The US Supervisory Capital Assessment Program (SCAP) and Capital Assistance Program (CAP)

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Abstract

Due to continued stress during the Global Financial Crisis, the US Treasury released a series of additional measures in February 2009 that included a mandatory stress test for major U.S. bank holding companies (BHCs), backed by government capital. The stress test, known as the Supervisory Capital Assessment Program (SCAP), tested the capital adequacy of the 19 U.S. BHCs that had more than $100 billion in assets. A large interagency team of regulators and other experts estimated losses and income under two hypothetical scenarios for the group of BHCs: a baseline that reflected the consensus belief about the course of the current recession, and a more adverse scenario that reflected a deeper recession. The estimated loan losses under the more adverse scenario were higher than realized losses at any point in U.S. history. Ten of the 19 BHCs were required to increase their capital by a total of $75 billion, of which $65 billion had to be in the form of common equity. The 10 BHCs had six months to increase capital by issuing new shares, selling assets, curtailing payments to shareholders, or changing the composition of their capital by converting preferred shares or debt into common equity. If those sources were unavailable, they could apply for government capital through a backstop facility known as the Capital Assistance Program (CAP). Other banks, even if they were not part of the SCAP exercise, could also apply to CAP. Under CAP, Treasury would buy mandatorily convertible preferred shares in an institution, subject to certain restrictions. The shares had onerous terms to encourage institutions to find other sources of capital: they paid dividends of 9 percent, required a halt to dividend payments on other shares, came with limits on executive compensation, and contained warrants that allowed Treasury to purchase additional common stock. Ultimately, no institutions applied for CAP funds, and it terminated in November 2009. Academics and policymakers praised the stringency of the test as well as the Federal Reserve’s controversial decision to publicly release the details and results. They also argued that the availability of government capital through CAP was an essential fallback option supporting the stress test exercise. The Fed intended its capital targets to be high enough that banks could continue lending to creditworthy borrowers during an economic downturn, rather than merely survive.
Ultimately, all but one of the institutions that the stress test identified as needing capital were able to obtain private capital without further government support.

Keywords: Broad-based capital injections, CAP, capital backstop, Global Financial Crisis, preferred stock, stress tests, United States, SCAP
At a Glance

The passage of the Emergency Economic Stabilization Act (EESA) on October 3, 2008, marked the beginning of the US government’s aggressive intervention in the banking system. The Treasury first used its authority under EESA to create the Capital Purchase Program (CPP), in which it purchased $205 billion of preferred equity in 707 public and private banks, S-corporations, and mutual banks.

Markets, however, continued to struggle into early 2009. As part of a series of additional measures, Treasury released a plan in February 2009 that included mandatory stress tests for major US bank holding companies (BHCs) and a government capital backstop for institutions that the stress test found to need capital but that were unable to raise capital from private sources.

The stress tests, known as the Supervisory Capital Assessment Program (SCAP), tested the capital adequacy of the 19 US BHCs that had more than $100 billion in assets. A team of more than 150 regulators and other experts from a variety of institutions (including the Federal Reserve, Treasury, and Federal Deposit Insurance Corporation) estimated losses and income under two hypothetical scenarios for the group of BHCs. The baseline scenario reflected the consensus expectations of professional forecasters about the depth and duration of the recession; the more adverse scenario featured a longer and more severe recession. The scenarios were based on estimates of real GDP, unemployment, and house prices. The estimated loan losses under the more adverse scenario were higher than realized losses at any point in U.S. history, including during the Great Depression. The output of the SCAP exercise was an estimate of the amount of common equity each bank would have in the two scenarios. The Federal Reserve released the results in May 2009. It required 10 of the 19 BHCs to raise a total of $75 billion in capital, mostly in the form of common equity.
The 10 BHCs that failed the stress test had six months to obtain capital either through private sources or via a government backstop facility known as the Capital Assistance Program (CAP). Banks that did not undergo the stress tests could also apply to the Treasury for a government capital injection through CAP. Under CAP, the Treasury would purchase new mandatorily convertible preferred shares that were convertible to common equity at a slight discount to the institution’s average stock price. The shares paid a relatively onerous 9 percent dividend and contained 10-year warrants that allowed the Treasury to purchase additional common stock, though the Treasury pledged not to exercise voting rights with respect to this stock. CAP shares also included executive compensation and corporate governance restrictions. Ultimately, the Treasury required no institutions to use the facility, and no institutions voluntarily applied for CAP funds.

Summary Evaluation

The Fed’s decision to release the details and results of the stress tests boosted investor confidence and helped stabilize financial markets, although such transparency ran against standard supervisory practice at the time. Market participants and experts generally praised the stringency of the capital requirements resulting from the severe loss rates in the SCAP. They tended to view the stress test as a valuable exercise, with government capital available through CAP as an essential fallback option. The Fed intended its capital targets to be high enough for banks to be well-capitalized to support the economy, rather than merely survive. No banks used CAP. Most were able to obtain capital from private sources, as government officials had hoped. One firm that failed the stress test, GMAC, received government capital through a separate program. Stress testing became a regular part of bank supervision in the U.S. following the passage of the Dodd-Frank Act in 2010.
<table>
<thead>
<tr>
<th>United States Context 2009 -2010</th>
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| GDP (SAAR, nominal GDP in LCU converted to USD) | $14,628.0 billion in Q4 2009  
$15,240.8 billion in Q4 2010 |
| GDP per capita (SAAR, nominal GDP in LCU converted to USD) | $47,100 in 2009  
$48,468 in 2010 |
| Sovereign credit rating (five-year senior debt) | As of Q4, 2009:  
Fitch: AAA  
Moody's: Aaa  
S&P: AAA  
As of Q4, 2010:  
Fitch: AAA  
Moody's: Aaa  
S&P: AAA |
| Size of banking system | $9,789.1 billion in total assets in 2009  
$9,292.3 billion in total assets in 2010 |
| Size of banking system as a percentage of GDP | 66.9% in 2009  
61.0% in 2010 |
| Size of banking system as a percentage of financial system | Assets equal to 30.2% of financial system in 2009  
Assets equal to 28.5% of financial system in 2010 |
| Five-bank concentration of banking system | 44.3% of total banking assets in 2009  
46.0% of total banking assets in 2010 |
| Foreign involvement in banking system | 19.0% of total banking assets in 2009  
16.0% of total banking assets in 2010 |
| Government ownership of banking system | 0% of banks owned by the state in 2010 |
| Existence of deposit insurance | 100% insurance on deposits up to $100,000 for 2007  
100% insurance on deposits up to $250,000 for 2010 |

Sources: Bloomberg; World Bank Global Financial Development Database; Federal Deposit Insurance Corporation
I. Overview

Background

On October 3, 2008, the U.S. Congress passed the Emergency Economic Stabilization Act (EESA) in response to the Global Financial Crisis (P.L. 110-343). The primary component of this Act, called the Troubled Assets Relief Program (TARP), authorized the Treasury to create a variety of programs to alleviate stress in banks and other sectors, such as housing and the automobile industry (TARP Programs; P.L. 110-343). The largest of these programs was the Capital Purchase Program (CPP), in which the US Treasury bought an unprecedented $205 billion of preferred equity in banks (listed and unlisted), S-corporations, and mutual banks.

The Treasury encouraged broad participation by banks in the CPP on a voluntary basis. It chose to purchase preferred shares in banks, rather than common equity, to prevent the government from becoming a significant or controlling shareholder in private companies and to protect taxpayers, since preferred shares rank higher than common equity in the capital structure (Jester, Nason, and Norton 2020).

The CPP began accepting applications on October 14, 2008. Nine of the largest US bank holding companies (BHCs) agreed to participate at the outset of the program. Participation by these nine institutions was publicly announced to “collectively signal the importance of the program for the system” (UST PR, 10/14/2008). Ultimately, the Treasury disbursed $205 billion to 707 banks and trusts through the CPP and realized a net return of $21.5 billion (CPP Transaction Data; TARP: Monthly Update).

The Treasury’s financial market assistance continued with the creation of the Systemically Significant Failing Institutions (SSFI) program alongside the CPP and other TARP programs. It used the SSFI program to inject $40 billion in capital into American International Group (AIG), the country’s largest insurance company in November of 2008 (UST Report December 2008). The Treasury injected a further $30 billion into AIG in March 2009 as its losses mounted (AIG Financial Supplement Q3 2010). The Treasury created the Targeted Investment Program (TIP) in December 2008 to support two of the CPP’s largest beneficiaries, Bank of America and Citigroup; they each received $20 billion in preferred equity under TIP (UST: TIP).

Despite these interventions, markets continued to struggle through 2008 and into early 2009. Investors remained concerned about the adequacy of capital at the largest financial institutions. The Obama administration introduced two major policy initiatives in February 2009. The first was the Financial Stability Plan, announced on February 10. The plan laid out

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3 The nine BHCs were Citigroup ($25 billion), JP Morgan ($25 billion), Wells Fargo ($25 billion), Bank of America ($15 billion), Morgan Stanley ($10 billion), Goldman Sachs ($10 billion), Merrill Lynch ($10 billion), State Street ($3 billion), and Bank of New York Mellon ($2 billion) (SIGTARP 10/09/2009 – p. 20; CPP Transaction Data).
a strategy to “attack our crisis on all fronts with our full arsenal of financial tools” (UST PR, 02/10/2009). It included public-private capital programs, consumer and business lending initiatives, and increased transparency and accountability for firms obtaining TARP funds.

The Financial Stability Plan also featured a mandatory stress test for some of the largest financial institutions, backed by government capital for institutions that were unable to raise private capital (UST PR, 02/10/2009). The stress test and capital backstop came to be known as the Supervisory Capital Assessment Program (SCAP) and the Capital Assistance Program (CAP), respectively.

The administration’s second major initiative was the American Recovery and Reinvestment Act (ARRA), which Congress passed on February 17, 2009. ARRA was a massive fiscal stimulus plan designed to be “speedy, substantial, and sustained.” It provided more than $700 billion in economic stimulus (Furman 2020).

Program Description

The Department of the Treasury released details of the Capital Assistance Program on February 25, 2009, about two weeks after the initial announcement. The Fed launched the stress test on the same day. It said it would use the stress test “to evaluate the capital needs of the major US banking institutions under a more challenging economic environment” (SCAP: Design and Implementation; UST PR, 02/25/2009).

The Treasury and Fed designed SCAP and CAP to address the widespread impression that the largest US banks still had insufficient common equity to bear the potential losses in an ongoing recession. With the CPP, the Treasury had successfully increased banks’ Tier 1 capital, but with preferred rather than common equity. Treasury and Fed officials designed SCAP and CAP to incentivize banks to find their own path to increase common equity, while drawing mostly on private investors. The hope was that, first, the results of the SCAP stress tests would reassure investors about the solvency of the largest banks, encouraging them to invest new capital; and, second, the terms of the government equity injection in CAP would be so onerous that banks would try harder to find private-sector solutions.

Supervisory Capital Assessment Program (SCAP)

SCAP was a stress test for the largest US bank holding companies (BHCs), in which teams of examiners “appl[ied] a consistent and systematic approach across the group to evaluate the projected loss and resource estimates submitted by [the BHCs]” (SCAP: Design and Implementation). Credit intermediation had slowed dramatically due to the recession and a widespread loss of confidence in the banking system. Many of the largest financial institutions posted significant credit and mark-to-market losses during the financial crisis. Their capital was diminished, and they would be less able to absorb further losses should the economy continue to worsen. The Treasury and Fed argued that the largest companies needed “to hold additional capital to provide a buffer against higher losses than generally expected” (SCAP: Design and Implementation).
The Fed released two papers on SCAP in the spring of 2009. The first, released on April 24, described the design of the recently concluded stress tests in detail. The second, released on May 7, explained the results. More than 150 people from a variety of supervisory agencies were organized into teams tasked with “examining a distinct aspect of the loss and resource projections across all 19 participating BHCs” (SCAP: Design and Implementation).

Any US bank holding company that had more than $100 billion in risk-weighted assets on a consolidated basis was required to participate and provide projections of “their credit losses and revenues for the two years 2009 and 2010, including the level of reserves that would be needed at the end of 2010 to cover expected losses in 2011, under two alternative economic scenarios” (SCAP: Design and Implementation). The first scenario, called the baseline, “reflected the consensus expectation in February 2009 among professional forecasters on the depth and duration of the recession.” The more adverse scenario “characterize[d] a recession that [was] longer and more severe than the consensus expectation” (SCAP: Design and Implementation). However, the more adverse scenario was not a “worst-case” scenario. The Fed argued that the conditions of the stress test ought to be “severe but plausible” (SCAP: Design and Implementation). See Figure 1 for a list of these institutions, which held about two-thirds of the assets and more than half the loans in the US banking system (FRB PR, 04/24/2009).

