

2016 DFAST Mid-Cycle Stress Test Disclosure

Citi Severely Adverse Scenario

October 27, 2016



2016 Mid-Cycle Stress Test

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 2016 MCST is conducted using data as of June 30, 2016 and is based on Citi-developed scenarios only.
- Results include estimated pro forma capital ratios based on:
 - General risk-based capital rules, reflective of Basel I credit risk rules and the final (revised) market risk capital rules (Basel II.5); and
 - Basel III Standardized Approach as applied on a transitional basis.
- Citi is required to publicly disclose a summary of projected results under the hypothetical Citi Severely Adverse Scenario (see pages 3-5). In addition to the Citi Severely Adverse Scenario, Citi was required to develop Baseline and Adverse scenarios in performing its 2016 MCST.
- Citi's results under each of the required scenarios were submitted to the FRB in October 2016.

Citi's projections under the Citi Severely Adverse Scenario, as disclosed in this document or otherwise, should not be viewed or interpreted as forecasts of expected or likely outcomes for Citi. Rather, these projections are based solely on Citi's hypothetical Citi Severely Adverse Scenario and other specific conditions required to be assumed by Citi. These assumptions include, among others, the "Dodd-Frank Capital Actions" (see page 17), 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.

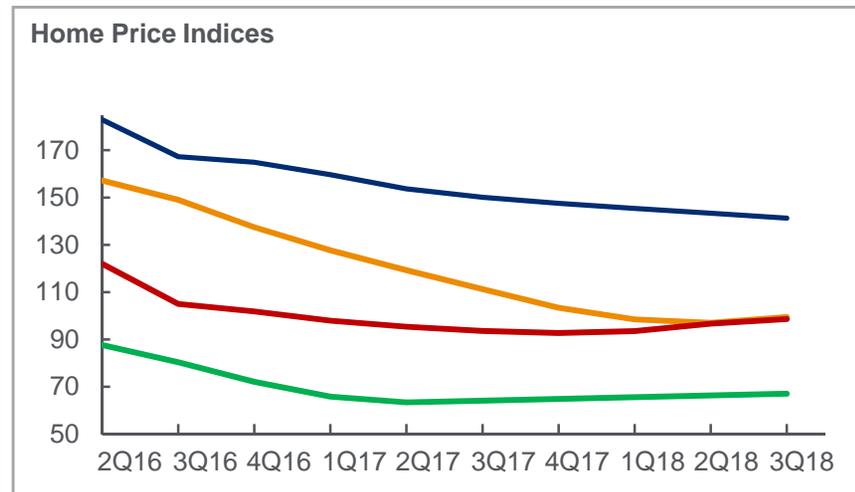
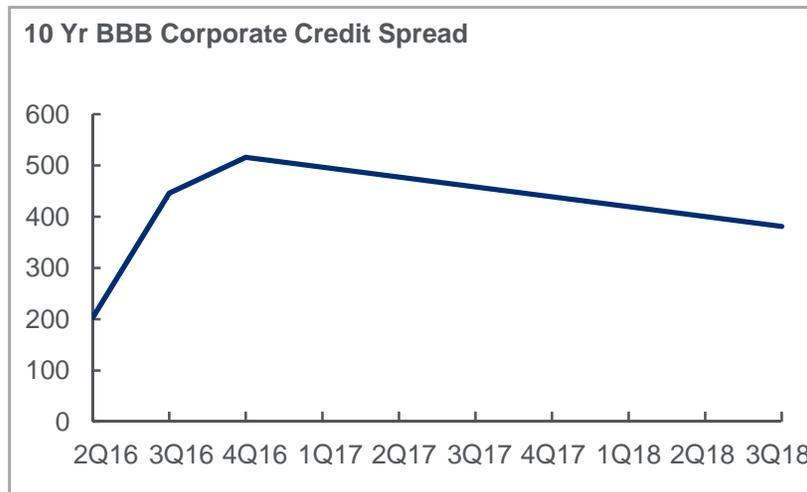
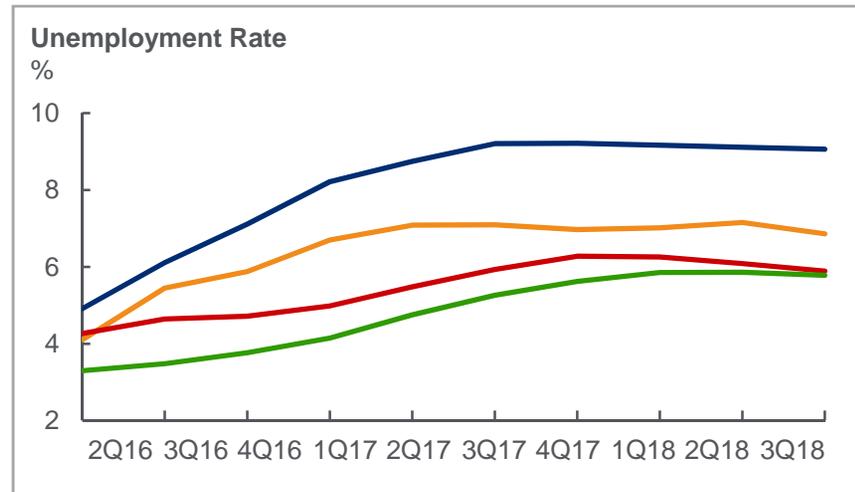
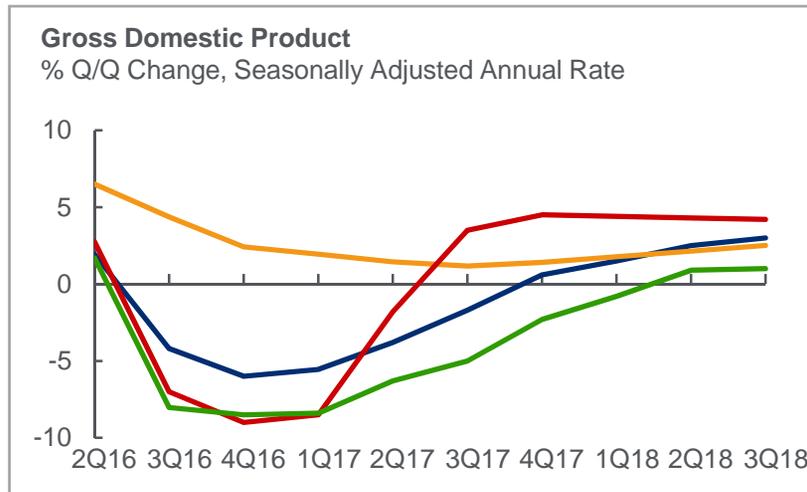
Citi's Mid-Cycle Stress Test Scenarios

