Dodd-Frank Act Company-Run Stress Test Disclosures

June 23, 2022

PNC

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INTRODUCTION

Pursuant to regulations issued by the Board of Governors of the Federal Reserve System ("Federal Reserve") and the Office of the Comptroller of Currency ("OCC") under the Dodd-Frank Wall Street Reform and Consumer Protection Act ("Dodd-Frank Act"), The PNC Financial Services Group, Inc. ("PNC") (NYSE: PNC) and PNC Bank, National Association ("PNC Bank") are required to biennially conduct a company-run stress test and disclose certain summary results of the test. For the 2022 Stress Test, the results summarized below are based on balance sheet information as of December 31, 2021.

BACKGROUND

The Dodd-Frank Act company-run stress test is a forward-looking exercise under which PNC and PNC Bank each must estimate the impact of a hypothetical severely adverse macroeconomic scenario provided by the Federal Reserve and OCC—a supervisory severely adverse scenario—on its financial condition and regulatory capital ratios over a nine-quarter planning period (the "stress period"). The test is designed to help assess whether PNC, PNC Bank, and other participating firms have sufficient capital to absorb losses and support operations during hypothetical severely adverse economic conditions. For the 2022 Stress Test, the stress period covers the period of January 1, 2022, through March 31, 2024. While the 2022 Stress Test is conducted in conjunction with the Federal Reserve's Comprehensive Capital Analysis and Review ("CCAR") process, it is separate from the Federal Reserve's CCAR process. The Federal Reserve previously announced that it will release the results of its 2022 supervisory stress test at 4:30 p.m. (EDT) on June 23, 2022.

2022 SUPERVISORY SEVERELY ADVERSE SCENARIO

The supervisory severely adverse scenario for the 2022 Stress Test was released by the Federal Reserve and OCC on February 10, 2022.

The scenario is designed to test the strength and resilience of large banking organizations, including PNC and PNC Bank, and their ability to continue to meet the needs of consumers and businesses under a hypothetical scenario that includes severe economic and financial conditions. The Federal Reserve has stated that the scenario is not a forecast of expected economic conditions. Accordingly, the estimates produced under the 2022 Stress Test are not forecasts of expected losses, revenues, net income before taxes, risk-weighted assets, or capital ratios. In light of PNC's limited trading and custodial activities, PNC was not required to apply the additional global market shock and counterparty default components of the supervisory severely adverse scenario.

The 2022 supervisory severely adverse scenario is characterized by a severe global recession accompanied by a period of heightened stress in commercial real estate and corporate debt markets.

- In the United States, the level of real Gross Domestic Product ("GDP") declines sharply in 2022 and is at its trough in the first quarter of 2023 that is more than 3.5% below levels in the fourth quarter of 2021.

- The unemployment rate increases by 5.8 percentage points peaking at 10.0% in the third quarter of 2023, and the inflation rate, as measured by the Consumer Price Index ("CPI"), falls to an annual rate of about 1.3% in the third quarter of 2022, before gradually rising to 1.5% by the end of the stress period.

- Equity prices, as measured by the U.S. Dow Jones Total Stock Market Index, fall by 55.0% from their level in the fourth quarter of 2021 to the trough in the fourth quarter of 2022, accompanied by a surge in equity market volatility, as measured by the U.S. Market Volatility Index, which reaches a peak value of 75 in the second quarter of 2022.

- Housing prices, as measured by the House Price Index, fall sharply from their level in the fourth quarter of 2021, decreasing by 28.6% by the end of 2023. Commercial real estate prices, as measured using the Federal Reserve's U.S. Commercial Real Estate Price Index, experience larger declines of nearly 40.0% from the fourth quarter of 2021 to their trough in the fourth quarter of 2023.

- Financial conditions in corporate lending markets deteriorate markedly in the hypothetical scenario. The spread between yields on investment-grade corporate bonds and yields on long-term Treasury securities increases to 5.8 percentage points by mid-2022. The spread between mortgage rates and 10-year Treasury yields widens to 3.0 percentage points by mid-2022 before declining to slightly above 1.5 percentage points at the end of the stress period.

