

2018 Mid-Cycle Stress Test Dodd-Frank Act Results  
KeyCorp Severely Adverse Scenario

# KeyCorp

October 10, 2018



# Important Considerations

The 2018 Mid-Cycle Dodd-Frank Act Stress Test Results present certain projected financial measures for KeyCorp under hypothetical economic and financial conditions, market scenarios and other assumptions described herein. Investors should not rely on these results as forecasts of actual financial results for KeyCorp. Our future financial results and conditions will be influenced by actual economic and financial conditions and other factors described in our Annual Report on Form 10-K for the year ended December 31, 2017 and in subsequent quarterly reports filed with the Securities and Exchange Commission (“SEC”) and available at <http://www.sec.gov>.

The regulations establishing DFAST require us to disclose certain projected financial measures that have not been prepared under U.S. Generally Accepted Accounting Principles (“GAAP”). KeyCorp’s actual financial information, prepared under GAAP, is available in reports filed with the SEC.

Each bank holding company subject to 2018 MCST DFAST is responsible for developing its internal process. Therefore, our results may not be directly comparable to those of other bank holding companies.

## Important Terms Used in this Disclosure

“BHC” means bank holding company.

“DFAST” means the Dodd-Frank Act Stress Test.

“GAAP” means U.S. generally accepted accounting principles.

“MCST” means Mid-Cycle Stress Test

“Regulatory Capital Rules” mean the final capital rules published by federal banking regulators in 2013.



# KeyCorp Disclosure

## Company-Run Stress Test Results and Process

- Per the Dodd-Frank Act, KeyCorp is required to consider the results of its company-run stress test as part of its capital planning process and publicly disclose the results.
- The company-run stress test spans a nine quarter forecast horizon, starting with 3Q18 and ending with 3Q20.
- Under the Dodd-Frank Act, the only capital actions included in the company-run stress test are quarterly common dividend payments equal to KeyCorp's trailing four quarter average as of September 30, 2018 and no share repurchase activity following the first planning quarter.
- Capital actions referred to in this disclosure are not the Company's planned capital actions.
- Disclosure requirements include:
  1. Quantitative results of the company-run stress test under the severely adverse scenario for the bank holding company
  2. Most significant causes for changes in Common Equity Tier 1 and other capital ratios
  3. Types of risks included in company-run stress test
  4. Description of stress test methodologies
- This analysis used a hypothetical stressed scenario developed internally by KeyCorp. Inputs were derived from a third-party econometric stress forecast and Key considered additional firm-specific idiosyncratic risks to appropriately capture downside risk in a severely adverse scenario.

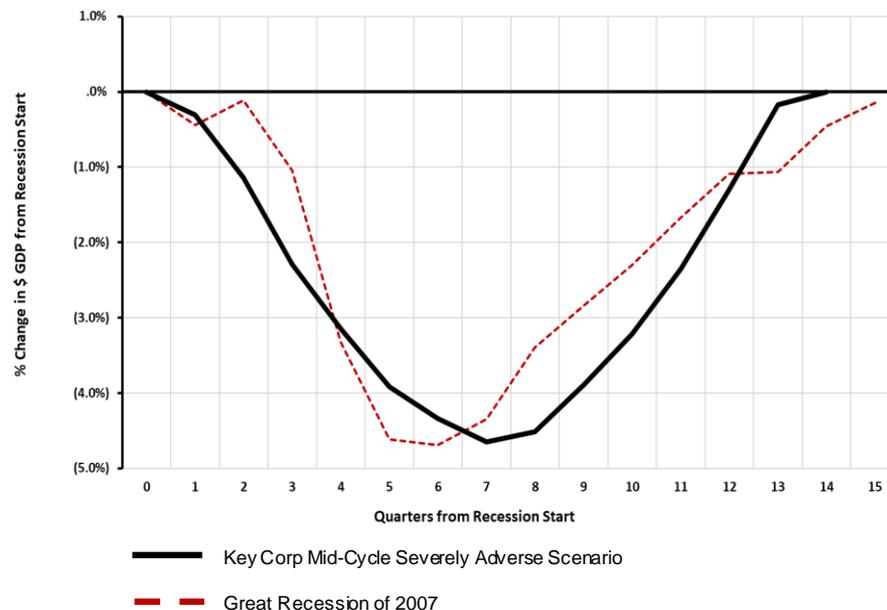


# Description of KeyCorp Severely Adverse Scenario

## Summary

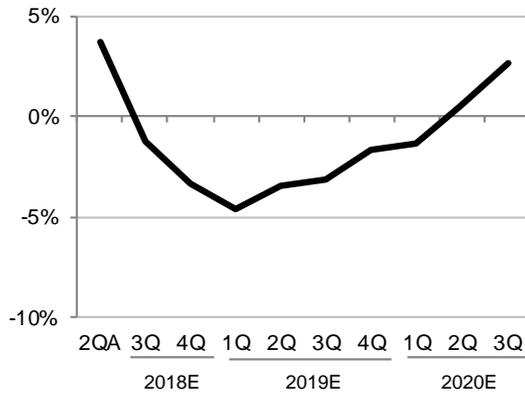
- The MCST severely adverse scenario reflects a downturn of similar magnitude compared to the Great Recession of 2007 (as depicted in graph on right).
- The scenario portrays a severe downturn, characterized by significant stress in the labor markets, steep declines in asset prices, widening credit spreads and significant drops in personal consumption and business investment.
- Key is vulnerable to an adverse economic environment and the deteriorating conditions also expose KeyCorp to idiosyncratic risks.
- The selected scenario appropriately exposes Key's vulnerabilities during a severe downturn.

