



Congressional Oversight Panel

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JULY OVERSIGHT REPORT*

TARP Repayments, Including the Repurchase of
Stock Warrants

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Stabilization Act of 2008, Pub. L. No. 110-343

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Executive Summary*

In late 2008, our economy faced an exceptional crisis, and Congress created the Troubled Asset Relief Program (TARP) in an effort to stabilize the financial system. Through the TARP, taxpayers invested billions of dollars in the nation's financial institutions.

These actions imposed an enormous risk on taxpayers. If the TARP failed to stabilize the financial system, the entire economy could collapse. Even if the system stabilized after huge infusions of taxpayer funds, if some institutions were unable to recover taxpayers could be paying the debts for generations. While these risks were looming, then-Treasury Secretary Henry Paulson argued that TARP assistance could be used to rescue the economy and generate a profit for taxpayers. When Congress authorized the commitment of \$700 billion to rescue the financial system, it decided that taxpayers should have the opportunity to share in a potential upside if the banks returned to profitability.

The opportunity to profit from TARP investments comes through special securities called warrants. Banks that received financial assistance were required to give the government warrants for the future purchase of some of their common shares. Simply put, warrants are the right to buy shares of a company at a set price at some point in the future. For example, a warrant might allow Treasury to buy shares of a bank for ten dollars at any time in the next ten years. If the share price rises above ten dollars, Treasury could pay less than market value for the shares, then sell them and turn a profit. In this way, the banks were repaying the taxpayers for their investment by sharing some of their future profitability.

Currently many banks want to exit the TARP program by repaying their financial assistance and repurchasing their warrants from Treasury. Treasury is permitting ten of the nation's largest bank holding companies – representing more than one third of the nation's banking assets – to repay the financial assistance they received eight months ago. Any exit from the TARP system implicates an important policy question: if the banks give up federal support prematurely, will the economy suffer as a result? The Panel has not reached a consensus on whether it is wise policy to release banks from the TARP program at this time, but our June report on the bank stress tests raised key questions about whether we know enough about the banks' overall health.

As Treasury makes these decisions about repayment, it is the Panel's mandate to determine whether the taxpayer is receiving maximum benefit from the TARP. Because the warrants that accompanied TARP assistance represent the only opportunity for the taxpayer to participate directly in the increase in the share prices of banks made possible by public money, the price at which the warrants are sold is critical. To determine whether Treasury is valuing the warrants in a way that maximizes the taxpayers' investments in the financial institutions, it is necessary to determine how much the warrants are worth.

The Panel uses the most widely-accepted mathematical model, presenting a detailed technical valuation of the warrants Treasury holds. The assumptions employed in the use of any model are crucial, and the report offers a range of estimates based on high, low and best estimate assumptions for certain key variables. The Panel was aided in its valuation efforts by three renowned finance experts, Professor Robert Merton, Professor Daniel Bergstresser, and Professor Victoria Ivashina, all of the Harvard Business School. The professors reviewed both the technical valuation model and the assumptions that were built into the model; they concluded that the approaches reported here were reasonable and that they produced reliable estimates.

Eleven small banks have repurchased their warrants from Treasury for a total amount that the Panel estimates to be only 66 percent of its best estimate of their value. If the warrants had been sold for their market value, taxpayers would have recovered \$10 million more.

Treasury has to date sold warrants only from smaller banks. In those sales, liquidity discounts are likely to be a major factor in a way that they are not likely to be for large publicly-traded institutions. If, however, liquidity discounts or any other rationales are accepted as a reason for taking only 66 percent of market value for the full group of warrants Treasury holds, the shortfall to taxpayers could be as much as \$2.7 billion.

It is possible that policymakers may conclude that other objectives should override the goal of maximizing taxpayer returns. For example, Treasury has said that it wants to allow banks to operate again without TARP assistance as soon as they are strong enough to do so.

Because warrant valuation is a difficult task, the Panel explores the possibility that Treasury should leave it to the markets by selling the warrants in an open, public auction. This has the benefit of stopping any speculation about whether Treasury has been too tough or too easy on the banks that want to repurchase their own warrants. It also permits the banks to bid for their own warrants – in direct competition with outsiders.

The report describes key provisions in the Treasury contracts with the banks and statutory provisions that govern warrant purchases. The Panel notes that Treasury is constrained in some ways by the provisions of the contracts governing the TARP investments in the banks.

It should be noted that Treasury is just beginning its warrant repurchase program. Banks have bought back only a fraction of one percent of all warrants issued, and the prices paid thus far may not be representative of what is to come. As always, it is critical that Treasury make the process – the reason for its decisions, the way it arrives at its figures, and the exit strategy from or future use of the TARP – absolutely transparent. If it fails to do so, the credibility of the decisions it makes and its stewardship of the TARP will be in jeopardy.

Section One:

Ten of the nation's largest financial institutions, and some smaller institutions, have repaid the amounts they received under the TARP by redeeming the preferred shares Treasury received when the assistance was provided. Their redemption of the preferred shares entitles them to buy back the warrants to purchase their common shares that Treasury also received at that time.

The preferred shares and pending warrant repayments raise important questions about the TARP:

- the extent to which repayment of TARP assistance is yet appropriate, and if so, on what terms and timing, in light of the still uncertain economic recovery;
- the appropriate circumstances for repayment;
- the extent to which the relationship between the strength of individual institutions and the strength of the financial system should govern timing of repayment;
- the price at which Treasury should dispose of the warrants it holds, and the way it should do so;
- the statutory and contractual obligations that affect Treasury's ability to set a price for warrant repurchase;
- the fair market value of the warrants; and
- the policy considerations that should govern the price that Treasury accepts for its warrants.

In its past reports, the Panel examined questions about the policy, strategy and execution of the TARP's approach to bank assistance. This report begins an effort to evaluate the details of the exit strategy from the TARP that are emerging from the actions Treasury and the Federal Reserve Board are now taking.

In doing so, the Panel recognizes that repayment of TARP assistance and disposition of TARP warrants raise different, albeit related, issues. The former is the foundation of the government strategy for stabilizing the nation's financial system. The warrants represent only 15 percent of the value of Treasury's investment in the banks that have received assistance (at the time of that investment). But Congress required institutions receiving TARP assistance to issue the warrants to permit the public to share in the increase in share values that investment of billions of dollars of the public's money made possible. Thus examination of issues relating to

both repayment and warrants can shed light on Treasury's objectives and strategy during what appears to be a critical phase in the implementation of the TARP.

A. Background

Between October 14, 2008 and June 26, 2009, Treasury injected more than \$240 billion into over 600 of the nation's bank holding companies (BHCs) and independent banking institutions through the TARP in exchange for preferred shares and warrants to buy common shares of each institution involved.¹ These capital injections appear to have contributed to stabilizing, or at least softening, last year's severe downturn in the U.S. financial system, although as the Panel has noted elsewhere, it is not entirely clear what positive effects TARP assistance has had on the availability or terms of credit.²

During the winter and spring of this year, the Federal Reserve Board oversaw the Supervisory Capital Assessment Program (the "stress tests" or "SCAP") that was the subject of the Panel's June report.³ The stress tests' results, released on May 7, 2009, determined that ten of the nation's nineteen largest BHCs must raise an additional capital buffer totaling \$74.6 billion in all, to meet capital requirements that the Federal Reserve Board has set in light of current economic conditions.⁴

On June 17, ten of the nation's largest BHCs repaid the TARP capital infusions they received eight months ago, spending a total of \$68.2 billion to redeem their preferred shares from Treasury (with the approval of Treasury and the Federal Reserve Board). The institutions, and amounts repaid, included: JPMorgan Chase (\$25 billion), Morgan Stanley (\$10 billion), Goldman Sachs (\$10 billion), US Bancorp (\$6.6 billion), Capital One Financial (\$3.5 billion), American Express (\$3.4 billion), BB&T (\$3.1 billion), Bank of New York Mellon (\$3 billion), State Street (\$2 billion), and Northern Trust (\$1.6 billion). In addition, as of July 2, 2009, repayments have been made by 22 small and private banks, for a total of \$1.9 billion. All told,

¹ U.S. Department of the Treasury, *TARP Transactions Report for the Period Ending June 30, 2009* (July 2, 2009) (online at www.financialstability.gov/docs/transaction-reports/transactions-report_070209.pdf) (hereinafter "July 2 TARP Transactions Report"). The injections were part of Treasury's Capital Purchase Program (the "CPP"), except for two \$20 billion transactions that were part of Treasury's Targeted Investment Program (the "TIP").

² See Congressional Oversight Panel, *April Oversight Report: Assessing Treasury's Strategy: Six Months of TARP* at 27-35 (April 7, 2009) (online at cop.senate.gov/documents/cop-040709-report.pdf) (hereinafter "Panel April Report"); Congressional Oversight Panel, *May Oversight Report: Reviving Lending to Small Businesses and Families and the Impact of the TALF* (May 7, 2009) (online at cop.senate.gov/documents/cop-050709-report.pdf) (hereinafter "Panel May Report"); Congressional Oversight Panel, *June Oversight Report: Stress Testing and Shoring Up Bank Capital* at 135-139 (June 9, 2009) (online at cop.senate.gov/documents/cop-060909-report.pdf) (hereinafter "Panel June Report").

³ *Id.*, at 6-56.

⁴ Board of Governors of the Federal Reserve System, *The Supervisory Capital Assessment Program: Overview of Results* (May 7, 2009) (online at <http://www.federalreserve.gov/newsevents/press/bcreg/bcreg20090507a1.pdf>).

\$70.2 billion in Capital Purchase Program (CPP) assistance has been repaid. The systemic risks posed by BHCs with \$100 billion or more in assets are different than those posed by other BHCs or smaller community banks, but the issues raised in this report – the relationship of the return of capital assistance to the size and health of a bank, the policies that should govern approval of return of assistance, and the value of the warrants held by Treasury in the bank, apply equally to both.

In May 2009, Treasury issued “FAQs on Capital Purchase Program Repayment,” which included a general statement of the policy used in determining whether to approve TARP repayments; on June 1, 2009, the Federal Reserve Board issued more detailed guidelines on the criteria for approval for the stress-tested BHCs.⁵

B. Understanding Warrants

A warrant is a security that permits the holder to buy a specified number of common shares (the “underlying” shares) at a specified price (the “strike price”) on or before a specified date (the “expiration”). With a couple of technical caveats,⁶ warrants can be considered a form of call option and are often issued as “sweeteners” with fixed-income securities, such as preferred shares or debt (much like employee stock options are used to enhance compensation packages). When warrants are issued, their strike price is usually set above the current share price; they generally have no value if exercised immediately because the holder could immediately buy shares on an exchange at a lower price. However, warrants may be traded on public or private markets, and they can be highly valued by investors who believe the share price of the issuing company is likely to rise above the strike price. Typically, prospective warrant investors will use mathematical models to calculate the value of warrants based on the probability of the share price rising above the warrant’s strike price.

When a holder exercises its rights under a warrants agreement, the company must issue new common shares. This necessarily has the effect of reducing the percentage of the company owned by existing shareholders (known as “dilution”). The prospect of potential dilution means that the issuance of warrants tends to depress the trading price of the common shares to some extent.⁷

⁵ See *infra* note 25.

⁶ Including a warrant’s potential dilutive effect and its balance sheet treatment, discussed *infra*.

⁷ Such price declines reflect the potential for each share of common stock to represent less ownership control. Stock exchange rules temper the impact of this dilution by requiring shareholder votes in the event that the proposed issuance would increase the outstanding number of shares by more than 20 percent. See New York Stock Exchange, *Listed Company Manual* § 312.03(c)(1); NASDAQ Stock Market, *Equity Rules* § 5635(a)(1)(A).

When warrants are issued in conjunction with other securities, as in the CPP, and valued and traded separately from the preferred shares (i.e., they are “detachable”),⁸ the issuer allocates a corresponding value as paid-in capital on its balance sheet.⁹ This value is based on the fair value of the securities relative to the fair value of the warrants at the time of issuance and does not change in subsequent financial statements.¹⁰

When a company offers or sells securities, the transaction must be registered with the SEC under the Securities Act of 1933,¹¹ unless the transaction is exempt from registration. Private sales, such as the CPP transactions with Treasury, are exempt from registration. However, if the original holder wishes to have the ability to sell the warrants into the public markets (which is permitted in the case of the CPP warrants) the issuer must have agreed to register the public resale of the warrants.¹²

C. Statutory and Contractual Provisions Governing Repurchase and Warrants under TARP

The Emergency Economic Stabilization Act of 2008 (EESA) authorizes Treasury to purchase financial instruments.¹³ Through the CPP and Targeted Investment Program (TIP), Treasury bought \$203.2 billion and \$40 billion, respectively, of preferred shares from financial institutions. Preferred shares entitle the holder to a fixed rate of dividend, and in that respect function somewhat like a loan to the institution. EESA also requires that any such purchase of financial instruments from financial institutions must be accompanied by the issuance to Treasury of warrants to purchase common shares of the institution, so that taxpayers can benefit

⁸ Financial Accounting Standards Board, *Accounting for Derivative Instruments and Hedging Activities*, 12, 16 (FAS No. 133) (June 1998) (as amended by FAS No. 155).

⁹ Letter from James Kroeker, Securities and Exchange Commission, and Russell Golden, Financial Accounting Standards Board, to Assistant Secretary David G. Nason, U.S. Department of the Treasury (Oct. 24, 2008) (online at financialstability.gov/docs/PPP/secfasbletter.pdf).

¹⁰ When the warrants are exercised, the value allocated to the warrants is removed from the “stock warrants outstanding” account and, together with the cash received on exercise, credited to the stock account for par or stated value, with any excess over the par value being credited to the “additional paid-in capital” account. When warrants are reacquired, the amount paid in excess of the amount assigned to warrants at issuance is charged to retained earnings. If warrants are reacquired at a price less than the amount originally assigned to them, the difference is credited to additional paid-in capital.

¹¹ Securities Act of 1933, Pub. L. No. 73-22, § 5 (codified at 15 U.S.C. § 77(a) et seq.).

¹² Securities Purchase Agreement, *infra* note 15 at § 4.5(p).

¹³ Emergency Economic Stabilization Act of 2008, Pub. L. No. 110-343 (online at frwebgate.access.gpo.gov/cgi-bin/getdoc.cgi?dbname=110_cong_bills&docid=f:h1424enr.txt.pdf) (codified at 12 U.S.C. § 5201 et seq.) (hereinafter “EESA”), as amended by Pub. L. No. 111-5, § 7001 and Pub. L. No. 111-22, § 403.

from a rise in the price of the institution’s shares, presumably reflecting the value of the assistance Treasury has provided.¹⁴

The terms of the preferred shares and the warrants are governed both by statute and by individual contracts with each institution receiving assistance. Each bank’s agreement with Treasury includes a Securities Purchase Agreement (SPA) and a Form of Warrant to Purchase Common Stock (Form of Warrant), which are attached to a Letter Agreement.¹⁵ These documents set out the detailed terms of each security.

The statute, the contracts, and Treasury policy interact to shape the terms of the preferred shares and warrants, including terms relating to their redemption or repurchase. The statutory provision regarding repurchases has been amended twice since EESA was enacted. As discussed in more detail below, initially the repayment of preferred shares and warrants was made somewhat difficult for banks. EESA was then amended to allow a bank to repay with the approval of its supervisor, and to mandate that Treasury liquidate the warrants on redemption of the preferred shares.¹⁶ In May 2009, EESA was further amended to provide Treasury with discretion as to whether to hold or liquidate the warrants upon a bank’s redemption of the preferred shares. Because the contracts were entered into under the original statutory regime, Treasury has needed to adapt to the amendments. It has done so through both its policy and changes to the contracts. The end result, as described in this section, is a process created by a combination of the statute, contract, and policy. Under this process, a bank may redeem its preferred shares only with the approval of its supervisor, as required by EESA, after which it may repurchase its warrants at a price determined by a specific valuation procedure, as required by the contracts.

1. Preferred Shares

a. Terms of Preferred Shares

¹⁴ EESA, *supra* note 13 § 113(d)(2)(a) (codified at 12 U.S.C. § 5223(d)(2)(A)) (“[The] terms and conditions of any warrant . . . shall . . . at a minimum, be designed . . . to provide for reasonable participation by the Secretary, for the benefit of taxpayers, in equity appreciation in the case of a warrant or other equity security . . . and to provide additional protection for the taxpayer against losses from sale of assets by the Secretary under [EESA] and the administration expenses of the TARP.”); EESA, *supra* note 13, § 113(d)(1) (codified at 12 U.S.C. § 5223(d)(1)) (providing that the warrants may be to purchase either nonvoting common stock, common stock with respect to which Treasury agrees not to exercise voting power, or preferred shares of any institution from which Treasury purchases financial instruments. If the institution involved is privately-held, the warrant may be “for common or preferred stock or a senior debt institution from such institution.”).

¹⁵ The terms of these documents vary somewhat by institution type – public, private, S-corporation, mutual holding company, or mutual bank – but are substantially similar. *See, e.g.*, U.S. Department of the Treasury, *Securities Purchase Agreement: Standard Terms* (online at www.financialstability.gov/docs/PPP/spa.pdf) (hereinafter “Securities Purchase Agreement”); U.S. Department of the Treasury, *Form of Warrant to Purchase Common Stock* (online at www.financialstability.gov/docs/PPP/warrant.pdf) (hereinafter “Form of Warrant”).

¹⁶ *See infra* notes 23 and text accompanying note 44; Section One Part C(2) of this report.

The CPP preferred shares pay cumulative¹⁷ dividends of five percent per year for the first five years of the program.¹⁸ They are senior to the institution's common shares, have an equal preference to existing preferred shares, and are non-voting.¹⁹

b. Redemption of Preferred Shares

In the same way that loans are repaid, preferred shares are “redeemed” by the institution paying back the “liquidation” amount of the shares, equivalent to the principal amount of a loan.²⁰ There are both statutory and contractual provisions that govern when and how this happens.

i. Timing. EESA, as amended, sets requirements for the timing of redemption of these investments. Originally, under the SPAs, BHCs were not permitted to repay TARP funds within the first three years unless they had completed a qualified equity offering (QEO) of at least 25 percent of the issue price.²¹ A QEO is a sale before 2010 of shares that qualify as tier 1 capital that raises an amount of cash equal to the value of the preferred shares issued to Treasury.²² The American Recovery and Reinvestment Act of 2009 (ARRA) amended EESA, adding section 111(g), which now provides that, “subject to consultation with the appropriate federal banking agency [Treasury] shall permit a TARP recipient to repay [CPP preferred] without regard to whether the financial institution has replaced such funds from any other source or to any waiting period....”²³

¹⁷ A bank that is not a subsidiary of a holding company pays non-cumulative dividends at the same rates. U.S. Department of the Treasury, *TARP Capital Purchase Program Senior Preferred Stock and Warrants Summary of Senior Preferred Terms* (online at www.treas.gov/press/releases/reports/document5hp1207.pdf) (hereinafter “CPP Term Sheet”).

¹⁸ In the sixth year, the dividends are raised to 9 percent. U.S. Department of the Treasury, *Factsheet on Capital Purchase Program* (Mar. 17, 2009) (online at www.financialstability.gov/roadtostability/CP Pfactsheet.htm) (hereinafter “CPP Factsheet”).

¹⁹ The preferred stock do have “class voting rights on (i) any authorization or issuance of shares ranking senior to the Senior Preferred, (ii) any amendment to the rights of Senior Preferred, or (iii) any merger, exchange or similar transaction.” CPP Term Sheet, *supra* note 17. In addition, “[i]f dividends on the Senior Preferred are not paid in full for six dividend periods, whether or not consecutive, the Senior Preferred will have the right to elect 2 directors. The right to elect directors will end when full dividends have been paid for four consecutive dividend periods.” CPP Term Sheet, *supra* note 17.

²⁰ In transactions of preferred shares generally, the amount paid for preferred shares is not always equal to their liquidation amount.

²¹ If the bank did such a qualified equity offering, it could redeem up to the amount of the proceeds that it had received in the qualified equity offering. CPP Term Sheet, *supra* note 17.

²² Securities Purchase Agreement, *supra* note 15, § 4.4.

²³ American Recovery and Reinvestment Act of 2009 (ARRA), Pub. L. 111-5, § 7001 (online at frwebgate.access.gpo.gov/cgi-bin/getdoc.cgi?dbname=111_cong_bills&docid=f:h1enr.txt.pdf) (hereinafter “ARRA”).

Repayment applications must be approved by the bank’s supervisor before they are sent to Treasury.²⁴ The Federal Reserve Board has indicated that supervisors will weigh an institution’s desire to repay its TARP assistance against the contribution of that assistance to the institution’s overall soundness, capital adequacy and ability to lend.²⁵ BHCs must also have a comprehensive internal capital assessment process.²⁶ In addition, prior to repayment, the eighteen stress-tested BHCs that received TARP funds must have a post-repayment capital base consistent with the stress test capital buffer, and must demonstrate their financial strength by issuing senior unsecured debt for terms greater than five years, not backed by FDIC guarantees, and in amounts sufficient to demonstrate a capacity to meet funding needs independently.²⁷

The Federal Reserve summarizes the criteria that it will use in determining whether to allow repayment as requiring that stress-tested banks wishing to repay “have a robust longer-term capital assessment and management process geared toward achieving and maintaining a prudent level and composition of capital commensurate with the BHC’s business activities and firm-wide risk profile.”²⁸ Representative Hensarling, one of the five members of the Panel, has introduced legislation that would codify the Federal Reserve’s criteria as part of EESA.²⁹ The Panel takes no position on the bill.

In testimony before the Panel on April 21, 2009, Secretary of the Treasury Timothy Geithner said the “ultimate test” for repayment would be whether an individual bank’s repayment would result in a reduction in the overall credit available to the economy.³⁰ While any repayment would reduce capital and thus funds available for lending, some banks are raising capital from the private markets, thereby replenishing that capital.

The original contractual terms of the SPAs concerning approval and timing of redemption of the preferred shares have been superseded by the statutory amendments, as described above.³¹

²⁴ *Id.*

²⁵ Board of Governors of the Federal Reserve System, *Joint Statement by Secretary of the Treasury Timothy F. Geithner, Chairman of the Board of Governors of the Federal Reserve System Ben S. Bernanke, Chairman of the Federal Deposit Insurance Corporation Sheila Bair, and Comptroller of the Currency John C. Dugan on the Treasury Capital Assistance Program and the Supervisory Capital Assessment Program* (May 6, 2009) (online at www.federalreserve.gov/newsevents/press/bcreg/20090506a.htm).

²⁶ *Id.*

²⁷ *Id.*

²⁸ *Id.*

²⁹ H.R. 2745, TARP Repayment and Termination Act of 2009, 111th Cong. (hereinafter “H.R. 2745”).

³⁰ Congressional Oversight Panel, Testimony of Treasury Secretary Timothy Geithner, *Hearing with Treasury Secretary Timothy Geithner* (Apr. 21, 2009).

³¹ See *supra* notes 22, 23, and accompanying text.

Treasury has announced that banks can redeem CPP preferred under terms other than those specified in the SPA.³²

ii. Pricing. The statute sets no terms for the price Treasury must obtain for the preferred shares it holds, other than the general statutory injunction that it should administer the Act in a manner that will “minimize any potential long-term negative impact on the taxpayer.”³³ The contractual provisions governing the preferred shares provide that they are to be redeemed at “liquidation preference,” essentially the principal amount of the debt. In addition, the institution must repay any dividends that are owed but unpaid on the shares.³⁴

2. Warrants

a. Terms of Warrants

The warrants have a ten year life. Treasury can exercise or transfer half of the warrants it holds at any time; the other half can be exercised after 2009 if the bank has not engaged in a QEO.³⁵

For BHCs that are public companies,³⁶ the warrants must be exercisable for an amount of common shares of the bank with a value, at the time of the investment, equal to 15 percent of the amount of the preferred shares purchased by Treasury from the issuer. Because the maximum amount of preferred shares eligible for the CPP is generally the lesser of \$25 billion and three percent of the bank’s risk-weighted assets, warrants for \$3.75 billion in value of the bank’s common shares are the maximum amount that may be issued by a single institution. The bank’s shareholders must approve the issuance of the warrant shares, the increase in the number of underlying shares to cover the warrants, or both.

³² U.S. Department of the Treasury, *FAQs addressing Capital Purchase Program (CPP) changes under the American Recovery and Reinvestment Act of 2009* (Feb. 26, 2009) (online at www.financialstability.gov/docs/PPP/PPP-FAQs.pdf).

³³ EESA, *supra* note 13, § 113(a)(1) (codified at 12 U.S.C. § 5223).

³⁴ Securities Purchase Agreement, *supra* note 15, § 4.4.

³⁵ Form of Warrant, *supra* note 15, § 13(H). As a contractual condition to a bank’s redemption of its preferred stock, Treasury requires that the bank sign a “cross-receipt.” This cross-receipt has the effect of exchanging the original warrants issued to Treasury for “substitute warrants” that are identical to the original warrants except for the removal of the qualified equity offering 50 percent warrant decrease provision. The cross-receipt also eliminates the warrant transfer restrictions contained in the Securities Purchase Agreement. A bank is not, however, required to provide a substitute warrant if it informs Treasury of its plans to repurchase the warrants immediately.

³⁶ Private banks issue warrants to purchase preferred shares “having an aggregate liquidation preference equal to 5 percent of the Preferred amount on the date of investment.” The underlying shares of a private bank warrant have the same rights as the preferred shares, except that they pay dividends of 9 percent per year. U. S. Department of the Treasury, *TARP Capital Purchase Program (Non-Public QFIs, excluding S Corps and Mutual Organizations) Preferred Securities Summary of Preferred Terms* (Nov. 19, 2008) (online at www.financialstability.gov/docs/PPP/Term%20Sheet%20-%20Private%20C%20Corporations.pdf) (hereinafter “CPP Term Sheet for Private Banks”).

The actual number of shares subject to the warrants is set by reference to the market price for the common shares of the issuer on the date of the preferred share investment, calculated on a 20-trading day trailing average. Thus, if warrants for common shares equal to \$1 billion in value were to be issued and the 20-trading day average stock price was \$10, then the bank must issue warrants for 100 million shares of the common shares.

The number of underlying shares covered by the warrants is subject to two possible adjustments. First, the shares subject to warrant could be changed by standard anti-dilution adjustments. Thus, if the issuer splits its stock on a two for one basis (issuing two shares in place of every existing share), the number of shares subject to the CPP warrants in the previous example would be increased from 100 to 200 million. On the other hand, the number of shares subject to the warrants is decreased by 50 percent if the issuer engages, before December 31, 2009, in a QEO in which it receives gross proceeds of at least 100 percent of the liquidation price of the preferred shares.³⁷

The strike price of the warrants is determined in the same way as the number of shares subject to warrant, that is, the price is set at the 20-trading day trailing average price of the common shares on the date Treasury's investment is made. Thus, if the 20 day average stock price is \$10, the holder of the warrant must pay \$10 for each share of stock when it exercises the warrant.³⁸ Private bank warrants carry an exercise price of \$0.01 per share. Treasury has announced that it will immediately exercise private bank warrants.³⁹

Treasury agrees to waive its voting rights with respect to any voting stock it receives when it exercises its warrants.⁴⁰ This restriction does not apply to any person to whom Treasury transfers the shares or warrants.

b. Repurchase of Warrants

i. Timing of Repurchase. Timing of repurchase is governed by both statutory and contractual provisions. Treasury is of the opinion that the contractual provisions are the more constraining.

The statute originally permitted Treasury to convert a warrant to cash or exercise it when Treasury decided that doing so would allow the public reasonable gain from an increase in the price of the stock involved, and that "the market [was] optimal for such assets, in order to

³⁷ Form of Warrant, *supra* note 15, § 13(H). See text accompanying *supra* note 35 for a definition of "Qualified Equity Offering."

³⁸ The exercise price, however, is subject to reduction if necessary shareholder consents are not obtained; the maximum reduction is 45 percent.

³⁹ CPP Term Sheet for Private Banks, *supra* note 36.

⁴⁰ Securities Purchase Agreement, *supra* note 15, § 4.6. This provision reflects the requirements of EESA. See 12 U.S.C. § 5223(d)(1)(A).

maximize the value for taxpayers.”⁴¹ The amendment that eliminated conditions on redemption of preferred shares also required Treasury to “liquidate” the warrants it held when the assistance was repaid (i.e., when the preferred shares Treasury held were redeemed).⁴² A further amendment to the same provision resulted in language that attempts to restore Treasury’s discretion regarding the timing of warrant repurchases.⁴³ EESA now provides that Treasury “may liquidate warrants associated with such assistance.”⁴⁴

The SPAs governing Treasury’s purchase of preferred shares and warrants were executed before the EESA amendment concerning the timing of warrant repurchases became law. The SPAs grant the redeeming financial institution the right to repurchase the warrants upon notice to Treasury (after it has redeemed its preferred shares).⁴⁵ Treasury staff has informed the Panel that Treasury is contractually bound by the timing provisions of the SPAs. In addition, Treasury staff has stated that it is Treasury’s policy to dispose of the government’s investments as soon as practicable.⁴⁶ Therefore, a bank may repurchase its warrants as soon as it has redeemed its preferred shares.

Although Treasury is bound by the statute and the contracts, it does have flexibility both in the negotiation process and in the inputs used in modeling value. As noted above, EESA provides that the terms and conditions of the warrants be designed “at a minimum... to provide for reasonable participation by the Secretary, for the benefit of taxpayers, in equity appreciation” and “that the Secretary may sell, exercise, or surrender a warrant... based on [these] conditions.”⁴⁷ The negotiation step of the contractual valuation procedure (discussed in detail in the next section), requires that Treasury and the bank “promptly meet to resolve the objection and agree on the Fair Market Value.”⁴⁸ In order to provide for “reasonable participation in

⁴¹ EESA, *supra* note 13, § 113(a)(2)(A)(codified at 12 U.S.C. § 5223(a)(2)(A)).

⁴² ARRA, *supra* note 23, § 7001.

⁴³ Helping Families Save Their Homes Act of 2009, Pub.L. 111-22, § 403 (May 20, 2009) (online at frwebgate.access.gpo.gov/cgi-bin/getdoc.cgi?dbname=111_cong_bills&docid=f:s896enr.txt.pdf) (amending 12 U.S.C. § 5221). Floor statements made by the provision’s sponsor and the committee chairman support a plain meaning analysis and explain that the sponsors’ intentions were to grant Treasury authority to time warrant repurchases in order to maximize financial returns on the warrants to taxpayers. *See* Statement of Senator Jack Reed, Congressional Record S5114 (May 5, 2009); Statement of Senator Christopher Dodd, Congressional Record, S5115 (May 5, 2009).

⁴⁴ ARRA, *supra* note 23, § 7001.

⁴⁵ Securities Purchase Agreement, *supra* note 15, § 4.9(a). Though the amended section 111(g) of EESA expressly provides Treasury discretion as to when to allow repurchase of the warrants, it does not explicitly override the contracts.

