

# 2017 ANNUAL DODD-FRANK ACT

## STRESS TEST RESULTS

### OVERVIEW

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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

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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.

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.

In addition, 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

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Los Angeles-based City National Bank offers a full complement of banking, trust and investment services through 72 offices, including 17 full-service regional centers, in Southern California, the San Francisco Bay Area, Nevada, New York City, Nashville, Atlanta and Minneapolis. Its 4,400 colleagues deliver highly personal service and complete financial solutions to entrepreneurs, professionals, their businesses and their families.

Through its subsidiaries, including City National Rochdale, LLC; City National Securities, Inc.; First American Equipment Finance, and other affiliated companies, City National also provides wealth management, brokerage and leasing services among others.

City National is a subsidiary of Royal Bank of Canada. For more information about RBC, please see [rbc.com](http://rbc.com).

## STRESS TESTING OBJECTIVES

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The Dodd-Frank Act Stress Test process for City National encompasses the following goals and objectives:

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

## THE SEVERELY ADVERSE SCENARIO

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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.

This scenario is characterized by a severe global recession in which the U.S. unemployment rate rises up to 10 percent, accompanied by a heightened period of corporate financial stress and near zero short-term rates.

Other factors include:

- Equity prices decline 50 percent through the end of 2017, accompanied by a surge in equity market volatility

- Housing prices decline 25 percent during the scenario period, while commercial real estate prices decline 35 percent
- Short-term Treasury rates hold at 0.1 percent for the duration of the scenario period
- The 10 year Treasury yield drops to 0.8 percent in Q1 2017, rising gradually thereafter
- GDP growth declines to -7.5 percent at the trough in Q2 2017 before recovering
- Unemployment hits 10 percent in Q3 2018 at its peak before normalizing

## KEY RISKS INCLUDED IN THE STRESS TEST

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

- **Credit Risk** – Arises directly from the risk of default of a primary obligor or indirectly from a secondary obligor and/or through off-balance sheet exposures, contingent credit risk and/or transitional risk
- **Market Risk** – Changes in market prices impact City National's financial condition, capital adequacy, potential gains or losses and profitability
- **Liquidity Risk** – Arises when City National is not able to meet its funding requirements or to execute a transaction at reasonable cost. City National manages liquidity risk and maximizes risk adjusted returns within prudent management standards by identifying key risks, determining acceptable risk tolerances, measuring risk positions and managing City National's discretionary balance sheet and derivatives positions
- **Operational Risk** – Loss or harm resulting from people, inadequate or failed internal processes and systems, or from external events. Operational Risk includes Information Technology Risk, Fraud Risk, Model Risk, Human Capital Risk and Disasters/ External Events Risk

- **Systemic Risk** – Risks realized and impacted by a risk event or bank crisis
- **Strategic Risk** – Arises from City National choosing a strategy that is not consistent with its principles, business or regulatory environment, or choosing a strategy that is adequate but cannot be properly executed
- **Reputation Risk** – Arises from damage to the Bank's brand or services related to activities performed by or conducted on behalf of City National, its colleagues, Board of Directors, clients and/or other representatives
- **Legal and Regulatory Environment Risk** – Arises from changes identified and monitored through City National's Legal and Compliance departments. Separation of Legal and Regulatory Environment Risk from Regulatory Compliance Risk distinguishes between the uncertain operating legal and regulatory environment in which City National operates and failure to comply with applicable laws and regulations
- **Regulatory Compliance Risk** – Arises from lack of robust processes to identify and comply with laws and regulations. Can be impacted by Legal and Regulatory Environment Risk in that frequent or sudden changes in financial laws and regulations could affect operating stability and economic uncertainty

## STRESS TEST METHODOLOGIES

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

### Credit

- Credit loss analysis is performed on its commercial and industrial, commercial real estate and residential mortgage and HELOC portfolios
- The estimated provision expense includes charge-offs and recoveries
- In its stress test, the Bank used the macroeconomic variables from the supervisory scenarios
- The approach is structured 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 linear regression. The regressions determine the most significantly correlated macroeconomic variables
- Net interest income is calculated by multiplying the expected interest-earning asset and liability balances by projected interest rates
- Non-interest income and expense are calculated primarily by projecting 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 severely adverse scenario. The timeframe covered by the stress test begins on January 1, 2017 and ends on March 31, 2019.

### NINE-QUARTER TOTAL – BANK

(\$ in millions)

Pre-Provision Net Revenue	\$	1,260
Net Income	\$	229
Charge-offs	\$	819
Loan Loss Provision	\$	1,021

## A SUMMARY OF CITY NATIONAL'S CAPITAL RATIOS

CITY NATIONAL BANK	ACTUAL	HYPOTHETICAL SEVERELY ADVERSE STRESSED SCENARIO	
	Q4 2016	Q1 2019	9 QUARTER LOW
Tier 1 Leverage	6.9%	6.0%	5.9%
Tier 1 Risk-Based	10.4%	10.5%	9.6%
Total Risk-Based	13.6%	13.6%	12.7%
Common Equity Tier 1	10.4%	10.5%	9.6%

## CAPITAL RATIO EXPLANATIONS

The drivers of any declines in the capital ratios in the hypothetical severely adverse stress scenario over the nine quarter horizon reflect the combined impact of the following:

- The predicted level of credit losses and provision for credit losses has a negative impact on retained earnings
- An increase in loans and deposits, based on the regression models, results in an increase in total assets and risk-weighted assets
- City National's asset sensitivity and continued low short-term rates reduce net interest income as the net interest margin continues to decline
- The increase in deposits led to an increase in high quality liquid assets and lower risk-weighted assets