- As a result of the severe decline in real activity, short-term Treasury rates remain near zero throughout the stress period. The 10-year Treasury rate falls to 0.7% during the first quarter of 2022 and remains unchanged in the second and third quarters of 2022, after which it gradually rises to 1.3% by the end of the stress period.

Additional information on the supervisory severely adverse scenario is available on the Federal Reserve's web site at https://www.federalreserve.gov/newsevents/pressreleases/bcreg20220210a.htm

CAPITAL ACTION ASSUMPTIONS

For purposes of these company-run stress test disclosures, PNC has assumed that its capital actions during the projection period are consistent with the requirements of the Federal Reserve's current Dodd-Frank Act company-run stress test regulations (12 C.F.R. § 252.56).

These assumptions are designed to assist the public in comparing disclosed results across the bank holding companies subject to the tests and reduce the effect of company-specific assumptions related to capital distributions on disclosed results.

As a result, financial information and capital ratios for PNC in these 2022 company-run stress test disclosures are calculated for the nine quarters based on the following assumptions:

- There are no repurchases or redemptions of regulatory capital instruments;

- There are no issuances of common stock or preferred stock;

- No dividends are paid on PNC's common stock; and

- Payments on Tier 1 and Tier 2 regulatory capital instruments outstanding are made equal to the stated dividend, interest, or principal due.

These assumptions may not represent the actual capital actions that PNC would take should severely adverse economic conditions develop. Moreover, the capital action assumptions that PNC utilized for the 2022 Stress Test disclosure are consistent with those utilized by the Federal Reserve in conducting, or disclosing the results of, its 2022 supervisory stress test under the supervisory severely adverse scenario.

CAPITAL FRAMEWORK FOR 2022 STRESS TEST

In 2019, the Federal Reserve and other federal banking agencies established a revised framework that tailors the capital, liquidity and prudential standards that apply to large domestic and foreign banking organizations based on their risk profile (the Tailoring Rules). Under the Tailoring Rules, PNC and PNC Bank are considered a Category III institution because PNC (i) has more than $250 billion, but less than $700 billion, in consolidated total assets, (ii) is not designated as a global

systemically important bank ("GSIB"), and (iii) has less than $75 billion in cross-jurisdictional activity. The Tailoring Rules became effective for PNC as of January 1, 2020, and are reflected in our projections presented for the 2022 Stress Test. As permitted by the Tailoring Rules, PNC and PNC Bank have elected to exclude certain elements of accumulated other comprehensive income ("AOCI") from its Common Equity Tier 1 ("CET1") capital.   Additional information on the Basel III capital framework can be found in PNC's 2021 Form 10-K within the Supervision and Regulation section of Item 1 Business and the Capital Management section within the Liquidity and Capital Management portion of the Risk Management section of Item 7.

On January 1, 2020, PNC adopted the Current Expected Credit Losses ("CECL") standard for calculating allowance for credit losses ("ACL"). In order to comply with the CECL standard, methodologies for projecting credit losses, provision, and reserves were modified to project reserves based on anticipated losses for the lifetime of the loan. The Federal banking agencies adopted a final rule that permits a banking organization that is subject to CECL to delay the full impact of its adoption on CET1 capital through December 31, 2021, with the benefit then phased-out of CET1 capital over the following three years. PNC and PNC Bank have elected to utilize this 5-year CECL transition period, effective as of March 31, 2020, and the 2022 Stress Test results included in these disclosures reflect the benefit of this 5-year CECL transition period.

