

# 2014 Mid-Cycle Stress Test Disclosure

## Citi Severely Adverse Scenario

September 15, 2014



# 2014 Mid-Cycle Stress Test

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## Overview

- Under the stress testing requirements of the Dodd-Frank Wall Street Reform and Consumer Protection Act, as implemented by the Federal Reserve Board (FRB), Citi is required to conduct a company-run Mid-Cycle Stress Test (MCST).
- As required by the FRB, the 2014 MCST is conducted using data as of March 31, 2014 and is based on Citi-developed scenarios only.
- Results include estimated pro forma capital ratios based on:
  - Basel I, inclusive of the adoption of the final US Basel II.5 market risk capital rules effective January 1, 2013 (Basel II.5); and
  - Basel III Standardized Approaches as applied on a transitional basis.
- Citi is required to publicly disclose a summary of projected results under the hypothetical Citi Severely Adverse Scenario. In addition to the Citi Severely Adverse Scenario, Citi was required to develop Baseline and Adverse scenarios in performing its MCST.
- Citi's results under each of the required scenarios were submitted to the FRB in July 2014.

*Citi's projections under the Citi Severely Adverse Scenario, as disclosed in this document or otherwise, should not be viewed as forecasts of expected or likely outcomes for Citi. Rather, these projections are based solely on Citi's hypothetical Citi Severely Adverse Scenario (see slide 4) and other specific conditions required to be assumed by Citi. These assumptions include, among others, the "Dodd-Frank Capital Actions" (see slide 15), as well as modeling assumptions necessary to project and assess the impact of the Citi Severely Adverse Scenario on the results of operations and capital position of Citi.*

# Citi's Mid-Cycle Stress Test Scenarios

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## Scenario Design

- Citi's scenarios were designed in accordance with regulatory guidance which require that the Adverse and Severely Adverse scenarios reflect Citi's unique vulnerabilities to factors that stress its business model, strategy, firm-wide activities and risk exposures, including macroeconomic, market-wide and firm-specific events.
  - Citi identified events which would have a significant impact to its risk profile, with input from stakeholders throughout the firm.
  - Citi used these events with historical data and observed relationships between variables to create a global macroeconomic forecast which was then applied to each of the firm's business units in markets where the firm has a significant presence.
  - Citi assumed relationships between key variables in the MCST scenarios would maintain relationships observed in historical stressed environments and validated its loss forecasting models to assess the reasonability of these assumptions.