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4 All BHCs with more than $100 billion in assets at year-end 2008 were required to participate.
### Figure 1: Nineteen SCAP Bank Holding Companies, Year-End 2008 Assets and Tier 1 Capital

<table>
<thead>
<tr>
<th>Bank Holding Company</th>
<th>Risk-weighted assets ($ billions)</th>
<th>Tier 1 capital ($ billions)</th>
</tr>
</thead>
<tbody>
<tr>
<td>American Express Company</td>
<td>$104.4</td>
<td>$10.1</td>
</tr>
<tr>
<td>Bank of America</td>
<td>$1,633.8</td>
<td>$173.2</td>
</tr>
<tr>
<td>BB&amp;T</td>
<td>$109.8</td>
<td>$13.4</td>
</tr>
<tr>
<td>Bank of New York Mellon</td>
<td>$115.8</td>
<td>$15.4</td>
</tr>
<tr>
<td>Capital One</td>
<td>$131.8</td>
<td>$16.8</td>
</tr>
<tr>
<td>Citigroup</td>
<td>$996.2</td>
<td>$118.8</td>
</tr>
<tr>
<td>Fifth Third</td>
<td>$112.6</td>
<td>$11.9</td>
</tr>
<tr>
<td>GMAC</td>
<td>$172.7</td>
<td>$17.4</td>
</tr>
<tr>
<td>Goldman Sachs</td>
<td>$444.8</td>
<td>$55.9</td>
</tr>
<tr>
<td>JPMorgan Chase</td>
<td>$1,337.5</td>
<td>$136.2</td>
</tr>
<tr>
<td>KeyCorp</td>
<td>$106.7</td>
<td>$11.6</td>
</tr>
<tr>
<td>MetLife</td>
<td>$326.4</td>
<td>$30.1</td>
</tr>
<tr>
<td>Morgan Stanley</td>
<td>$310.6</td>
<td>$47.2</td>
</tr>
<tr>
<td>PNC</td>
<td>$250.9</td>
<td>$24.1</td>
</tr>
<tr>
<td>Regions</td>
<td>$116.3</td>
<td>$12.1</td>
</tr>
<tr>
<td>State Street</td>
<td>$69.6</td>
<td>$14.1</td>
</tr>
<tr>
<td>SunTrust</td>
<td>$162</td>
<td>$17.6</td>
</tr>
<tr>
<td>US Bancorp</td>
<td>$230.6</td>
<td>$24.4</td>
</tr>
<tr>
<td>Wells Fargo</td>
<td>$1,082.3</td>
<td>$86.4</td>
</tr>
</tbody>
</table>

*Source: SCAP: Overview of Results*
The stress test was unprecedented in the US. “US bank supervisors had never used a scenario-based stress test to assess the capital adequacy of banks and then required capital increases based on what those results showed was needed”. Although the Treasury announced SCAP, the Fed and other federal banking agencies were the ones who administered the program to ensure that markets would believe that the results were credible (Clark, Kabaker, and Sachs 2020). The difficulty in accurately projecting and assessing losses and revenues for the BHCs was amplified due to increased macroeconomic stress and uncertainty during this period, but this was precisely the reason that the Fed felt the tests were appropriate. The Fed argued that BHCs needed to “have sufficient resources to continue to lend to creditworthy borrowers across a wide range of macroeconomic outcomes” (SCAP: Design and Implementation).

Federal banking regulators assessed the vulnerabilities of each BHC using their loss estimates for each scenario and then recommended the amount of capital the company needed to raise to remain adequately capitalized at the end of the stress period, even in the more adverse scenario (SCAP: Design and Implementation).

The Fed targeted two capital ratios to determine capital adequacy: banks needed to have a Tier 1 capital ratio greater than six percent and a Tier 1 common equity ratio greater than four percent at the end of 2010. For the denominator of both ratios—risk-weighted assets—the Fed used banks’ actual balance-sheet figures at the end of 2008, plus any assets they had to bring onboard due to accounting adjustments. The Fed used this conservative assumption to prevent firms from shrinking their balance sheets to meet the target ratios. “Normally, the easiest way to maintain a required capital ratio in a downturn is to pull back from lending or shed assets—activities that only make a downturn worse” (Clark, Kabaker, and Sachs 2020).

To calculate the numerators of the two capital ratios, each BHC was required to report its projections of Tier 1 capital and common stockholders’ equity for the end of 2009 and 2010. These projections served as a baseline for the recommendations that the government assessors would ultimately make to the institutions. In making their recommendations, the supervisors looked at the composition of the BHCs’ Tier 1 capital and paid close attention to the amount of common equity each firm had, as common equity “generally should be the dominant element within Tier 1 capital” (SCAP: Design and Implementation).

The BHCs that needed to increase their capital levels as a result of the stress tests had 30 days to develop a plan that, “wherever possible, actively seek(s) to raise new capital from private sources”. Once its federal banking regulator approved its plan, a BHC had six months to implement it. While the ultimate goal of the SCAP was to ensure the strength of the US banking sector and reduce uncertainty to restore normal market functionality, the US government also offered the CAP backstop as a source of government capital if a bank was unable to obtain private capital (SCAP: Overview of Results).

**Capital Assistance Program (CAP)**

Treasury officials considered the approach of CAP to be similar to an “open bank resolution.” An open bank resolution is essentially a recapitalization. Typically, common equity holders
see the value of their shares diluted, in whole or in part; and existing preferred equity and
debt investors accept losses or convert their holdings into common equity. But Treasury
officials wanted to avoid the government taking common equity ownership in banks before
other options had been exhausted. They viewed common equity ownership as akin to
nationalization. The government had already taken control of Fannie Mae and Freddie Mac,
the two government-sponsored mortgage giants, and AIG, the largest insurance company. So
they chose mandatorily convertible preferred equity as their instrument. The new securities
were preferred, like those banks had issued to the Treasury in the earlier CPP program. But,
unlike those securities, they would be converted into common shares after seven years if
they had not been retired (see KDD #9 for more details). They imposed onerous terms – high
dividends, executive compensation limits, additional warrants, and limits on other dividends
- to encourage banks to build common equity through other means (Clark, Kabaker, and
Sachs 2020).

The Treasury and Fed described the CAP as an unlimited capital backstop (Clark, Kabaker,
and Sachs 2020, UST PR, 02/10/2009). The program had a total capacity of roughly $300
billion, which officials believed was sufficient to meet any potential needs. That sum included
about $100 billion in remaining TARP funds, plus the roughly $200 billion in existing CPP
preferred shares that the Treasury could convert into new CAP preferred shares if needed
(Clark, Kabaker, and Sachs 2020).

All publicly traded, US-based banks, thrifts, and their holding companies (designated as
Qualifying Financial Institutions, or QFIs) were eligible to apply for CAP funds (CAP: Term
Sheet; UST PR, 02/10/2009). Institutions could submit their applications to their primary
federal banking regulator—the Federal Deposit Insurance Corporation (FDIC), Office of the
Comptroller of the Currency (OCC), or Fed. That regulator would then submit its
recommendations to the Treasury, who had the final say on which institutions were
accepted. The deadline for institutions to apply was May 25, 2009 (CAP: FAQ). In the initial
term sheet, the Treasury said it was also working on developing applications for unlisted
institutions, S-corporations, and mutual banks, but it never released those documents (CAP:
Term Sheet).

If accepted, QFIs could issue mandatorily convertible preferred equity to the Treasury. The
Treasury then transferred the instruments to its Financial Stability Trust (CAP: Term Sheet;
UST PR, 02/10/2009). The objective of this trust was to “protect and create value for the
taxpayer as a shareholder over time” (FSOB Report, 03/31/2009). A QFI could issue an
amount of preferred stock equal to no less than 1% but no more than 2% of its risk-weighted
assets. A QFI needing capital greater than 2% was considered in need of “exceptional
assistance.” It would be required to submit that request to its federal banking regulator, who
would then consult with Treasury. The Treasury would potentially subject the recipient to
additional terms and conditions (CAP: Term Sheet).

The EESA required the Treasury to publish the name of any institution that issued preferred
stock under the CAP and the amount it invested in that institution. However, a QFI could
obtain confidentiality if it was able to “specifically demonstrate the harm (for example, loss
of competitive position, invasion of privacy) that would result from public release of
The Treasury did not publicly release the names of applicants that it did not approve for the program.

The Treasury generally modelled the terms of the CAP after its Capital Purchase Program (CPP), which it created in October 2008. The key difference was that CAP preferred equity was convertible into common stock (Convertible Preferred). The Fed focused on common equity because it provides much greater loss-absorbing capacity and offers the most protection to the more senior parts of the portfolio (SCAP: Overview of Results). The Convertible Preferred was voluntarily convertible either in part or whole by the QFI or the Treasury any time after the investment; it would automatically convert after seven years (CAP: Term Sheet). Some of the characteristics of the Convertible Preferred were subject to change based on the outcome of a shareholder vote conducted after the QFI issued the stock. QFIs were required to call and pass a shareholder vote to authorize an increase in the number of common stock such that the conversion of the Convertible Preferred and exercise of the warrants could take place (CAP: Term Sheet).

Regardless of the method, the Treasury set the conversion price at “90% of the average closing price for the common stock for the 20 trading day period ending February 9, 2009”. However, the Treasury could reduce this price by 15% every six months following the initial injection if the institution failed to receive the afore-mentioned stockholder approval to increase the number of authorized common shares. The maximum price reduction was 45%. If any stock remained outstanding after the mandatory conversion date (seven years), then the Treasury was required to make “reasonable efforts” to sell at least 20% of its current holdings of common equity every year until it owned no more equity (CAP: Term Sheet).

The Convertible Preferred paid cumulative dividends of 9%, though this rate could increase to 20% six months after the original issue date if the shareholders had still not approved the increase in common shares. If an institution did not pay the required dividends on the Convertible Preferred for six quarters, consecutive or not, the Treasury would have the ability to elect two directors to the institution’s board. This right would end once the institution paid dividends for four consecutive quarters (CAP: Term Sheet).

The Treasury’s terms limited dividends on non-Treasury common stock to $0.01 as long as any Convertible Preferred or Treasury-owned common stock remained outstanding. The Treasury also prohibited QFIs from declaring dividends, paying dividends, or repurchasing any equivalently ranked or junior preferred shares during this time (CAP: Term Sheet). These terms were known as dividend stoppers.

QFIs could redeem the Convertible Preferred shares by issuing new common equity. To do so, they needed the approval of their federal banking regulator. Also, the proceeds of any such equity issuance had to equal at least 25% of the issue price of the Convertible Preferred

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5 At the time of any conversion, the QFI was also required to pay “any accrued and unpaid dividends at its option in either cash or shares of common stock.” These shares would be valued at the closing price on the second preceding trading day (CAP: Term Sheet – p. 3). Treasury could also convert the preferred stock “upon specified corporate events, including certain sales, mergers or changes of control of the QFI” (CAP: Term Sheet – p. 3).
Redemption of preferred stock issued under the Capital Purchase Program initially required it be done via the proceeds of a Qualified Equity Offering, or a raising of additional preferred or common equity. This requirement was removed after the passage of the American Recovery and Reinvestment Act of 2009 (CPP: FAQ 03/01/2012).

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Redemption was done either at par value (plus accrued and unpaid dividends) if done within the first two years, or at the greater of par value plus accrued and unpaid dividends if the stock had been converted (CAP: Term Sheet CAP).  

The Treasury could receive additional common stock by exercising the 10-year warrants issued with the Convertible Preferred shares. These warrants, which were immediately exercisable, allowed the Treasury to purchase common stock equal to 20% of the amount of Convertible Preferred on the day of the initial investment. The exercise price was the same as the conversion price in both its original level and thresholds for reduction (15% decrease every 6 months, up to 45%). The Treasury pledged not to exercise any voting power with respect to these shares (CAP: Term Sheet).

Other terms of CAP equity were also more onerous than CPP equity. Institutions that participated in CAP faced restrictions on executive compensation. These restrictions were originally specified in EESA and changed with the passage of the ARRA in February 2009 (UST Report, 06/10/2009).

Senior executive officers (SEOs), initially defined by EESA as the five highest-paid executives of companies that took TARP money, were the primary targets of these restrictions (P.L. 110-343). The government gradually increased the number of SEOs that were affected. SEOs of TARP recipients were generally unable to receive “golden parachute” payments, bonuses, and additional compensation. The legislation and subsequent interim final rules also required compensation committees of QFIs to identify features that could “lead SEOs to take unnecessary and excessive risks” and meet with risk officers to discuss these features (UST Report, 06/10/2009).

As mentioned, institutions that were approved to issue Convertible Preferred shares in excess of the 2% limit would be classified as needing “exceptional assistance” (CAP: Term Sheet). The Treasury first made this distinction in its interim guidance in February 2009. These firms would be subject to stricter executive compensation and corporate governance rules. Such restrictions would come in the form of harsher limits on compensation, “clawback” provisions for any bonus or incentive payments, wider golden parachute bans, and broader publication requirements of expenditures that could be viewed as excessive or luxury (UST PR, 02/04/2009). Treasury issued its final guidance on executive compensation on June 10, 2009 (UST PR, 06/10/2009). See Key Design Decision No. 12 for more information.

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[6] Redemption of preferred stock issued under the Capital Purchase Program initially required it be done via the proceeds of a Qualified Equity Offering, or a raising of additional preferred or common equity. This requirement was removed after the passage of the American Recovery and Reinvestment Act of 2009 (CPP: FAQ 03/01/2012).
Outcomes

Supervisory Capital Assessment Program (SCAP)

The SCAP was deliberately stringent. Estimates of potential losses for the 19 BHCs that participated were $600 billion in the more adverse scenario. Three quarters of these losses came from accrual loans, such as residential mortgages and consumer-related loans. Two-year total loan-loss estimates were 9.1 percent, higher than any point in US history, including during the height of the Great Depression (SCAP: Overview of Results). See Figure 2 for a breakdown of historical two-year loan loss rates.

Figure 2: Historical two-year loan loss rates for commercial banks (%)

At 9.1%, SCAP two-year loan loss rates were higher than peak levels during the Great Depression.

Sources: International Monetary Fund; Federal Reserve; FDIC.

The Federal Reserve pointed out that because of the two-year horizon of the SCAP, these were not full lifetime losses. Approximately $400 billion in losses had already been realized.
by the 19 firms from the third quarter of 2007 to the end of 2008 (SCAP: Design and Implementation). The Fed argued that the SCAP captured “a large portion of losses from positions held as of the end of 2008”. Total loss-absorbing capacity for the 19 firms was about $362.9 billion (SCAP: Overview of Results). The Fed measured loss-absorbing capacity by looking at starting capital, adding any pre-provision net revenues over the period, and subtracting the change in the allowance for loan losses.

