</sup>

## The Troubled Assets Relief Program

### Executive and Congressional Proposals

On September 19, 2008, the Secretary of the Treasury proposed a broad program of financial intervention to stabilize markets. The Treasury plan called for government purchases of up to \$700 billion in mortgage-related securities, in the hope that, by partially purging the system of these troubled assets, normal functioning of the financial markets could be restored.

The idea of broad asset purchases, as in the original Treasury plan, is only one of a number of methods that could be used to address the uncertainties regarding mortgage-related assets. Among the other concepts put forward have been

- a federal guarantee program to insure mortgage-related assets, thus eliminating much of the uncertainty surrounding these securities;

---

<sup>2</sup> See CRS Report RS22966, *Financial Turmoil: Comparing the Troubled Assets Relief Program to the Federal Reserve's Response*, by Marc Labonte, for more discussion on the question of liquidity vs. capital adequacy.

<sup>3</sup> One example of this was the Reconstruction Finance Corporation (RFC), a Depression-era program to stabilize the financial sector. In the Hoover administration, RFC primarily lent funds to banks but in the Roosevelt administration the RFC began purchasing preferred stock in banks.

<sup>4</sup> One example of this was the Resolution Trust Corporation, which was used to mitigate the savings and loan failures in the late 1980s; see CRS Report RS22959, *The Resolution Trust Corporation: Historical Analysis*, by Gary Shorter.

- direct capital injections by the Treasury into financial institutions, thus shoring up their capitalization; and
- direct support for homeowners, thus decreasing mortgage default rates and increasing the value of mortgage-related securities.

After various legislative proposals and drafts were circulated and negotiations between Congress and the administration were conducted, the Emergency Economic Stabilization Act of 2008 (EESA), was brought to a vote in the House as substitute amendment to H.R. 3997; this amendment failed in the House on a vote of 205-228 on September 29, 2008. Another version of EESA, which included the original EESA plus several other provisions not in the first bill,<sup>5</sup> was offered on October 1 in the Senate as an amendment (S.AMDT 5685) to an unrelated bill, H.R. 1424, which had previously passed the House. The amendment to H.R. 1424 was approved by a Senate vote of 74-25; it was then taken up by the House and passed by a vote of 263-171 on October 3, 2008. The President signed the amended version of H.R. 1414, now P.L. 110-343, the same day as House passage.

## Provisions of TARP as Enacted

**Asset Purchase Program.** Section 101 of EESA provides authority to the Secretary of the Treasury to purchase “troubled assets” from any financial institution established and regulated under federal or state law, but excluding any foreign governmental entity. These assets are defined by the statute as “residential or commercial mortgages,” including securities “based on, or related to such mortgages.” In addition to the mortgage-related assets that were the focus of the program, the Secretary is authorized to purchase “any other financial instrument” that is “necessary to promote financial market stability.” Congress must be notified of the Secretary’s determination to purchase non-mortgage related assets, but the Secretary does not need Congress’ approval to do so. The Secretary is to take steps to prevent “unjust enrichment” of financial institutions selling assets to the government, in particular preventing the sale of troubled assets at a price higher than what the seller initially paid for the asset. Section 113 directs the Secretary to use market mechanisms, such as auctions, to purchase assets when possible.

**Asset Insurance Program.**<sup>6</sup> Section 102 of EESA provides that, if the asset purchase program is created, the Secretary must also create an insurance program providing federal guarantees for troubled assets. This insurance program is to be funded by premiums paid by financial institutions for the federal guarantee, with no

---

<sup>5</sup> Additional provisions included a temporary increase in the limit on FDIC-provided depository insurance, discussed later in this report, as well as the extension of temporary tax provisions, which are not addressed in this report. See CRS Report RL32367, *Certain Temporary Tax Provisions (‘Extenders’) Expired in 2007*, by Pamela J. Jackson and Jennifer Teefy for more information on some of the tax provisions in Division C of H.R. 1424, which retroactively extended several temporary tax provisions that had previously been passed, separately, by both Houses of Congress.

<sup>6</sup> See CRS Report RS22969, *The Emergency Economic Stabilization Act’s Insurance for Troubled Assets*, by Baird Webel.

specific provision for the TARP insurance fund to borrow from the U.S. Treasury. Under the statute, the guarantees may be up to 100% of the value of the asset and the premiums may be risk-based, but the Secretary is not required to implement either of these provisions.

**Size of the Programs.** Under Sections 115 and 102, the total size of the insurance and asset purchase program combined is not to exceed \$700 billion at any given time, which does allow the program to buy and sell assets, then use the sales proceeds to purchase other assets. Authority to purchase or insure \$250 billion is effective on the date of enactment, with an additional \$100 billion in authority effective upon submission of a Presidential certification. The final \$350 billion in authority may be exercised upon transmission of a written report by the President detailing the plan for the exercise of this authority. Congress has 15 calendar days to pass a joint resolution under “fast track” rules, to deny the authority to use the final \$350 billion.<sup>7</sup>

**Private Equity and Debt Considerations.** Section 113 requires that, in return for federal purchase of troubled assets, financial institutions must provide to the federal government either debt or equity considerations, such as preferred or common stock in that institution. These considerations are to provide protection for the taxpayer against losses on troubled asset sales and allow the taxpayers to benefit from future equity appreciation of institutions participating in TARP.

**Oversight Provisions.**<sup>8</sup> The EESA creates a number of oversight mechanisms. Section 104 establishes a Financial Stability Oversight Board to oversee the authorities in the act. Section 105 requires detailed monthly reports by the Secretary to Congress on the operations of the program. Section 116 gives the Comptroller General oversight and audit authority on TARP, including access to records and office space within the Treasury for employees of the Government Accountability Office (GAO) to exercise this oversight. Should GAO identify problems in the annual audit, TARP must either take action to correct the problems, or certify to Congress that no action is necessary. Section 121 creates a Special Inspector General to oversee TARP, who shall report quarterly to Congress. Section 125 creates a Congressional Oversight Panel made up of five congressional appointees.

**Assistance to Homeowners.** One of the specific considerations Section 103 requires be taken into account in the general operation of TARP is “to help families keep their homes.” EESA also includes specific measures to that end. Section 109 directs the Secretary, as TARP acquires mortgages and mortgage-related securities, to encourage servicers to take advantage of the HOPE for Homeowners

---

<sup>7</sup> See CRS Report RS20234, *Expedited or ‘Fast-Track’ Legislative Procedures*, by Christopher M. Davis.

<sup>8</sup> See CRS Report RL34713, *Emergency Economic Stabilization Act: Preliminary Analysis of Oversight Provisions*, by Curtis Copeland.



Program.<sup>9</sup> The Secretary is also required to consent to reasonable requests for loan modifications from homeowners whose loans are acquired by the government. Section 110 requires the Federal Housing Finance Agency, the Federal Deposit Insurance Corporation, and the Federal Reserve Board to implement a plan to “maximize assistance for homeowners,” including reduction of interest rates or reduction of loan principal, for mortgages or mortgage backed securities owned or managed by these institutions.