## GDP Severity Analysis

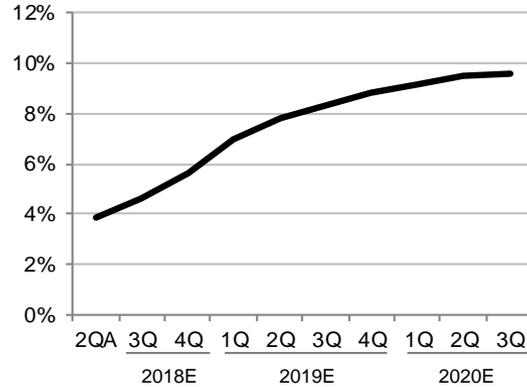


# Important Macroeconomic Assumptions(a)

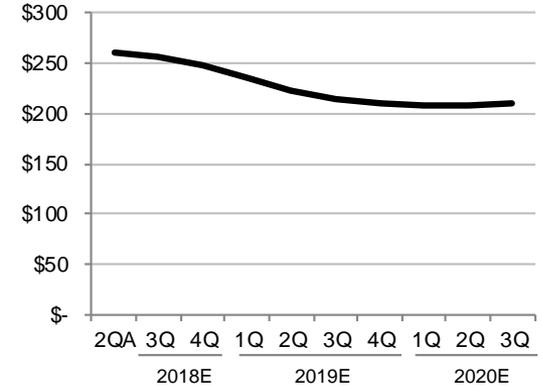
Real GDP (Q/Q Annualized)



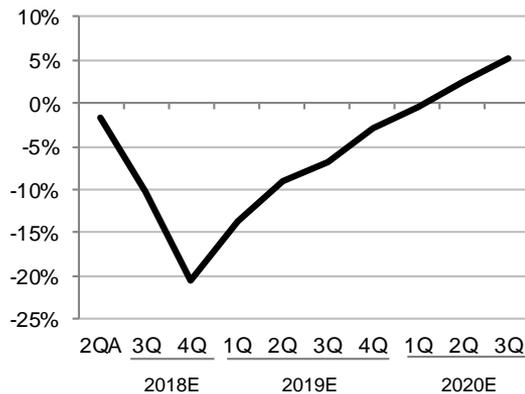
Unemployment Rate



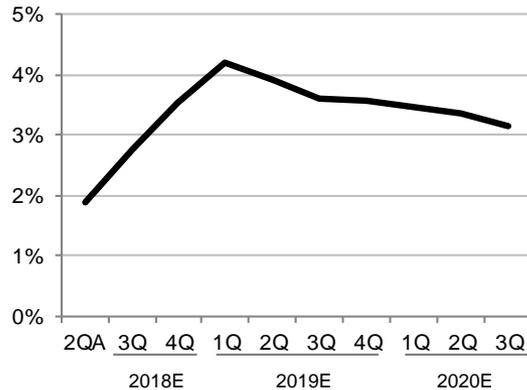
Home Prices (Q/Q)



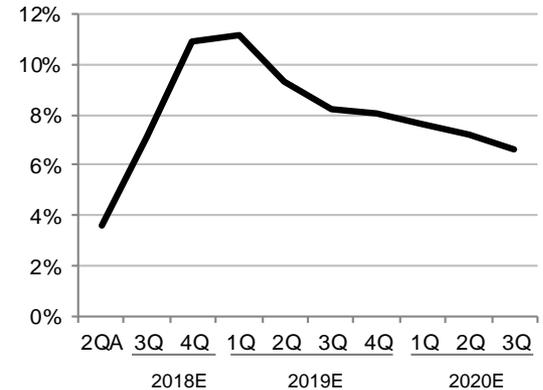
S&P 500 (Q/Q)



Baa Credit Spread to 10 Year Treasury



High Yield Spread



(a) The variables depicted above are important assumptions used to derive loss and revenue estimates through the stress test process. Variables depicted do not represent all economic factors considered in the MCST, but rather highlight prevalent indicators and inputs used for stress testing.



