Federal Home Loan Bank of Topeka
2016 Annual Stress Test Disclosure

Results of the Federal Housing Finance Agency Supervisory Severely Adverse Scenario

November 21, 2016

As Required by the Dodd-Frank
Wall Street Reform and Consumer Protection Act

FHLBank Topeka

Executive Summary

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, and which 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 as a result of adverse economic conditions. The Dodd-Frank Act required an annual stress test that is often referred to as Dodd-Frank Act Stress Test, or DFAST for short.
- In September 2013, the Federal Housing Finance Agency (FHFA), regulator of the Federal Home Loan Banks (FHLBanks), implemented annual stress testing rules for the FHLBanks as required by the Dodd-Frank Act. These rules were subsequently amended in November 2015. The FHFA Order for the FHLBanks' 2016 DFAST stress test cycle was released on March 2, 2016.
- In accordance with the FHFA rules and the 2016 FHFA Order, the Federal Home Loan Bank of Topeka (FHLBank Topeka) filed the results of its 2016 stress tests with FHFA and the Board of Governors of the Federal Reserve System by the August 31, 2016 due date and is publicly disclosing the summary results of the severely adverse scenario in this document.

Requirements

- FHFA provided the inputs and key assumptions for the severely adverse scenario. New in 2016, the assumptions included a negative interest rate environment and an expanded list of counterparties to consider for counterparty defaults.
- The stress tests are modeled starting with the FHLBanks' portfolios as of December 31, 2015. The time horizon for the stress test is nine quarters starting with the first quarter of 2016 and extending through the first quarter of 2018.
- The stress test results under the FHFA severely adverse scenario, as disclosed in this document or otherwise, are not forecasts of expected or likely outcomes of future results. Rather, these modeled simulations are based solely on the FHFA's severely adverse scenario and other specific required assumptions.

Executive Summary (cont.)

Results

- Our historical financial information, prepared under accounting principles generally accepted in the United States of America (GAAP), is available in reports filed with the Securities and Exchange Commission, including our Annual Report on Form 10-K for the year ended December 31, 2015.
- The stress test results demonstrate our capital adequacy under the FHFA's severely adverse economic conditions as of March 31, 2018. We remain in compliance with all regulatory capital requirements under the severely adverse scenario throughout all nine quarters covered by the stress test.
  - Our regulatory capital ratio (Class A Stock plus Class B Stock plus retained earnings divided by total assets) at March 31, 2018, was 4.18%, exceeding the minimum regulatory requirement of 4.00%.
  - Our regulatory leverage capital ratio (Class B Stock plus retained earnings multiplied by 1.5 plus Class A Stock divided by total assets) at March 31, 2018, is 6.01%, exceeding the minimum regulatory requirement of 5.00%.
  - Permanent capital (Class B Stock plus retained earnings) was $1.280 billion (3.66%) as of March 31, 2018.
  - GAAP Capital at March 31, 2018, was $1.443 billion.
  - The severely adverse scenario results assume we declare dividends and repurchase excess capital stock during the nine quarter period consistent with our current business practices. We discontinued our discretionary repurchases of excess capital stock for the first two quarters, but continued to repurchase excess capital stock upon request. However, any declaration of dividends remains subject to the approval of our board of directors.

Use/Governance

- Stress testing has evolved as an important analytical tool for evaluating capital adequacy under severely adverse economic conditions. We regularly use such stress tests, including those annual stress tests required by the Dodd-Frank Act, in our 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 when evaluating our overall risk profile.
- The overall stress test process and these results have been reviewed with our board of directors.

Severely Adverse Scenario
Key Assumptions Provided by FHFA

Macroeconomic Variables	
Residential House Prices *(Peak-to-trough decline with no recovery during the 9-quarter time horizon)* [1]	-24%
Commercial Real Estate Prices *(Peak-to-trough decline with no recovery during the 9-quarter time horizon)*	-30%
Real Gross Domestic Product *(Annual GDP growth rate)*	-5.7% (2016),+0.6% (2017)
Unemployment Rate *(Peak)*	10.0% (Q3 2017)
Interest Rate Variables	
30-yr Mortgage Rate *(Lowest/Average during the 9-quarter time horizon)*	3.2%/3.9%
10-yr Treasury Rate *(Lowest/Average during the 9-quarter time horizon)*	0.2%/0.7%
3-Month Treasury Rate *(Lowest/Average during the 9-quarter time horizon)*	-0.5%/-0.4%
Global Market Shock	
Instantaneous price shocks on non-agency securities	-40.5% to -91.5%
Instantaneous option-adjusted spread (OAS) shocks on:	
Agency security pass-throughs	MBS OAS +170bps
Agency security collateralized mortgage obligations (CMOs)	CMO OAS +200bps
Agency security commercial mortgage-backed securities (CMBS)	CMBS OAS +200bps

[1] For modeling OTTI losses, residential house prices decrease for three years, start recovering in year four, and reach a long-term average growth rate of 4.3 percent per year starting in year five.

