

Federal Home Loan Bank of Chicago 2014 Annual Stress Test Disclosure

*Results of the Federal Housing Finance Agency
Supervisory
Severely Adverse Scenario*

July 17, 2014

**As Required by the Dodd-Frank
Wall Street Reform and Consumer Protection Act
and Federal Housing Finance Agency Regulations**



Executive Summary

Stress Test Background

- The Dodd-Frank Wall Street Reform and Consumer Protection Act (Dodd-Frank Act) requires certain financial companies with total consolidated assets of more than \$10 billion that are regulated by a primary Federal financial regulatory agency to conduct annual stress tests to determine whether the companies have the capital necessary to absorb losses under adverse economic conditions.
- In September 2013, the Federal Housing Finance Agency (FHFA), regulator of the Federal Home Loan Banks (FHLBanks), implemented annual stress testing for the FHLBanks as required by the Dodd-Frank Act.
- In accordance with these rules, FHLBank Chicago (the “Bank”) is publicly disclosing a summary of its stress test results for the Severely Adverse scenario in this document. This is the first such annual disclosure.

Stress Test Requirements

- FHFA provided inputs and key assumptions for the Severely Adverse scenario.
- Results are projected over the nine-quarter period from fourth quarter of 2013 to fourth quarter of 2015, starting with 9/30/2013 balances. This period is defined as the “plan horizon”.
- The stress test results under the FHFA Severely Adverse scenario, as disclosed in this document or otherwise, should not be viewed as forecasts of expected or likely outcomes of future results. Rather, these modeled projections are based solely on the FHFA’s Severely Adverse scenario and other specific required assumptions.

Executive Summary (cont.)

Stress Test Results

- Our stress test results demonstrate capital adequacy under Severely Adverse economic conditions as of 12/31/2015:
 - Regulatory capital ratio of 7.07% compared to the regulatory requirement of 4.00%. Regulatory capital increases by \$600 million over the plan horizon as projections for net interest income and other non-interest income offset estimated credit losses and mark-to-market losses on the Bank's trading securities and other assets held at fair value.
 - Total GAAP¹ Capital of \$2.32 billion. GAAP capital declines by \$1.3 billion driven by the impact on Accumulated Other Comprehensive Income of the global market shocks applied to the Bank's Available-for-Sale portfolio and certain private label mortgage-backed securities classified as Held-to-Maturity.
- Dividend payments were assumed to continue based on the future level of short term interest rates.
- Capital stock purchases related to pre-existing member obligations for future advances were assumed to be made.
- The Bank assumed no repurchases of capital stock.

Stress Test Use/Governance

- Stress testing has evolved as an important analytical tool for evaluating capital adequacy under adverse economic conditions. The Bank regularly uses such stress tests, including those annual stress tests required by the Dodd-Frank Act, in its capital planning to measure our exposure to material risks and evaluate the adequacy of capital resources available to absorb potential losses arising from those risks.
- We take the stress test results into account when making changes to our capital structure; when assessing our exposures, concentrations, and risk positions; and in our overall risk management.

¹ Generally Accepted Accounting Principles in the United States.

Stress Test Components

Net Interest Income + Other Non-Interest Income	Net interest income (expense), operating expenses, and other non-interest income (expense).
(Provision) Benefit for Credit Losses on Mortgage Loans	Credit loss provisions related to mortgage loans held for portfolio.
OTTI Credit Losses	Credit-related impairments. Other Than Temporary Impairment (OTTI) for investment securities.
Mark-to-Market Gains (Losses)	Mark-to-market gains (losses) related to changes in fair value of derivatives, trading securities (including the impact of global market shock assumptions) and other gains (losses) on assets held at fair value.
Global Market Shock Impact on Fair Value Assets	Instantaneous global shocks of interest rates, volatility, agency Mortgage-Backed-Securities (MBS) option-adjusted spreads (OAS), and non-agency MBS prices applied to available-for-sale (AFS) securities, and OTTI Held-to-Maturity (HTM) securities, impacting Accumulated Other Comprehensive Income (AOCI) only.