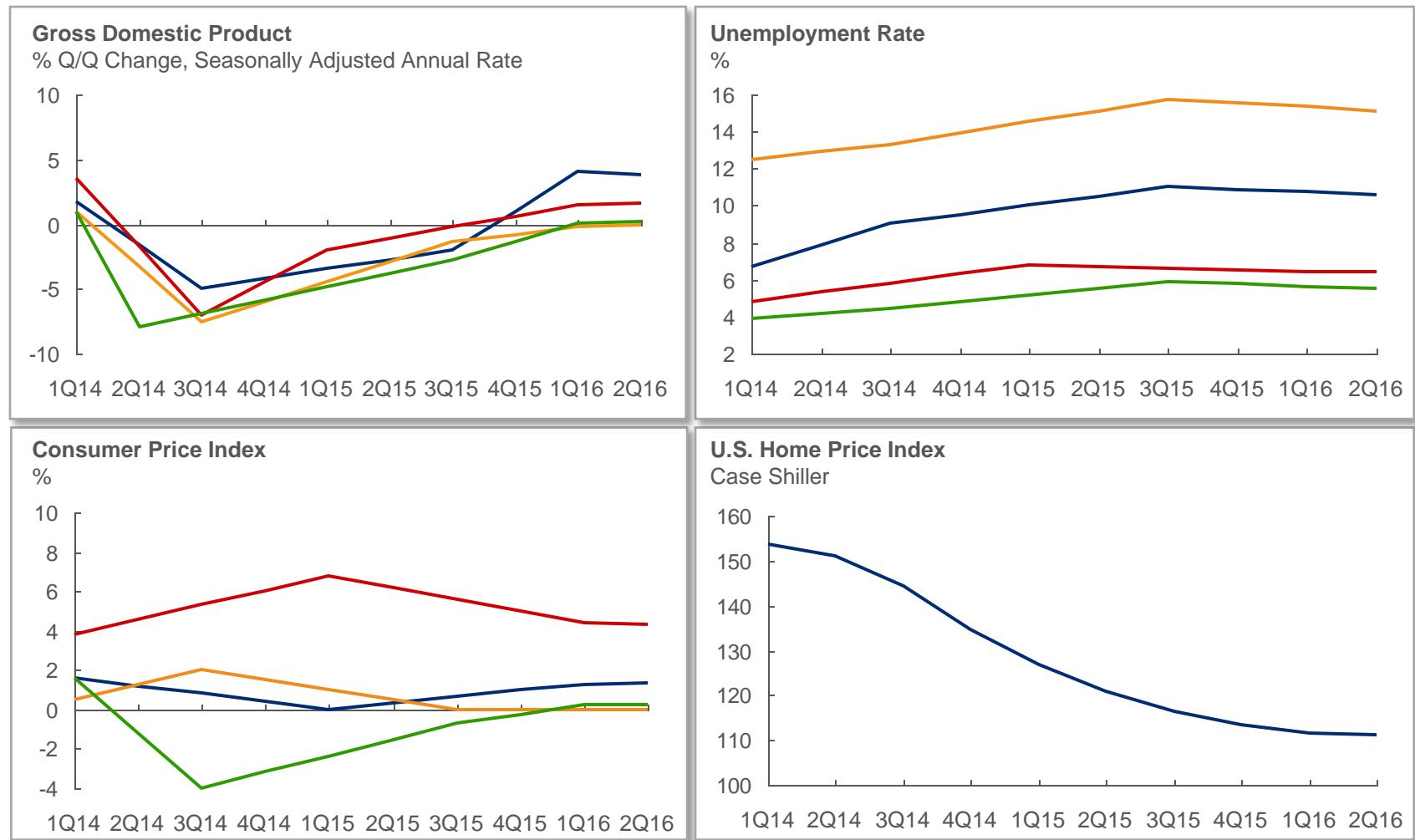
# Citi's MCST Severely Adverse Scenario

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## Scenario Description

- The Citi Severely Adverse Scenario reflects a hypothetical severe global recession along with an economic crisis in Asia and heightened tensions in an energy-exporting country.
- A significant contraction in Asian GDP drives a severe economic crisis across emerging markets as evidenced by:
  - Large-scale capital outflows and sharp devaluation of emerging market currencies as investor confidence is shaken.
  - Certain Asian counterparties defaulting on their obligations; weaker housing markets across Asia.
  - Interest rates falling and remaining low in the developed markets.
  - Unemployment rising and the commodity-dependent economies scaling back to adjust for falling prices.
- Heightened political tensions lead to significant retaliatory sanctions being applied to certain energy-exporting countries. This leads to:
  - Large devaluations of certain currencies.
  - Exacerbated pressures on certain energy-exporting economies and significant deposit outflows.
  - Severe recession in Europe brought on by the decline in trade and impact of sanctions resulting in higher unemployment.
  - Certain counterparties withdrawing their deposits from western banks.
- In the midst of these events, Citi experiences an unrelated but severe hypothetical operational loss related to payment systems and clearing.

# MCST Severely Adverse Scenario: Key Variables



These conditions present the key variables included in the Severely Adverse Scenario for countries or regions where Citi has a significant presence.

