2019 DFAST Mid-Cycle Stress Test Disclosure

Citi Severely Adverse Scenario

October 30, 2019

2019 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 2019 MCST was conducted using data as of June 30, 2019 and was based on Citi-developed scenarios only
- Results included estimated pro forma capital ratios based on the U.S. Basel III rules
- Citi is required to publicly disclose a summary of projected results under the hypothetical Citi Severely Adverse Scenario (see pages 5-9). In addition to the Citi Severely Adverse Scenario, Citi was required to develop Baseline and Adverse scenarios in performing its 2019 MCST
- Citi's results under each of the required scenarios were submitted to the FRB in October 2019

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 18), 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.

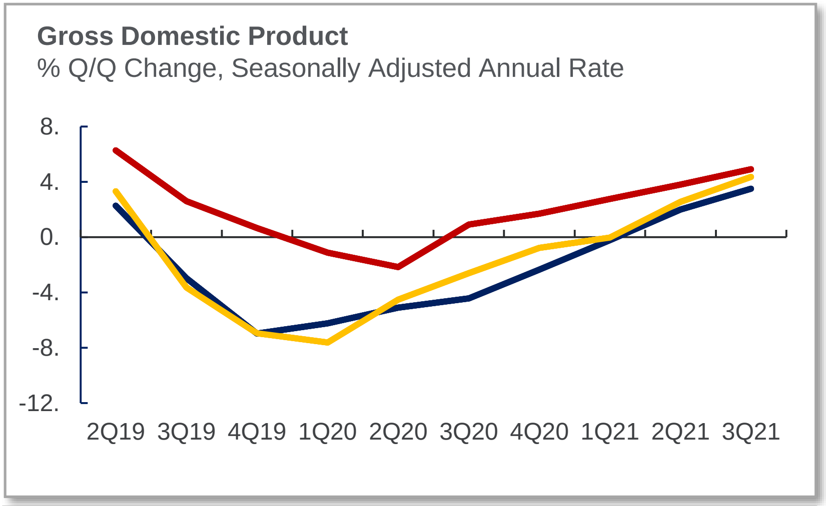
Citi's Mid-Cycle Stress Test Scenarios

Scenario Description

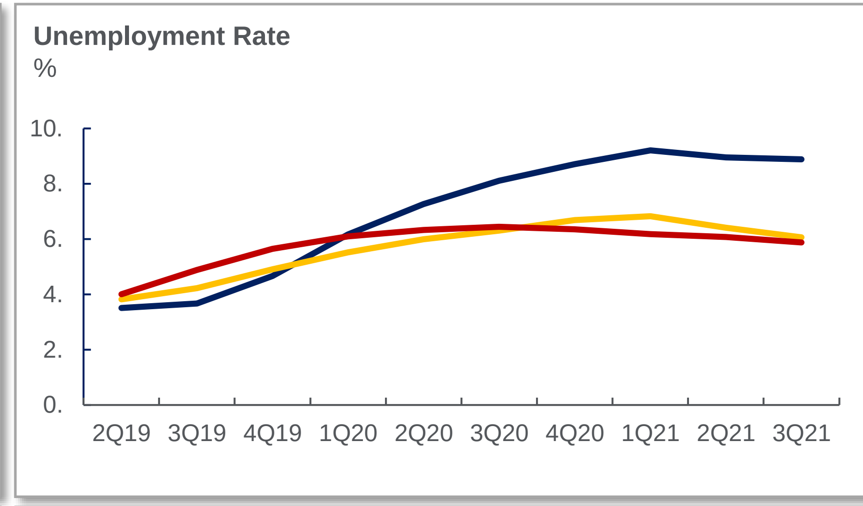
- Citi's scenarios, including the Citi Severely Adverse Scenario, were designed in accordance with regulatory guidance which requires that the Citi-developed scenarios reflect Citi's unique vulnerabilities to factors that stress its business model, strategy, firm-wide activities and risk exposures, including macroeconomic, market-wide and firm-specific events
  - Leveraging Citi's Material Risk Inventory, Citi designed a narrative described below to capture and stress, through macro variables, both Citi-specific and industry-wide risks
  - Key stressed macro variables were benchmarked to historical stress periods and prior CCAR/DFAST BHC and FRB stress scenarios, and variables were forecasted using statistical models where feasible
- The Citi Severely Adverse Scenario reflects a hypothetical severe global recession that is accompanied by an economic crisis in Asia and emerging market economies
  - The economic collapse in Asia spills over to emerging markets who face plunging export demand, capital flight and strong currency depreciations. Countries with high levels of corporate and public sector borrowing in foreign currencies come under severe pressure
  - Mounting anxiety causes a shift of capital to safer developed localities in Western Europe and North America. Working capital of corporations in Asia is depleted by an inability to raise unsecured funding and tap into bank commitments as a source of funding
  - In the US, a rise in credit spreads, combined with the impact of a global recession and collapse in investor and consumer confidence, causes real GDP to decline, unemployment to rise, and housing prices to drop sharply

