

# 2016 ANNUAL DODD-FRANK ACT

## STRESS TEST RESULTS

### OVERVIEW

---

The Dodd-Frank Act Stress Test (“DFAST”) results provided herein are based on the hypothetical severely adverse scenario provided by the Federal Reserve Board (“FRB”) and the Office of the Comptroller of the Currency (“OCC”).

### IMPORTANT CONSIDERATIONS

---

The stress test results included in this report have been prepared in accordance with the DFAST requirements and present certain projected financial measures for City National Bank, a national banking association (“City National” or the “Bank”), under hypothetical economic and financial conditions, market scenarios and other assumptions described herein.

This report includes forward-looking statements, including projections of City National’s financial results and conditions under a hypothetical scenario prescribed by the FRB and the OCC. These projections do not reflect City National’s forecast of expected future economic conditions or financial results. Factors that might cause City National’s stress test results to change include changes to the underlying economic assumptions that drive these results.

In addition, the regulations establishing DFAST require City National to disclose certain projected financial measures that have not been prepared under U.S. generally accepted accounting principles.

Each bank subject to DFAST is responsible for developing its own internal stress testing process. Therefore, City National’s DFAST results may not be directly comparable to those of other banks.

### ABOUT CITY NATIONAL

---

At December 31, 2015, City National Bank had consolidated total assets of \$35.7 billion.

City National Bank provides banking, investment and trust services through 73 offices, including 16 full-service regional centers, in Southern California, the San Francisco Bay Area, Nevada, New York City, Nashville and Atlanta.

City National’s principal client base consists of small to mid-size businesses, entrepreneurs, professionals and affluent individuals. The Bank seeks to provide the ultimate banking experience through depth of expertise, breadth of resources, focus and location, dedication to complete solutions, a relationship banking model and an integrated team approach. Through the use of private and commercial banking teams, product specialists and investment advisors, City National facilitates the use by the client, where appropriate, of multiple services and products. The Bank offers a broad range of lending, deposit, cash management, international banking, equipment financing, wealth management and other products and services.

On November 2, 2015, City National Corporation, a bank holding company, merged with and into RBC USA Holdco Corporation, a wholly owned subsidiary of Royal Bank of Canada. As a result, City National Bank became a wholly owned subsidiary of RBC USA Holdco Corporation. The 2016 DFAST process has been modified to reflect City National Bank on a standalone basis.

## STRESS TESTING OBJECTIVES

---

The City National DFAST process encompasses the following goals and objectives:

- Provide a key management tool in the normal course of business for decisions regarding capital planning, assessment of capital adequacy and City National's risk management practices;
- Understand fully City National's risks, key vulnerabilities and the potential impact of stressful events and circumstances on its financial condition;
- Maintain well-capitalized status and ensure that City National has sufficient capital to support its operations through periods of stress;
- Adjust strategies and appropriately plan for and maintain adequate capital levels to ensure that City National has sufficient enduring core capital; and
- Quantify the risks of loan and investment portfolios.

## THE SEVERELY ADVERSE SCENARIO

---

The severely adverse scenario provided by the FRB and the OCC is not a forecast, but rather a hypothetical set of events designed to assess the strength and resilience of banking organizations under unfavorable economic conditions.

It features a severe global recession, accompanied by a period of heightened corporate financial stress, high unemployment, and negative yields for short-term U.S. Treasury securities.

- Equity prices fall approximately 50% through the end of 2016, accompanied by a surge in equity market volatility, which approaches the levels attained in 2008.
- Housing prices decline approximately 25% while commercial real estate prices fall by approximately 30%.

- Short-term Treasury rates fall to -0.5% by mid-2016 and remain at that level through the end of the scenario.
- The yield on the long-term Treasury bond falls close to zero before edging up to just above 1% towards the end of the nine quarter forecast.
- Real GDP experiences five consecutive quarters of negative growth, with the trough at -7.5% in the second forecast quarter.
- Unemployment hits a peak of 10% in the third quarter of 2017.
- Corporate financial conditions are stressed severely as the BBB corporate yield increases from 4.6% to 6.4% at its peak in Q4 2016, reflecting mounting credit losses, heightened investor risk aversion and strained market liquidity conditions.

## RISKS INCLUDED IN THE STRESS TEST

---

In conducting business, City National assumes certain risks. The Bank takes into account risks that are defined in the OCC Comptroller's Handbook and the FRB Commercial Bank Examination Manual, respectively, grouping them into four broad risk groups:

### 1) CREDIT RISK

Credit risk is defined as the exposure to a borrower's or counterparty's inability to honor its obligations, including loan and settlement risk exposure or other exposure arising from transactions or contractual arrangements.