Section 303 extends an additional exception to the tax laws, first made available by the Mortgage Forgiveness Debt Relief Act of 2007,<sup>10</sup> relating to the cancellation of mortgage debt. The additional exception allows for the exclusion of discharged qualified residential debt from gross income. Qualified indebtedness is defined as debt, limited to \$2 million (\$1 million if married filing separately), incurred in acquiring, constructing, or substantially improving the taxpayer’s principal residence that is secured by such residence. It also includes refinancing of this debt, to the extent that the refinancing does not exceed the amount of refinanced indebtedness. The taxpayer is required to reduce the basis in the principal residence by the amount of the excluded income. The provision does not apply if the discharge was on account of services performed for the lender or any other factor not directly related to a decline in the residence’s value or to the taxpayer’s financial condition. The provision applies to debt discharges that are made on or after January 1, 2007, and before January 1, 2013.<sup>11</sup>

**Executive Compensation.** Sections 111 and 302 put limits on executive compensation for firms participating in TARP. For institutions whose assets are bought directly, Section 111 requires that the Secretary publish standards that will (1) limit incentives for executives to take excessive risks, (2) provide for recovery of any bonus paid based on earnings statements that later prove to be inaccurate, and (3) prohibit golden parachute payments to senior executives. These standards are to be in effect for the duration of time that the government holds an equity or debt interest in the company. For those institutions whose assets are bought at auction, only new employment contracts with “golden parachutes” are prohibited.

Section 302 provides special tax rules pertaining to executive compensation for participants in TARP. In particular, Section 162(m) of the Internal Revenue Code is amended to reduce the limitation on deductible executive compensation from \$1,000,000 to \$500,000 and Section 280G of the Internal Revenue Code is amended to expand the definition of a parachute payment for covered employees of TARP participants.

**Mark-to-Market Accounting.** Sections 132 and 133 address “mark-to-market” accounting rules required under Statement 157 of the Financial Accounting

---

<sup>9</sup> See CRS Report RL34623, *Housing and Economic Recovery Act of 2008*, by N. Eric Weiss et al.

<sup>10</sup> P.L. 110-142, 121 Stat. 1803.

<sup>11</sup> For more information, see CRS Report RL34212 *Analysis of the Tax Exclusion for Canceled Mortgage Debt Income*, by Mark P. Keightley and Erika Lunder.

Standards Board (FASB). The Securities and Exchange Commission (SEC) is specifically given the authority to waive these accounting rules. In addition, the SEC is directed to conduct an expansive study on mark-to-market accounting and what impact it may have had on the current financial turmoil.

**Increase in Deposit Insurance.** Section 135 provides for a temporary increase in the insurance on deposits in federally insured banks and credit unions. From enactment until the end of 2009, this amount is increased from \$100,000 to \$250,000. This temporary increase may not be taken into account when setting premiums for deposit insurance.

**Assistance to Financial Institutions Holding Fannie Mae/Freddie Mac Preferred Stock.** Section 301 provides tax relief to financial institutions holding preferred stock in Fannie Mae or Freddie Mac, which lost significant value after the government conservatorship announced in September 2008. Capital gains or losses from the sale or exchange of preferred stock of Fannie Mae and Freddie Mac will be treated as ordinary income or loss by applicable financial institutions, which include banks, mutual savings banks, cooperative banks, and savings and loan associations, among others. The basic rationale behind this tax relief is that it will reduce the need of the bank “to obtain additional capital from the FDIC or investors. This should also prevent some community banks from becoming insolvent.”<sup>12</sup> Normally, in the case of corporations, capital losses are allowed only to the extent of capital gains, although the losses may be carried back three years or carried forward for five years. This provision allows these financial institutions to use the losses incurred in the government takeover of Fannie Mae and Freddie Mac to reduce their tax liability this year (a year with few capital gains), rather than carry the losses to past tax years or forward to future tax years.<sup>13</sup>

**Duration of Program.** Section 120 authorizes TARP asset purchases until the end of 2009. Upon receipt of certification and supporting information from the Secretary, this termination date may be extended until October 3, 2010 (two years after the date of enactment).

## Treasury Actions Since Enactment

Although the original discussion of the three-page draft Treasury plan focused on removing bad assets from financial institution balance sheets, some policymakers urged, and H.R. 1424/P.L. 110-343 included, broad discretion for the use of TARP funds. The potential scope of the program can be found in Part (B) of the definition of a troubled asset, which includes

...any other financial instrument that the Secretary, after consultation with the Chairman of the Board of Governors of the Federal Reserve System, determines

---

<sup>12</sup> U.S. Senate, Committee on Finance, “Tax Provisions in Financial Rescue Plan Protect Homeowners and Community Banks,” News Release, September 28, 2008, available at:[<http://finance.senate.gov/press/Bpress/2008press/prb092808.pdf>].

<sup>13</sup> For more information on these tax issues, contact CRS Specialist in Public Finance Thomas Hungerford, Government and Finance Division.

the purchase of which is necessary to promote financial market stability, but only upon transmittal of such determination, in writing, to the appropriate committees of Congress.

Shortly after passage, Treasury announced its plans to implement the program, which will be coordinated by Neel Kashkari, the Interim Assistant Secretary for the Office of Financial Stability. Mr. Kashkari created teams within Treasury to administer TARP, including hiring asset managers to administer asset purchases, proposing rules for asset insurance, injecting capital into banks through preferred stock purchases, and announcing a homeowner assistance program.

**Asset Purchase.** Treasury must fulfill certain logistical and statutory conditions prior to fully implementing the troubled asset purchase program. The first definition of troubled assets (Part A) eligible for the TARP program is any

...residential or commercial mortgages and any securities, obligations, or other instruments that are based on or related to such mortgages, that in each case was originated or issued on or before March 14, 2008, the purchase of which the Secretary determines promotes financial market stability.

To purchase these assets, Treasury must publish the mechanisms for purchasing assets, pricing and valuation models, the process of choosing asset managers, and the method of identifying troubled assets for purchase.

Some steps have been completed for the purchase of complex mortgage-related securities. Treasury selected Bank of New York-Mellon as the master custodian for the program. Treasury and the Bank of New York have sought to design the auction process and identify which assets to purchase. Treasury chose PricewaterhouseCoopers LLP and Ernst & Young to provide accounting assistance for the program. Treasury has also begun the process of hiring asset managers.

Treasury claims to be working with bank regulators to coordinate the whole-loan purchase program (which is distinct from complex mortgage-backed securities). Mr. Kashkari testified that TARP has reviewed over 100 whole loan asset manager proposals and expects to hire asset managers soon. Given the large share of funds pledged to the capital purchase program, it remains to be seen how much of the TARP program will be dedicated to whole loans.

Once Treasury implements the troubled asset purchase program, institutions will have to conform to program requirements in order to participate. Participating institutions must sell, or commit to sell, to Treasury warrants for nonvoting common or preferred stock (or voting stock if Treasury agrees not to vote). In addition to providing warrants, participating institutions must agree to limits on executive compensation.

**Asset Insurance.** Treasury began the notice and comment rulemaking procedure for the insurance program on October 14, 2008. Rather than providing a specific insurance plan, Treasury's notice asked questions to guide the creation of the troubled asset insurance program. Should the insurance program include both whole loans and complex securities? Should the program differ by which particular asset

is troubled, and if so, how is that to be measured? How could Home Equity Lines of Credit (HELOC) and other junior liens be addressed in an insurance program? Comments on these and similar questions were due to Treasury by October 28, 2008.

**Preferred Share Purchase.** Although some may not have anticipated the purchase of preferred shares to recapitalize the banks, some policymakers had urged this approach from the beginning. Authority to purchase the preferred shares of banks comes under Part B of the definition of troubled asset, which gives Treasury broad discretion in consultation with the Federal Reserve. This announcement came after European authorities announced that they were taking steps to inject capital into their banks.

