# The Goldman Sachs Group, Inc.

# 2013 Dodd-Frank Act Mid-Cycle Stress Test Results

**September 16, 2013**

**Dodd-Frank Act Mid-Cycle Stress Test Results for The Goldman Sachs Group, Inc.**

Overview and requirements

Section 165(i)(2) of the Dodd-Frank Wall Street Reform and Consumer Protection Act and related regulations require large bank holding companies with total consolidated assets of $50 billion or more, including The Goldman Sachs Group, Inc. (referred to herein as "Group", "we", "us", "our" or "the firm"), to conduct two stress tests each year. In the mid-cycle Dodd-Frank Act stress test ("DFAST"), each firm is required to conduct stress tests under a set of internally developed scenarios (baseline, adverse, severely adverse). In the annual DFAST submitted in January of each year, each firm is required to conduct stress tests under a set of scenarios (baseline, adverse and severely adverse) developed by the Board of Governors of the Federal Reserve System ("Federal Reserve").

We are required to submit the results of the mid-cycle DFAST to the Federal Reserve by July 5 of each year, including projections of pre-provision net revenues ("PPNR"), trading and counterparty losses, provision for loan and lease losses and capital levels over a nine-quarter planning horizon (Q2 2013 to Q2 2015 for the 2013 mid-cycle DFAST) under these scenarios. Mid-cycle DFAST rules also require each firm to publish an overview and summary of results based on the severely adverse scenario.

The mid-cycle stress test is not being conducted under the Federal Reserve's Capital Plan Rule and is not part of the annual Comprehensive Capital Analysis and Review ("CCAR") process. Accordingly, the Federal Reserve will not provide an objection or non-objection to a firm's mid-cycle stress test results.

More information on DFAST is available on the Federal Reserve's website at http://www.federalreserve.gov.

Overview and description of Group's severely adverse scenario

Stress testing is an integral component of our Internal Capital Adequacy Assessment Process ("ICAAP") and we incorporate DFAST into our internal processes to assess our capital adequacy and to ensure that the firm holds an appropriate amount of capital relative to the risks of our businesses. Our stress testing process utilizes a combination of models and management judgment.

The Federal Reserve's DFAST rules define the severely adverse scenario as "a set of conditions that affect the U.S. economy or the financial condition of a covered company, and that overall are more severe than those associated with the adverse scenario and may include trading or other additional components." The internally developed severely adverse scenario is expected to capture a company's vulnerabilities and firm-specific risks that would impact its activities and results. The scenarios we develop for DFAST are consistent with, and developed based on, our ICAAP. Our goal is to hold sufficient capital to ensure we remain adequately capitalized after experiencing a severe stress event. We construct a severely adverse scenario that is tailored to particularly stress our risks and our vulnerabilities.

The firm's severely adverse scenario includes a market shock ("global market shock"), or repricing of our trading and counterparty exposures, in the first quarter of the planning horizon. The global market shock is based on asset value movements observed during the Fall of 2008. Due to our trading and counterparty exposures, and in particular, our fair value equity and lending positions, our global market shock includes large shocks to equity and credit that result in meaningful stressed losses during the first quarter of the planning horizon. In addition to the global market shock, the severely adverse scenario is characterized by a stressed global macroeconomic environment, including a severe U.S. recession. The planning horizon includes a decline in GDP, a rising rate of unemployment, a low interest rate environment, declining asset values and widening credit spreads over several quarters, followed by a slow and partial recovery. We also incorporate a firm-specific reputational event, which further reduces our franchise revenues for a period of time in the severely adverse scenario. In our severely adverse scenario, we project variables across a range of macroeconomic indicators and asset classes that management determines are necessary to produce revenue, balance sheet and risk-weighted asset projections.