- Citi's scenarios, including the Citi Severely Adverse Scenario, were designed in accordance with regulatory guidance which require that the Citi-developed 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 business and control function leaders.
 - 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.

MCST Citi Severely Adverse Scenario Description

- For the 2016 MCST, the Citi Severely Adverse Scenario reflects a hypothetical collapse in emerging market economies exacerbated by economic stress in China.
- As geopolitical risks intensify this leads to global disruption in trade and production patterns.
 - Weaker Chinese demand in turn leads to a decline in global commodity prices triggering significant pressure across emerging markets.
 - Mexico experiences a sharp recession, with GDP contracting, unemployment rising, and the peso weakening significantly.
- In an atmosphere of heightened geopolitical tensions, western corporations and financial institutions experience targeted cyber-attacks, which disrupt business activity and depress consumer and investor sentiment.
- The resulting global economic downturn leads to global risk aversion which prompts equity declines, credit spread widening and an emerging market currency sell off.
- Investor and consumer sentiment plummet, exacerbating the direct impact of overseas developments and leading to a severe recession in the United States. This leads to a prolonged rise in unemployment and decline in housing prices in developed countries, far below pre-recession levels.
- As the global recession worsens, monetary policy in developed countries becomes more accommodative, interest rates fall sharply and the yield curve flattens.

