

# **HSBC North America Holdings Inc.**

## 2015 Mid-Cycle 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 mid-cycle 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 within the meaning of the Private Securities Litigation Reform Act of 1995. 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 HSBC. 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. and HSBC Finance Corporation. 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.*

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### **1. Overview of Mid-Cycle Company-Run Dodd-Frank Act Stress Test**

Pursuant to the Dodd-Frank Act, the Federal Reserve has issued regulations requiring Bank Holding Companies ('BHCs') with average total consolidated assets of US\$50 billion or more to conduct annual company-run stress tests ('Dodd-Frank Act stress test'). HSBC North America Holdings Inc. ('HSBC North America') is required to conduct a mid-cycle company-run stress test to assess the impact of its internally developed hypothetical macroeconomic baseline, adverse and severely adverse scenarios on its financial condition and capital adequacy over a nine quarter planning horizon beginning, for the current exercise, in the second quarter of 2015. HSBC North America provides herein the disclosure of the results of its 2015 mid-cycle company-run stress test exercise, under its internally developed severely adverse stress scenario ('severely adverse scenario'), as required to be prepared and submitted to the Federal Reserve by July 6, 2015 under these regulations.

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., HSBC Finance Corporation, a holding company for certain run-off consumer finance businesses, and HSBC Markets (USA) Inc. which is the intermediate holding company of, inter alia, HSBC Securities (USA) Inc., a registered broker-dealer.

HSBC Holdings plc is one of the world's largest banking and financial services organizations. With more than 6,100 offices in both established and emerging markets, it aims to be where growth is, connecting customers to opportunities, enabling businesses to thrive and economies to prosper, and, ultimately helping people to fulfil their hopes and realize their ambitions.

The results of HSBC North America's mid-cycle company-run Dodd-Frank Act stress test are shown below in section 4.

### **2. Description of the Bank Holding Company Severely Adverse scenario**

HSBC North America's mid-cycle BHC severely adverse scenario is a hypothetical scenario that was designed to reflect a period of severe deflation accompanied by a prolonged deep recession that is as damaging as what was observed during the 2008-2009 Great Recession. In addition, the scenario considers the following key themes: a sharp sustained decline in commodity prices including crude oil, structurally low nominal interest rates and a flatter yield curve in G7 markets, continued emerging market currency weakness versus the U.S. Dollar due to flight to quality considerations, and a severe contraction in Latin American growth prospects given the region's exposure to commodity prices, global growth and investment outflows as evidenced in recent macroeconomic developments. The real Gross Domestic Product ('GDP') cumulative rate of change is projected to fall to a low of minus 4.6% by the third quarter of 2016. The national unemployment rate is forecast to build to a peak of 10.0% in the fourth quarter of 2016 and stays relatively high through to the beginning of 2018. Accelerated housing foreclosures are assumed to set off another major cycle of house price declines as the Federal Housing Finance Agency All Transactions home price index and CoreLogic home price index decline sharply by 19% and 24% respectively by the second quarter of 2017. Commercial real estate prices are assumed to fall by approximately 34% by the second quarter of 2017.

Consumer price inflation registers a year-on-year decrease of 1.5% by the first quarter of 2016 which then slowly increases to a positive 2.3% annual growth rate by the third quarter of 2017. As a result, the expectation is that the Federal Reserve would maintain short-term interest rates close to zero until the third quarter of 2017. Similarly, the yield on the 10-year Treasury is assumed to fall to 1.0% by the first quarter of 2016 and stay below 2.0% throughout the second quarter of 2017. The significant economic contraction in this scenario is associated with a sharp fall in the price of crude oil of 42% by the first quarter of 2016. Equity market volatility remains high as the Chicago Board of Exchange Market Volatility Index ('VIX') reaches a level of 65% by the end of 2015 and the U.S. equity indices drop significantly with the Dow Jones Total Stock Market Index showing a peak-to-trough decline of 55% by the end of the

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third quarter of 2016. The BBB corporate spread widens to a peak value of 4.5% in the fourth quarter of 2015 and remains consistently above 3.0% for the remainder of the forecasting period.