The SCAP “capital buffer,” or the amount of capital needed to ensure that the participants would be adequately capitalized under the more adverse scenario, came out to $185 billion for 10 of the 19 BHCs. The other nine did not need additional capital. However, this figure was based on the firms’ balance sheets as of December 31, 2008. It did not take into account capital that firms raised at the end of 2008, as well as other actions many of the firms took in early 2009 to pre-emptively strengthen their balance sheets prior to the release of the stress test results. When accounting for these reductions, the Fed reduced its estimate of the capital buffer from $185 billion to $75 billion. Most of the buffer needed was in the form of common equity, reflecting the Fed’s desire to improve the composition of banks’ Tier 1 capital. Two banks were required to raise new Tier 1 capital: GMAC LLC ($9.1 billion) and Regions Financial Corp. ($0.4 billion) (SCAP: Overview of Results).

After the Fed published the results of the SCAP, credit default swap (CDS) spreads for the largest commercial and investment banks fell considerably. Citigroup’s CDS spread peaked in April 2009 before falling nearly 300 basis points after the SCAP results were released.

**Capital Assistance Program (CAP)**

Treasury closed CAP on November 9, 2009, six months after the release of the SCAP results. The Treasury made no investments under CAP. Nine of the 10 institutions that failed the stress test managed to raise capital from private sources (FRB PR, 11/09/2009). The only institution that needed additional capital and failed to raise it on the market was GMAC. It ultimately drew on capital from a different TARP program, the Automotive Industry Financial Program (AIFP), on similar terms as it would have received under CAP. The Treasury also converted existing GMAC preferred stock into mandatorily convertible preferred stock and common equity to help GMAC cover its capital buffer needs (UST PR, 11/09/2009; GAO 10-861).

The other nine SCAP BHCs that failed the stress test were able to raise enough private capital to satisfy their SCAP requirements within six months (FRB PR, 11/09/2009). One unique feature of CAP was that institutions could apply at the end of the stress testing period to ensure they would have access to the funds, but then defer funding for up to six months so that the BHCs could attempt “to raise as much private capital as possible” (CAP: White Paper). Most of the new capital was in the form of common equity, commensurate with the SCAP recommendation to improve the quality of Tier 1 capital. Through new share issuance, asset sales, and conversions of preferred equity into common equity, these firms raised $76.6 billion.

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7 The nine firms that passed the stress test were American Express, BB&T, Bank of New York Mellon, Capital One, Goldman Sachs, JP Morgan, MetLife, State Street, and US Bancorp (SCAP: Overview of Results – p. 9).
billion in common equity in 2009 after the stress test results were released (GAO 10-861). In total, SCAP BHCs increased their Tier 1 common equity by more than $200 billion from December 31, 2008 to December 31, 2009.\(^8\)

According to the Treasury, it did not receive any applications for CAP funding from firms that did not participate in the SCAP (TARP Two-Year Retrospective).

All but one of the 19 SCAP institutions—MetLife—had issued a total of $216 billion in preferred stock under the government’s Troubled Assets Relief Program (TARP) before the SCAP exercise. Nine of these repaid approximately $66.7 billion in CPP investments on June 17, 2009, a little more than a month after the SCAP results had been released (CPP Transaction Data).\(^9\) For a full accounting of capital actions from 2007 through 2010, see Figure 3. For more information on private capital raises by individual SCAP banks after the stress tests, see Figure 4.

**Figure 3: SCAP Bank Capital Actions from Q1 2007 to Q4 2010 ($ billions)**

![Graph showing bank capital actions from Q1 2007 to Q4 2010.](source: Goldman Sachs)

*Note: These calculations do not include capital raised by MetLife, Inc., or any conversions of preferred to common equity. The $227 billion in TARP capital includes amounts raised under the Capital Purchase Program (CPP) and Targeted Investment Program (TIP). The TARP figure also includes approximately $10.1 billion that Ally Financial (GMAC) raised after the stress tests had been concluded.*

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\(^8\) This figure includes common equity raised and retained earnings.

\(^9\) The nine SCAP BHCs that repaid their CPP investments were Bank of New York Mellon ($3 billion), Goldman Sachs ($10 billion), JP Morgan ($25 billion), Morgan Stanley ($10 billion), State Street ($2 billion), BB&T ($3.1 billion), Capital One ($3.6 billion), American Express ($3.4 billion), and US Bancorp ($6.6 billion).
Figure 4: Post-SCAP Private Capital Raised by SCAP Banks (May 7, 2009 – December 31, 2009, $ billions)

<table>
<thead>
<tr>
<th>Bank</th>
<th>Common Equity</th>
<th>Preferred Equity</th>
<th>Other Tier 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bank of America</td>
<td></td>
<td></td>
<td>$32.8</td>
</tr>
<tr>
<td>Citigroup</td>
<td></td>
<td></td>
<td>$25.4</td>
</tr>
<tr>
<td>Wells Fargo</td>
<td></td>
<td></td>
<td>$20.9</td>
</tr>
<tr>
<td>JPMorgan Chase</td>
<td>$9.8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MetLife</td>
<td>$7.4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Morgan Stanley</td>
<td>$6.9</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PNC Financial Services</td>
<td>$4.1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>U.S. Bancorp</td>
<td>$3.8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BB&amp;T</td>
<td>$3.7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Capital One</td>
<td>$3.6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bank of New York Mellon</td>
<td>$2.8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>GMAC</td>
<td>$2.5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>State Street</td>
<td>$2.3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Regions Financial</td>
<td>$2.1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SunTrust</td>
<td>$1.9</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Key Corp</td>
<td>$1.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fifth Third Bank</td>
<td>$1.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>American Express</td>
<td>$0.5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Goldman Sachs</td>
<td>$0.0</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Sources: MetLife: 2009 - 2010 Quarterly Reports; all others: Goldman Sachs.
II. Key Design Decisions

1. Part of a package: The SCAP and CAP were announced as part of the government’s Financial Stability Plan, which also included an expansion of consumer and business lending, a public-private investment fund, and housing support and foreclosure prevention initiatives.

The Treasury released the Financial Stability Plan on February 10, 2009, to “address the uncertainty, troubled assets and capital constraints of our financial institutions as well as the frozen secondary markets that have been the source of around half of our lending for everything from small business loans to auto loans” (UST PR, 02/10/2009). The plan had several components:

(1) The Financial Stability Trust. The comprehensive stress test, which would later become the SCAP, and the Capital Assistance Program (CAP) were core features of this piece of the Plan. All investments made under CAP would have been placed into a separate Financial Stability Trust, which was specifically designed to manage the government’s investments (UST PR, 02/10/2009).

(2) Public-Private Investment Fund. This fund was designed to purchase legacy assets from distressed institutions with the goal of soliciting private investors to co-invest with the government. The Treasury aimed for it to include a public-private financing component of $500 billion, with the potential to go up to $1 trillion, and private-sector pricing of assets; however, it was marginally used and Treasury committed only about $18.6 billion to the program, receiving a net positive return of about $3.9 billion (PPIP Quarterly Report: September 2013; UST PR, 02/10/2009).

(3) Consumer & Business Lending Initiative. This was a joint venture of the Treasury and Fed designed to unfreeze key secondary markets, specifically by expanding the capacity of the not-yet-implemented Term Asset-Backed Securities Loan Facility (TALF). Treasury and the Fed set the maximum size of TALF at $1 trillion; usage ultimately peaked at $49 billion (FRBNY: TALF 101; UST PR, 02/10/2009).

(4) Transparency, Accountability, Monitoring, and Conditions. With this new plan, the government expected recipients of aid to explain how they were going to use their funds and how this new aid would impact their ability to lend. The plan also included limits on executive compensation and on common stock dividends, repurchases, and cash mergers (UST PR, 02/10/2009).

(5) Housing Support and Foreclosure Prevention. Treasury pledged $50 billion to help middle-class homeowners reduce their monthly mortgage payments. Additionally, the government committed to “establishing loan modification guidelines and standards for government and private programs,” as well as mandating recipients to participate in foreclosure mitigation plans (UST PR, 02/10/2009).
(6) Small Business and Community Lending. Small Business Administration (SBA) lending, which had declined by 57 percent from the first quarter of 2008, was addressed. The administration’s Small Business and Community Bank Lending Initiative financed the purchase of triple-A-rated SBA loans, increased the guarantee of said loans to 90 percent, reduced SBA lending fees, and streamlined the application process to encourage lending (UST PR, 02/10/2009).

The announcement of the plan was the first time the Treasury released details about SCAP and CAP. It released the terms and conditions of the program on February 25 (UST PR, 02/10/2009; UST PR, 02/25/2009). The SCAP was widely publicized, with the goal of reducing uncertainty and restoring confidence in the 19 BHCs that were tested. The CAP was a government backstop to recapitalize BHCs if they were unable to raise funds on private capital markets within six months (SCAP: Design and Implementation).

2. **Legal authority:** Congress passed the Emergency Economic Stabilization Act on October 3, 2008. EESA gave the Secretary of the Treasury authority to purchase troubled assets “from any institution” and served as the legal basis for CAP.

Legal authority for the Capital Assistance Program came from Section 101 of the Emergency Economic Stabilization Act (EESA) of 2008, which Congress passed on October 3, 2008. Section 101 states that, “The [Secretary of the Treasury] is authorized to establish the Troubled Asset Relief Program (or “TARP”) to purchase, and to make and fund commitments to purchase, troubled assets from any financial institution...” (P.L. 110-343). The Treasury and Federal Reserve ultimately decided to invest directly in the capital structure of banks rather than purchase assets off their balance sheets. Its first TARP program was the Capital Purchase Program, announced in October (SIGTARP 10/05/2009).

The Treasury later used this authority to make more targeted injections in AIG, Bank of America, and Citigroup (SIGTARP 10/05/2009). This same authority formed the legal basis for CAP in February. See Figure 5 for a comparison of capital instruments used in these two facilities.
**Figure 5: Capital Design Elements of the Capital Purchase Program and the Capital Assistance Program**

<table>
<thead>
<tr>
<th></th>
<th>Capital Purchase Program (CPP)</th>
<th>Capital Assistance Program (CAP)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Purpose</strong></td>
<td>Encourage banks to accept government capital to stabilize balance sheets and increase the flow of financing to U.S. businesses and consumers</td>
<td>Incentivize banks to raise common equity through the private sector and serve as a backstop for government capital to help absorb larger than expected future losses</td>
</tr>
<tr>
<td><strong>Type</strong></td>
<td>Preferred stock</td>
<td>Mandatorily convertible preferred stock</td>
</tr>
<tr>
<td><strong>Term</strong></td>
<td>Perpetual life</td>
<td>Mandatory conversion to common stock after 7 years. Optionally convertible by QFI or Treasury at price equal to 90% of avg. common stock price in 20 trading days ending on February 9, 2009</td>
</tr>
<tr>
<td><strong>Total size</strong></td>
<td>$250 billion</td>
<td>Unlimited</td>
</tr>
<tr>
<td><strong>Individual participation limits</strong></td>
<td>Must issue an amount equal to not less than 1% of RWA and not more than the lesser of $25 billion or 3% of RWA</td>
<td>Must issue an amount equal to not less than 1% of RWA and not more than 2% of RWA</td>
</tr>
<tr>
<td><strong>Dividends</strong></td>
<td>5% for first five years</td>
<td>9% if shareholder consent received</td>
</tr>
<tr>
<td></td>
<td>9% after first five years</td>
<td>20% if consent not received</td>
</tr>
<tr>
<td><strong>Redemption</strong></td>
<td>At par via proceeds of Qualified Equity Offering during first 3 years No restrictions after 3 years</td>
<td>Only done via issuance of new common equity At par for first 2 years Redeemable at greater of par and as-converted value</td>
</tr>
<tr>
<td><strong>Treasury voting rights</strong></td>
<td>Right to elect two directors if dividends are not paid for six quarters</td>
<td>Right to elect two directors if dividends are not paid for six quarters</td>
</tr>
<tr>
<td><strong>Warrants</strong></td>
<td>10 year Purchase of common stock equal to 15% of original gov’t investment amount Reduced by half if QFI had repaid Treasury by 12/31/09. Price reduced by 15% every six months (max of 45%) if shareholder consent not received</td>
<td>10 year Purchase of common stock equal to 20% of original gov’t investment amount Price reduced by 15% every six months (max of 45%) if shareholder consent not received</td>
</tr>
</tbody>
</table>

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10 A Qualified Equity Offering was the sale by the holder of CPP capital of common stock or “qualifying perpetual preferred stock” for cash. This requirement was removed with the passage of ARRA in February 2009, and redemptions could be done any time (CPP: Term Sheet; CPP: FAQ 03/01/2012).

11 “Shareholder consent,” in the context of this table, is defined as a pre-emptive vote undertaken by the shareholders of a QFI after receiving either CPP or CAP assistance to authorize an additional amount of common stock so that the exercise of the warrants and the conversion of the preferred equity (for CAP participants) can be done. If this consent is not obtained, then the terms generally become harsher (CPP: Term Sheet – p. 5; CAP: Term Sheet – p. 8).
| **Executive compensation** | Applied to top 5 highest-paid executives  
Limits on compensation; encouraged clawbacks if bonuses/incentives were granted based on materially inaccurate documents; prohibitions of golden parachutes | Applied to top 5 highest-paid executives and the next 20 highest-paid employees  
Bonus payments limited to one-third of total compensation  
Total annual compensation limited to $500,000 except in the case of restricted stock awards  
Mandated clawback provisions. Required annual shareholder vote to approve executive compensation packages |
| **Dividend stoppers** | No dividends, repurchases, or redemption of common, junior preferred, or preferred shares ranking pari-passu unless all dividends (accrued and unpaid) for all past periods had been paid. | No dividends, repurchases, or redemption of common, junior preferred, or preferred shares ranking pari-passu unless all dividends (accrued and unpaid) for all past periods had been paid. |
| **Restriction on use of proceeds** | No specific requirements | Institutions must submit a plan detailing how they would use the additional capital to "preserve and strengthen" their lending capacity |
| **Usage** | $205 billion to 707 banks and trusts | Not used |

Sources: CPP: Term Sheet; CAP: Term Sheet: CAP.