MCST Citi Severely Adverse Scenario: Key Variables



These conditions present key variables included in the Citi Severely Adverse Scenario for certain countries important to Citi's global footprint.

The Citi Severely Adverse Scenario should not be viewed or interpreted as an expected forecast, but rather a hypothetical scenario with assumed economic and financial conditions designed to reflect Citi's unique vulnerabilities to factors that affect its firm-wide activities and risk exposures, as required by FRB instructions.

Pro Forma Projections

The tables below summarize Citi's pro forma estimated results under the Citi Severely Adverse Scenario using Dodd-Frank Capital Actions*:

Projected Stressed Capital Ratios through Q3 2018	Actual	Stressed Capital Ratios	
	Q2 2016	Q3 2018	Minimum ¹
Common Equity Tier 1 Capital Ratio (%)	14.9	9.2	9.1
Tier 1 Risk-Based Capital Ratio (%)	15.7	10.8	10.8
Total Risk-based Capital Ratio (%)	19.0	14.2	14.2
Tier 1 Leverage Ratio (%)	10.3	7.3	7.3

1. Minimum reflects the lowest value for each ratio over the 9 quarter forecast horizon and the minimum value for all ratios may not occur in the same quarter.

Projected Cumulative Losses, Revenue, and Net Income Before Taxes through Q3 2018	9Q Total	Percent of Average Assets
	\$ in billions	
Pre-Provision Net Revenue	26.5	1.6%
Other Revenue	-	
<i>Less</i>		
Provisions	40.0	
<i>Loan Losses</i>	33.6	
<i>Net Reserve Builds/(Releases)</i>	6.4	
Realized Losses on Securities (AFS/HTM)	1.4	
Trading and Counterparty Losses	12.4	
Other Losses	2.8	
<i>Equals</i>		
Net Income/(Loss) Before Taxes	(30.1)	-1.8%
Memo Items		
Other comprehensive income	(9.2)	
<i>Other effects on capital</i>	Q2 2016	Q3 2018
AOCI included in capital (billions of dollars)	(24.7)	(35.3)

Actual Q2 2016 and Projected Q3 2018 Risk-weighted Assets \$ in billions	Actual	Stressed Risk Weighted Assets
	Q2 2016	Q3 2018
Basel III Risk-Weighted Assets	1,154.2	1,108.8

Projected Cumulative 9Q Loan Losses, by Type of Loan, through Q3 2018	9Q Total	Portfolio Loss Rates (%)
	\$ in billions	
Loan Losses	33.6	5.7%
First Lien Mortgages, Domestic	0.6	0.8%
Junior Liens and HELOCs, Domestic	1.4	8.1%
Commercial & Industrial	5.7	3.6%
Commercial Real Estate, Domestic	0.4	2.8%
Credit Cards	19.8	14.4%
Other Consumer	3.5	14.3%
Other Loans	2.2	1.3%