# KeyCorp Severely Adverse Results<sup>(a)</sup> - Net Income Before Taxes

Projected Net Revenue, Losses and Net Income Before Taxes (\$ in Billions)	Cumulative Hypothetical Results Over 9 Quarters	Percent of Average Assets <sup>(b)</sup>
Pre-provision net revenue <sup>(c)</sup>	\$ 3.8	2.8%
Other revenue/(expense) <sup>(d)</sup>	0.0	0.0%
<i>Less</i>		
Provisions	4.2	3.0%
Realized gains/(losses) on securities - AFS/HTM	(0.0)	(0.0%)
Trading and counterparty losses <sup>(e)</sup>	–	–
Other losses/gains <sup>(f)</sup>	–	–
<i>Equals</i>		
Net income before taxes	(0.3)	(0.2%)
<b>Memo items</b>		
Other comprehensive income <sup>(g)</sup>	–	–
<i>Other effects on capital</i>	<i>Actual Q2 2018</i>	<i>Q3 2020</i>
AOCI included in capital (billions of dollars) <sup>(g)</sup>	–	–

(a) Financial information is disclosed in accordance with the Federal Reserve's FR Y-14A templates and does not necessarily adhere to GAAP.

(b) Average assets are nine-quarter average assets.

(c) Pre-provision net revenue (PPNR) includes losses from operational-risk events, projected change in fair value of loans held for sale and loans held for investment measured under the fair-value option and other real estate owned (OREO) costs.

(d) Other revenue/(expense) includes one-time income and (expense) items not included in PPNR. Includes extraordinary items and other adjustments, net of income taxes, on the FR Y-14A templates.

(e) Trading and counterparty losses include mark-to-market and credit valuation adjustments (CVA) losses and losses arising from the counterparty default scenario component applied to derivatives, securities lending, and repurchase agreement activities.

(f) Other losses/gains includes goodwill impairment losses.

(g) Key has chosen to opt out of including AOCI in regulatory capital calculations.



# KeyCorp Severely Adverse Results<sup>(a)</sup> – Loan Losses

Projected Loan Losses by Type of Loans (\$ in Billions)	Cumulative Hypothetical Results Over 9 Quarters	Portfolio Loss Rates <sup>(b)</sup>
Loan losses	\$ 3.5	3.7%
First lien mortgages, domestic	0.1	1.4%
Junior liens and HELOCs, domestic	0.3	3.4%
Commercial and industrial <sup>(c)</sup>	1.5	4.0%
Commercial real estate, domestic	0.8	5.1%
Credit cards	0.2	15.2%
Other consumer <sup>(d)</sup>	0.3	4.6%
Other loans <sup>(e)</sup>	0.3	2.1%

(a) Financial information is disclosed in accordance with the Federal Reserve's FR Y-14A templates and does not necessarily adhere to GAAP.

(b) Average loan balances used to calculate portfolio loss rates exclude loans held for sale and loans held for investment under the fair-value option and are calculated over nine quarters.

(c) Commercial and industrial loans include small and medium enterprise loans and corporate credit cards.

(d) Other consumer loans include student loans and automobile loans.

(e) Other loans include leases, loans to depositories and other financial institutions, agricultural loans, loans for purchasing or carrying securities, international real estate loans and loans secured by farmland.

Note: Numbers above may not tie due to rounding.



# KeyCorp Severely Adverse Results<sup>(a)</sup> – Capital Ratios and Risk-Weighted Assets

Projected Stressed Capital Ratios <sup>(b)</sup>	Actual	Stressed Capital Ratios <sup>(c)</sup>	
	Q2 2018	Q3 2020	Minimum <sup>(d)</sup>
Common equity tier 1 capital ratio (%)	10.1	9.0	9.0
Tier 1 risk-based capital ratio (%)	10.9	10.2	10.1
Total risk-based capital ratio (%)	12.8	12.5	12.3
Tier 1 leverage ratio (%)	9.9	9.7	9.3

Actual Q2 2018 and Projected Q3 2020 Risk-Weighted Assets (\$ in billions)	Actual Q2 2018	Projected Q3 2020
Risk-weighted assets	\$122.4	\$117.5

(a) Financial information is disclosed in accordance with the Federal Reserve's FR Y-14A templates and does not necessarily adhere to GAAP.

(b) Projected stressed capital ratios incorporate DFAST capital actions, which include common dividend payments equal to Key Corp's trailing four quarter average as of September 30, 2018 and no share repurchase activity following the first planning quarter, as required by the Dodd-Frank Act.