3. **Communication:** The Treasury communicated that both the stress tests and government backstop were key parts of its financial stability plan, citing their desire to ensure the ability of institutions to continue lending at normal levels even during a more severe economic decline.

In its February 10, 2009, press release, the Treasury said that the stress tests would identify the capital buffer banks needed to remain well capitalized in an adverse scenario. It said it would make government funds available through CAP to build that buffer. But it emphasized that banks would “be encouraged to access private markets to raise any additional capital needed to establish [the capital] buffer” rather than using CAP. Treasury framed CAP as a temporary facility, “a bridge to private capital until market conditions normalized”. The government capital instruments would be convertible to common equity “if needed to preserve lending in a worse-than-expected economic environment”. The announcement also stipulated that any investments made under CAP would be “placed in a separate entity set up to manage the government’s investments in US financial institutions” (UST PR, 02/10/2009).

In its more detailed announcement on February 25, Treasury issued (1) a white paper detailing the reasons for establishing such a facility as well as a broad overview of key elements, (2) the official term sheet that bank holding companies would use to apply to the program, and (3) a list of frequently asked questions (FAQs) to help increase understanding of the program (UST PR, 02/25/2009). The Treasury expanded on its description of the program on February 25 in a few distinct ways.
The original plan did not specify what Treasury expected the banks that received CAP capital to do with it, only stating that “the CAP instrument should improve confidence and increase the willingness of financial institutions to lend”. In the February 25 release, however, the expected usage was much clearer, with Treasury requiring any applicant to “submit a plan for how they intend to use this capital to preserve and strengthen their lending capacity”. Specifically, Treasury desired applicants to increase their lending relative to what they would have been able to do without government capital. These plans would be made public by Treasury once government equity under the CAP had been obtained (UST PR, 02/25/2009).

The “separate entity” that would hold the government’s investments was further explained in the white paper that Treasury released. Treasury stated that all investments made under CAP would be put in a separate trust that would manage the government’s investments, and that the trustees’ primary objective was to “protect and create value for the taxpayer as a shareholder over time”. This was done to reinforce Treasury’s goal of keeping any period of government investment “as temporary as possible” (CAP: White Paper).

The names of applicants would not be published. However, for any completed transactions, the name of the bank and the amount invested would be published within 48 hours of the investment. Applicants could request portions of the application be treated confidentially if they could “specifically demonstrate the harm (for example, loss of competitive position, invasion of privacy) that would result from public release of information” (CAP: FAQ).

In the case of the SCAP, the Federal Reserve released a detailed report to the public on April 24, 2009, on the design of the stress test. The Fed said the purpose of the report was to “assist analysts and other interested members of the public in understanding the results of the [SCAP]” (FRB PR, 04/24/2009). This report was released shortly after the test had concluded, and the results were released on May 7 (SCAP: Overview of Results).

In a speech on May 11, 2009, at the Federal Reserve Bank of Atlanta, Fed chairman Ben Bernanke stated that all agencies involved aimed to be as transparent as possible (Bernanke, 05/11/2009). There was, however, much internal debate among officials about how transparent the government ought to be about communicating the results of the stress tests. While there were regulators that wished to make many details of the tests public, doing so “ran counter to decades of a banking supervision philosophy that extolled the virtues of confidentiality”. Some regulators believed that too much transparency could be destabilizing by singling out “weaker” banks, which could lead to the very bank runs the SCAP was trying to prevent. In the end, the Federal Reserve agreed to a policy of transparency so the public could “decide for themselves [if the] stress test was sufficiently rigorous and credible (Clark, Kabaker, and Sachs 2020).

On May 6, the day before the official release, the Fed, Treasury, FDIC, and OCC released a joint statement that previewed the SCAP results. The agencies explained that the tests were not only about the quantity of Tier 1 capital but its quality (FRB PR, 05/06/2009). The SCAP, they said, was “by design” more stringent than a traditional solvency test (SCAP: Overview of Results). As a result, any additional capital that the BHCs would need as a result of the
tests did not indicate inadequate capitalization, but was to provide an additional buffer in the event that a more pronounced recession occurred (FRB PR, 05/06/2009). The government also explained that any BHCs that needed additional capital would be required to submit a capital raising plan and would have six months to implement it (SCAP: Overview of Results).

After the release of the SCAP results on May 7, CDS spreads for the six major bank holding companies, as well as the Libor-OIS spread, fell dramatically. Several of the largest participants in the Capital Purchase Program were also able to repay the government’s investment in June. See Key Design Decision No. 7 for more details on the impacts of the SCAP, and Figure 6 for historical bank CDS spreads during this time.

Investors remained concerned about bank solvency in early 2009, despite the extraordinary efforts prior to the SCAP by the FDIC, Treasury, and Fed to recapitalize banks and restore confidence. The focus of those concerns had shifted. While banks’ early losses during the financial crisis had resulted largely from exposures to subprime mortgages and complex

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**Figure 6: Five-Year CDS Spreads for Six Large Bank Holding Companies (basis points)**

![CDS Spreads Chart](chart.png)

*Source: Bloomberg.*
credit products, the concerns in 2009 largely stemmed from more traditional credit risks, such as “rising delinquencies on prime as well as subprime mortgages, unpaid credit card and auto loans, worsening conditions in commercial real estate markets, and increased rates of corporate bankruptcy”. According to Bernanke, the SCAP was designed to measure the impact of high expected loan loss rates and to address the uncertainty around the extent of these expected loss rates in the event of more adverse economic conditions (Bernanke, 5/11/2009).

4. Governance: Section 104 of EESA established the Financial Stability Oversight Board (FSOB), which monitored the activities of the CAP and other TARP programs; the Congressional Oversight Panel (COP), which provided public accountability for Treasury’s use of TARP authority; and the Special Inspector General for the Troubled Asset Relief Program (SIGTARP), which was the principal oversight authority.

Section 104 of EESA established the Financial Stability Oversight Board (FSOB) to review the policies implemented under section 101. These policies included reviewing “the appointment of financial agents, the designation of asset classes to be purchased, and plans for the structure of vehicles used to purchase troubled assets”. The FSOB was also responsible for examining the effects that programs made under Section 101 had on “assisting American families in preserving home ownership, stabilizing financial markets, and protecting taxpayers” (P.L. 110-343).

The Board had the following members:

(1) The Chairman of the Board of Governors of the Federal Reserve System
(2) The Secretary of the Treasury
(3) The Director of the Federal Housing Finance Agency (FHFA)
(4) The Chairman of the Securities and Exchange Commission (SEC), and
(5) The Secretary of Housing and Urban Development (HUD).

Additionally, the Board was required to report to Congress and the Congressional Oversight Panel (COP) at least quarterly to discuss the matters described above (P.L. 110-343).

The Special Inspector General for the Troubled Asset Relief Program, or SIGTARP, was established through Section 121 of EESA. The Special Inspector General was to be appointed by the President and confirmed by the Senate, and was responsible for “coordinating audits and investigations of the purchase, management, and sale of assets by the Secretary of the Treasury ...” (P.L. 110-343). SIGTARP did this by collecting the following information from the Treasury:

(1) Descriptions of categories of troubled assets purchased.
(2) Listings of assets that fell into the aforementioned categories.
(3) Explanations of the reasons for purchasing said assets.

(4) Listings of the financial institutions that the troubled assets were purchased from.

(5) Detailed biographical information about the people hired to manage these troubled assets.

(6) Estimates on the total number and value of troubled assets, how much remained with the Treasury, how much had been sold, and the profit or loss incurred from said sales (P.L. 110-343).

According to its mission statement, SIGTARP “is a federal law enforcement agency and is an independent watchdog protecting taxpayer dollars that fund TARP” (SIGTARP Annual Report – FY 2018). SIGTARP reported to Congress about its supervisory activities twice a year, audited various TARP programs, and conducted and reported on investigations of misconduct for TARP recipients (SIGTARP – Official Website). SIGTARP’s quarterly reports generally consisted of assessments of various components of the program, such as the CPP, as well auto and housing industry support programs (SIGTARP April 2010). SIGTARP reports included detailed recommendation sections, informed by the audits and investigations it conducted, and also provided detailed tables of the implementation status of each of these recommendations (SIGTARP July 2014).

The COP was another crucial component of TARP oversight. Created on the same day that TARP was passed, COP’s primary functions were to:

1. Oversee Treasury’s actions;
2. Assess the impact of spending to stabilize the economy;
3. Evaluate market transparency;
4. Ensure effective foreclosure mitigation efforts; and
5. Guarantee that Treasury’s actions are in the best interest of the American people (COP – About Us).

In its approximately two and a half years of operation, the COP heard testimony from high-level officials and published 30 reports on the impacts of TARP initiatives. The Panel asked questions about the more immediate, stabilizing effects of TARP, as well as longer-term impacts, such as how TARP recipients were structuring their business and policies after receiving aid (COP December 2008). Its reports examined, for example, the government support to specific firms like GMAC and AIG and the effectiveness of the SCAP stress testing methodology (COP – Reports).

The COP was disbanded on April 3, 2011, after releasing its final report. In it, the Panel explained that, while TARP alone was not responsible for the economic recovery, “TARP quelled the immediate panic and helped to avert an even more severe crisis” (COP March 2011). This final report had few comments on SCAP and CAP.
Program Size: CAP was intended to be an unlimited capital backstop; it had a total capacity of roughly $300 billion. CAP was intended to be an unlimited capital backstop for the financial sector (Clark, Kabaker, and Sachs 2020; UST PR, 02/10/2009). The program was estimated to have a total capacity of roughly $300 billion, which officials believed was sufficient to meet any potential needs (see Funding Source KDD).

5. Size, Funding Source: CAP was funded via Congressional appropriations authorized for Treasury’s use under the Troubled Assets Relief Program.

Congress authorized a total of $700 billion of TARP funds that could be “outstanding at any one time.” However, Congress originally allowed only $250 billion to be outstanding; it required the president to return to Congress with a report asking to disburse the remaining funds, should they be necessary (P.L. 110-343).12 This authority lasted until October 3, 2010, or two years after the date of the passage of EESA. After this point, Treasury was not able to make new commitments under TARP (TARP Two-Year Retrospective). The Dodd-Frank Wall Street Reform and Consumer Protection Act, passed on July 21, 2010, reduced this original commitment from $700 billion to $475 billion (P.L. 111-203). See Key Design Decision No. 15 for more information on Dodd-Frank.

However, the unlimited nature of CAP meant there was some uncertainty around how much, if any, capital the government would need to provide. Fed and Treasury officials, in a paper published later, estimated that the program had a total capacity of roughly $300 billion. That sum included about $100 billion in appropriated but still uncommitted TARP funds, plus the roughly $200 billion in existing CPP preferred shares that the Treasury could convert into new CAP preferred shares if needed (Clark, Kabaker, and Sachs 2020).

In hindsight, those officials wrote, the level that the government had committed “was sobering—we were committing the government to buy an indeterminate amount of common stock in the banking system at a fixed price” (Clark, Kabaker, and Sachs 2020). However, even the most extreme scenarios under SCAP determined the capital buffer to be far less than the remaining amount of TARP funds available. TARP would have had sufficient funds to cover the entire $185 billion capital buffer that SCAP had identified if the 10 BHCs that failed the stress test had been unable to raise funds from other sources.13 However, it was not known at the time how much TARP money would be available to finance the SCAP buffer, as many of the programs were still being developed and funds had been committed to other programs.

6. SCAP-eligible institutions: Federal banking regulators required all bank holding companies with risk-weighted assets of more than $100 billion to perform

[12] The phrase “outstanding at any one time,” which implicitly allowed the government to re-use TARP funds, was removed with the passage of Dodd-Frank in July 2010.

[13] Total disbursements under TARP were approximately $441.8 billion, which was far less than the initial $700 billion appropriated in the Emergency Economic Stabilization Act (TARP Tracker).
forward-looking “stress-tests” under the Supervisory Capital Assessment Program to determine their capital needs.

The US government assessed the capital needs of the banking system through the Supervisory Capital Assessment Program, a forward-looking stress test of the 19 largest BHCs under a set of stringent economic scenarios. Each of the BHCs had risk-weighted assets of more than $100 billion. These firms were picked because of their significance in the credit intermediation process, the fact that they collectively held “two-thirds of the assets and more than one-half of the loans in the US banking system”, and in the case of State Street and Bank of New York Mellon, their significance as the two largest custody banks. Teams of examiners, led by those at the Federal Reserve, “appl[ied] a consistent and systematic approach across the group to evaluate the projected loss and resource estimates submitted by the firms” (SCAP: Design and Implementation).

The SCAP was deliberately stringent. This allowed the Fed to “[counter] the risk that uncertainty itself exerts contractionary pressures on the banking system and the economy” (SCAP: Overview of Results). The goal of the tests was to ensure that, even in the event of a significant deterioration in the US economy, these critically important BHCs would remain adequately capitalized and able to lend at their normal levels (FRB PR, 05/06/2009). In order to assess these needs, federal regulators estimated losses on a variety of securities and loans for 2009 and 2010. It also calculated loan loss reserves at the end of 2010 at levels that the regulators believed would “captur[e] expected losses in 2011” (SCAP: Design and Implementation).