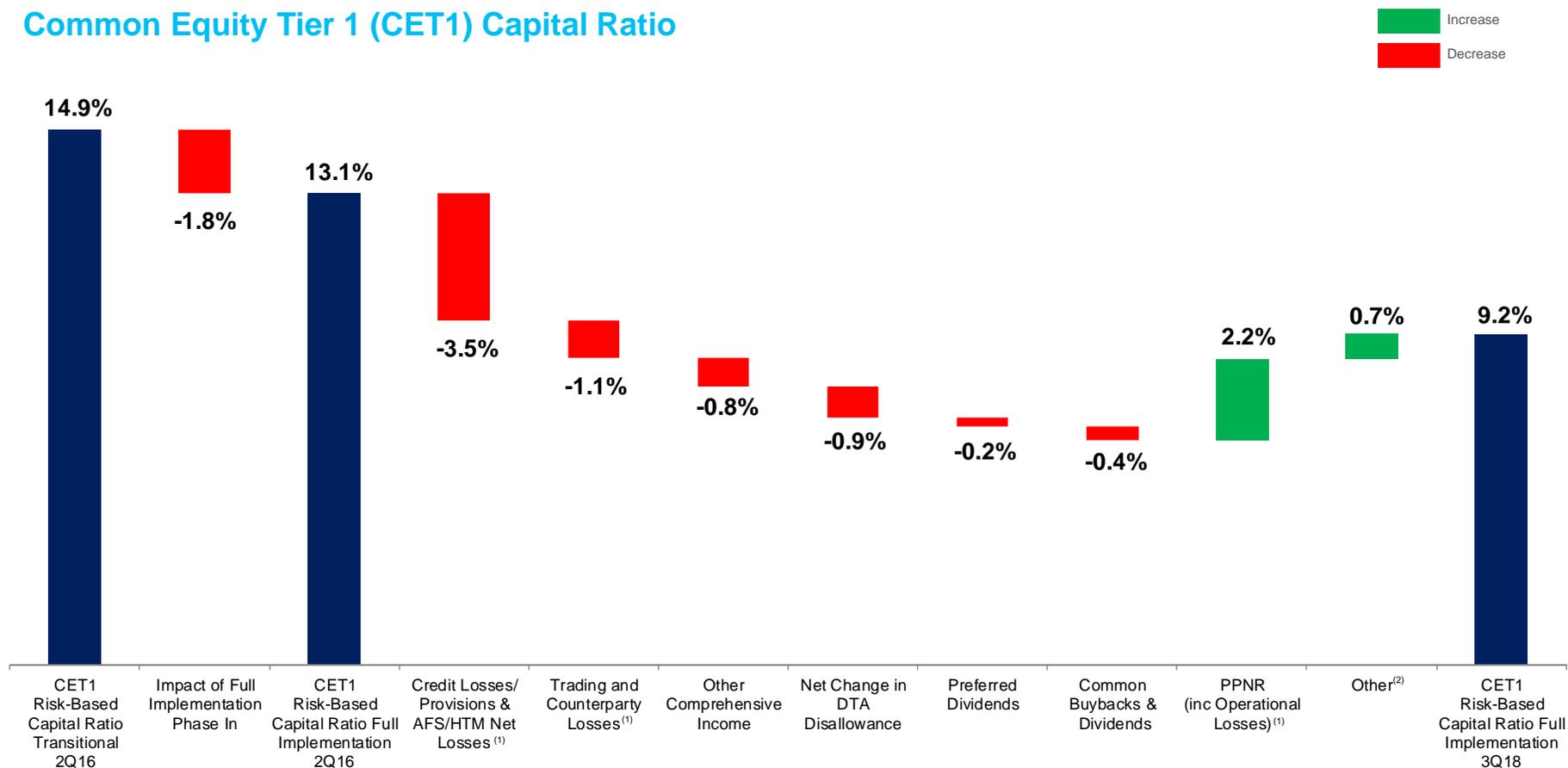
* See page 17

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, risk-weighted assets, or pro forma capital ratios.

Key Drivers of Common Equity Tier 1 Capital Ratio

(2Q16-3Q18; Citi Severely Adverse Scenario with Dodd-Frank Capital Actions)