US China
Mexico

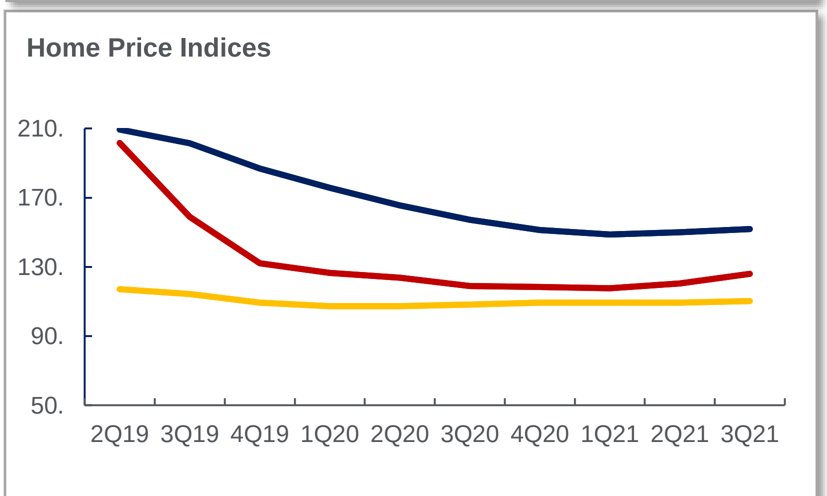
MCST Citi Severely Adverse Scenario: Key Variables



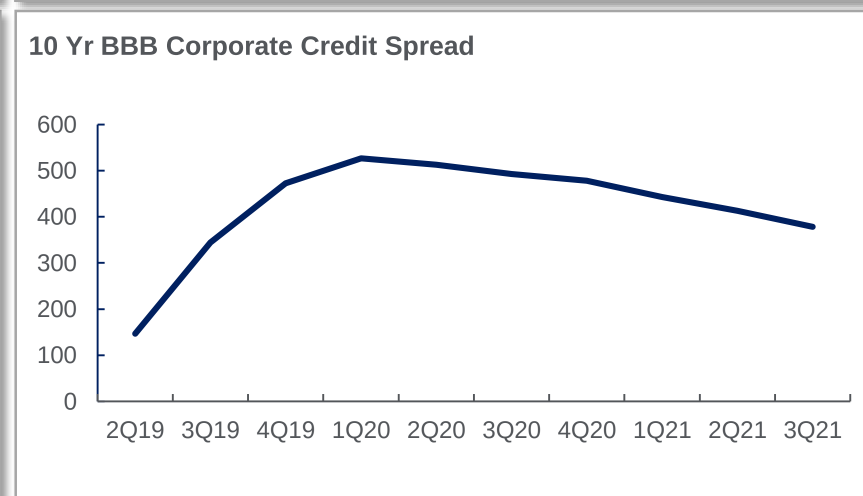
Gross Domestic Product
% Q/Q Change, Seasonally Adjusted Annual Rate



Unemployment Rate
%



Home Price Indices



10 Yr BBB Corporate Credit Spread

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*:

Actual Q2 2018 and Projected Stressed Capital Ratios through Q3 2021 (%)	Actual	Stressed Capital Ratios	
	Q2 2019	Q3 2021	Minimum[1]
Common Equity Tier 1 Capital Ratio (%)	11.9	8.7	8.3
Tier 1 Risk-Based Capital Ratio (%)	13.4	10.4	9.9
Total Risk-based Capital Ratio (%)	16.6	13.5	13.2
Tier 1 Leverage Ratio (%)	8.2	6.4	6.3
Supplementary leverage ratio (%)	6.4	5.0	4.9

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.