⁴⁶ *See* U.S. Department of the Treasury, *Treasury Announces Warrant Repurchase and Disposition Process for the Capital Purchase Program* (June 26, 2009) (online at www.financialstability.gov/latest/tg_06262009.html) (hereinafter “Treasury Warrant Repurchase Announcement”) (“The President has clearly stated that his objective is to dispose of the government’s investments in individual companies as quickly as is practicable.”).

⁴⁷ EESA, *supra* note 13, § 113(d)(2)(codified at 12 U.S.C. § 5223(d)(2)).

⁴⁸ Securities Purchase Agreement, *supra* note 15, § 4.9(c)(ii).

equity appreciation,” Treasury could take a tougher negotiating position, possibly resulting in a higher fair market value. Treasury is not bound as to the basis on which it will agree or disagree with the bank’s proposed fair market value. Of course, there are many considerations that Treasury must balance in its decision making, and this is only one of them.

If the bank informs Treasury that it will repurchase the warrants, then it must go through the valuation procedure in the SPA, described below.

ii. Repurchase Price. From a statutory point of view, Treasury is required to repurchase warrants “at market price.”⁴⁹ As discussed below, the SPAs executed for each TARP transaction provide for repurchase of the warrants at “fair market value,” reflecting the statutory requirement that TARP assets are to be sold “at a price that the Secretary determines, based on available financial analysis, will maximize return on investment for the Federal Government.”⁵⁰

The SPAs set out a procedure for valuing the warrants of a public bank when the bank invokes its right to repurchase its warrants.⁵¹ After a bank has redeemed 100 percent of its preferred shares (or Treasury has transferred the preferred shares to an unaffiliated third party), the bank may repurchase the warrants issued in conjunction with those preferred shares.⁵²

The first step in this procedure is that the bank’s board of directors must propose the fair market value of the warrants, using the opinion of an independent, nationally-recognized investment banking firm. (The Panel assumes that none of the firms used have, or is an affiliate of a BHC or bank that has, received TARP assistance and issued TARP warrants. Were this assumption to prove incorrect, serious conflict of interest questions would arise.)

The bank’s board presents the valuation to Treasury, which has ten days to object to the valuation. Though it is not specified in the SPA, Treasury will have determined its own fair market value, working with outside investment banks and consultants. Treasury uses several methods to determine fair market value. These include obtaining quotes from a group of investment banks and investment companies that have volunteered their time,⁵³ creating their

⁴⁹ ARRA, *supra* note 23, § 7001. Initially the statute required repurchase at a price set by the Secretary, subject to the overriding condition specified above, namely that the price constitutes “a reasonable participation . . . in equity appreciation,” and “additional protection against losses from the sale of [TARP] assets. . . .” ARRA overrode that language to require that warrants be liquidated at “current market price,” and the subsequent amendment produced the language in the text, calling for liquidation at “market price.”

⁵⁰ EESA, *supra* note 13, § 113(a)(2)(B)(codified at 12 U.S.C. § 5223(a)(2)(B)).

⁵¹ Securities Purchase Agreement, *supra* note 15, § 4.9.

⁵² Securities Purchase Agreement, *supra* note 15, § 4.9(a).

⁵³ These investment banks’ and investment consultants’ names are not disclosed to the public. They include both domestic and global entities. Some of the domestic entities’ parent companies received CPP funds. Treasury staff has informed Panel staff that when Treasury solicits quotes for the warrants, it uses a mix of banks whose parents have received CPP and those that have not. Treasury has put into place careful conflict of interest rules governing firms that assist Treasury with the warrant valuation process.

own model using a binomial American-style options model, performing a fundamental analysis of the bank, and using outside, paid consultants, who use a slightly different binomial American style options model.⁵⁴

If Treasury objects to the bank's proposed fair market value, then representatives of Treasury and the bank have ten days to meet to resolve the objection and agree on a fair market value. If Treasury and the bank cannot agree on a fair market value during that period, either party may invoke the Appraisal Procedure.

By invoking the appraisal process a bank can require Treasury to allow it to repurchase the warrants, so long as the repurchase is made "as soon as practicable" after the fair market value has been determined. The Appraisal Procedure provides that each party chooses an independent appraiser.⁵⁵ If within 30 days after their appointment, the independent appraisers cannot agree on a fair market value, a third appraiser is chosen by mutual consent of the two appraisers. This third appraiser will provide its fair market value within 30 days of its appointment. The average of all three appraisals is binding on both Treasury and the bank.⁵⁶ If the bank wishes to repurchase the warrants, the bank and Treasury are bound by the appraised value. Treasury staff has told Panel staff that the bank, however, is not bound to repurchase the warrants and may revoke its notice exercising its right to repurchase the warrants; the bank may restart the repurchase process at any time – unless Treasury has disposed of the shares in the interim – by initiating a new round of valuations and subject to the same terms.

Like a public bank, a private bank may repurchase its warrants once it has redeemed its preferred shares. Private bank warrants' values are established in the SPAs at a specified dollar amount, so they do not go through the same valuation procedure. As mentioned earlier, Treasury exercises private bank warrants immediately upon issuance. Private bank warrants have a liquidation amount of the full value of the preferred shares that Treasury received on exercise. Therefore, to repurchase the underlying shares of the warrant, a private bank must pay five percent of Treasury's non-warrant equity investment.⁵⁷ H.R. 2745 would, for the period through the end of September 2009, allow private banks to repurchase the underlying shares associated

⁵⁴ The Panel's methodology for determining the fair market value of the CPP and TIP warrants, and its comparison to Treasury's methodology, is discussed in detail in Annex A of this report.

⁵⁵ The costs of the appraisal process are borne by the bank. Securities Purchase Agreement, *supra* note 15, § 4.9(c)(i).

⁵⁶ Securities Purchase Agreement, *supra* note 15, § 4.9(c)(ii). If one of the three appraisals is disparate from the middle appraisal by more than twice the amount that the other appraisal is disparate from the middle appraisal, such appraisal is disregarded in the determination of the average.

⁵⁷ CPP Term Sheet for Private Banks, *supra* note 36, at 2; *See also* Schedule A to Warrant to Purchase Preferred Stock, First Southwest Bancorporation (Mar. 6, 2009) (online at www.financialstability.gov/docs/agreements/03202009/First%20Southwest%20Bancorporation.pdf).

with the warrants issued at the time of the CPP investment at the price that Treasury paid for the warrants, i.e., one cent per share.⁵⁸

If the bank chooses not to repurchase its warrants, Treasury may sell them to third party investors.⁵⁹ Treasury has told the Panel that the Secretary had discretion to determine the time period for liquidating the warrants, and that in accordance with Treasury policy to dispose of ownership interests as soon as possible, it will auction the warrants within several months of a bank's delivery of a substitute warrant.⁶⁰

Alternately, Treasury may choose to exercise the warrant at any time.⁶¹ If Treasury has exercised the warrants and still holds the shares received on exercise, the bank may repurchase the shares on the open market, or Treasury may sell the shares to a third party.⁶²

D. Repayments of CPP and TIP Capital Investments

On June 17, nine of the stress-tested BHCs and one other BHC redeemed their CPP preferred shares from Treasury, in aggregate returning almost \$68.2 billion of taxpayer funds provided under the TARP. The annualized return on Treasury's investments in these banks is at least five percent, due to the required five percent annual dividends paid to CPP preferred shares.⁶³ It will not be possible to calculate an internal rate of return (IRR) with any precision until Treasury has sold the warrants it holds for these banks' shares (or sells its shares after exercising the warrants). However, even after Treasury sells the warrants for these banks, the IRR realized on these particular investments – likely the safest of the whole program – would not be representative of the potential return on the entire TARP portfolio. (IRRs for the few small banks that have repurchased their warrants are presented in Section E below.)

Following the results of the stress tests, and the subsequent capital-raising by BHCs which required a strengthened capital buffer, the appropriate bank supervisor or supervisors authorized repayments based on their determination that these banks possessed adequate capital

⁵⁸ H.R. 2745, *supra* note 29.

⁵⁹ At this point, Treasury may sell all the warrants. This is because when the bank determines that it will repurchase the preferred shares, it must deliver to Treasury a substitute warrant instrument that eliminates the 50 percent qualified equity offering adjustment. See U.S. Department of the Treasury, *Acknowledgment of Repurchase (Public Issuers)* (online at [www.financialstability.gov/docs/UST%20Acknowledgement%20of%20Repurchase%20\(Public%20Issuers\).pdf](http://www.financialstability.gov/docs/UST%20Acknowledgement%20of%20Repurchase%20(Public%20Issuers).pdf))

⁶⁰ Letter from Secretary Timothy Geithner, U.S. Department of the Treasury, to Chair Elizabeth Warren, Congressional Oversight Panel (July 1, 2009) (attached as Appendix II of this report, *infra*).

⁶¹ If Treasury exercises the warrants before December 31, 2009 and before the preferred shares are repurchased, it may only exercise half of the warrants, as the other half are subject to cancellation if the bank makes a qualified equity offering before that date. Securities Purchase Agreement, *supra* note 15, § 4.4.

⁶² Securities Purchase Agreement, *supra* note 15, § 4.9(a).

⁶³ Accrued dividends are paid upon the repurchase of the CPP preferred shares.

safety buffers to absorb losses through 2010 if economic conditions continue to deteriorate.⁶⁴ Additionally, the banks were required to satisfy a number of conditions set by the Federal Reserve, notably the demonstrated ability to access public equity markets and raise five-year debt without an FDIC guarantee.⁶⁵ The Federal Reserve also evaluated whether repayment would have an adverse effect on the future operations of the bank or financial markets.⁶⁶

It should be noted, however, that although these banks are no longer being supported directly by the TARP, they remain eligible to use the FDIC’s Temporary Liquidity Guarantee Program,⁶⁷ as well as other indirect support through the Federal Reserve’s various liquidity programs. Except for the Term Asset-Backed Securities Loan Facility (TALF), which is currently set to expire at the end of 2009, these programs were recently extended through February 2010.⁶⁸ All told, the Federal Reserve’s balance sheet has expanded by almost \$1.2 trillion since August 2007.⁶⁹

Figure 1: CPP Repayments as of July 2, 2009

Date	Institution	Repurchase Amount	Bank or BHC type
3/31/2009	Signature Bank	\$120,000,000	Public
3/31/2009	Old National Bancorp	\$100,000,000	Public
3/31/2009	Iberiabank	\$90,000,000	Public
3/31/2009	Bank of Marin Bancorp	\$28,000,000	Public

⁶⁴ Only the results of the stress tests under the adverse scenario were published, which assumed for 2009: a 3.3 percent decline in GDP, 8.9 percent unemployment, and a 22 point decline in the Case-Shiller 10-city composite index of housing prices.

⁶⁵ Board of Governors of the Federal Reserve System, *Federal Reserve Outlines Criteria It Will Use to Evaluate Applications to Redeem U.S. Treasury Capital from Participants in Supervisory Capital Assessment Program* (June 1, 2009) (online at www.federalreserve.gov/newsevents/press/bcreg/20090601b.htm).

⁶⁶ *Id.*

⁶⁷ The FDIC’s Temporary Liquidity Guarantee Program (TLGP) essentially guarantees the senior unsecured debt issued by financial institutions, allowing them in effect to obtain financing at reduced rates; without the threat of default, the risk premium included in the interest charged for the debt is reduced substantially. Currently, the TLGP guarantees some \$285 billion of debt of 34 BHCs, thrift holding companies, and other non-FDIC-insured financial institutions.

⁶⁸ Board of Governors of the Federal Reserve System, *Federal Reserve Announces Extensions of and Modifications to a Number of its Liquidity Programs* (June 25, 2009) (online at www.federalreserve.gov/newsevents/press/monetary/20090625a.htm).

⁶⁹ See Board of Governors of the Federal Reserve System, *Federal Reserve Statistical Release H.4.1: Factors Affecting Reserve Balances* (July 2, 2009) (online at www.federalreserve.gov/releases/h41/Current/) (accessed July 2, 2009) (hereinafter “Fed Balance Sheet July 2”).

Date	Institution	Repurchase Amount	Bank or BHC type
3/31/2009	Centra Financial Holdings, Inc./Centra Bank, Inc.	\$15,000,000	Private
4/8/2009	Sun Bancorp, Inc.	\$89,310,000	Public
4/15/2009	Shore Bancshares	\$25,000,000	Public
4/22/2009	TCF Financial Corporation	\$361,172,000	Public
4/22/2009	Firstmerit Bank, National Association	\$125,000,000	Public
4/22/2009	Independent Bank Corp.	\$78,158,000	Public
4/22/2009	First ULB Corp.	\$4,900,000	Private
5/5/2009	Sterling Bancshares, Inc.	\$125,198,000	Public
5/13/2009	Texas Capital Bancshares, Inc.	\$75,000,000	Public
5/13/2009	Alliance Financial Corporation	\$26,918,000	Public
5/20/2009	SCBT Financial Corporation	\$64,779,000	Public
5/20/2009	Somerset Hills Bancorp	\$7,414,000	Public
5/27/2009	Washington Federal Inc.	\$200,000,000	Public
5/27/2009	First Niagara Financial Group	\$184,011,000	Public
5/27/2009	Berkshire Hills Bancorp, Inc.	\$40,000,000	Public
5/27/2009	First Manitowoc Bancorp Inc.	\$12,000,000	Private
6/3/2009	Valley National Bancorp	\$75,000,000	Public
6/3/2009	HF Financial Corp.	\$25,000,000	Public
6/17/2009	JPMorgan Chase & Co.	\$25,000,000,000	Public
6/17/2009	Morgan Stanley	\$10,000,000,000	Public
6/17/2009	The Goldman Sachs Group	\$10,000,000,000	Public
6/17/2009	US Bancorp	\$6,599,000,000	Public

Date	Institution	Repurchase Amount	Bank or BHC type
6/17/2009	Capital One Financial Corporation	\$3,555,199,000	Public
6/17/2009	American Express Company	\$3,388,890,000	Public
6/17/2009	BB&T Corp.	\$3,133,640,000	Public
6/17/2009	Bank of New York Mellon	\$3,000,000,000	Public
6/17/2009	State Street Corporation	\$2,000,000,000	Public
6/17/2009	Northern Trust Corporation	\$1,576,000,000	Public
Total	32 Banks	\$70,124,589,000	

E. Valuing TARP Warrants

Before presenting the Panel’s estimates of the value of Treasury’s CPP, TIP and Asset Guarantee Program (AGP) warrants, it is useful to briefly note the major conceptual approaches to making such estimates and to explain the methodology used by the Panel. A more detailed discussion of the most widely-used warrant valuation methodologies and the choices and assumptions made by the Panel in the approach it used is provided in Annex A.

1. Conceptual Approaches

An important consideration in valuing a warrant is its intrinsic value, given by the difference between the current share price and the warrant’s strike price. Intrinsic value represents the value of the warrant if it were exercised at the current moment, and is a useful measure of a warrant’s worth if it is close to expiration or if it will be exercised early. However, intrinsic value reveals only a snapshot value at the current moment, not what the value of the warrant may be when it expires or at any other time. It does not take into account the likelihood that the stock price will increase prior to the warrant’s expiration, a particularly important consideration given the ten-year term of the TARP warrants. Because intrinsic value ignores the value of future stock movement, it is not used by market participants to value the TARP warrants. More likely, potential investors will value warrants using either the binomial options pricing model or the Black-Scholes model.

The binomial options pricing model⁷⁰ values a warrant based on how the price of its underlying shares may change over the warrant's term.⁷¹ The binomial model has a number of advantages that stem from breaking down a warrant's term into a number of discrete time increments. An analyst using a binomial model may change his input assumptions at different periods of the evaluation – for example, the assumed volatility of the underlying shares' price movements can be varied over time. Similarly, a binomial model can account for the possibility that a warrant will be exercised early if the share price exceeds a certain threshold.

The Black-Scholes model⁷² has been the industry standard for option valuation since it was first published in 1973.⁷³ The popularity of Black-Scholes is largely based on its ease of use; it can be calculated on a hand-held calculator with only a few inputs.⁷⁴ A Black-Scholes valuation is a specific version of the binomial model in which it is assumed that all inputs are constant over time. Both derive an expected value for a warrant based on the probability of the warrant's underlying share price exceeding its strike price.

As is true of all models, the validity of either a Black-Scholes or a binomial analysis depends on the input assumptions used. If one uses equivalent assumptions, these models tend to produce very similar results.⁷⁵ The most significant cause of divergence between different warrant valuations comes from the assumptions made about the future volatility and dividend yield of the underlying shares. Future volatility is particularly difficult to predict. Nonetheless, nearly all market participants, government agencies, specialist firms and corporations value warrants through models that use future volatility as an input.⁷⁶ Future volatility can be

⁷⁰ John Cox, Stephen Ross & Mark Rubinstein, *Option Pricing: A Simplified Approach*, Journal of Financial Economics (Mar. 1979) (hereinafter "CRR Binomial Paper").

⁷¹ The binomial model produces a tree of stock prices at specified time increments, calculates the intrinsic value of the warrant at expiration (based on the estimated stock price distribution), and then works backwards through earlier branches to calculate the current value of the warrant.

⁷² Fischer Black & Myron Scholes, *The Pricing of Options and Corporate Liabilities*, Journal of Political Economy (1973) (online at www.math.uwaterloo.ca/~mboudalh/BS1973.pdf) (hereinafter "Black-Scholes Paper").

⁷³ Mark Rubinstein, *Implied Binomial Trees*, Journal of Finance (July 1994) (online at www.haas.berkeley.edu/groups/finance/WP/rpf232.pdf) (hereinafter "Implied Binomial Trees") ("This [the Black-Scholes] model is widely viewed as one of the most successful in the social sciences and has [sic] perhaps (including its binomial extension) the most widely used formula, with embedded probabilities, in human history.").

⁷⁴ The inputs of the Black-Scholes model are the strike price of the option, the underlying stock price, the time to expiration of the option, the risk-free interest rate, the volatility of the underlying stock price, and the dividend yield of the underlying stock.

⁷⁵ Mathematically, Black-Scholes is essentially the limit of the binomial model as the number of steps taken approaches infinity. A binomial valuation, given the same assumptions, thus converges on the Black-Scholes valuation.

⁷⁶ See, e.g., Congressional Oversight Panel, *Duff & Phelps Final Valuation Report to the Congressional Oversight Panel* (Feb. 4, 2009) (online at cop.senate.gov/documents/cop-020609-report-dpvaluation.pdf); Financial Accounting Standards Board, *Statement of Financial Accounting Standards No. 123* (Oct. 1995) (FSP FAS 157-4) (online at www.fasb.org/cs/BlobServer?blobcol=urldata&blobtable=MungoBlobs&blobkey=id&blobwhere=1175818755677).

estimated in a number of ways, resulting in a range of possible volatility assumptions and a range of possible warrant values.⁷⁷

There are two commonly used methods for estimating the future volatility of a stock. The first is to calculate volatility from historical prices changes. Many different volatility assumptions for the binomial or Black-Scholes Models can be justified from historical figures. An analyst's choice of the time period over which he or she will measure historical volatility as an estimate of future volatility can have a large effect on a valuation. As the past two years have been particularly turbulent, the volatility figures derived from this period are high and may not be representative of the volatility of bank stock prices over the next ten years, and will likely overvalue the warrants. On the other hand, using volatilities calculated from the past ten years may undervalue warrants if one believes that bank shares will be more volatile over the next decade than they have been in the previous one.

The second approach to estimating future stock price volatility is to use implied volatility from the market. While implied volatility has certain drawbacks, particularly the fact that the market's implied volatility may be over a different future time period than the term of the warrant being valued,⁷⁸ using implied volatility to value a warrant provides a better picture of "fair market value" because it uses actual market information to estimate this important input assumption.

2. Methodology used in this Report⁷⁹

The Panel adopted a modified Black-Scholes analysis to value the warrants held by Treasury.⁸⁰ As discussed in Annex A, the modifications were necessary to account for two aspects of the TARP warrants that distinguish them from the type of options Black-Scholes was

&blobheader=application%2Fpdf); Congressional Budget Office, *The Troubled Asset Relief Program: Report on Transactions Through June 17, 2009* (June 2009) (online at www.cbo.gov/ftpdocs/100xx/doc10056/06-25-TARP.pdf).

⁷⁷ Consider the example of a warrant to buy one share of Company X at \$150 that expires in one year. X's common stock is currently trading at \$100 and the risk free rate (i.e., the Treasury rate) is one percent. Under Black-Scholes, if X's stock price volatility is modeled at 30 percent, the warrant would be valued at \$1.59; with volatility at 60 percent, the warrant would be valued at \$10.91. If the volatility is below 15 percent, the warrant is estimated to be worth less than three cents.

⁷⁸ For example, across most banks for which there are data, the market is expecting volatility to decrease over time. Thus, using short term implied volatility to value long term warrants would overvalue the warrants.

⁷⁹ A full discussion of the Panel's methodology is included in Annex A.

⁸⁰ In applying the Black-Scholes model rather than a binomial model, the Panel assumed that the risk free rate, the dividend yield, and the stock price volatility of each bank would be constant through time. Market participants and finance professors with whom Panel staff consulted thought these were reasonable assumptions given the purposes of the analysis.

designed to analyze: dilution⁸¹ and dividend yield.⁸² The Panel did not apply a liquidity discount in its valuation. If Treasury can hold the warrants to expiration, then the value of the warrants to Treasury should not include a liquidity discount because Treasury does not need to sell them. Further, any liquidity discount for the larger institutions, whose warrants constitute the bulk of Treasury's portfolio by value, would likely be small since their shares are heavily traded.

The Panel developed high, low and best estimates for the value of the warrants that Treasury held on July 6, 2009, based on varying estimates of stock price volatility. In the high estimate, the volatility input for each bank was the maximum of several historical and implied volatility measures of its stock price.⁸³ In the low estimate, the volatility input for each bank was the minimum of the same set of volatility measures. In the best estimate, the volatility input for 18 of the banks was derived from the implied volatility of publicly-traded, long dated options on those banks' shares. The warrants for these 18 banks' shares represent 89 percent of the total value of Treasury's warrant portfolio. For the remaining banks, the best estimate volatility input for each bank was the longest of the available one, two, five and ten year historical volatility measures of the bank's share price.⁸⁴ For all estimates, each bank's dividend yield input was set equal to its five-year average dividend yield. The only difference in assumptions for the three estimates was the volatility input.⁸⁵

As noted above in Section C, the CPP warrants have a reduction provision such that if a recipient bank has a QEO of 100 percent of the CPP investment by the date of the preferred redemption or December 31, 2009, whichever comes sooner, then half of Treasury's warrants are eliminated.⁸⁶ To simplify the analysis, the Panel assumed that unless a BHC had already redeemed its preferred and held a QEO by July 2, 2009, then it would not do so by the end of this year. This seems a reasonable assumption considering that of the 32 banks which had redeemed

⁸¹ Unlike options, which grant a claim to already-issued stock, the exercise of a warrant requires the company to issue new common shares, which has the effect of reducing the percentage of the company owned by existing shareholders (known as "dilution").

⁸² Dividend yield represents an investor's return on investment if the stock is not sold, calculated by the ratio of annual dividends per share to share price.

⁸³ These Panel's measures were: the (i) two, (ii) five and (iii) ten year historical volatilities ending on July 2, 2009; the ten year historical volatilities ending on (iv) July 2, 2008, (v) July 2, 2007, (vi) July 3, 2006, (vii) July 4, 2005, (viii) July 2, 2004, (ix) July 2, 2003, (x) July 2, 2002, (xi) July 2, 2001, (xii) July 3, 2000, (xiii) July 2, 1999; and (xiv) the midpoint of implied volatilities of call and put options on the underlying stock expiring after Dec 31, 2010 as calculated on July 2, 2009. When any of these measures was unavailable, it was removed from the set of possible volatility inputs. All historical volatilities were calculated from daily returns, adjusted for dividends and capital changes.

⁸⁴ The implied volatility input for each bank was set equal to the midpoint of implied volatilities of call and put options on the bank's shares expiring after Dec. 31, 2010 as calculated on July 2, 2009.

⁸⁵ All three estimates used each bank's closing price on July 2, 2009 as the model's share price input. The risk free rate input was calculated as the yield on ten year Treasury bonds on July 2, 2009, adjusted to be made continuous.

⁸⁶ See *supra* notes 34, 35, and accompanying text.

their preferred shares by July 2, 2009, only three had a QEO prior to repayment.⁸⁷ To the extent that there is a possibility that CPP-recipient banks will have QEOs prior to redeeming their TARP preferred shares or the end of the year, the Panel's valuation of the warrants should be discounted accordingly.

Using Black-Scholes, the Panel also estimated the value of the warrants that Treasury has already sold.⁸⁸ These valuations were performed as of the date of the sale to enable a comparison between the fair market value of the repurchased warrants, as calculated by Black-Scholes, and the compensation Treasury actually received for them.⁸⁹ Other than adjusting for the transaction dates, the Panel used the same methodology for valuing the past sales as that applied to outstanding TARP warrants.

The Panel was aided in its valuation efforts by three finance experts, Professor Robert Merton, Professor Daniel Bergstresser and Professor Victoria Ivashina, all of the Harvard Business School. These three professors independently reviewed both the technical valuation model and the assumptions that were built into the models; they concluded that the approaches reported here were reasonable and that they produced reliable estimates.

3. Results

The Panel's high, low and best estimates for the aggregate value of Treasury's warrants as of July 6, 2009 are \$12.3 billion, \$4.7 billion and \$8.1 billion, respectively. The range between the Panel's high and low estimates is driven by different volatility assumptions in the Black-Scholes model. The future volatility and dividend yield of the banks' underlying shares are difficult to predict.⁹⁰ The Panel accounted for this uncertainty by casting a wide net across what it considers reasonable boundaries in developing high and low volatility estimates.

As shown in figure 2, the Panel's valuation of the warrants falls within the same broad ranges as the estimates of Credit Suisse, University of Louisiana at Lafayette Assistant Professor

⁸⁷ These three banks were State Street, First Niagara and Iberiabank. U.S. Department of the Treasury, *Troubled Asset Relief Program: Transactions Report For Period Ending June 30, 2009* (July 2, 2009) (online at www.financialstability.gov/docs/transaction-reports/transactions-report_070209.pdf).

⁸⁸ As of July 2, 2009, 11 banks have repurchased their warrants: Treasury sold its warrants in Old National Bank, Iberiabank, FirstMerit, Sun Bancorp, Alliance Financial, Independent Bank Co., First Niagara Financial Group, Berkshire Hills Bancorp, Somerset Hills Bancorp, HF Financial and SCBT Financial. No third party buyers were involved in these transactions – Treasury sold the warrants back to the banks which originally issued them – and only Iberiabank and First Niagara had conducted a QEO by the time the warrants were sold. *Id.*

⁸⁹ The valuations of Treasury's remaining portfolio of warrants on July 6, 2009 cannot be compared against future transactions that involve these warrants as the values of the warrants can change over time. Transactions can only be evaluated against fair market value on the date of the transaction.

⁹⁰ Conversely, strike price, expiration date, underlying share price and the risk free rate are all known or easy to estimate.

Linus Wilson, and Bloomberg.⁹¹ It is important to remember that these studies were performed on different dates, so some variation would be expected. Among other reasons for these studies being incompatible, the value of Treasury’s warrants is highly correlated to the fluctuating share prices of CPP-recipient banks. To the extent that these shares have changed in value between the dates of the different valuation analyses, the warrants have altered in value accordingly.

Figure 2: Comparison of Panel’s Valuation with Other Valuations

Valuation By	Valuation of	Result	COP Valuation of Comparable (as of 7/6/09)		
			Low	Best	High
Credit Suisse ⁹² (6/2/09)	Stress Test Banks ex. Keycorp (CPP Warrants only)	\$ 5,680	\$ 3,470	\$ 5,590	\$ 8,410
Linus Wilson ⁹³ (6/10/09)	Stress Test Banks (CPP, TIP, and AGP)	\$ 9,900	\$ 3,930	\$ 6,960	\$ 10,630
Bloomberg ⁹⁴ (5/22/09)	JPMorgan, Morgan Stanley, and Goldman Sachs	\$ 4,000	\$ 2,400	\$ 2,830	\$ 4,120

⁹¹ See Linus Wilson, *Valuing the First Negotiated Repurchase of the TARP Warrants* (May 23, 2009) (online at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1404069) (Professor Wilson examines Old National Bancorp, the first of the CPP recipient banks to repurchase its CPP warrants. He concludes that the warrants were sold back to Old National Bancorp at a discounted price.); Linus Wilson, *A Model for Estimating the Cancellation Probabilities of TARP Warrants*, University of Louisiana at Lafayette (June 16, 2009) (online at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1413442) (hereinafter “Wilson Cancellation Probabilities”) (Professor Wilson creates a model for estimating the value, and likelihood of cancellation, of TARP warrants. The established formula can be used in evaluating Treasury’s negotiation performance.); Edward Tom and Sveinn Palsson, *The Valuation of TARP Warrant (Part I and II)s*, Credit Suisse Research Report (May 26, 2009, June 2, 2009) (hereinafter “Credit Suisse Warrant Report”) (Credit Suisse used 10 year mean realized volatility to calculate a Black-Scholes value for the CPP investments in the 19 stress-tested banks, coming up with a median estimate of \$5.7 billion, and a range of \$5.2 to \$7.8 billion); Mark Pittman, *TARP Warrants Show Banks May Reap ‘Ruthless Bargain’*, Bloomberg (May 22, 2009) (online at www.bloomberg.com/apps/news?pid=20601206&sid=ae2fQFMrDer4) (hereinafter “Bloomberg Warrant Article”).

⁹² Credit Suisse Warrant Report, *supra* note 91. Credit Suisse used standard volatilities to calculate a Black-Scholes value for the CPP investments in the 18 of the 19 stress tested BHCs (it did not value warrants in Keycorp), producing a median estimate of \$5.7 billion, and a range of \$5.2 to \$7.8 billion.

⁹³ Wilson Cancellation Probabilities, *supra* note 91. Wilson estimates the value of the warrants held by the government for the 19 stress test banks using the same model as the Panel (Black-Scholes-Merton modified with Galai-Schneller). The higher estimates he obtained are likely the result of differing volatility assumptions. Wilson calculates implied volatilities derived from short term options, which represent the market’s prediction of variations in stock price over the next few months. For most securities, such short-term predictions tend to be much higher than what the market’s prediction of volatility would be for longer periods such as those for which the warrants are available to be exercised (10 years). Wilson’s methodology also adjust for the predicted likelihood of qualified equity offerings by BHCs, a step considered unnecessary by the Panel.

⁹⁴ Bloomberg Warrant Article, *supra* note 91. Information on methodology is unavailable. Bloomberg does not break down its valuations by individual BHC.

CBO⁹⁵ (6/17/09)	CPP Warrants Only	\$ 6,000	\$ 4,310	\$ 6,940	\$ 10,520
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*All values are presented in millions.

Most of the value of Treasury's portfolio of warrants comes from only a few banks. By value, the warrants in JP Morgan Chase, Bank of America, Morgan Stanley, Goldman Sachs, Citigroup and Wells Fargo account for 70 percent of the total value. Figure 3 below shows high, low and best estimates for Treasury's ten most valuable holdings of warrants.

