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Testimony

**Statement of
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Federal Responses to Market Turmoil

**before the
Committee on the Budget
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Chairman Spratt, Ranking Member Ryan, and Members of the Committee, thank you for inviting me to testify this morning on the budgetary and economic implications of the recent turmoil in financial markets and the Administration's proposal to address it.

Since August 2007, the Federal Reserve and the Treasury have been attempting to address a series of severe breakdowns in financial markets that emanated from the bursting of the housing bubble, leading to substantial losses on mortgage-related securities and great difficulty in accurately ascertaining the financial condition of the institutions holding such securities. Those problems generated significant increases in risk spreads (or the interest rates charged on risky assets relative to Treasury securities) but, more important, contributed to a broader collapse of confidence, with the result that financial institutions became increasingly unwilling to lend to one another.

Over the past several weeks, the collapse of confidence in financial markets has become particularly severe. Short-term loans between financial institutions have fallen off sharply. Instead, the Treasury and the Federal Reserve have become the financial intermediaries for them. In other words, rather than financial institutions with excess money lending to institutions needing short-term funding, many institutions with excess short-term money have purchased Treasury securities, the Treasury has placed the proceeds on deposit at the Federal Reserve, and the Federal Reserve has then lent the money out to those institutions needing short-run funding.

Thus far, turmoil in the financial markets has had less impact on macroeconomic activity than may have been expected, and, indeed, economic growth was relatively strong in the second quarter of this year—in part because of the stimulus package enacted earlier this year. A modern economy like the United States', however, depends crucially on the functioning of its financial markets to allocate capital, and history suggests that the real economy typically slows some time after a downturn in financial markets. Moreover, ominous signs about credit difficulties are accumulating. The issuance of corporate debt plummeted in the third quarter, and the short-term commercial paper market has also been hit hard. Bank lending, which has thus far remained relatively strong, will undoubtedly be severely curtailed by the difficulties that banks are facing in raising capital. Such a curtailment of credit means that businesses and individuals will find it increasingly difficult to borrow money to carry out their normal activities. In sum, the problems occurring in financial markets raise the possibility of a severe credit crunch, which could have devastating effects on the U.S. and world economies.

To mitigate the risks, the Department of the Treasury has proposed the Troubled Asset Relief Act of 2008, and similar proposals have also been put forward by the Chairman of the House Financial Services Committee and the Chairman of the Senate Banking Committee. In an analysis of these proposals, it is useful to

identify two problems facing financial markets: illiquidity triggered by market panic and the potential insolvency of many financial institutions.

One problem is that the markets for some types of assets and transactions have essentially stopped functioning. To address that problem, the government could conceivably intervene as a “market maker,” by offering to purchase assets through a competitive process and thereby provide a price signal to other market participants. (That type of intervention, if designed carefully to keep the government from overpaying, might not involve any significant subsidy from the government to financial institutions.) The second problem, though, involves the potential insolvency of specific financial institutions. By some estimates, global commercial banks and investment banks may need to raise a minimum of roughly \$150 billion more to cover their losses. As of mid-September 2008, cumulative recognized losses stood at about \$520 billion, while the institutions had raised \$370 billion of additional capital.¹ Restoring solvency to insolvent institutions requires additional capital injections, and one possible source of such capital is the federal government.

Those two problems are related in the sense that it is difficult to know which institutions are insolvent without being able to value the assets they hold (which in turn is impeded by illiquid markets). Undisclosed losses are unlikely to be distributed uniformly throughout the financial system, and the inability to identify which institutions are carrying the largest losses has led to a breakdown of trust in the entire financial sector.² That loss of trust has sharply increased the cost of raising capital and rolling over debt, which threatens the solvency of all financial institutions. Injecting more capital into financial institutions could help to restore liquidity to some financial markets, because, with larger cushions of capital to protect against default, the institutions would be more willing to lend to one another. Another linkage between these two problems could occur if some institutions are unwilling to sell assets at current market prices if that then triggered the recognition of accounting losses; such reluctance to sell can contribute to illiquid markets. With additional equity, those institutions may be more willing to sell at current market prices even if that required recognizing losses.

Although the problems of illiquidity and insolvency are interrelated, they are at least conceptually distinct. Indeed, some policy proposals appear to be aimed

1. Figures are from Bloomberg as of September 22, 2008. For institutions located in the Americas, recognized losses are about \$260 billion, while the amount of additional capital raised to date is \$180 billion, which leaves a gap of about \$80 billion.

