HSBC NORTH AMERICA HOLDINGS INC

COMPREHENSIVE CAPITAL ANALYSIS AND REVIEW

Annual Company-Run Dodd-Frank Act Stress Test Results

CCAR 2020

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HSBC North America Holdings Inc.

2020 CCAR and Annual Company-Run Dodd-Frank Act Stress Test Results

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This document has been prepared pursuant to the disclosure requirements set out in the regulations issued by the Board of Governors of the Federal Reserve System ('Federal Reserve') under the Dodd-Frank Wall Street Reform and Consumer Protection Act ('Dodd-Frank Act') related to the annual company-run stress testing exercise.

References to 'HSBC' are to HSBC North America Holdings Inc. and its subsidiaries.

This document makes certain references that are not historical facts, including statements about HSBC's beliefs and expectations, which are forward-looking statements. Words such as 'may', 'will', 'should', 'would', 'could', 'appears', 'believe', 'intends', 'expects', 'estimates', 'targeted', 'plans', 'anticipates', 'goal' and similar expressions are intended to identify forward-looking statements but should not be considered as the only means through which these statements may be made. These matters or statements will relate to our future financial condition, economic forecast, results of operations, plans, objectives, performance or business developments and will involve known and unknown risks, uncertainties and other factors that may cause our actual results, performance or achievements to be materially different from that which was expressed or implied by such forward-looking statements. The projections disclosed in this document should not be viewed or interpreted as forecasts of expected outcomes or capital adequacy or of the actual financial condition of either HSBC or HSBC Bank USA, N.A. Rather, these projections are based solely on the hypothetical adverse scenarios and other specific conditions required to be assumed by HSBC for the purpose of Dodd-Frank Act stress testing as well as modeling assumptions necessary to project and assess the impact of the various adverse scenarios on HSBC's capital position. Forward-looking statements speak only as of the date of this document. HSBC makes no commitment to revise or update any forward-looking statements to reflect events or circumstances occurring or existing after the date of any forward-looking statements. Factors that could cause HSBC's actual results to differ materially from those described in forward-looking statements can be found in the annual report on Form 10-K for HSBC USA Inc. Additionally, please refer to the HSBC USA Inc. annual report on Form 10-K for a broader description of our capital planning and risk management processes.

HSBC North America Holdings Inc.

2020 CCAR and Annual Company-Run Dodd-Frank Act Stress Test Results

1. Overview of the Comprehensive Capital Analysis and Review and Dodd-Frank Act Stress Tests

HSBC is one of the largest banking and financial services organizations in the world, with operations in 64 countries and territories covering Europe, Asia, North and Latin America, and the Middle East and North Africa. Our global businesses serve more than 40 million customers worldwide with a broad range of banking products and services to meet their financial needs. We conduct our business intent on supporting the sustained success of our customers, people and other stakeholders.

HSBC North America Holdings Inc. ("HSBC North America") is the holding company for HSBC Holdings plc's operations in the United States. Those operations are primarily conducted through HSBC Bank USA, N.A., which is the principal subsidiary of HSBC USA Inc., a wholly-owned subsidiary of HSBC North America and HSBC Markets (USA) Inc., which is the intermediate holding company of, inter alia, HSBC Securities (USA) Inc., a registered broker-dealer.

HSBC North America is subject to the provisions of Section 165 of the Dodd-Frank Wall Street Reform and Consumer Protection Act ("the Dodd-Frank Act"), and, subsequently, is required to conduct stress tests using a set of macroeconomic scenarios (supervisory baseline and supervisory severely adverse) developed by the Board of Governors of the Federal Reserve System (FRB). The results of these stress tests are required to be disclosed under the supervisory severely adverse scenario. This document provides the results of the 2020 CCAR stress test.

2. Description of the Supervisory Severely Adverse Scenario

For the 2020 annual stress testing exercise, the 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 this hypothetical stress scenario:

- The U.S. unemployment rate climbs to a peak of 10 percent in the third quarter of 2021. This substantial increase in the unemployment rate is consistent with the Board's Policy Statement on the Scenario Design Framework for Stress Testing. In line with the increase in the unemployment rate, real GDP falls about 8½ percent from its pre-recession peak, reaching a trough in the third quarter of 2021. The decline in activity is accompanied by a lower headline CPI inflation rate, which falls to an annual rate of about 1¼ percent after the first quarter of 2020, before gradually rising to average 1¾ percent in 2022.

- In line with the severe decline in real activity, the interest rate for 3-month Treasury bills immediately falls near zero and remains at that level through the end of the scenario. The 10-year Treasury yield immediately falls to ¾ percent during the first quarter of 2020 and rises gradually thereafter to 2¼ percent by the end of the stress-test period. The result is a gradual steepening of the yield curve over most of the stress-test period. Financial conditions in corporate and real estate lending markets are stressed severely. The spread between yields on investment grade corporate bonds and yields on long-term Treasury securities widens to 5½ percentage points by the third quarter of 2020, an increase of 4 percentage points relative to the fourth quarter of 2019. The spread between mortgage rates and 10-year Treasury yields widens to 3½ percentage points over the same period.