Figure 3: Panel Estimate of Value of Warrants

Institution	Investment Date	Low Estimate	High Estimate	Best Estimate
Bank Of America	10/28/08, 1/9/09 & 1/16/09	\$ 430	\$ 1,850	\$ 1,130
JP Morgan Chase	10/28/08	\$ 660	\$ 1,560	\$ 1,020
Wells Fargo & Co	10/28/08	\$ 340	\$ 1,480	\$ 1,020
Goldman Sachs Group	10/28/08	\$ 940	\$ 1,250	\$ 940
Morgan Stanley	10/28/08	\$ 800	\$ 1,310	\$ 870
Citigroup	10/28/08, 12/31/08 & 1/16/09	\$ 70	\$ 1,030	\$ 560
American Express	1/9/09	\$ 220	\$ 370	\$ 300
PNC Financial Services Group	12/31/08	\$ 70	\$ 330	\$ 190
Bank Of New York Mellon	10/28/08	\$ 120	\$ 240	\$ 160
Capital One Financial	11/14/08	\$ 110	\$ 210	\$ 140
All Other Banks		\$ 950	\$ 2,640	\$ 1,720
Total		\$ 4,710	\$ 12,270	\$ 8,050

*All values are presented in millions.

In its analysis of warrants already repurchased, the Panel finds that, in general, Treasury has been selling its warrants back to banks at below market value. In the aggregate, Treasury sold its warrants in these banks for \$18.7 million. Figure 4 below compares the repurchase price paid by these 11 banks and the Panel's valuation of the warrants on the date of repurchase. It

⁹⁵ The CBO analysis did not consider the effect of Treasury's requirement that banks which repay their preferred before Dec. 31, 2009 must sell their warrants immediately or replace Treasury's warrants with substantially similar ones that are stripped of the QEO provision.

also shows Treasury's total internal rate of return (IRR) on its investments in each of these banks, including its return on preferred shares and warrants. A more complete discussion of the sources of the difference between Treasury's results and the Panel's estimates of the value of the warrants sold to date in the context of one particular such warrant sale, Old National Bancorp, can be found in Annex B.

Figure 4: Warrant Repurchases as of July 2, 2009

Institution	Inv. Date	QEO⁹⁶	Repurchase Date	Repurchase Amount	Panel Valuation (Best Est.)	Price/ Est.	IRR⁹⁷
Old National	12/12/08	No	5/8/09	\$ 1,200	\$ 2,150	56%	9.3%
Iberiabank	12/5/08	Yes	5/20/09	\$ 1,200	\$ 2,010	60%	9.4%
FirstMerit	1/9/09	No	5/27/09	\$ 5,025	\$ 4,260	118%	20.3%
Sun Bancorp	1/9/09	No	5/27/09	\$ 2,100	\$ 5,580	38%	15.3%
Independent Bank	1/9/09	No	5/27/09	\$ 2,200	\$ 3,870	57%	15.6%
Alliance Financial	12/19/08	No	6/17/09	\$ 900	\$ 1,580	57%	13.8%
First Niagara Financial	11/21/08	Yes	6/24/09	\$ 2,700	\$ 3,050	89%	8.0%
Berkshire Hills	12/19/08	No	6/24/09	\$ 1,040	\$ 1,620	64%	11.3%
Somerset Hills	1/16/09	No	6/24/09	\$ 275	\$ 580	48%	16.6%
SCBT Financial	1/16/09	No	6/24/09	\$ 1,400	\$ 2,290	61%	11.7%
HF Financial	1/21/09	No	6/30/09	\$ 650	\$ 1,240	52%	10.1%
Total				\$ 18,690	\$ 28,230	66%	11.6%

*All values are presented in thousands.

The results show that in its sales of warrants Treasury has received about 66 percent of the Panel's best estimate of fair market value. These results may suggest that Treasury has not been successful in receiving fair market value for its warrants and in maximizing taxpayer

⁹⁶ The issue is discussed *supra* in Part C of Section One of this report. Upon a qualified equity offering, the number of shares underlying Treasury's warrants is halved.

⁹⁷ This is the total return Treasury has received on its investment in each bank. The calculation includes returns from dividends, preferred shares repayments and warrant repurchases. The IRRs in this figure very slightly underestimate the actual rate of return because the Panel assumed that all dividends were paid on the date of repurchase of the preferred, when in fact they were paid quarterly.

returns. On the other hand, factors not included in the Panel's model, such as the illiquidity of the warrants – especially for smaller institutions – may explain the difference between the amount that Treasury has received for its sold warrants and the Panel's valuation of those warrants.

In interpreting these results, it is important to bear in mind the scale of the warrant repurchases as compared to the total warrant portfolio. The sold warrants represent less than one quarter of one percent of the Panel's best estimate of the value of Treasury's warrant portfolio on July 6, 2009. Thus, these sold warrants represent a very small slice of the outstanding warrants, and Treasury's relative performance in selling them may not accurately predict its success in selling the balance of the warrants it holds.

The results also show that Treasury received a 12 percent rate of return on the 11 CPP investments in public banks that have fully exited the TARP. However, this rate of return is not predictive of the rate of return Treasury will receive across its entire TARP portfolio because it only reflects the return on these 11 early repaying banks. These banks are among the healthiest of the TARP-recipient banks and thus Treasury's return on these banks is likely to be higher than its return on its aggregate TARP investment.⁹⁸ Further, this rate of return does not factor in the likelihood that some banks, including systemically significant institutions, may be unable to repay their TARP investments.

F. Alternatives for Disposing of TARP Warrants

Although, thus far, Treasury has sold warrants back only to the banks which issued them, as discussed in Section C it may sell the warrants to any party subject to the following two restrictions: first, before December 31, 2009, or, if earlier, the date when a bank redeems its preferred, Treasury may sell only half of its warrants in that bank; second, after a bank redeems its preferred it may negotiate to repurchase its warrants, and, if this fails, the bank may invoke an appraisal procedure which leads to a binding price at which Treasury must sell.⁹⁹

Thus, Treasury's options are dictated by whether a bank has redeemed its preferred shares. Before a bank redeems its preferred, Treasury can sell half of its warrants in that bank to any party. After a bank redeems its preferred, Treasury must allow that bank a chance to negotiate the repurchase of its warrants if the bank wishes to do so. If the negotiations reach an impasse and the appraisal procedure is not invoked, or if the procedure is invoked but the bank is not willing to purchase at the resulting binding price, then Treasury can sell all of its warrants in that bank on the open market. In other words, if the parties cannot agree on a price and if the

⁹⁸ Each bank's TARP repayment is conditioned on that bank's supervisors finding that the bank is sufficiently capitalized to no longer need a government investment. Thus, only healthy banks have been able to repay. *Supra* note 23.

⁹⁹ The issue is discussed *supra* in Part C of Section One of this report.

bank is unwilling to purchase at the price determined by the appraisers, then Treasury may sell its warrants through a public auction or other public sale.

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The federal government has received warrants before in exchange for providing credit support to ensure a company's viability. The federally-guaranteed loan made to a teetering Chrysler Corporation in 1980 is one example. In that case, the federal government seemed to make a profit on its loan to Chrysler when the warrants were sold.

The Chrysler Corporation Loan Guarantee Act of 1979 was officially signed into law on January 7, 1980. It created the Chrysler Corporation Loan Guarantee Board, which was responsible for determining the conditions for making a commitment to guarantee third party loans to Chrysler. Any loans made under the Act had to be repaid by December 30, 1990, and the amount outstanding at any time was not to exceed \$1.5 billion.¹⁰⁰

Chrysler used \$1.2 billion of the \$1.5 billion in loan guarantees. In return for the loan guarantees, the federal government received warrants to purchase 14.4 million shares of Chrysler stock at \$13 per share until 1990.¹⁰¹ At the time they were granted in 1980, Chrysler stock was selling for about \$5 a share.

After receiving the loans, Chrysler's fortunes changed for the better. Between 1980 and 1982, the corporation downsized a significant amount of its operations, cutting roughly half of its work force,¹⁰² and quickly returned to profitability.¹⁰³ By the first half of 1982, the company made a profit of \$482.2 million. It repaid its government guaranteed notes in June and August of 1982.¹⁰⁴

The U.S. government auctioned the Chrysler warrants on September 12, 1983. At the auction, Chrysler purchased the warrants for \$311 million.¹⁰⁵ Chrysler officials said that they sought to avoid having the warrants converted into common shares because conversion would dilute the value of the current shares. The stocks that the warrants purchased represented 12 percent of Chrysler's shares outstanding. Chrysler also had the option of retiring the warrants

¹⁰⁰ Chrysler Corporation Loan Guarantee Act of 1979, Pub. L. No. 96-185.

¹⁰¹ *Id.*

¹⁰² Thomas J. Lueck, *Chrysler Tops Bids to Buy Back Stock Rights*, New York Times (Sep. 13, 1983).

¹⁰³ *Id.*

¹⁰⁴ *Id.*

¹⁰⁵ *Id.*

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at no cost. It chose not to do so, though, because it did not want to forgo \$187 million in income it could earn from the exercise of the warrants.¹⁰⁶

Whether or not Treasury actually made a profit on the sale of its Chrysler warrants is subject to debate. Prior to 1992, federal loan guarantees were treated as a contingent liability of the U.S. government for budgetary purposes. As a result, a loan guarantee resulted in no cost to the budget unless and until the guarantee was called and resulted in an actual loss. Under this budgeting convention, the federal government could show a \$311 million profit on its loan guarantees and warrant for Chrysler Corporation in the early 1980s. Today, however, the cost of a similar loan guarantee would require an upfront appropriation to cover the possibility of default. No such estimate was made at the time, however, so it cannot be determined whether such an estimate would have been greater or less than the \$311 million the government received upon sale of the warrants.

1. Selling TARP Warrants through Negotiation with the Banks

Treasury sold its warrants in Old National Bank, Iberiabank, FirstMerit, Sun Bancorp, Alliance Financial, Independent Bank Co., First Niagara Financial Group, Berkshire Hills Bancorp, Somerset Hills Bancorp, HF Financial and SCBT Financial through exclusive negotiations with the issuing banks. These banks initiated the negotiations by first redeeming Treasury's preferred shares and then invoking their right to repurchase the warrants they had issued to Treasury. None of these banks invoked the appraisal procedure; they all reached a negotiated agreement with Treasury on the price to be paid for the warrants.

When negotiating with a bank on the repurchase price of that bank's warrants, Treasury makes an assessment of the warrant's fair market value. Treasury's valuation process has four inputs: comparable market data, warrant pricing models, fundamental company analysis and an outside consultant's appraisal.¹⁰⁷ First, Treasury finds comparable securities that are publicly traded and solicits quotes from market participants on the warrants being valued to develop a market perspective of their fair value. Second, Treasury utilizes an American-style binomial option pricing model and a Black-Scholes option pricing model to develop a theoretical value for the warrants. Treasury calculates the volatility input for this model from both implied and historical volatility measures – Treasury uses the average 60-day trailing volatility for the last ten years to determine a stock's historical volatility. For each bank, Treasury develops a dynamic

¹⁰⁶ *Id.*

¹⁰⁷ On June 26, 2009 Treasury released information on its valuation procedure. In conversations with Panel staff, Treasury provided further insight into its method. Treasury Warrant Repurchase Announcement, *supra* note 46.

volatility curve, which generally shows volatility decreasing over time from current levels to historic norms.¹⁰⁸ Third, Treasury performs a fundamental analysis of the repurchasing bank's performance, looking at growth projections, price-to-book ratios, and other indicators of financial health. Fourth, Treasury obtains an outside consultant's appraisal of the warrants. In addition to the four inputs, Treasury may also include a liquidity discount in its valuation of the warrants. This discount ranges from zero to 50 percent and is determined by analyzing factors such as (1) a potential buyer's ability to hedge its warrant position by shorting the company's stock, and (2) the volume of shares traded. An additional discount may be applied for insolvency risk over the ten year period. Using these inputs, Treasury develops a range of acceptable values at which it will sell the warrants. It should also be noted that Treasury has devoted a team to valuing the warrants and that each warrant sale must meet the approval of a four person committee and the Assistant Secretary for Financial Stability.¹⁰⁹

This is a sophisticated valuation procedure and likely results in a reasonable valuation for the warrants. Nonetheless, it may not produce a maximization of taxpayers' return on the warrants. As discussed above, for the warrants it had sold by July 2, 2009, Treasury only received 66 percent of the Panel's best estimate valuation. There are several reasons why this may be the case.

Treasury may be generous to banks in its valuation of the warrants. Treasury is restricted by the terms of its warrant contracts, which require it to give banks the right to repurchase their warrants at "fair market value." This is a nebulous term in the absence of market exchanges, so Treasury has considerable leeway in determining the fair market value for which it will sell the warrants. Treasury's model may lead to a lower valuation than is necessary in at least two ways. First, Treasury's use of average 60-day trailing volatility over ten years as its measure of historical volatility leads to a lower volatility model input and a lower warrant valuation than would the use of other historical volatility measures.¹¹⁰ Other measures, such as historical daily volatility, as used by the Panel, result in higher volatility inputs and higher valuations. These other, higher volatility measures are in common use and are legitimate inputs for option pricing models. Second, Treasury includes significant liquidity discounts in valuing the warrants. If Treasury can hold the warrants to expiration, it is not clear that their valuation should include a

¹⁰⁸ Generally, the blended volatility of this curve is slightly above the historical ten year volatility of repurchasing bank's shares.

¹⁰⁹ Treasury Warrant Repurchase Announcement, *supra* note 46.

¹¹⁰ Treasury's measure of historic volatility, average 60-day trailing volatility for ten years, is distinct from ten year historic volatility. When calculated for the same time period, the two measures will vary significantly because they are different mathematical computations. Inputting Treasury's measure of historic volatility, the average 60-day trailing volatility for ten years, into the Panel's model results in a valuation of \$5.5b for Treasury's outstanding warrants. By comparison, the Panel derived its volatility assumptions from implied volatilities for some banks and ten year historical volatilities for the rest of the banks, valuing the warrants at \$8.1b. Using only the ten year historic volatilities for all of the banks results in a valuation of \$7.5b.

liquidity discount at all.¹¹¹ Even if a liquidity discount is merited, the discount Treasury applies is significantly larger than that used by other accredited valuation firms.¹¹²

Further, banks may not be willing to pay as much as other market participants for warrants in their own equity. The only way Treasury can maximize taxpayers' return on their investment is to sell its warrants to the buyers who are willing to pay the best price. To the extent that a bank is unwilling to pay as much as other market participants, a two-party exclusive negotiation process necessarily fails to maximize returns because it excludes other buyers who may be willing to pay higher prices. On the other hand, it is possible that a bank will actually pay a premium over other market participants to keep its warrants from trading into unknown hands in the market.

Finally, in conversations with Panel staff, Treasury staff has explained that its valuation model is designed to arrive at a "correct and reasonable" valuation, not a valuation that maximizes taxpayer returns. Treasury then uses this valuation as its first bid in negotiations with each repurchasing bank. To the extent that Treasury's initial valuation is then lowered as part of the negotiation process, Treasury's good faith effort to reach agreement is resulting in valuations that are below its own model's valuation of fair market value. On the other hand, Treasury is contractually obligated to negotiate. The warrant contracts stipulate that if Treasury rejects a bank's valuation of its warrants, then it must work to "resolve the objection[s] and to agree upon a Fair Market Value."¹¹³

2. Selling Warrants to the Market

Treasury would be more likely to maximize taxpayer returns if it sold the warrants through auctions. The reason is straightforward: an auction would cause the warrants to be allocated to the buyers willing to pay the highest price, and competitive pressures in the bidding process may push bids up. By setting proper reserve values, Treasury can protect itself against a failed auction and ensure that it will at least receive fair market value. Equally important, auctions can put upward pressure on negotiated transactions by setting new, higher transaction precedents and by showing that a secondary market for these warrants exists, leading to a smaller liquidity discount in the negotiated transactions.

Selling the warrants through auctions would have auxiliary policy benefits to Treasury. Auctions would enable Treasury to sell at least half of its warrants immediately. By returning these warrants to the private market, auctions would further Treasury's aim of exiting its equity positions in TARP-recipient banks as soon as possible. Auctions would also require significantly

¹¹¹ The issue is discussed *supra* in Part C of Section One and *infra* in Annex B of this report.

¹¹² In its February report to the Panel on the value of Treasury's TARP assets, the valuation firm Duff and Phelps' used a zero to 20 percent liquidity discount range. Duff and Phelps, *Valuation Report to the Congressional Oversight Panel* (Feb. 4, 2009) (online at cop.senate.gov/documents/cop-020609-report-dpvaluation.pdf).

¹¹³ Securities Purchase Agreement, *supra* note 15, at § 4.9.

less time commitment from Office of Financial Stability (OFS) staff and could easily be outsourced if Treasury preferred. Finally, auctions would have the additional benefit of promoting transparency in Treasury's disposition of the warrants.

To be sure, there are obstacles to using an auction process. Banks have the contractual right to an exclusive negotiation for their warrants following the redemption of their preferred shares. Thus, there is a period following a bank's redemption of its preferred shares when Treasury cannot auction its warrants in that bank. However, Treasury may auction half a bank's warrants even before the bank redeems its preferred. Treasury could initiate this process immediately. More importantly, Treasury could use the threat of an auction as a bargaining chip in discussions with banks to ensure that negotiated transactions are consummated at fair market value. Selling some warrants through auctions would make it clear to all banks that Treasury has well-developed and viable options if the bank does not offer an adequate price for the warrants.

Other obstacles are related to whether there are sufficient bidders for auctions to be successful. It is possible that the illiquidity of these securities – especially for smaller institutions – will cause investors to stay away, and many potential bidders are banks that may be restricted from bidding because of regulations on inter-bank ownership. Interest may be further depressed by investor concerns regarding the risk of bank insolvency over the warrants' ten year horizon, the limited ability of investors to hedge the warrants, and pessimism about the bank sector in general. Further, rather than buy Treasury's warrants in any given bank, an investor may find it much simpler to invest in the bank directly or to buy call options. On the other hand, it is hard to believe that an auction with a proper reserve value would ever achieve a lower valuation than a negotiation.

Ultimately, open market transactions are the only way to determine true "fair market value." In his testimony before the Panel on June 24, 2009, Assistant Secretary Allison explained this in relation to the toxic assets on bank balance sheets: "We can have our theories, [but] in the last analysis that's why you have financial markets. You have to have liquid interchanges and then the truth will come out as to what the assets are actually worth."¹¹⁴ The same should be said about pricing Treasury's warrants.

G. Issues

In reaching a judgment with the bank supervisors to allow a particular bank to repay its TARP assistance and in determining the price, time and manner at which it will sell the warrants it holds in that bank, Treasury must take into account two overriding statutory considerations:

¹¹⁴ Congressional Oversight Panel, Testimony of Assistant Treasury Secretary for Financial Stability Herbert Allison, Jr., *Hearing with Assistant Treasury Secretary Herbert Allison* (June 24, 2009) (online at cop.senate.gov/hearings/library/hearing-062409-allison.cfm) (hereinafter "June 24 Allison Testimony").

(1) protecting the interests of taxpayers by maximizing overall returns and minimizing the impact on the national debt; [and] (2) providing stability and preventing disruption to financial markets in order to limit the impact on the economy and protect American jobs, savings, and retirement security.¹¹⁵

EESA also recognizes that the two objectives complement one another:

The Secretary shall use the authority under this Act in a manner that will minimize any potential long-term negative impact on the taxpayer, taking into account the direct outlays, potential long-term returns on assets purchased, and the overall economic benefits of the program, including economic benefits due to improvements in economic activity and the availability of credit, the impact on the savings and pensions of individuals and reductions in losses to the Federal Government.¹¹⁶

The public has a strong interest in recovering the money spent to provide assistance to the financial system. But it also has an important stake in restoration of stability to the financial markets as part of a general economic recovery. Treasury must balance the public interests in financial stabilization and economic growth.

In this section, the Panel examines issues Treasury faces in trying to reach such a balance. It looks in turn at the problem from the perspective of the financial stabilization program and of the BHCs and banks subject to the program.

1. Financial Stabilization Program

Treasury has consistently stated that the decision by the government to take ownership positions in financial institutions was a result of emergency conditions, and, consequently, it intends to limit its involvement in management of those institutions and to divest itself of its preferred shares ownership positions in financial institutions¹¹⁷ as soon as financial conditions normalize.¹¹⁸ As referenced above, the Federal Reserve Board has indicated that its approval for

¹¹⁵ EESA, *supra* note 13, § 103 (1) and (2). EESA section 103 lists seven additional facts that Treasury must take into consideration in administering EESA.

¹¹⁶ EESA, *supra* note 13, § 113(a)(1).

¹¹⁷ Treasury owns common stock in Chrysler LLC and is in the process of converting preferred stock into common stock for Citicorp. Treasury contains convertible preferred shares in AIG and GMAC and is in the process of receiving common stock in GM (NewCo). The origin and terms of disposition for those equity interests are outside the scope of this report.

¹¹⁸ *See, e.g.*, Treasury Warrant Repurchase Announcement, *supra* note 46 (“The President has clearly stated that his objective is to dispose of the government’s investments in individual companies as quickly as is practicable.”); U.S. Department of the Treasury. *Secretary Geithner Introduces Financial Stability Plan* (Feb. 10, 2009) (online at www.treasury.gov/press/releases/tg18.htm) (“We believe our policies must be designed to mobilize and leverage private capital, not to supplant or discourage private capital. When government investment is necessary, it should be replaced with private capital as soon as possible.”); U.S. Department of Treasury, *Treasury*

repayment (and hence to a substantial degree its determination that emergency conditions no longer affect the BHC or bank whose repayment is permitted) is based on (i) capital to lend, (ii) ability to maintain the capital levels that supervisors expect, and (iii) ability to satisfy counterparty risk while reducing reliance on government capital. Three important additional considerations not mentioned prominently in Treasury statements are (i) various regulatory and related considerations involving Treasury's maintenance of bank ownership interests (ii) the status of funds repaid to Treasury, and (iii) the remaining period of Treasury's TARP authority.

a. Financial Stability and the Stress Tests

The “restor[ation] of liquidity and stability to the financial system of the United States” is a primary purpose for Congressional authorization of the TARP.¹¹⁹ The critical judgment in approving repayment, as the Federal Reserve Board criteria for approval for stress-tested BHCs recognize, is the ability of those BHCs to “maintain core capital levels consistent with supervisory expectations.”¹²⁰ The Board has also linked adequate capital to ability to lend.¹²¹

In its evaluation of the stress tests,¹²² the Panel cited the finding of its academic experts that the economic modeling used to conduct the tests was generally soundly conceived and conservative (based on the information available). It stated that “the addition of capital to ten of the tested BHCs is certainly a good step forward,” although it also concluded that the tests “should not be taken for more than they are” because “they do not project the capital necessary to prevent banks from being stressed to near the breaking point.”¹²³

White Paper: The Capital Assistance Program and Its Role in the Financial Stability Plan (February 9, 2009) (online at http://www.ustreas.gov/press/releases/reports/tg40_capwhitepaper.pdf) (“[T]o the extent that significant government stake in a financial institution is an outcome of the program [Capital Assistance Program], our goal will be to keep the period of government ownership as temporary as possible and encourage the return of private capital to replace government investment.”).

¹¹⁹ EESA, *supra* note 13, § 2 (1).

¹²⁰ Board of Governors of the Federal Reserve System, *Federal Reserve outlines criteria it will use to evaluate applications to redeem U.S. Treasury capital from participants in Supervisory Capital Assessment Program*, *supra* note 65.

¹²¹ Board of Governors of the Federal Reserve System, *The Supervisory Capital Assessment Program: Overview of Results* (May 7, 2009) (online at www.federalreserve.gov/newsevents/press/bcreg/bcreg20090424a1.pdf) (“Given the heightened uncertainty about the economy and potential losses in the banking system, and the potential in the current environment for adverse economic outcomes to be magnified through the banking system, supervisors believe it prudent for large BHCs to hold substantial capital to absorb losses should the economic downturn be longer and deeper than now anticipated.”).

¹²² Panel June Report, *supra* note 2, at 30-35.

¹²³ The Panel gave the supervisors themselves credit for not over-emphasizing the scope of the tests, which they made clear were conducted within “the present supervisory framework. Panel June Report, *supra* note 2, at 49-50 (“[I]t would be as much a mistake to dismiss the stress tests as it would be to assign them greater value than they merit or in fact that the supervisors claim for them.”).

When one turns to repayment of TARP assistance, two of the Panel’s observations about the stress tests are particularly relevant. The first is that “the stress-testing regimen can be valuable if it is firmly instituted by the supervisors themselves for future periods and is repeated by the supervisors if bank or economic conditions worsen to a greater degree than assumed in the stress test modeling.”¹²⁴ Second, it emphasized that “[t]he fact that the holding companies have added certain amounts of capital on certain assumptions does not mean that the financial crisis is over or that the holding companies are now free from the risk of the sort of crisis-laden conditions many found themselves experiencing during 2008 and early 2009.”¹²⁵

Because the Federal Reserve Board’s repayment standards require the institution involved to be able to maintain the capital ratios set by the stress tests, it is important that no repayments compromise that ability. Some commentators believe that U.S. banks are unlikely to experience a “lost decade” that beset banks in Japan in the 1990s because, unlike Japan, U.S. banks will have well performing loans and will be able to “earn” their way out of future solvency problems.¹²⁶ In this respect, the various loan facilities and guarantees on bank debt that have been instituted by the FDIC can be viewed not simply as an effort to restore confidence and liquidity in the banking system, but also as a mechanism to aid banks’ efforts to earn their way to solvency. Other commentators are less sanguine and have argued that the possibility of further or renewed economic decline, insufficient private investment, and immense commercial real estate and other debts to be refinanced will limit the ability of the banking system to earn its way to health.¹²⁷

b. Macroeconomic Conditions

The goal of the stress tests was the ability of the tested institutions to maintain current levels of activity based on an “adverse scenario” for deterioration of economic conditions

¹²⁴ Panel June Report, *supra* note 2, at 50.

¹²⁵ Panel June Report, *supra* note 2, at 50.

¹²⁶ Mark Trumbull, *Ten US Banks To Repay TARP Money*, The Christian Science Monitor (June 9, 2009) (online at features.csmonitor.com/economyrebuild/2009/06/09/ten-us-banks-to-repay-tarp-money/) (citing Goldman Sachs economist Jan Hatzius that U.S. banks should have sufficient profit streams on good loans “to offset even a rising tide of losses through 2010.”).

¹²⁷ See, e.g., The Economist, *Less Wobbly Now: The Process of Returning Banks to Private Ownership Begins* (June 9, 2009) (online at www.economist.com/businessfinance/displayStory.cfm?story_id=13811147); Martin Neil Baily and Douglas J. Elliott, Brookings Institution, *The US Financial and Economic Crisis: Where Does It Stand and Where Do We Go from Here?*, at 11-13 (June 2009) (online at www.brookings.edu/~media/Files/rc/papers/2009/0615_economic_crisis_baily_elliott/0615_economic_crisis_baily_elliott.pdf) (concluding that there is “wide band of uncertainty” regarding future bank capital requirements given future credit losses in categories such as commercial real estate, commercial and industrial loans, and credit cards).

through the end of 2010.¹²⁸ Thus, the state of the economy is a crucial element for any decision to approve repayment of TARP assistance.

As shown in the table below, two key economic measures used in the stress test continue to show troublesome trends and pessimistic IMF forecasts.

	Baseline		More Adverse		IMF Projections		Current Data ¹²⁹
Metric	2009	2010	2009	2010	2009	2010	(Most Recent)
GDP Growth	-2.0	2.1	-3.3	0.5	-2.6 ¹³⁰	0.0	-5.5 ¹³¹
Unemployment Rate	8.4	8.8	8.9	10.3	8.9 ¹³²	10.1	9.5 ¹³³

Thus, the supervisors must consider the possibility of unrealized losses in commercial real estate, credit card, and other sectors that have not yet shown up on bank balance sheets. This issue is particularly important in the case of small commercial and regional banks, some of which have extensive commercial real estate loans on their portfolios that are not now mature, but may face defaults upon maturity.¹³⁴

c. Government's Dual Role

¹²⁸ Board of Governors of the Federal Reserve System, *The Supervisory Capital Assessment Program: Overview of Results*, at 2 (May 7, 2009) (online at www.federalreserve.gov/newsevents/press/bcreg/bcreg20090507a1.pdf). ; Panel June report, *supra* note 2.

¹²⁹ Because the baseline and adverse scenarios are projected as annual averages, they are not directly comparable to monthly or quarterly data.

¹³⁰ International Monetary Fund, *World Economic Outlook: Update*, at 2 (July 8, 2009) (online at www.imf.org/external/pubs/ft/weo/2009/update/02/pdf/0709.pdf).

¹³¹ First quarter 2009, percent change from preceding quarter in chained 2000 dollars (final figure, revised from the preliminary estimate of -5.7 percent). U.S. Department of Commerce, Bureau of Economic Analysis, *Gross Domestic Product, 1st quarter 2009 (final)* (June 25, 2009) (online at www.bea.gov/newsreleases/national/gdp/gdpnewsrelease.htm) (accessed July 9, 2009). This figure is up from the 6.3 percent decline in the fourth quarter of 2008. *Id.*

¹³² International Monetary Fund, *World Economic Outlook: Crisis and Recovery*, at 65 (Apr. 2009) (online at www.imf.org/external/pubs/ft/weo/2009/01/pdf/text.pdf).

¹³³ U.S. Department of Labor, Bureau of Labor Statistics, *The Employment Situation: June 2009* (July 2, 2009) (USD L 09-0742) (online at www.bls.gov/news.release/pdf/empstat.pdf) (accessed July 6, 2009) (hereinafter "Employment Situation"). This figure is the unemployment rate through June 2009. The year-to-date average unemployment rate stands at 8.67 percent. *See Id.* at 11.

¹³⁴ Panel June Report, *supra* note 2 at 41-42; Richard Parkus and Jing An, *The Future Refinancing Crisis in Commercial Real Estate*, at 3-4 (Apr. 23, 2009) (online at cop.senate.gov/documents/report-042309-parkus.pdf); Maurice Tamman and David Enrich, *Local Banks Face Big Losses*, Wall Street Journal (May 19, 2009) (online at online.wsj.com/article/SB124269114847832587.html).

A benefit from repayment of TARP assistance is the end of the government's conflicting roles as regulator of the very institutions in which it owns shares and on whose profitability repayment of public funds depends. Specific regulatory policies, for example those affecting capital levels, the application of accounting conventions to financial reporting by BHCs or banks, and conflicts among regulators of various parts of BHCs, are complicated by the government's dual interests.

d. Future of the TARP

The most difficult problem raised by repayment of TARP assistance may prove to be its impact on Treasury's ability to respond to a second wave of financial distress. Treasury believes that it can maintain TARP assistance up to a ceiling of \$700 billion until expiration of its authority to make new TARP purchases.¹³⁵ But its authority to expend funds to reinfuse capital into the nation's financial institutions through the purchase of bank securities or of assets on an institution's books terminates at the end of 2009, unless the Secretary of the Treasury extends that authority until October 3, 2010.¹³⁶ But at that point any additional expenditure depends on Congressional action further extending EESA.¹³⁷

Treasury has evidently made the decision that repayment of TARP assistance will not affect the government's ability to respond to future crises, and Secretary Geithner has stated that the decision whether or not to extend the TARP or seek Congressional approval for a further extension of the TARP has not been made.¹³⁸ However, the lack of a publicly-expressed position about the future is worrisome. The Panel noted in its June report that both its own independent experts and other commentators have expressed a concern that the results of the tests understate the risks that existing loans will result in substantial losses in 2011, following the two-year period for which the stress testing occurred.