Actual Q2 2019 and Projected Q3 2021 Risk-Weighted Assets ($ billions)	Actual	Stressed Risk-Weighted Assets
	Q2 2019	Q3 2021
Basel III Risk-Weighted Assets[1]	1,187.3	1,094.3

1. Risk-weighted assets are calculated under the Basel III standardized capital risk-based approach.

Projected Cumulative Loan Losses, by Type of Loan, through Q3 2021	9Q Total	Portfolio Loss Rates (%)
	$ in billions	
Loan Losses	39.1	6.4%
First Lien Mortgages, Domestic	0.4	0.5%
Junior Liens and HELOCs, Domestic	0.6	6.9%
Commercial & Industrial	5.3	3.4%
Commercial Real Estate, Domestic	0.6	3.0%
Credit Cards	25.9	16.8%
Other Consumer	3.0	13.0%
Other Loans	3.4	1.9%

Projected Cumulative Losses, Revenue, and Net Income Before Taxes through Q3 2021	9Q Total	Percent of Average Assets (%)
	$ in billions	
Pre-Provision Net Revenue	46.9	2.6 %
Equals		
Net Interest Income	99.9	5.6 %
Non Interest Income	46.9	2.6 %
Less		
Non Interest Expense	99.9	5.6 %
Other Revenue	-	
Less		
Provisions	48.0	
Loan Losses	39.1	
Net Reserve Builds/(Releases)	8.9	
Realized Losses on Securities (AFS/HTM)	1.6	
Trading and Counterparty Losses	13.9	
Other Losses	3.7	
Equals		
Net Income/(Loss) Before Taxes	(20.3)	(1.1)%
Memo Items		
Other comprehensive income	(4.1)	
Other effects on capital	*Q2 2019*	*Q3 2021*
AOCI included in capital (billions of dollars)	(35.3)	(40.4)