# Pro Forma Projections

The tables below summarize Citi's pro forma estimated results under the Citi Severely Adverse Scenario using Dodd-Frank Capital Actions<sup>(1)</sup>:

## Projected Capital Ratios through Q2 2016 under the Citi Severely Adverse Scenario (Dodd-Frank Capital Actions)

	Actual	Stressed Capital Ratios		
	Q1 2014	Q2 2016	Minimum <sup>1</sup>	Min. Quarter
Basel I Hybrid Tier 1 Common Ratio (%)	13.0%	8.4%	8.4%	Q2 2016
Common Equity Tier 1 Capital Ratio (%)	14.6%	8.6%	8.6%	Q2 2016
Tier 1 Risk-Based Capital Ratio (%)	14.6%	8.6%	8.6%	Q2 2016
Total Risk-based Capital Ratio (%)	17.3%	10.9%	10.9%	Q2 2016
Tier 1 Leverage Ratio (%)	8.9%	5.3%	5.3%	Q1 2016

<sup>1</sup> Minimum ratio shows the lowest quarter-end ratio over the 9-quarter horizon. The minimum for each ratio may not occur in the same period.

## Projected Loan Losses by Type of Loans for Q2 2014 through Q2 2016 under the Citi Severely Adverse Scenario

	Billions of Dollars	Portfolio Loss Rates (%)
Loan Losses	41.7	7.2%
First Lien Mortgages, Domestic	3.4	3.9%
Junior Liens and HELOCs, Domestic	2.8	10.5%
Commercial & Industrial	5.9	4.4%
Commercial Real Estate, Domestic	0.2	2.7%
Credit Cards	21.2	16.5%
Other Consumer	4.9	14.0%
Other Loans	3.3	2.1%

(1) Please see slide 15.

These projections represent hypothetical estimates based on Citi's Severely Adverse Scenario with Dodd-Frank Capital Actions. These estimates are not forecasts of Citi's expected pre-provision net revenues, losses, net income before taxes, planned capital actions, or pro forma capital ratios.

## Actual Q1 2014 and Projected Q2 2016 Risk-weighted Assets under the Citi Severely Adverse Scenario

	Actual Q1 2013	Projected Q2 2016	
		Current General Approach	Basel III Standardized Approach
Risk-weighted Assets <sup>1</sup> (billions of dollars)	1,108.0	991.0	1,054.1

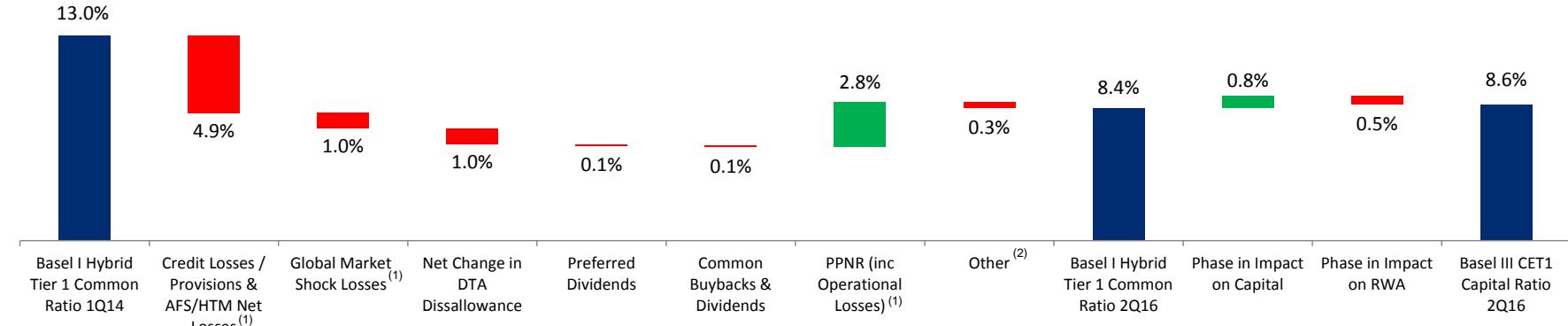
## Projected Losses, Revenue, and Net Income Before Taxes through Q2 2016 under the Citi Severely Adverse Scenario (Dodd-Frank Capital Actions)