Table 1 illustrates the minimum required capital ratios in effect during the stress period:

Table 1: Minimum Regulatory Capital Ratios in Effect during the Stress Period

	Minimum Regulatory Capital Ratios in Effect
	2022 - 2024
Common Equity Tier 1 ("CET1") Risk-Based Capital Ratio	4.5%
Tier 1 Risk-Based Capital Ratio	6.0%
Total Risk-Based Capital Ratio	8.0%
Tier 1 Leverage Ratio	4.0%
Supplementary Leverage Ratio	3.0%

DETAILED RESULTS OF 2022 COMPANY-RUN STRESS TEST

The following tables provide PNC's company-run results of the 2022 Stress Test under the supervisory severely adverse scenario. All projections represent hypothetical outcomes under the assumed severely adverse scenario conditions and are not forecasts of expected losses, revenues, net income before taxes, risk-weighted assets, or capital ratios.

Table 2: Actual Q4 2021 and Projected Basel III Capital Ratios through Q1 2024 under the Supervisory Severely Adverse Scenario

| | Actual Basel III Ratios | Projected Stressed Basel III Capital Ratios (a) | |
	Q4 2021	Ending Q1 2024	Minimum
The PNC Financial Services Group, Inc.			
CET1 Risk-Based Capital Ratio	10.3%	9.1%	8.7%
Tier 1 Risk-Based Capital Ratio	11.6%	10.4%	10.0%
Total Risk-Based Capital Ratio	13.5%	12.8%	12.0%
Tier 1 Leverage Ratio	8.2%	7.2%	7.2%
Supplementary Leverage Ratio	7.0%	6.0%	6.0%
PNC Bank, N.A.			
CET1 Risk-Based Capital Ratio	11.1%	9.9%	9.3%
Tier 1 Risk-Based Capital Ratio	11.1%	9.9%	9.3%
Total Risk-Based Capital Ratio	12.9%	12.1%	11.3%
Tier 1 Leverage Ratio	7.8%	6.7%	6.7%
Supplementary Leverage Ratio	6.6%	5.6%	5.6%

(a) The capital ratios for PNC through the stress period are calculated using the capital action assumptions included in the Federal Reserve's Dodd-Frank Act stress testing rules in effect for the 2022 Stress Test. The capital ratios for PNC Bank through the stress period are calculated using management's estimate of the capital actions that PNC Bank would expect to take in the supervisory severely adverse scenario. All risk-based regulatory capital ratios are calculated based on the Basel III Standardized Approach for the risk-weighting of assets and reflect the impacts of the five-year CECL transition provision over the projected stress period. These projections represent estimates under the hypothetical conditions included in the 2022 supervisory severely adverse scenario. The projected minimum capital ratios presented are the minimum quarter-end ratios for the relevant metrics during the stress period.

Table 3: Actual Q4 2021 and Projected Q1 2024 Standardized Approach Risk-Weighted Assets under the Supervisory Severely Adverse Scenario for The PNC Financial Services Group, Inc.

In billions	Actual Q4 2021	Projected Q1 2024
Risk-Weighted Assets (a)	$388.8	$383.6

(a) Risk-weighted assets are calculated under the Basel III Standardized Approach.

Table 4: Projected Losses, Revenue, and Net Income Before Taxes for Q1 2022 through Q1 2024 under the Supervisory Severely Adverse Scenario for The PNC Financial Services Group, Inc.

	Dollars in Billions	% of Avg Assets (a)
Pre-Provision Net Revenue (b)	$ 8.7	1.6%
Other Revenue (c)	-	-
Less: Provision (d)	12.5	2.2%
Trading and Counterparty Losses (e)	-	-
Other Losses/(Gains) (f)	0.2	0.0%
Equals: Net Income/(Loss) Before Taxes	$ (3.9)	(0.7)%

*Numbers may not foot due to rounding.

(a) Average assets is the nine-quarter average of total assets.
(b) Pre-provision net revenue includes losses from operational risk events, mortgage repurchase expenses, other real estate owned ("OREO") costs, and expenses associated with the change in the allowance for credit losses – unfunded lending related commitments.
(c) Other revenue includes one-time income and (expense) items not included in pre-provision net revenue.
(d) Total Provision includes provision related to Loans and Leases, CECL AFS and HTM Securities, and CECL Other Financial Assets.
(e) Trading and counterparty losses include mark-to-market losses and credit valuation ("CVA") losses. PNC was not subject to the global market shock or counterparty default scenario components of the stress test.
(f) Other losses/gains include projected change in fair value of loans held for sale and loans held for investment measured under the fair-value option, and goodwill impairment losses.