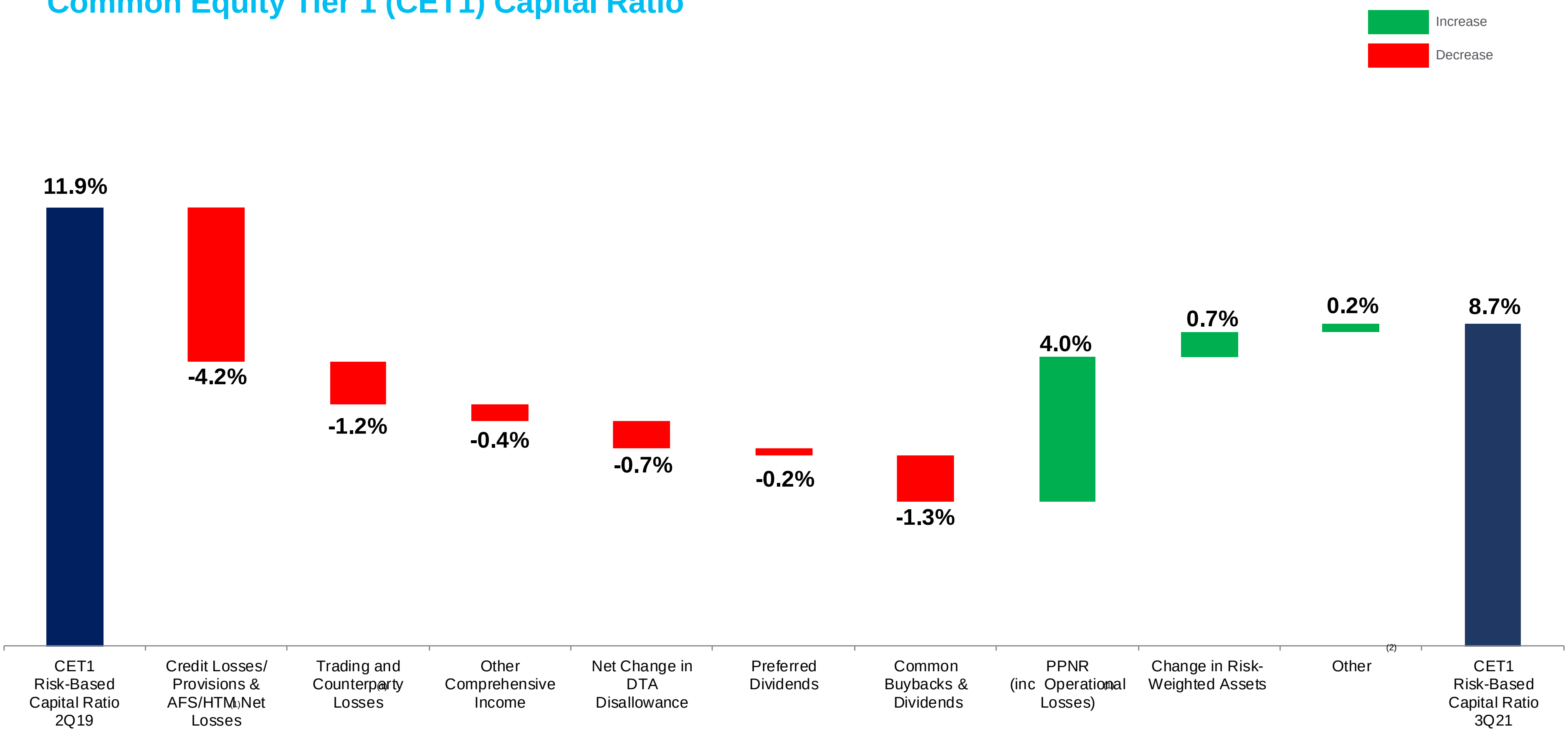
* See page 18

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 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

(2Q19-3Q21; 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.*

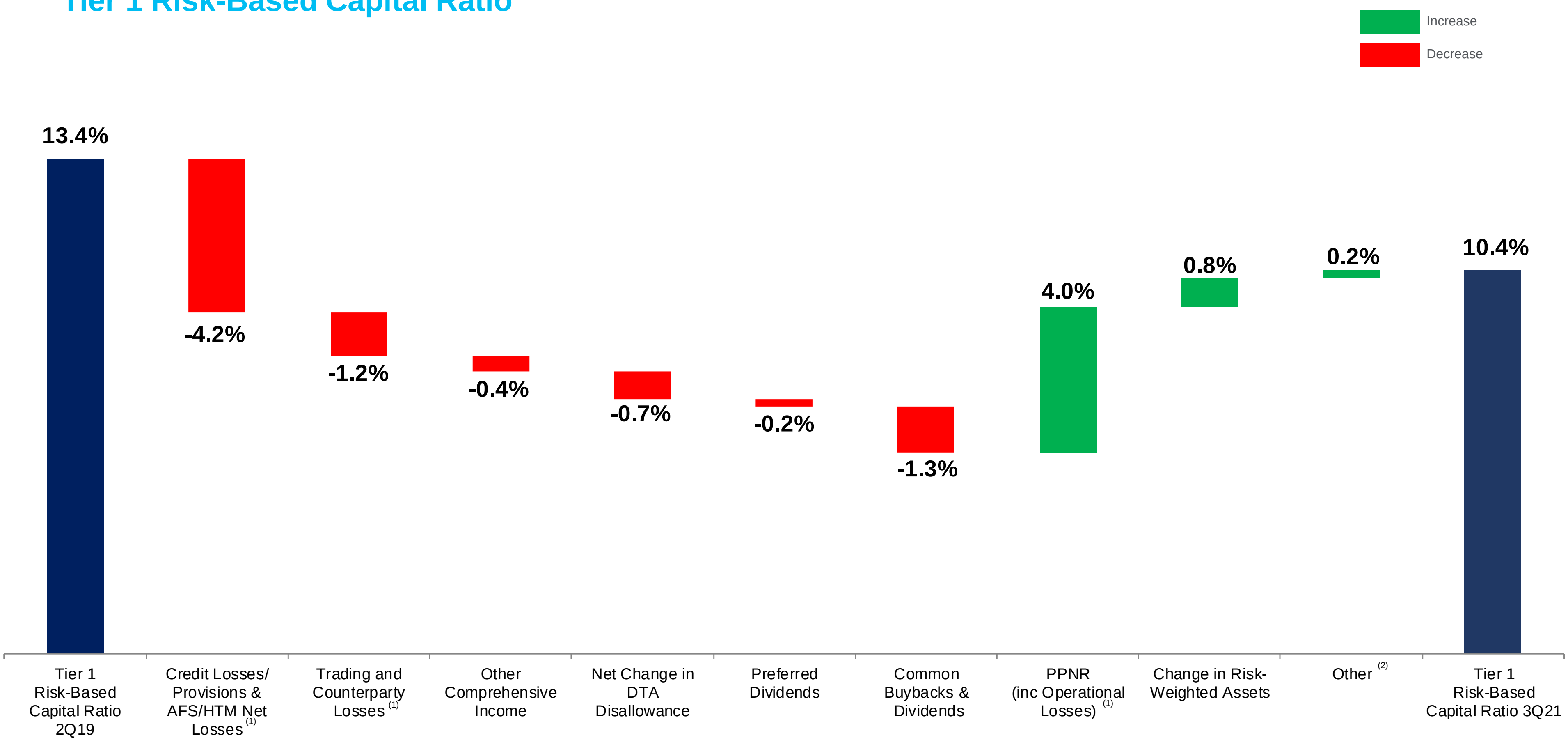
(1) Reflects pre-tax impact.