The Federal Reserve crafted two economic scenarios, the “baseline” and “more adverse” scenarios. In both cases, the Fed projected changes in real GDP, the civilian unemployment rate, and house prices over 2009–10. “The baseline scenario was intended to represent a consensus view about the depth and duration of the recession,” and was based on the average of economic projections published by the February releases of forecasts from three major economic forecasting surveys: Consensus Forecasts, the Blue Chip survey, and the Survey of Professional Forecasters (SCAP: Design and Implementation).

The more adverse scenario did not average the consensus expectations of a variety of forecasters. Rather, it “was constructed from the historical track record of private forecasters as well as their current assessments of uncertainty”. The Fed focused specifically on “subjective probability assessments” from these organizations to gauge the probability that the aforementioned inputs (GDP growth, unemployment, house prices) would be even more affected than the general consensus used in the baseline scenario. Despite the dramatic differences from the baseline, the more adverse scenario was not a “worst-case” scenario, as the Fed argued that the conditions of the stress test ought to be “severe but plausible” (SCAP: Design and Implementation).

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14 Despite this being one of the criteria for BHCs under SCAP, one of the firms—State Street—had only $69.6 billion in risk-weighted assets. See Table 1 for more information on SCAP BHCs.

15 House prices were measured by the fourth-quarter year-over-year change of the Case-Shiller 10-City Composite Index (SCAP: Design and Implementation – p. 6).
Design and Implementation). See Figure 7 for the estimates associated with the baseline and more adverse scenarios.

**Figure 7: SCAP Baseline and More Adverse Economic Scenarios (percent)**

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Real GDP</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Average baseline</td>
<td>-2.0</td>
<td>2.1</td>
</tr>
<tr>
<td>More adverse</td>
<td>-3.3</td>
<td>0.5</td>
</tr>
<tr>
<td>Civilian unemployment rate</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Average baseline</td>
<td>8.4</td>
<td>8.8</td>
</tr>
<tr>
<td>More adverse</td>
<td>8.9</td>
<td>10.3</td>
</tr>
<tr>
<td>House prices</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Baseline</td>
<td>-14</td>
<td>-4</td>
</tr>
<tr>
<td>More adverse</td>
<td>-22</td>
<td>-7</td>
</tr>
</tbody>
</table>

*Source: SCAP: Design and Implementation – p. 6.*

The BHCs were instructed to estimate losses that were due to failure to pay obligations rather than those due to mark-to-market accounting (SCAP: Design and Implementation). This judgment was based on what some Treasury officials at the time called the theory of special bank relativity. This theory pushed back on the general standard of mark-to-market accounting by suggesting that banks exist through time and shouldn’t be judged based on how they stand during the lowest point in a cycle. Forcing the banks to do this, some argued, would “undermine a key reason [why] they are so important for supporting economic activity in the first place” (Clark, Kabaker, and Sachs 2020).

Each BHC was “asked to estimate their potential losses on loans, securities, and trading positions, as well as pre-provision net revenue (PPNR) and the resources available from the allowance for loan and lease losses”. BHCs with large enough trading accounts ($100 billion in assets or more) were required to provide additional loss estimates in the adverse scenario that factored in counterparty credit risk.16 BHCs calculated these loss estimates on their

---

16 Counterparty credit risk was measured by assessing the risk of a counterparty defaulting, as well as potential credit valuation adjustments that would be made against exposures to counterparties who were more likely to default under the more adverse scenario.
trading books and counterparty exposures using internal stress tests based on market prices on February 20, 2009 (SCAP: Design and Implementation).

Banks projected losses over two years. The Federal Bank of New York (FRBNY) provided loss ranges for 12 different types of loans and securities, such as first- and second-lien mortgages, commercial and industrial (C&I) loans, and credit card loans. Banks could provide alternative loss estimates from what FRBNY gave them, but they were then required to provide “strong supporting evidence, especially if they fell below the range minimum”. To ensure more accuracy, the BHCs were encouraged to provide additional information, such as loss projections on subcategories within the 12 that the Fed selected. The categories of loans were chosen to make the results easier to compare across firms and to compare with what the BHCs had filed with their federal regulator (SCAP: Design and Implementation). The categories of loans, as well as some of the variables that the examiners used when conducting the evaluations, can be found in Figure 8.
<table>
<thead>
<tr>
<th>Loans</th>
<th>Variables evaluated</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>First-lien mortgages</strong></td>
<td>(1) Type of product</td>
</tr>
<tr>
<td>Prime</td>
<td>(2) Loan-to-value (LTV) ratio</td>
</tr>
<tr>
<td>Alt-A</td>
<td>(3) FICO score</td>
</tr>
<tr>
<td>Subprime</td>
<td>(4) Geography</td>
</tr>
<tr>
<td><strong>Second-/Junior-lien mortgages</strong></td>
<td>(5) Level of documentation</td>
</tr>
<tr>
<td>Closed-end junior liens</td>
<td>(6) Year of origination</td>
</tr>
<tr>
<td>HELOCs</td>
<td>(7) Other variables</td>
</tr>
<tr>
<td><strong>C&amp;I loans</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(1) Distribution of exposures, by industry</td>
</tr>
<tr>
<td></td>
<td>(2) Internal ratings provided by the BHCs</td>
</tr>
<tr>
<td></td>
<td>(3) Expected default rates from third parties</td>
</tr>
<tr>
<td><strong>CRE loans</strong></td>
<td></td>
</tr>
<tr>
<td>Construction</td>
<td>(1) Property type</td>
</tr>
<tr>
<td>Multifamily</td>
<td>(2) Loan-to-value (LTV) ratio</td>
</tr>
<tr>
<td>Nonfarm, Non-residential</td>
<td>(3) Debt service coverage ratio (DSCR)</td>
</tr>
<tr>
<td></td>
<td>(4) Geography</td>
</tr>
<tr>
<td></td>
<td>(5) Loan maturity</td>
</tr>
<tr>
<td><strong>Credit cards</strong></td>
<td>(1) FICO score</td>
</tr>
<tr>
<td></td>
<td>(2) Payment and utilization rates</td>
</tr>
<tr>
<td></td>
<td>(3) Geographic concentration</td>
</tr>
<tr>
<td><strong>Other consumer</strong></td>
<td>(1) FICO score</td>
</tr>
<tr>
<td></td>
<td>(2) Loan-to-value (LTV) ratio</td>
</tr>
<tr>
<td></td>
<td>(3) Term and vehicle age</td>
</tr>
<tr>
<td></td>
<td>(4) Geographic concentration</td>
</tr>
<tr>
<td><strong>Other loans</strong></td>
<td>(1) Loss record over the previous 5 years</td>
</tr>
</tbody>
</table>

Estimated loss rates were calculated using a variety of methods. For residential mortgages, for example, the agencies built default models based on information about individual and regional loan portfolios and mortgages. For other consumer loans and commercial loans, the agencies conducted regressions of historical default data against several macroeconomic variables, such as the unemployment rate. The regulators also had to address the heterogeneity across firms that would affect their performance in these tests. To this end, they collected additional firm-specific data, such as “past performance, portfolio composition, origination vintage, borrower characteristics, geographic distribution, international operations, and business mix” (SCAP: Design and Implementation). Cumulative loan-loss rates under the more adverse scenario were 9.1 percent, which was higher than the banking industry had ever experienced, even at the height of the Great Depression (SCAP: Overview of Results). Figure 9 compares the loan-loss rates under the baseline and more adverse scenarios to the actual loss rates the industry experienced in 2009.

**Figure 9: Two-Year Loss Rates for SCAP Scenarios and 2009 Actual Loss Rates (percent)**

<table>
<thead>
<tr>
<th>Assets</th>
<th>SCAP Loss range Estimates</th>
<th>2009 Actual Loss Rates</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Baseline</td>
<td>More adverse</td>
</tr>
<tr>
<td>First-lien mortgages</td>
<td>5 – 6</td>
<td>7 – 8.5</td>
</tr>
<tr>
<td>Prime</td>
<td>1.5 – 2.5</td>
<td>3 – 4</td>
</tr>
<tr>
<td>Alt-A</td>
<td>7.5 – 9.5</td>
<td>9.5 – 13</td>
</tr>
<tr>
<td>Subprime</td>
<td>15 – 20</td>
<td>21 – 28</td>
</tr>
<tr>
<td>Second-/Junior-Lien Mortgages</td>
<td>9 – 12</td>
<td>12 – 16</td>
</tr>
<tr>
<td>Closed-end junior liens</td>
<td>18 – 20</td>
<td>22 – 25</td>
</tr>
<tr>
<td>HELOCs</td>
<td>6 – 8</td>
<td>8 – 11</td>
</tr>
<tr>
<td>C&amp;I loans</td>
<td>3 – 4</td>
<td>5 – 8</td>
</tr>
<tr>
<td>CRE</td>
<td>5 – 7.5</td>
<td>9 – 12</td>
</tr>
<tr>
<td>Construction</td>
<td>8 – 12</td>
<td>15 – 18</td>
</tr>
<tr>
<td>Multifamily</td>
<td>3.5 – 6.5</td>
<td>10 – 11</td>
</tr>
<tr>
<td>Nonfarm, non-residential</td>
<td>4 – 5</td>
<td>7 – 9</td>
</tr>
<tr>
<td>Credit cards</td>
<td>12 – 17</td>
<td>18 – 20</td>
</tr>
<tr>
<td>Other consumer</td>
<td>4 – 6</td>
<td>8 – 12</td>
</tr>
<tr>
<td>Other loans</td>
<td>2 – 4</td>
<td>4 – 10</td>
</tr>
</tbody>
</table>

Sources: SCAP: Overview of Results – p. 5; GAO 10-861 – p. 17.
BHCs were also required to provide projections of their resources to absorb losses, including their pre-provision net revenues (PPNR) and their allowance for loan losses over the same horizon. In the case of SCAP, PPNR was defined as “the income after non-credit-related expenses that would flow into firms before they take provisions or other write-downs or losses” (SCAP: Design and Implementation; FRB: Allowance for Loan and Lease Losses). All told, more than 150 federal employees were involved in the creation, organization, and administration of the SCAP (SCAP: Design and Implementation).

When determining a BHC’s capital needs, the regulators looked at both the amount of Tier 1 capital and its composition. Tier 1 common equity, the first element of Tier 1 capital to absorb losses, was seen by the Fed as what should be “the dominant component” of Tier 1 capital (SCAP: Design and Implementation). Common equity “gives a BHC greater permanent loss absorption capacity and a greater ability to conserve resources under stress by changing the amount and timing of dividends and other distributions” (SCAP: Overview of Results).

The Fed considered two key questions when evaluating the capital needs of each of the BHCs under the more adverse scenario:

1. How much additional Tier 1 capital would a BHC need today to have a Tier 1 ratio of greater than 6 percent at the end of 2010?

2. How much additional Tier 1 common equity capital would a BHC need today to have a Tier 1 common equity ratio of greater than 4 percent at the end of 2010?

These capital thresholds were known as the “6-4 rule.” The regulators used them to determine the SCAP buffer—the amount of additional capital the 19 BHCs needed to remain well-capitalized even under the more adverse scenario. Nine firms already met the 6-4 rule. The other 10 firms needed a total of $185 billion in additional capital to meet the rule. Their SCAP buffer needs ranged from as high as $92.6 billion for Citigroup and as low as $2.3 billion for PNC. Most of the SCAP buffer needs were due to insufficient common equity. Tier 1 capital numbers for most banks were within acceptable limits under the more adverse scenario. Only two banks—GMAC LLC and Regions Financial Corp.—had insufficient Tier 1 capital. Due to the emphasis on common equity, the Fed concluded that the 10 firms that needed to raise additional equity “had capital structures that [were] too strongly tilted toward capital other than common equity” (SCAP: Overview of Results).

However, the $185 billion figure did not consider capital that firms had raised at the end of 2008, as well as other actions many of the firms had taken to pre-emptively shore up their balance sheets prior to the release of the results. The most noteworthy of these was Citigroup, which reduced its SCAP buffer by $87.1 billion through preferred stock exchanges.

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17 Tier 1 capital is composed of qualifying common stockholders’ equity, qualifying noncumulative perpetual preferred stock and senior perpetual preferred stock issued to the Treasury under TARP, certain minority interests and trust preferred securities (SCAP: Design and Implementation).
and other actions. Other banks increased their equity in this period by lesser amounts. By the time the results had been released, the original $185 billion, which was based on the firms’ balance sheets as of December 31, 2008, had been reduced to $74.6 billion (SCAP: Overview of Results). See Figure 10 for the adjusted SCAP requirements of the 10 firms.

BHCs that had SCAP buffer needs were required to submit capital plans to their primary regulator within 30 days. BHCs would have six months to implement these plans and were "encouraged to design capital plans that, wherever possible, actively seek to raise new capital from private sources" (SCAP: Overview of Results).

The 10 BHCs managed to raise $76.6 billion in Tier 1 common equity by November 9, the end of the six-month deadline (FRB PR, 11/09/2009). The only institution that needed additional capital and failed to raise it from private investors was GMAC. It ultimately used the

Figure 10: SCAP Capital Shortfalls ($ billions)

```
<table>
<thead>
<tr>
<th>Bank</th>
<th>Shortfall ($ billions)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bank of America</td>
<td>33.9</td>
</tr>
<tr>
<td>Wells Fargo</td>
<td>13.7</td>
</tr>
<tr>
<td>GMAC</td>
<td>11.5</td>
</tr>
<tr>
<td>Citigroup</td>
<td>5.5</td>
</tr>
<tr>
<td>Regions Financial</td>
<td>2.5</td>
</tr>
<tr>
<td>SunTrust Banks</td>
<td>2.2</td>
</tr>
<tr>
<td>Morgan Stanley</td>
<td>1.8</td>
</tr>
<tr>
<td>Key Corp</td>
<td>1.8</td>
</tr>
<tr>
<td>Fifth Third Bank</td>
<td>1.1</td>
</tr>
<tr>
<td>PNC Financial Services</td>
<td>0.6</td>
</tr>
</tbody>
</table>
```

Source: SCAP: Overview of Result.