Severely Adverse Scenario Results

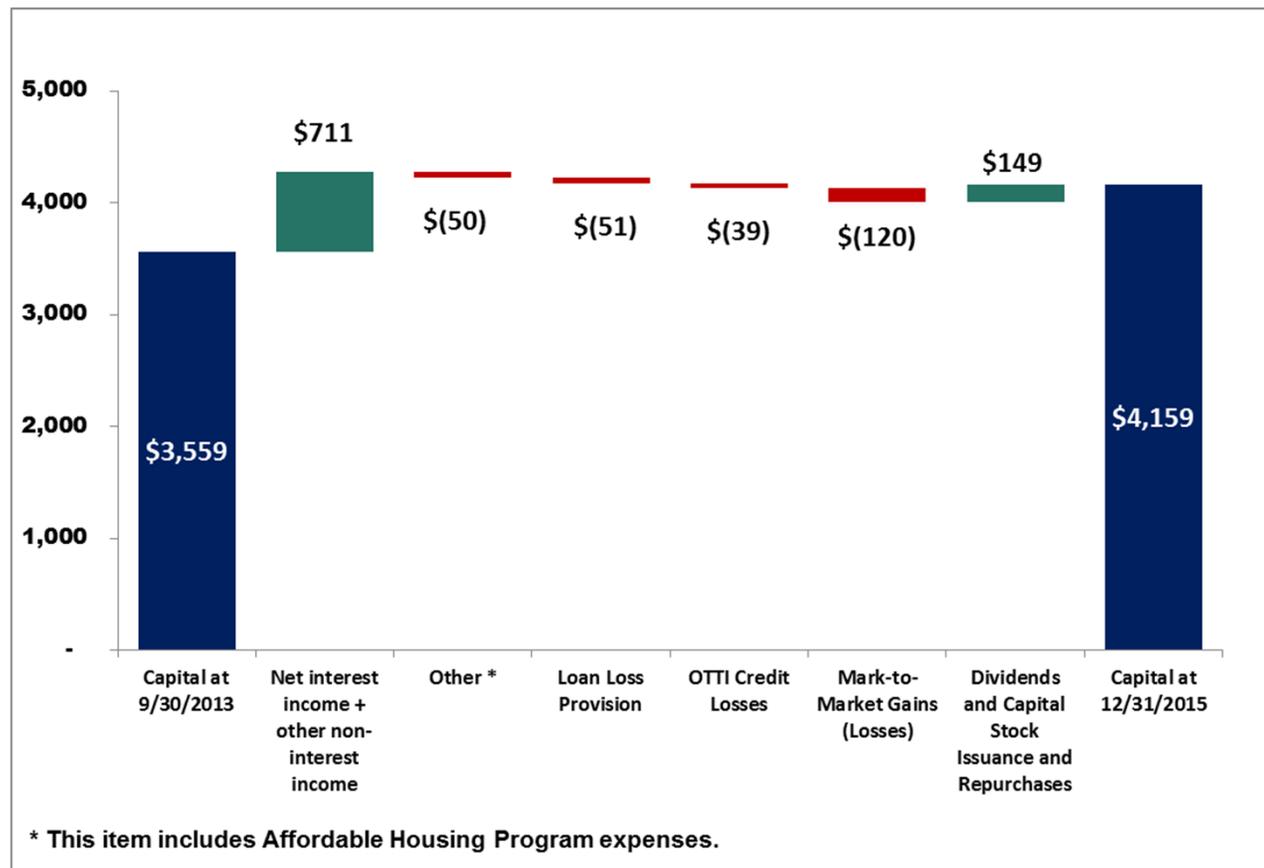
FHLBank Dodd-Frank Stress Test Template - SEVERELY ADVERSE
(Disclosure to Public)