Common Equity Tier 1 (CET1) Capital Ratio



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

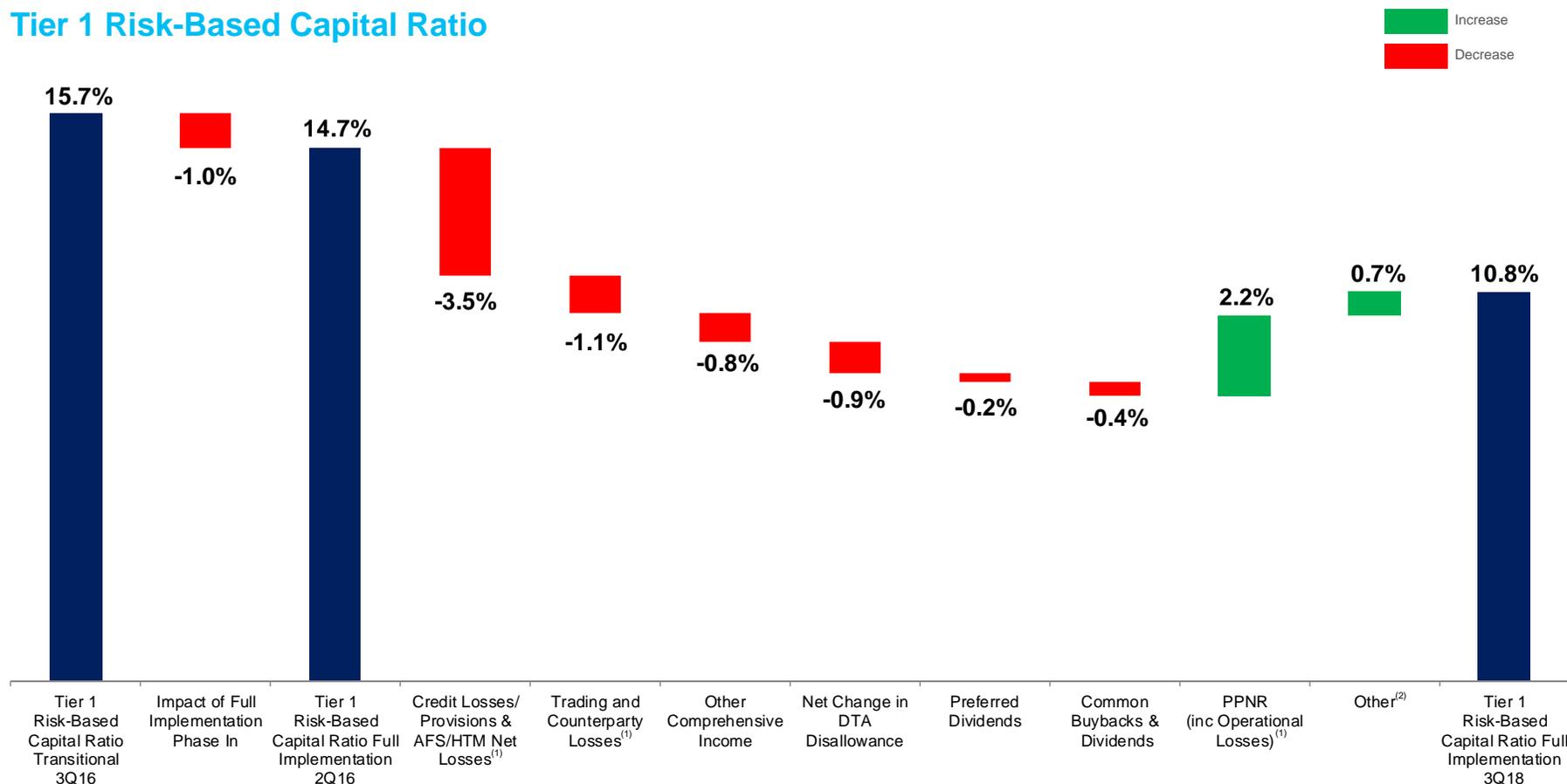
(1) Reflects pre-tax impact.