¹³⁵ Treasury's position, as most recently been expressed in a letter from Secretary Geithner to Senator David Vitter, is that the interaction of various sections of EESA produces the following result: (i) Treasury's authority to purchase "troubled assets" is "limited to \$700 billion outstanding at any one time," (ii) amounts repaid to Treasury must be returned to the government's general accounts, and (iii) repaid funds free up an additional amount of space under the ceiling, and Treasury can use the proceeds of the sale of government securities to restore that amount to the fund from which TARP expenditures can be made, so long as the fund does not somehow exceed \$700 billion. See EESA, *supra* note 13, § 106 (d), 115(a), 118 (codified at 12 U.S.C. §§ 5216(d), 5225(a), 5228).

Treasury's reading is disputed. An attempt to amend EESA to make it clear that all repayments simply reduce remaining expenditure authority failed in the Senate 48-47. S. Amend. 1030, (May 5, 2009) (online at <http://thomas.loc.gov/cgi-bin/bdquery/z?d111:SP1030:>). H.R. 2745 would amend EESA to reach the same result. H.R. 2745, *supra* note 29, adding § 137(d)(2) to EESA.

¹³⁶ H.R. 2745, *supra* note 29, would amend EESA to eliminate the ability of the Secretary to extend Treasury's TARP authority.

¹³⁷ EESA, *supra* note 13, § 120. Expiration of the authority to make new expenditures does not affect Treasury's ability to hold or repurchase preferred stock. EESA, *supra* note 13, § 106(e).

¹³⁸ Senate Committee on Banking, Housing, and Urban Affairs, Testimony of Treasury Secretary Timothy Geithner, *The Administration's Proposal to Modernize the Financial Regulatory System* (June 18, 2009).

2. Warrant Repurchase

The issues surrounding warrant repurchase are relatively simple. Although they may constitute only a limited portion of the value of Treasury's total investment in the institutions involved, the warrants are the only vehicle through which the public can realize a return on its investment in addition to the dividends paid on the preferred shares for the relatively short period for which the stock will prove to have been held. The warrants cover a ten-year period, however, and as noted in the valuation discussion above, their value likely more accurately reflects the market's long-term assessment of the prospects of institutions whose operations Treasury stabilized.

As indicated above, Treasury's choices in continuing to hold the warrants it now holds are limited by the SPAs. But even if it continues to hold warrants in institutions that repay their assistance but do not opt to repurchase their warrants, Treasury should consider carefully its alternative courses of action. There is, of course, a chance for equity appreciation greater than that predicted by present valuation; but there is likewise a chance that by continuing to hold warrants their potential value will drop, wiping out any upside that can be captured by taxpayers. However, the scenario in which bank stock prices fall is also likely to be a scenario in which banks' capital positions are weaker than they are today.

The disposition of the warrants is of direct financial interest to the public. For that reason, it is especially important that Treasury be absolutely transparent about the nature and substance of the decisions it is making and the reasons for those decisions. The Panel has emphasized the need for transparency in administration of the TARP since its first report, and it is disheartening to have received the following response from Secretary Geithner about warrant valuation data:

It is not Treasury's policy to publish estimates of the fair market value of its investments made under the Troubled Asset Relief Program ("TARP"). In the present case, Treasury believes it would not be in the taxpayer's interest for Treasury to disclose any valuations it has performed in connection with warrants whose repurchase is currently pending or that may be repurchased in the near term.¹³⁹

However, warrants are still only 15 percent of the original CPP investment. Since it is the healthy banks that are currently repaying, the value of their respective warrants has no doubt gone up. In this respect, early sales of these warrants may leave Treasury holding the warrants of weaker institutions with lower stock prices and less likelihood of appreciation in the value of their warrants, at least in the immediate future.

¹³⁹ Letter from Secretary Timothy Geithner to Congressional Oversight Panel Chair Elizabeth Warren (July 1, 2009) (attached as Appendix II to this report).

The Panel recognizes that Treasury must protect proprietary information and use care to avoid giving other institutions information that would prejudice the interests of the taxpayer, but it must make any decision to restrict disclosure for these reasons only in the most thoughtful and judicious manner. Transparency throughout the negotiation process is essential for accountability and acceptance of the valuations.

3. The Financial Institutions' Perspective

Financial institutions, especially large ones, appear to want to repay their TARP assistance as soon as they can obtain approval to do so. In some cases, of course, they may feel that they simply do not need the money any longer. However, there are likely several additional reasons for pursuing prompt repayment of the TARP investments.

Despite the Administration's consistent statements that its policy is not to be involved in bank management and to cease to hold ownership positions in banks as soon as practicable,¹⁴⁰ Treasury retains influence over the business decisions and internal governance of institutions in which it holds substantial preferred shares and warrant interests. Although ownership of preferred shares or warrants convertible into nonvoting common shares does not provide the sort of leverage that common shares ownership does, holding a substantial block of preferred shares with the terms of the Treasury preferred (discussed below) significantly constrains aspects of the issuing institution. Such constraints, for example, hinder the ability to pay dividends or engage in certain capital transactions, in exchange for bolstering the institution's capital. Replacing the Treasury investment with independently-raised equity frees the institution from those constraints. At the same time, however, repayment of TARP assistance will not free an institution from the scope of the enhanced supervisory regime that has evolved during the worst months of the crisis as that regime would apply to the institution in any event.

The second motivation for prompt repayment of TARP investments has to do with the specific rules or conditions to which TARP recipients are subject. The prime examples involve executive compensation and corporate governance restrictions applicable to TARP recipients. While banks were aware that they were subject to restrictions upon entrance into the CPP,¹⁴¹ they

¹⁴⁰ See *supra* note 46; June 24 Allison Testimony, *supra* note 114 (“We are very reluctant shareholders in corporations. We don't want to be in that position.”).

¹⁴¹ CPP contracts contained a covenant obligating recipients to implement the executive compensation provisions required under section 111(b) of the EESA and any Treasury regulations implementing the section promulgated by the closing date of the investments. Section 111(b) provisions included: (1) a prohibition on TARP recipients from receiving tax deductions for bonuses above \$500,000 for top five senior executive; (2) a clawback provision for any top five executives who knowingly engage in providing inaccurate information that is used to calculate their bonuses; and (3) a golden parachute restriction that prevents top five top executives from receiving severance bonuses in excess of three years' compensation.

By contract, Treasury imposed more stringent requirements on SSFI program and TIP investments beyond those required by the section 111(b) regulations. Most notably, the size of the 2008 and 2009 bonus pools for AIG, Citigroup, and BofA were capped. In February 2009, Treasury imposed new compensation requirements for future CAP recipients that were slightly more restrictive than those applicable to their CPP counterparts and retroactively

point to new provisions established in ARRA and by subsequent Treasury regulatory action¹⁴² that are retroactively applicable to past recipients of TARP financial assistance who have not yet repaid Treasury. As the American Bankers Association explained in a letter sent to the House of Representatives opposing additional restrictions on executive compensation for CPP recipients because of the impact of uncertainty on business operations, “the risk of unilateral changing of the rules at any time ... is extremely disruptive to sound business planning.”¹⁴³

With respect to employee compensation, ARRA’s amendment of EESA’s executive compensation and corporate governance restrictions and Treasury’s subsequent regulatory action has subjected CPP recipients to restrictions that are, in many respects, stronger and more far reaching than those that they faced under the CPP contracts and pre-ARRA regulations.¹⁴⁴ In one respect, however, ARRA’s amendment to section 111 of EESA has benefitted banks seeking to be free from executive compensation regulations: if a bank redeems all of its CPP preferred shares, it is immediately free from these conditions regardless of whether Treasury still holds warrants for the purchase of its common shares.¹⁴⁵

Banks have argued that TARP-related executive compensation restrictions are making it difficult for them to attract or retain talented executives and employees because these employees can be better compensated by financial services firms free of the restrictions. These include

applicable requirements for recipients of “exceptional assistance,” including restricting non-restricted stock compensation to \$500,000 for senior executives, imposition of non-binding say-on-pay shareholder votes, expanding the number of executives subject to clawback and golden parachute payments, and mandating exposure on company policy on luxury expenditures. U.S. Department of the Treasury, Press Release: Treasury Announces New Restrictions on Executive Compensation (Feb. 4, 2009) (available at www.treasury.gov/press/releases/tg15.htm).

¹⁴² Robin Sidel, *U.S. Gets TARP Payback from 10 Banks*, Wall Street Journal (June 18, 2009) (<http://online.wsj.com/article/SB124524619467123215.html>) (“some bankers complained it had outlived its purpose and imposed needless complications on compensation and other decisions.”).

¹⁴³ See Memorandum from Floyd Stoner, American Bankers Associations to Members of the House of Representatives (March 30, 2009) (online at www.aba.com/NR/rdonlyres/76DCD307-2D7E-48A6-A10F-623175F0AEAD/59034/ExecComp_ABAHouseLetter_033009.pdf).

¹⁴⁴ As compared to EESA’s original provisions, the new requirements cover more employees (in some cases expanding their scope from five senior executives to twenty and, in cases of exceptional assistance recipients, an additional 100 most highly compensated employees). They also contain stricter restrictions on bonus and severance payments, encompass additional corporate governance standards, and are in part enforced by the new Treasury office of Special Master for TARP Executive Compensation. In addition, by regulation, Treasury has created a Special Master for TARP Executive Compensation who has authority to review any compensation (payments) for senior executive officers and next 20 most highly compensated employees at firms receiving exceptional assistance; to approve the compensation structure for the next 100 highly compensated employees of such firms; and to issue advisory opinions on the compensation and compensation structure at non-exceptional assistance TARP recipients. See ARRA, *supra* note 23, § 7001; U.S. Department of the Treasury, *Interim Final Rule on TARP Standards for Compensation and Corporate Governance* (accessed June 12, 2009) (online at www.treas.gov/press/releases/reports/ec%20ifr%20fr%20web%206.9.09tg164.pdf); U.S. Department of the Treasury, *Press Release: U.S. Department of the Treasury, Interim Final Rule on TARP Standards for Compensation and Corporate Governance* (June 10, 2009) (online at www.treas.gov/press/releases/tg165.htm).

¹⁴⁵ ARRA, *supra* note 23, § 7001.

private equity and hedge funds,¹⁴⁶ large international financial institutions such as HSBC or Barclays that are ineligible to receive TARP funds, and firms that have freed themselves of the restraints by redeeming their CPP preferred shares.

In addition to executive compensation and corporate governance restrictions, TARP-recipient banks are subject to restrictions on hiring foreign workers. The Employ American Workers Act (EAWA), section 1611 of ARRA, prohibits any recipient of funding under Title I of EESA or section 13 of the Federal Reserve Act from hiring new H-1B workers unless they had offered positions to equally- or better-qualified U.S. workers, and it prevents recipients from hiring H-1B workers in occupations in which they have laid off U.S. workers.¹⁴⁷ Hence, while EAWA applies to CPP recipients, repayments will not necessarily free banks from its restrictions such as restraints on hiring foreign workers.

Banks also explain that they are motivated to repay TARP funds as soon as possible so they can be free of conditions currently imposed by contract, statute, or regulation on recipients and the uncertainty related to the possibility of new conditions in the future.¹⁴⁸

The SPA places restrictions on a bank's dividend and repurchase abilities. These restrictions apply until the earlier of the date the bank redeems its shares, when the shares are transferred to a third party, or three years after the CPP preferred shares' issuance.¹⁴⁹ There are two dividend restrictions. The first is a common restriction for preferred shares that gives dividend payments to preferred shareholders priority over dividend payments to common or junior preferred shares. The second dividend restriction is much less common, and quite favorable to Treasury. It caps for a period of time the amount of dividends that the bank can pay on its common shares. The cap is set at the amount of the last regular quarterly cash dividend

¹⁴⁶ Edmund Andrews and Eric Dash, *Stimulus Plan Places New Limits on Wall St. Bonuses*, New York Times (Feb. 13, 2009) (online at www.nytimes.com/2009/02/14/business/economy/14pay.html) ("Top economic advisers to President Obama adamantly opposed the pay restrictions, according to Congressional officials, warning lawmakers behind closed doors that they went too far and would cause a brain drain in the financial industry during an acute crisis... Others warned that because of the rules, firms might lose their best traders and managers to hedge funds and foreign banks.").

¹⁴⁷ ARRA, *supra* note 23, § 1611(b).

¹⁴⁸ Eric Dash, *10 Large Banks Allowed to Exit U.S. Aid Program*, New York Times (June 10, 2009) (online at www.nytimes.com/2009/06/10/business/economy/10tarp.html) ("The banks are eager to escape TARP and the restrictions that come with it, particularly the limits on how much they can pay their 25 most highly compensated workers."); Deborah Solomon, *Nine Banks to Repay TARP Money*, Wall Street Journal (June 9, 2009) (online at online.wsj.com/article/SB124450458046896047.html) ("many [TARP recipients] are uncomfortable with the restrictions that come with the government's investment, including on pay, dividends and stock buybacks"); Robin Sidel, *U.S. Gets TARP Payback from 10 Banks*, Wall Street Journal (June 18, 2009) (online at online.wsj.com/article/SB124524619467123215.html) ("some bankers complained it had outlived its purpose and imposed needless complications on compensation and other decisions"); Stephen Labaton, *Some Banks, Feeling Chained, Want to Return Bailout Money*, New York Times (Mar. 10, 2009) (online at www.nytimes.com/2009/03/11/business/economy/11bailout.html) ("One of the biggest concerns of the banks is that the program lets Congress and the administration pile on new conditions at any time.").

¹⁴⁹ Securities Purchase Agreement, *supra* note 15, § 4.8(a).

prior to October 14, 2008.¹⁵⁰ The stock repurchase restrictions are parallel to the dividend restrictions.¹⁵¹ The bank may not redeem common or junior preferred shares if dividends on the preferred have not yet been paid. Redemption of common and junior preferred shares is prohibited during the times in which dividends are capped.

These restrictions improve the value of the warrants by preventing banks from paying excessive dividends, which, in turn, could impair the bank's capital structure and ultimately negatively impact the value of its shares. Moreover, these restrictions protect the value of the preferred shares by prioritizing dividend payments to preferred shareholders over those of junior preferred and common shareholders.

Finally, a number of institutions argue that they were forced directly or indirectly by Treasury and their supervisors to participate in the CPP in the interests of stability of the financial system as a whole. They may be worried that, especially after the stress tests, their failure to repay the assistance they receive will have unfair consequences in the way the markets assess their strength. Some, especially small, banks may worry about general public anger at "bailout banks."¹⁵²

The reasons why many banks may be seeking to repay their CPP investments promptly may also help to explain why some institutions have declined to participate in the TARP. Since the introduction of the CPP, a total of 372 banks have withdrawn their applications after receiving preliminary approval by Treasury. On occasion, this situation has arisen when Treasury or the regulator had reason to believe that a bank would not receive final approval, and

¹⁵⁰ Securities Purchase Agreement, *supra* note 15, § 4.8(a)(i). The dividend amount is subject to certain adjustments, for stock splits, etc.

¹⁵¹ The repurchase of common stock is economically equivalent to a dividend.

¹⁵² Eric Dash, *Four Small Banks Are the First to Pay Back TARP Funds*, New York Times (Mar. 10, 2009) (online at www.nytimes.com/2009/04/01/business/01bank.html) ("About 500 small banks have received \$73.7 billion. But the purpose of the TARP money and the public perception of the fund have changed since then. What was billed as a program intended to help healthy banks increase lending and swallow up troubled rivals widened to include a number of struggling banks... 'We don't want to be touched by the stigma attached to firms that had taken money,' said Scott A. Shay, the chairman of Signature Bank."); David Segal, *We're Dull, Small Banks Say, but Have Profits*, New York Times (May 11, 2009) (online at <http://www.nytimes.com/2009/05/12/business/12small.html>) ("[C]ommunity bankers have felt compelled in recent months to mount public relations campaigns to emphasize their fiscal health and in some cases to announce they rejected Troubled Asset Relief Program, or TARP, funds. Some have held cookouts, others have held 'reassurance' meetings in their lobbies, hoping to educate customers and prevent panics. All are dealing with banker jokes and the occasional wisecrack."); Bob Davis and Jon Hilsenrath, *Federal Intervention Pits 'Gets' vs. 'Get-Nots'*, Wall Street Journal (June 15, 2009) (online at <http://online.wsj.com/article/SB124501974568613573.html>) ("Some businesses are trying to tap this antibailout sentiment. Worthington National Bank has erected billboards around Forth Worth, Texas, boasting that it hasn't been bailed out – a shot at a crosstown rival that took federal cash.").

therefore encouraged it to withdraw voluntarily (so as not to create a disclosable event). In the vast majority of cases, however, it was entirely the bank's decision not to take the funds.¹⁵³

H. Conclusion – Policy Choices and Trade-Offs

The repayment of more than one-third of the financial assistance provided under the CPP portion of the TARP, by financial institutions comprising approximately one-third of bank and bank holding company assets, marks a turning point in the TARP and requires careful examination of Treasury's exit strategy for the program. If the program has contributed to the restoration of stability in the nation's financial system, forming an important piece of the broader economic recovery effort, then the timing and manner in which the TARP is wound down is as important as the way it was begun.

The judgments involved in the timing of the decision to permit repayment of financial assistance are not simple. Government ownership of substantial interests in the financial institutions that it is supposed to regulate presents substantial challenges, in part because it runs the risk of appearing to prefer some institutions in which it has made investments over others. However, that difficulty has been inherent in the TARP from the beginning. The question now is whether there have been sufficient changes in the last eight months in the condition of the nation's largest financial institutions and the state of the nation's economic recovery to justify repayment of TARP assistance.

The banks that have been permitted to repay have for the most part been able to raise funds in the equity markets. But there is little firm evidence that their lending figures have improved or that their capital condition will remain firm. The stress tests, as the Panel's June report made clear, are a step forward, but do not resolve the issue. Moreover, there are questions about whether the economy has improved to a sufficient degree to eliminate the capital buffer the assistance created, or whether weak loans and similar assets have been sufficiently eliminated from the institutions' balance sheets. In addition, the desire of banks to free themselves of various regulatory restrictions imposed on TARP recipients cannot in any way influence the policy of Treasury and the Federal Reserve Board in determining whether and when to allow TARP assistance to be repaid.

The Panel's valuations offer reasonable estimates of the fair market value of the warrants. They may help Treasury as it balances the return to the taxpayer indicated by its own estimates of value and the host of other relevant market, regulatory and economic factors applicable to the disposition of sophisticated financial instruments. In addition, Treasury should promptly provide written reports to the American taxpayers analyzing in sufficient detail the fair market value determinations for any warrants either repurchased by a TARP recipient from Treasury or sold

¹⁵³Weekly data reported to the Panel by Treasury do not distinguish between banks that withdrew after receiving approval and those that withdrew at any time, but it would appear that voluntary withdrawals, rare occurrences in the last months of 2008, increased in frequency starting around the second week of January.

by Treasury through an auction, and it should disclose the rationale for its choice of an auction or private sale. Most important, Treasury should undertake to negotiate the disposition of the warrants in a manner that is as transparent and fully accountable as possible.

As the Panel has made clear since its beginning, transparency is essential – perhaps now more than ever. Treasury and the Federal Reserve Board must explain fully and clearly to the public the reasons for approval for repayment of financial assistance. Treasury must be equally transparent about the way warrants are valued, the exit strategy for, or future use of the TARP. Without such transparency, the credibility of the decisions of Treasury and the Federal Reserve Board and of Treasury’s stewardship of the TARP can only fall into serious question.

ANNEX A: Technical Explanation of Warrant Valuation Methods

This annex provides background on the most commonly used methods of valuing warrants and an explanation of the assumptions the Panel made in applying one such method to calculate the value of the TARP warrants.

The most prominent warrant valuation model is Black-Scholes, which has been the method of choice since it was first published in 1973.¹⁵⁴ Since that time, it has seen many extensions and modifications, but the main theoretical and mathematical basis for the method has remained the same. Another method, the binomial options pricing model, introduced by Cox, Ross and Rubinstein in 1979,¹⁵⁵ relies on many of the ideas set forth in Black-Scholes while approaching the mathematical calculations in a very different manner. Finally, the simplest valuation of an option is its intrinsic value, which values the option solely on its moneyness.¹⁵⁶ These three methods are representative of the majority of valuation techniques used today, and most traders use models based on one of these three models.

The intrinsic value of a warrant is calculated by the simple equation:

$$\text{Warrant Price} = \text{Current Share Price} - \text{Strike Price} \quad (1)$$

The resultant value is the net gain a trader would realize upon exercising the warrant and selling the underlying stock at any given moment. This value is very useful in determining the prices of warrants very near the end of their terms, and for modeling hypothetical early executions of non-European options.¹⁵⁷ However, in valuing warrants that are not near their expiration date, and especially in valuing Long-Term Equity Anticipation Securities (LEAPs)¹⁵⁸ such as the warrants issued under the TARP, using intrinsic value to model fair market value presents significant problems. These problems stem from its one major flaw – the assumption that no matter the term, a warrant’s value is the difference between the underlying share price and the warrant’s strike price. While intrinsic value can provide useful information about the value of a warrant if exercised immediately, it says very little about the future value of that warrant or its value on the open market, as there is always a positive probability that the underlying stock price will increase. Since intrinsic value ignores the value of future stock

¹⁵⁴ Black-Scholes Paper, *supra* note 72.

¹⁵⁵ CRR Binomial Paper, *supra* note 70.

¹⁵⁶ Moneyness is the property of an option that describes the relationship between its strike price and the current share price of the underlying stock. An option is “In The Money” when its strike price is less than the underlying’s current share price, “At The Money” when its strike is equal to the underlying’s share price, and “Out of The Money” when its strike is above the current share price.

¹⁵⁷ European options are options which can only be exercised on the day they expire. The most prevalent type of non-European option is the American option, which can be exercised on any day until it expires.

¹⁵⁸ Long-Term Equity Anticipation securities are options that have an expiry date more than one year away.

movement and the time option captured in a warrant, the TARP warrants must be worth more than their intrinsic value.

The binomial options pricing model and the Black-Scholes model rely on many of the same assumptions: efficient markets, no transaction costs, Brownian motion,¹⁵⁹ and lognormal growth.¹⁶⁰ For the binomial model, these assumptions allow a binomial tree to be constructed that follows a random walk of the underlying share prices, where the term of the option is split into different periods. The first period consists of one point that represents the current share price. From this, using the model inputs,¹⁶¹ a possible increase in the share price and a possible decrease are calculated. These newly calculated points represent the two possible prices which could be attained by the stock in the next period. This process is continued through all of the periods in the model until the warrant's term is complete. This process creates a lattice of interconnecting possible future paths of the underlying share price. From this result, option prices are calculated backward from the final period to determine the appropriate price, given the statistical probabilities of the outcomes, of the option in the original period.

While a Black-Scholes valuation relies on a continuous model of share prices, the binomial model operates in discrete periods of time. Because of this, the binomial model has a number of beneficial features, all of which stem from its ability to incorporate different assumptions at different periods in a warrants term. Further, it allows for the modeling of American options which can be exercised early.¹⁶² However, the ability to add these features results in a more sophisticated set of inputs, creating a more complicated and less reproducible model as a result.

The lack of reproducibility caused by the use of sophisticated and complex inputs is one of the major problems of the binomial model. Since the Panel attempted a transparent valuation of the TARP warrants, it used a Black-Scholes model, which uses only a few simple inputs.

The most popular option pricing model is Black-Scholes, which has been an industry standard since it was first introduced and is routinely used by options traders. To value an option, the Black-Scholes model sets up a fully hedged portfolio, which is long the underlying stock and short the option. Since in an efficient market a portfolio cannot exist with a guaranteed return

¹⁵⁹ A theory developed by Robert Brown to describe the random movements of particles in suspensions, which was later quantified by Einstein and Smoluchowski and used to prove the existence of atoms. The mathematical model describes random movement and is often used in many fields to mathematically describe random events. In this context, it is used to describe the random motion of stock prices.

¹⁶⁰ At this limit, or after a large number of periods, the result of the Binomial Options Pricing Model becomes equivalent to the pricing of the Black-Scholes model with respect to the valuation of European Options. Lognormal growth, an underlying tenant of Black-Scholes, is found to be a property at the limit as well.

¹⁶¹ The assumption of no arbitrage allows the model to assume that all of the stocks information is appropriately incorporated into the share price.

¹⁶² An American option can be exercised at any time until the expiration date. By contrast, a European option can only be exercised on the expiration date.

greater than the risk free rate, this perfectly hedged portfolio must earn the risk free rate. This parity can be expanded out through stochastic calculus to a partial differential equation which has the closed-form solution:¹⁶³

$$w(x, t) = xN(d_1) - ce^{r(t-t^*)}N(d_2) \quad (2)$$

$$d_1 = \frac{\ln\left(\frac{x}{c}\right) + \left(r + \frac{1}{2}v^2\right)(t^* - t)}{v\sqrt{t^* - t}} \quad (3)$$

$$d_2 = \frac{\ln\left(\frac{x}{c}\right) + \left(r - \frac{1}{2}v^2\right)(t^* - t)}{v\sqrt{t^* - t}} = d_1 - v\sqrt{t^* - t} \quad (4)$$

The popularity of the Black-Scholes model is driven by its ease of use, which is the product of its closed form solution. Anyone can plug in the standard inputs required for valuing any option and then solve the equation for the value of the option. The model is also preferred by options traders because it has a high degree of accuracy. Although some believe that the binomial model is more accurate, the Black-Scholes model's ease of use has made it the industry standard for valuing warrants, as acknowledged by many respected options experts, including Mark Rubinstein, the co-creator of the binomial method.¹⁶⁴

It is important to note that the Black-Scholes model, as well as every other popular options pricing model, was created to reflect the prices of options with short terms, ranging from days to months. As no options are traded on the Chicago Board Options Exchange (CBOE) with terms longer than three years,¹⁶⁵ it is very difficult to come up with a "fair market value" of the TARP warrants which have terms of ten years. The lack of publicly traded comparable derivatives makes any valuation of ten-year warrants difficult.

More generally, there is the problem of lack of knowledge about most of the inputs to the model. For example, while ten-year Treasury bills factor in what the market expects the interest

¹⁶³ This expansion is made possible by a number of assumptions including: the assumption that stock prices "follow a random walk, in continuous time with a variance rate proportional to the square of the stock price. Thus the distribution of possible stock prices at the end of any finite interval is lognormal." Black-Scholes Paper, *supra* note 72, at 640. In equations (2) (3) and (4), N(d) refers to cumulative normal density function, w(x,t) refers to the price of the warrant with respect to the share price of the underlying(x) and time(t). (r) refers to the risk free interest rate, and (c) refers to the strike price. (v) refers to the volatility of the underlying.

¹⁶⁴ Rubinstein Implied Binomial Trees Paper, *supra* note 73 ("The [Black-Scholes] formula can be implemented in a fraction of a second on widely available low-cost computers and calculators. In many situations of practical relevance, the inputs can be easily measured and the related securities are traded in highly efficient markets. This model is widely viewed as one of the most successful in the social sciences and has perhaps (including its binomial extension) the most widely used formula, with embedded probabilities, in human history.").

¹⁶⁵ Chicago Board Options Exchange, *Product Specification: Equity LEAPS* (online at www.cboe.com/Products/EquityLEAPS.aspx) (accessed July 8, 2009) ("Expirations Months: May be up to 39 months from the date of initial listing, January expiration only." However, there may be some FLEX options with terms as long as 15 years, however these are custom instruments, and not traded, listed, or priced like regular options, and therefore unusable for the purposes of this analysis.).

rate risk for the next ten years to be, it is impossible to know the validity of the market's expectations. Thus, once again, it is important to note that the value that we are searching for here is not based on our expectations of the future, but rather our estimate of the market's expectations. Because the goal of the Panel's valuations was to estimate the value the financial markets would place on these warrants, we tried to use the inputs most likely to be used by prospective buyers.

The input that is the least defined in the Black-Scholes model and has the largest effect on the price of the warrant is the volatility of the underlying stock price. Volatility is defined as the standard deviation of the continuously compounding returns of a stock. It is clear from this definition that there are an almost infinite number of variations of the calculation of this number. The volatility is important in the Black-Scholes model because it features prominently in both of the probability calculations in the closed-form solution, meaning that differing values of volatility can create substantial differences in the final valuations of the warrants. The following example illustrates this point with respect to the Black-Scholes model. Assume that a warrant to buy one share of company XYZ at \$150 expires in one year, that XYZ is currently trading at \$100 and that the risk free rate is one percent. If XYZ's volatility is 30 percent, the warrant is worth \$1.59, but if the volatility is 60 percent, the warrant is worth \$10.91. In fact, if the volatility is below 15 percent, the warrant is virtually worthless.

There are two main ways to estimate the future volatility of a stock. The first is to calculate it from historical prices. Any time period can be used to measure volatility, although standard practice dictates that the time period chosen be at least three months and at most ten years backward from the valuation day. An analyst's choice of the time period over which he or she will measure historical volatility as an estimate of future volatility can have a large effect on a valuation. For example, since the past two years have been particularly turbulent, the volatility figures derived from this period are high and may not be representative of the volatility of stocks over the next ten years. Using these volatility figures to value the TARP warrants would likely lead to an overvaluation. On the other hand, using volatilities calculated from the past ten years may undervalue the warrants if one believes that shares will be more volatile over the next decade than they have been in the previous one. Modulating the time period over which historical volatility is calculated can affect the valuation of the warrants in some banks by more than an order of magnitude. Apart from the time period over which volatility is measured, historical volatility measures also differ based on the time increments from which they calculate variance in returns: days, weeks, months, or other lengths of time.

The second method of determining volatility of a stock is to derive its "implied volatility." Implied volatility of a stock is calculated by solving the Black-Scholes equation for volatility after plugging in the market price of a publicly traded option on that stock. This process yields the market's estimate of the stock's volatility, following from the Black-Scholes assumption that all of a security's information is incorporated into its price. While this number

has its drawbacks, particularly because publicly traded options do not have terms nearly as long as the TARP warrants, it is the best estimate of the market's current perception of volatility.

While these two methods of calculating volatility are the most widely used, and thus the most useful in estimating the fair market value of the TARP warrants, there are a number of other methods that can be used to calculate volatility. One example is the calculation of volatility from credit default swaps (CDS). Using Merton's model, which defines an option on a stock as an option on the underlying firm's assets, it is possible to translate CDS spreads into implied volatilities, which is useful, since the market for ten-year CDSs is more liquid than the market for ten-year options. However, calculations based on CDSs rely on the Merton model's characterization of equity, which may be incorrect due to the different tiers debt and equity represent in a firm's capital structure. This method for calculating volatility is most appropriately used "when the long-term prospects of a company are driven by downside credit concerns rather than upside growth potential."¹⁶⁶ In today's market of relatively low stock prices and extensive government support for the financial sector, it appears that share prices for banks are more likely to be determined by the potential for rebound, as opposed to potential failures due to credit problems. This means that CDS spreads are not likely to be as useful in calculating the value of TARP warrants.