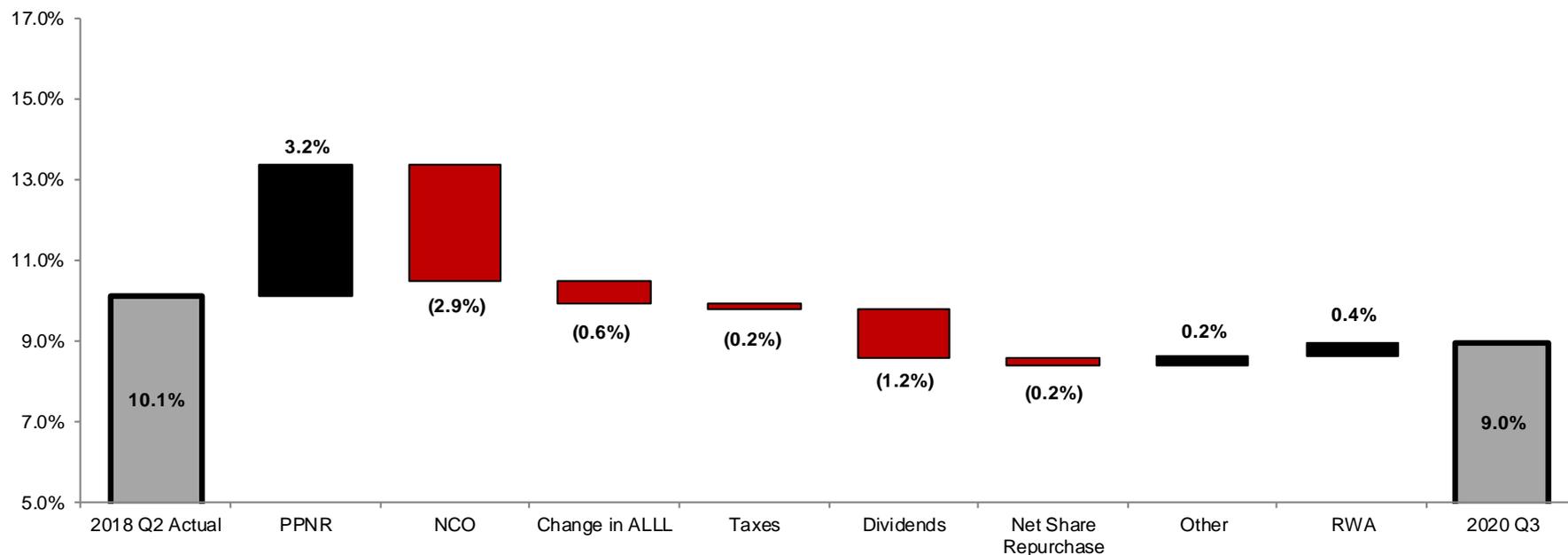
(c) These projections represent hypothetical estimates that involve an economic outcome that is more adverse than expected. These estimates are not forecasts of expected losses, revenues, net income before taxes, or capital ratios.

(d) Represents the lowest value over the forecast horizon.



# Most Significant Causes for Changes in KeyCorp Capital Ratios

## Common Equity Tier I Ratio ("CET1") (2Q18 – 3Q20)



- The generation of PPNR is more than offset by higher loan losses and DFAST capital actions, resulting in a lower Common Equity Tier 1 ratio of 9.0% at the end of the planning horizon
- Common Equity Tier 1 ratio exceeds regulatory minimum of 4.5%

Note: Numbers above may not tie due to rounding.



# Risks Included in Company-Run Stress Test<sup>(a)</sup>

As an institution focused on traditional banking products and services in the United States, KeyCorp is primarily exposed to risks from fluctuations in the domestic economy. Risks to most of KeyCorp's businesses include credit, compliance, liquidity, operational, market, reputation, model and strategic risk.

## — Risks Included —

### Credit Risk

- Key originates loans and extends credit, both of which expose Key to credit risk. The failure of Key's borrowers and counterparties to meet their obligations, which becomes more likely in a stressed economy, increases the likelihood of credit losses.

### Market Risk

- Market risk is the risk to income, cash flows or valuation of equity resulting from adverse movements in market rates or prices, such as interest rates, foreign exchange rates, commodity rates, credit spreads, volatilities or equity prices. This includes interest rate risk for both trading and non-trading positions.

### Liquidity Risk

- Liquidity risk is the risk of not being able to reasonably accommodate liability maturities, deposit withdrawals or meet contractual obligations to fund new business opportunities in a timely manner. An increase in line of credit draws, risk of deposit attrition, and loss of access to wholesale funding sources may coincide with severe economic stress, as companies experience reduced cash flows and credit availability contracts.