### **3. Forecasting Methodologies Utilized for Mid-Cycle Company-Run Dodd-Frank Act Stress Testing**

Our stress testing methodologies focus on empirically defining the relationship between macroeconomic variables and business volumes, revenues and losses in order to estimate outcomes that may result from a specific adverse scenario. We use a series of models and estimation methodologies, coupled with management judgment and overlays to modeled 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 considerable 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 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, included, but were not limited to, the following:

#### **Pre-Provision Net Revenue**

HSBC's revenue forecast, under the BHC severely adverse scenario, reflected a detailed process in which business segment projections were developed over the nine quarter capital planning horizon. These forecasts incorporated the impact on modeled net interest income, as well as non-interest income and non-interest expense, of the hypothetical macroeconomic and market environment prescribed under the scenario. The scenario revenue forecast also reflected the level of resources projected to be employed by each business segment over the capital planning horizon, as well as HSBC's expectations of customer behavior and competitive dynamics. The pre-provision net revenue was forecast using multiple quantitative methodologies as well as qualitative adjustments as needed.

#### **Balance Sheet**

The forecast balance sheet, under the BHC severely adverse scenario, reflected projected changes over the planning horizon based on assumptions of the macroeconomic environment in the scenario, business growth and planned activity, changes in carrying values resulting from mark-to-market and other balance sheet impacts, including draws on unfunded commitments and the roll-off of lending and net borrowing or funding. The balance sheet was forecast using multiple quantitative methodologies as well as qualitative adjustments as needed.

#### **Losses**

Stress losses from market risk, wholesale and retail credit risk and operational risk exposures across HSBC, under the BHC severely adverse scenario, were measured utilizing the following methodologies:

*Market Risk:* Market risks included all mark-to-market positions and loans carried at fair value (the latter primarily in HSBC Finance Corporation). 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, projected in the scenario were incorporated, as appropriate.

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Our approach to projecting market risk trading losses in a stress environment was based upon specifying macroeconomic shifts and observing and incorporating their impacts into HSBC's forecast performance. Specific macroeconomic factors considered in the process included, but were not limited to, credit spreads, U.S. GDP, foreign exchange rates, and VIX. The market risk trading stress results were computed using a full revaluation methodology in which the portfolio was fully re-priced under the stress risk factor assumptions.

*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 across all lines of business. When estimating loan losses, probability of default, exposure at default, and loss severity assumptions are incorporated into the loan loss estimates. Loss estimates take into consideration the unique characteristics of our wholesale and retail loan portfolios and reflect the run-off nature of the retail loan portfolio in HSBC Finance Corporation.

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

Wholesale loss estimates were made based on asset types, specifically commercial & industrial ('C&I') and commercial real estate ('CRE') portfolios. Within each of these, the portfolio was segmented further to capture key portfolio risk characteristics, such as particular industry concentrations, that may react differently under various stress scenarios. Rigorous statistical techniques under an expected loss framework were 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. For example, macroeconomic factors considered for the CRE portfolio forecast include U.S. GDP, unemployment rate, and the CRE Price Index, and macroeconomic factors considered for the C&I portfolio projections include the BBB corporate spread, unemployment rate, and VIX. Loss severity was projected using similar techniques.

Losses on retail loans were projected using statistical models that use economic attributes (such as unemployment rate, GDP and housing price levels) and portfolio credit characteristics within an expected loss framework. As with wholesale loss estimates, the retail portfolio is also sensitive to the scenario conditions. Reserves were forecasted using a coverage ratio based on expected losses, where the losses were stressed quarterly throughout the observation period. Estimated troubled debt restructuring volumes and life of loan reserves, most significant to loans made by HSBC Finance Corporation, were stressed within this framework, as appropriate.

*Operational Risk:* Operational risk loss estimates were calculated through multiple approaches, including trending of historical performance and scenario analysis to project operational losses. Scenario analysis is used as the primary methodology to estimate stressed losses. This analysis is performed through scenario workshops with a range of relevant stakeholders and subject-matter experts to identify and estimate HSBC North America's most important idiosyncratic risks. The estimates are based on a range of expert judgments, and are supported by both internal and external data. Scenario analysis results are used across the most material Basel event types for HSBC North America's business profile. The forecast for operational risk losses also includes the estimation of potential litigation costs under the BHC severely adverse scenario, as set out in the stress testing requirements.

### Capital Position

The capital position of HSBC North America was forecast using the projected revenue and loss estimates described above and risk-weighted assets forecast under the BHC severely adverse scenario. Tier 1 common, common equity tier 1, tier 1, total capital and tier 1 leverage ratios were then projected over the nine quarter stress testing forecast period.