Table 5: Projected Loan Losses by Type of Loans for Q1 2022 through Q1 2024 under the Supervisory Severely Adverse Scenario for The PNC Financial Services Group, Inc.

	Dollars in Billions	Portfolio Loss Rates (%) (a)
Loan Losses (Net Charge-offs):		
First Lien Mortgage, Domestic	$ 0.6	1.5%
Junior Lien Mortgages & HELOCs, Domestic	0.6	3.0%
Commercial and Industrial (b)	4.9	4.6%
Commercial Real Estate, Domestic (c)	3.3	7.8%
Credit Cards	1.2	20.2%
Other Consumer (d)	1.4	6.1%
Other Loans (e)	1.5	3.6%
Total Loan Losses (Net Charge-offs)	$ 13.5	4.8%
Change in Allowance for Credit Losses	$ (1.0)	
Total Provision	$ 12.5	

*Numbers may not foot due to rounding.

(a) 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 the nine quarters.
(b) Commercial and industrial loans include small- and medium-enterprise loans and corporate cards.
(c) Commercial real estate includes loans secured by farmland.
(d) Other consumer loans include student loans and automobile loans.
(e) Other loans include loans to non-profit organizations, commercial leases, other commercial loans not classified elsewhere, and international real estate loans (if any).

In the hypothetical severely adverse scenario, depressed earnings, losses and provision, and the capital actions assumed to occur reduce projected regulatory capital. The loan loss estimates in Table 5 represent estimates of the net charge-off activity recorded during the nine-quarter stress period. Wholesale Loans (Commercial & Industrial ("C&I"), Commercial Real Estate ("CRE"), and Other Loans) account for approximately 72% of total loan losses or $9.7 billion, with 48% or $6.4 billion of losses coming from C&I/Other Loans and approximately 24% or $3.3 billion from CRE. Of the remaining total loan losses, approximately 9%, or $1.2 billion of total losses, are from Residential Real Estate (First and Junior Lien Mortgages and Home Equity Lines of Credit ("HELOCs")), while Other Consumer Loans and Credit Cards together account for approximately 19% or $2.6 billion of total losses.

Projected total provision expense is $12.5 billion over the stress period, which accounts for both the cumulative net charge-offs during the period of $13.5 billion, as well as a reduction of $1.0 billion in the ACL.

Pre-provision net revenue ("PPNR") is $8.7 billion over the stress period, which reflects, among other things, a projected decline in loan balances, net interest income, and noninterest income due to the economic stress in the hypothetical scenario, as well as projected losses from operational risk events. PPNR is insufficient to cover provision expense over the projection period.

PNC's Basel III CET1 risk-based capital ratio declines from 10.3% (actual) as of the fourth quarter of 2021 to 9.1% at the end of the stress period. This level of decline is primarily due to net losses and depressed earnings. PNC's minimum Basel III CET1 risk-based capital ratio of 8.7%, which is significantly above (+4.2%) the regulatory minimum of 4.5%, occurs in the second quarter of 2022. The following graph illustrates the key drivers of the CET1 risk-based capital ratio change over the stress period.