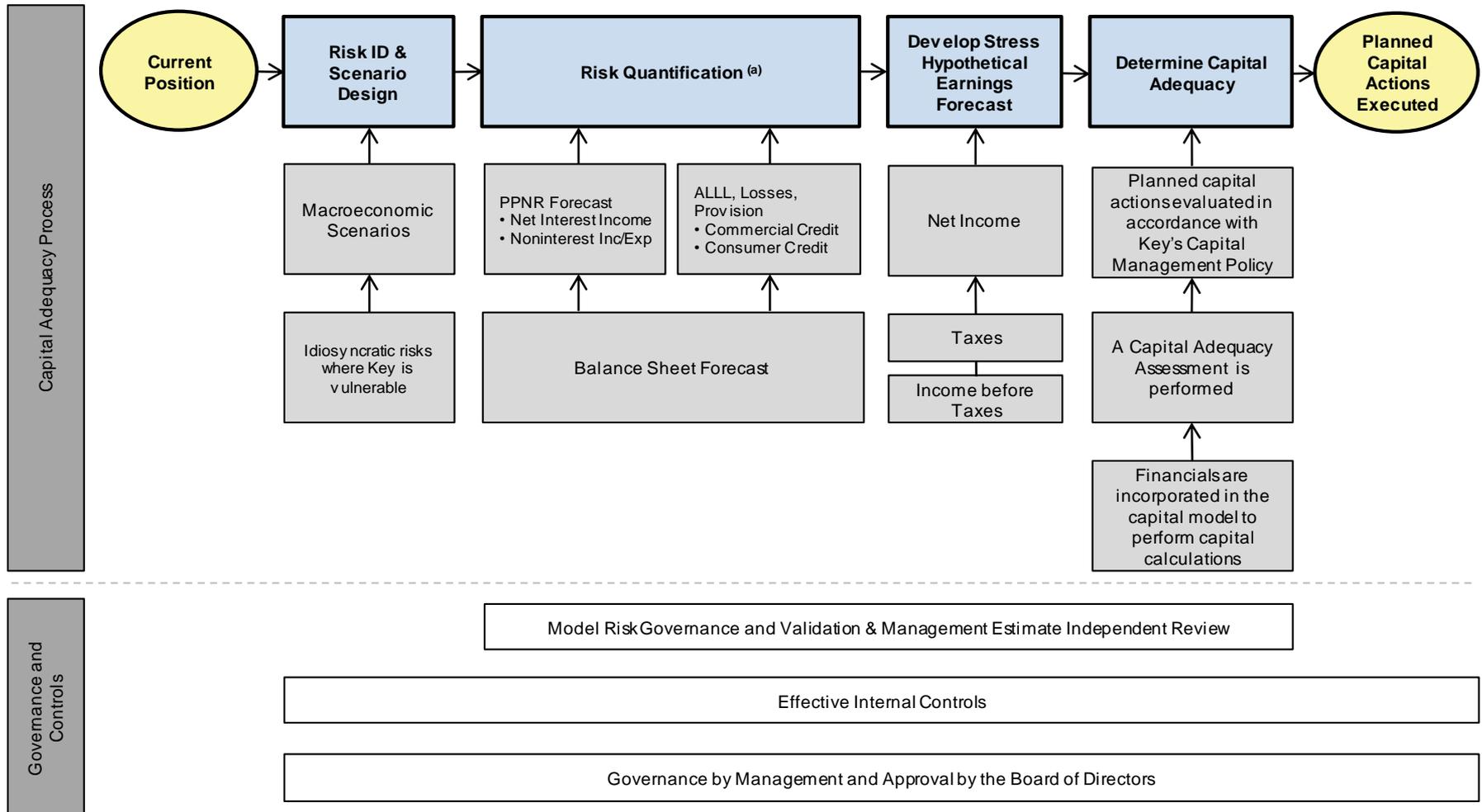
### Other Risks

- Operational risk is the risk of adverse economic impact resulting from internal human error or malfeasance, failed internal processes or systems, or external events.
- Compliance risk is the risk of legal or regulatory sanctions, financial loss or reputational damage due to a failure to comply with laws and regulations in the ever evolving legal and regulatory environment.
- Strategic risk is the impact on earnings or value arising from adverse business decisions, improper implementation of business decisions, or responsiveness to industry changes.
- Reputation risk is the risk arising from negative opinion as viewed from Key's stakeholders.
- Model risk is the risk to KeyCorp's earnings, capital or reputation due to the misuse or failure of a model.

(a) The identified impact arising from risks embedded in Key Corp's traditional banking business are unique to the Severely Adverse Stress Test scenario. Impacts from risks under different economic scenarios will vary based upon inputs and assumptions utilized in the analysis.