Given the fair value nature of our balance sheet, we believe the inclusion of a global market shock is a meaningful way for us to stress our material risks and exposures as significant and rapid changes in asset values are particularly impactful to our capital position. We choose a shock that captures and appropriately stresses our material risk positions. Furthermore, as the scenario includes a severely adverse operating environment, characterized by further material market deterioration in global asset values, as well as the firm-specific reputational event, we believe the scenario captures our idiosyncratic risks and significantly stresses our capital position. We believe the severely adverse scenario represents a low probability, but high impact, scenario that does not reflect our forecast of likely macroeconomic conditions over the planning horizon. Projected paths of key macroeconomic variables and asset values under the scenario follow below:

| | 2013 | | | 2014 | | | | 2015 | |
|---|---|---|---|---|---|---|---|---|---|
| **Variable** | **2Q** | **3Q** | **4Q** | **1Q** | **2Q** | **3Q** | **4Q** | **1Q** | **2Q** |
| US Real GDP Growth (qoq, annualized) | -3.0% | -5.0% | -8.0% | -2.5% | 0.0% | 1.0% | 3.5% | 2.5% | 1.5% |
| US Unemployment Rate | 8.4% | 9.3% | 10.6% | 11.1% | 11.4% | 11.5% | 11.3% | 11.2% | 11.3% |
| US CPI (qoq, annualized) | 1.5% | 1.3% | 0.8% | 0.8% | 0.5% | 0.5% | 0.5% | 0.5% | 0.5% |
| 10 Year US Treasury Bond Yield | 1.5% | 0.8% | 0.5% | 0.5% | 0.5% | 0.8% | 0.8% | 1.0% | 1.0% |
| S&P 500 Index Level | 1,479 | 1,350 | 1,139 | 1,064 | 1,042 | 1,050 | 1,117 | 1,161 | 1,193 |
| VIX Index Level | 16 | 22 | 32 | 36 | 37 | 36 | 32 | 29 | 27 |
| CDX HY Index (bps) | 504 | 620 | 839 | 925 | 944 | 925 | 823 | 758 | 709 |
| CDX IG Index (bps) | 107 | 132 | 179 | 198 | 202 | 199 | 178 | 164 | 155 |

To assess the firm's capital adequacy under the severely adverse scenario, the firm incorporates the impacts associated with the global market shock and the macroeconomic scenario described above to calculate projections of PPNR, losses associated with the global market shock, provision for loan and lease losses and capital levels.

## Summary of results

The following table summarizes the results of the firm's mid-cycle DFAST based on our severely adverse scenario. The results are for the planning horizon starting in the second quarter of 2013. These results incorporate capital actions as defined by DFAST rules: (1) for Q2 2013, the firm is required to incorporate actual capital actions; and (2) for each of the remaining quarters in the planning horizon, the firm must include the following: (a) common stock dividends equal to the quarterly average dollar amount of common stock dividends that we paid in the prior four quarters; and (b) payments on any other instrument that is eligible for inclusion in the numerator of a regulatory capital ratio equal to the stated dividend, interest, or principal due on such instrument during the quarter. Redemptions, repurchases, or issuances of any capital instrument that is eligible for inclusion in the numerator of a regulatory capital ratio are not included in the disclosed capital ratios.

**2013 Mid-Cycle DFAST Results**
**Projected PPNR, Losses Associated with the Global Market Shock, Provision for Loan and Lease Losses and Capital Levels**
**The Goldman Sachs Group, Inc. Projections in our Severely Adverse Scenario**

These results are calculated using capital action assumptions provided with the DFAST rules. All projections represent hypothetical estimates that involve an economic outcome that is more adverse than expected. These estimates are not forecasts. The minimum capital ratios presented are for the period Q2 2013 to Q2 2015.

**Projected Basel I Capital Ratios through Q2 2015 under our Severely Adverse Scenario[1]**

| | Actual | Stressed Capital Ratios | |
|---|---|---|---|
| | Q1 2013 | Q2 2015 | Minimum[2] |
| Tier 1 Common Ratio (%) | 12.7% | 12.6% | 8.9% |
| Tier 1 Capital Ratio (%) | 14.4% | 14.4% | 11.0% |
| Total Risk-based Capital Ratio (%) | 17.3% | 17.4% | 13.8% |
| Tier 1 Leverage Ratio (%) | 7.5% | 7.4% | 5.8% |

[1] Basel I capital ratios include the impact of the Federal Reserve's Final Market Risk Capital Rule (12 C.F.R. Part 225/208, Appendix E).

