



EXECUTIVE OFFICE OF THE PRESIDENT  
OFFICE OF MANAGEMENT AND BUDGET  
WASHINGTON, D.C. 20503

THE DIRECTOR

December 5, 2008

The Honorable Nancy Pelosi  
Speaker of the House of Representatives  
Washington, D.C. 20515

Dear Madam Speaker:

Enclosed and as transmitted to the President of the United States is the Office of Management and Budget's (OMB) first report of the estimated cost of assets purchased under the Emergency Economic Stabilization Act of 2008 (EESA), as required by section 202.

OMB is required to submit this report to the President and the Congress no later than sixty days after the first exercise of authorities granted under Section 101(a) of EESA, and semiannually thereafter. Consistent with the requirement to analyze transactions up to thirty days before publication, this report analyzes the cost of transactions completed by November 6, 2008.

OMB will continue to work closely with the Department of the Treasury to consider the budgetary impacts of this important program.

Sincerely

*for* Jim Nussle  
Director

Enclosure

Identical Letter Sent to the President of the Senate

## **OMB Report under the Emergency Economic Stabilization Act, Section 202**

The Emergency Economic Stabilization Act of 2008 (Pub. L. 110-343) authorizes the Department of the Treasury to purchase and insure certain types of troubled assets for the purposes of restoring liquidity and stability to the financial system of the United States. Section 202 of the Act requires the Office of Management and Budget (OMB) to report the estimated cost of assets purchased and guarantees issued pursuant to the Act. OMB is required to submit the report no later than sixty days after the first exercise of authorities granted under Section 101(a) of the Act, October 6, 2008.<sup>1</sup> Consistent with the requirement to analyze transactions up to thirty days before publication, this report analyzes transactions through November 6, 2008.

### **Purchases**

As of November 6, 2008, Treasury had purchased \$115 billion in preferred stock and warrants for future purchases of common stock from eight financial institutions, as outlined in Treasury's first transaction and tranche reports on the Capital Purchase Program. The preferred stock is senior to common stock and pays a dividend at an annual rate of 5 percent during the first five years and 9 percent after five years. The stock is an equity transaction and therefore has no stated maturity, but the institution issuing the preferred stock can redeem the shares under certain terms. As of November 6, Treasury also had made a commitment to purchase \$10 billion in preferred stock from a ninth institution. Treasury had not issued any guarantees of troubled assets.

### **Cash Flows and Impact on the Deficit and Debt**

Section 123 of the Emergency Economic Stabilization Act (EESA) states that the cost of Treasury purchases under the Troubled Asset Relief Program (TARP) are to be estimated under the Federal Credit Reform Act (FCRA) of 1990 (2 USC 661 et seq), with discount rates adjusted for market risks. FCRA requires accrual budgeting only for "direct loans" or "loan guarantees," as defined in FCRA. As of the writing of this report, Treasury's Capital Purchase Program has made equity-- not loan--purchases, and has not issued guarantees, and thus the cash flows are reflected on a cash basis and not on an accrual basis. Table 1 displays the estimated impact of these purchases on the deficit and Federal debt as of the writing of this report:

Table 1: Capital Purchase Program

| (billions of dollars)*  | 2009  | 2010 | 2011 | 2012  | 2013  | 2014  | 2015  | 2016 | 2017 | 2018 | 2009-2018 |
|---|-------|------|------|-------|-------|-------|-------|------|------|------|-----------|
| Disbursements   | 115.0 |      |      |       |       |       |       |      |      |      | 115.0     |
| Stock Dividends, Expected Redemptions, and Exercised Warrants | -3.9  | -7.0 | -6.5 | -20.2 | -19.3 | -16.4 | -10.4 | -9.5 | -8.3 | -8.8 | -110.4    |
| Net Outlays   | 111.1 | -7.0 | -6.5 | -20.2 | -19.3 | -16.4 | -10.4 | -9.5 | -8.3 | -8.8 | 4.6       |

\*Components may not sum to totals due to rounding.