While the lack of a specific method for calculating volatility creates uncertainty in the determination of Black-Scholes values, the model may also fail to account for a number of other factors which affect the value of options. One overlooked factor is the dividend yield. Dividend yield is calculated as the ratio of annual dividends per share to share price. The dividend yield represents an investor's return on investment if the stock is not sold. While the Black-Scholes model assumes that companies do not issue dividends, most do, and dividends create a premium for holding the underlying stock compared to the warrant. As a result, all other things being equal, the higher the dividend yield of the underlying stock, the lower the value of the warrant. Since many of the companies for which Treasury holds warrants issue dividends, it is necessary to adjust for this factor in any valuation of its holdings.

While the Black-Scholes model provides insight into the pricing of short term European call options on stocks that do not pay dividends, it does not provide a proper valuation for American LEAPs on companies that pay dividends, like the TARP warrants. In order to price these securities, it is necessary to use some of the many extensions that have been developed for Black-Scholes since its inception. The first extension was created by Robert C. Merton in 1973 before the Black-Scholes paper was published. This extension allows for the integration of dividends into the Black-Scholes model by making the assumption that "since the warrant owner is not entitled to any part of the dividend return, he only considers that part of the expected dollar

¹⁶⁶ Credit Suisse Valuation Report, *supra* note 91.

return to the common stock due to price appreciation.”¹⁶⁷ This extension is used as the standard for pricing options that have a dividend-issuing underlying stock, and has been adopted in the methodology used by the Panel in this report.

The other extension that the Panel used is that of Galai and Schneller.¹⁶⁸ This extension accounts for the fact that warrants are fundamentally different from call options, since exercising a warrant causes an increase in the number of outstanding shares, diluting common equity holders. This means that – all other things being equal – a stock is worth less after the exercise of a warrant than it was before exercise. In order to account for this, the Black-Scholes value of the option is calculated, multiplied by the ratio of the number of warrants to the number of fully diluted shares, and then this value is added to the share price to create a new share price input. The Black-Scholes value is calculated again, using this new share price input. This process is carried out repeatedly until the Black-Scholes values converge, at which point dilution has been sufficiently factored out of the warrant’s price. This final value is then multiplied by the ratio of the number of shares outstanding to the number of shares outstanding plus the number of warrants to arrive at a warrant valuation that considers the effect of dilution.

A Final Note on the Convergence of the Binomial and Black-Scholes Methods

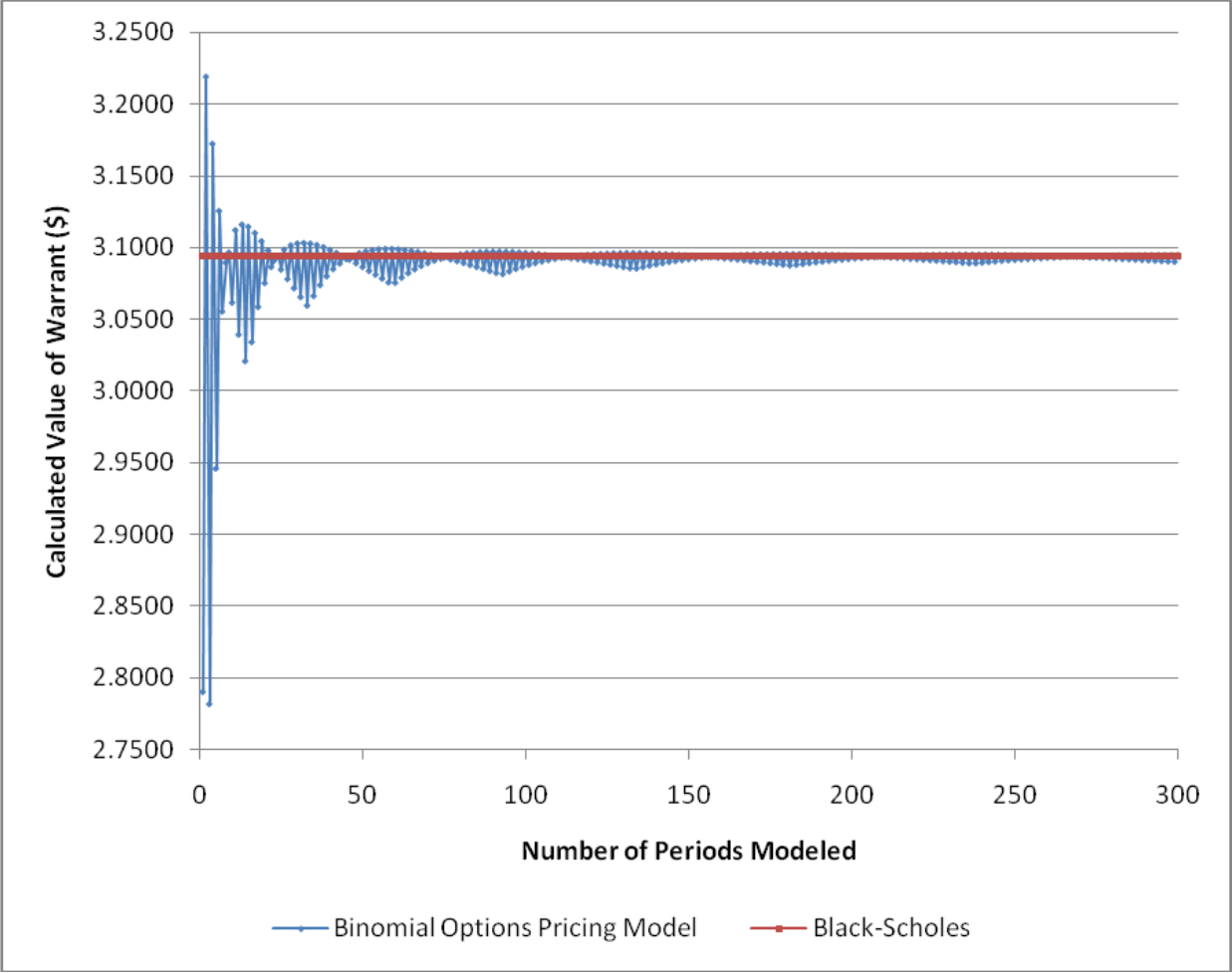
The binomial method and the Black-Scholes model are both used extensively to model the values of warrants. In fact, FAS 123(R) states that, “A lattice model (for example, a binomial model) and a closed-form model (for example, the Black-Scholes-Merton formula) are among the valuation techniques that meet the criteria required by this Statement for estimating the fair values of employee share options and similar instruments,” acknowledging both Black-Scholes-Merton and the binomial method as valid in pricing stock options issued as compensation.¹⁶⁹ The Panel has chosen to use the Black-Scholes method for the reasons described above. In fact, however, the choice does not matter, because, given the same inputs, the binomial method converges on Black-Scholes as the number of nodes in the binomial tree grows (see Figure 5). In fact, the Black-Scholes equations are merely the closed form solution of the binomial model in the special case that inputs are constant and that the number of nodes is taken to the limit. From this, it is clear that any difference in the valuations of warrants is due not to the choice of the binomial or Black-Scholes model, but rather the input assumptions that are made.

¹⁶⁷ Robert C. Merton, *Theory of Rational Option Pricing*, The Bell Journal of Economics and Management Science, at 170 (Spring 1973).

¹⁶⁸ Dan Galai and Meir I. Schneller, *Pricing of Warrants and the Value of the Firm*, The Journal of Finance, at 1333-1342 (Dec. 1978).

¹⁶⁹ While executive compensation options are not the same as TARP warrants, they share certain characteristics, such as their long terms. Thus, methods acceptable for valuing executive compensation options are also probably appropriate for valuing TARP warrants. Financial Accounting Standards Board, *Statement of Financial Accounting Standards No. 123(R): Share-Based Payment* (October 1995).

FIGURE 5: Convergence of the binomial method on the Black-Scholes method



ANNEX B: Analysis of the Old National Bancorp Warrants

This annex compares Treasury's valuation and sale of its Old National Bancorp warrants with the Panel's valuation of those warrants and illustrates the general valuation processes carried out by Panel staff and Treasury. As noted in the text, 11 BHCs have already repurchased their warrants for \$18.69 million. Old National Bancorp was the first BHC to do so.

Headquartered in Evansville, Indiana, Old National Bancorp is a BHC with \$8.3 billion in assets.¹⁷⁰ Its stock is traded on the New York Stock Exchange under the ticker ONB. ONB received a \$100 million CPP investment on December 12, 2008. The bank then repaid its CPP investment on March 31, 2009 at par value. In the interim, it paid over \$1.5 million in dividends to Treasury. Upon repayment of its CPP investment, ONB entered into negotiations with Treasury to buy back warrants for 813,008 shares of its stock, which it had issued to Treasury in conjunction with the initial CPP investment in December. On May 8, ONB completed the repurchase of these warrants for \$1.2 million. Using a Black-Scholes-Merton model extended by Galai-Schneller, as described in Annex A of this report, the Panel staff valued these warrants at \$2.15 million.

The standard inputs to any warrant valuation model are the strike price of the warrant, the expiration date, the underlying share price, the future dividend yield, the future volatility of the underlying shares, and the risk free rate over the term of the warrant. The Panel staff and Treasury used the same strike price and expiration date, \$18.45 and December 12, 2018 respectively, as inputs to their models for the ONB warrants. The Panel staff used the closing share price on May 7, 2009, the day before the ONB transaction closed, for the underlying share price input. The share price on this day was \$13.78. Treasury used the 20-day trailing average share price on April 22, \$13.15. It is unclear to the Panel staff why Treasury used this unconventional input, particularly when it yields a lower valuation than the most recent closing share price would.

Dividend yield, which is the ratio of dividends paid to share price, must be forecast for the term of the warrant being valued. Obviously, in the case of the TARP warrants, predicting the dividend issuances of TARP recipients for the next ten years is difficult. Market participants informed Panel staff that they would typically seek the input of securities analysts who follow the company in question in order to obtain predictions for dividend yield. To preserve the clarity and reproducibility of the Panel's methodology, Panel staff elected to forgo this process.

Instead, the Panel staff used an alternative standard practice, predicting future dividends from average historical dividend yields. This number is calculated by averaging the dividends paid over a particular period of time and then dividing them by the average market price per

¹⁷⁰ Board of Governors of the Federal Reserve System, *Bank Holding Company Peer Group Reports: Peer Group 2*, at 28 (Mar. 31, 2009) (online at www.ffiec.gov/nicpubweb/content/BHCPRRPT/REPORTS/BHCPR_PEER/March2009/PeerGroup_2_March2009.pdf).

share during that period.¹⁷¹ The Panel used ONB's five-year average dividend yield, 4.19 percent. Treasury used ONB's ten-year average dividend yield, 3.69 percent. Treasury's assumption may seem more logical as the historical period it analyzes mirrors the duration of the TARP warrants. However, the Panel staff believes that the more recent past is more indicative of future bank dividend policy.¹⁷² Thus, the Panel staff, in consultation with academics and market participants, used a five-year average dividend yield to predict the future dividend performance of ONB and the other TARP recipients. In the case of ONB, the difference between the five and ten-year average dividend yields was only 50 basis points.

The choice of volatility input has a large effect on any warrant valuation. There are two main ways to predict future volatility, implied volatility and historical volatility. Implied volatility is derived from publicly traded comparable options, through solving an extended Black-Scholes model for volatility. Implied volatility is what the market predicts volatility will be over the term of the comparable option.

Historical volatility is calculated from the historical returns of a stock. It assumes a log normal distribution of returns. The historical volatility of a stock over a period of time is calculated as the standard deviation of the natural log of the interim returns in that period. Different interim returns can be used: daily, weekly, or monthly returns, for example, would all be acceptable.¹⁷³

Both methods of calculating volatility are valid. However, as many TARP recipients have only thinly traded options with short durations, Panel staff believes that the implied volatilities calculated from these options are unreflective of the market's long term volatility expectations. For example, the implied volatility calculated from ONBLW call options on ONB, which had a strike price of \$17.50 and a maturity date of December 12, 2009, was estimated by the Panel to be 57.2%.¹⁷⁴ The Panel staff believes that this figure is more indicative of the market's expectations for ONB short term volatility than its volatility over the next ten years.

The drawbacks in using implied volatility to value the ONB warrants led Panel staff to use historical volatility instead. The most important assumption in calculating historical volatility is the period over which it will be measured. In this case, the most standard choice is to calculate the historical volatility from the date of the valuation backward for the term of the option. For example, the TARP warrants all have terms of ten years, so the ten-year historical volatility would be the most appropriate estimate of volatility over the next ten years.

$$^{171} \text{Average Dividend Yield} = \frac{\text{Average Dividends Over Period}}{\text{Average Share Price Over Period}} \times 100$$

¹⁷² It is also important to note that TARP recipients' dividend payments are capped at the amount of the last regular quarterly cash dividend prior to October 14, 2008 while the government continues to hold preferred shares in them. Therefore, dividend yields for banks which have not repaid their TARP investments are likely to be lower than they have been in the past.

¹⁷³ Theoretically the choice of interim period should not have an effect on the volatility measurement.

¹⁷⁴ Option price was calculated from the average of the closing bid and ask prices.

Following standard practice, the Panel staff calculated ONB's ten-year historical volatility from daily returns for the period ending May 7, 2009 at 34.12%. This value was used in the Panel's model to arrive at a best estimate of the value of the ONB warrants.

Treasury also calculated volatility over a ten-year period for the TARP recipients, but used a very different and unorthodox method. Treasury used "the average 60-day trailing volatility for the last ten years" to determine each BHC's historical volatility.¹⁷⁵ Specifically, Treasury's ten-year volatility measure is calculated by taking the arithmetic average of the 60-day trailing historical volatilities for each day over the past ten years.¹⁷⁶ According to calculations performed by Panel staff, Treasury's procedure results in a ten-year volatility measure for ONB of 27.5%, more than 650 basis points lower than the Panel's ten-year volatility measure. In consultation with academics and market participants, Panel staff has determined that over any time period Treasury's estimation of historical volatility will, in almost all cases, yield volatilities that are lower than those calculated by more standard methods. As a result of this difference, *ceteris paribus*, Treasury's valuation of the TARP warrants will be significantly lower than valuations using more standard volatility inputs.

Some portion of the difference between the Panel's estimate of the value of the ONB warrants, \$2.15 million, and the price actually received by Treasury, \$1.2 million, can be explained by the differing share price, dividend yield and volatility assumptions as discussed above. However, in its final determination of the ONB warrants' fair market value, Treasury also applied a liquidity discount. For thinly traded stocks, such as ONB, Treasury believes that its warrant positions are too large to be sold for their model value on the open market. Therefore, Treasury applies a liquidity discount to better approximate what they believe the warrants' fair market value would be. Treasury staff has told Panel staff that these liquidity discounts range from zero to 50 percent depending on the recipient institution. Treasury staff has also indicated that they have applied discounts from 15 to 35 percent in transactions to date. As discussed above,¹⁷⁷ it is unclear whether liquidity discounts of this magnitude should be applied in valuing TARP warrants or even if they should be applied at all.

One final observation, based upon market data, calls into question the adequacy of the price Treasury received for its ONB warrants. On May 7, 2009, the day before ONB repurchased its warrants, the last bid on the ONBLW option – an option on ONB stock with a strike price of \$17.50 and a duration of 7 months – was \$0.75, while the last asking price was \$1.35. Backing out Treasury's sale price for the ONB warrants yields a value of \$1.48 per warrant. This means that Treasury sold the ten-year warrants it held in ONB for 13 cents per share more than the asking price of a comparable option with a term of only seven months.

¹⁷⁵ Treasury Warrant Repurchase Announcement, *supra* note 46.

¹⁷⁶ Treasury further adjusts this number downward to compensate for unusual volatility during the financial crisis beginning in late 2007. Treasury also considers implied volatility numbers, but has not given the Panel any guidance on how.

¹⁷⁷ See Section One Part F of this report.

Section Two: Additional Views

A. Richard H. Neiman

I agree with the main thrust of this month's report that the warrants need to be valued carefully and at fair market value by Treasury and that the process should be conducted with as much transparency as possible. While I voted for the report, I am providing these Additional Views to clarify my positions and to add some perspective, particularly on issues where the Panel did not reach consensus.

1. Benefits to the U.S. Taxpayer

The total benefit to the American taxpayer has to take into account the non-financial as well as the financial returns. The financial returns include repayment of the principal of the preferred stock loans, the dividends received, and the value of the warrants. The non-financial benefits include the important policy objectives that have been achieved on behalf of the American people of stabilizing and reviving the financial system during a very difficult period of time. The CPP program has achieved and continues to achieve objectives and we should not lose sight of this. I think that this report focuses at times too narrowly on the warrants to the exclusion of other important components of return.

2. Exit Strategy

I support the Administration's and Treasury's stated policy objective to exit the warrant holdings as soon as practicable after the banks have repaid their preferred stock under the CPP. Government capital support for the banks was the product of crisis conditions and the government should exit these investments as soon as conditions stabilize. I would not support selling the warrants while the preferred stock is outstanding; nor do I think it would be wise to hold the warrants for any protracted period after the preferred stock is repaid in an effort to maximize value by trying to time the markets.

I think it is sound policy that the banks have the opportunity to elect to repurchase their warrants at market prices, as they do under the Security Purchase Agreements, before a market auction is held. The Chrysler sidebar in the report demonstrates that the warrant issuer (in that case Chrysler; in this case the banks) will often have the greatest motivation to purchase its warrants in order to prevent share dilution. Then, if the banks elect not to repurchase or if a fair market value cannot be agreed upon, a fully transparent auction should be held.

I also believe that the Federal Reserve and other banking regulators have described a very reasonable and robust process to screen banks for eligibility to repay the taxpayer's investment, as outlined at pages 9-10 of the report. Therefore I think that this process should be allowed to

work and that the return of the banks to private capital markets should be encouraged wherever it is deemed appropriate.

3. Impact of Small Bank Repurchases

The report draws certain conclusions based on an analysis of the warrants of eleven small banks that have already been repurchased. I believe that reasonable minds can disagree about the appropriateness of liquidity discounts and complex volatility measures. As the report points out these warrants were a fraction of one percent of the value of all warrants outstanding. We should be cautious before extrapolating too many conclusions about the entire repurchase program based on these early and small redemptions. Hopefully lessons can be learned from these early efforts.

4. Need for Greater Transparency

I believe it is vital from this point forward, especially with the very large repaying banks' warrants coming up for repurchase or auction in the near future, that there be greater disclosure and transparency than there has been until now. In this regard I am encouraged by Treasury's June 26 commitment to greater transparency by:

[P]ublishing additional information on each warrant that is repurchased, including a bank's initial and subsequent determinations of fair market value, if applicable. Following the completion of each repurchase, Treasury will also publish the independent valuation inputs used to assess the bank's determination of fair market value.¹⁷⁸

Disclosure as described above should substantially improve the transparency of the warrant repurchase process going forward.

¹⁷⁸ See, Treasury Warrant Repurchase Announcement, *supra* note 46.

B. Rep. Jeb Hensarling

I concur with the issuance of the July report subject to the following observations.¹⁷⁹ Treasury should accept the panel's estimates of fair market value as good faith guidance worthy of careful consideration along with its own estimates of value and the host of other relevant market, regulatory and economic factors applicable to the disposition of sophisticated financial instruments. I object, however, to any inference that (i) the panel's estimates reflect "the" fair market value of the warrants, instead of an estimate of such value, (ii) the panel's estimates should necessarily serve as the "floor" in a negotiated private party transaction or the "reserve price" in an auction, (iii) an auction of the warrants will necessarily yield a more favorable return to Treasury than a privately negotiated sale, and (iv) holding the warrants for the intermediate to long-term will necessarily yield a more favorable return to Treasury.

The determination of "fair market value" for financial instruments as complex as the warrants issued by the TARP recipients to Treasury requires a thoughtful and judicious mixture of science—financial models such as Black-Scholes—and art—an appreciation of the dynamics that influence the actions of market participants. Treasury should resist the temptation to rely upon science to the exclusion of art. It is worthwhile to recall the lessons of the past year or so and the hubris of financial modelers who asserted with profound conviction that, for example, credit default swaps issued over mortgage backed securities were virtually free of risk and that AAA-rated tranches of collateralized debt obligations were investment grade securities. Financial analysts may counter by claiming that their models incorporate an appropriate mixture of inputs and risk analysis and as such may be trusted to yield market ready results. In many instances that is no doubt true but in other cases it is critical for the decision makers to leave the models and sit down at the table and engage in the art of negotiation. I encourage Treasury to reflect upon the lessons of this financial crisis in negotiating the disposition of its warrants.

1. Panel's Attempt to Estimate the Value of the TARP Warrants

The warrant valuation process involves more than merely plugging numbers into a financial model, Black-Scholes or otherwise. Such determination requires the careful exercise of judgment which comes from a seasoned understanding of the business operations and prospects for each TARP recipient. Experienced investment professionals may disagree on fundamental concepts such as volatility and other subjective inputs as well as whether Treasury should pursue a negotiated private sale or an auction of the warrants. Given the various permutations of potential inputs it is generally counterproductive to argue that one professionally rendered well-vetted assumption or approach is more reasonable than or inherently preferable to another. What is clear, however, is that Treasury should adopt a surgical approach that focuses on each particular transaction and not on a one-size-fits-all approach that misses the subtle distinctions that certainly exist among the various TARP recipients.

¹⁷⁹ I commend the panel and its staff for their efforts in producing the report.

At this time it appears that Treasury and the TARP recipients are reasonably well positioned to appreciate the multitude of factors that influence a negotiated determination of fair market value pursuant to the terms of the Securities Purchase Agreements (SPAs). Specifically, the SPAs, under certain circumstances, provide each TARP recipient with the right to repurchase its warrants granted to Treasury at a fair market value price. If the parties fail to agree on the valuation price an appraisal process is triggered. If the fair market value price established by the appraisers is not acceptable to a TARP recipient such recipient may reject the price and not purchase its warrants from Treasury. In addition and under certain circumstances, Treasury has the right to sell the TARP warrants to third-parties through an auction process. Under both procedures the fair market value of the warrants will be determined pursuant to market oriented terms by well-advised adverse parties who are negotiating at arm's length without a compelling need to purchase or sell. I am concerned that the TARP recipients and market participants may view the panel's report as an attempt to prospectively second-guess future determinations of fair market value undertaken in accordance with the SPAs and the policies adopted by Treasury.¹⁸⁰ Any such perception may disrupt an otherwise orderly valuation process.¹⁸¹

If the panel's determination of fair market value is too low, the American taxpayers may not receive the benefit of their bargain, and if the panel's determination is too high, Treasury may fail in its efforts to sell the warrants back to the TARP recipients or to third-parties pursuant to the market oriented procedures provided in the SPAs. The latter result may cause Treasury to hold the warrants for the intermediate to long-term even though the President has clearly stated

¹⁸⁰ Although I do not object to the undertaking, I nevertheless question the necessity of the Panel's attempt to determine the fair market value of the warrants since the procedures provided in the SPAs for the disposition of the warrants as well as the internal procedures adopted by Treasury for the valuation of the warrants appear market oriented and reasonable in form and substance. Since the report does not provide any indication that the process outlined in the SPAs is inherently flawed (i.e., substantially off-market or subject to manipulation or abuse) or that Treasury or any TARP recipient is not acting in good faith, it is arguably premature for the Panel to attempt to value the warrants.

In the February report I concurred with the Panel's attempt to value the preferred stock and warrants acquired by Treasury from the TARP recipients. As with the February report, I concur with the issuance of this report. However, I believe the circumstances have changed considerably since then. At the time the February report was written, no TARP recipient was prepared or permitted to redeem its warrants issued to Treasury and the valuation served an appropriate purpose. Since February 6, 2009, when the Panel's report on "Valuing Treasury's Assets" was released, events have materially changed. The American Recovery and Reinvestment Act of 2009 was signed into law on February 17, 2009, which requires Treasury to permit TARP recipients to repay Capital Purchase Plan assistance without replacement of capital from other sources. Since then, several TARP recipients have either redeemed or are preparing to redeem their warrants. As such, I believe that any attempt to value the warrants on a prospective basis is far more nuanced than the approach taken in February and much more likely to influence in an inappropriate and unintentional manner the actions of Treasury, the TARP recipients and market participants as they negotiate the redemption and sale of the warrants pursuant to the SPAs.

¹⁸¹ It is worth noting that although the TARP warrants have also been valued by Credit Suisse, Bloomberg, Professor Linus Wilson and the CBO, the Panel's report will most likely receive greater media attention and become the de facto third-party appraisal.

that his objective is to dispose of the warrants “as quickly as is practicable.”¹⁸² Although I disagree with the President on many issues, I concur with this determination given (i) the profound difficulty in valuing the warrants and advantageously timing the market, (ii) the inherent risk associated with holding investments of this nature, (iii) the clear desire of the American taxpayers for the TARP recipients to repay all TARP related investments sooner rather than later, (iv) the troublesome corporate governance and regulatory conflict of interest issues raised by Treasury’s continued ownership of the TARP warrants, and (v) the stigma associated with continued participation in the TARP program by the recipients.¹⁸³ If the panel disagrees with the President on this issue the report should clearly indicate such dissent, but the valuation process itself should not directly or indirectly work to influence Treasury’s holding period of the TARP warrants. Such result will occur if the panel accepts input metrics and assumptions that overvalue the warrants and chill the resale market.¹⁸⁴

Evidence of my concern may be found in the panel’s report. In a passage destined to grab its share of media attention the panel concludes that “Treasury has received about 66% of the Panel’s best estimate of fair market value” from the sale of its warrants back to eleven TARP recipients (the “Redeeming Issuers”).¹⁸⁵ The implication is clear--Treasury is virtually giving the warrants back to the issuers. What should the American taxpayers make of this claim? Should they conclude that Treasury and its advisors are incompetent or that they negotiated the repurchase of the warrants in bad faith and in contravention of the letter and spirit of the SPAs? If the panel believes that Treasury acted in an untoward manner or is simply not up to the task then it should clearly state such position and promptly investigate.

If we assume that Treasury discharged its duties and responsibilities in good faith (and the report does not suggest to the contrary) then we are left with a fairly pedestrian disagreement between Treasury and the panel regarding the valuation of the warrants; that is, a good faith

¹⁸²On June 26, 2009 Treasury released information on its valuation procedure. The release contains the following statement:

The President has clearly stated that his objective is to dispose of the government’s investments in individual companies as quickly as is practicable. In reaching the judgment to dispose of the warrants in the manner described, Treasury considered a range of options including holding the warrants for a longer term or until their expiration. Under those alternate scenarios, there was no certainty that we would realize higher values, and it was not appropriate for the government to be exercising discretionary judgment on timing market sales.

U.S. Department of Treasury, *Treasury Announces Warrant Repurchase and Disposition Process for the Capital Purchase Program*, *supra* note 46.

¹⁸³ More precisely, I believe that Treasury should promptly/immediately dispose of its TARP warrants. If the somewhat vague notion of “as quickly as is practicable” is interpreted by Treasury to encompass an intermediate to long-term holding period for the TARP warrants, then I disagree with such approach.

¹⁸⁴ I do not intend to imply that the Panel has intentionally attempted to overvalue the TARP warrants. Instead, I believe the Panel may have taken the perspective of the “seller” of the warrants and as such the Panel should appreciate that the “buyer” may have a materially different perspective regarding fair market value.

¹⁸⁵ See Section E.3. of the report.

difference of opinion exists between Treasury's experts and the panel's experts regarding the fair market value of the warrants issued to Treasury by the Redeeming Issuers. As stated above, reasonable minds may differ regarding these matters and modestly different assumptions may materially affect the valuation of warrants with a ten-year term. It is possible that the panel selected inputs destined to yield the highest possible "reasonable" set of valuations for the warrants of the Redeeming Issuers. Such approach, however, is of little benefit if it yields fair market value prices for the warrants that neither the TARP recipient nor the market is willing to pay. The panel should appreciate that the use of financial models to value ten-year term warrants will at best only offer a "sticker price" and, like careful consumers, sophisticated market participants seldom pay "sticker."¹⁸⁶

The report also suggests that Treasury may receive a greater return on its investment if it disposes of its warrants pursuant to an auction process rather than privately negotiated transactions with the TARP recipients.¹⁸⁷ While I generally subscribe to the panel's reasoning it is important to note that such approach should not be applied on a de facto basis. For example, with respect to the disposition of the warrants issued by the Redeeming Issuers it is entirely possible that a viable auction market did not exist for the warrants of such institutions and may not exist for the warrants of any other TARP recipient the common stock of which is thinly traded. It is also possible that similar liquidity, marketability, minority interest and other appropriate discounts and adjustments were demanded by the Redeeming Issuers as well as the

¹⁸⁶ It is not at all surprising that the negotiated sales prices fell short of the estimates generated by the financial models, particularly those that do not incorporate liquidity discounts and other appropriate adjustments. It appears reasonable to conclude that in the context of the TARP warrants (and other sophisticated financial instruments) any estimate of fair market value derived from financial models will merely serve as the starting point for the negotiation of a mutually agreeable valuation and under limited circumstances will such price be accepted by an adverse party without challenge. It also appears that Treasury terminated negotiations with two or so TARP recipients and that the recipients did not invoke the appraisal process. As such, Treasury will most likely seek to dispose of those warrants in an auction in accordance with its current policy. Such action indicates that Treasury will not accept a significantly off-market price and will employ an auction where appropriate.

It is worth noting that the Panel states in Section E.3. of the report that "These results may suggest that Treasury has not been successful in receiving fair market value for its warrants and in maximizing taxpayer returns. On the other hand, factors not included in the Panel's model, such as the illiquidity of the warrants – especially for smaller institutions – may explain the difference between the amount that Treasury has received for its sold warrants and the Panel's valuation of those warrants."

Since it appears that liquidity discounts and other adjustments may be applicable to some or all of the Redeeming Issuers, it is interesting that the Panel did not attempt to incorporate such discounts into their fair market estimates. It seems that any statement by the Panel regarding the price received by Treasury for the warrants of the Redeeming Issues should note such qualification.

In the same section the Panel also states that the warrants redeemed by the Redeeming Issuers represent "less than one quarter of one percent of the Panel's best estimate of the value of Treasury's warrant portfolio as of July 6, 2009" and that "Treasury's relative performance in selling them may not accurately predict its success in selling the balance of the warrants it holds."