Common Equity Tier 1 Ratio Attribution Analysis[1]
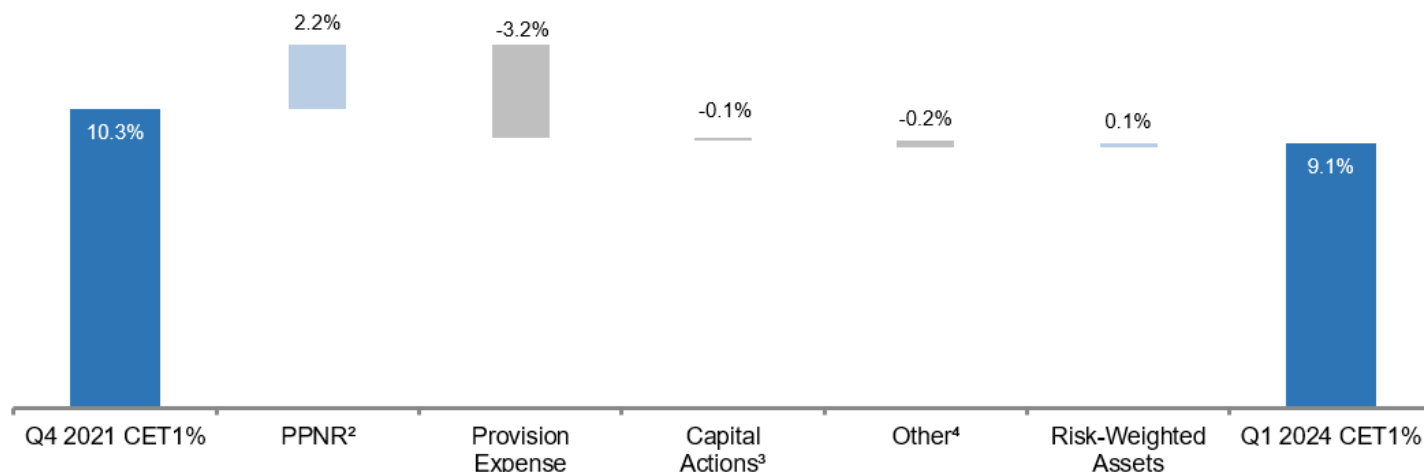
1. Basel III CET1 ratios are calculated based on the Basel III standardized approach for the risk-weighting of assets and reflects PNC's election to adopt the CECL five-year transition provision.
2. Includes interest payment on outstanding Tier 2 regulatory capital instruments.
3. Represents payment on preferred dividends.
4. Represents other items, including the CECL transition adjustment, income taxes, net operating loss carryforwards, and goodwill and intangibles.

OVERVIEW OF PNC'S STRESS TEST METHODOLOGY AND SCENARIO DEVELOPMENT

The 2022 Stress Test conducted by PNC incorporates a broad spectrum of risks that affect PNC including, among others, credit risk, operational risk, mortgage repurchase risk, and credit losses on investment securities.

- Credit risk represents the risk that losses will be incurred as a result of customers, counterparties, or issuers not performing in accordance with contractual terms. Credit risk primarily affects the loan classes identified in Table 5.

- Operational risk refers to the risk of financial loss, adverse customer experience, or negative regulatory or reputational impacts resulting from inadequate or failed internal processes or systems, human error or misconduct, or adverse external events. Operational risk losses are estimated for all businesses and segments of PNC.

- Mortgage repurchase risk refers to the risk of loss arising from demands or legal action initiated by mortgage investors as a result of claims that PNC breached representations or warranties in selling mortgages. Mortgage repurchase risk arises primarily in association with first-lien residential mortgages that have been sold.

PNC applies both quantitative and qualitative methods to project losses, balances, income, and risk-weighted assets over the stress period. PNC has enhanced its approach to capital stress testing over the years through improvements to risk identification, scenario design, ongoing model development, and internal controls, as well as through increased usage of quantitative approaches where sufficient relevant data and relationships exist, enhanced qualitative (non-model) approaches, and actions performed to address supervisory guidance and feedback.

Estimated losses for C&I loans are primarily modeled by projecting the probability of default ("PD"), estimated loss given default ("LGD") (taking into account available collateral and guarantees), and estimated exposure at default ("EAD"), including prepayment. The PD forecast model for C&I Wholesale loans (except for business credit cards) uses a credit migration approach and its inputs include macroeconomic variables and loan-level characteristics such as industry segment and internal credit ratings. The EAD model includes five distinct segments: credit facilities, credit card, borrowing base monitored loans, term loans and leases, and letters of credit. Forecast LGDs are derived using exposure-level data

elements and stressed using a combination of an economically-sensitive regression model and the Frye-Jacobs function, which correlates higher forecast default rates to higher LGDs.