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

Key Drivers of Tier 1 Risk-Based Capital Ratio

(2Q16-3Q18; Citi Severely Adverse Scenario with Dodd-Frank Capital Actions)

Tier 1 Risk-Based Capital Ratio



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

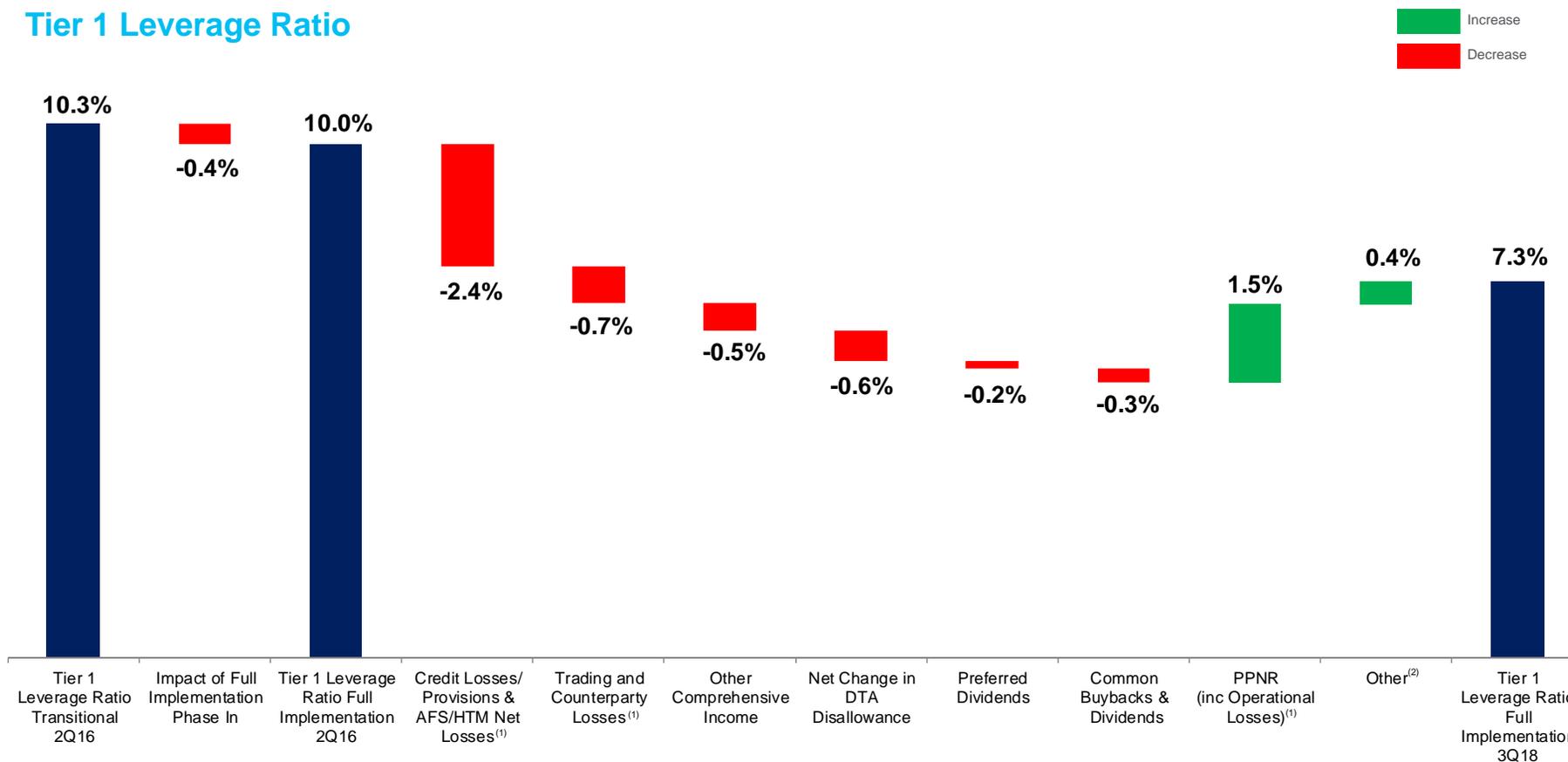
(1) Reflects pre-tax impact.

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

Key Drivers of Tier 1 Leverage Ratio

(2Q16-3Q18; Citi Severely Adverse Scenario with Dodd-Frank Capital Actions)

Tier 1 Leverage Ratio



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

(1) Reflects pre-tax impact.