	Billions of Dollars	Percent of Average Assets
Pre-Provision Net Revenue	31.0	1.7%
Other Revenue	-	
Less		
Provisions	51.2	
Loan Losses	41.7	
Net Reserve Builds/(Releases)	9.5	
Realized (Gains)/Losses on Securities (AFS/HTM)	2.5	
Trading and Counterparty Losses	10.7	
Other Losses/Gains	5.5	
Equals		
Net Income Before Taxes	(38.9)	-2.2%
<b>Memo Items</b>		
Other comprehensive income	(10.7)	
Other effects on capital	Q1 2014	Q2 2016
AOCI included in capital (billions of dollars)	(13.8)	(26.1)

# Key Drivers of Pro Forma Regulatory Capital Ratios

(1Q14-2Q16; Citi Severely Adverse Scenario with Dodd-Frank Capital Actions)

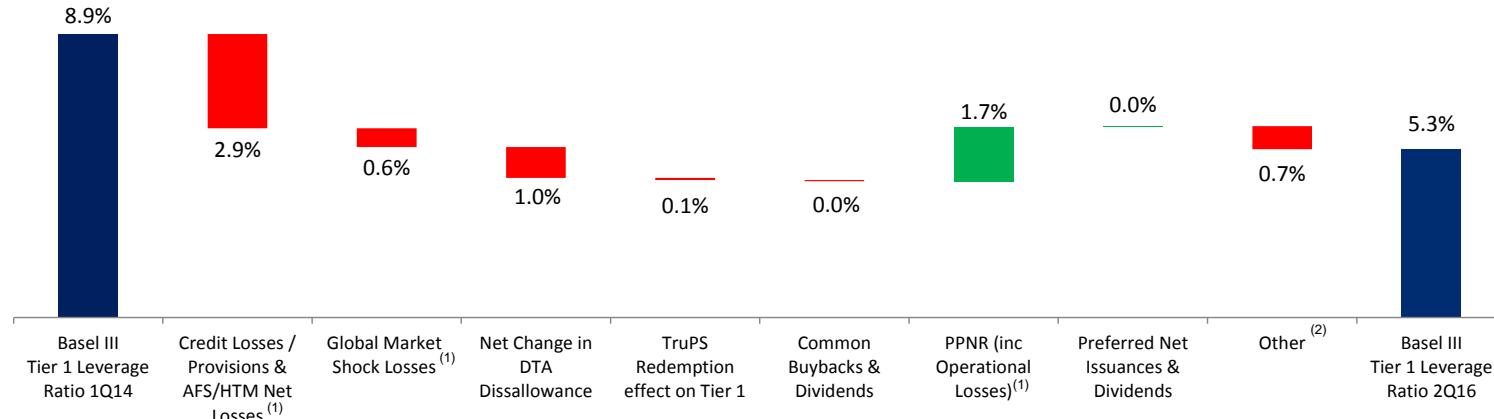
## Basel I Hybrid Tier 1 Common Ratio / Basel III Common Equity Tier 1 Capital Ratio



(1) Reflects pre-tax impact.

(2) Other includes impacts due to (i) net change in risk-weighted assets, (ii) losses from total loans held-for-sale and loans accounted for under the fair value option, (iii) goodwill & intangibles amortization, (iv) issuance of employee stock compensation, (v) FAS 52 OCI, (vi) accrued taxes, and (vii) other income statement and balance sheet items.

## Tier 1 Leverage Ratio



(1) Reflects pre-tax impact.

(2) Other includes impacts due to (i) losses from total loans held-for-sale and loans accounted for under the fair value option, (ii) goodwill & intangibles amortization, (iii) issuance of employee stock compensation, (iv) FAS 52 OCI, (v) accrued taxes, and (vi) other income statement and balance sheet items.