Retail Commercial C&I and CRE losses are primarily modeled based on a loan level regression model that forecasts PD and Prepayment outcomes, EAD and LGD. The model uses macroeconomic factors such as GDP, Unemployment Rate, and Nonfarm Employment.

Wholesale Commercial Real Estate losses are primarily forecast through a modeled approach based on PNC historical data and loss experience. The inputs to the models include, among other things, macroeconomic variables, CRE market measures and loan-level inputs such as collateral property type, geography, loan-to-value and debt service coverage. The CRE modeling framework utilizes a three-stage approach, with the first stage model converting the macroeconomic scenarios into a projection of CRE property market expectations, and the second and third stage models forecasting default rates and losses for PNC's portfolio based on the first stage model's output.

For Residential Real Estate loans, a combination of loan attributes, borrower characteristics, and macroeconomic variables are primarily used to forecast losses over the stress period at the loan-level for three components: PD, LGD, and EAD. Defaults and prepayments are modeled econometrically as competing risks (state-transition models), while LGD is separately estimated using an econometric approach and EAD is based upon the expected remaining balance at the time of default, net of any scheduled amortization or expected curtailment. There are distinct models for mortgage and home equity loans.

Losses for Business Credit Card and Consumer Credit Card loans are primarily modeled based on a snapshot-based hazard model that forecasts PD, an ordinary least squares regression approach that uses account variables and macroeconomic variables to project EAD, and a segment-level model that forecasts LGD. These models use loan-level characteristics at origination and key updated attributes such as delinquency status and FICO score as well as macroeconomic variables.

Losses for Auto loans are primarily modeled based on a loan-level hazard model that forecasts PD and LGD. These models use loan-level characteristics at origination and key updated attributes such as delinquency status and FICO score as well as macroeconomic variables. EAD follows an analytical framework that is based on an implied amortization schedule.

Losses for Unsecured installment loans are primarily modeled based on a snapshot-based hazard model that forecasts PD, an analytical framework based on an implied amortization schedule that forecasts EAD, and a segment-level model that forecasts LGD. These models use loan-level characteristics at origination and key updated attributes such as delinquency status and FICO score as well as macroeconomic variables.

For certain smaller segments, non-model frameworks based on historical data and qualitative factors are primarily used to estimate losses.

The amount of the ACL established for stress testing purposes, at any point in time, is derived from the forecasted future net charge-offs to be realized, with such net charge-offs forecasted separately for existing balances as of December 31, 2021 and projected new volume over the stress period. The provision expense, which includes both net charge-offs and the change in ACL, is reflected in net income and consequently is reflected in capital levels and ratios throughout the planning period. As noted previously, these results reflect PNC's adoption of the 5-year CECL transition rule governing the inclusion of CECL reserves in regulatory capital.

Projected credit losses on investment securities are estimated through provision for credit losses included in the income statement. These losses are generally driven by economic contractions, indicated by worsening macroeconomic indicators such as rising unemployment and declining prices for equities and real estate assets, which result in deterioration in credit quality. Generally, provisions for credit losses on available-for-sale ("AFS") and held to maturity ("HTM") securities are

estimated using internally and vendor-developed models that are applied at the security level. Major inputs to the models include macroeconomic variables and collateral characteristics (if applicable); the output for each model includes projected principal loss and cash flows for each security. If a principal loss is projected, cash flows are then discounted at the effective interest rate on the security to calculate the estimated allowances.

Cash flow models are used to project noninterest income and balance sheet items related to capitalized commercial mortgage servicing rights ("CMSR") and capitalized residential mortgage servicing rights ("RMSR") under the relevant stressed scenario. These calculations require the projection of cash flows over the stress period as well as the projection of any changes to the CMSR and RMSR asset fair values to be realized over the stress period.