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

Risk Types & Methodologies



Risks Included in 2016 MCST

Risk Type	Description	Components	Examples
Credit Risk	<ul style="list-style-type: none"> Credit risk is the potential for financial loss resulting from the failure of a borrower or counterparty to honor its financial or contractual obligations. 	<ul style="list-style-type: none"> Provision for Loan and Lease Losses Counterparty Losses and Counterparty Default Scenario Realized Gains / Losses on Securities Risk-Weighted Assets 	<ul style="list-style-type: none"> Loan losses and allowance builds/releases Credit exposure to counterparties through capital markets transactions Credit-related other-than-temporary impairment for investment securities Credit Risk RWA (as described on page 16)
Market Risk	<ul style="list-style-type: none"> Market risk arises from fluctuations in the market value of positions, resulting from changes in market factors. 	<ul style="list-style-type: none"> Pre-Provision Net Revenue Trading and Counterparty Losses Other Losses Risk-Weighted Assets 	<ul style="list-style-type: none"> Impact of market prices and interest rates on components of revenues and expenses across all business segments Instantaneous revaluation of trading, private equity, and fair value exposures as well as incremental default risk (IDR) and credit valuation adjustment (CVA) losses under a global market shock scenario Quarterly revaluation of loans held-for-sale or under a fair value option Market Risk RWA (as described on page 16)
Operational Risk	<ul style="list-style-type: none"> 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"> Pre-Provision Net Revenue 	<ul style="list-style-type: none"> Operational risk expenses including litigation expenses, fraud charges, etc. Mortgage repurchase forecast

- 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.
- Operational risk expenses consider both recurring and idiosyncratic events, including legal losses.

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

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
Loan Types	<ul style="list-style-type: none"> • Includes first and junior liens; closed-end and revolving 	<ul style="list-style-type: none"> • Includes Commercial & Industrial (C&I) loans to obligors globally and domestic • Commercial Real Estate (CRE) loans 	<ul style="list-style-type: none"> • Includes bank and charge cards both domestically and internationally 	<ul style="list-style-type: none"> • Includes global personal loans, student loans, auto loans, and other consumer loans 	<ul style="list-style-type: none"> • Includes international real estate loans and a variety of non-retail loans
Key Modeling Inputs	<ul style="list-style-type: none"> • Home Price Index (HPI) (CBSA level) • Interest rates • Unemployment rate (state level) 	<ul style="list-style-type: none"> • Obligor and facility risk characteristics • Multiple variables used for stress loss models (i.e. local GDP) • C&I is also sensitive to the industry, product, and geography segmentation • CRE variables include unemployment, interest rates, and HPI 	<ul style="list-style-type: none"> • Vintage • Credit score • Geography • Unemployment rate (state level) • GDP 	<ul style="list-style-type: none"> • Product type • Geography • Unemployment rate • GDP 	<ul style="list-style-type: none"> • GDP • HPI • Interest rates • Unemployment rate
Business Activities	<ul style="list-style-type: none"> • Domestic residential and home equity real estate portfolios in GCB, the Private Bank, and Citi Holdings 	<ul style="list-style-type: none"> • Corporate and commercial loan and commercial real estate exposures in ICG, Private Bank, Commercial Bank, and Citi Holdings 	<ul style="list-style-type: none"> • North America cards (Citi-Branded and Retail Services) • Consumer and corporate credit card lending globally 	<ul style="list-style-type: none"> • Includes portions of Citi Holdings as well as personal loans in Latin America, Europe, Middle East and Africa, and Asia GCBs 	<ul style="list-style-type: none"> • International residential real estate in GCB, the Private Bank and Citi Holdings • International commercial real estate and other loans in Commercial Bank, ICG, and Citi Holdings

Trading and Counterparty Losses

- Trading and counterparty losses represent instantaneous losses under a global market shock scenario on Citi's trading portfolios, CVA, FVA and other mark-to-market assets, inclusive of default losses.
- Consistent with FRB instructions, these instantaneous losses are reported in the first quarter of the projection period (3Q16) with no associated change to risk-weighted assets, GAAP assets, or PPNR.