These projections represent hypothetical estimates based on Citi's Severely Adverse Scenario with Dodd-Frank Capital Actions. These estimates are not forecasts of Citi's expected pro forma capital ratios.

# Risk Types & Methodologies



# Risks Included in 2014 Mid-Cycle Stress Test

Risk Type	Description	Components	Examples
Credit Risk	Credit risk is the potential for financial loss resulting from the failure of a borrower to honor its financial or contractual obligations.	<ul style="list-style-type: none"> <li>Provision for Loan and Lease Losses</li> <li>Counterparty Losses and Counterparty Default Scenario</li> <li>Realized Gains / Losses on Securities</li> <li>Risk-Weighted Assets</li> </ul>	<ul style="list-style-type: none"> <li>Loan losses and allowance builds/releases</li> <li>Credit exposure to counterparties through capital markets transactions</li> <li>Credit-related other-than-temporary impairment for investment securities</li> <li>Credit Risk RWA (as described on page 14)</li> </ul>
Market Risk	Market risk arises from fluctuations in the market value of positions, resulting from changes in market factors.	<ul style="list-style-type: none"> <li>Pre-Provision Net Revenue</li> <li>Trading and Counterparty Losses</li> <li>Other Losses</li> <li>Risk-Weighted Assets</li> </ul>	<ul style="list-style-type: none"> <li>Impact of market prices and interest rates on components of revenues and expenses across all business segments</li> <li>Funding pressure from loss of deposits assumed in the scenario</li> <li>Instantaneous revaluation of trading, private equity, and fair value exposures as well as incremental default risk (IDR) and credit valuation adjustment (CVA) losses</li> <li>Quarterly revaluation of loans held-for-sale or under a fair value option</li> <li>Market Risk RWA (as described on page 14)</li> </ul>
Operational Risk	Operational Risk is the risk of loss resulting from inadequate or failed internal processes, systems, or human factors, or from external events including litigation, reputation, and franchise risks.	<ul style="list-style-type: none"> <li>Pre-Provision Net Revenue</li> </ul>	<ul style="list-style-type: none"> <li>Operational risk expenses including litigation expenses, fraud charges, etc.</li> <li>Mortgage repurchase forecast</li> </ul>

- The following pages provide details for each forecast component, segmented by key modeling units (Business, Product, etc.) where applicable.

# Pre-Provision Net Revenue

- Pre-provision net revenue (PPNR) is defined as net interest income plus non-interest income less non-interest expense, which includes policyholder benefits and claims and operational risk expenses.
- PPNR is projected using models for each major business unit as shown below.
- Relies on historical relationships between loan/deposit balances, revenues, expenses, and relevant macroeconomic variables, adjusted by business management as appropriate.

Major Business Units	Global Consumer Bank (GCB)	Institutional Clients Group (ICG)	Corporate / Other	Citi Holdings
Component Business Units	<ul style="list-style-type: none"> <li>North America Retail Bank</li> <li>North America Cards</li> <li>North America Mortgage</li> <li>Asia GCB</li> <li>Latin America GCB</li> <li>Europe, Middle East, Africa GCB</li> </ul>	<ul style="list-style-type: none"> <li>Global Markets and Securities Services</li> <li>Global Banking</li> </ul>	<ul style="list-style-type: none"> <li>Treasury</li> <li>Operations &amp; Technology</li> <li>Global Functions</li> <li>Other</li> </ul>	<ul style="list-style-type: none"> <li>Non-core businesses and portfolios</li> </ul>
Key Modeling Inputs	<ul style="list-style-type: none"> <li>GDP</li> <li>Inflation</li> <li>Unemployment rate</li> <li>Housing prices</li> <li>Interest rates</li> <li>Foreign exchange (FX) rates</li> </ul>	<ul style="list-style-type: none"> <li>GDP</li> <li>Market indices</li> <li>Housing prices</li> <li>Unemployment</li> <li>Interest rates</li> <li>FX rates</li> </ul>	<ul style="list-style-type: none"> <li>Non-regression models</li> </ul>	<ul style="list-style-type: none"> <li>Run-off models</li> </ul>
Business Activities	<ul style="list-style-type: none"> <li>Retail, small business and commercial loans and deposits</li> <li>Mortgages</li> <li>Credit cards</li> </ul>	<ul style="list-style-type: none"> <li>Corporate loans and deposits</li> <li>Trading</li> <li>Investment banking</li> <li>Private banking</li> <li>Trade finance</li> <li>Corporate credit cards</li> <li>Transaction processing</li> <li>Asset management</li> <li>Issuer and investment services</li> </ul>	<ul style="list-style-type: none"> <li>Non-customer facing cost centers</li> </ul>	<ul style="list-style-type: none"> <li>Non-core assets</li> </ul>