The table shows an initial disbursement of \$115 billion in 2009 to purchase preferred stock. As stated above, this amount corresponds to purchases made prior to November 6, 2008. The table

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<sup>1</sup> The appointment of Assistant Secretary of Financial Stability, Neel Kashkari (interim) on October 6, 2008, by the Department of the Treasury (Treasury) was the first exercise of authority under the Emergency Economic Stabilization Act.

also includes the sum of estimated dividend payments that Treasury will receive, estimated redemptions that will occur each year, and estimated net proceeds from the exercise or sale of warrants, based on the initial disbursement of \$115 billion dollars. The table shows that redemptions are predicted to increase in 2012 through 2015, when the incentives are greater for financial institutions to redeem shares, including the fact that the dividend rate on the shares will increase from 5 percent to 9 percent after five years. It also shows that Treasury is expected to recover nearly all of the \$115 billion in disbursed funds in the first ten years of the program.

See the Alternative Valuation section of this report for an analysis of the cost of the Capital Purchase Program using the net present value of the expected cash flows.

### **Method for Estimating the Cash Flows of Preferred Stock**

Cash flows to and from the government occur when the preferred stock is purchased, when the government receives dividend payments, and when the preferred stock is redeemed (“called”) by the financial institution or sold by Treasury. OMB developed an analytical model to project these cash flows on an annual basis, incorporating the following risks underlying the cash flows:

- **Credit risk** - the risk that closure or failure of the institution will forestall the payment of principal (or value of stock sales or redemptions) and dividends to the Treasury. OMB takes this risk into consideration by factoring in the strength of the issuing firm, as evidenced by its market value.
- **Call risk** - the risk that the financial institution will buy back the preferred stock in scenarios where it is relatively cheaper for the institution to get financing in the open market, when market interest rates are low and therefore the returns on these securities are more valuable to the Treasury, and not buy it back in scenarios where it is not. Call risk derives primarily from uncertainty about Treasury rates and about future levels of credit risk.
- **Dividend Curtailment Risk** - the risk that the institution will stop paying dividends. The terms of the preferred shares prohibit the institution from paying dividends to common stock holders unless they pay dividends on the preferred stock, but companies can forgo dividends on all types of equity including the preferred stock.<sup>2</sup> OMB takes this risk into consideration by factoring the strength of the issuing firm in its cash flow projections.

The model is probabilistic, meaning that it projects cash flows under a number of different scenarios and then weights the likelihood of the different scenarios to obtain the annual expected cash flow of the investment.

The model estimates how cash flows vary depending on 1) current interest rates that affect the call decision; and 2) the strength of a financial institution’s assets and net equity position that

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<sup>2</sup> For banks that are subsidiaries of bank holding companies (BHCs), dividends on the preferred stock are cumulative, meaning that a bank would need to pay the accumulated amount of all unpaid dividends on preferred stock before recommencing payment of dividends to common stock holders. For banks that are not subsidiaries of BHCs, dividends are non-cumulative, meaning that the bank would not need to make up past unpaid dividends before recommencing payment of dividends to common stock holders. The risk of dividend curtailment is substantially mitigated for cumulative preferred stock, although it still leads to a reduction in net present value due to the time value of money, and a higher exposure in the case of bank closure.

affect dividend curtailment or possible failure (credit risk).<sup>3</sup> The component of the model used to determine the effect of interest rates builds on models used for other government programs with interest rate risk exposure such as Federally guaranteed student loan programs. The component of the model used to determine the effect of the financial institutions' strength is based on the model used to project bank failures in the context of Federal bank deposit insurance.

In each of multiple scenarios, the model calculates the optimal call decision for each bank, the estimated dividends received by the Government, and the probability of each scenario. The result is the expected likely cash flows to the government from the preferred stock purchases.