2. Anil K. Kashyap, Raghuram G. Rajan, and Jeremy C. Stein, “Rethinking Capital Regulation” (paper presented at the Federal Reserve Bank of Kansas City symposium on “Maintaining Stability in a Changing Financial System, Jackson Hole, Wyo., August 21–23, 2008), available at www.kc.frb.org/publicat/sympos/2008/KashyapRajanStein.09.15.08.pdf.

primarily at the illiquidity of particular asset markets, and others appear to be aimed primarily at the potential insolvency of specific financial institutions.

Most of this testimony examines the Troubled Asset Relief Act of 2008. That act appears to be motivated primarily by concerns about illiquid markets. The more the government overpays for assets purchased under that act, however, the more the proposed program would instead provide a subsidy to specific financial institutions, in a manner that seems unlikely to be an efficient approach to addressing concerns about insolvency.

The Troubled Asset Relief Act of 2008

The Congressional Budget Office (CBO) has reviewed the Troubled Asset Relief Act of 2008, as proposed by the Administration. The act would authorize the Secretary of the Treasury to purchase, hold, and sell a wide variety of financial instruments, particularly those that are based on or related to residential or commercial mortgages issued prior to September 17, 2008. The authority to enter into agreements to purchase such financial instruments, which the proposal refers to as troubled assets, would expire two years after its enactment.

The legislation would appropriate such sums as are necessary, for as many years as necessary, to enable the Secretary to purchase up to \$700 billion of troubled assets at any point during the two-year window of opportunity (though cumulative gross purchases may exceed \$700 billion as previously purchased assets are sold) and to cover all administrative expenses of purchasing, holding, and selling those assets. The federal debt limit would be increased by \$700 billion.

At this time, given the lack of specificity regarding how the program would be implemented and even what asset classes would be purchased, CBO cannot provide a meaningful estimate of the ultimate net cost of the Administration's proposal. The Secretary would have the authority to purchase virtually any asset, at any price, and sell it at any future date; the lack of specificity regarding how that authority would be implemented makes it impossible at this point to provide a quantitative analysis of the net cost to the federal government.

The Budgetary Treatment of the Proposal

The federal cost of the proposal could be reflected in the budget either on a cash basis or on a net-expected-cost basis. The proposal would require that the federal budget display the costs of this new activity under the latter approach, using procedures similar to those contained in the Federal Credit Reform Act (but adjusting for market risk in a manner not reflected in that law). In particular, the federal budget would not record the gross cash outlays associated with purchases of troubled assets but, instead, would reflect the estimated net cost to the government of such purchases (broadly speaking, the purchase cost minus the expected value of any estimated future earnings from holding those assets and the

proceeds from the eventual sale of them). That approach would be similar to the current budgetary treatment of a broad array of loans and loan guarantees made by the federal government, wherein the best measure of the cost to the government reflects not only initial disbursements but also the resulting cash flows in future years.

In CBO's view, that budgetary treatment best reflects the impact of the purchases of financial assets on the federal government's underlying financial condition. The fundamental idea is that if the government buys a security at the going market price, it has exchanged cash for another asset rather than caused a deterioration in its underlying fiscal position.

CBO expects that the Treasury would probably fully use its \$700 billion authority in fiscal year 2009 to purchase various troubled assets. To finance those purchases, the Treasury would have to sell debt to the public. Federal debt held by the public would therefore initially rise by about \$700 billion. Nevertheless, CBO expects that, over time, the net cash disbursements under the program would be substantially less than \$700 billion, because, ultimately, the government would sell the acquired assets and thus generate income that would offset at least much of the initial cost.

Whether those transactions ultimately resulted in a gain or loss to the government would depend on the types of assets purchased, how they were acquired and managed, and when and under what terms they were sold. In addition to the future evolution of the housing prices, interest rates, and other fundamental drivers of asset values, two key forces would influence the net gain or loss on the assets purchased:

- Whether the federal government seeks and is able to succeed in obtaining a fair market price for the assets it purchases and, in particular, whether it can avoid being saddled with the worst credit risks without the purchase price reflecting those risks. Concerns about the government's overpaying are particularly salient when sellers offer assets with varying underlying characteristics that are complicated to evaluate. As discussed further below, such problems are attenuated the more that the government focuses on buying part of a given asset from institutions that all own a share of that asset, rather than buying different assets from different institutions. That is, the government is more likely to pay a fair price when multiple institutions are competing to sell identical assets than when it has to assess competing offers for different assets with hard-to-determine values.
- Whether, because of severe market turmoil, market prices are currently lower than the underlying value of the assets. If current prices reflect "fire sale" prices that can result from severe liquidity constraints and the impairment of credit flows, then taxpayers could possibly benefit along with the institutions selling the assets. Under normal circumstances, prices do not long depart from

their fundamentals because the incentive to engage in arbitrage and profit from price discrepancies is large. But arbitrage practices work less well when liquidity is restrained, as it is now, and many potential arbitrageurs cannot get short-term financing.³ It is therefore at least possible that the prices of some assets are below their fundamental value; in that case, to the extent that the government bought now and held such assets until their market prices recovered to reflect that underlying value, net gains would be possible.