# Provisions for Loan and Lease Losses

- Loan losses are projected using product-specific models utilizing historical and expected relationships between credit performance and relevant macroeconomic variables.

Major Loan Products	Domestic Mortgages	Commercial & Industrial and Commercial Real Estate	Credit Cards	Other Consumer	Other Loans
<b>Loan Types</b>	<ul style="list-style-type: none"> <li>• Includes first and junior liens; closed-end and revolving</li> </ul>	<ul style="list-style-type: none"> <li>• Includes Commercial &amp; Industrial loans to obligors globally and domestic Commercial Real Estate loans</li> </ul>	<ul style="list-style-type: none"> <li>• Includes bank and charge cards both domestically and internationally</li> </ul>	<ul style="list-style-type: none"> <li>• Includes global personal loans, student loans, auto loans, and other consumer loans</li> </ul>	<ul style="list-style-type: none"> <li>• Includes international real estate loans and a variety of non-retail loans</li> </ul>
<b>Key Modeling Inputs</b>	<ul style="list-style-type: none"> <li>• Home Price Index (HPI)</li> <li>• Interest rates</li> <li>• Unemployment rate</li> </ul>	<ul style="list-style-type: none"> <li>• Obligor and facility risk characteristics</li> <li>• Local GDP</li> <li>• Sensitivity to global trade flows</li> </ul>	<ul style="list-style-type: none"> <li>• Vintage</li> <li>• Credit score</li> <li>• Unemployment rate</li> </ul>	<ul style="list-style-type: none"> <li>Driven by a variety of variables depending on product type and geography</li> </ul>	<ul style="list-style-type: none"> <li>• Local GDP</li> <li>• HPI</li> <li>• Interest rates</li> <li>• Unemployment rate</li> </ul>
<b>Business Activities</b>	<ul style="list-style-type: none"> <li>• Domestic residential real estate portfolios, primarily North America Mortgage in GCB, the Private Bank, and Citi Holdings</li> </ul>	<ul style="list-style-type: none"> <li>• Corporate and commercial loan and commercial real estate exposures in ICG, GCB, and Citi Holdings</li> </ul>	<ul style="list-style-type: none"> <li>• Consumer and corporate credit card lending globally</li> <li>• Primarily North America Cards (Citi Branded and Retail Services segments)</li> </ul>	<ul style="list-style-type: none"> <li>• Includes portions of Citi Holdings as well as personal loans in Latin America, Europe, Middle East and Africa, and Asia GCBs</li> </ul>	<ul style="list-style-type: none"> <li>• International residential real estate in GCB</li> <li>• International commercial real estate and other loans in ICG, GCB, and Citi Holdings</li> </ul>

# Trading and Counterparty Losses

- Trading and counterparty losses represent losses on Citi's trading portfolios, CVA, and other mark-to-market assets, inclusive of default losses.
- Consistent with FRB instructions, instantaneous market losses are reported in the first quarter of the projection period (2Q14) with no associated reduction of risk-weighted assets, GAAP assets, or compensation expenses as a result of these market losses.