# Stress Test & Capital Adequacy Assessment Methodology

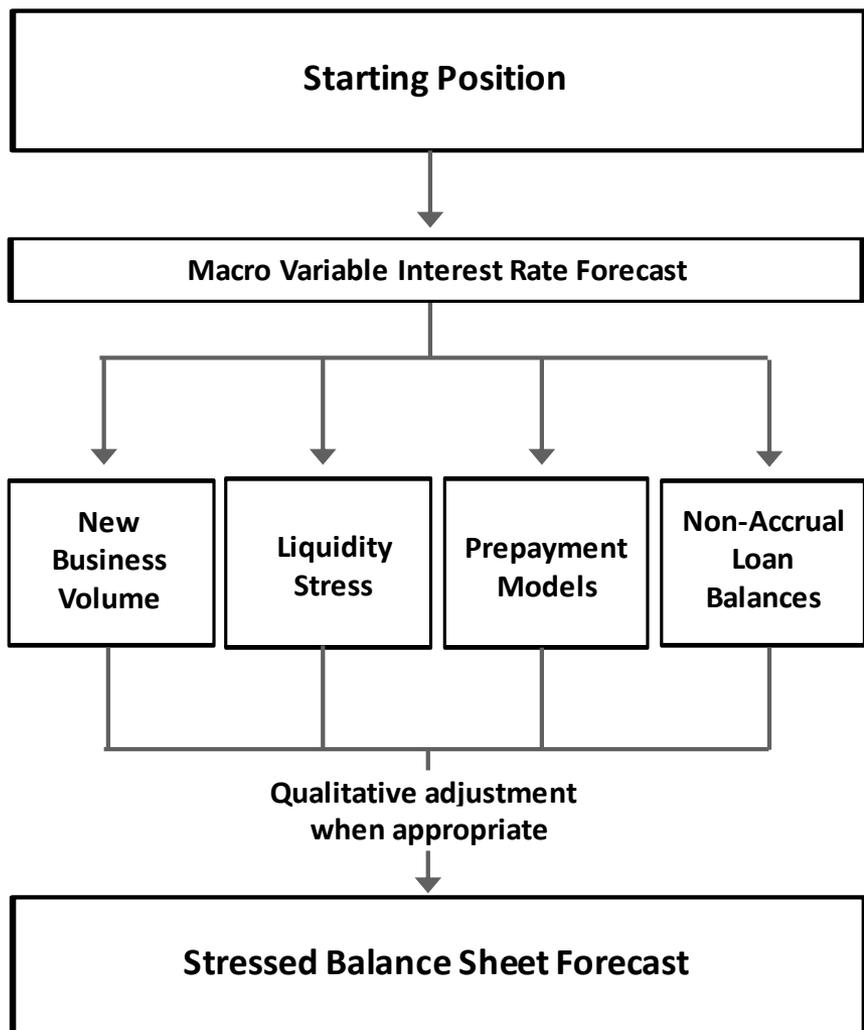


(a) Risk Quantification involves quantitative and qualitative approaches:

- Quantitative Approach - Modeled risk quantification
- Qualitative Approach - Judgment utilized where quantitative models do not or can not fully capture risk