18 Citi announced a plan to convert up to $27.5 billion of its existing preferred stock into common stock on February 27, 2009, as well as an agreement with the US government wherein Treasury would match this exchange at up to $25 billion of its own preferred stock. By the time the offers closed at the end of July 2009, Citi had raised approximately $58 billion in capital (Citi PR, 02/27/2009; Citi PR, 07/26/2009; SCAP: Overview of Results). Additional capital actions, characterized as those transactions that were completed or contracted as of the end of 2008, amounted to $29 billion (SCAP: Overview of Results).
Automotive Industry Financial Program (AIFP) to help meet the SCAP requirements (UST PR, 11/09/2009).

As a result, no SCAP BHCs drew on the CAP for government capital. See Figure 11 for a breakdown of the Tier 1 ratios of the SCAP BHCs at the end of 2009.
Figure 11: Change in Tier 1 Capital Ratios for SCAP Banks, December 31, 2008 to December 31, 2009

<table>
<thead>
<tr>
<th>Bank holding company</th>
<th>Tier 1 common capital ratio</th>
<th>Tier 1 risk-based capital ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2009 (%) Change from 2008 (bps)</td>
<td>2009 (%) Change from 2008 (bps)</td>
</tr>
<tr>
<td>American Express</td>
<td>9.83 13</td>
<td>9.84 14</td>
</tr>
<tr>
<td>Bank of America</td>
<td>7.82 322</td>
<td>10.41 –19</td>
</tr>
<tr>
<td>BB&amp;T</td>
<td>8.50 140</td>
<td>11.48 –82</td>
</tr>
<tr>
<td>Bank of New York Mellon</td>
<td>10.53 103</td>
<td>12.12 –118</td>
</tr>
<tr>
<td>Capital One</td>
<td>10.62 152</td>
<td>13.75 105</td>
</tr>
<tr>
<td>Citigroup</td>
<td>9.77 747</td>
<td>11.67 –23</td>
</tr>
<tr>
<td>Fifth Third</td>
<td>7.00 260</td>
<td>13.31 271</td>
</tr>
<tr>
<td>GMAC</td>
<td>4.85 –155</td>
<td>14.15 405</td>
</tr>
<tr>
<td>Goldman Sachs</td>
<td>12.20 450</td>
<td>14.97 237</td>
</tr>
<tr>
<td>JPMorgan Chase</td>
<td>8.79 229</td>
<td>11.10 90</td>
</tr>
<tr>
<td>KeyCorp</td>
<td>7.50 190</td>
<td>12.75 185</td>
</tr>
<tr>
<td>MetLife</td>
<td>8.17 –33</td>
<td>8.91 –29</td>
</tr>
<tr>
<td>Morgan Stanley</td>
<td>6.71 101</td>
<td>15.30 10</td>
</tr>
<tr>
<td>PNC</td>
<td>6.00 130</td>
<td>11.42 182</td>
</tr>
<tr>
<td>Regions</td>
<td>7.15 55</td>
<td>11.54 114</td>
</tr>
<tr>
<td>State Street</td>
<td>15.59 9</td>
<td>17.74 –246</td>
</tr>
<tr>
<td>SunTrust</td>
<td>7.67 187</td>
<td>12.96 206</td>
</tr>
<tr>
<td>US Bancorp</td>
<td>6.76 166</td>
<td>9.61 –99</td>
</tr>
<tr>
<td>Wells Fargo</td>
<td>6.46 336</td>
<td>9.25 125</td>
</tr>
<tr>
<td>Weighted average</td>
<td>8.31 303</td>
<td>11.31 60</td>
</tr>
</tbody>
</table>

Source: GAO 10-861.
7. **CAP-eligible institutions:** Publicly traded bank holding companies, financial holding companies, insured depository institutions, and savings and loan holding companies were eligible for CAP.

BHCs that had SCAP buffer needs were required to submit capital plans to their primary regulator within 30 days. BHCs would have six months to implement these plans and were “encouraged to design capital plans that, wherever possible, actively seek to raise new capital from private sources”. These could include “restructuring current capital instruments, sales of assets, and restrictions on dividends and stock repurchases” (SCAP: Overview of Results). The plans normally had the following elements:

1. A description of the specific actions the institution would take to increase the level or quality of its capital consistent with the results of the SCAP.

2. A list of steps to address any weaknesses for the BHC’s internal evaluations of its capital needs and capital planning.

3. An outline of the steps the BHC was planning to take to repay all government investments received, as well as to reduce reliance on guaranteed debt issued under the FDIC guarantee program (FSOB Report, 06/30/2009).

BHCs with SCAP buffer needs were able to apply to the CAP but defer issuing convertible preferred stock to the government via the facility for up to six months while they searched for private capital (CAP: White Paper).

Qualifying financial institutions (QFIs) that did not participate in SCAP were eligible to apply voluntarily. They had until May 25, 2009, to apply, though any company applying to become a bank holding company had to do so by January 15, 2009, to be eligible for CAP (CAP: FAQ).

QFIs included any publicly traded US bank or savings association not controlled by a bank holding company or a savings and loan company, top-tier US bank holding companies, and top-tier US savings and loan companies that “[engaged] solely and predominately in activities that are permitted for financial holding companies under relevant law”. Banks or BHCs that were foreign-owned, or subsidiaries of foreign companies, were not allowed to participate. While the term sheet stated that CAP term sheets for privately held banks, S-corporations, and mutual banks were “expected to be made available,” they never were (CAP: Term Sheet).

8. **Individual Participation Limits:** CAP specified minimum and maximum interventions for individual participating institutions.

An institution that was accepted into the program could issue mandatorily convertible preferred stock in an amount no less than 1% of its risk-weighted assets, up to a maximum
of 2%.

It could submit a request for capital in excess of this amount to its federal banking regulator, who would then consult with Treasury. If this was successful, the institution would be categorized as needing “exceptional assistance” and would potentially be subject to additional terms and conditions (CAP: Term Sheet).

9. Capital Characteristics: Institutions participating in the program would issue Mandatorily Convertible Preferred Shares, with a mandatory conversion to common equity after seven years if the capital had not been repaid.

Under CAP, the Treasury would purchase mandatorily convertible preferred shares, henceforth referred to as Convertible Preferred, in QFIs. Cash received from the issuance of these shares could be used to redeem shares under other government investment programs, such as the Capital Purchase Program or the Targeted Investment Program (CAP: Term Sheet). Also, government investments made under these programs could be converted into Convertible Preferred. While the Treasury would make all investments under CAP, the investments themselves would be managed by a trust set up “to protect and create value for the taxpayer as a shareholder over time” (CAP: White Paper).

Stockholder Consent

After issuing the Convertible Preferred, QFIs that did not have enough common stock authorized to reserve for the conversion and exercise of the warrants were required to call a shareholder vote to authorize an increase of the number of common shares so that the conversion and exercise could take place if needed. The terms of the capital could change in several ways (see below) if this authorization was not obtained in a timely manner or at all (CAP: Term Sheet).

Conversion

The Convertible Preferred had both mandatory and optional conversion clauses as part of its structure. The optional conversion gave the issuer of the equity the right to convert any amount of the preferred equity to common stock at any time, subject to regulatory approval. The holder of the Convertible Preferred, in this case the Trust created by Treasury, could also convert the shares “upon specified corporate events, including certain sales, mergers or changes of control of the QFI”. If a QFI held the Convertible Preferred for longer than seven years, the shares would automatically convert to common stock (CAP: Term Sheet). The price for conversion was unspecified in the initial Financial Stability Plan. The Treasury said then that the price would be “set at a modest discount from the prevailing level of the institution’s stock price as of February 9, 2009” (UST PR, 02/10/2009). The term sheet further explained that the price would be set at 90 percent of the average of the closing price of the QFI’s common stock over the 20 trading day period ending on February 9, 2009. This price, however, would be reduced by 15 percent every six months after the initial injection if the aforementioned stockholder vote to increase the number of common shares did not happen.

19 This was in addition to other Convertible Preferred stock that was to be used to redeem shares under either CPP, TIP, or both.
to a maximum of 45 percent. Conversion would be accompanied by the repayment of any accrued or unpaid dividends, either with cash or common stock (CAP: Term Sheet).

**Mandatory Sale**

After the mandatory conversion date, the Treasury was required to “make reasonable efforts” to sell at least 20 percent of its outstanding common stock annually. At any point after either a mandatory or optional conversion, the QFI had the option to repurchase the common stock held by the government by issuing new common stock or drawing on retained earnings. The price of repurchase was the greater of:

1. The conversion price.

2. The market price, calculated based on the average closing price during the 20 trading day period following the notice of repurchase (CAP: Term Sheet).

The Treasury made it clear that, despite the potential for the government to acquire a large interest in an institution, “US government ownership is not an objective of the CAP” (FSOB Report, 03/31/2009). The mandatory sale clause in the term sheet reflected the intention of the Treasury to keep the period of government investment “as temporary as possible” (CAP: White Paper).

**Dividends.**

The Convertible Preferred paid cumulative dividends of 9 percent, which compounded quarterly. This rate would increase to, and remain at, 20 percent six months after the original issue date if stockholder consent was not given. So long as any Convertible Preferred or Treasury-owned common stock remained outstanding, the dividends on any common stock not held by Treasury could not be greater than $0.01 per share. An additional “dividend stopper” was included in the term sheet. The stopper prevented QFIs from declaring or paying dividends on any shares, whether they were *pari passu* preferred, junior preferred, or common, if any dividends on the Convertible Preferred remained outstanding (CAP: Term Sheet).

**Repurchases**

Repurchases of other securities, such as junior preferred, *pari passu* preferred shares, or common shares, were affected by the “dividend stopper” and thus prohibited if any dividends on the Convertible Preferred remained outstanding (CAP: Term Sheet).

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20 If common shares were used to repay accrued and unpaid dividends, they would be valued “at the closing price on the second preceding trading day” (CAP: Term Sheet – p. 3).
**Warrants**

The Convertible Preferred also included 10-year warrants. These warrants, which were immediately exercisable, allowed the Treasury to purchase common stock equal to 20 percent of the amount of Convertible Preferred on the day of initial investment. The price to exercise the warrants was the same as the conversion price. The exercise price would also be reduced in 15 percent increments every six months after the initial injection, to a maximum of 45 percent if shareholder consent is not gained. While the Treasury would gain a larger voting interest in the QFI after exercising the warrants, it pledged not to exercise any voting power with respect to these shares (CAP: Term Sheet).

**Redemption**

QFIs were able to redeem the Convertible Preferred “at any time solely with the proceeds of one or more issuances of common stock for cash,” so long as they (1) obtained approval from their federal banking regulator, and (2) the proceeds of the equity issuances equaled at least 25 percent of the issue price of the Convertible Preferred. Redemption was done either at par value (plus accrued and unpaid dividends) if done within the first two years, and at the greater of par value plus accrued and unpaid dividends and the as-converted value if done after two years (CAP: Term Sheet).

This meant that QFIs that issued Convertible Preferred had an implicit time limit on redeeming the shares because, after two years, the cost of redemption could increase dramatically if the QFI’s stock price had increased. The as-converted value of the preferred investment would become greater than the par value of the investment, and the QFI would have to choose between raising enough common equity to satisfy this increased redemption price, continue to pay 9 percent in dividends on the preferred, or convert it to common stock. As noted, repurchases of converted stock could be done by issuing new common equity or drawing on retained earnings (CAP: Term Sheet).

10. **Loss-sharing:** Banks that failed the stress test were required to impose losses on existing stakeholders through dilution or debt-for-equity conversions. However, Treasury did not provide guidelines describing how banks should do this.

The Treasury expected institutions with SCAP capital buffer needs to design their own private-sector solution to increase their capital, with CAP funding available as a last resort. These solutions could include a mix of debt and preferred equity conversions, asset sales, and other measures. However, the Treasury did not provide any guidelines for these solutions. In a joint statement the day before they released the SCAP results, the Fed, Treasury, FDIC, and OCC said that “restructuring current capital instruments” was one of the ways that SCAP BHCs could meet their capital needs (FRB PR, 05/06/2009). Treasury officials internally called the program akin to “open bank resolution.” In a typical open bank resolution, existing common equity holders see the value of their shares diluted, in whole or in part; and existing preferred equity and debt investors accept losses or convert their holdings into common equity.
Converting junior debtholders to common equity holders through debt-for-equity exchanges and other tools “was the preferred path before [the BHCs] sought government capital”. Later, Treasury officials said they meant to make clear to junior debtholders that they “should expect to bear losses” (Clark, Kabaker, and Sachs 2020).