### 2) MARKET RISK

The risk of variability of future cash flows and earnings due to market changes, including:

- **Interest Rate Risk** – The risk to current or anticipated earnings or capital arising from movements in interest rates. For stress testing purposes, this is measured as the change in net interest margin.

- **Liquidity Risk** – The risk to earnings or capital arising from the Bank’s inability to meet its obligations when they come due without incurring unacceptable losses. Liquidity risk includes the inability to manage unplanned changes in funding sources and the failure to address changes in market conditions that affect the ability to liquidate assets quickly and with minimal loss in value.
- **Asset Management Risk** – The effect of interest rates, security prices and financial market conditions on CNB’s wealth management businesses.

### 3) OPERATIONAL RISK

The risk of financial losses from inadequate or failed systems, people or processes, including:

- **Fraud and Failed Process Risk** – The risk of loss from fraudulent activity or internal control failures.
- **Model Risk** – The risk that models are inaccurate, implemented incorrectly or used for tasks for which they are not appropriate. High risk models are regularly reviewed and validated.
- **Technology Risk** – The risk of loss resulting from inadequate control over information security, change management, hardware or software failure or delivery of automated services.

### 4) BUSINESS RISK

Risks not otherwise captured through credit, market or operational risk include:

- **Economic Risk** – This is the risk that changes in global, national and/or state economies could adversely impact earnings or capital.
- **Reputation Risk** – This is the risk to earnings, capital or business operations that could arise from negative public opinion, client feedback or dissatisfaction.

## STRESS TEST METHODOLOGIES

---

City National employed various methodologies for modeling balance sheet, income statement, capital, provision and charge-off projections:

### Credit

- The Bank performed credit loss analysis on its commercial and industrial, commercial real estate and single-family residential portfolios.
- The estimated provision expense includes charge-offs and recoveries.
- In its stress test, the Bank used the macroeconomic variables from the supervisory scenarios.

City National structured its approach around a standard industry expected loss framework that incorporates probability of default, loss given default and exposure at default.

### Pre-Provision Net Revenue

- The Bank’s balance sheet (loan and deposit balances) is projected using multiple regression. The regression determines the most significantly correlated macroeconomic variables.
- Net interest income is calculated by multiplying the expected rates on all interest-earning asset and liability balances by projected interest rates.
- Non-interest income and expense are based primarily on projections of significant line items using historical trends and line-of-business feedback.
- Model results are aggregated and respective capital ratios are calculated based on Basel III standards for risk-weighted assets/capital.

## CITY NATIONAL BANK STRESS TEST RESULTS

Below are cumulative results for City National Bank over the prescribed nine-quarter planning horizon for the severely adverse scenario. The timeframe covered by the stress test begins on January 1, 2016 and ends on March 31, 2018.

### NINE-QUARTER TOTAL – BANK

(\$ in millions)

Pre-Provision Net Revenue	\$	1,032
Net Income	\$	29
Charge-offs	\$	681
Loan Loss Provision	\$	1,096

## A SUMMARY OF CITY NATIONAL'S CAPITAL RATIOS

CITY NATIONAL BANK	ACTUAL
	4Q15
Tier 1 Leverage	7.19%
Tier 1 Risk-Based	9.43%
Total Risk-Based	11.40%
Common Equity Tier 1	9.43%

HYPOTHETICAL SEVERELY ADVERSE STRESSED SCENARIO	
1Q18	9Q LOW
5.53%	5.53%
8.94%	8.92%
10.65%	10.64%
8.94%	8.92%

## CAPITAL RATIO EXPLANATIONS

The drivers of the hypothetical decline in capital ratios over the nine-quarter horizon reflects the combined impact of the following:

- An increase in loans over time based on the balance sheet regression, resulting in an increase in total assets and risk-weighted assets;
- The shift toward high quality liquid assets as a result of City National's implementation of Liquidity Coverage Ratio standards. The mix of securities shifted toward instruments with lower risk weightings (and yields), which had a positive impact on the capital ratios when compared to prior year methodologies;
- The impact of negative interest rates, or lack thereof. Most loans have floors that would prevent the bank being charged for making loans, and spreads more than offset the cost of negative rates for the remaining loans;
- The predicted level of credit loss provision had a negative impact on retained earnings and capital formation; and
- The Bank's asset sensitivity and negative short-term rates depress net interest income as the net interest margin continues to decline.