Trading / Counterparty Activities	Trading Book	Counterparty Credit Risk (CCR)	Incremental Default Risk (IDR)
<b>Risk Types</b>	<ul style="list-style-type: none"> <li>• Equity, FX, interest rates, commodities, securitized products, traded credit, private equity, CVA hedges, other fair value assets</li> </ul>	<ul style="list-style-type: none"> <li>• Mark-to-market counterparty CVA for over-the-counter (OTC) derivative counterparties</li> <li>• Net credit exposure to securities financing transaction (SFT) counterparties</li> </ul>	<ul style="list-style-type: none"> <li>• Trading IDR from securitized products and other credit sensitive instruments</li> </ul>
<b>Key Modeling Inputs</b>	<ul style="list-style-type: none"> <li>• Equity spot and volatility</li> <li>• FX spot and volatility</li> <li>• Directional and basis rate risks</li> <li>• Interest rate volatility</li> <li>• Commodity spot and volatility</li> <li>• Agency and municipal spreads</li> <li>• Residential mortgage-backed securities, asset-backed securities, commercial mortgage-backed securities prices</li> <li>• Corporate and sovereign credit spreads for bonds and credit default swaps</li> <li>• Private equity carry values</li> </ul>	<ul style="list-style-type: none"> <li>• Equity spot and volatility</li> <li>• FX spot and volatility</li> <li>• Directional and basis rate risks</li> <li>• Interest rate volatility</li> <li>• Commodity spot and volatility</li> <li>• Agency and municipal spreads</li> <li>• Residential mortgage-backed securities, asset-backed securities, commercial mortgage-backed securities prices</li> <li>• Corporate and sovereign credit spreads for bonds and credit default swaps</li> </ul>	<ul style="list-style-type: none"> <li>• Probability of default and loss given default under stressed scenario</li> <li>• Jump-to-default exposure and risk rating by issuer</li> <li>• Bond, credit default swap, and equity losses under stressed scenario</li> </ul>
<b>Business Units</b>	<ul style="list-style-type: none"> <li>• ICG</li> <li>• Citi Holdings</li> </ul>	<ul style="list-style-type: none"> <li>• ICG</li> <li>• GCB</li> <li>• Corporate Treasury</li> <li>• Citi Holdings</li> </ul>	<ul style="list-style-type: none"> <li>• ICG</li> <li>• Citi Holdings</li> </ul>

# Realized Gains/Losses on Securities and Other Losses

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## Realized Gains/Losses on Available-for-Sale (AFS) and Held-to-Maturity (HTM) Securities

- Citi holds AFS and HTM securities in its Corporate Treasury portfolio as well as in other individual businesses.
- The inherent credit risk for most AFS and HTM securities is forecasted using product-specific cash flow models and tools which utilize a variety of macroeconomic factors (unemployment, GDP, HPI, etc.) depending on the security characteristics (including but not limited to country, collateral, and seniority).
- Citi leverages internal subject matter specialists to determine product-specific parameters and methodologies.
- Loss estimates for the AFS and HTM portfolios are recognized in accordance with Citi's established accounting methodology.

## Other Comprehensive Income (OCI)

- OCI impacts primarily reflect changes to unhedged foreign currency book capital (FAS 52), OCI from cash flow hedges (FAS 133), OCI from AFS securities (FAS 115), and OCI associated with Citi's pension plans (FAS 158).
- The primary drivers for these categories are interest rates, credit spreads, actual plan returns versus expected returns, and foreign currency exchange rates.