¹⁸⁷ See Section F.2. of the report.

group of potential auction participants and that Treasury after analyzing these inputs simply elected to proceed with the least burdensome and costly approach.¹⁸⁸

Treasury will not be served by any “failed auctions” and it should only go to market when its investment advisors are all but assured of a successful disposition at an appropriate price. Simply rolling out an auction with a Black-Scholes generated “reserve price” without conducting a thoughtful market-check is fraught with peril. I cannot help but wonder how the markets would have responded if Treasury had set a reserve price at or near the panel’s “Best Estimate” price for the warrants of the Redeeming Issuers. It is not unreasonable to suspect that Treasury may have suffered one or more failed auctions. This is a serious concern because Treasury cannot afford to lose credibility with market participants or TARP recipients. It will be interesting to note how the fair market value determinations provided by the panel will appear in a year or so and how many market dispositions will occur at or near the panel’s “Best Estimate” price.

It is also not unreasonable to expect that a TARP recipient may be the highest bidder for its warrants. A repurchasing institution may possess material inside information regarding its business operations and prospects that permits it to pay a premium over a pure market price. In addition, a TARP recipient may pay a premium over market so as to cancel its warrants, increase its earning per share and, perhaps, its market capitalization.¹⁸⁹ These complex matters must be considered on a case-by-case basis. It is certainly no secret that the public shares of many TARP recipients have traded at steep discounts over the past year or so and, as such, it is not unreasonable to think that the market will apply a similar discount to the warrants of such institutions. Treasury and its advisors should consider these factors in analyzing its exit strategy and should select the approach that best fits the particular facts and circumstances. I disagree with any inference in the report to the effect that an auction of the TARP warrants will necessarily yield a more favorable return to Treasury than a privately negotiated sale.

Although I am willing to grant Treasury and the TARP recipients reasonable latitude in discharging their duties and responsibilities under the SPAs, Treasury should promptly provide written reports to the American taxpayers analyzing in sufficient detail the fair market value determinations for any warrants either repurchased by a TARP recipient from Treasury or sold by Treasury through an auction. Since an auction may yield the most favorable result for

¹⁸⁸ In Section E.2. of the report the Panel states “[i]f Treasury can hold the warrants to expiration, then the value of the warrants to Treasury does not include a liquidity discount because Treasury does not need to sell them.” It does not follow that Treasury’s ability (which it clearly has) to hold the warrants for their full ten-year term should dictate such a holding period. As noted, several compelling public policy issues favor an early disposition of the warrants.

¹⁸⁹ Warrants sold in an auction remain outstanding while warrants repurchased by the issuer may be cancelled. Warrants sold in an auction, however, do not deplete the resources of the issuer since the acquisition price is funded by the third-party purchaser and not by the issuer. In addition, financial accounting, regulatory and tax considerations may favor one approach over the other.

Treasury in some instances and a privately negotiated sale in others, Treasury should disclose its rationale for pursuing one method instead of the other. Treasury should also undertake to negotiate the disposition of the warrants in a transparent and fully accountable manner with the stipulation that Treasury should not be required to place itself (and the American taxpayers) in an adverse negotiating position by disclosing proprietary information that TARP recipients could use to their advantage in subsequent negotiations. If Treasury finds it necessary to omit from disclosure certain information that could be harmful to negotiations were it made public, it must do so in only in the most thoughtful and judicious manner.

2. Treasury's Holding Period for the TARP Warrants

The report may be interpreted to reflect the theme that Treasury will somehow “leave money on the table” at the expense of the American taxpayers unless it holds the TARP warrants for the intermediate to long-term. Such impression is misguided since (among other reasons) it is exceedingly difficult to predict the value of financial securities and time the markets over the short term much less the ten-year term of the TARP warrants.¹⁹⁰

I appreciate that modern corporate finance has developed many fascinating econometric models whereby certain securities may be valued with some degree of relative precision. The report does a fine job of describing many of these techniques, such as the binomial options pricing and Black-Scholes models. While these models are remarkably sophisticated, they suffer from the same problem endemic to all mathematical equations -- they are entirely dependent upon the input variables selected. A thoughtful (and, perhaps, lucky) selection of variables may yield meaningful results; otherwise the old adage of “garbage in, garbage out” will prevail.¹⁹¹ Predicting inputs, such as “volatility,” and market adjustments, such as “liquidity discounts,” over the next ten years for incorporation into the TARP warrant valuation models is problematic at best.¹⁹² In addition, valuations have a short shelf life. What may appear reasonable today may

¹⁹⁰ If we look back ten years to the summer of 1999 our economy was in the middle of the dot com expansion and many (if not most) investors viewed the financial markets as exceedingly robust. Just a few months later the economy commenced a significant contraction -- the dot com collapse. September 11 followed with yet another material disruption in the markets. The economy recovered and the value of investment securities (such as the TARP warrants) steadily rose in value only to fall dramatically beginning around the summer of 2007. To say that the past ten years have yielded unpredictable results in the financial markets is an understatement.

As such, any attempt by Treasury to time the disposition of its ten-year term warrants with any degree of meaningful precision may be met with disappointment. It is also possible that Treasury may sell the warrants in a few years at a greater price than is available in the near term but actually earn a lower return on a risk adjusted present value basis.

¹⁹¹ Many trading strategies adopted by hedge funds and other alternative investment vehicles employ sophisticated econometric models. They often perform as advertised and yield superior risk adjusted returns, but occasionally they fail in a spectacular and public manner as occurred with Long Term Capital Management in 1998 and other investment funds over the past two years.

¹⁹² See Annex A to the report which includes:

It is important to note that the Black-Scholes model, as well as every other popular options model, was created to reflect the prices of options with short terms, ranging from days to

look hopelessly out of date within a relatively short period of time.¹⁹³ As such, any attempt to reflect or represent the panel's valuations as "the" fair market value of the warrants is misguided.¹⁹⁴ Decision makers at Treasury should not subordinate their exercise of judgment regarding the disposition or retention of any of the TARP warrants solely to the results generated by financial models.

The report also correctly notes that many recipients have been stigmatized by their association with TARP and wish to leave the program as soon as their regulators permit. Some of the adverse consequences that have arisen for TARP recipients include, without limitation, executive compensation restrictions, corporate governance and conflict of interest issues,

months. As no options are traded on the CBOE with terms longer than three years, it is very difficult to come up with a "fair market value" of the TARP warrants which have terms of ten years. The lack of publicly traded comparable derivatives makes any valuation of ten year warrants difficult.

More generally, there is the problem of lack of knowledge about most of the inputs to the model. For example, while ten year Treasury bills factor in what the market expects the interest rate risk for the next ten years to be, it is impossible to know the validity of the market's expectations. Thus, once again, it is important to note that the value that we are searching for here is not based on our expectations of the future, but rather our estimate of the market's expectations. The goal of the Panel's valuations is to estimate the value the financial markets would place on these warrants, and thus for the inputs to our model, we try to use the inputs most likely to be used by prospective buyers.

The input that is the least defined in the Black-Scholes model and has the largest effect on the price of the warrant is the volatility of the underlying stock price. Volatility is defined as the standard deviation of the continuously compounding returns of a stock. It is clear from this definition that there are an almost infinite number of variations of the calculation of this number. The volatility is important in the Black-Scholes model because it features prominently in both of the probability calculations in the closed-form solution, meaning that differing values of volatility can create substantial differences in the final valuations of the warrants. The following example illustrates this point with respect to the Black-Scholes model. Assume that a warrant to buy one share of company XYZ at \$150 expires in one year, that XYZ is currently trading at \$100 and that the risk free rate is one percent. If XYZ's volatility is 30 percent, the warrant is worth \$1.59, but if the volatility is 60 percent, the warrant is worth \$10.91. In fact, if the volatility is below 15 percent, the warrant is virtually worthless.

The preceding example emphasizes the sensitivity of financial models to changes in the various input variables. Since it is my understanding that financial models may be "manipulated" or "gamed" but still yield "perfectly defensible results," Treasury should remain circumspect regarding fair market value determinations generated by financial models without a real world market-check.

¹⁹³ As an example, according to *The New York Times*, Citigroup closed at \$52.52 on July 9, 2007 and at \$2.62 on July 8, 2009. Who would have predicted such results?

¹⁹⁴ The report reflects this concept in Section H as follows:

The Panel's valuations offer reasonable estimates of the fair market value of the warrants. They may help Treasury as it balances the return to the taxpayer indicated by its own estimates of value and the host of other relevant market, regulatory and economic factors applicable to the disposition of sophisticated financial instruments.

Although quite helpful, I remain concerned that others may construe the Panel's estimates as somehow reflective of a single set of "correct" values.

employee retention difficulties and the distinct possibility that TARP recipients (including those who have repaid all CPP advances but have warrants outstanding to Treasury) may be subjected to future adverse rules and regulations.¹⁹⁵

For these and other reasons, I recommend that Treasury not operate under any inherent bias in favor of holding the TARP warrants for the intermediate to long-term as opposed to disposing of the warrants over the near term.¹⁹⁶ Fortunately, Treasury concurs with this perspective.¹⁹⁷ In electing to dispose of its warrants it appears that Treasury appreciates that the warrants represent high risk, difficult to value investment securities that are subject to the vagaries of the markets and may materially diminish in value. The panel should not discourage Treasury from promptly selling its warrants back to the TARP recipients or from offering the warrants for sale in the market pursuant to the SPAs. As noted, the exit strategy undertaken by Treasury with respect to the warrants of each TARP recipient must be carefully crafted to the facts and circumstances of that recipient as well as the prevailing market conditions in effect at the time of the proposed disposition.¹⁹⁸

3. Other Issues

In Section G.1.c. of the report the Panel states:

A benefit from repayment of TARP assistance is the end of the government's conflicting roles as regulator of the very institutions in which it owns shares and on whose profitability repayment of public funds depends. Specific regulatory policies, for example those affecting capital levels, the application of accounting conventions to financial reporting by BHCs or banks, and conflicts among regulators of various parts of BHCs, are complicated by the government's dual interests.

In Section G.3. of the report the Panel states:

Despite the Administration's consistent statements that its policy is not to be involved in bank management and to cease to hold ownership positions in banks as soon as practicable, Treasury retains influence over the business decisions and internal governance of institutions in which it holds substantial

¹⁹⁵ See Sections G(1)(c) and G(3) of the report.

¹⁹⁶ As noted above, I believe that Treasury should promptly dispose of its warrants for the following reasons: (i) the profound difficulty in valuing the warrants and advantageously timing the market, (ii) the inherent risk associated with holding investments of this nature, (iii) the clear desire of the American taxpayers for the TARP recipients to repay all TARP related investments sooner rather than later, (iv) the troublesome corporate governance and regulatory conflict of interest issues raised by Treasury's continued ownership of the TARP warrants, and (v) the stigma associated with continued participation in the TARP program by the recipients.

¹⁹⁷ See footnote 184.

¹⁹⁸ I recently introduced legislation (H.R. 2745, *supra* note 29 that would require Treasury to divest its warrants in each TARP recipient following the redemption of all outstanding TARP-related preferred shares issued by such recipient and the payment of all accrued dividends on such preferred shares.

preferred stock and warrant interests. Although ownership of preferred shares or warrants convertible into nonvoting common shares does not provide the sort of leverage that common stock ownership does, holding a substantial block of preferred stock with the terms of the Treasury preferred (discussed below) significantly constrains aspects of the issuing institution. Such constraints, for example, hinder the in ability to pay dividends or engage in certain capital transactions, in exchange for bolstering the institution's capital). Replacing the Treasury investment with independently raised equity frees the institution from those constraints.

The second motivation for prompt repayment of TARP investments has to do with the specific rules or conditions to which TARP recipients are subject. The prime examples involve executive compensation and corporate governance restrictions applicable to TARP recipients. While banks were aware that they were subject to restrictions upon entrance into the CPP, banks point to new provisions established in ARRA and by subsequent Treasury regulatory action that are retroactively applicable to past recipients of TARP financial assistance who have not yet repaid Treasury.”

I concur with these remarks and recommend that Treasury promptly proceed to dispose of its TARP warrants.

4. Termination of TARP

I reject any implication contained in the report to the effect that the TARP program should be extended, or that well capitalized TARP recipients should be prevented from redeeming their preferred stock and warrants issued to Treasury.

5. TARP as a Revolving Facility

From my review of the EESA statute I am not convinced that Treasury may re-advance funds that have been repaid by the TARP recipients. The panel should ask Treasury to provide a formal written legal opinion regarding the matter.

6. Private Bank Warrants

The report briefly notes several of the unique issues that have arisen with respect to the repurchase of private bank warrants. I introduced legislation (H.R. 2745) to end the TARP program on December 31, 2009. In addition, the legislation (i) requires Treasury to accept TARP repayment requests from well capitalized banks, (ii) requires Treasury to divest its warrants in each TARP recipient following the redemption of all outstanding TARP-related preferred shares issued by such recipient and the payment of all accrued dividends on such preferred shares, (iii) provides incentives for private banks to repurchase their warrant preferred shares from Treasury, and (iv) reduces spending authority under the TARP program for each dollar repaid. The legislation enables private banks to repurchase the exercised warrant preferred shares on or before September 30, 2009 at their pre-exercise price. As such, private banks that

typically issued warrant preferred shares to Treasury for \$0.01 per share may repurchase the shares for \$0.01 per share. This legislation provides that each bank must be current on all dividends to be eligible for repayment. The policy objective for economically encouraging private banks to repurchase their warrant preferred shares relates to the structural differences between private and public bank warrants. Pursuant to the SPAs, private banks are economically encouraged to delay the repurchase of their warrant preferred shares so as to decrease the overall cost to the private banks of their participation in the TARP program.

C. John Sununu

This Report represents a good faith attempt to describe the factors that must be weighed by Treasury, Regulators, Congress, and Financial Institutions as the capital issued under the TARP is returned to the Treasury. By offering a detailed examination of these issues at the beginning of this process, the Congressional Oversight Panel will help ensure that Treasury and Congress place the maximum value on transparency and consistency in the management of the CPP. These two qualities are essential to sustaining public confidence in both government and the financial marketplace.

In his Additional Views, Panel member Richard Neiman highlights several key questions for policy makers: considering the non-financial returns of the TARP, maintaining a clear policy for exiting Treasury's warrant holdings in a timely fashion, and exercising caution in drawing conclusions based upon repayments by just a few small banks. These are very important issues, and in each area I share the concerns he describes in detail. I also wish to add several points of emphasis and clarification:

- Treasury and Congress should be particularly mindful that retroactive changes in policy, process, or contracts undermines confidence in TARP programs and discourages participation. Both effects make any given program less likely to fulfill its objectives. As Treasury works to protect taxpayer interests during the CPP repayment process, it should work to increase transparency while operating within the spirit and letter of agreements that govern the CPP transactions.
- Both the current and previous administrations have made clear policy determinations to exit their warrant holdings as soon as is practicable as banks redeem preferred shares under the CPP. This policy is consistent with the original intent of the legislation, reduces downside risk to taxpayers, and conforms to the original share purchase agreements. Equally important, this policy sends an important signal to the public and to investors that the Federal Government does not wish to exert undue control or influence over firms that are on solid financial footing.
- In most cases, the value of warrants held by Treasury will prove difficult to calculate with precision due to the broad assumptions that must be made with regard to both the volatility and liquidity of the underlying securities. In such an event, Treasury has taken important steps in defining a clear process for repayments under CPP, utilizing independent firms for valuation, and establishing an approach for resolving differences in valuations that may arise.
- As a final point, it should be noted that the Executive Summary states that “The Panel has not reached a consensus on whether it is wise policy to release banks from the TARP program at this time...” This phrase suggests that the Treasury has (or should have) the power to force healthy banks that meet all regulatory requirements to hold CPP issued securities. I do not believe that such powers were ever contemplated by Congress in authorizing TARP. Nor do I believe that it is the responsibility of the Congressional

Oversight Panel to determine which banks should be eligible (or required) to participate in TARP.

As can be seen in the Panel Report, taxpayers will see a positive rate of return for all repayments that have been approved to date by Treasury under the CPP – even if the value of warrants were excluded. While it is important that taxpayers receive fair value for these securities, it is equally important that the principal objectives of TARP, namely a stable financial system, be realized and sustained. The best way to ensure balance between these goals is to allow the principles of transparency and consistency to guide the hand of policy makers in the months ahead.

Section Three: Correspondence with Treasury Update

On behalf of the Panel, Chair Elizabeth Warren sent a letter to Secretary Geithner on June 12, 2009, requesting information about Treasury's announcement on June 9, 2009, to allow ten of the largest U.S. financial institutions participating in the CPP to repay their TARP funds.¹⁹⁹ The letter seeks answers to several key questions raised by the TARP repayments and additional information relating to Treasury's valuations of warrants outstanding, repurchased, and of those ten institutions with which it is in warrant repurchase negotiations. The letter specifically requests a meeting between Panel staff and Treasury staff about the TARP repayments and the treatment of warrants as part of those repayments. On July 1, 2009, Secretary Geithner responded by letter²⁰⁰ to this request. The letter, noting that Treasury staff has recently held two meetings with Panel members Richard H. Neiman and Damon Silvers and Panel staff concerning these issues, represented Treasury's response to the Panel's questions and information requests. Treasury provided copies of the recently issued warrants policy press release and FAQ and a written responses to each of the Panel's questions and information requests, which Panel staff is currently reviewing.

Chair Elizabeth Warren and Panel member Richard H. Neiman sent a letter to Secretary Geithner on June 29, 2009, requesting assistance with the Panel's oversight of federal foreclosure mitigation efforts.²⁰¹ In particular, the letter references how the lack of adequate mortgage data has hampered policymaking and notes Secretary Geithner's decision to include data collection requirements for mortgage loans participating in President Obama's Making Home Affordable (MHA) program, announced on February 18, 2009. In order to evaluate the effectiveness of foreclosure mitigation efforts, the letter requests copies of the data collected under the MHA program, as well as relevant reports, to be delivered on a monthly basis.

¹⁹⁹ See Appendix I of this report, *infra*.

²⁰⁰ See Appendix II of this report, *infra*.

²⁰¹ See Appendix III of this report, *infra*.

Section Four: TARP Updates Since Last Report

A. Interim Final Rule on TARP Standards for Compensation and Corporate Governance

On June 10, 2009, Treasury released interim regulations implementing the executive compensation and corporate governance provisions governing TARP recipients set forth in the American Recovery and Reinvestment Act of 2009 (ARRA), announced a set of principles for future executive compensation reform for all public corporations, and proposed two legislative initiatives designed to advance these principles. In announcing the interim rule, Secretary Geithner outlined five principles for reform of executive compensation: (1) compensation plans should properly measure and reward performance; (2) compensation should be structured to account for the time horizon of risks; (3) compensation practices should be aligned with sound risk management; (4) retirement packages should align with executive and shareholder interests; (5) and compensation process should be transparent and accountable. The Administration also indicated that it would propose new legislation to provide compensation committees with independence similar to the independence of audit committees under Sarbanes-Oxley, and to provide the SEC authority to require non-binding annual say-on-pay votes on compensation for the top five executives and golden parachutes for executives at all public companies.

B. Regulation Reform Proposal

On June 17, 2009, Treasury released the Administration's proposal entitled "Financial Regulatory Reform: A New Foundation," detailing its agenda and recommendations for rebuilding financial supervision and regulation. The Administration's plan touches almost every corner of financial markets, from tougher consumer protection policies to stricter rules over exotic financial products, such as credit derivatives. The plan would bring many of the financial products and companies that previously operated outside of the banking system under federal scrutiny. In its proposal, Treasury announced five principles for financial regulatory reform: (1) promote robust supervision and regulation of financial firms; (2) establish comprehensive regulation of financial markets; (3) protect consumers and investors from financial abuse; (4) provide the government with the tools it needs to manage financial crises; and (5) raise international regulatory standards and improve international cooperation.

On June 30, 2009, the Obama Administration sent a 150-page proposal to Congress for a new agency to oversee consumer lending and other financial activity, the Consumer Financial Protection Agency. The proposed agency would consolidate regulatory authority now spread over multiple agencies and would have the authority to monitor and introduce regulation aimed at ensuring transparency in consumer financial products.

C. Confirmation of Herbert Allison as Assistant Secretary for Financial Stability

On June 19, 2009, the Senate confirmed Herbert Allison as Assistant Secretary for Financial Stability. In this role, Mr. Allison will develop and coordinate Treasury programs related to financial stability, including the TARP. Mr. Allison's prior positions include President and Chief Executive Officer of Fannie Mae, Chairman, President, and Chief Executive Officer of TIAA-CREF, and President and Chief Operating Officer of Merrill Lynch.

D. Treasury Announces Process for Repayment of CPP

On June 9, 2009, Treasury announced that ten of the largest Capital Purchase Program (CPP) participants had been approved to repay the TARP funds they had received. The repayment is expected to be approximately \$68 billion.

On June 26, 2009, Treasury announced the process by which TARP recipients would be able to repurchase the warrants issued as part of the Capital Purchase Program in 2008. Under these terms, once a bank has repaid the TARP money, it has 15 days to submit a determination of fair market value to Treasury. Treasury, within 10 days, may either accept the determination or, if it is unable to reach agreement on the value with the bank, may use the appraisal process outlined in the relevant transaction documents. According to the appraisal process, Treasury and the bank each select an independent appraiser. Once the appraisers have conducted their own valuations, they will attempt to agree on a fair market price. If they fail to agree, a third appraiser is hired and a composite value from the three appraisers is used as the fair market price.

E. Term Asset-Backed Securities Loan Facility (TALF)

The Federal Reserve Bank of New York held a special subscription on June 16, 2009, for TALF loans secured by new commercial mortgage-backed securities (CMBS). There were no requests made for loans on that date. The Bank intends to hold a special subscription for legacy CMBS (those issued before January 1, 2009) in late July.

During the regular TALF subscription on July 7, 2009, \$5.4 billion in loans was requested. As a point of comparison, there were \$11.5 billion in loans requested at the June facility, \$10.6 billion requested at the May facility, \$1.7 billion at the April facility, and \$4.7 billion at the March facility. The July 7 subscription included requests for loans secured by asset-backed securities in the auto, credit card, servicing advances, small business, and student loan sectors. There were no requests for loans in the equipment, floor plan, or premium finance sectors. The July 7 subscription was not available for loans secured by CMBS; a special CMBS subscription is planned for later this month.

F. General Motors Bankruptcy Plan Approved

On July 5, 2009, Judge Robert Gerber of the Bankruptcy Court for the Southern District of New York approved a bankruptcy plan for General Motors that would permit the auto maker to emerge from bankruptcy as soon as mid-July. Under the plan, NGMCO, Inc., an entity funded by the U.S. Treasury, would purchase substantially all of GM's assets. NGMCO would then change its name to General Motors Company and continue most of former GM's business with a more streamlined product portfolio. The new GM will remain headquartered in Detroit, Michigan, and will be led by Fritz Henderson as president and CEO, and Edward Whitacre as chairman of the board of directors. Of the common stock for the new GM, 60.8 percent will be owned by the US Treasury, 17.5 percent by the UAW Retiree Medical Benefits Trust; 11.7 percent by the governments of Canada and Ontario, and ten percent by old GM.

G. CPP Monthly Lending Report

Treasury releases a monthly lending report showing loans outstanding for CPP recipients. The most recent report includes data up through the end of April 2009 and shows that CPP recipients had \$5.15 billion in loans outstanding as of April 30, 2009. This represents a 0.67 percent decline in loans between the end of March and the end of April.

H. Fund Managers for PPIP Legacy Securities Funds Selected

On July 8, 2009, Treasury, the Federal Reserve, and the FDIC issued a joint release announcing the selection of nine applicants for pre-qualification as PPIP fund managers. Ten small, veteran-, minority-, and/or women-owned firms were also selected to partner with the fund managers to provide asset management, capital raising, broker-dealer, research, advisory, investment sourcing, and fund administration services. The pre-qualified firms will have twelve weeks to raise \$500 million in equity, \$20 million of which must be provided by the firms themselves. Once this money has been raised, the PPIP funds will receive matching \$500 million in Treasury equity, and will be eligible for additional government-sponsored financing.

I. Metrics

In recent months, the Panel's oversight reports have highlighted a number of metrics that the Panel and others, including Treasury, the Government Accountability Office (GAO), Special Inspector General for the Troubled Asset Relief Program (SIGTARP), and the Financial Stability Oversight Board, consider useful in assessing the effectiveness of the Administration's efforts to restore financial stability and accomplish the goals of the EESA. This section discusses changes that have occurred in several indicators since the release of the Panel's June report.

- **Interest Rate Spreads.** Key interest rate spreads have leveled off to some extent following precipitous drops between the Panel's May and June oversight reports. While there was no general pattern in interest rate spread movement in recent weeks (some

decreased modestly while others increased modestly), spreads remain well below the crisis levels seen late last year, and Treasury and Federal Reserve officials continue to cite the moderation of these spreads as a key indicator of a stabilizing economy.²⁰²

Figure 6: Interest Rate Spreads

Indicator	Current Spread (as of 7/9/09)	Percent Change Since Last Report (6/8/09)
3 Month LIBOR-OIS Spread ²⁰³	0.31	-24.39%
1 Month LIBOR-OIS Spread ²⁰⁴	0.11	10.00%
TED Spread ²⁰⁵ (in basis points)	32.94	-31.03%
Conventional Mortgage Rate Spread ²⁰⁶	1.79	14.01%
Corporate AAA Bond Spread ²⁰⁷	1.87	-6.50%
Corporate BAA Bond Spread ²⁰⁸	3.65	-9.88%

²⁰² See Congressional Oversight Panel, Testimony of Assistant Treasury Secretary for Financial Stability Herbert Allison, Jr., *Hearing with Assistant Treasury Secretary Herbert Allison* (June 24, 2009) (online at cop.senate.gov/hearings/library/hearing-062409-allison.cfm) (“There are tentative signs that the financial system is beginning to stabilize and that our efforts have made an important contribution. Key indicators of credit market risk, while still elevated, have dropped substantially.”)

²⁰³ *3 Mo LIBOR-OIS Spread*, Bloomberg (online at www.bloomberg.com/apps/quote?ticker=.LOIS3:IND) (accessed July 9, 2009).

²⁰⁴ *1 Mo LIBOR-OIS Spread*, Bloomberg (online at www.bloomberg.com/apps/quote?ticker=.LOIS1:IND) (accessed July 9, 2009).

²⁰⁵ *TED Spread*, Bloomberg (online at www.bloomberg.com/apps/quote?ticker=.TEDSP:IND) (accessed July 9, 2009).

²⁰⁶ Board of Governors of the Federal Reserve System, *Federal Reserve Statistical Release H.15: Selected Interest Rates: Historical Data* (Instrument: Conventional Mortgages, Frequency: Weekly) (online at www.federalreserve.gov/releases/h15/data/Weekly_Thursday_/H15_MORTG_NA.txt) (accessed July 9, 2009); Board of Governors of the Federal Reserve System, *Federal Reserve Statistical Release H.15: Selected Interest Rates: Historical Data* (Instrument: U.S. Government Securities/Treasury Constant Maturities/Nominal 10-Year, Frequency: Weekly) (online at www.federalreserve.gov/releases/h15/data/Weekly_Friday_/H15_TCMNOM_Y10.txt) (accessed July 9, 2009) (hereinafter “Fed H.15 10-Year Treasuries”).

²⁰⁷ Board of Governors of the Federal Reserve System, *Federal Reserve Statistical Release H.15: Selected Interest Rates: Historical Data* (Instrument: Corporate Bonds/Moody’s Seasoned AAA, Frequency: Weekly) (online at www.federalreserve.gov/releases/h15/data/Weekly_Friday_/H15_AAA_NA.txt) (accessed July 9, 2009); Fed H.15 10-Year Treasuries, *supra* note 206.

Indicator	Current Spread (as of 7/9/09)	Percent Change Since Last Report (6/8/09)
Overnight AA Asset-backed Commercial Paper Interest Rate Spread ²⁰⁹	0.18	0.00%
Overnight A2/P2 Nonfinancial Commercial Paper Interest Rate Spread ²¹⁰	0.27	-15.63%

- Commercial Paper Outstanding.** Commercial paper outstanding, a rough measure of short-term business debt, is an indicator of the availability of credit for enterprises. While financial commercial paper outstanding saw an increase last month, asset-backed and nonfinancial commercial paper levels have continued to drop, with both falling by nearly 20 percent since early June.

Figure 7: Commercial Paper Outstanding

Indicator	Current Level (as of 7/9/09) (dollars billions)	Percent Change Since Last Report (6/8/09)
Asset-Backed Commercial Paper Outstanding (seasonally adjusted) ²¹¹	\$456.75	-18.06%

²⁰⁸ Board of Governors of the Federal Reserve System, *Federal Reserve Statistical Release H.15: Selected Interest Rates: Historical Data* (Instrument: Corporate Bonds/Moody's Seasoned BAA, Frequency: Weekly) (online at www.federalreserve.gov/releases/h15/data/Weekly_Friday_/H15_BAA_NA.txt) (accessed July 9, 2009); Fed H.15 10-Year Treasuries, *supra* note 206.

²⁰⁹ Board of Governors of the Federal Reserve System, *Federal Reserve Statistical Release: Commercial Paper Rates and Outstandings: Data Download Program* (Instrument: AA Asset-Backed Discount Rate, Frequency: Daily) (online at www.federalreserve.gov/DataDownload/Choose.aspx?rel=CP) (accessed July 9, 2009); Board of Governors of the Federal Reserve System, *Federal Reserve Statistical Release: Commercial Paper Rates and Outstandings: Data Download Program* (Instrument: AA Nonfinancial Discount Rate, Frequency: Daily) (online at www.federalreserve.gov/DataDownload/Choose.aspx?rel=CP) (accessed July 9, 2009) (hereinafter "Fed CP AA Nonfinancial Rate").

²¹⁰ Board of Governors of the Federal Reserve System, *Federal Reserve Statistical Release: Commercial Paper Rates and Outstandings: Data Download Program* (Instrument: A2/P2 Nonfinancial Discount Rate, Frequency: Daily) (online at www.federalreserve.gov/DataDownload/Choose.aspx?rel=CP) (accessed July 9, 2009).

²¹¹ Board of Governors of the Federal Reserve System, *Federal Reserve Statistical Release: Commercial Paper Rates and Outstandings: Data Download Program* (Instrument: Asset-Backed Commercial Paper Outstanding, Frequency: Weekly) (online at www.federalreserve.gov/DataDownload/Choose.aspx?rel=CP) (accessed July 9, 2009).

Indicator	Current Level (as of 7/9/09) (dollars billions)	Percent Change Since Last Report (6/8/09)
Financial Commercial Paper Outstanding (seasonally adjusted) ²¹²	\$554.15	4.46%
Nonfinancial Commercial Paper Outstanding (seasonally adjusted) ²¹³	\$125.49	-19.89%

- Lending by the Largest TARP-recipient Banks.** Treasury’s Monthly Lending and Intermediation Snapshot tracks loan originations and average loan balances for the 21 largest recipients of CPP funds across a variety of categories, ranging from mortgage loans to commercial and industrial loans to credit card lines. Originations decreased across nearly all categories of bank lending in April when compared to March.²¹⁴ Lenders surveyed by Treasury attribute this decline in originations to seasonality and a decrease in demand.²¹⁵ The dramatic drop in commercial and industrial and commercial real estate originations is particularly noteworthy, with originations in both categories decreasing by over 30 percent. Banks reported that demand for these commercial loans was well below normal levels; further, banks predicted that this lower demand would continue through the remainder of the second quarter of 2009.²¹⁶ Average loan balances fell across all categories from March to April, with banks reporting that borrowers are paying down existing debt.²¹⁷ The data below exclude lending by two large CPP-

²¹² Board of Governors of the Federal Reserve System, *Federal Reserve Statistical Release: Commercial Paper Rates and Outstandings: Data Download Program* (Instrument: Financial Commercial Paper Outstanding, Frequency: Weekly) (online at www.federalreserve.gov/DataDownload/Choose.aspx?rel=CP) (accessed July 9, 2009).