The SCAP BHCs already had about $300 billion in debt outstanding through these instruments, which suggested to regulators that they could meet their SCAP buffer needs without finding new equity investors (Clark, Kabaker, and Sachs 2020). Figure 12 below illustrates the capital actions taken by SCAP banks.
Figure 12: Description of Capital Actions by SCAP Bank Holding Companies (billions)\(^ {21}\)

<table>
<thead>
<tr>
<th>SCAP BHC</th>
<th>Source(s) of capital raised</th>
<th>Required SCAP capital Buffer</th>
<th>Capital raised(^ {22} )</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bank of America Corporation</td>
<td>New shares, asset sales, and share conversion(^ {23} )</td>
<td>$33.9</td>
<td>$35.9</td>
</tr>
<tr>
<td>Citigroup, Inc.</td>
<td>Share conversion</td>
<td>$5.5</td>
<td>$5.6</td>
</tr>
<tr>
<td>Fifth Third Bancorp</td>
<td>New shares, asset sales, and share conversion</td>
<td>$1.1</td>
<td>$1.7</td>
</tr>
<tr>
<td>GMAC LLC</td>
<td>New shares</td>
<td>$11.5</td>
<td>$4.6</td>
</tr>
<tr>
<td>KeyCorp</td>
<td>New shares, asset sales, and share conversion</td>
<td>$1.8</td>
<td>$2.3</td>
</tr>
<tr>
<td>Morgan Stanley</td>
<td>New shares, asset sales, and share conversion</td>
<td>$1.8</td>
<td>$7.0</td>
</tr>
<tr>
<td>PNC Financial Services Group, Inc.</td>
<td>New shares and asset sales</td>
<td>$0.6</td>
<td>$1.1</td>
</tr>
<tr>
<td>Regions Financial Corporation</td>
<td>New shares, asset sales, share conversion, and internal equity raising(^ {24} )</td>
<td>$2.5</td>
<td>$2.5</td>
</tr>
<tr>
<td>SunTrust Banks, Inc.</td>
<td>New shares, asset sales, share conversion, and internal equity raising</td>
<td>$2.2</td>
<td>$2.2</td>
</tr>
</tbody>
</table>

\(^{21}\) Nine BHCs—American Express Company, BB&T Corporation, Bank of New York Mellon Corporation, Capital One Financial Corporation, Goldman Sachs Group, Inc., JPMorgan Chase & Co., MetLife, Inc., State Street Corporation, and US Bancorp—were not required to raise SCAP capital because they had sufficient capital to withstand a worse-than-expected economic downturn through the end of 2010 and continue to meet the SCAP capital buffer targets.

\(^{22}\) As of November 9, 2009, according to the Federal Reserve.

\(^{23}\) "New shares" indicates that a BHC issued new common equity, "assets sales" represent business lines or products sold to raise cash, and "conversion" shows BHC preferred equity that was converted to common equity.

\(^{24}\) "Internal equity raising" included actions such as sales of equity to employee stock options plans.
<table>
<thead>
<tr>
<th>Wells Fargo &amp; Company</th>
<th>New shares and internal equity raising</th>
<th>$13.7</th>
<th>$13.7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td></td>
<td>$74.6</td>
<td>$76.6</td>
</tr>
</tbody>
</table>


11. Control over management: The Treasury’s shares did not have voting rights; however, it had the ability to appoint two directors to the boards of institutions that did not pay interest or dividends for six quarters.

If dividends on the Convertible Preferred stock were not paid for six quarters, consecutive or not, then Treasury would have the ability to elect two directors to the board. This right ended after dividends had been paid for four consecutive quarters (CAP: Term Sheet). Treasury would exercise the voting rights under the Convertible Preferred only in the cases of:

(1) an authorization or issuance of shares senior to the Convertible Preferred

(2) any amendment to the rights of the Convertible Preferred, or

(3) any merger, exchange or similar transaction which would adversely affect the rights of the Convertible Preferred (CAP: Term Sheet).

The Treasury retained these voting rights upon conversion to common stock and would receive standard voting rights associated with the QFI’s common stock. In the event of conversion, Treasury would also publish a set of guidelines that explained how it would use these voting rights “prior to closing any transactions” (CAP: Term Sheet).

12. Conditions: Treasury subjected participants to executive compensation and corporation governance restrictions modeled after those originally passed in EESA.

Section 111 of EESA outlines executive compensation restrictions and corporate governance standards (P.L. 110-343). Specifically, Section 111(b) describes these standards as they apply to direct purchases or investments in financial institutions. Section 111(b)(2) specified that there would be:

(1) “limits on compensation that exclude incentives for senior executive officers of a financial institution to take unnecessary and excessive risks that threaten the value of the financial institution during the period that the Secretary holds an equity or debt position in the financial institution;

(2) “a provision for the recovery by the financial institution of any bonus or incentive compensation paid to a senior executive officer based on statements of earnings, gains, or other criteria that are later proven to be materially inaccurate; and

(3) “a prohibition on the financial institution making any golden parachute payment to
its senior executive officer during the period that the Secretary holds an equity or debt position in the financial institution” (P.L. 110-343).

Senior executive officers (SEOs) were initially defined by EESA as the top five highest-paid executives of companies that took TARP money (P.L. 110-343). However, Treasury passed several interim final rules that provided additional guidance on executive compensation post-EESA, as well (TARP Executive Compensation Rules and Guidance).

Treasury released additional guidance in an announcement on February 4, 2009, that distinguished between institutions that required “exceptional assistance” and institutions participating in “generally available capital access program[s]” (UST PR, 02/04/2009). Treasury specified that institutions that received exceptional assistance included AIG, Citigroup, Bank of America, and the two automakers that received TARP support, GM and Chrysler (UST PR, 06/10/2009). Institutions that were accepted into the CAP did not automatically fall under this category, but would if they issued Convertible Preferred in excess of the 2 percent limit (CAP: Term Sheet).

Institutions that required exceptional assistance were subject to stricter requirements. Total compensation was restricted to a maximum of $500,000, with any amount in excess required to be in the form of restricted stock that vested only after the government had been repaid. This was to ensure that the incentives of executives at these institutions were “aligned with both the long-term interests of shareholders as well as minimizing the costs to taxpayers”. Golden parachutes, which were defined as large severance agreements for SEOs, were completely prohibited for the 10 highest-compensated employees, and capped at one year’s compensation instead of three (UST PR, 02/04/2009; UST Report, 10/20/2008).

For institutions that participated in generally available capital programs, SEO total yearly compensation was limited to $500,000, though this limit could be waived with “full public disclosure and [a] shareholder vote”. Golden parachute payments for the top five highest-paid employees of these institutions were restricted to one year’s compensation, instead of three (UST PR, 02/04/2009).

For institutions participating in any of these capital programs, clawback provisions—which enabled the QFI to retake bonuses and incentive payments of SEOs that had earned them by knowingly engaging in deceptive practices—were expanded from the top five SEOs to the next 20 highest-paid employees. The new guidance also required participating institutions to more aggressively police any luxury expenditures and required the CEO’s sign-off on any expenditures that “could be viewed as excessive or luxury items” (UST PR, 02/04/2009). These guidelines, however, did not apply retroactively (UST Report, 06/10/2009).

Treasury published its last Interim Final Rule on June 10, 2009. The final rule implemented and modified much of the expanded restrictions outlined in ARRA and the February 2009, guidance. Treasury further limited bonuses and incentive compensation paid to SEOs, as well as some of the most highly compensated employees, to one third of total compensation, with
the number of employees affected by this limit increasing based on the amount of aid given. The $500,000 limit specified in the February guidance was amended to “link compensation to long-term firm value” by allowing additional compensation over $500,000, provided that it was in the form of long-form, restricted stock. The stock-based compensation was still limited to one third of total compensation. Additionally, golden parachute payment restrictions were broadened to include any payments that were made as a result of a change in control of the company. Institutions were required to exercise their clawback provisions if payments subject to them were found to be based on inaccurate criteria or data, whereas they were merely given the option to do so in the February guidance (UST PR, 06/10/2009). The guidance also mandated that TARP recipients hold an annual shareholder vote to approve executive compensation packages.

The most notable change in the final rule was the creation of a Special Master for TARP Executive Compensation. The Special Master was responsible for reviewing compensation plans at firms receiving “exceptional” assistance to make sure they did so in a way that “maximize(s) long-term shareholder value and protect(s) taxpayer interests”. This authority went far beyond the threshold in the earlier guidance. The Special Master was able to review and approve (or disapprove) the compensation structures of SEOs and the next 100 most highly paid employees, as well as executive officers that were not among the most highly paid employees and thus, not subject to the typical bonus and incentive payment restrictions (UST PR, 06/10/2009). Total annual compensation that was less than or equal to $500,000, not including long-term restricted stock, would automatically be approved by the Special Master. Some of these responsibilities were originally given to the Secretary of the Treasury as part of the ARRA (P.L. 111-5).

While the February guidelines did not apply retroactively, the Special Master had the power to evaluate payments, bonuses, or compensation made by any TARP recipient before February 17, 2009, “to determine whether any such payments were inconsistent with the purposes of Section 111 of EESA” (UST Report, 06/10/2009). If the Special Master found any issues, firms could negotiate reimbursements to the US government.

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25 Institutions that received over $500 million in assistance had their top five highest-paid executives, as well as the 20 next highest-paid affected by the one-third of total compensation limit.

26 A number of the provisions laid out in the June 10 Interim Final Rule, such as the one-thirds limit on total compensation, as well as the number of SEOs and employees affected by executive compensation restrictions based on total TARP aid received, were originally passed via Section 111 of the ARRA.

27 In addition to approving compensation agreements, the Special Master was also responsible for reviewing compensation that was paid prior to the passage of ARRA, as well as negotiating reimbursements for these where relevant (UST PR, 06/10/2009).

28 Equity-based compensation was included in this limit by using the fair market value on the day of compensation. Equity-based compensation for prior years would not be included (UST Report, 06/10/2009 - p. 29).
13. Exit strategy: Treasury did not develop an explicit strategy for exiting its CAP investments, although the capital instruments contained built-in exit features.

While no investments were made under the CAP, the design of the Convertible Preferred gave the government an indirect exit strategy if the backstop was used. Conversion would occur automatically after seven years. Before that, the QFI could convert the preferred shares to common equity to boost market confidence or to meet supervisory requirements (CAP: Term Sheet; CAP: White Paper).

As explained, Treasury was required to sell at least 20 percent of its total original amount of common stock in a given QFI every year once the conversion had taken place, which put a cap on the amount of time the government could remain as an investor (CAP: Term Sheet). The dividend rates, at 9 percent, and other conditions also incentivized banks to replace any Convertible Preferred with private capital (Glasserman and Wang 2009).

III. Evaluation

Post-crisis analysis of SCAP and CAP has considered: (1) the transparency of the program; (2) whether the programs succeeded at increasing banks' capital through private sources, returning the government's investment, and promoting lending in the economy; and (3) the empirical quality of the stress tests. Much of the analysis focused on SCAP, rather than CAP.

Transparency. SCAP was transparent in both its design and results, aiming to lend credibility to the stress test and allow markets to make direct comparisons across banks. Such a high level of transparency was considered necessary to eliminate investor concerns. (Geithner, Metrick, and Ross, Working Paper)

However, the unusual amount of transparency attracted criticism falling largely into three groups: (i) Federal Reserve's release of bank-specific test results broke from the standard level of confidentiality involved in bank supervision; (ii) the upfront commitment to publicly disclose the results may encourage supervisors to white-wash the results to protect weak banks; and (iii) full disclosure of banks' capital positions would reveal firms as materially weaker than expected. Geithner, Metrick, and Ross find the third criticism most well-founded in their recent working paper, noting former Fed chairman Bernanke’s statement, in his 2015 memoir, that disclosing banks' weakness could “possibly [lead] to new runs and further sharp declines in bank stock prices” (Bernanke 2015).

Regardless, Geithner, Metrick, and Ross acknowledge transparency in combination with other features of SCAP made it easier for the banks to raise private capital to meet SCAP requirements and replace already injected public capital.

Success in meeting goals. The programs succeeded at getting banks to raise capital through private sources, rather than drawing on the CAP backstop. In the year after the results were released, the SCAP firms were able to add over $200 billion in common equity. They also
repaid $124.3 billion in CPP capital and $40 billion in TIP capital (Bernanke, 05/06/2010; CPP Transaction Data; UST PR, 12/09/2009; UST PR, 12/23/2009).

Officials who worked on the program said the lack of usage of CAP was “a strong indication of its success, as our objective in the first place was to recapitalize the system with private capital” (Clark, Kabaker, and Sachs 2020). In a valuation analysis of the Convertible Preferred, Glasserman and Wang (2009) found that the terms were attractive to banks, yet none participated. The lack of participation, they stated, could have been due to more stringent rules on executive compensation and corporate governance, as well as signaling aspects that could negatively impact banks’ ability to raise private capital (Glasserman and Wang 2009).

Bernanke, then the Fed chairman, did say that the designers of the program had hoped to “hasten the return to a better lending environment,” which had not happened in the year since the results had been released (Bernanke, 05/06/2010).

*Evaluation of stress test methodology.* A COP report released in June 2009 included an evaluation of the stress testing methods, written by Professors Eric Talley and Johan Walden, as an appendix. The analysis found that, based on the short time frame, as well as the extent of the stress in the banking system, the Federal Reserve’s risk modelling approach was “reasonable and conservative,” and that they did a commendable job. In particular, the authors praised the high levels of losses imposed in the more adverse scenario, as well as the large amount of capital required of those that needed it. They praised the use of survey and market-based estimates over historical data, use of a two-year time frame, the incorporation of heterogeneity across BHCs, and the usage of the 6-4 rule as “a defensible first approximation” (COP, 06/09/2009).

Talley and Walden’s report, however, also included some criticism. The tailoring of loss rates based on heterogeneous elements amongst the various BHCs, while important, required “significant interaction” between regulators and BHCs, which could undermine the objectivity of the tests. The tailoring elements amplified the replicability problem explained above. Finally, the usage of the holding company itself as the primary unit of analysis was a subject of debate. The authors felt that, even if a BHC was adequately capitalized on an aggregate level, the stress tests did not answer the question of how the resources should be distributed to address risk across its subsidiaries (COP, 06/09/2009).

The Government Accountability Office (GAO) released a report in September 2010 detailing some of the lessons that could be learned from the SCAP. The multidisciplinary, interagency approach to the SCAP was a key component of the process, and allowed for “productive debate” with regards to some of the nuances of the tests, exemplified by the tailored accounting process done for each BHC (GAO 10-861).