(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) net tax impact, (v) other income statement, and (vi) capital items.

Key Drivers of Tier 1 Risk-Based Capital Ratio

(2Q19-3Q21; Citi Severely Adverse Scenario with Dodd-Frank Capital Actions)

Tier 1 Risk-Based Capital Ratio



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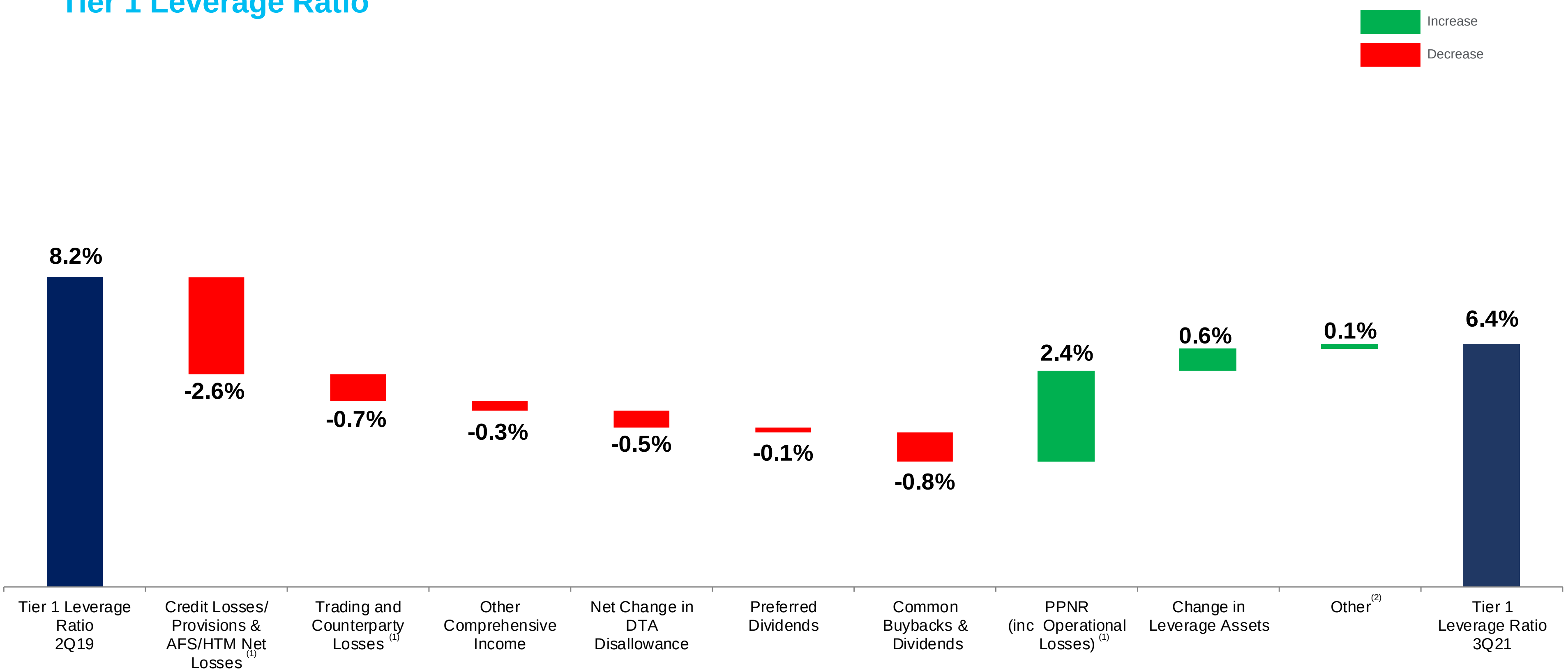
Key Drivers of Tier 1 Leverage Ratio