²¹³ Board of Governors of the Federal Reserve System, *Federal Reserve Statistical Release: Commercial Paper Rates and Outstandings: Data Download Program* (Instrument: Nonfinancial Commercial Paper Outstanding, Frequency: Weekly) (online at www.federalreserve.gov/DataDownload/Choose.aspx?rel=CP) (accessed July 9, 2009).

²¹⁴ U.S. Department of the Treasury, *Treasury Department Monthly Lending and Intermediation Snapshot Data for October 2008 - April 2009* (June 15, 2009) (online at www.financialstability.gov/docs/surveys/Snapshot_Data_April%202009.xls) (hereinafter “Treasury Snapshot April Summary Data”).

²¹⁵ U.S. Department of the Treasury, *Treasury Department Monthly Lending and Intermediation Snapshot : Summary Analysis for April 2009* (June 15, 2009) (online at www.financialstability.gov/docs/surveys/SnapshotAnalysisApril2009.pdf) (hereinafter “Treasury April Lending Snapshot”).

²¹⁶ *Id.*

²¹⁷ *Id.*

recipient banks, PNC Bank and Wells Fargo, because significant acquisitions by those banks since last October make comparisons difficult.

Figure 8: Lending by the Largest TARP-recipient Banks

Indicator	Most Recent Data (April 2009) (dollars in millions)	Percent Change Since March 2009	Percent Change Since October 2008
Total Loan Originations	\$199,284	-9.48%	-8.66%
C&I New Commitments	\$32,488	-37.15%	-44.89%
CRE New Commitments	\$3,470	-30.78%	-67.03%
Mortgage Refinancing	\$49,009	-7.74%	161.13%
Total Average Loan Balances	\$3,358,294	-0.94%	-1.88%

- Loans and Leases Outstanding of Domestically-Chartered Banks.** Weekly data from the Federal Reserve Board track fluctuations among different categories of bank assets and liabilities. The Federal Reserve Board data are useful in that they separate out large domestic banks and small domestic banks. Loans and leases outstanding for large and small domestic banks both fell last month.²¹⁸ However, total loans and leases outstanding at small domestic banks remain slightly above last October's level, while total loans and leases outstanding at large banks have dropped by over 4.4 percent since that time.²¹⁹

Figure 9: Loans and Leases Outstanding

Indicator	Current Level (as of 7/9/09) (dollars in billions)	Percent Change Since Last Report (6/8/09)	Percent Change Since ESSA Signed into Law (10/3/08)
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²¹⁸ Board of Governors of the Federal Reserve System, *Federal Reserve Statistical Release H.8: Assets and Liabilities of Commercial Banks in the United States: Historical Data* (Instrument: Assets and Liabilities of Large Domestically Chartered Commercial Banks in the United States, Seasonally adjusted, adjusted for mergers, billions of dollars) (online at www.federalreserve.gov/releases/h8/data.htm) (accessed July 9, 2009).

²¹⁹ Board of Governors of the Federal Reserve System, *Federal Reserve Statistical Release H.8: Assets and Liabilities of Commercial Banks in the United States: Historical Data* (Instrument: Assets and Liabilities of Small Domestically Chartered Commercial Banks in the United States, Seasonally adjusted, adjusted for mergers, billions of dollars) (online at www.federalreserve.gov/releases/h8/data.htm) (accessed July 9, 2009).

Large Domestic Banks - Total Loans and Leases	\$3,939.9	-1.13%	-4.41%
Small Domestic Banks - Total Loans and Leases	\$2,449.0	-1.26%	0.09%

- Housing Indicators.** Foreclosure filings fell by roughly six percent from April to May, while remaining nearly 15 percent above the level of last October. Housing prices, as illustrated by the S&P/Case-Shiller Composite 20 Index, continued to dip in April. The index is remains down over ten percent since October 2008.

Figure 10: Housing Indicators

Indicator	Most Recent Monthly Data	Percent Change From Data Available at Time of Last Report (6/8/09)	Percent Change Since October 2008
Monthly Foreclosure Filings ²²⁰	321,480	-6.01%	14.99%
Housing Prices - S&P/Case-Shiller Composite 20 Index ²²¹	140.1	-0.88%	-10.82%

J. Financial Update

In its April oversight report, the Panel assembled a summary of the resources the federal government has committed to economic stabilization. The following provides (1) an updated accounting of the TARP, including a tally of dividend income and repayments the program has received as of July 2, 2009, and (2) an update of the full federal resource commitment as of July 2, 2009.

1. TARP

a. Costs: Expenditures and Commitments

²²⁰ RealtyTrac, *Foreclosure Activity Press Releases* (online at www.realtytrac.com/ContentManagement/PressRelease.aspx) (accessed July 9, 2009).

²²¹ Standard & Poor's, *S&P/Case-Shiller Home Price Indices* (Instrument: Seasonally Adjusted Composite 20 Index) (online at www2.standardandpoors.com/spf/pdf/index/SA_CSHomePrice_History_063055.xls) (accessed July 9, 2009).

Through an array of programs used to purchase preferred shares in financial institutions, offer loans to small businesses and auto companies, and leverage Federal Reserve loans for facilities designed to restart secondary securitization markets, Treasury has committed to spend \$645.5 billion, leaving \$60.8 billion available for new programs or other needs.²²² Of the \$645.5 billion that Treasury has committed to spend, \$441 billion has already been allocated and counted against the statutory \$698.7 billion limit.²²³ This includes purchases of preferred shares, warrants and/or debt obligations under the CPP, TIP, SSFI Program, and AIFP, a \$20 billion loan to TALF LLC, the special purpose vehicle used to guarantee Federal Reserve TALF loans, and the \$5 billion Citigroup asset guarantee already exchanged for a guarantee fee composed of additional preferred shares and warrants.²²⁴ Additionally, Treasury has allocated \$18 billion to the Home Affordable Modification Program, out of a projected total program level of \$50 billion, but has not yet distributed any of these funds. Treasury will release its next tranche report when transactions under the TARP reach \$450 billion.

b. Income: Dividends and Repayments

Following the repayments of CPP infusions by nine of the stress-tested BHCs, the total amount of TARP repayments surged from just under \$2 billion to over \$70 billion.²²⁵ In addition, Treasury's investment in preferred shares entitles it to dividend payments from the institutions in which it invests, usually five percent per annum for the first five years and nine percent per annum thereafter.²²⁶ Treasury has not yet begun to officially report dividend payments on its transaction reports.

c. TARP Accounting as of July 2, 2009

Figure 11: TARP Accounting (as of July 2, 2009)

²²² EESA limits Treasury to \$700 billion in purchasing authority outstanding at any one time as calculated by the sum of the purchases prices of all troubled assets held by Treasury. EESA, *supra* note 13, § 115(a)-(b) (codified at 12 U.S.C. § 5225(a)-(b)); Helping Families Save Their Homes Act of 2009, Pub. L. No. 111-22, sec. 402(f) (online at www.access.gpo.gov/cgi-bin/getdoc.cgi?dbname=111_cong_bills&docid=f:s896enr.txt.pdf) (reducing by \$1.26 billion the authority for the TARP originally set under EESA at \$700 billion).

²²³ This figure does not include the repurchases of CPP preferred shares.

²²⁴ U.S. Department of the Treasury, *Troubled Asset Relief Program: Transactions Report For Period Ending June 30, 2009*. (July 2, 2009) (online at www.financialstability.gov/docs/transaction-reports/transactions-report_070209.pdf) (hereinafter "July 2 TARP Transaction Report").

²²⁵ *Id.* See also Section One, Part F of this report (providing a table with detailed information on repurchases to date).

²²⁶ See, e.g., Securities Purchase Agreement, *supra* note 15.

TARP Initiative (Dollars in billions)	Announced Funding	Purchase Price	Repayments	Dividend Income
Total	638	441 ²²⁷	70.124 ²²⁸	6.651 ²²⁹
CPP	218	203.2	70.124	5.255
TIP	40	40	0	1.128
SSFI Program	70	69.8	0	0
AIFP	80	80	0	0.160
AGP	5	5	0	0.108
CAP	TBD	0	0	0
TALF	80	20	0	0
PIIP	75	0	0	0
Supplier Support Program	5	5	0	0
Unlocking SBA Lending	15	0	0	0
HAMP	50	18.0 ²³⁰	0	0

2. Other Financial Stability Efforts

Federal Reserve, FDIC, and Other Programs

In addition to the more direct expenditures Treasury has undertaken through the TARP, the federal government has also engaged in a much broader program directed at stabilizing the U.S. financial system. Many of these programs explicitly augment Treasury funds, like FDIC guarantees of securitization of PPIP Legacy Loans or asset guarantees for Citigroup, or operate

²²⁷ See July 2 TARP Transaction Report, *supra* note 224.

²²⁸ See July 2 TARP Transaction Report, *supra* note 224.

²²⁹ As of June 30, 2009. This information was provided to the Panel by Treasury staff.

²³⁰ Reflects the cap set on payments to each mortgage servicer. See July 2 TARP Transactions Report, *supra* note 224.

in tandem with Treasury programs, such as the interaction between PPIP and TALF. Other programs, like the Federal Reserve’s extension of credit through its § 13(3) facilities and special purpose vehicles or the FDIC’s Temporary Liquidity Guarantee Program, stand independent of the TARP and seek to accomplish different goals.

3. Total Financial Stability Resources as of July 2, 2009

Beginning in its April report, the Panel broadly classified the resources that the federal government has devoted to stabilizing the economy through a myriad of new programs and initiatives, as outlays, loans, or guarantees. Although the Panel has calculated the total value of these resources at over \$4 trillion, this would translate into the ultimate “cost” of the stabilization effort only if: (1) assets do not appreciate, (2) no dividends are received, no warrants are exercised, and no TARP funds are repaid, (3) all loans default and are written off, and (4) all guarantees are exercised and subsequently written off.

Figure 12: Federal Government Financial Stability Effort (as of July 2, 2009)

Program (Dollars in billions)	Treasury (TARP)	Federal Reserve	FDIC	Total
Total	698.7	2,197.2	1,372.7	4,268.6²³³
<i>Outlays²³¹</i>	516.6	0	37.7	554.3
<i>Loans</i>	36.3	1967.4	0	2,003.7
<i>Guarantees²³²</i>	85	230	1,335	1,649.8
<i>Uncommitted TARP Funds</i>	60.8	0	0	60.8

²³¹ The term “outlays” is used here to describe the use of Treasury funds under the TARP, which are broadly classifiable as purchases of debt or equity securities (e.g., debentures, preferred stock, exercised warrants, etc.). The outlays figures are based on: (1) Treasury’s actual reported expenditures; and (2) Treasury’s anticipated funding levels as estimated by a variety of sources, including Treasury pronouncements and GAO estimates. Anticipated funding levels are set at Treasury’s discretion, have changed from initial announcements, and are subject to further change. The outlays concept used here represents cash disbursements and commitments to make cash disbursements and is not the same as budget outlays, which under § 123 of EESA are recorded on a “credit reform” basis.

²³² While many of the guarantees may never be exercised or exercised only partially, the guarantee figures included here represent the federal government’s greatest possible financial exposure.

²³³ This figure differs substantially from the \$2,476-2,976 billion range of “Total Funds Subject to SIGTARP Oversight” reported during testimony before the Senate Finance Committee on March 31, 2009. Senate Committee on Finance, Testimony of SIGTARP Neil Barofsky, *TARP Oversight: A Six Month Update*, 111th Cong. (Mar. 31, 2009). SIGTARP’s accounting, designed to capture only those funds potentially under its oversight authority, is both less and more inclusive than the Panel’s, and thus the two are not directly comparable. Among the differences, SIGTARP does not account for Federal Reserve credit extensions outside of the TALF or FDIC guarantees under the Temporary Liquidity Guarantee Program and sets the maximum Federal Reserve guarantees under the TALF at \$1 trillion.

Program (Dollars in billions)	Treasury (TARP)	Federal Reserve	FDIC	Total
AIG	70	100	0	170
<i>Outlays</i>	70 ²³⁴	0	0	70
<i>Loans</i>	0	100 ²³⁵	0	100
<i>Guarantees</i>	0	0	0	0
Bank of America	45	0	0	45
<i>Outlays</i>	45 ²³⁷	0	0	45
<i>Loans</i>	0	0	0	0
<i>Guarantees</i> ²³⁶	0	0	0	0
Citigroup	50	229.8	10	289.8
<i>Outlays</i>	45 ²³⁸	0	0	45
<i>Loans</i>	0	0	0	0
<i>Guarantees</i>	5 ²³⁹	229.8 ²⁴⁰	10 ²⁴¹	244.8

²³⁴ This number includes investments under the SSFI program: a \$40 billion investment made on November 25, 2008, and a \$30 billion investment committed on April 17, 2009 (less a reduction of \$165 million representing bonuses paid to AIG Financial Products employees). July 2 TARP Transaction Report, *supra* note 224.

²³⁵ This number represents the full \$60 billion that is available to AIG through its revolving credit facility with the Federal Reserve (\$43.5 billion had been drawn down as of July 1) and the outstanding principle of the loans extended to the Maiden Lane II and III special purpose vehicles (AIG SPVs) to buy AIG assets (as of July 1, \$17.5 billion and \$22.4 billion respectively). See Fed Balance Sheet July 2, *supra* note 69. The Panel continues to calculate the exposure attributable to the revolving credit facility at \$60 billion. However, whereas previously the Panel had calculated the exposure attributable to the AIG SPVs at the initially announced amount of Federal Reserve loans to the SPVs, we have changed our methodology. Based on its review of new Federal Reserve documents, the Panel now believes that its previous methodology overstated the Federal Reserve's exposure to AIG. The initially announced amount of loans was based on the Federal Reserve's estimated cost to purchase a particular pool of AIG assets. However, the value of these assets declined by the time the AIG SPVs purchased them, necessitating a smaller loan than was initially announced. Furthermore, income from the purchased assets is used to pay down the loan, reducing the taxpayers' exposure to losses over time. See Board of Governors of the Federal Reserve System, *Federal Reserve System Monthly Report on Credit and Liquidity Programs and the Balance Sheet*, at 14-16 (June 2009) (online at www.federalreserve.gov/newsevents/monthlyclbsreport200906.pdf); Letter from Federal Reserve Chairman Benjamin Bernanke to Congressional Oversight Panel Chair Elizabeth Warren (June 26, 2009).

²³⁶ Based on its review of newly available information from the Federal Reserve, the Panel has revised its calculation of support provided to Bank of America by excluding from the total the \$118 billion asset guarantee agreement between Bank of America, the Federal Reserve, Treasury, and the FDIC. U.S. Department of the Treasury, *Summary of Terms: Eligible Asset Guarantee* (Jan. 15, 2009) (online at www.treas.gov/press/releases/reports/011508bofatermsheet.pdf). The reason for the change is that it is now clear that, despite preliminary agreement, the asset guarantee was never signed; it is not currently in effect, and will likely not be consummated. House Committee on Oversight and Government Reform, Testimony of Federal Reserve Chairman Ben Bernanke, *Bank of America and Merrill Lynch: How Did a Private Deal Turn Into a Federal Bailout? Part II*, 111th Cong. (June 25, 2009).

²³⁷ July 2 TARP Transaction Report, *supra* note 224. This figure includes: (1) a \$15 billion investment made by Treasury on October 28, 2008 under the CPP; (2) a \$10 billion investment made by Treasury on January 9, 2009 also under the CPP; and (3) a \$20 billion investment made by Treasury under the TIP on January 16, 2009.

Program (Dollars in billions)	Treasury (TARP)	Federal Reserve	FDIC	Total
Capital Purchase Program (Other)	168	0	0	168
<i>Outlays</i>	168 ²⁴²	0	0	168
<i>Loans</i>	0	0	0	0
<i>Guarantees</i>	0	0	0	0
Capital Assistance Program	TBD	TBD	TBD	TBD ²⁴³
TALF	80	720	0	800
<i>Outlays</i>	0	0	0	0
<i>Loans</i>	0	720 ²⁴⁵	0	720
<i>Guarantees</i>	80 ²⁴⁴	0	0	80

²³⁸ July 2 TARP Transaction Report, *supra* note 224. This figure includes: (1) a \$25 billion investment made by Treasury under the CPP on October 28, 2008; and (2) a \$20 billion investment made by Treasury under TIP on December 31, 2008.

²³⁹ Citigroup Asset Guarantee (granting a 90 percent federal guarantee on all losses over \$29 billion of a \$306 billion pool of Citigroup assets, with the first \$5 billion of the cost of the guarantee borne by Treasury, the next \$10 billion by FDIC, and the remainder by the Federal Reserve). *See also* U.S. Department of the Treasury, *U.S. Government Finalizes Terms of Citi Guarantee Announced in November* (Jan. 16, 2009) (online at www.treas.gov/press/releases/hp1358.htm) (reducing the size of the asset pool from \$306 billion to \$301 billion).

²⁴⁰ *Id.*

²⁴¹ *Id.*

²⁴² This figure represents the \$218 billion Treasury has anticipated spending under the CPP, minus the \$50 billion investment in Citigroup (\$25 billion) and Bank of America (\$25 billion) identified above. This figure does not account for anticipated repayments or redemptions of CPP investments, nor does it account for dividend payments from CPP investments.

²⁴³ Funding levels for the CAP have not yet been announced but will likely constitute a significant portion of the remaining \$60.8 billion of TARP funds.

²⁴⁴ Senate Committee on Banking, Housing, and Urban Affairs, Testimony of Secretary Geithner, *Oversight of the Troubled Asset Relief Program*, 111th Cong., at 1 (May 20, 2009) (online at banking.senate.gov/public/index.cfm?FuseAction=Files.View&FileStore_id=b64da0f5-9f9b-448a-a352-ad0590543ef9) (hereinafter “May 20 Geithner Testimony”); July 2 TARP Transactions Report, *supra* note 224. This figure represents: a \$20 billion allocation to the TALF special purpose vehicle on March 3, 2009; Treasury’s announcement of an additional \$35 billion dedicated to the TALF; and \$25 billion dedicated to supporting TALF loans to purchase legacy securities under the PPIP.

²⁴⁵ This number derives from the unofficial 1:10 ratio of the value of Treasury loan guarantees to of the value of Federal Reserve loans under the TALF. *See* U.S. Department of the Treasury, *Fact Sheet: Financial Stability Plan* (Feb.10, 2009) (online at www.financialstability.gov/docs/fact-sheet.pdf) (describing the initial \$20 billion Treasury contribution tied to \$200 billion in Federal Reserve loans and announcing potential expansion to a \$100 billion Treasury contribution tied to \$1 trillion in Federal Reserve loans). Because Treasury is responsible for reimbursing the Federal Reserve Board for \$80 billion of losses on its \$800 billion in loans, the Federal Reserve Board’s maximum potential exposure under the TALF is \$720 billion.

Program (Dollars in billions)	Treasury (TARP)	Federal Reserve	FDIC	Total
PPIF (Loans) ²⁴⁶	45	0	540	585
<i>Outlays</i>	45	0	0	45
<i>Loans</i>	0	0	0	0
<i>Guarantees</i>	0	0	540 ²⁴⁷	540
PPIF (Securities)	30	0	0	30
<i>Outlays</i>	12.5 ²⁴⁸	0	0	12.5
<i>Loans</i>	17.5	0	0	17.5
<i>Guarantees</i>	0	0	0	0
Home Affordable Modification Program	50	0	0	50 ²⁵⁰
<i>Outlays</i>	50 ²⁴⁹	0	0	50
<i>Loans</i>	0	0	0	0
<i>Guarantees</i>	0	0	0	0

²⁴⁶ Because PPIP funding arrangements for loans and securities differ substantially, the Panel accounts for them separately. Treasury has not formally announced either total program funding level or the allocation of funding between the PPIP Legacy Loans Program and Legacy Securities Program. Treasury has indicated that, of the \$100 billion maximum allocation to the PPIP, it plans to disburse \$25 billion to the TALF for the financing of the PPIP Legacy Securities program, and \$30 billion to the Legacy Securities Program as initial equity and debt funding (leaving at most \$45 billion to be allocated to the Legacy Loans Program). U.S. Department of the Treasury, *Joint Statement By Secretary Of The Treasury Timothy F. Geithner, Chairman Of The Board Of Governors Of The Federal Reserve System Ben S. Bernanke, And Chairman Of The Federal Deposit Insurance Corporation Sheila Bair: Legacy Asset Program* (July 8, 2009) (online at www.financialstability.gov/latest/tg_07082009.html). However, the FDIC has postponed the implementation of the Legacy Loans program, see Federal Deposit Insurance Corporation, *FDIC Statement on the Status of the Legacy Loans Program* (June 3, 2009) (online at www.fdic.gov/news/news/press/2009/pr09084.html). It is not yet clear how this postponement will affect the allocation of TARP funds for the PPIP.

²⁴⁷ *Id* at 2-3 (explaining that, for every \$1 Treasury contributes in equity matching \$1 of private contributions to public-private asset pools created under the Legacy Loans Program, FDIC will guarantee up to \$12 of financing for the transaction to create a 6:1 debt to equity ratio). If Treasury ultimately allocates a smaller proportion of funds to the Legacy Loans Program (i.e., less than \$45 billion), the amount of FDIC loan guarantees will be reduced proportionally.

²⁴⁸ *Id* at 4-5 (outlining that, for each \$1 of private investment into a fund created under the Legacy Securities Program, Treasury will provide a matching \$1 in equity to the investment fund; a \$1 loan to the fund; and, at Treasury's discretion, an additional loan up to \$1). In the absence of further Treasury guidance, this analysis assumes that Treasury will allocate funds for equity co-investments and loans at a 1:1.5 ratio, a formula that estimates that Treasury will frequently exercise its discretion to provide additional financing.

²⁴⁹ Government Accountability Office, *Troubled Asset Relief Program: June 2009 Status of Efforts to Address Transparency and Accountability Issues*, at 2 (June 17, 2009) (GAO09/658) (online at www.gao.gov/new.items/d09658.pdf). Of the \$50 billion in announced TARP funding for this program, only \$18.0 billion has been allocated as of June 30, and no funds have yet been disbursed. See July 2 TARP Transactions Report, *supra* note 224.

²⁵⁰ Fannie Mae and Freddie Mac, government-sponsored entities (GSEs) that were placed in conservatorship of the Federal Housing Finance Housing Agency on September 7, 2009, will also contribute up to \$25 billion to the Making Home Affordable Program, of which the HAMP is a key component. See U.S.

Program (Dollars in billions)	Treasury (TARP)	Federal Reserve	FDIC	Total
Automotive Industry Financing Program	80 ²⁵¹	0	0	80
<i>Outlays</i>	66.1 ²⁵²	0	0	66.1
<i>Loans</i>	13.8	0	0	13.8
<i>Guarantees</i>	0	0	0	0
Auto Supplier Support Program	5	0	0	5
<i>Outlays</i>	0	0	0	0
<i>Loans</i>	5 ²⁵³	0	0	5
<i>Guarantees</i>	0	0	0	0
Unlocking SBA Lending	15	0	0	15
<i>Outlays</i>	15 ²⁵⁴	0	0	15
<i>Loans</i>	0	0	0	0
<i>Guarantees</i>	0	0	0	0
Temporary Liquidity Guarantee Program	0	0	785	785
<i>Outlays</i>	0	0	0	0
<i>Loans</i>	0	0	0	0
<i>Guarantees</i>	0	0	785 ²⁵⁵	785
Deposit Insurance Fund	0	0	37.7	37.7
<i>Outlays</i>	0	0	37.7 ²⁵⁶	37.7
<i>Loans</i>	0	0	0	0
<i>Guarantees</i>	0	0	0	0

Department of the Treasury, *Making Home Affordable: Updated Detailed Program Description* (Mar. 4, 2009) (online at www.treas.gov/press/releases/reports/housing_fact_sheet.pdf).

²⁵¹ Figures do not total due to rounding.

²⁵² July 2 TARP Transactions Report, *supra* note 224. A substantial portion of the total \$80.0 billion in loans extended under the AIFP has since been converted to common equity and preferred shares in restructured companies. Only \$13.8 billion has been retained as first lien debt (with \$6.7 billion committed to GM and \$7.1 billion to Chrysler), which is classified below as loans.

²⁵³ July 2 TARP Transactions Report, *supra* note 224.

²⁵⁴ May 20 Geithner Testimony, *supra* note 244, at 15.

²⁵⁵ This figure represents the current maximum aggregate debt guarantees that could be made under the program, which, in turn, is a function of the number and size of individual financial institutions participating. \$345.8 billion of debt subject to the guarantee has been issued to date, which represents about 44 percent of the current cap. Federal Deposit Insurance Corporation, *Monthly Reports on Debt Issuance Under the Temporary Liquidity Guarantee Program: Debt Issuance Under Guarantee Program* (May 31, 2009) (online at www.fdic.gov/regulations/resources/TLGP/total_issuance5-09.html) (updated June 17, 2009).

Program (Dollars in billions)	Treasury (TARP)	Federal Reserve	FDIC	Total
Other Federal Reserve Credit Expansion	0	1,147.4	0	1,147.4
<i>Outlays</i>	0	0	0	0
<i>Loans</i>	0	1,147.4 ²⁵⁷	0	1,147.4
<i>Guarantees</i>	0	0	0	0
Uncommitted TARP Funds	60.8 ²⁵⁸	0	0	60.8

²⁵⁶ This figure represents the FDIC's provision for losses to its deposit insurance fund attributable to bank failures in the third and fourth quarters of 2008 and the first quarter of 2009. See Federal Deposit Insurance Corporation, *Chief Financial Officer's (CFO) Report to the Board: DIF Income Statement (Fourth Quarter 2008)* (online at www.fdic.gov/about/strategic/corporate/cfo_report_4qtr_08/income.html); Federal Deposit Insurance Corporation, *Chief Financial Officer's (CFO) Report to the Board: DIF Income Statement (Third Quarter 2008)* (online at www.fdic.gov/about/strategic/corporate/cfo_report_3rdqtr_08/income.html); Federal Deposit Insurance Corporation, *Chief Financial Officer's (CFO) Report to the Board: DIF Income Statement (First Quarter 2009)* (online at www.fdic.gov/about/strategic/corporate/cfo_report_1stqtr_09/income.html).

²⁵⁷ This figure is derived from adding the total credit the Federal Reserve Board has extended as of June 3, 2009 through the Term Auction Facility (Term Auction Credit), Discount Window (Primary Credit), Primary Dealer Credit Facility (Primary Dealer and Other Broker-Dealer Credit), Central Bank Liquidity Swaps, loans outstanding to Bear Stearns (Maiden Lane I LLC), GSE Debt (Federal Agency Debt Securities), Mortgage Backed Securities Issued by GSEs, Asset-Backed Commercial Paper Money Market Mutual Fund Liquidity Facility, and Commercial Paper Funding Facility LLC. See Fed Balance Sheet July 2, *supra* note 69. The level of Federal Reserve lending under these facilities will fluctuate in response to market conditions and independent of any federal policy decisions.

²⁵⁸ One potential use of uncommitted funds is Treasury's obligation to reimburse the Exchange Stabilization Fund (ESF), currently valued at \$52.1 billion. See U.S. Department of Treasury, *Exchange Stabilization Fund, Statement of Financial Position, as of May 31, 2009* (online at www.ustreas.gov/offices/international-affairs/esf/esf-monthly-statement.pdf) (accessed July 2, 2009). Treasury must reimburse any use of the fund to guarantee money market mutual funds from TARP money. See EESA, *supra* note 13, at § 131. In September 2008, Treasury opened its Temporary Guarantee Program for Money Market Mutual Funds, U. S. Department of Treasury, *Treasury Announces Temporary Guarantee Program for Money Market Mutual Funds* (Sept. 29, 2008) (online at www.treas.gov/press/releases/hp1161.htm). This program uses assets of the ESF to guarantee the net asset value of participating money market mutual funds. *Id.* §131 of EESA protected the ESF from incurring any losses from the program by requiring that Treasury reimburse the ESF for any funds used in the exercise of the guarantees under the program, which has been extended through September 18, 2009. U.S. Department of Treasury, *Treasury Announces Extension of Temporary Guarantee Program for Money Market Funds* (Mar. 31, 2009) (online at www.treas.gov/press/releases/tg76.htm).

Section Five: Oversight Activities

The Congressional Oversight Panel was established as part of EESA and formed on November 26, 2008. Since then, the Panel has issued seven oversight reports, as well as its special report on regulatory reform, which was issued on January 29, 2009. Since the release of the Panel's June oversight report, the following developments pertaining to the Panel's oversight of the TARP took place:

- Chair Elizabeth Warren, on behalf of the Panel, and Special Inspector General for the Troubled Asset Relief Program Neil M. Barofsky sent a joint letter on June 10, 2009 to Chairman Christopher J. Dodd and Ranking Member Richard C. Shelby of the Senate Committee on Banking, Housing, and Urban Affairs, and Chairman Barney Frank and Ranking Member Spencer Bachus of the House Financial Services Committee, to notify them of a special coordinated effort between SIGTARP and the Panel to examine the pricing of warrants in the context of the repayment of TARP funds by TARP-recipient institutions.²⁵⁹ The letter discusses the Panel's plans to release its valuation estimates and analysis relating to the pricing of warrants which Treasury holds in relation to its Capital Purchase Program ("CPP") investments with its July monthly report, and SIGTARP's plans to conduct an audit of Treasury's warrant repurchase/sale process.
- The Panel held a hearing on June 24, 2009 with newly confirmed Assistant Secretary of the Treasury for Financial Stability Herbert Allison regarding the Troubled Asset Relief Program. Written testimony and video from the hearing can be found on the Panel's website at <http://cop.senate.gov/hearings/library/hearing-062409-allison.cfm>.
- The Helping Families Save Their Homes Act of 2009 (P.L. 111-22), signed into law on May 20, 2009, requires the Congressional Oversight Panel to issue a special report on farm loan restructuring. To assist in this mandate, the Panel held a hearing on July 7, 2009 in Greeley, Colorado, on the subject of commercial farm credit markets and the use of farm loan restructuring as an alternative to foreclosure. It heard testimony from representatives of the USDA, farm credit lenders, and farmers themselves. It also had the opportunity to hear from the Greeley community on issues related to farm credit. Written testimony and audio from the hearing can be found on the Panel's website at <http://cop.senate.gov/hearings/library/hearing-070709-farmcredit.cfm>.
- At a Panel hearing on April 21, 2009, Secretary Geithner pledged to arrange weekly Treasury briefings on TARP activities for Panel staff. Based on the Secretary's pledge, Panel staff has since received numerous briefings on topics including banks' repayment

²⁵⁹ See Appendix IV of this report, *infra*.

of preferred shares and warrants, TALF and PPIP, the stress tests, and Treasury's plan to purchase directly securities backed by Small Business Administration (SBA) 7(a) loans.