[2] Lowest calculated ratio over the nine-quarter planning horizon.

**Projected PPNR, Losses Associated with the Global Market Shock and Net Income / (Loss) Before Taxes through Q2 2015 under our Severely Adverse Scenario**

| | Billions of Dollars | Percentage of Average Assets |
|---|---|---|
| PPNR[1] | 15.5 | 1.7 |
| Other Revenue[2] | 0.0 | |
| Less | | |
| Provision for Loan Losses | 0.6 | |
| Realized Gains / Losses on Securities (AFS/HTM) | 0.0 | |
| Trading and Counterparty Losses[3] | 20.0 | |
| Other Losses / Gains[4] | 1.1 | |
| Equals | | |
| Net Income / (Loss) Before Taxes | (6.2) | -0.7 |

[1] PPNR includes net revenues and operating expenses (including operational risk events, mortgage put-back expenses, and other real estate owned costs).

[2] Other revenue includes one-time income and (expense) items not included in PPNR. For Group, this balance is zero.

[3] Trading and counterparty losses include mark-to-market losses, incremental default risk ("IDR") losses and changes in credit valuation adjustments ("CVA") associated with the global market shock, and credit IDR losses for the remainder of the planning horizon.

[4] Other losses / gains primarily includes the projected change in the fair value of loans and loan commitments accounted for under the fair value option associated with the global market shock.

**Projected Loan Losses by Type of Loans for Q2 2013 through Q2 2015 under our Severely Adverse Scenario**

| | Billions of Dollars | Portfolio Loss Rates (%) |
|---|---|---|
| Loan Losses | 0.5 | 1.0 |
| First Lien Mortgages, Domestic | 0.0 | 3.7 |
| Junior Liens and HELOCS, Domestic | 0.0 | 5.1 |
| Commercial and Industrial | 0.4 | 7.9 |
| Commercial Real Estate | 0.0 | 1.2 |
| Credit Cards | 0.0 | 0.0 |
| Other Consumer | 0.0 | 0.5 |
| Other Loans | 0.1 | 0.1 |

Loan losses and average loan balances used to calculate portfolio loss rates exclude loans and loan commitments accounted for under the fair value option.

The most significant drivers of the changes in the firm’s regulatory capital ratios, as well as the Tier 1 Common ratio, under DFAST for the firm’s severely adverse scenario are:

- Losses associated with the global market shock, captured within trading and counterparty losses and other losses.
- The negative impact on PPNR from the macroeconomic environment and asset value projections over the planning horizon.
- The negative impact on PPNR from an assumed firm-specific reputational event that results in a temporary reduction to our franchise revenues.

## Additional Information

Risks included in the stress test and how these risks are captured

Our material risks captured in the stress test are market risk, credit risk, operational risk, liquidity risk and reputational risk.

Market Risk:

Market risk is the risk of loss in the value of our inventory due to changes in market prices. We hold inventory primarily for market making for our clients and for our investing and lending activities. Our inventory therefore changes based on client demands and our investment opportunities. Our inventory is accounted for at fair value and therefore fluctuates on a daily basis. Categories of market risk include the following:

- *Interest rate risk:* results from exposures to changes in the level, slope and curvature of yield curves, the volatilities of interest rates, mortgage prepayment speeds and credit spreads.
- *Equity price risk:* results from exposures to changes in prices and volatilities of individual equities, baskets of equities and equity indices.
- *Currency rate risk:* results from exposures to changes in spot prices, forward prices and volatilities of currency rates.
- *Commodity price risk:* results from exposures to changes in spot prices, forward prices and volatilities of commodities, such as electricity, natural gas, crude oil, petroleum products, and precious and base metals.