(Dollars in millions)	<u>Cumulative Projected Financial Metrics (Q4 2013 - Q4 2015)</u>
1 Net interest income + other non-interest income	711
2 (Provision) benefit for credit losses on mortgage loans	(51)
3 OTTI Credit Losses	(39)
4 Mark-to-market gains (losses)	(120)
5 Global market shock on fair value assets	(1,891)
6 Net income (loss) before assessments	501
7 Total Capital (GAAP) - Starting	3,605
8 Total Capital (GAAP) - Ending	2,318
9 Regulatory Capital Ratio - Starting	5.82%
10 Regulatory Capital Ratio - Ending	7.07%

Severely Adverse scenario is not an expected forecast, but a hypothetical stress scenario using internal projections by applying the rules and conditions set forth by the FHFA.

Severely Adverse Results – Regulatory Capital Analysis

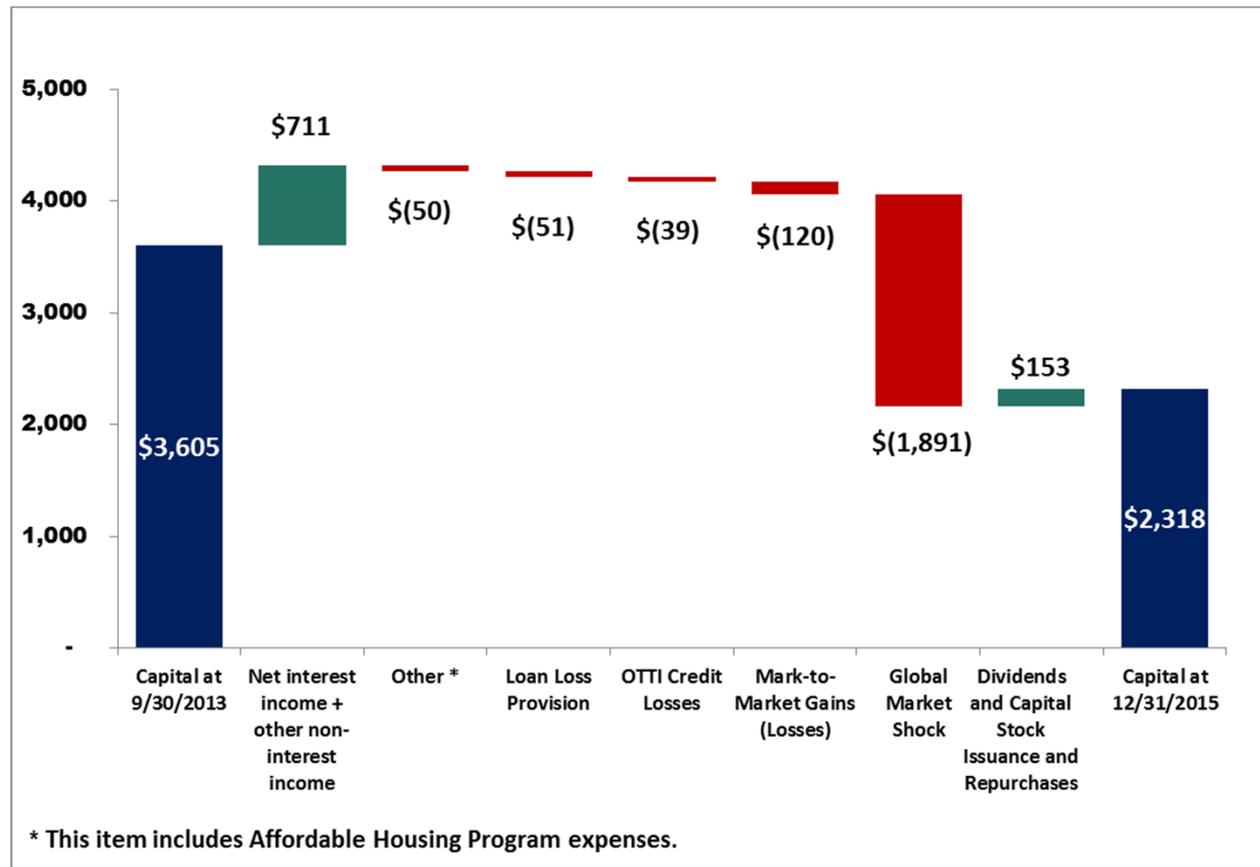
- Regulatory capital, which is defined as the sum of capital stock, retained earnings, and mandatorily redeemable capital stock, increases from \$3.56 billion at 9/30/2013 to \$4.16 billion at 12/31/2015.
- All results shown below are modeled projections, except for actual regulatory capital at 9/30/2013.