On October 14, 2008, Treasury announced a voluntary Capital Purchase Program to purchase up to \$250 billion of senior preferred shares in financial institutions. The initial nine banks were to receive \$125 billion. Other banks will also be able to participate on a voluntary basis. Banks wishing to participate use a single application form but submit it to their primary regulator (Federal Reserve, the FDIC, the OCC or the OTS). Once a regulator has reviewed an application, it will send the application and its recommendation to the Office of Financial Stability at the Treasury Department. Treasury says that it will give considerable weight to the regulators' recommendations and decide whether or not to make the capital purchase.

On October 29, the Treasury released data<sup>14</sup> on the Capital Purchase Program indicating it had purchased \$125 billion in preferred shares from the banks listed in **Table 1**.

**Table 1. Treasury Share Purchases Under the Capital Purchase Program**

Name of Institution	Amount of Share Purchase
Bank of America	\$15 billion
Bank of New York Mellon	\$3 billion
Citigroup	\$25 billion
Goldman Sachs	\$10 billion
JPMorgan Chase	\$25 billion
Morgan Stanley	\$10 billion
State Street	\$2 billion
Wells Fargo	\$25 billion
Merrill Lynch	\$10 billion

**Source:** U.S. Treasury.

---

<sup>14</sup> U.S. Treasury, Capital Purchase Program Transaction Report, October 29, available at [<http://www.treas.gov/initiatives/eesa/docs/TransactionReport.pdf>].

A number of smaller banks have announced that they are also participating in the program but were not included in the October 29 Treasury report.

**Homeowners Assistance.** One criticism leveled at TARP has been its focus on assisting financial institutions, providing only indirect assistance to individual homeowners facing foreclosure. The Chairman of the FDIC, in testimony before Congress, indicated that the FDIC saw “significant promise”<sup>15</sup> in using authority in TARP to prevent foreclosures by providing loan guarantees as an incentive to servicers to modify loans. The FDIC and the Treasury indicated they were working on this approach to provide assistance to homeowners. Recent press reports have provided details on a possible approach,<sup>16</sup> but detailed information has not been released by the Treasury on the subject. President Bush’s press secretary indicated on October 30, 2008, that an announcement on a mortgage assistance plan was “not imminent.”<sup>17</sup>

## Potential Causes of Financial Instability

EESA authorized a flexible program to respond to financial instability. Treasury has announced that it will implement TARP using a combination of the activities authorized by the act. As the previous discussion has shown, TARP programs can help banks by removing bad assets or injecting capital. TARP programs can also be used to insure bad assets or to directly assist mortgage borrowers. The following section analyzes the TARP program by first discussing potential sources of financial turmoil in general and then discussing some characteristics of the current turmoil that might be addressed by various TARP initiatives.

Financial markets serve as intermediaries between savers and borrowers. If they are running effectively, funds from investors are allocated to borrowers according to their willingness and ability to repay the loans, adjusted for risk. Over the course of a lifetime, most people will have extended periods of being a borrower and of being a saver. Financial markets help young people pay for college and buy their first home, and financial markets help when it comes time to retire. However, if financial markets are disrupted then both savers and borrowers will be frustrated. At times, market imperfections might cause financial markets to under-price risk, which might cause assets to become overpriced (bubbles).<sup>18</sup> At other times, market imperfections

---

<sup>15</sup> Testimony of Honorable Sheila C. Bair before the U.S. Senate Committee on Banking, “Turmoil in the U.S. Credit Markets: Examining Recent Regulatory Responses,” October 23, 2008, available at [[http://banking.senate.gov/public/\\_files/BAIRCREDITMARKETTESTIMONY102308.PDF](http://banking.senate.gov/public/_files/BAIRCREDITMARKETTESTIMONY102308.PDF)].

<sup>16</sup> “Treasury, FDIC Near Deal on Mortgage Aid,” *Washington Post*, October 30, 2008, p. A01.

<sup>17</sup> White House Office of the Press Secretary, “Press Briefing by Press Secretary Dana Perino and Council of Economic Advisers Chairman Ed Lazear,” October 30, 2008.

<sup>18</sup> CRS Report RL33666, *Asset Bubbles: Economic Effects and Policy Options for the* (continued...)

might also cause financial markets to over-price risk, which tends to restrict economic activity and possibly trigger recessions. The difficulty for policymakers is to identify market practices that might tend to over-price or under-price risk.

Financial markets are subject to a number of imperfections, some of which are described below. In each case, private firms can attempt to address the problem through contract mechanisms, and policymakers can attempt to address the problem through regulation or other tools. Because private contract is such a flexible device, financial markets are constantly evolving. The evolution of financial instruments and markets can make it difficult for policymakers to identify, monitor, and neutralize potential weaknesses. Some important imperfections are detailed below.

**Confidence and the Credit Cycle.** Financial intermediaries often practice fractional reserve lending. That is, they keep some fraction of their total assets available for contingencies and use the rest for lending. Because of this fractional reserve system, financial intermediaries are often in a position in which they could not immediately respond to all partners if everyone demanded their funds or other assets at the same time. Even if the firm's assets are much greater than liabilities (the firm is solvent) the firm might not be able to exchange those assets to satisfy immediate costs (the firm is illiquid). Unfortunately, profit and risk move in same direction. The smaller the amount of reserves the intermediary keeps on hand, the greater the potential for profit, but the greater the risk that the firm will be caught without adequate funds if conditions change. Leverage, thus, works in both directions.

To compensate for exposure to intermediaries with inadequate reserves, people may ask business partners to post a bond. The required bond generally declines the more confident people are. As a result, periods of investor confidence and investor pessimism can become self-fulfilling. Confidence tends to expand available credit, which tends to bid up prices, which tends to make the projects more likely to succeed, for a while. Lack of confidence tends to dry up credit, which makes it harder for people to conduct economic activities, which makes it harder for projects to succeed.

The vulnerability of the credit cycle to bouts of overconfidence or panic may be an inherent market failure. One role of a regulator is to monitor reserve assets of financial intermediaries to make sure the latter do not become overextended during times of confidence. In hindsight, it appears that many financial firms became overextended during 2002-2005. Some have called for trying to adjust reserve requirements, leverage, and similar characteristics to "lean against the wind." In this view, regulations should increase capital requirements during boom times and lower them in periods of contraction.

In the current situation, which is discussed in more detail below, banks have experienced both liquidity problems and capital adequacy (solvency) problems. The complexity of MBS has contributed to the difficulty in exchanging these assets,

---

<sup>18</sup> (...continued)

*Federal Reserve*, by Marc Labonte.

which makes MBS less liquid for anyone who holds them or who might buy them. In addition, default rates on mortgage loans have increased significantly; higher than expected loan losses reduce bank capital. These effects are not mutually exclusive; undercapitalized banks find it more difficult to borrow funds, which means they are less liquid. The asset purchase and asset insurance portions of TARP more directly address liquidity issues,<sup>19</sup> whereas the preferred stock purchase plan more directly addresses solvency issues.

**Information Asymmetries.** It is often the case in financial contracts that one party has more information than another. It may be the case that there is a group of assets, only some of which are defective. If the seller can identify the defective assets but the buyer cannot, then there is said to be a “market for lemons” and the value of all of the assets will be discounted by potential buyers. Private firms can try to solve the problem through guarantees and similar contract terms. In addition, there may be a role for government inspectors or mandatory disclosures. Regulation of ratings agencies could arguably fall under this category. If a large pool of assets emerges where the assets are unrated because some unknown portion of them are thought to be defective, it may minimize total costs to have an institution with a long time horizon, such as government, acquire the assets and sort quality assets from troubled assets at a later date.