- Asset prices drop sharply in this scenario. Equity prices fall 50 percent through the end of 2020, accompanied by a rise in the VIX, which reaches a peak of 70. House prices and commercial real estate prices also experience large overall declines of about 28 percent and 35 percent, respectively, during the first nine quarters of the scenario.

- The international component of this scenario features sharp slowdowns in all country blocs, leading to severe recessions in the euro area, the United Kingdom, and Japan and a pronounced deceleration of activity in developing Asia. As a result of the sharp contraction in economic activity, three of the foreign economies included in the scenario-the euro area, Japan, and developing Asia-experience sharp declines in inflation rates. The U.S. dollar appreciates against the euro, the pound sterling, and the currencies of developing Asia, but depreciates modestly against the yen because of flight-to-safety capital flows.

It is important to note that the scenarios are not forecasts, but rather hypothetical scenarios used to assess the strength and resilience of HSBC North America in stressed economic and financial market environments.

It should also be noted that the stress test results summarized in this report are not comparable to the results of other stress tests performed by HSBC North America due to a number of factors including the uniqueness of the scenario assumptions used to prepare each stress test, differences in market conditions and differences in the companies' financial positions and exposures at the time each stress test is performed. Differences also arise due to the evolving risk quantification methodologies and regulatory capital frameworks that may be applicable to each stress test.

3. Forecasting Methodologies Utilized for Dodd-Frank Act Stress Testing

Our stress testing methodologies focus on empirically defining the relationship between macroeconomic variables, business volumes, revenues and losses in order to estimate outcomes that may result from a specific stress scenario. We use a series of models and estimation methodologies, coupled with management judgment and overlays to model results to take account of HSBC North America's specific risk profile, to produce a comprehensive estimate of future business performance. Additional macroeconomic variables are projected to facilitate the forecasting of certain risk- and portfolio-specific factors. Stress testing methodologies are subject to uncertainties and modeling limitations, including uncertainty about the extent to which historical relationships between macroeconomic factors and business outcomes will continue to be relevant in a severely stressed economic environment. We regularly consider these uncertainties and the limitations of our estimates when evaluating stress test results. The methodologies apply accounting practices consistent with HSBC's significant accounting policies, generally accepted accounting principles ("GAAP") in the U.S., and the regulatory capital rules in place at the time of the stress test.

The forecast methodologies employed by HSBC to quantify the impact of the hypothetical assumptions over the stress testing forecast period include, but are not limited to, the following areas presented below.

Balance Sheet

The balance sheet under each scenario reflects projected changes over the planning horizon based on the macroeconomic environment of each scenario, business growth and planned activity, changes in carrying values resulting from mark-to-market movements and other balance sheet impacts, including draws on unfunded commitments.

Pre-Provision Net Revenue

HSBC's net interest income, non-interest income, and non-interest expense forecasts under the supervisory severely adverse scenario reflect a detailed process in which business segment projections are developed over the nine-quarter capital planning horizon. The revenue forecast is aligned with the balance sheet projections for each business segment over the capital planning horizon, as well as HSBC's expectations of customer behavior and competitive dynamics.

Losses

Stress losses from wholesale and retail credit, market risk and operational risk are calculated using the following methodologies:

Credit risk: Loans to our customers are a significant component of HSBC's total assets, and their related credit risk is among the most significant risks we manage. When estimating loan losses, probability of default, exposure at default, and loss given default assumptions are incorporated into the loan-loss estimates. Loss estimates take into consideration the unique characteristics of our wholesale and retail loan portfolios.

A variety of models are used to project losses on loans. These models take into consideration many factors, including historical performance, the projected economic scenarios, current credit characteristics and credit-quality ratings. Where appropriate, we incorporate country-specific, state and local economic variables to reflect geographical concentrations within a given loan portfolio.

Wholesale loss estimates are segmented based on asset types, specifically commercial and industrial, and commercial real-estate portfolios. Within each of these, the portfolio is segmented further to capture key portfolio risk characteristics, such as particular industry concentrations, that may react differently under various stress scenarios. Rigorous statistical techniques are used to determine and estimate relationships between probability of default and macroeconomic factors.

Probability of default projections are sensitive to and consistent with scenario conditions, resulting in loss rates that are indicative of underlying economic fundamentals. Loss given default is projected using similar techniques.

Losses on retail loans are projected using statistical models that use economic attributes (such as unemployment rate and housing-price levels) and portfolio or loan-level credit characteristics within an expected loss framework.

Market risk and counterparty credit risk: Market risk includes all trading mark-to-market positions and securities carried at fair value. The potential impact of market movements on trading positions and mark-to-market losses for fair-value assets not held in the trading book (including loans held for sale or held for investment under the fair-value option) are incorporated, as appropriate, according to the FRB 2020 CCAR Instructions. Counterparty credit risk is the risk that a counterparty to a transaction could default or deteriorate in creditworthiness before the final settlement of a transaction's cash flows.