### **Method for Estimating the Cash Flows of Warrants**

While the call option of the preferred stock benefits the institution, the warrants for common stock that Treasury received as part of the transaction benefit Treasury. OMB values and projects the cash flows of the warrants using a commonly applied option-pricing approach based on the current stock price and its volatility. By using the same volatility parameters as used for the preferred stock model, the model maximizes consistency between the estimates of the downside risks associated with the preferred stock and the upside potential associated with the warrants.

### **Alternative Valuation**

Although OMB is reflecting the equity purchases on a cash-basis, this report also shows the cost of the preferred stock purchases under the Capital Purchase Program using the net present value (NPV) of the expected cash flows.<sup>4</sup>

NPV is calculated under two alternative discount rates. The first alternative discounts the expected cash flows using current Treasury yields as of the time of preparing this report, which reflect the government's cost of borrowing. The single effective discount rate for these purchases is 3.84 percent.<sup>5</sup> The second alternative view of the cost of TARP purchases uses a market-risk adjusted rate, as outlined in Section 123 of EESA. It reflects the higher rate of return that private investors would demand to compensate for the risk that future cash flows may be lower than expected due to higher than expected default rates. The single effective discount rate with the market risk adjustments is estimated to be 8.79 percent.<sup>6</sup>

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<sup>3</sup> Short-term risk-free interest rates are based on current Treasury yields. A firm's financial strength and ability to make dividend payments is estimated using a ratio of market value of the firm's total assets (current market capitalization plus total liabilities) divided by total liabilities (as recorded in the most recently available financial statement). The estimate of the strength of a firm's financial position factors in stock price volatility in its calculation.

<sup>4</sup> While the term of the preferred stock is perpetual life, the projected cash flows are truncated at thirty years for the NPV calculations.

<sup>5</sup> A single effective discount rate is a weighted average of the rates used to discount the cash flows over multiple periods. Under FCRA, for example, cash flows are discounted using a "basket of zeros" approach where each period's cash flow is discounted using the yield of a Treasury zero-coupon bond of a similar maturity. The single effective discount rate is the one discount rate that generates the same subsidy cost as the basket of zeros.

<sup>6</sup> It should be noted that these discount rates are based on a snapshot of current Treasury rates as of the time of preparing this report, and are not the rates that would be used to value preferred stock purchases if they were evaluated under FCRA. Under FCRA, the discount rates for credit transactions executed in fiscal year 2009 are based on the economic assumptions used to prepare the 2009 Budget, released in February 2008.

Table 2 shows the estimated cost of the preferred stock and warrants:

Table 2: Estimated Cost of Equity Purchases

| (billions of dollars)*           | NPV at the USG's<br>cost of borrowing | NPV with risk<br>adjustments |
|----------------------------------|---------------------------------------|------------------------------|
| Expenditure                      | 115.0                                 | 115.0                        |
| Present Value of Preferred Stock | (115.7)                               | (81.9)                       |
| Present Value of Warrants        | (11.8)                                | (7.6)                        |
| Net Cost (Gain)                  | (12.6)                                | 25.5                         |

\*Components may not total due to rounding.

This table shows that under the first alternative (calculating NPV at the Government's cost of borrowing), the estimated value of the preferred stock and warrants represents a net gain of \$12.6 billion or 11 percent of the initial disbursement. This means that Treasury is estimated to receive on average a rate of return on its investment that exceeds the Government's cost of borrowing, reflecting an estimated overall net gain to the Government in an average scenario. Under the second alternative (calculating NPV with adjustments for market risk), the estimated value of the preferred stock represents a net loss of \$25.5 billion or 22 percent of the initial disbursement. This means that the estimated average return on Treasury's investment will not equal what a typical private investor would demand for an investment facing similar risks given the private investor has a higher cost of borrowing. Thus, the return on the investments would represent a net loss compared with what would typically be demanded by a private investor.

### **Future OMB Reports**

Section 202 of the Emergency Economic Stabilization Act requires OMB to submit a recurring report at least semi-annually. OMB may satisfy this requirement in 2009 and future years through reporting in the Budget and Mid-Session Review.