Market risk is incorporated into our 2013 mid-cycle DFAST results via the global market shock and the macroeconomic scenario. The global market shock is applied to our fair value trading and banking book assets with changes in the fair value of such positions being reflected in our stressed revenue forecasts. In addition, we further stress our exposures based on the assumed changes in macroeconomic variables and asset values. As applicable, we calculate a full or partial recovery of losses as a result of the improving asset values during the recovery period of the planning horizon.

Credit Risk:

Credit risk represents the potential for loss due to the default or deterioration in credit quality of a counterparty (e.g., an OTC derivatives counterparty or a borrower) or an issuer of securities or other instruments we hold. Our exposure to credit risk comes mostly from client transactions in OTC derivatives and loans and lending commitments. Credit risk also comes from cash placed with banks, securities financing transactions (i.e., resale and repurchase agreements and securities borrowing and lending activities) and receivables from brokers, dealers, clearing organizations, customers and counterparties.

Similar to market risk, credit risk is incorporated into our 2013 mid-cycle DFAST results via the global market shock and the macroeconomic scenario. The global market shock includes counterparty credit losses (i.e., credit valuation adjustments ("CVA") and incremental default risk ("IDR") losses). Projections for CVA and IDR over the planning horizon are also included in our stressed revenue forecasts.

Credit risk is also incorporated into our projections for changes in provisions and loan losses in our accrual loan portfolio. We utilize a model that projects losses based on projections for exposure at default, loss given default, probability of default and ratings migration for loans in the accrual portfolio.

Operational Risk:

Operational risk is the risk of loss resulting from inadequate or failed internal processes, people and systems or from external events. Our exposure to operational risk arises from routine processing errors as well as extraordinary incidents, such as major systems failures. Potential types of loss events related to internal and external operational risk include:

- clients, products and business practices;
- execution, delivery and process management;
- business disruption and system failures;
- employment practices and workplace safety;
- damage to physical assets;
- internal fraud; and
- external fraud.

Operational risk losses are projected based on historical operational risk data and the assumed conditions of the severely adverse scenario. Operational risk losses are included within non-compensation expense projections over the planning horizon.

Liquidity Risk:

Liquidity risk represents the risk that the firm holds inadequate levels of liquidity to meet the firm's contractual and contingent cash and collateral obligations. To mitigate this risk, the firm has in place a comprehensive and conservative set of liquidity and funding policies to address both firm-specific and broader industry or market liquidity events. Our principal objective is to be able to fund the firm and to enable our core businesses to continue to serve clients and generate revenues, even under severely adverse circumstances.

In our stress test, we analyze how we would manage our balance sheet through the duration of a severe crisis and we include plans to access secured and unsecured funding and generate incremental liquidity. Our severely adverse scenario takes liquidity risk into account by projecting potential liquidity outflows due to the severely adverse scenario environment (e.g., draws on unfunded commitments and secured and unsecured funding outflows) and the impact of these outflows on our liquidity position and balance sheet.

Description of our projection methodologies

PPNR:

PPNR includes net revenues ("revenues") and operating expenses. The firm's severely adverse scenario forms the basis for projecting PPNR over the planning horizon.

*Revenues:*

We project revenues for each of our business segments, including Investment Banking, Institutional Client Services ("ICS"), Investing and Lending ("I&L") and Investment Management. The forecasted revenues under the severely adverse scenario are an aggregation of forecasted revenues for each of these business segments.

*Investment Banking*

The firm provides a broad range of investment banking services to a diverse group of corporations, financial institutions, investment funds and governments. Services include strategic advisory assignments with respect to mergers and acquisitions, divestitures, corporate defense activities, risk management, restructurings and spin-offs, and debt and equity underwriting of public offerings and private placements, including domestic and cross-border transactions, as well as derivative transactions directly related to these activities.

*ICS*

The firm facilitates client transactions and makes markets in fixed income, equity, currency and commodity products, primarily with institutional clients such as corporations, financial institutions, investment funds and governments. The firm also makes markets in and clears client transactions on major stock, options and futures exchanges worldwide and provides financing, securities lending and other prime brokerage services to institutional clients.

*I&L*

The firm invests in and originates loans to provide financing to clients. These investments and loans are typically longer-term in nature. The firm makes investments, directly and indirectly through funds that the firm manages, in debt securities and loans, public and private equity securities, real estate, consolidated investment entities and power generation facilities.