Severely Adverse scenario is not an expected forecast, but a hypothetical stress scenario using internal projections by applying the rules and conditions set forth by the FHFA.

Severely Adverse Results – Total GAAP Capital Analysis

- Total GAAP capital, which is defined as the sum of capital stock, retained earnings and accumulated other comprehensive income (loss), decreases from \$3.60 billion at 9/30/2013 to \$2.32 billion at 12/31/2015.
- All results shown below are modeled projections, except for actual Total GAAP Capital at 9/30/2013.



Severely Adverse scenario is not an expected forecast, but a hypothetical stress scenario using internal projections by applying the rules and conditions set forth by the FHFA.

Severely Adverse Key Assumptions Provided by FHFA

Macroeconomic Variables	
Residential House Prices (<i>Peak to trough with no recovery over the planned horizon</i>)	-25%
Commercial Real Estate Prices (<i>Peak to trough with no recovery over the planned horizon</i>)	-35%
Real Gross Domestic Product (<i>Annual GDP growth rate</i>)	-3.7% (2014), +2.1% (2015)
Unemployment Rate (<i>Peak</i>)	11.3% (Q2 2015)
Interest Rate Variables	
30-yr Mortgage Rate (<i>Average over the plan horizon</i>)	4.3%
10-yr Treasury Rate (<i>Average over the plan horizon</i>)	1.3%
Global Market Shock	
Instantaneous price shocks on non-agency securities	-14.2% to -76.2%
Instantaneous option-adjusted spread (OAS) shocks on:	
Agency security pass-throughs	MBS OAS +40bps
Agency security CMOs and DUS bonds	CMO OAS +50bps
Agency security HECMs	HECM OAS +80bps

Component Methodologies

Net Interest Income + Other Non-interest Income

Description

- Reflects projections of net interest income (expense), operating expenses, and other non-interest income (expense) over the nine-quarter planning horizon.
- Material risks covered include interest rate risk and business risk.

Methodologies

- Estimates net interest income by projecting portfolio balances, funding mix, and spreads using the macroeconomic variables provided by the FHFA and management assumptions.
- Non-interest income and expenses estimated at the business level.

(Provision) Benefit for Credit Losses on Mortgage Loans

Description

- Reflects credit loss provisions related to estimated losses on mortgage loans held for portfolio.
- Captures mortgage credit risk.

Methodologies

- Loan loss reserves forecasted by projecting 90+ day delinquency population and corresponding loss severity over the nine-quarter forecast period. Specifically:
 - Forecasts the cumulative default curve under the FHFA-provided macroeconomic scenario.
 - Forecasts loss severity by combining the current Loan-to-Value of the mortgage loan population with stressed House Price Index curves.
 - Combines the projected cumulative defaults and loss severities to compute projected losses. Distributes the projected losses across the nine quarters prescribed by the FHFA Stress Testing template.