For financial institutions, asymmetric information problems can also be a factor when designing rescue plans. For example, if the originator of loans tends to keep some but sell others on the secondary market then there may be an information problem. The originators may tend to keep the good loans in their own portfolios and pass along the bad loans to others. Similarly, if policymakers offer to acquire assets, firms may try to keep the good assets and sell the bad assets.

In the current situation, the complexity of MBS may have created a lemons problem. Some policymakers are concerned that a program to buy assets from banks will allow banks to “overcharge” the government for their assets. In this view, once the government establishes a price for the assets, only firms who know that their assets are worth less than the price will participate. To prevent the lemons problems, some have suggested an auction process to ensure that assets are priced correctly.<sup>20</sup> If auctions correctly price assets, this program might help remove illiquid assets from bank balance sheets. However, it could be argued that correctly pricing troubled assets is not the only policy goal. Treasury may wish to use the lemons problem with the express purpose of removing the most troubled assets from the bank balance sheets; furthermore, paying more than the current assessed price might also address the policy goal of recapitalizing banks.

Another information problem is what is known as the “winner’s curse.” In a winner’s curse some of the potential bidders have more information than others. Unsophisticated bidders try to free ride on the information provided by the more

---

<sup>19</sup> The impact of the asset insurance and asset purchase programs on solvency depends greatly on the premiums charged for the insurance and the prices paid for the assets.

<sup>20</sup> CRS Report RL34707, *Auction Basics: Background for Assessing Proposed Treasury Purchases of Mortgage-Backed Securities*, by D. Andrew Austin.

sophisticated. People watch the “smart” people bid and copy them. The problem in this is that the “smart” people will know when to stop bidding. Unfortunately, the “winners” will continue bidding for a while, unaware that the sophisticated have stopped participating. As a result, assets become overpriced and could become subject to crashes. Some believe that the process of creating MBS (securitization) was subject to a winner’s curse. It might be a role for regulators to limit the right to bid in some circumstances to sophisticated parties or require participants to conduct a minimum of due diligence.

**Moral Hazard.** Moral hazard occurs when someone has the incentive to take fewer risks prior to an agreement, but the agreement itself creates an incentive for them to take more risks, against the interests of their contracting party. For example, insurance often causes moral hazard so insurance companies often insist that people pay deductibles, install smoke alarms, do not live in a flood plain, and the like. If policymakers rescue some firms then the perception of a safety net may encourage other firms to take on more risk. Similarly, if firms approach insolvency with only a low probability of survival, they might take extremely large risks.

In the current situation, some are concerned that the TARP program could cause moral hazard. Once financial institutions know that the government will spend large sums to remove bad assets or inject additional capital, they may be willing to take additional risks. EESA attempts to deal with moral hazard in part by limiting the compensation that the executives of participating financial institutions can receive. One of the limits specifically prohibits executive compensation that is linked to excessive risk taking during the period that Treasury holds a debt or equity interest in the financial institution (Section 11(B)(2)(a)).

**Network Externalities.** In some instances, firms can compete in one arena but be network partners in another. For example, sports teams compete on the field and for players and coaches but a sports team must have other sports teams in order to have a marketable entertainment product. Similarly, financial institutions compete in many areas but also must cooperate to clear checks, exchange securities, and manage risk. A trading exchange cannot operate without multiple parties. Furthermore, the greater the number of people that participate, the more liquid the market will be, which in turn increases the value of participating in the exchange. These network externalities can cause coordination problems when the interests of participants conflict. One role for policymakers may be to help resolve network externalities. In the present circumstances, the coordination of trading complex derivatives is arguably one concern of policymakers when considering financial market intervention. TARP may help address this problem by allowing Treasury to consider removing complex derivatives that may pose systemic risks.

**Collective Action.** Resolving the aforementioned vulnerabilities in financial markets may be in the interests of all financial firms. But it may not be in the interest of any single firm or group of firms to pay all the costs of resolving problems. In these instances, it may be the role of policymakers to help coordinate solutions to collective action problems. The role may be as simple as making information available or gathering parties to facilitate negotiations, or the role may be to provide investment in the infrastructure of the markets themselves. In the present circumstances, both the Federal Reserve and Treasury have been active in attempting



to find acquisition partners for troubled financial institutions believed to pose systemic risks. This coordination role may have been helpful in finding a way to unwind the assets of Bear Stearns, but was not successful in similar action for Lehman Brothers.<sup>21</sup>

## Sources of Current Market Turmoil

Although the prior section addressed financial market problems in general terms, this section discusses problems specific to the current episode of financial turmoil. The initial spark for the financial turmoil is generally agreed to be the increase in defaults among subprime mortgage borrowers and the loss of liquidity of securities backed by mortgage loans. Since August 2007, financial firms have suffered repeated problems in disposing of “toxic” assets, rolling over their own debt, identifying the relative financial health of potential trading partners, and recapitalizing their balance sheets.<sup>22</sup> The primary tools of the Federal Reserve address liquidity, but financial firms are also experiencing capital adequacy problems. For Fannie Mae and Freddie Mac, the Federal Housing Finance Agency (FHFA, formerly OFHEO) and Treasury helped with both liquidity and capital adequacy for institutions the government deems essential.<sup>23</sup> Some argue that the apparent flip-flop between aid for Bear Stearns, no aid for Lehman Brothers, and then the subsequent rescue of AIG increased rather than decreased uncertainty. At any rate, credit markets suffered a near collapse in the days after the Lehman Brothers and AIG episodes.

## Expectations, Mortgage Defaults, and Asset Prices

If investors expect high default rates by borrowers then prices might adjust to compensate for increased losses; therefore, high default rates by themselves do not necessarily lead to financial market turmoil as long as prices reflect the elevated risk. The rapid rate of increase in defaults on subprime mortgages, however, was unexpected by many investors in global mortgage-backed securities markets.<sup>24</sup> During the early stages of the mortgage market turmoil, some believed that it was largely a subprime problem caused by predatory practices of unregulated lenders.<sup>25</sup> Others argued that there were more general problems in mortgage markets, both

---

<sup>21</sup> CRS Report RL34420, *Bear Stearns: Crisis and ‘Rescue’ for a Major Provider of Mortgage-Related Products*, by Gary Shorter.

<sup>22</sup> CRS Report RL34182, *Financial Crisis? The Liquidity Crunch of August 2007*, by Darryl E. Getter, Edward V. Murphy, Marc Labonte, and Mark Jickling.

<sup>23</sup> CRS Report RL34661, *Fannie Mae’s and Freddie Mac’s Financial Problems*, by N. Eric Weiss.

<sup>24</sup> John Kiff and Paul Mills, “Lessons from Subprime Turbulence,” *IMF Survey Magazine: IMF Research*, August 23, 2007, available at [<http://www.imf.org/external/pubs/ft/survey/so/2007/RES0823A.HTM>].