# Methodology - Balance Sheet

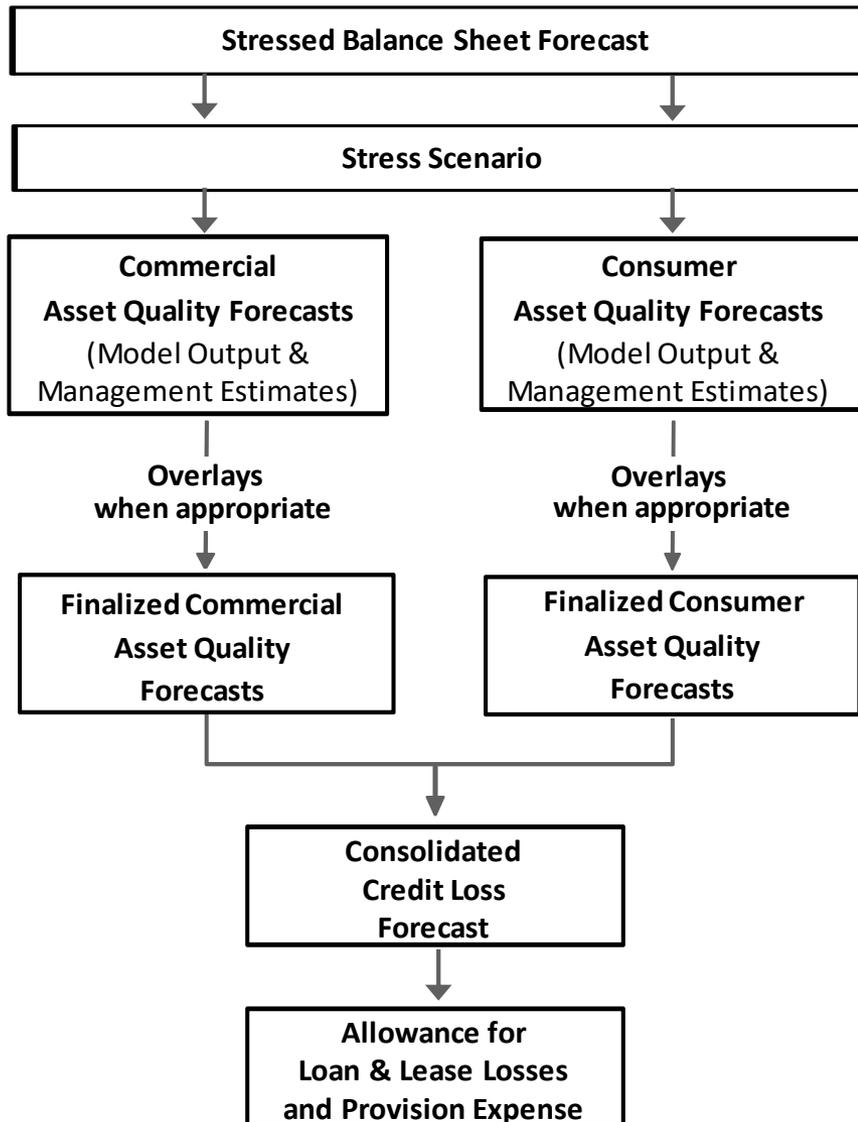


## Balance Sheet

- Forecast takes into account contractual maturity information, forecasted prepayments based on interest rate forecasts, and non-accrual loan balances.
- Quantitative analysis is used to adjust balance sheet projections for new business volume based on macroeconomic variables.
- Liquidity facility utilization adjustments account for an increase in line of credit draws that Key would expect in a stress scenario.
- Risk of deposit attrition, loss of access to wholesale funding sources, and pricing impact on deposits and wholesale credit spreads are considered.
- Where appropriate, expert-based qualitative adjustments are considered. Methodology employed is subject to independent review, while results are subject to review and approval by Senior Management and the Board of Directors based upon the magnitude of adjustment.



# Methodology - Credit Losses & Allowance for Loan and Lease Losses



## Credit Losses

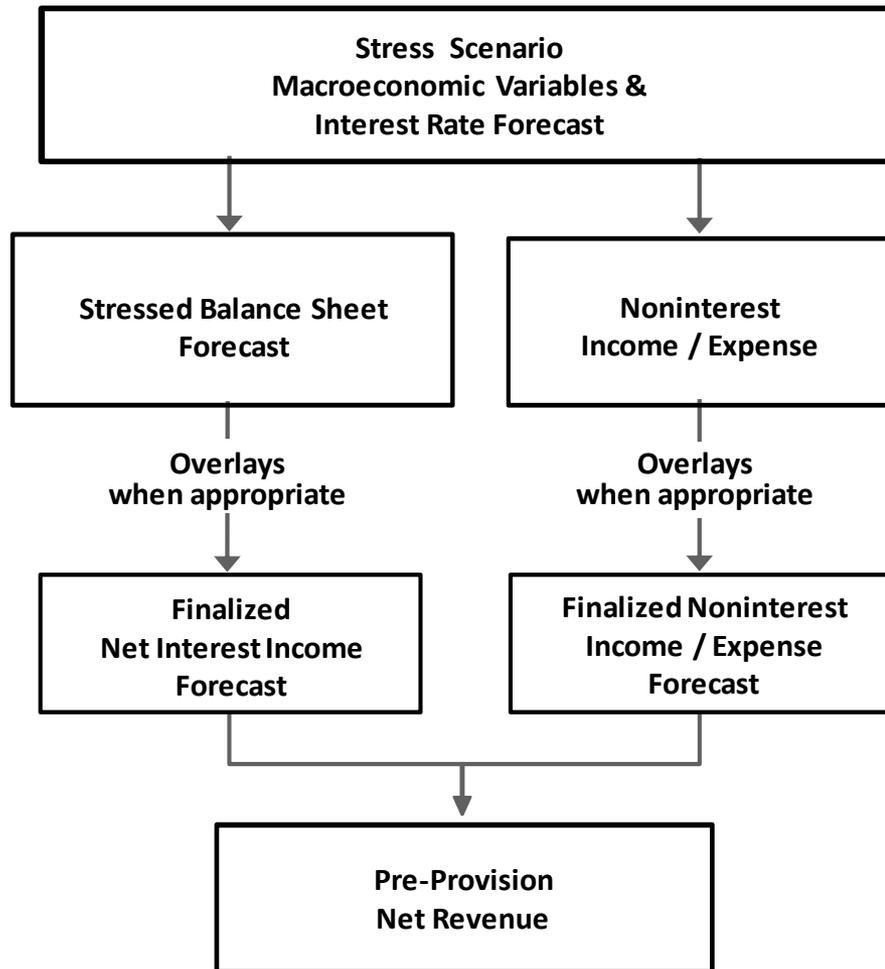
- Stressed credit loss forecasts are driven by quantitative and qualitative estimates that utilize note-level characteristics.
- Both Commercial and Consumer Credit forecasts follow a Probability of Default / Loss Given Default framework.
- Commercial and Consumer Credit forecasts are consolidated for total credit exposure.
- Where appropriate, expert-based qualitative adjustments are considered. Methodology employed is subject to independent review, while results are subject to review and approval by Senior Management and the Board of Directors based upon the magnitude of adjustment.

## Allowance for Loan and Lease Losses

- Key's Allowance for Loan and Lease Loss (ALLL) methodology is followed in accordance with Generally Accepted Accounting Principles and supervisory guidance.