Component Methodologies

OTTI Credit Losses

Description	<ul style="list-style-type: none">▪ Reflects credit-related losses for investment securities.▪ Material risks covered include credit risk associated with investment portfolio.
Methodologies	<ul style="list-style-type: none">▪ Estimates OTTI of non-agency MBS by projecting cash flow shortfalls. Incorporates FHFA-provided and internal assumptions for:<ul style="list-style-type: none">▪ Housing prices, Interest Rates, Mortgage Rates, Monoline Insurer Performance

Mark-to-Market Gains (Losses)

Description	<ul style="list-style-type: none">▪ Reflects mark-to-market gains (losses) from changes in fair value of derivatives, trading securities (including the impact of global market shock assumptions) and other gains (losses) on assets held at fair value resulting from changes in interest rates.▪ Material risk covered includes interest rate risk.
Methodologies	<ul style="list-style-type: none">▪ Applies FHFA-specified interest rates and internal interest rate assumptions through the use of valuation models to estimate changes in fair value of derivatives, trading securities, and other gains (losses) on investment securities. Gain (loss) associated with the impact of global market shock assumptions on trading securities is also included.

Global Market Shock Impact on Fair Value Assets

Description	<ul style="list-style-type: none">▪ The Global Market Shock (GMS) is an instantaneous loss on AFS and OTTI HTM securities in the first quarter that is not recovered during the nine-quarter planning horizon. This shock is treated as an add-on to the macroeconomic and financial market environment specified in the stress test and impacts Accumulated Other Comprehensive Income only.
Methodologies	<ul style="list-style-type: none">▪ Applies FHFA-specified shocks, as of the first quarter of the stress test, to AFS and OTTI HTM securities:<ul style="list-style-type: none">▪ Non-Agency Securitized Products: Relative Market Value Shock▪ Municipals: Spread Widening▪ Agencies: OAS Widening

Key Risks Considered

Market Risk

The risk to earnings or capital arising from changes in the market value of portfolios, securities, or other financial instruments due to changes in the level, volatility, or correlations among financial market rates or prices, including interest rates. Specifically, market risk to the FHLBank includes the risk that the market value, or estimated fair value, of the FHLBank's portfolio will decline as a result of changes in interest rates and/or changes in spreads.

Credit Risk

The risk to earnings or capital arising from the default, inability, or unwillingness of a borrower, obligor, or counterparty to meet the terms of any financial obligation with the FHLBank or otherwise perform as agreed. Specifically, credit risk to the FHLBank as it pertained to the stress test includes the risk of loss due to defaults on principal and interest payments on advances, mortgage-backed securities, and mortgage loans. An optional counterparty (derivative or securities financing) default scenario was not included in this year's stress test but may be included in future years.

Operational Risk

The risk of loss resulting from inadequate or failed processes, systems, human factors or external events. Operational risk is inherent in the FHLBank's business activities and can manifest itself in various ways, including accounting or operational errors, business interruptions, fraud, and technology failures. This definition includes legal risk, which is the risk of loss arising from defective transactions, litigation or claims made, or the failure to adequately protect company-owned assets.

Business Risk

The risk of an adverse effect on the FHLBank's profitability resulting from external factors that may occur in both the short and long term. Business risk includes the impact of regulatory risk. Declines in business may affect the FHLBank's capital levels by reducing its activity-based capital stock balance and slowing the pace at which the FHLBank can build retained earnings. In addition, the reduction in capital levels will limit the FHLBank's ability to purchase additional investments, thereby further limiting potential income and growth.

This report contains forward-looking statements and projections that involve risk or uncertainty. Forward-looking statements in this report include projections of our financial results and conditions under a hypothetical scenario incorporating a set of assumed economic conditions prescribed by our regulator. These projections are not intended to be our forecast of expected future economic or financial conditions or a forecast of our expected future financial results or conditions, but rather reflect possible results under the prescribed hypothetical scenario. Our future financial results and conditions will be influenced by actual economic and financial conditions and various other factors, including but not limited to, those described in our reports filed with the Securities and Exchange Commission and available on our website at www.fhlbc.com. In addition, certain information included here speaks only as of the particular date or dates included in this report, and the information in the report may have become out of date. We do not undertake an obligation, and disclaim any duty, to update any of the information in this report.