(2Q19-3Q21; 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.*

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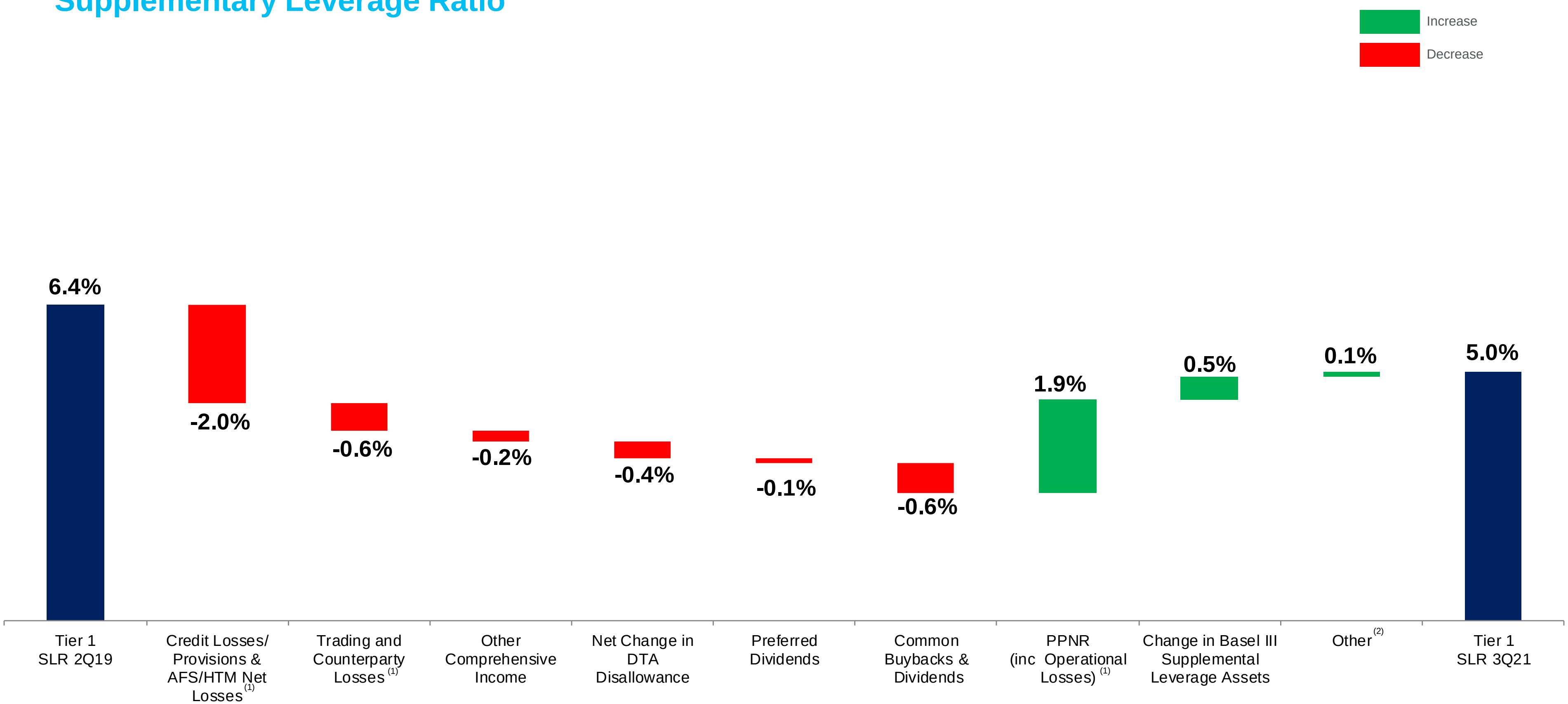
Key Drivers of Supplementary Leverage Ratio

(2Q19-3Q21; Citi Severely Adverse Scenario with Dodd-Frank Capital Actions)

Supplementary 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) net tax impact, (v) other income statement, and (vi) capital items.