*Investment Management*

The firm provides investment management services and offers investment products (primarily through separately managed accounts and commingled vehicles, such as mutual funds and private investment funds) across all major asset classes to a diverse set of institutional and individual clients. The firm also offers wealth advisory services, including portfolio management and financial counseling, and brokerage and other transaction services to high-net-worth individuals and families.

In calculating our stressed revenue projections for our business segments, we utilize multiple approaches, including: regression analyses, models that project our fee-based revenue streams, repricing calculations applied to our inventory based on the assumed macroeconomic variables and asset values of the severely adverse scenario and management judgment. While we use our historical performance to project certain revenue streams, we also incorporate the impact of broader industry performance during historical stressed periods to help guide management judgment regarding our future performance in the assumed stressed operating environment.

Additionally, we incorporate an impact to our franchise revenues resulting from the assumed firm-specific reputational event discussed above. The inclusion of a reputational event in our severely adverse scenario projections inherently incorporates some level of management judgment, specifically regarding the ways in which the reputational event impacts our projected results. When assessing the impact of the reputational event on our results, we leverage multiple approaches including assumed reductions in trading revenues, market share and investing opportunities.

We also use our judgment to reassess revenue projections to ensure reasonableness given assumed compensation levels and the associated impact on voluntary staff attrition over the planning horizon.

*Expenses:*

We project operating expenses over the planning horizon using similar approaches as those employed for our revenue projections. Operating expense projections are primarily influenced by compensation, headcount and levels of business activity.

Compensation and benefits includes salaries, discretionary compensation, amortization of equity awards and other items such as benefits. Discretionary compensation is significantly impacted by, among other factors, the level of net revenues and overall financial performance.

Non-compensation expenses include certain expenses that vary with levels of business activity. Such expenses include brokerage, clearing, exchange and distribution fees. Non-compensation expenses also include expenses that relate to our global footprint and overall headcount levels and are more difficult to reduce in the short-term in response to changes in business activity. Such expenses include occupancy, depreciation and amortization, as well as communication and technology costs.

In addition, non-compensation expenses incorporate operational risk losses, including legal reserves (and corresponding legal fees), business disruption costs, mortgage repurchase estimates, external / internal fraud costs, execution / processing errors, damage to physical assets as well as any projected impairments.

All assumptions and approaches are consistent with the assumed macroeconomic variables and asset values of the severely adverse scenario.

Provisions and Loan Losses:

The firm's severely adverse scenario forms the basis for projecting changes in provisions and loan losses in our accrual loan portfolio. The losses are projected to occur over the planning horizon using a comprehensive, model-based approach. The model projects losses based on projected exposure at default, loss given default, probability of default, and ratings migration for loans in the accrual portfolio.

Trading and Counterparty Losses:

Trading and counterparty losses include mark-to-market losses, IDR losses on positions held at fair value and changes in CVA as a result of the global market shock, and credit IDR losses for the remainder of the planning horizon.  We use the firm's stress testing and risk management infrastructure to calculate the impact of applying the shocks. Certain positions are subject to price shocks where a percentage haircut is applied against the fair value.

Other Losses:

Other losses primarily reflect the projected change in the fair value of loans and loan commitments accounted for under the fair value option, net of existing hedges.  Such loans and loan commitments are subject to the firm's global market shock.

Balance Sheet:

Balance sheet projections are based on the global market shock and macroeconomic environment and incorporate input from businesses on growth assumptions and planned activity, changes to carrying values as a result of mark-to-market, as well as judgment as to how the firm would manage its balance sheet, funding and liquidity during periods of stress.

Capital and Risk-Weighted Assets:

Capital projections incorporate projected earnings over the planning horizon and the impact of Q2 2013 actual capital actions and DFAST capital actions for Q3 2013 through Q2 2015.  Projected risk-weighted assets incorporate estimates that reflect how risk-weighted assets change with the macroeconomic environment and with movements in our balance sheet.