GAO recommended generally for the Fed and other regulators to increase transparency during the traditional supervisory process, issue more specific guidance for bank examiners and assessors, fully develop and disseminate among regulators the aforementioned
surveillance plan to enhance bank supervision, and further increase coordination and communication amongst regulatory entities (GAO 10-861).

IV. References


———. November 9, 2009. “Federal Reserve Board makes announcement regarding the Supervisory Capital Assessment Program (SCAP).”


V. Key Program Documents

Summary of Program


(SCAP: Overview of Results) “The Supervisory Capital assessment Program: Overview of Results.” Federal Reserve Board of Governors. May 7, 2009. Results from the Federal Reserve’s Supervisory Capital Assessment Program, the stress test conducted in the spring of 2009 on 19 of the largest bank-holding companies and financial institutions in the US. https://ypfs.som.yale.edu/node/2446.


Implementation Documents


Document by the Federal Reserve describing the key design aspects of the Supervisory Capital Assessment Program.
https://ypfs.som.yale.edu/node/2445

Overview page of TARP's executive compensation restrictions with key facts about the program.

Final rule released by United States Treasury to implement the executive compensation standards that were amended by ARRA.

Final rule on the implementation of the annual stress tests for large banks and bank holding companies.

Detailed stress test requirements for banking organizations with consolidated assets between $10 and $50 billion.

Detailed stress test requirements for banking organizations with consolidated assets of over $50 billion ("covered companies").

The Emergency Economic Stabilization Act of 2008, which established the Troubled Assets Relief Program (TARP).
The Dodd-Frank Wall Street Reform and Consumer Protection Act, which established the FSOC and OFR, enhanced the supervision of certain non-bank financial companies, and generally tightened up the US financial regulatory framework post-GFC.


The American Recovery and Reinvestment Act of 2009, which made appropriations for job preservation and creation, infrastructure investment, energy efficiency and science, assistance to the unemployed, and State and local fiscal stabilization.


Press Releases/Announcements

Financial Supplement for AIG’s third quarter of 2010, which provides financial information about the insurer as well as information on the government’s TARP investments in the firm. American International Group, Inc. 30 September 2010.


(FRB PR, 11/09/2009) “Federal Reserve Board makes announcement regarding the Supervisory Capital Assessment Program (SCAP).” Federal Reserve Board of Governors. November 9, 2009. Press release from the Federal Reserve stating that the 19 SCAP institutions had collectively
raised nearly $75 billion in new capital to make up for the shortfalls identified in the stress test.

(FRB PR, 11/15/2012) “Federal Reserve Board releases economic and financial market scenarios that will be used in next round of stress tests for large financial institutions.” Federal Reserve Board of Governors. November 15, 2012. Press release from the Federal Reserve outlining the scenarios to be used for the 2013 Dodd-Frank stress tests.


https://ypfs.som.yale.edu/library/us-treasury-releases-terms-capital-assistance-program-0.

(UST PR, 06/10/2009) “Interim Final Rule on TARP Standards for Compensation and Corporate Governance.” United States Department of the Treasury. June 10, 2009. Final rule released by Treasury to implement the executive compensation standards that were amended by ARRA.

(UST PR, 10/14/2008) “Treasury Announces TARP Capital Purchase Program Description.” United States Department of the Treasury. October 14, 2008. Treasury press release that briefly highlights key points – such as the eligibility, dividend rates,
and more - about the Capital Purchase Program.


(UST PR, 12/23/2009) “Treasury Receives $45 Billion in Repayments from Wells Fargo and Citigroup.” United States Department of the Treasury. 23 December 2009. Treasury announcement that Citigroup and Wells Fargo had repaid all of their $45 billion in TARP funds, bringing the total amount repaid to $164 billion.

Media Stories


Key Academic Papers

https://ypfs.som.yale.edu/library/valuing-treasurys-capital-assistance-program.


Paper that investigates whether the “stress test,” the extraordinary examination of the nineteen largest U.S. bank holding companies conducted by federal bank supervisors in 2009, produced information demanded by the market.


Breakdown of the key differences between the initial executive compensation requirements in EESA and TARP versus those from ARRA and Treasury in February 2009.


CRS Report that chronicles the life of TARP and the US government’s rescue of the financial system and discusses post-crisis regulatory reform.

Reports/Assessments


June Oversight report from the COP on evaluating the results of the Federal Reserve stress tests that were conducted in May of 2009.

*Quarterly report (Q1 2009) from the Financial Stability Oversight Board (FSOB) that assesses the preliminary effects of EESA programs.*


https://ypfs.som.yale.edu/node/2445.

https://ypfs.som.yale.edu/node/2446.


(TARP Two-Year Retrospective) Troubled Asset Relief Program: Two Year Retrospective. United States Department of the Treasury. October 2010. Treasury report on the development, execution, and outcomes of key TARP programs since their inception – including the CPP, HAMP, and others, as well as revised projections about the total costs of the programs. https://ypfs.som.yale.edu/library/troubled-asset-relief-program-two-year-retrospective-united-states-department-treasury.


VI. Appendixes

Appendix A: Timeline of Key Events


September 21, 2008: The Federal Reserve Board approves the applications of investment banks Goldman Sachs and Morgan Stanley to become bank holding companies, allowing them to access Federal Reserve liquidity facilities.

September 29, 2008: The first vote on the Emergency Economic Stabilization Act (EESA) fails in the House of Representatives, with a vote of 205-228.

October 3, 2008: EESA is signed into law. Work on the Troubled Assets Relief Program (TARP) begins, with the government having access to the first of two $350 billion tranches of appropriated funds. Wells Fargo announces proposal to acquire Wachovia.

October 14, 2008: Treasury announces proposal to use TARP funds to purchase preferred equity in financial institutions through the $250 billion Capital Purchase Program (CPP). Nine large, systemically significant financial institutions pledged to subscribe to the program for $125 billion. Deadline to apply is November 14, 2008.

January 12, 2009: President George W. Bush submits report to Congress requesting disbursement of the remaining $350 billion in TARP funds to be used by the incoming Obama administration.

February 10, 2009: Treasury announces the details of its Financial Stability Plan, which includes stress tests, a capital backstop, as well as new lending initiatives and expansions of existing programs.

February 17, 2009: The American Recovery and Reinvestment Act of 2009 (ARRA) is passed. In addition to large amounts of stimulus spending and tax cuts, ARRA also broadens the original executive compensation restrictions for TARP recipients that came with EESA and gives the Secretary of the Treasury the authority to review...
compensation plans of some of the highest-paid executives of TARP recipients.

February 25, 2009: Federal bank regulators, such as the FDIC, OCC, and Federal Reserve Board announce intent to begin stress testing US bank holding companies with assets exceeding $100 billion. Treasury announces the Capital Assistance Program, an unlimited capital backstop for banks to receive additional government capital in exchange for Convertible Preferred stock.

April 24, 2009: The Federal Reserve publicly releases a paper about its stress testing program, called the Supervisory Capital Assessment Program (SCAP), giving key details about the design of the tests, as well as how the Fed calculated losses across the firms that were tested.

May 7, 2009: Results of the SCAP for 19 large financial institutions are released, which show a $75 billion capital shortfall for 10 bank holding companies, largely in the form of common equity.

June 10, 2009: Treasury releases its Interim Final Rule on TARP Standards for Compensation and Corporate Governance. The rule implements and further expands the restrictions laid out in ARRA, as well as appoints a Special Master for TARP Executive Compensation, which is responsible for reviewing compensation plans for institutions receiving “exceptional assistance”.

November 9, 2009: The Capital Assistance Program closes after six months. No investments are made under the program and all of the bank holding companies that need capital as a part of SCAP are able to raise it privately.

July 21, 2010: The Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010 is passed. The Act establishes the Consumer Financial Protection Bureau and Financial Stability Oversight Council, removes Treasury’s ability to reuse TARP funds, more stringently regulates the activities of banks and bank holding companies, and institutes mandatory annual stress tests for some of the largest bank holding companies and nonbank financial companies.
Appendix B: Overview of Initial Dodd-Frank Act Stress Tests Regulatory Guidance

The Federal Reserve, OCC, and Treasury released several Final Rules in October of 2012, which served as implementation and clerical guidelines for regulators and participating institutions.

The first, which was published in by the OCC and Treasury in the Federal Register on October 9, 2012, laid out the methodology and reporting requirements for participants in detail. Unlike in the initial legislation, the Final Rule categorized institutions as either “$10 to $50 billion covered” or “over $50 billion covered”, based on their average total consolidated assets (Federal Register, Vol. 77, No. 195, 10/09/2012 – p. 61246). Regulators gave smaller covered institutions (less than $50 billion) more than a year longer to both conduct and report the results of their stress tests compared with covered institutions of $50 billion. However, there were cases in which institutions with less than $50 billion in assets were affiliated with the covered institutions of more than $50 billion, which meant that it could be “less burdensome and more appropriate” for these institutions to follow the requirements for covered institutions of more than $50 billion, instead (Federal Register, Vol. 77, No. 195, 10/09/2012 – p. 61242).

Participating institutions were required to estimate PPNR, losses, loan-loss provisions, net income, ALLL for credit exposures, and general effects of capital actions on their capital levels over the “planning horizon”, which had to be at least nine quarters (Federal Register, Vol. 77, No. 195, 10/09/2012 – p. 61247).

While the initial reports given to regulators were confidential, all participants were required to publish the results of the tests either between March 15 and 31 of the following calendar year for covered institutions of more than $50 billion, or between June 15 and 30 of the following calendar year for covered institutions of $10 to $50 billion (Federal Register, Vol. 77, No. 195, 10/09/2012 – p. 61248). For the first set of results, this would mean that covered institutions would have had to publish their results between March 15 to 31, 2013, and June 15 to 30, 2014 (Federal Register, Vol. 77, No. 195, 10/09/2012 – p. 61248).

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29 Average total consolidated assets, for purposes of the Dodd-Frank stress tests, were calculated by taking the average of an institution’s total consolidated assets found in its Consolidated Reports of Condition and Income for the four most recent consecutive quarters. If a report had not been filed in one or more of the four most recent quarters, it would be calculated as the average of the institution’s total consolidated assets “for the most recent one or more consecutive quarters” (Federal Register, Vol. 77, No. 195, 10/09/2012 – p. 61246).

30 Covered institutions of $10 to $50 billion were required to use financial statement data as of September 30, 2013, and report their test results on or before March 31, 2014, whereas covered institutions of $50 billion were required to use financial statement data as of September 30, 2012, and report their results on or before January 5, 2013 (Federal Register, Vol. 77, No. 195, 10/09/2012 – p. 61246). In all cases, data as of September 30 of the current calendar year had to be used.
Two more Final Rules were issued on October 12, 2012, for each of the covered groups. While the language was similar in the Rules for each of the two groups, and was akin to what was issued by the OCC and Treasury, it differed in the following ways:

(1) A delay in the date that these companies were to begin and publicly report the results of their stress tests. A company that met the requirements at the end of 2013 would be tested in 2014, and report their results in 2015, for example (Federal Register, Vol. 77, No. 198, 10/12/2012 – pp. 62399).

(2) Further clarification of the definition of the three “scenarios” that the OCC and Treasury had outlined in their Final Rule. The baseline scenario was similar to the SCAP: a consensus view of the macroeconomic outlook as represented by forecasters, government agencies, and other organizations. The adverse scenario would likely “include the paths of economic variables that are generally consistent with mild to moderate recessions,” with the possibility of the approach varying from year-to-year based on current economic conditions. The more adverse scenario, on the other hand, was expected to follow the path that was consistent with “severe post-war US recessions” (Federal Register, Vol. 77, No. 198, 10/12/2012 – pp. 62403-62404).

(3) An increased emphasis on tailoring stress test elements to idiosyncratic elements among tested institutions. The Federal Reserve Board emphasized that, “depending on the systemic footprint and scope of operations” of a given institution, they could potentially require “additional components in its adverse and severely adverse scenarios or to use additional scenarios that are designed to capture salient risks stemming from specific lines of business” (Federal Register, Vol. 77, No. 198, 10/12/2012 – p. 62404).

(4) A more detailed list of assumptions about capital actions when analyzing the impact of the test over the planning horizon. These involved taking into account actual capital actions undertaken at the end of the first quarter, as well as payments on any instruments included in regulatory capital ratios (such as common stock dividends, interest, or principal payments), and an assumption of “no redemption” on any instrument that would be included in the institution’s regulatory capital ratios (Federal Register, Vol. 77, No. 198, 10/12/2012 – p. 62408).

(5) Additional stress tests conducted every six months by covered institutions of more than $50 billion only. These would be completed by January 5 and June 5 every year, with the former following the same procedures and scenarios as the Fed’s tests, while the mid-year tests, which were based on asset values as of March 31, were conducted more independently. In particular, companies were expected to assess their own unique vulnerabilities and

\[\text{\textsuperscript{31}}\text{This included a delay for covered institutions of $10 billion to $50 billion that were eligible for the stress tests as of the end of 2012. These institutions, despite being required to report in 2014, did not have to do so until June 2015 (Federal Register, Vol. 77, No. 198, 10/12/2012 – p. 62399). This delay also applied for covered institutions of more than $50 billion that did not participate in SCAP, who would begin testing in September 2013 instead of November 2012 (Federal Register, Vol. 77, No. 198, 10/12/2012 – p. 62381).}\]
idiosyncratic risks as part of the adverse and more adverse scenarios in the mid-year tests (Federal Register, Vol. 77, No. 198, 10/12/2012 – pp. 62387).

These Final Rules and related publications further built on the foundations that the SCAP created, and the Fed continues to release both the DFAST results and methodology to the public (FRB: Dodd-Frank Act Stress Tests).