<sup>25</sup> “Testimony of Paul Leonard,” California Office Director, Center for Responsible Lending, before the California Senate Banking Committee, March 6, 2007, available at [<http://www.responsiblelending.org/pdfs/FINAL-Leonard-3-26-Testimony.pdf>].

prime and subprime, that had encouraged the use of nontraditional mortgage products to speculate on house price appreciation.<sup>26</sup> If the only problem was wrong estimates of default rates then financial markets might be expected to restore stability once higher risk levels are incorporated in prices. Unfortunately, this has not as yet occurred, perhaps in part because there are characteristics of housing markets that tend to reinforce downward price pressures, which also tend to increase default rates.<sup>27</sup>

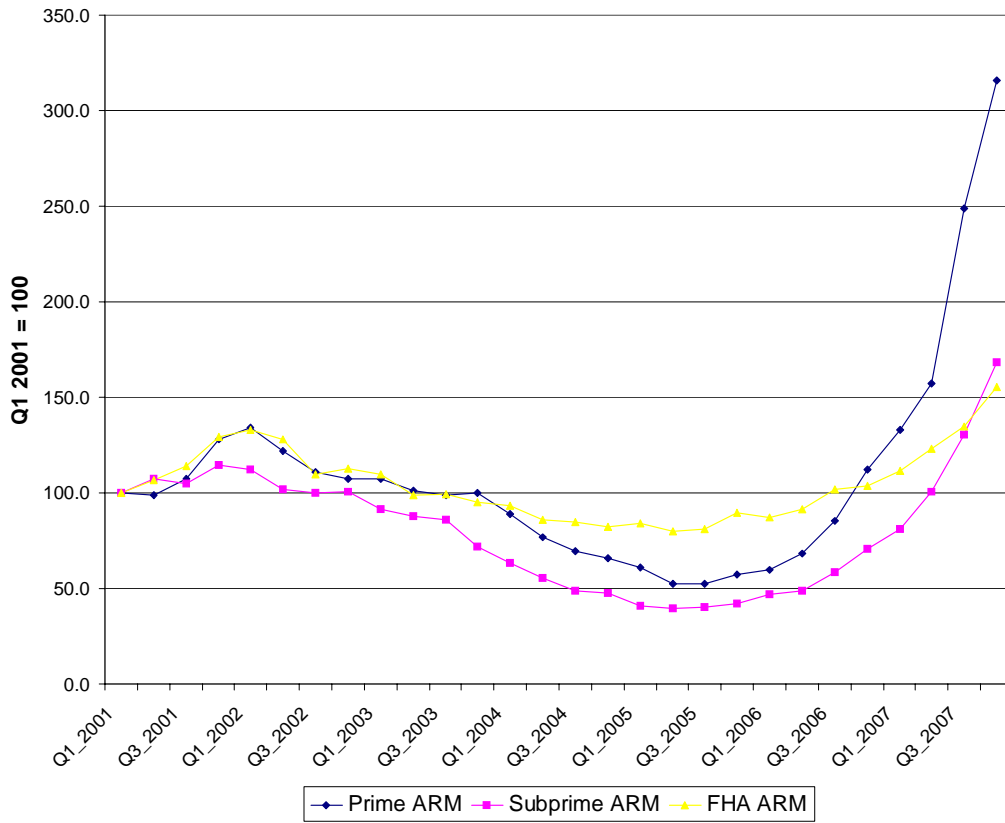
Evidence of default rates by type of mortgage is consistent with the view that unexpectedly high default rates were not confined to the subprime market. First, defaults are concentrated in formerly rapidly appreciating regions. Second, the default rate on prime adjustable-rate mortgages (ARMs) has increased more rapidly than the default rate on subprime ARMs. At the same time, subprime fixed-rate mortgages are performing better than they had before the housing boom, suggesting that there are issues related to ARMs. **Figure 1** constructs an index (base equals 2001) of the default rates on ARMs, for fixed-rate mortgages, subprime mortgages, and FHA mortgages. Market participants who might have expected default rates to continue would have missed by a greater margin on prime ARMs than on subprime ARMs. Note that the absolute level of default rates is much higher on subprime loans than on prime loans; however, because higher interest rates for riskier loans compensate partially for default risk, the relative change in a given default rate compared to its history is arguably more important to an investor than the absolute default rate. If so, then **Figure 1** and **Figure 2** show that investors in MBS did not just experience a subprime problem, they experienced an ARM problem.

---

<sup>26</sup> CRS Report RL33775, *Alternative Mortgages: Causes and Policy Implications of Troubled Mortgage Resets in the Subprime and Alt-A Markets*, by Edward V. Murphy.

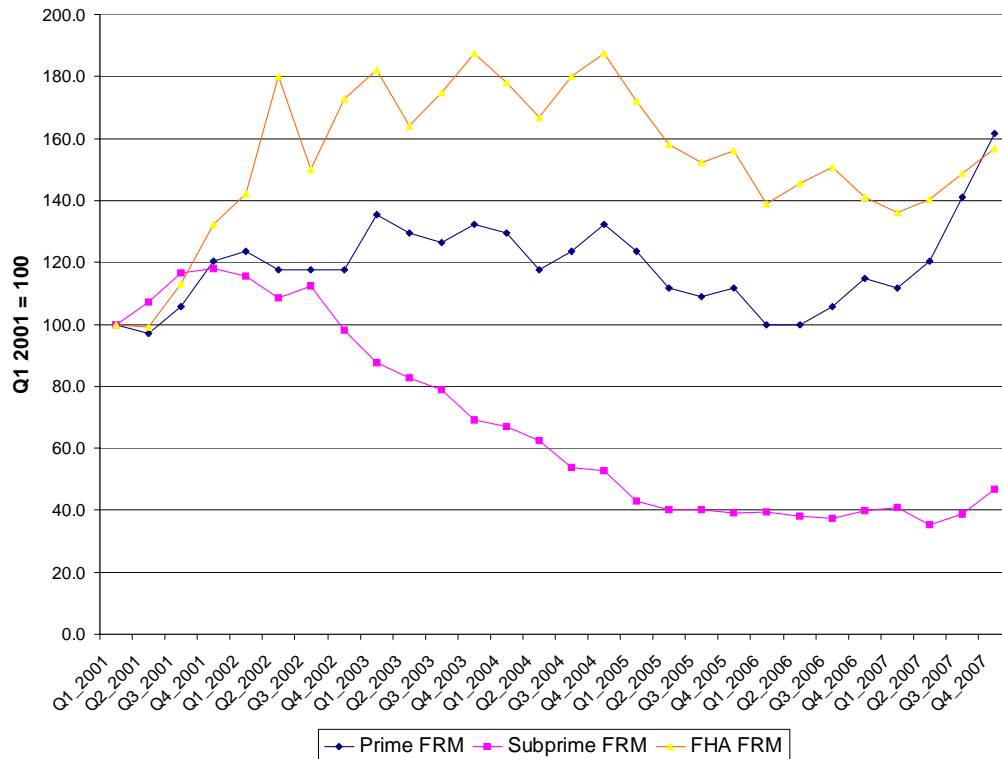
<sup>27</sup> CRS Report RL34653, *Economic Analysis of a Mortgage Foreclosure Moratorium*, by Edward V. Murphy.

**Figure 1. Index of ARM Foreclosure Rates, 2001 = 100  
Prime ARMs Have Unexpectedly High Foreclosure Rates**



**Source:** Mortgage Bankers Association National Delinquency Survey.

**Figure 2. Index of FRM Foreclosure Rates, 2001=100  
Fixed-Rate Subprime Loans Have Unexpectedly Low  
Foreclosure Rates**



**Source:** Mortgage Bankers Association National Delinquency Survey.

Prices for MBS have been affected by changing views of housing markets. Early in the turmoil, many observers believed that problem loans were largely a subprime phenomenon. However, falling house prices in California, Florida, and several other formerly booming states have exacerbated default rates among all categories of borrowers in those regions. One contributing factor is that mortgage debts exceed the market value of some borrowers' homes; therefore, some of these borrowers are increasingly tempted to walk away from their mortgages. As a result, some investors consider a wider class of MBS tainted and these assets are harder to sell at any price. When mortgage problems were considered only a subprime problem, few thought that Fannie Mae or Freddie Mac had a great deal of exposure to problem loans.<sup>28</sup> Subsequently, problems in the broader market have shown that Fannie Mae and Freddie Mac had more problem loans than originally thought. Because housing markets and financial markets are linked, many have expressed skepticism that financial markets will recover before housing markets stabilize.