Risk Types & Methodologies

Risks Included in 2019 MCST (page 1 of 2)

Risk Type	Description	Components	Examples
Credit Risk	The risk of loss resulting from the decline in credit quality (or downgrade risk) or failure of a borrower, counterparty, third party or issuer to honor its financial or contractual obligations.	• Provision for Loan and Lease Losses • Counterparty Losses and Counterparty Default Scenario • Realized Gains / Losses on Securities • Risk-Weighted Assets	• Loan losses and allowance builds/releases • Credit exposure to counterparties through capital markets transactions and deposits with banks • Credit-related other-than-temporary impairment for investment securities • Credit Risk RWA (as described on page 17)
Market Risk	The potential loss that arises from fluctuations in the market value of positions, resulting from changes in the associated underlying market risk factors, and from issuer/counterparty default.	• Pre-Provision Net Revenue • Trading, Counterparty, and IDL Losses • Other Losses • Risk-Weighted Assets	• Impact of changes in market prices and interest rates on components of revenues and expenses across all business segments • Instantaneous revaluation of trading, private equity, credit valuation adjustment (CVA) and other fair value exposures as well as incremental default losses (IDL) 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 17)
Operational Risk	The risk of loss resulting from inadequate or failed internal processes, systems or human factors, or from external events. It includes risk of failing to comply with applicable laws and regulations, but excludes strategic risk. Operational risk includes the reputation and franchise risk associated with business practices or market conduct in which Citi is involved, as well as compliance, conduct and legal risks.	• Pre-Provision Net Revenue	• Recurring events—i.e., high frequency/low severity, relatively stable and predictable loss forecasts (example: credit card fraud events or processing errors) • New Non-Recurring events—i.e., low frequency/high severity losses, which often are the result of unique circumstances and bear limited statistical relationship to macro scenario conditions (examples: cyber risk, rogue trader) • Unresolved Non-Recurring Legal—mature and developing events

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

Risks Included in 2019 MCST (page 2 of 2)

Risk Type	Description	Components	Examples
Funding & Liquidity Risk	The potential loss arising from the inability to access liquidity to meet all obligations as and when due.	• Pre-Provision Net Revenue • Trading and Counterparty Losses	• Higher funding costs resulting from deposit run-off, or due to widening Corporate Treasury issuance spreads • Market shocks associated with secured financing transactions • Reduced ability to monetize securities holdings (constrained market capacity, discounted market prices) as firms with similar securities pools take similar actions under stress
Strategic Risk	The potential loss arising from external competitive factors, or formulation of inappropriate strategic and/or action plans, including poor execution of such plans.	• Pre-Provision Net Revenue • Provision for Loan and Lease Losses • DTA utilization	• Geopolitical events/tensions which result in lower PPNR (lower loan balances and investment spending, deposit outflows, etc.), and higher losses • DTA forecasts and planning measures consider the firm's expected profits and losses in each scenario and directly inform expected tax expenses and regulatory capital calculations

- 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 for each major business unit as shown below.
- Utilizes historical relationships between loan/deposit balances, revenues, expenses, and relevant macroeconomic variables, as well as business management expertise.
- Operational risk expenses consider both recurring and idiosyncratic events, including legal losses.