In addition to any net gain or loss on the purchase of \$700 billion or more in assets, the government would also incur significant administrative costs for the proposed program. Those costs would depend on what kinds of assets were purchased. On the basis of the costs incurred by private investment firms that acquire, manage, and sell similar assets, CBO expects that the administrative costs of operating the program could amount to a few billion dollars per year, as long as the government held all or most of the purchased assets

The proposed program could affect other federal programs—including, for example, the operations of Fannie Mae, Freddie Mac, federal housing programs, and deposit insurance. The program's impact on the future costs of other federal programs would depend on what kinds of assets were acquired and from what types of institutions and on how successful the program was in restoring liquidity to the nation's financial markets.

Determining a Purchase Price for Troubled Assets

The legislation would authorize the Secretary to purchase almost any conceivable type of asset related to residential or commercial mortgages, from individual loans to complex insurance products, and possibly other assets not directly related to such mortgages. The Treasury Department has indicated that it would conduct reverse auctions for at least some of the purchases. In a reverse auction, many potential sellers would bid on the price to be accepted by the government, and the lowest bidders would win. Using a reverse auction process in which multiple sellers compete to offer the Treasury the lowest price for a set volume of similar troubled assets would help ensure that the government was paying a fair price for those assets.

In the context of financial assets, a reverse auction works best when (1) different sellers are offering to sell their shares in the *same* asset rather than offering to sell *different* assets and (2) when many sellers participate. When sellers are offering different assets, the lowest bidder may win by offering an asset with particularly risky or poor future prospects, and the price may not reflect the degree to which that specific asset is risky or impaired. Consequently, the federal government could purchase too many risky or impaired assets without enjoying sufficient price discounts. Similarly, if the number of participants in the reverse auction is

3. Andrei Shleifer and Robert W. Vishny, "The Limits to Arbitrage," *Journal of Finance*, vol. 52, no. 1 (1997), pp. 35–55.

unduly limited (either because few institutions own the asset that the government wants to purchase or because few owners choose to participate in the auction), the government could overpay relative to a fair price.

One focus of the Treasury program seems likely to be mortgage-backed securities (MBSs), which are ownership shares in large pools of individual mortgages. Financial institutions own hundreds of thousands of such securities, reflecting more than \$7 trillion in pooled mortgage assets; most of the hard-to-value MBS assets are likely to be in the nearly \$3 trillion not owned or insured by Fannie Mae and Freddie Mac. The Treasury Department has indicated that the reverse auctions for MBS assets might be conducted security by security—that is, there would be a separate “mini-auction” for each tranche of the MBSs.⁴ If those tranches were widely distributed across financial institutions and if the government offered to purchase only a small share of each tranche, the result should be that the government would obtain a fair price for such purchases.⁵

Reverse auctions may not obtain a fair price for the government for many other types of assets the Treasury may seek to purchase. In particular, determining fair market prices using an auction is difficult for assets that are not clearly the same or very similar in quality—that is, when the seller has more information about the quality of the asset than the buyer does. In such cases, each auction participant will offer up assets with unique attributes known only to the seller, thus increasing the likelihood that the government will pay too much. That type of problem is likely to be particularly severe for assets like individual home mortgages or esoteric derivative products entirely owned by specific financial institutions.⁶ Substantial purchases of such assets would make it unlikely that the Treasury could operate the proposed new program at little or no net cost.

In other words, the more that the Treasury program concentrates on assets that are difficult for a buyer to value, the more likely that the government will overpay. The more that occurs, the more the program moves beyond simply reestablishing trading in illiquid financial markets and instead subsidizes the particular financial institutions selling assets to the government, at a cost to taxpayers.

4. Rights to the income from the pool of mortgages are divided up into slices, or tranches. The senior tranches will get paid under almost all circumstances; the most junior tranches will take the first risk of loss of income from defaults on the underlying mortgages. Each tranche is identified by a standard CUSIP (Committee on Uniform Security Identification Procedure) number like any other publicly traded security. Pieces of each tranche are likely to be held by many institutions, some troubled, some not.

5. For further discussion of efficient auction designs, see Lawrence M. Ausubel and Peter Cramton, “Auction Design Matters for Rescue Plan.”

6. Such problems could be attenuated by requiring that private capital pools run by the asset managers hired by the government under the program participate in some share of each purchase made by the government.

Financial Market and Other Effects of the Proposal

The Treasury's proposal is aimed at stabilizing financial markets and the economy by providing liquidity to support credit flows. One reason that credit markets have seized up is the uncertainty about who holds impaired assets and what they are worth, especially those related to mortgages. The underlying losses on those assets reflect the decline in home prices, but the mortgage loans have been repackaged as MBSs and then again into more complex securities such as collateralized debt obligations and credit default swaps that have spread the risk across many financial markets.