<sup>28</sup> See for example, Allen Fishbein, Director of Housing and Credit Policy, Consumer Federation of America, "Testimony Before the House Financial Services Committee," March 15, 2007, pp. 6-7 suggesting that the GSEs be encouraged to lead the market among riskier borrower groups, including lower-income, first-time home buyers, and minorities.

## Liquidity and Uncertainty

Loss of liquidity has been one of several problems in financial markets since the beginning of what originally became known as the subprime crisis. Liquidity refers to the ability to sell an asset quickly without suffering a significant price reduction — cash is typically the most liquid asset. A firm is liquid if it has a significant portion of its assets in liquid form or can easily access debt markets to acquire liquid assets as needed. A firm is solvent if the value of its assets is greater than the value of its liabilities. An insolvent firm can be in trouble even if all of its assets are perfectly liquid, such as in cash. When mortgage-related securities held by investment banks and other financial firms suffered higher than expected default rates, the MBS lost their liquidity in part because potential buyers were uncertain as to which securities contained the loans that were unlikely to perform. Complex accounting rules which allowed certain assets to be held off-balance sheet made the uncertainty worse, and many mortgage-related securities became illiquid.

Policymakers attempted to restore liquidity to MBS markets over the past year. The Federal Reserve increased liquidity to markets in general by lowering interest rates. It provided liquidity to targeted financial firms by expanding the list of institutions that could directly access the discount window and by providing regular liquidity auctions.<sup>29</sup> The Federal Reserve also attempted to increase the liquidity of mortgage-related assets by adding them to the list of collateral that it would accept for loans. The government tried to increase the liquidity of mortgages by increasing the conforming loan limit (the maximum size loan that the GSEs may purchase). Despite these efforts, financial markets continue to experience significant turmoil.

## Capital Adequacy and Leverage

Efforts to restore liquidity do not necessarily address capital adequacy or solvency problems. A relatively small drop in the market value of a firm's assets can cause significant capital reduction if the firm is highly leveraged. Leverage refers to the ratio of a firm's equity capital to its other assets. The greater this ratio the more vulnerable the firm is to falling asset prices. If a firm is leveraged 10:1 and it has \$100 in assets then it has \$10 in equity capital and \$90 in liabilities. In this case, a 5% drop in the value of the firm's assets would reduce assets to \$95 (results from a \$5 loss). Because assets equal liabilities plus owners equity, and liabilities have not changed, the \$5 loss comes out of equity capital. The firms equity would drop from \$10 to \$5, still solvent in this example. If the firm had been leveraged 25:1 instead of 10:1, then the firm would start with \$100 in assets, \$96 in liabilities, and \$4 in owner's equity. The same 5% drop in asset values would completely wipe out owner's equity and cause the firm to be insolvent (-\$1 equity). A key principle of financial markets is that highly leveraged firms can become insolvent for relatively

---

<sup>29</sup> CRS Report RL34427, *Financial Turmoil: Federal Reserve Policy Responses*, by Marc Labonte.

small decreases in asset values; therefore, the damage to the financial system from nonperforming loans can be several times the increase in default rates.<sup>30</sup>

Policymakers have encouraged the financial sector to attempt to rebuild equity capital. Early in the financial crisis, hedge funds and sovereign wealth funds invested in some troubled U.S. financial firms. Investment banks may prove more difficult to recapitalize than commercial banks. Regulation does not specify minimum capital standards for investment banks. Their leverage ratio is largely limited by the confidence, or lack thereof, that financial markets have in them. When market confidence drops for financials, these firms risk their liquidity drying up. If, at the same time that they lose liquidity, they happen to be undercapitalized or near insolvent, then they may not survive.

A number of factors contributed to the increase in leverage in recent years, and the process of reducing leverage may be difficult. One factor that contributed to the increase in leverage during 2002-2005 was low interest rates across the globe, which made it very easy to use short-term debt to finance risky activities.<sup>31</sup> Another factor was the increased use of structured finance (securitization), which allowed banks and other loan originators to move assets off of their balance sheets even though they were still exposed to some risk if the loans failed to perform as expected.<sup>32</sup> A third factor contributing to leverage was the use of complex financial derivatives, which had the potential to reduce financial risks but also had the potential to increase financial risk.

## Too Complex to Fail?

Complex financial derivatives have been characterized by some observers as financial weapons of mass destruction. A financial derivative is a contract in which two (or more) parties agree to a payment if a referenced financial instrument changes price or otherwise satisfies conditions set in the contract.<sup>33</sup> Examples of financial derivatives include interest rate swaps and foreign exchange swaps that help firms that are exposed to interest rate risk or exchange rate risk hedge against unexpected market events. The contracts are typically tradable, which has benefits for the market as a whole as well as for the two firms entering into the contract. The ability to trade the derivatives grants the two parties a more liquid asset. The ability to trade the derivatives also provides information to the market as a whole because the observed price of the contracts is a clue to market expectations about the future movements of interest rates, exchange rates, etc. A cost to this increased liquidity is that linkages among firms through the derivative contracts can become very complex and it may

---

<sup>30</sup> CRS Report RL34412, *Averting Financial Crisis*, by Mark Jickling.

<sup>31</sup> CRS Report RL34182, *Financial Crisis? The Liquidity Crunch of August 2007*, by Darryl E. Getter, Edward V. Murphy, Marc Labonte, and Mark Jickling.

<sup>32</sup> CRS Report RS22722, *Securitization and Federal Regulation of Mortgages for Safety and Soundness*, by Edward V. Murphy.

<sup>33</sup> CRS Report RS22918, *Primer on Energy Derivatives and Their Regulation*, by Mark Jickling.

become difficult for parties to assess whether their counterparties can actually honor all of their derivative contracts.<sup>34</sup>

The complexity of derivatives contracts has made policymakers uncertain as to the repercussions of allowing a major participant in financial derivatives markets to fail. One worry is that there would be a long period of uncertainty during the unwinding of the derivatives contracts that could potentially freeze global financial markets. In two previous episodes, policymakers chose to facilitate the unwinding of the derivatives contracts. During the Russian debt crisis, the Federal Reserve facilitated the unwinding of Long Term Capital Management (LTCM), although the Federal Reserve did not directly provide funding.<sup>35</sup> For Bear Stearns, the Federal Reserve helped arrange an acquisition by J.P. Morgan, and the Federal Reserve also helped provide the financing.<sup>36</sup> One interpretation of the current market is that policymakers treated AIG as too complex to fail because of the potential difficulty in unwinding their derivatives.<sup>37</sup> AIG is a major participant in credit default swaps, which are derivatives tied to credit losses.