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Pursuant to section 217.153.(e)(2)(i)(C) of the FRB's Regulation YY, HSBC North America's request to opt-out of the Federal Reserve's advanced risk-based capital rules was approved by the Federal Reserve in December 2014. Therefore, HSBC North America continues being subject to the Basel III standardized risk-based capital rules. The actual capital ratios as of the end of the first quarter of 2015 and all projected capital ratios, other than the tier 1 common ratio, were calculated in accordance with the transition provisions set out in the Federal Reserve's revised capital framework implementing Basel III, and using Basel III standardized risk-weighted assets.

In accordance with the Federal Reserve's regulations, the tier 1 common ratio was calculated under the Basel I-based capital rules.

### **4. Mid-Cycle Company-Run Stress Tests Results – HSBC North America Holdings Inc.**

The results of our 2015 mid-cycle company-run 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: (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 the 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 because of differences in modeling techniques, methodologies and assumptions made.

The changes in forecast regulatory capital ratios are driven by a pre-provision net loss, due to a forecast which includes a decrease in net interest income, an increase in operational risk losses, and an increase in loan losses. Despite the projected decline in net income, we forecast a tier 1 common ratio well above the 5% benchmark minimum ratio established under the Federal Reserve's capital plan rule. As shown in Table 1, the other minimum regulatory capital ratios are forecast to be above all regulatory minimum ratios.

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

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**Table 1:** HSBC North America projected minimum regulatory capital ratios and tier 1 common ratio, Q2 2015 to Q2 2017, and the required regulatory minimum capital ratios for 2015 mid-cycle company-run Dodd-Frank Act stress test

Actual Q1 2015 and projected capital ratios through Q2 2017 under the HNAH's severely adverse scenario				
	Required regulatory minimum capital ratios <sup>4</sup>	Actual Q1 2015	Stressed capital ratios <sup>1</sup>	
			Q2 2017	Minimum <sup>2</sup>
Tier 1 common ratio <sup>3</sup>	5.0%	14.8%	7.1%	7.1%
Common equity tier 1 capital ratio	4.5%	15.3%	7.5%	7.5%
Tier 1 risk-based capital ratio	6.0%	17.1%	9.1%	9.1%
Total risk-based capital ratio	8.0%	22.4%	14.4%	14.3%
Tier 1 leverage ratio	4.0%	10.4%	5.8%	5.8%

1 All projected capital ratios, other than the tier 1 common ratio, are calculated in accordance with the transition provisions set out in the Federal Reserve's revised capital framework implementing Basel III and using Basel III standardized risk-weighted assets.

2 The minimum capital ratios represent the lowest projected ratio in the period Q2 2015 to Q2 2017 which do not necessarily occur in the same quarter.

3 The tier 1 common ratio is calculated under the definitions of tier 1 capital and total risk-weighted assets under Basel I-based capital rules.

4 From 2016, a capital conservation buffer of 0.625 percent will be added to the minimum ratios above (excluding the tier 1 common and tier 1 leverage ratios).

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

Projected losses, revenues, net income, and other comprehensive income through Q2 2017		
	Billions of dollars	Percent of average assets <sup>1</sup>
Pre-provision net loss <sup>2</sup>	(3.05)	(1.0%)
<i>less</i>		
Provisions	9.17	3.1%
Realized losses/gains on securities (AFS/HTM)	0.06	0.0%
Trading and Counterparty losses <sup>3</sup>	-	0.0%
<i>Other losses/gains<sup>4</sup></i>	0.18	0.1%
<i>equals</i>		
Net loss before taxes	(12.46)	(4.2%)

1 Average assets is the nine quarter average of total assets.

2 Pre-provision net loss includes losses from operational-risk events, mortgage repurchase expenses, unfavorable movements in the lower of amortized cost or fair value adjustments on the fair value of real estate receivables held for sale and other real estate owned ('OREO') costs.

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

4 Other losses/gains includes 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.

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

Projected loan losses, by type of loans, Q2 2015-Q2 2017		
	Billions of dollars	Portfolio loss rates (%) <sup>1</sup>
Loan Losses	6.38	6.7%
First-lien mortgages, domestic	2.47	7.5%
Junior liens and HELOCs, domestic	0.84	23.9%
Commercial and industrial <sup>2</sup>	1.95	5.5%
Commercial real estate, domestic	0.49	4.8%
Credit cards	0.14	19.3%
Other consumer <sup>3</sup>	0.02	5.3%
Other loans <sup>4</sup>	0.47	3.7%

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 student loans and automobile loans.

4 Other loans include international real estate loans.