## Other Losses/Gains

- Primarily reflects losses on loans which are held-for-sale or under a fair value option in Global Banking, Markets and Securities Services, and Citi Holdings
  - Wholesale held-for-sale and fair value option loans are stressed using quarterly credit spreads to estimate a change in their fair value. Wholesale fair value option loan hedges are subjected to the same methodology, in line with regulatory guidance.
  - Retail held-for-sale loans are generally assumed to be sold, at a determined price, prior to sufficient deterioration in the macroeconomic environment.
- Also reflects potential goodwill impairment under the hypothetical scenario.

# Risk-Weighted Assets (RWA)

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Pursuant to FRB instructions, Citi was required to project its stressed risk-based capital ratios using a combination of Basel I Hybrid and Basel III Standardized Approach RWA, depending on the projection period. Citi was not required to project stressed RWA under the Basel III Advanced Approaches.

## Market Risk RWA

- Market Risk RWA was projected based on formula-driven components (Securitization Charges, Non-Modeled Securitizations, Standard Specific Market Risk, De-Minimis Risk Charges) and model-driven components (VaR, Stressed VaR, Incremental Risk Capital, Comprehensive Risk Measure).
- Formula-driven components (e.g. securitization exposures) were stressed using projections of balance sheet exposures and delinquencies of underlying collateral.
- For formula-driven components, the level of market risk exposures and risk characteristics of exposures was based on current positions (last quarter actuals) subject to various replenishment assumptions which were reflective of the estimated turnover of the portfolio.
- Model-driven components leveraged the forward-looking market variables forecasted as part of the hypothetical scenarios.
- For model-driven components and the Comprehensive Risk Measure floor, the level of market risk exposures and risk characteristics of exposures was based on current positions (last quarter actuals) and were assumed to be unchanged over the projection horizon.

## Credit Risk RWA

- Credit Risk RWA was projected by applying data from Citi's quarterly RWA calculation and reporting processes to projected changes in stressed GAAP balances.
- Credit Risk RWA was projected under Basel I and Basel III using methodologies under the Standardized Approach of the final Basel III rules, in line with regulatory guidance.

# Capital

In addition to the inclusion of estimated stress losses and PPNR, Citi's capital position is impacted by the following items:

## Dodd-Frank Capital Actions

- As required by FRB rules, Dodd-Frank Capital Actions were included in Citi's stressed risk-based capital ratios through the 9-quarter forecast horizon in the following aggregate amounts:

Dodd-Frank Capital Actions for Citigroup		
<u>Sources of Capital</u>	<u>Uses of Capital</u>	
- 2Q14 Preferred Stock Issuance: \$1.8B	- Common and Preferred Dividends: \$1.5B	
- 2Q14 Subordinated Debt Issuance: \$1.0B	- 2Q14 Common Stock Buybacks: \$0.5B	
	- Ordinary payments on TruPS and Subordinated Debt: \$2.3B	
	- 2Q14 TruPS Repurchases: \$2.1B	
	- 2Q14 Subordinated Debt Repurchases: \$0.6B	

## Implementation of Basel III Final Rules

- Transitional Capital Phase-in & Phase-out**
  - Certain TruPS phase-out from Tier 1 Capital and certain subordinated debt phase-out from Tier 2 Capital.
  - Deferred Tax Assets and certain intangible assets are disallowed at an increasing rate.
  - FAS115/158 Accumulated Other Comprehensive Income (AOCI) neutralization phase-out at an increasing rate.

## Deferred Tax Asset (DTA) Position

- Citi's current DTA position means that future DTA accrual resulting from projected stress losses is limited; therefore, a portion of pre-tax stress losses results in a direct dollar-for-dollar reduction to net income.
- In the transitional capital calculations, only a portion of the tax benefits realized in the stress scenarios flow through to capital. These benefits will be excluded when DTA and other capital deductions are fully phased-in.

## Other Items Impacting Capital Position

- Movements in AOCI impacts Citi's capital position, subject to the AOCI neutralization phase-out noted above.
- Annual common stock awards from incentive compensation programs increase common equity, offset by compensation expense over the corresponding vesting period.