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

Realized Gains/Losses on Securities and Other Losses

Realized Gains/Losses on Investment Securities

- Citi holds available-for-sale (AFS) and held to maturity (HTM) securities in its Corporate Treasury portfolio as well as within 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)
- Loss estimates for the AFS and HTM portfolios are aligned to Citi's established accounting methodology

Other Comprehensive Income (OCI)

- OCI impacts primarily reflect changes to unhedged foreign currency book capital (ASC 830), OCI from cash flow hedges (ASC 815), OCI from AFS securities (ASC 320), and OCI associated with Citi's pension plans (ASC 715)
- The primary drivers for these categories are interest rates, credit spreads, mortality rates, actual plan returns versus expected returns, and foreign currency exchange rates

Other Losses/Gains

- Primarily reflects losses on loans which are held-for-sale (HFS) or under a fair value option (FVO)
 - Wholesale HFS and FVO loans are stressed using quarterly credit spreads to estimate changes in fair value. In addition, default losses are estimated using a ratings migration approach. Wholesale FVO loan hedges are subjected to similar methodologies to account for changes in value as well as obligor default, 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; however, where appropriate, losses on HFS retail loans are included prior to execution of sale
- Also reflects potential goodwill impairment under the hypothetical scenario along with losses related to investments under equity/cost accounting treatments

Risk-Weighted Assets (RWA)

Citi projected its RWA using Basel III RWA methodologies. Consistent with FRB instructions, Basel III RWA under the Citi Severely Adverse Scenario was limited to only the Standardized Approach.

Credit Risk RWA Projections

- Credit Risk RWA projections leverage Citi's point-in-time Basel calculations and infrastructure built for compliance with these rules. These projections are based on corresponding on- and off-balance sheet forecasts.
- Risk-weight projections utilize prescribed regulatory rules and also consider risk parameters conditioned upon relevant scenario variables. These parameters include loss forecasts, obligor ratings, risk profile shifts in future delinquencies, and forecasts of country risk classification.
- Past due balance projections utilized for RWA are consistent across balance sheet and stress loss projections.

Market Risk RWA Projections

- Market Risk RWA forecasts depend upon whether the component is balance-driven or model-driven.
 - Balance-driven components include securitization and other exposures utilizing the standardized measurement method for specific risk.
 - Model-driven components include VaR and stressed VaR, Incremental Risk Capital and charges under Comprehensive Risk Measure.
- While balance-driven components are primarily driven by the corresponding balance projections, the model-driven components utilize quantitative methodologies that are scenario sensitive, capture changes in volatilities and test the sensitiveness to changes in trading exposures.
- Securitization exposures follow similar RWA projection methodologies, irrespective of whether these positions reside in the trading book or banking book.

Capital

In addition to the inclusion of estimated stress losses and PPNR, Citi's hypothetical capital position under the Citi Severely Adverse Scenario 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>
- 3Q16 Subordinated Debt Issuance: \$1.5B	- Common and Preferred Dividends: \$4.9B - 3Q16 Common Stock Buybacks: \$2.5B - Ordinary payments on TruPS & Subordinated Debt: \$3.0B

Transitional Capital Phase-in & Phase-out

- DTA and other certain capital deductions are disallowed at an increasing rate defined under the Basel III Transition Arrangements.
- ASC 320/715 OCI neutralization phases out under the Basel III Transition Arrangements.

Deferred Tax Asset (DTA) Position

- Due to Citi's current DTA position, 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, to the extent that tax benefits can be realized in the stress scenarios, a portion of the benefits flows through to capital. These benefits, however, will be excluded when DTA and other capital deductions are fully phased-in.

Other Items Impacting Capital Position

- Movements in OCI impact Citi's capital position, subject to the OCI 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.