## Evidence of the Real Effects of Financial Market Turmoil

Troubles in financial markets do not always spill over into other economic sectors, such as industrial production, agriculture, services, or other parts of the broader economy. Because the current turmoil has lasted more than a year while national unemployment had remained relatively low by historical standards (although rising) and economic growth remained positive (although low) for much of that time, some have questioned whether there is evidence that the current financial turmoil has had significant real effects. Third quarter 2008 growth has been preliminarily assessed by the Commerce Department as negative. Although the fall in house prices could directly reduce consumer spending by making home owners feel poorer (a so-called wealth effect), most economists consider the primary way that financial market turmoil affects the broader economy to be by making it more difficult to get loans, which restricts business investment and consumer purchases of durable goods. The evidence of such effects is thought to be largely in financial market spreads, the difference between the interest rate on less risky debt such as U.S. Treasuries, and the rates paid by banks, firms, and consumers. Interest rate spreads remained elevated after August 2007, even in the inter-bank market where banks lend to each other. Treasury's initial draft for the TARP program was developed the weekend following the large spike in interest rate spreads on September 14, 2008.

---

<sup>34</sup> CRS Report RL34420, *Bear Stearns: Crisis and 'Rescue' for a Major Provider of Mortgage-Related Products*, by Gary Shorter.

<sup>35</sup> CRS Report RL33746, *Hedge Fund Failures*, by Mark Jickling.

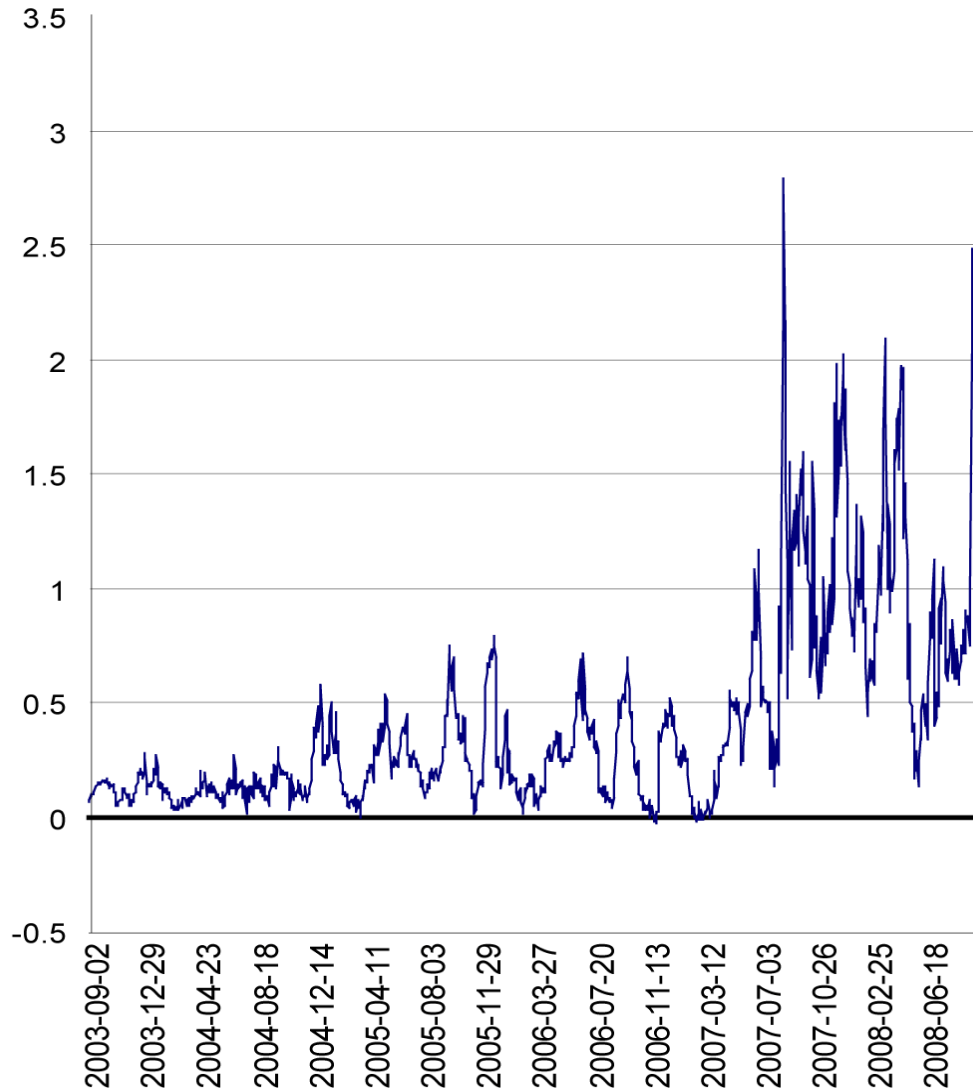
<sup>36</sup> CRS Report RL34427, *Financial Turmoil: Federal Reserve Policy Responses*, by Marc Labonte.

<sup>37</sup> CRS Report RS22932, *Credit Default Swaps: Frequently Asked Questions*, by Edward V. Murphy.

Interest rates can be an indicator of financial market spillovers. The rates at which market participants borrow is typically above the rate that the U.S. government borrows (although not all governments enjoy low borrowing costs). The difference between market rates and the U.S. government rate for a debt of similar maturity, called a spread, can be an indicator of the degree of confidence that market participants have in each other (among other factors). A wide spread can be an indicator of a lack of confidence whereas narrow spreads can be an indicator that markets do not demand a high risk premium. **Figure 3** shows the spread between commercial paper, one form of short-term private loan used mostly by large, high-quality corporations, and short-term Treasury securities. In **Figure 3**, the spread remains relatively narrow from September 2003 until August 2007, which is considered the beginning of the liquidity crunch. The spread on commercial paper spiked in August 2007, remained volatile during the next year, and then spiked again in September 2008. The financial market interventions between August 2007 and September 2008 apparently failed to restore market confidence; as a result, private borrowers continued to pay high interest rates even as interest rates on U.S. Treasury debt declined. The spike in September of 2008 occurred during the week of the interventions for Lehman Brothers and AIG.



**Figure 3. Spread Between Commercial Paper and One-Month Treasuries**



**Source:** The Federal Reserve.

## **Wealth Effect?**

A wealth effect refers to the tendency of people to spend in the current period at least part of any increase in wealth that they receive. When asset prices rise, such as houses, stocks and bonds in retirement accounts, collectible art, or similar savings instruments, people may feel wealthier. When house prices were booming, consumer spending was supplemented by mortgage equity withdrawal to access households' perceived increase in wealth. Now that house prices have stopped rising nationally, and are falling significantly in some areas, mortgage equity withdrawal has no longer been contributing much to consumer spending. In some cases, lenders have been seeking to cancel or reduce lines of credit they had extended on homes. Although falling house prices could possibly have a negative wealth effect, few people fully tapped their home equity so the reduction in the lines of credit is not widely expected to have a large effect. Furthermore, according to the Mortgage Bankers Association National Delinquency Survey, 97% of home owners are not in the foreclosure process, and aggregate consumer spending levels did not decline for the first year of financial turmoil (although consumer spending growth was below trend). Whether due to rising unemployment, a wealth effect from falling house prices, the stock market declines in the Fall of 2008, or other factors, third quarter consumer spending is estimated to have declined.

## **Bank Balance Sheets and Tightening Credit Markets**

Rather than working directly through consumer spending, financial market turmoil is generally considered to affect the broader economy by reducing the availability of credit to firms and consumers. Rising default rates and falling asset prices reduce the value of the assets on bank balance sheets. As discussed above, banks are leveraged so that a fall in the value of their assets can significantly damage their capital. Falling house prices have the potential to cause mortgage lenders both liquidity and solvency problems. In response, banks may become hesitant to part with cash and may therefore choose to tighten their lending standards. Low risk borrowers may be able to qualify for loans, possibly even at low interest rates, but many higher risk loans might not be granted at any interest rate. It is possible to observe low interest rates in these circumstances with relatively little actual lending taking place.