# Methodology - Pre-Provision Net Revenue



## Net Interest Income

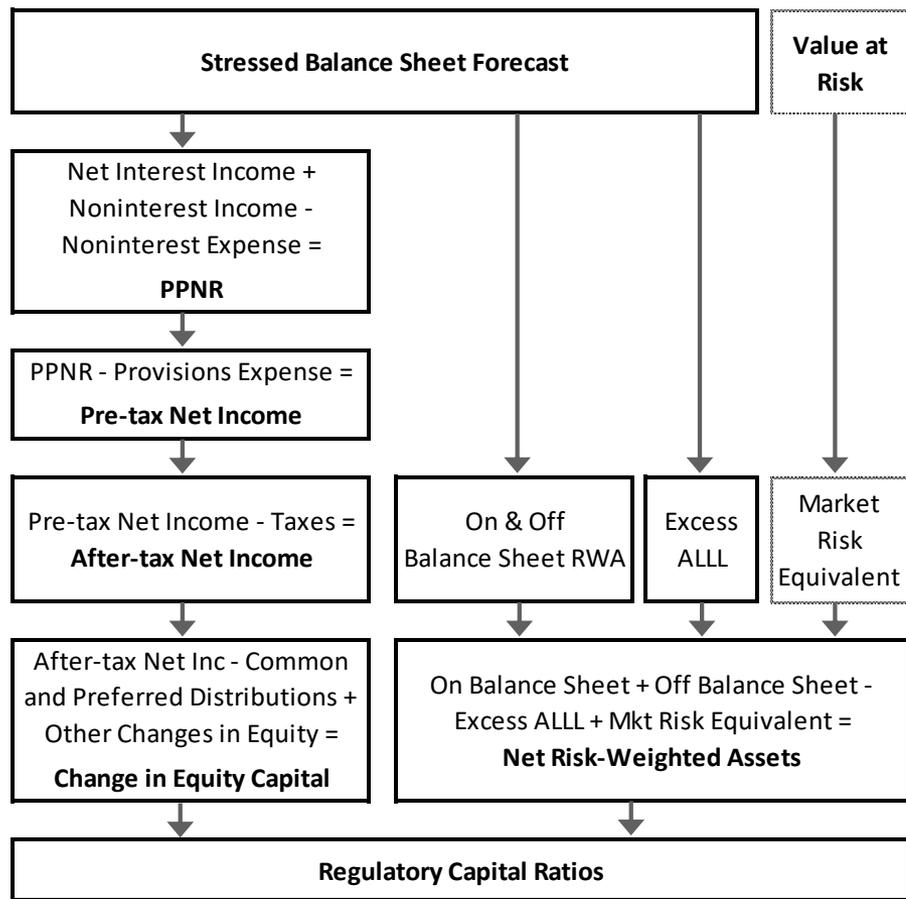
- Balance sheet forecast process is outlined on page 12 of this presentation.
- Asset and liability pricing inputs, assumptions, and qualitative assessments are drawn from balance sheet forecasting processes.
- Where appropriate, expert-driven qualitative adjustments are made to ensure consideration for known strategic initiatives, pricing actions, regulatory changes.

## Noninterest Income & Expense

- Noninterest income and expense forecasts are primarily developed using management estimates.
- Where appropriate, expert-driven qualitative adjustments are made to ensure consideration for known strategic initiatives, pricing actions, regulatory changes.
- For line items dependent on the value of assets held at or subject to Fair Market Valuation, the fair market values of assets are projected using discounted cash flow and fundamental analysis.



# Methodology - Earnings & Capital



## Earnings & Capital Forecast

- Income statement and balance sheet information is used to compute regulatory capital ratios.
- Risk-weighted assets are calculated based on Key's projected balance sheet position.
- Market risk equivalent calculation associated with Key's trading portfolio as of 2Q18.

## Capital Adequacy Assessment

- Capital Adequacy Assessment is performed and capital actions are considered.
- Capital decisions are governed by internal capital policies and regulatory guidance, and are subject to approval by the KeyCorp Board of Directors.



# Governance and Controls

## Independent Review

- As part of Enterprise Risk Management (“ERM”), models are being used in a broad range of Key’s business and risk management activities and play an important role in the Capital Adequacy Process.
- KeyCorp continues to enhance model development and independent validation to reduce model risk.
- Methodologies for non-model management projections and model overlays are independently reviewed and challenged by KeyCorp’s risk management function.

## Effective Internal Controls

- KeyCorp has a comprehensive internal control framework governing all aspects of its Capital Adequacy Process, including data management, modeling, change management and regulatory reporting.
- KeyCorp’s internal audit function provides independent assessment and testing of the effectiveness of and adherence to KeyCorp’s risk management policies, practices and controls. The internal audit function reports to the Audit Committee of the Board of Directors.

## Governance by Management and Approval by the Board of Directors

- The Enterprise Risk Management Committee (“ERMC”) is the management governance committee for all capital matters and plays an integral role in the capital adequacy process.
- During the capital planning process, the ERMC will screen and recommend all capital matters requiring final Board of Directors approval.