PNC estimates Operational risk-related losses using the following framework:

- PNC estimates non-legal losses within operational risk segments using regression models developed from historical internal loss data when a significant relationship to either economic stress or business drivers can be found for either event frequencies or aggregated quarterly losses within the relevant risk segment.

- When a significant relationship to either economic stress or business drivers cannot be found for event frequencies or aggregated quarterly losses, non-legal losses are estimated based on stressed, forward-looking business-led loss projections resulting from scenario analysis (with both material and non-material scenarios being selected for inclusion based on PNC's structured Risk Identification process) for the relevant risk segments.

- Historical average losses are also utilized for business as usual risks.

- Loss projections for legal matters are based on a combination of: (i) a quarterly loss-based regression for legal losses less than $10,000; (ii) a quarterly loss-based regression model for legal losses greater than $10,000 but less than $10 million; (iii) stressed loss projections resulting from scenario analysis (with both material and non-material scenarios greater than $10 million being selected for inclusion based on PNC's structured Risk Identification process); and (iv) stressed estimates of potential outcomes on significant current, pending, or threatened matters greater than $10 million.

Using the limited set of macroeconomic variables provided by the Federal Reserve for the hypothetical supervisory severely adverse scenario, PNC utilizes three models to construct a comprehensive, fully integrated severely adverse scenario that is benchmarked against the historical experience of recessions in the U.S. since World War II. These models are:

- A macroeconomic model of the U.S. economy that projects a large number of variables at the national level;

- A regional model that projects housing prices and unemployment rates for over 400 U.S. metropolitan areas based on projected macroeconomic and local economic conditions; and

- An interest rate projection framework that projects a set of interest rate variables including swap, treasury, mortgage, and corporate rates, modeling inputs for the balance sheet estimates, as well as for the models, assumptions, or other processes used to estimate interest and noninterest income, expense, credit loss, securities losses, and other losses over the stress period.

These three models allow for a broad set of variables to be used as modeling inputs for the balance sheet estimates, as well as for the models, assumptions, or other processes used to estimate interest and noninterest income, expense, credit loss, securities losses, and other losses over the stress period.

Estimates of loan balances over the stress period are used as inputs to the various credit models to estimate losses for each portfolio for the duration of the stress period. Additionally, the balance sheet projections serve as the primary input utilized in calculating projected risk-weighted assets for each quarter of the stress period.

Risk-weighted assets are calculated under the Basel III Standardized Approach framework utilizing projections of PNC's balance sheet and certain off-balance sheet exposures. The projected Standardized Approach risk-weighted assets are then used together with estimated levels of regulatory capital to calculate the risk-based capital ratios in Table 2.

A combination of model and non-model approaches is used to project loan and deposit balances, provision, noninterest income, and noninterest expense categories. When employing a non-model approach, significant focus is placed on sound and thoroughly documented assumptions and effective challenge provided through Line of Business, Finance, Independent Risk Management, and senior management reviews.

Pre-provision net revenue is estimated based on the net interest income projection, which is derived from balance sheet estimates and the impact of the respective interest rate and spread forecasts in the hypothetical supervisory severely adverse scenario, combined with outputs of noninterest income and noninterest expense projections.

PNC's forecast models are developed using historical data when sufficient relevant data and relationships exist to support robust modeling.

- This data reflects the performance and behavior of PNC's portfolios and business through historical periods and in different parts of the credit cycle.

- The models estimate the baseline and stress-scenario effects of changes in macroeconomic variables on balances and deposits, revenues, and in the case of credit models, on charge-off behavior, including accounting for customer credit migration, changes in delinquency status, and other effects.

- PNC's stress testing models utilize a variety of modeling techniques and functional forms and may use different variables for different asset classes.

- As part of PNC's overall model risk management and stress testing processes, significant management review of the assumptions, performance, and fit of stress testing models is undertaken.