- Panel staff has reviewed documents pertaining to the stress tests, provided by both Treasury and the Federal Reserve Board of Governors. Several other document requests sent to Treasury are still pending.
- The Panel has sent letters to the largest mortgage servicing companies that have not yet signed a contract to formally participate in the Making Home Affordable foreclosure mitigation program. This letter inquires, among other things, if the servicer intends to participate, how it is handling loan modifications, and what barriers and obstacles might limit participation in the program. This is part of the Panel's continuing oversight of foreclosure mitigation efforts.

Upcoming Reports and Hearings

- The Panel will release its next oversight report in August. The report will provide an updated review of TARP activities and continue to assess the program's overall effectiveness. The report will also examine the issue of troubled assets, their role in the economic crisis, and how the TARP addresses them.
- On July 21, 2009, the Panel will release a report in which it provides an analysis of the state of the commercial farm credit markets and considers the use of farm loan restructuring as an alternative to foreclosure. This report is pursuant to section 501 of the Helping Families Save Their Homes Act of 2009 (P.L. 111-22).
- The Panel is planning a field hearing in Detroit on July 27, 2009 to hear testimony on Treasury's administration of the Automotive Industry Financing Program.

Section Six: About the Congressional Oversight Panel

In response to the escalating crisis, on October 3, 2008, Congress provided Treasury with the authority to spend \$700 billion to stabilize the U.S. economy, preserve home ownership, and promote economic growth. Congress created the Office of Financial Stabilization (OFS) within Treasury to implement a Troubled Asset Relief Program. At the same time, Congress created the Congressional Oversight Panel to “review the current state of financial markets and the regulatory system.” The Panel is empowered to hold hearings, review official data, and write reports on actions taken by Treasury and financial institutions and their effect on the economy. Through regular reports, the Panel must oversee Treasury’s actions, assess the impact of spending to stabilize the economy, evaluate market transparency, ensure effective foreclosure mitigation efforts, and guarantee that Treasury’s actions are in the best interests of the American people. In addition, Congress instructed the Panel to produce a special report on regulatory reform that analyzes “the current state of the regulatory system and its effectiveness at overseeing the participants in the financial system and protecting consumers.” The Panel issued this report in January 2009.

On November 14, 2008, Senate Majority Leader Harry Reid and the Speaker of the House Nancy Pelosi appointed Richard H. Neiman, Superintendent of Banks for the State of New York, Damon Silvers, Associate General Counsel of the American Federation of Labor and Congress of Industrial Organizations (AFL-CIO), and Elizabeth Warren, Leo Gottlieb Professor of Law at Harvard Law School to the Panel. With the appointment on November 19 of Congressman Jeb Hensarling to the Panel by House Minority Leader John Boehner, the Panel had a quorum and met for the first time on November 26, 2008, electing Professor Warren as its chair. On December 16, 2008, Senate Minority Leader Mitch McConnell named Senator John E. Sununu to the Panel, completing the Panel’s membership.

**APPENDIX I: LETTER FROM CHAIR ELIZABETH WARREN
TO SECRETARY TIMOTHY GEITHNER REQUESTING
INFORMATION ON THE REPAYMENT OF TARP
ASSISTANCE, DATED JUNE 12, 2009**

Congress of the United States
CONGRESSIONAL OVERSIGHT PANEL

June 12, 2009

The Honorable Timothy F. Geithner
Secretary of the Treasury
United States Department of the Treasury
Room 3330
1500 Pennsylvania Avenue, N.W.
Washington, D.C. 20220

Dear Secretary Geithner:

On June 9, 2009, the U.S. Treasury announced that “10 of the largest U.S. financial institutions participating in the Capital Purchase Program (CPP) have met the requirements for repayment established by the primary federal banking supervisors ... [and that the institutions] are now eligible to complete the repayment process. If these firms choose to do so, Treasury will receive \$68 billion in repayment proceeds.” The Congressional Oversight Panel is studying issues surrounding repayment of TARP funds, especially the value to be given to warrants for the purchase of common stock of the ten institutions that were issued to Treasury as required by section 113(d) of the Emergency Economic Stabilization Act of 2008 (“EESA”).

In connection with that study, I am writing to you, as Chair of the Oversight Panel, to obtain answers to the following questions and information requests:

1. What is the meaning of the term “fair market value” highlighted in bold – that is, without regard to the procedure specified – in the following excerpt from section 4.9(c)(ii) of the “Securities Purchase Agreement – Standard Terms” executed as part of the TARP process:

“*Fair Market Value*” means, with respect to any security, the **fair market value** of such security as determined by the Board of Directors, acting in good faith in reliance on an opinion of a nationally recognized independent investment banking firm retained by the Company for this purpose and certified in a resolution to the [Treasury].

2. What is the meaning of the phrase “market price” in section 111(g) of EESA, added to EESA by section 403 of the Helping Families Save Their Homes Act of 2009?
3. What is the difference between the terms “fair market value” and “market price” as used in the Securities Purchase Agreement and section 111(g) of EESA, respectively? If the two terms have different meanings, which meaning governs the pricing of the warrants to be repurchased when TARP repayments are made by any institutions?

4. The June 9, 2009 Treasury announcement states that:

Under the CPP investment agreements, firms that repay their preferred stock have the right to repurchase the warrants Treasury holds in their firms at fair market value.

At the same time amended section 111(g) of EESA, as amended as described above, states that:

[W]hen such assistance is repaid, the Secretary, at the market price, **may** liquidate warrants associated with such assistance.

(Emphasis added).

- a. Does section 111(g) of EESA permit Treasury to continue to hold the warrants issued by the financial institutions that repay TARP funds until it can obtain maximum value for those warrants? If not, why not?
 - b. If section 111(g) does permit Treasury to continue to hold those warrants, why has it decided to permit the ten institutions that are the subject of the June 9, 2009 announcement to repurchase their warrants now?
5. Please provide any information relating to Treasury's internal valuations of warrants not yet exercised or repurchased.
6. Please provide detailed information regarding the assumptions and methodologies Treasury has used to value warrants, or on whose basis it accepted the price set for the warrants, repurchased by Old National Bancorp, FirstMerit Corp., Sun Bancorp, IberiaBank Corp., Independent Bancorp, and any other warrants repurchased by the date of the U.S. Treasury's response to this request. Please provide the same information relating to pending negotiations for the repurchase of warrants issued by the ten institutions that have been approved to repay TARP funds and indicate the status of such negotiations, in each case.
7. Have any of the warrants been subject to a reduction due to a qualified equity offering by the institution that issued the warrants? Please specify the name of the institution and the amount of the reduction. Has Treasury calculated the probability of such a reduction for other institutions in which warrants continue to be held by Treasury? If so, what was the methodology used, and on what assumptions did it rely?

The Panel also requests the following data regarding the warrants, both outstanding and repurchased. Although much of this data is available on financialstability.gov in PDF format or through EDGAR, the Panel would like to receive Excel spreadsheets, or some other more easily manageable format. The data that the Panel requests is, for each institution that has received TARP assistance under any of the TARP programs:


8. The number of warrants received for each transaction;
9. The number of outstanding shares of common stock (in addition to, if available, the number of fully diluted shares);
10. The strike price of the warrants;
11. The expiration date of the warrants; and
12. Whether any of the warrants have been exercised.

The Panel seeks written responses to these questions, as well as a meeting between Panel staff and Treasury staff, about the TARP repayments and the treatment of warrants as part of those repayments. The Panel intends to discuss issues relating to warrant repurchases in its July Oversight Report, which will be issued during the first two weeks of July. Thus the meeting between Panel and Treasury staffs should occur by Thursday, June 18, 2009. The Panel would like to receive the written responses to these questions before the date of the meeting. Given the tight time schedule the Panel faces, we would appreciate receiving responsive information as it becomes available.

The information sought by this letter is necessary for the Congressional Oversight Panel to carry out section 125 of EESA. This information request is made pursuant to section 125(e)(3) of that Act.

I would be happy to answer any questions about this letter that you may have. If you would prefer, a member of your staff can contact the Panel's Executive Director, Naomi Baum, to discuss any such questions. Ms. Baum's telephone number is [REDACTED]

Very truly yours,



Elizabeth Warren
Chair
Congressional Oversight Panel

**APPENDIX II: LETTER FROM SECRETARY TIMOTHY
GEITHNER IN RESPONSE TO CHAIR WARREN'S LETTER
REQUESTING INFORMATION ON THE REPAYMENT OF
TARP ASSISTANCE, DATED JULY 1, 2009**



DEPARTMENT OF THE TREASURY
WASHINGTON, D.C.

SECRETARY OF THE TREASURY

July 1, 2009

Elizabeth Warren
Chair
Congressional Oversight Panel
732 North Capitol Street, NW
Rooms C-320 and C-617
Mailstop: COP
Washington, DC 20401

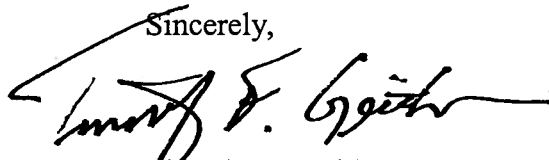
Dear Chair Warren:

Thank you for your letter dated June 12, 2009, regarding the value of the warrants that the Department of the Treasury has acquired in firms as required by section 113(d) of the Emergency Economic Stabilization Act of 2008, as amended ("EESA").

Treasury staff met with panel member Richard Nieman and the panel staff on Thursday, June 18 and reported to me that the discussion was informative and productive. On Friday, June 26, Treasury announced its warrants policy and posted the guidelines on our website along with a set of Frequently Asked Questions (FAQ). Copies of the warrants policy press release and FAQ are enclosed for your convenience. The following Monday, Treasury staff met with panel member Damon Silvers and panel staff. In the attached document, we have provided a written response to each of the questions and information requests in your letter.

Please contact me if you need further information.

Sincerely,



Timothy F. Geithner

Enclosure

cc: Senator John E. Sununu
Representative. Jeb Hensarling
Mr. Richard H. Neiman
Mr. Damon A. Silvers

Written Response to Letter from Chair Warren Dated June 12, 2009

1. ***What is the meaning of the term “fair market value” highlighted in bold – that is, without regard to the procedure specified – in the following excerpt from section 4.9(c)(ii) of the “Securities Purchase Agreement – Standard Terms” executed as part of the TARP process:***

“Fair Market Value” means, with respect to any security, the fair market value of such security as determined by the Board of Directors, acting in good faith in reliance on an opinion of a nationally recognized independent investment banking firm retained by the Company for this purpose and certified in a resolution to the [Treasury].

The term “fair market value” is, as you note, defined in the Securities Purchase Agreement by means of prescribing the process for determining such value. No other definition is given. Courts traditionally have accorded undefined contract terms their plain meaning and have looked to secondary sources for definitional guidance. *Black’s Law Dictionary* (8th ed., 2004) defines “fair market value” as “[t]he price that a seller is willing to accept and a buyer is willing to pay on the open market and in an arm’s length transaction.” Other secondary sources provide similar definitions.¹

2. ***What is the meaning of the phrase “market price” in section 111(g) of EESA, added to EESA by section 403 of the Helping Families Save Their Homes Act of 2009?***

The term “market price” is not defined in section 111(g) of EESA. Courts have traditionally deferred to an agency’s interpretation of such undefined terms. Although Treasury has not promulgated any guidance concerning the meaning of this term, we believe it is appropriate to consider the plain meaning of the term. The *Merriam-Webster Dictionary* defines market price as “a price actually given in current market dealings.” Similarly, *Black’s Law Dictionary* (8th ed., 2004) defines “market price” as “[t]he prevailing price at which something is sold in a specific market.”

3. ***What is the difference between the terms “fair market value” and “market price” as used in the Securities Purchase Agreement and section 111(g) of EESA, respectively? If the two terms have different meanings, which meaning governs the pricing of the warrants to be repurchased when TARP repayments are made by any institutions?***

¹ For instance the *Merriam-Webster Dictionary* states that fair market value “is a price at which buyers and sellers with a reasonable knowledge of pertinent facts and not acting under any compulsion are willing to do business.”

The United States Supreme Court used a similar definition of “fair market value” when considering a mutual fund valuation estate tax case:

“The fair market value is the price at which the property would change hands between a willing buyer and a willing seller, neither being under any compulsion to buy or to sell and both having reasonable knowledge of relevant facts.”

United States v. Cartwright, 411 U. S. 546, 551 (1973) (quoting from U.S. Treasury regulations relating to Federal estate taxes, at 26 C.F.R. sec. 20.2031-1(b)).

Although we believe the terms “fair market value” and “market price” are quite similar in meaning (indeed, *Black’s Law Dictionary’s* definition for “market price” refers to the definition for “fair market value”), the question of whether they have the “same” meaning is a question that can only properly be answered by considering the context in which the terms are used. We believe that examining the contexts in which these particular terms are used is therefore the proper way to address your question. The term “fair market value” is defined in the Securities Purchase Agreement by reference to a process, and such term is relevant to the pricing of the warrants in the event that a bank exercises its contractual right to repurchase the warrants. The contract dictates how fair market value will be established. The term “market price” is used in Section 111(g) and pertains to the liquidation by Treasury of the warrants generally. We do not read Section 111(g) to amend or pre-empt the use of “fair market value” in the Securities Purchase Agreement, or the process for deciding fair market value, in the event a bank exercises such right to repurchase.

4. *The June 9, 2009 Treasury announcement states that:*

Under the CPP investment agreements, firms that repay their preferred stock have the right to repurchase the warrants Treasury holds in their firms at fair market value.

At the same time amended section 111(g) of EESA, as amended as described above, states that:

[W]hen such assistance is repaid, the Secretary, at the market price, may liquidate warrants associated with such assistance.

(Emphasis added).

- a. Does section 111(g) of EESA permit Treasury to continue to hold the warrants issued by the financial institutions that repay TARP funds until it can obtain maximum value for those warrants? If not, why not?***
- b. If section 111(g) does permit Treasury to continue to hold those warrants, why has it decided to permit the ten institutions that are the subject of the June 9, 2009 announcement to repurchase their warrants now?***

Section 111(g) of EESA was added by the American Recovery and Reinvestment Act of 2009 (“ARRA”), which provided that “when [the] assistance [provided under TARP] is repaid, the Secretary shall liquidate warrants associated with such assistance at the current market price.” Section 403 of the Helping Families Save Their Homes Act of 2009 amended Section 111(g) of EESA by deleting the phrase “shall liquidate warrants associated with such assistance at the current market price.” In their place, Section 403 added “, at the market price, may liquidate warrants associated with such assistance.” This has been generally interpreted to eliminate the ARRA’s requirement for liquidation

of the warrants upon repayment of TARP assistance by a bank. Indeed, Section 403 was titled "Removal of Requirement to Liquidate Warrants Under the TARP."

Therefore, in answer to your first question, we believe the amendment of Section 111(g) eliminated the requirement to liquidate the warrants upon repayment by a bank of TARP assistance. Section 111(g) does not require that the Secretary dispose of the warrants at any particular time nor does that provision or any other provision of EESA require that the Secretary hold the warrants for any particular period of time. Instead, Section 111(g) permits the Secretary to dispose of the warrants at any time.

In answer to your second question, each bank that repays TARP assistance has a contractual right to repurchase the warrants. Treasury is contractually obligated to sell the warrants to a bank if it elects to repurchase the warrants pursuant to the contractually specified repurchase procedure.

In the event the bank does not repurchase the warrants pursuant to the contractually specified procedure, Treasury is permitted under Section 111(g) to liquidate the warrants, and the Secretary of the Treasury is given the discretion to determine the time period for liquidating the warrants. To ensure that government interventions in individual companies are consistent with the President's principle of preserving the private market system, we must ensure that any interventions are as brief as possible. Thus, the Administration has publicly stated that it "will seek to dispose of its ownership interests as soon as practicable." Treasury believes that this broad policy should apply to both common stock and warrants and will therefore auction the warrants within several months if the bank does not repurchase. Treasury is currently in the process of establishing guidelines for the auctions, and will make details about the auctions public on www.financialstability.gov.

5. Please provide any information relating to Treasury's internal valuations of warrants not yet exercised or repurchased.

It is not Treasury's policy to publish estimates of the fair market value of its investments made under the Troubled Asset Relief Program ("TARP"). In the present case, Treasury believes it would not be in the taxpayer's interest for Treasury to disclose any valuations it has performed in connection with warrants whose repurchase is currently pending or that may be repurchased in the near term.

6. Please provide detailed information regarding the assumptions and methodologies Treasury has used to value warrants, or on whose basis it accepted the price set for the warrants, repurchased by Old National Bancorp, FirstMerit Corp., Sun Bancorp, IberiaBank Corp., Independent Bancorp, and any other warrants repurchased by the date of the U.S. Treasury's response to this request. Please provide the same information relating to pending negotiations for the repurchase of warrants issued by the ten institutions that have been approved to repay TARP funds and indicate the status of such negotiations, in each case.

At the June 18, 2009 meeting, Treasury staff briefed representatives of the Panel on Treasury's general approach and methodology for valuing warrants. We would be pleased to provide more detail on our valuation methodology and would suggest scheduling a meeting for next week where we can walk interested Panel staff through more detailed documentation regarding our methodology. We can also provide staff with copies of the valuation analysis used in connection with warrants that have already been repurchased, provided that this analysis remains confidential.

7. ***Have any of the warrants been subject to a reduction due to a qualified equity offering by the institution that issued the warrants? Please specify the name of the institution and the amount of the reduction. Has Treasury calculated the probability of such a reduction for other institutions in which warrants continue to be held by Treasury? If so, what was the methodology used, and on what assumptions did it rely?***

Yes, three institutions have utilized the Securities Purchase Agreement provision allowing for a 50% reduction in warrants upon a Qualified Equity Offering (as such term is defined in the Securities Purchase Agreement). The institutions are Iberiabank, First Niagara, and State Street.

Treasury has not calculated the probability of reductions by other institutions in the number of warrants it holds.

As requested, we have sent your office the data requested in items 8) to 12) of your letter in an Excel Spreadsheet.

Treasury Announces Warrant Repurchase and Disposition Process for the Capital Purchase Program

June 26, 2009

Today, Treasury is announcing its policy with respect to the disposition of the warrants received in connection with investments made under the Capital Purchase Program (CPP). In the case of investments in publicly-traded institutions, Treasury received warrants to purchase common shares which have not been exercised. (In the case of institutions that are not publicly-traded, Treasury received warrants to purchase preferred stock or debt and these warrants were exercised immediately upon closing the initial investment so they are no longer outstanding.)

Repurchasing Warrants under the CPP Contract

When a publicly-traded institution repays Treasury's CPP investment, the original contract under the CPP provides the bank a right to repurchase the warrants at fair market value via an independent valuation process. The relevant sections of the transaction documentation describing this process can be found in the Warrants FAQ on www.financialstability.gov.

The warrant repurchase process works as follows:

Step 1: Within 15 days of repayment, a bank wishing to repurchase the warrants should submit a determination of fair market value to Treasury.

Step 2: Treasury will ensure that taxpayers' interests are protected by conducting a process (described below) to determine whether or not to accept the bank's initial determination. Under the contract, Treasury has 10 days to respond to the initial determination.

Step 3: If Treasury objects to the bank's determination and cannot reach agreement with the bank regarding fair market value, the transaction documents outline an appraisal procedure by which the two parties will reach a final price. In this appraisal procedure, the bank and Treasury will each select an independent appraiser. These independent appraisers will conduct their own valuations and attempt to agree upon the fair market value.

Step 4: If these appraisers fail to agree, a third appraiser is hired, and subject to some limitations, a composite valuation of the three appraisals is used to establish the fair market value.

In order to protect taxpayers in this process, Treasury has developed a robust set of procedures for evaluating repurchase offers in Step 2 above. Treasury's determination of value is based on three categories of input:

1. Market Prices

When available, observable market prices are used. However, Treasury has warrants that are not listed on a securities exchange nor otherwise traded. These warrants do vary from typical listed warrants, mostly due to their long term (10 years). Therefore, the only observable market prices are for securities that have similar characteristics. The prices of these comparable securities can be used to assess the fair market value of the warrants held by Treasury.

- Comparable securities for the warrants held by Treasury include: traded warrants, traded options, and common equity issued by the institution as well as similar securities of peer institutions. Generally speaking, the largest institutions in the CPP have a broad array of comparable securities with observable market prices. Mid-sized institutions have fewer comparable securities and those securities may trade somewhat infrequently. Many of the smallest CPP participants have no meaningful comparable securities with observable market prices, so Treasury will rely on other valuation methods.
- Treasury will also obtain quotations for the warrants from 5 - 10 relevant market participants that may include investment banks regularly trading options or other securities with embedded options (e.g. convertible bonds) or asset management firms focusing on the financial sector.

2. Financial Modeling

Treasury will also use a set of well-known financial models to assess the fair value of the warrants. These models will include, but will not be limited to, binomial and Black-Scholes option-pricing models, and are widely used in financial markets to value options and warrants.

- These models depend on known inputs (the expiration date, interest rates, and the current stock price) and on assumptions about the future volatility and dividends of the underlying common stock.
- Assumptions about future volatility will be based on both the historical volatility and the option-implied volatility for a given stock and, where necessary, adjustments will be made for the expected mean-reversion of volatility over time. Treasury uses the average 60-day trailing volatility for the last ten years to determine a stock's historical volatility. Some larger publicly-traded institutions have existing short-dated options and longer-dated options (with maturities of up to two years) that provide data on option-implied volatility, so we use these also.

- Assumptions about future dividends will be based on current, historical, and option-implied dividend yields. These assumptions will be limited by the parameters of the dividend protections outlined in the warrant documents.
- The value of the warrants will be calculated for a range of different assumptions about the future volatility and dividends.
- Deviations between market prices and the output from these models may occur due to model biases. Many of these biases are well-documented, and Treasury will make appropriate adjustments to correct for any potential biases.

3. Outside Consultants/Financial Agents

Treasury has retained 3 asset managers and intends to use other outside consultants to assist Treasury in enhancing its process and independently assessing value of each repurchasing bank's warrants. Each of these outside asset managers will provide full independent valuations for each repurchase, including key assumptions affecting their value determinations to inform Treasury's decision process.

Alternate Disposition of Warrants

If an issuer chooses not to repurchase the warrants according to its existing contractual rights, Treasury has the discretion to dispose of the warrants as it sees fit over time. In these instances, Treasury will sell the warrants through an auction process over the next few months. Treasury is currently establishing guidelines for these auctions, which it will publish on www.financialstability.gov.

The President has clearly stated that his objective is to dispose of the government's investments in individual companies as quickly as is practicable. In reaching the judgment to dispose of the warrants in the manner described, Treasury considered a range of options including holding the warrants for a longer term or until their expiration. Under those alternate scenarios, there was no certainty that we would realize higher values, and it was not appropriate for the government to be exercising discretionary judgment on timing market sales.

Accordingly, a fully transparent auction as described above provides the best method for the Treasury to realize the market value of the warrants in the near term on behalf of taxpayers.

Transparency

Treasury publishes information on all CPP transactions, including investments, repayments and warrant repurchases, in the TARP Transactions Reports within 2 business days of closing. All Transaction reports are available on our website at www.financialstability.gov.

Further, Treasury will begin publishing additional information on each warrant that is repurchased, including a bank's initial and subsequent determinations of fair market value, if applicable. Following the completion of each repurchase, Treasury will also publish the independent valuation inputs used to assess the bank's determination of fair market value. All of this information will be available www.financialstability.gov.

Background on Warrants and the Capital Purchase Program (CPP) Frequently Asked Questions (FAQ)

Q: What is a warrant?

A: A warrant is an option that grants the holder the right to buy another security at a specified price on a specific date or during a specified period of time. A warrant is very similar to a call option, but differs in that the firm itself is the seller of the option, rather than an outside party. Warrants for common stock give investors the right to buy new shares in the firm, which has a dilutive effect not associated with typical call options.

Q: Why does Treasury take warrants?

A: EESA mandates that Treasury take warrants in conjunction with the purchase of troubled assets from any institution for more than \$100 million.

Q: Does Treasury always take warrants?

A: Yes, except in the case of a Community Development Financial Institution that receives less than \$50 million from Treasury.

Q: Do the warrants look the same for all banks?

A: No.

- For publicly-traded institutions, Treasury receives warrants to purchase common shares. Treasury has not exercised these warrants.
- For all other institutions (private companies, S corporations, and some mutual organizations) Treasury receives warrants to purchase additional preferred shares or subordinated debentures. Treasury immediately exercised these warrants upon receipt.

Q: How many warrants does Treasury get?

A: For publicly traded institutions, the number of common shares that underlie the warrants were calculated by taking 15% of the original investment amount, and dividing it by the exercise price. The exercise price was set at the average of the stock price during the 20 day period preceding the day that Treasury granted preliminary approval to participate in the CPP program.

- **Example:** Bank A was approved for \$100 million on December 1. Over the 20 days prior to December 1, the average stock price was \$10. Treasury would have received a warrant to purchase 1,500,000 shares at \$10 each. (15% of \$100 million is 15,000,000. 15,000,000 divided by 10 is 1,500,000)

For all other institutions, Treasury received a warrant for an additional 5% of the original investment.

- **Example:** Bank B is approved for \$100 million on December 1. Treasury will receive a warrant to purchase an additional 5% of preferred shares or subordinated debentures. Treasury will exercise this warrant immediately after closing the transaction. Thus, Treasury will have \$105 million of preferred shares.

A small bank participating in the CPP under the new terms (Small Bank program) announced on May 13, 2009 will not be required to give warrants for any incremental investment above 3% of RWA (they may get up to 5% of RWA under the CPP expansion).

Q: Is the number of warrants subject to reduction or adjustment?

A: Yes, a bank can reduce the number of warrants it issued to Treasury by 50% if it completes a qualified equity offering. This is a sale of common stock or certain types of preferred stock for cash in an amount at least equal to the original amount of Treasury's investment.

- **Example:** Bank A issues \$150 million of common equity to market participants. Since it raised at least 100% of the original investment amount of \$100 million, the warrant is cut in half. Treasury now has a warrant to purchase 750,000 shares at \$10 (1,500,000 shares multiplied by .5).

The warrants are also subject to customary "anti-dilution" adjustments in the event of other changes to the Company's capital structure, which is designed to ensure that Treasury's interest is not "diluted" by such changes.

Q: Can the exercise price change?

A: Yes, the exercise price can be revised pursuant to the anti-dilution adjustments so that the value of what Treasury is entitled to receive is not affected by certain changes in the capital structure.

Q: Where can I find the relevant sections of the Securities Purchase Agreement ("SPA")?

A: The entire SPA for publicly traded institutions can be found at <http://www.financialstability.gov/docs/ CPP/spa.pdf>. The relevant sections mentioned above are copied below:

- Section 4.9 (c)(i): "*Appraisal Procedure*" means a procedure whereby two independent appraisers, one chosen by the Company and one by the Investor, shall mutually agree upon the Fair Market Value. Each party shall deliver a notice to the other appointing its appraiser within 10 days after the Appraisal Procedure is invoked. If within 30 days after appointment of the two appraisers they are unable to agree upon the Fair Market Value, a

third independent appraiser shall be chosen within 10 days thereafter by the mutual consent of such first two appraisers. The decision of the third appraiser so appointed and chosen shall be given within 30 days after the selection of such third appraiser. If three appraisers shall be appointed and the determination of one appraiser is disparate from the middle determination by more than twice the amount by which the other determination is disparate from the middle determination, then the determination of such appraiser shall be excluded, the remaining two determinations shall be averaged and such average shall be binding and conclusive upon the Company and the Investor; otherwise, the average of all three determinations shall be binding upon the Company and the Investor. The costs of conducting any Appraisal Procedure shall be borne by the Company.

- Section 4.9 (c)(ii): “*Fair Market Value*” means, with respect to any security, the fair market value of such security as determined by the Board of Directors, acting in good faith in reliance on an opinion of a nationally recognized independent investment banking firm retained by the Company for this purpose and certified in a resolution to the Investor. If the Investor does not agree with the Board of Director’s determination, it may object in writing within 10 days of receipt of the Board of Director’s determination. In the event of such an objection, an authorized representative of the Investor and the chief executive officer of the Company shall promptly meet to resolve the objection and to agree upon the Fair Market Value. If the chief executive officer and the authorized representative are unable to agree on the Fair Market Value during the 10-day period following the delivery of the Investor’s objection, the Appraisal Procedure may be invoked by either party to determine the Fair Market Value by delivery of a written notification thereof not later than the 30th day after delivery of the Investor’s objection.

**APPENDIX III: APPENDIX III: LETTER FROM CHAIR
ELIZABETH WARREN AND PANEL MEMBER RICHARD
NEIMAN TO SECRETARY TIMOTHY GEITHNER
REQUESTING ASSISTANCE WITH THE PANEL'S
OVERSIGHT OF FEDERAL FORECLOSURE MITIGATION
EFFORTS, DATED JUNE 29, 2009**

Congress of the United States
CONGRESSIONAL OVERSIGHT PANEL

June 29, 2009

The Honorable Timothy F. Geithner
Secretary of the Treasury
United States Department of the Treasury
Room 3330
1500 Pennsylvania Avenue, N.W.
Washington, DC 20220

Dear Mr. Secretary:

On behalf of the Congressional Oversight Panel (Panel), I am writing to request your assistance with the Panel's oversight of federal foreclosure mitigation efforts. I am joined in this request by Panel member Richard Neiman, who has led the Panel's efforts on this issue.

The Panel was created pursuant to section 125 of the Emergency Economic Stabilization Act of 2008, Pub. L. No. 110-343 (EESA). EESA expressly vested the Panel with broad oversight authority and duties, including the requirement to make regular reports to Congress on the effectiveness of foreclosure-mitigation efforts.

As you are aware, on February 18, 2009, President Obama announced the Making Home Affordable (MHA) program, intended to prevent unnecessary foreclosures and strengthen affected communities. As noted in the Panel's March oversight report entitled *Foreclosure Crisis: Working Towards a Solution*, inadequate mortgage market data has hampered policy decisions. The report specifically noted the need for federal data collection going forward. You are to be commended for including data collection requirements for loans participating in MHA.

As part of its ongoing effort to evaluate the effectiveness of foreclosure mitigation efforts, the Panel requests copies of the data collected under the MHA program, as well as relevant reports. The panel would appreciate receiving this information on July 31, 2009, as well as the end of every subsequent month.

The information sought by this letter is necessary for the Panel to carry out section 125 of EESA. This information request is made pursuant to section 125(e)(3) of that Act.

Thank you for your attention to this matter. If you have any questions or would like additional information, please contact me or have a member of your staff contact Tewana Wilkerson at [REDACTED]

Sincerely,

A handwritten signature in black ink, appearing to read "E Warren". The signature is fluid and cursive, with a long horizontal stroke at the end.

Elizabeth Warren
Chair
Congressional Oversight Panel

Cc:
Rep. Jeb Hensarling
Sen. John E. Sununu
Mr. Richard H. Neiman
Mr. Damon A. Silvers