Major Business Units	Global Consumer Banking (GCB)	Institutional Clients Group (ICG)	Corporate / Other
Component Business Units	• North America Retail and Commercial Bank • North America Cards • North America Mortgage • Asia GCB (including certain EMEA markets) • Latin America GCB (Mexico)	• Global Banking • Global Markets • Securities Services	• Treasury • Operations & Technology • Legacy non-core assets, including loans and portfolios • Global Functions • Other
Key Modeling Inputs	• GDP • Housing • Inflation • Unemployment rate • Interest rates • Foreign exchange (FX) rates	• GDP • Market indices • Volatility • Interest rates • Purchasing Managers index • Corporate bond spreads • FX rates	• Non-regression models • Run-off models
Business Activities	• Retail, small business and commercial loans and deposits • Mortgages • Credit cards (Citi Branded Cards and Retail Services) • Wealth management	• Corporate loans and deposits • Sales and Trading • Investment banking • Private banking • Asset management • Transaction services • Security Services	• Non-customer facing cost centers • 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	• Includes first and junior liens; closed-end and revolving	• Includes Commercial & Industrial (C&I) loans to obligors globally and domestic • Commercial Real Estate (CRE) loans	• Includes bank and charge cards both domestically and internationally	• Includes global personal loans, student loans, auto loans, and other consumer loans	• Includes international real estate loans and a variety of non-retail loans
Key Modeling Inputs	Account Attributes: • Credit Score • Loan-to-Value • Geography • Product Type • Delinquency status • Vintage Economic variables: • Home Price Index (HPI) (county level) • Interest rates • Unemployment rate (state level) • GDP (state level) • Income (state level)	• 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, Mortgage rates, and CRE Index	Account Attributes: • MOB (Months on Book) • Credit score • Geography • Delinquency status • Bureau variables (NAM) Economic Variables: • Unemployment rate • HPI • Consumer Debt (NAM) • GDP • Retail sales • Consumer expenditures	Account Attributes: • MOB • Credit score • Delinquency status • Product type • Term structure Economic variables: • Unemployment rate • HPI • GDP • Retail sales	Account Attributes: • Credit Score • Loan-to-Value • Product Type • Delinquency status • Vintage Economic variables: • HPI • Interest rates • Unemployment rate • GDP • Wages
Business Activities	• Domestic residential and home equity real estate portfolios in GCB, the Private Bank, and Corporate/Other	• Corporate and commercial loan and commercial real estate exposures in ICG, Private Bank, and the Commercial Bank	• North America cards (Citi-Branded Cards and Retail Services) • Consumer and corporate credit card lending globally	• Includes portions of legacy portfolios in Corporate/Other, as well as personal loans in US, Mexico, Asia and EMEA	• International residential real estate in GCB, the Private Bank and Corporate/Other • International commercial real estate and other loans in Commercial Bank and ICG

Trading, Counterparty, and IDL 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 with no associated change to risk-weighted assets, GAAP assets, or PPNR.

Trading / Counterparty Activities	Trading Book	Counterparty Credit Risk (CCR)	Incremental Default Loss (IDL)
Risk Types	• Equity, FX, interest rate, commodities, securitized products, traded credit, private equity, CVA hedges, other fair value assets	• 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	• Trading IDL from securitized products and other credit sensitive instruments • Counterparty credit risk, including the Counterparty Default Scenario
Key Modeling Inputs	• 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	• 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	• 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	• Global Markets • Corporate Portfolio Management • Corporate/Other	• Global Markets • Global Consumer Banking • Treasury and Trade Solutions • Corporate/Other • Citi Treasury	• Global Markets • Corporate Portfolio Management • Corporate/Other

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 (GDP, Sovereign Spreads, State Income, HPI, etc.) depending on the security characteristics (including but not limited to country, rating, 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 fair value and 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, due to the short timeframe to settlement; however, where appropriate, losses on HFS retail loans are included until the assumed divestiture date.

Risk-Weighted Assets (RWA)

Citi projected its RWA using Basel III RWA methodologies.

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 account for the composition of 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	
Sources of Capital	**Uses of Capital**
- Issuance of Common Stock for Employee Compensation: $1.5B	- Common Dividends: $9.9B
	- Preferred Dividends: $2.4B
	- 3Q19 Common Stock Buybacks: $5.1B*
	- Ordinary payments on TruPS & Subordinated Debt: $3.0B

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.

Other Items Impacting Capital Position

- Movements in OCI impact Citi's capital position.
- Annual common stock awards from incentive compensation programs increase common equity, offset by amounts withheld for taxes and compensation expense over the corresponding vesting period.

(*) Includes Tax Withholding Obligations Related to Employee Compensation