- All of the models employed by PNC to help conduct the 2022 Stress Test were subject to PNC's internal model risk governance framework and procedures. Additional information on PNC's Model Risk Management framework and the risks associated with the use of models can be found in Item 1A Risk Factors and the Operational Risk Management portion of the Risk Management section of Item 7 in PNC's 2021 Form 10-K.

- In addition to modeled outcomes, PNC utilizes various assumptions and non-model approaches in estimating its income, losses and capital ratios through the stress period. For example, management uses assumptions related to projected interest rates, rates paid on deposits, spreads on certain loans, credit quality of new loan originations, forecasts for certain balance sheet items, and potential expense changes. Non-model approaches are subject to independent review and challenge by the relevant groups within Independent Risk Management. Sensitivity analyses are conducted for key assumptions, and considered when assessing projected results.

- When considering the appropriateness of models for usage in the stress testing process and, in particular, the models' sensitivities to macroeconomic variables, both management as well as PNC's Model Risk Management Group within Independent Risk Management compare the models' projections under a range of forward-looking stress scenarios to the experience in the 2007-2009 economic downturn.

- The effects of the pandemic on the performance of a number of models has required the use of management overlays on the outputs of certain models. These overlays consider, among other things, actual historical performance or changes in the environment that have not been adequately reflected in the model.

GOVERNANCE

PNC has established a robust governance framework to oversee its stress testing and capital planning processes, consistent with the expectations outlined by the Federal Reserve for capital adequacy processes at large banking organizations.

PNC's governance framework includes oversight by the Board of Directors, its Risk Committee, Asset and Liability Committee, Executive Capital Committee, and senior management, including the review of internal capital goals and targets, the economic scenarios, PPNR and loss estimates utilized in the stress testing process, significant assumptions, and compensating measures to address model limitations and uncertainties in the stress testing and capital planning process, and approval of capital actions.

PNC's Executive Capital Committee is the senior management committee responsible for overseeing PNC's stress testing and capital planning process, including the review and approval of any overlays to model outputs.

In considering the appropriateness and size of any such overlay, the committee may consider, among other things, the expected timing of losses, model uncertainty, model quality, data quality, actual historical experience of losses (including PNC's historical losses in recent economic downturns), past supervisory estimates of losses and provision, the characteristics of the specific economic scenario developed, and the evolution of the firm's business strategy or balance sheet that may influence the relevance of model results.

PNC's Capital Plan and stress test results are reviewed with and approved or affirmed by the Risk Committee and Board of Directors prior to submission. As part of this review, management provides the Risk Committee and Board of Directors with final stress test results, the proposed Capital Plan (for the annual CCAR process), and proposed capital actions, among other things.

PNC has implemented a robust capital adequacy process to evaluate its capital adequacy in light of a wide range of inputs. The Board of Directors, its Risk Committee, and senior management use the firm's capital adequacy assessment process to evaluate the appropriate level of capital for the firm to maintain in light of the range of risks it faces, the firm's business strategy, and its risk appetite.

PNC has established a comprehensive independent review and challenge framework for key components of its stress testing framework. PNC's Independent Risk Management and Finance Governance & Oversight groups are responsible for performing independent review and challenge of individual processes and related results which are utilized in developing PNC's capital projections and capital plan.

Internal Audit employs a risk-based audit approach to help ensure comprehensive coverage of the end-to-end capital adequacy process over a multi-year period. Internal Audit conducts regular audits, continuous monitoring activities, and issues management/validation activities related to the adequacy and effectiveness of the processes and controls supporting PNC's capital adequacy process. Internal Audit also considers the independent review and challenge that occurs at key points in the capital planning process.

The results of Internal Audit's evaluation of the framework supporting PNC's capital adequacy process are formally presented in an annual capital assessment, which is distributed to and considered by PNC's senior management, the Executive Capital Committee, the Risk Committee and Audit Committee of the Board of Directors, and the Board of Directors.

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