For the 2020 exercise, HSBC North America included instantaneous market shocks and a counterparty default component in the severely adverse scenario. These losses were taken in the first quarter of the planning horizon and were treated as an add-on component to the nine-quarter loss projection.

Operational risk: Operational risk is the risk of loss as a result of inadequate or failed internal processes, people and systems or from external events, including legal risk. Operational risk arises from day-to-day operations or external events, and is relevant to every aspect of the business.

HSBC North America stresses operational risk by analyzing the firm's internal loss history and using regression and simulation models to forecast losses, assessing our known material legal matters, and using expert judgment and internal and external reference data to perform scenario analysis on the firm's most material risks.

Capital Position

The projected capital levels and capital ratios for HSBC North America under the supervisory severely adverse scenario is forecasted using the estimates of revenues, losses, risk-weighted assets, and average assets. Common equity tier 1, tier 1, total capital, tier 1 leverage, and supplementary leverage ratios are then projected over the nine-quarter stress testing forecast period.

The actual capital ratios as of the fourth quarter of 2019 and all projected capital ratios are calculated in accordance with the Federal Reserve's revised capital framework implementing Basel III and using Basel III standardized risk-weighted assets.

4. Company-Run Stress Tests – HSBC North America Holdings Inc.

The results of our 2020 annual Dodd-Frank Act stress test are shown below. For HSBC North America, the forecasts include prescribed assumptions, as required under the Dodd-Frank Act stress testing requirements, in respect of the capital actions projected over the planning horizon. The initial quarter of the planning horizon reflects actual capital actions HSBC North America has taken. For the remaining quarters of the planning horizon, the following assumptions are included: (i) no issuances or redemptions of regulatory capital instruments; (ii) no payment of common stock dividends based on previous year actual experience; and (iii) payments on any other regulatory capital instruments are equal to the stated dividend, interest or principal due on such instrument in any given quarter.

The estimates should not be seen as forecasts of expected outcomes or capital adequacy or of the actual financial condition of HSBC North America. The forecasts for HSBC North America may not necessarily be in alignment with those of other institutions or the Federal Reserve because of differences in modeling techniques, methodologies and assumptions made.

The following tables show projected regulatory capital ratios, projected losses, revenues, net income before taxes and projected loan losses by loan type for HSBC North America under the supervisory severely adverse scenario.

Table 1: HSBC North America projected minimum regulatory capital ratios, Q1 2020 to Q1 2022, and the required regulatory minimum capital ratios for CCAR 2020

	Required regulatory minimum capital ratios	Actual Q4 2019	Stressed capital ratios[1]	
			Q1 2022	Minimum[2]
Common Equity Tier 1 capital ratio	4.5%	13.0%	12.0%	9.9%
Tier 1 risk-based capital ratio	6.0%	14.8%	13.7%	11.4%
Total risk-based capital ratio	8.0%	18.4%	17.3%	15.2%
Tier 1 leverage ratio	4.0%	7.8%	7.2%	6.8%
Supplementary leverage ratio	3.0%	5.7%	5.5%	5.0%

1 The capital ratios are calculated using capital action assumptions prescribed under the Dodd-Frank Act stress testing rules.

2 The minimum capital ratios represent the lowest projected ratio in the period Q1 2020 to Q1 2022, which do not necessarily occur in the same quarter.

Table 2: HSBC North America projected losses, revenues and net loss before taxes for the nine-quarters

	Billions of dollars	Percent of average assets[1]
Pre-provision net revenue/(loss)[2]	1.21	0.5%
less		
Provisions	1.98	0.8%
Realized losses/(gains) on securities (AFS/HTM)	0.00	0.0%
Trading and counterparty losses[3]	1.45	0.6%
Other losses/(gains)	0.39	0.2%
equals		
Net loss before taxes	(2.61)	1.1%

1 Average assets are calculated as the nine-quarter average of total assets.

2 Pre-provision net revenue includes losses from operational-risk events.

3 Trading and counterparty losses include mark-to-market ("MTM") and credit valuation adjustment ("CVA") losses resulting from the assumed instantaneous global market shock and counterparty default scenario component.

Table 3: HSBC North America projected loan losses, by loan type for the nine-quarters

	Billions of dollars	Portfolio loss rates (%)[1]
Loan Losses	1.85	2.7%
First-lien mortgages, domestic	0.10	0.6%
Junior liens and HELOCs, domestic	0.03	3.1%
Commercial and industrial[2]	0.72	2.5%
Commercial real estate, domestic	0.58	5.5%
Credit cards	0.28	20.0%
Other consumer[3]	0.04	11.4%
Other loans[4]	0.10	1.2%

1 Cumulative loss rates calculated over the nine-quarter planning horizon as a percentage of average loan balances (excluding loans held for sale and loans held for investment under the fair-value option).

2 Commercial and industrial loans include small- and medium-enterprise loans and corporate cards.

3 Other consumer loans include lines of credit and personal loans.

4 Other loans includes loans to depositories and financial institutions.