The proposal would allow the Treasury to buy up those assets regardless of the form in which they are held. The core problem, though, has moved beyond the mortgage markets and has become a broader collapse of confidence in financial markets. It therefore remains uncertain whether the program will be sufficient to restore trust, especially if the program is limited to the asset classes in which the government is least likely to overpay for its purchases.

At the same time, intervention on a massive scale is not without risks to taxpayers and to the economy.⁷ Almost by definition, the intervention cannot solve insolvency problems without shifting costs to the taxpayers. Ironically, the intervention could even trigger additional failures of large institutions, because some institutions may be carrying troubled assets on their books at inflated values. Establishing clearer prices might reveal those institutions to be insolvent. (To the extent such insolvencies were revealed, the net effect might not be deleterious. Providing more transparency about the lack of solvency at specific institutions may be necessary to restore trust in the financial system.)

More broadly, there is an inherent tension between minimizing the costs to taxpayers and pursuing other policy goals. For example, as the manager of troubled mortgage assets, the government would be likely to come under intense pressure to avoid foreclosures or to take other steps to pursue goals for low- and moderate-income housing through activities that would not be subject to the constraints of the normal budget process. Those objectives may benefit specific homeowners, at the expense of taxpayers as a whole.

Alternatives to the Treasury's Proposal

Some analysts, in assessing the Treasury's proposal, have pointed out that other recent actions by the Federal Reserve and the Treasury have given taxpayers significantly more upside in the form of equity stakes in the companies that receive assistance. Those actions have been aimed at supporting particular troubled institutions, rather than at enhancing the liquidity of the financial markets. Under some alternative proposals, the government would receive shares

7. Douglas W. Elmendorf, *Concerns About the Treasury Rescue Plan* (September 19, 2008), available at www.brookings.edu/opinion/2008/0919_treasury-plan-elmendorf.aspx.

in an institution if it ultimately lost money on the sale of assets purchased from the institution. That approach would reduce the risk of overpaying for securities if the seller had more information about the value of those securities than the Treasury did. However, institutions that gave up equity would presumably expect to receive higher prices for their assets, and an equity stake in the firms might not offer any better upside to taxpayers than direct purchases of the assets on a risk-adjusted basis. Furthermore, healthy institutions might be deterred from participating, which could make it more likely that the federal government would overpay for assets by limiting the potential number of sellers—and the potential dilution for existing shareholders if asset prices declined in the future might make it challenging for financial institutions that issued such equity to the government to raise private capital in the future.

An alternative approach that is more directly aimed at addressing insolvency concerns is for the government to invest directly in financial institutions to strengthen their capital positions, without directly purchasing troubled assets. The injections could take the form of preferred stock, which would effectively lower the cost of new capital for the institutions. Such proposals could be modeled along the lines of the Reconstruction Finance Corporation, a Depression-era institution.

A number of twists to that approach have been offered. Some versions require that the institutions match the injection with new private funds in the form of common stock. In addition, some require that the underwriting risk associated with raising new capital be mutualized by the group of participating institutions acting as a syndicate. The syndicate would be responsible for at least half of the underwriting burden, which would give it an incentive to limit membership to solvent institutions only. Participating banks might also be required to suspend dividends, which would increase their retained earnings and thus add directly to capital. (Although institutions can always cut their dividends, doing so usually sends a bad signal to financial markets. A requirement could dilute the effect of that bad signal.)

Such proposals have some advantages:⁸

- They provide some upside to taxpayers in the form of dividends and capital gains on preferred stock. Under some proposals, the payments of dividends to the government would be deferred.
- They avoid the challenge of pricing and then selling individual assets (although they raise the issue of how to price the equity shares the government offers to purchase).
- They avoid rewarding the firms that have made the worst investment decisions.

8. Ibid.

- They keep the government as a minority shareholder. The firms' managers would continue to run the firms on a profit-maximizing basis, thereby mitigating the risks of the government using its equity positions to pursue a range of public policy goals.
- They could impose losses on shareholders and changes in management.

Such plans have some disadvantages though:

- They fail to address directly the illiquidity problems for some assets and the associated uncertainty.
- The assistance may not be targeted to the institutions most in need of help, and the firms that most need capital may be most reluctant to take it.
- The approach could inject additional funds into institutions whose business model is no longer viable. Past experience suggests that extending the operations of insolvent institutions may increase the ultimate cost to taxpayers.
- The proposals raise difficult questions about eligibility criteria. For example, would finance companies that are part of large diversified holding companies be eligible?