The evidence in the current market is consistent with tightening lending standards and reduced credit availability. The survey of bank lending managers showed tightening lending standards since the beginning of the financial market turmoil. Reductions in the Federal Reserve's policy interest rate have not, as yet, been followed by loosening lending standards. Spreads between Treasury rates and consumer loans, such as mortgage rates, remained elevated so that the reduction in the Fed's rate provided little relief to borrowers facing an increase in their mortgage rate.

The TARP program can strengthen bank balance sheets in several ways. Under TARP, Treasury can directly inject capital into the bank balance sheet through the preferred share stock purchase program. This creates a larger cushion between a bank's current standing and insolvency. TARP also enables the Treasury to remove

troubled assets from bank balance sheets, This increases the institution's liquidity, but does less for bank solvency. TARP can also allow financial institutions to insure their troubled assets, which would make those assets more liquid, but may also do little for bank solvency. TARP permits direct assistance to homeowners, which would presumably be aimed at reducing default rates. Reducing default rates by fully paying loans could in theory simultaneously remove the stigma of mortgage-related assets, increase their price and their liquidity, and restore some bank capital.

## **Reinforcing Delinquencies and Foreclosures in Housing Markets**

Tight lending standards tend to reinforce delinquencies and foreclosures. Some borrowers may have taken out large mortgages when credit was easy and rates were low, with the intent of refinancing their loans before maturity. Tightening lending standards reduce their ability to refinance on favorable terms and make it less likely that they can keep their house. Not only do tight lending markets reduce the ability of current residents to pay their loans, but strict lending standards also make it less likely that a third party can be found to purchase the house. As a result, foreclosures can add to the unsold inventory of homes, which tends to drive down prices and further depress bank balance sheets. Some fear that this process can become self-reinforcing because rising delinquencies might also result in tight lending conditions.

## **Difficulties of Using Debt Financing to Fund Purchases**

There are also other assets besides housing for which demand depends on the ability of buyers to find financing. Some municipalities had depended on the ability to roll over short term debt in the form of auction-rate securities. When financial markets froze, some auctions failed to attract enough bidders to continue rolling over the debt. As a result, the interest rates paid increased significantly. Complaints by some municipalities that the risks of these investment instruments were not fully disclosed has led several investment banks to agree to take back the securities on to their own balance sheets (which may already be under significant stress).<sup>38</sup> The automobile market has also suffered as automakers canceled some leasing programs. Student loans have also become harder to get, although some believe that this is due at least in part, to a change in the federal funding formula.<sup>39</sup>

---

<sup>38</sup> CRS Report RL34672, *Auction Rate Securities*, by D. Andrew Austin.

<sup>39</sup> CRS Reports RL34452, *The Ensuring Continued Access to Student Loans Act of 2008*, by David P. Smole, and CRS Report RL34578, *Economics of Guaranteed Student Loans*, by D. Andrew Austin.

## Conclusion

The EESA authorizes Treasury to spend up to \$700 billion to restore financial stability. In general, there are at least five policy responses to a banking disruption: (1) removing bad assets from bank balance sheets, (2) injecting capital into the banking system, (3) insuring “toxic” assets, (4) directing support of delinquent borrowers to reduce default rates, and (5) allowing the free market time to liquidate troubled assets and process insolvent institutions. The breadth of the definition of a troubled asset under the TARP statute grants Treasury the discretion to implement any of these options individually or in combination. Although Treasury’s original proposal focused on option 1 (removing bad assets), the majority of TARP funding to date has been more consistent with option 2 (injecting capital). Using the majority of TARP funds for capital injection matches the approach taken by several European nations in response to their banking turmoil.

## **Appendix. Glossary of Terms Related to Disruption of Financial Markets**

*Adverse Selection*—When a party having greater information about the quality of a pool of assets offers to sell the inferior ones to the less knowledgeable party.

*AIG*—American International Group, Inc.

*ARM* — Adjustable Rate Mortgage.

*Bank holding companies* — Companies that own one or more banks.

*Bubble* — Self-reinforcing process in which the price of an asset exceeds its fundamental value for a sustained period. Often followed by a rapid price decline.

*Conservatorship* — When an insolvent financial institution is reorganized by a regulator with the intent to restoring it to an ongoing business.

*CDO, Collateralized Debt Obligation*— Securities deriving their income from other fixed income assets, including but not limited to, mortgage-related assets.

*CDS, Credit Default Swap*, — A tradeable contract in which one party agrees to pay another if a third party experiences a credit event, such as bankruptcy or credit downgrade.

*Credit Event* — In a credit default swap, an event specified in the contract that triggers the payment between the parties. Is often a bankruptcy or credit downgrade.

*Credit Risk* — The risk that a borrower will fail to repay a loan in full.

*EESA* — Emergency Economic Stabilization Act, P.L. 110-343.

*FASB* — Financial Accounting Standards Board.

*FAS 157* — An accounting standard issued by FASB that covers the reporting of the fair value of financial assets. Determines if financial assets must be marked-to-market.

*FDIC* — Federal Deposit Insurance Corporation.

*FHA* — Federal Housing Administration.

*FHFA* — Federal Housing Finance Agency.

*Financial Derivatives* — Investment products that derive their payments from previously issued securities.

*FRM* — Fixed Rate Mortgage.

*Hedge Funds* — Unregulated mutual funds that buy and sell investment assets.

*HELOC* — Home Equity Line of Credit.

*Insolvent* — When a firm's liabilities are greater than assets.

*LTCM* — Long Term Capital Management.

*Leverage Ratio* — Ratio of a firm's capital to its assets.

*Liquidity* — The ability to trade an asset quickly without significantly reducing its price, or the ability of a person or firm to access credit markets.

*Mark-to-Market* — The accounting requirement to report assets held for sale at current market prices. Related to FAS 157.

*MBS, Mortgage Backed Security* — A security which derives its payments from a pool of mortgage obligations.

*Moral Hazard* — The tendency of people to take more risks once another party has agreed to provide protection.

*Notional Principal* — In a swap contract, the amount on which the interest is being paid (for interest rate swaps) or the protection payment is calculated (for credit default swaps).

*OCC* — Office of the Comptroller of the Currency.

*OFHEO* — Office of Federal Housing Enterprise Oversight.

*OTC, Over-the-Counter Market* — Unregulated market in which dealers at different locations stand ready to trade securities with anyone willing to accept the prices.

*OTS* — Office of Thrift Supervision.

*Preferred Stock* — Receives a fixed dividend and must be paid before common stock but typically does not have voting rights.

*Prime Borrowers* — Borrowers with high credit scores, sufficient down payments, documented income, and other indicators of low credit risk.

*Protection Buyer* — In a credit default swap, the party that receives payment if a credit event occurs.

*Protection Seller* — In a credit default swap, the party that makes payment if a credit event occurs.

*Receivership* — When an insolvent financial institution is taken over with the intent to liquidate its assets.

*Risk-Based Capital* — An amount of capital a lending institution must keep in reserve based on the riskiness of its assets.

*Securitization* — The process of transforming a flow of funds, typically from a debt, into a new marketable security.

*SEC* — Securities and Exchange Commission.

*Spreads* — The difference between two rates, typically bond yields or interest rates of the same maturity. Wide spreads often indicate lack of market confidence.

*Subprime Borrowers* — Borrowers with low credit scores and/or other indicators of higher credit risk.

*TARP* — Troubled Asset Relief Program, created by P.L. 110-343.