Stress Test Components

Net interest income + other non-interest income, net	Net interest income (expense), operating expenses and other non-interest income (expense). Includes any operational losses.
(Provision) benefit for credit losses on mortgage loans	Provisions for credit losses related to mortgage loans held for portfolio.
OTTI credit losses	OTTI credit losses for investment securities.
Mark-to-market gains (losses)	Mark-to-market gains (losses) related to changes in fair value of derivatives, trading securities and other gains (losses) on assets and liabilities held at fair value.
Global market shocks	Instantaneous global shocks of interest rates, volatility, agency mortgage-backed securities (MBS) OAS and non-agency MBS prices applied to trading securities, available-for-sale (AFS) securities, and held-to-maturity (HTM) securities that are deemed to have OTTI losses in the stress test scenario. Global shocks applied to AFS and OTTI HTM securities are included in other comprehensive income (loss).
Counterparty default losses	Instantaneous and unexpected default of largest counterparty across secured and unsecured lending, repurchase/reverse repurchase agreements, derivatives exposures, single-family mortgage insurance providers and multifamily credit enhancements, but excludes advances and overnight positions.

Severely Adverse Scenario Results

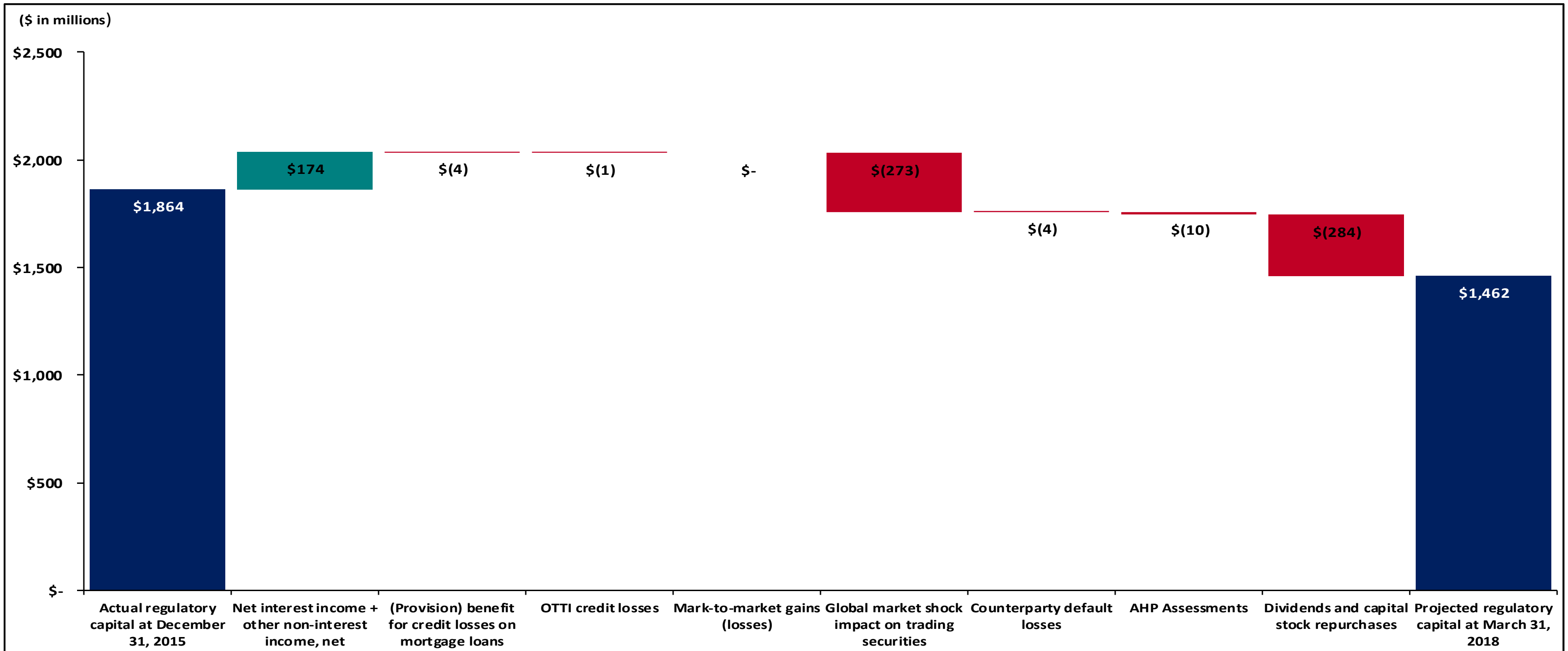
FHLBank Dodd-Frank Stress Test Template - SEVERELY ADVERSE
(Disclosure to the Public)
($ amounts in millions)

		Cumulative Projected Financial Metrics (Q1 2016 - Q1 2018)
1	Net interest income + other non-interest income, net	$174.29
2	(Provision) benefit for credit losses on mortgage loans	($3.68)
3	OTTI credit losses	($0.81)
4	Mark-to-market gains (losses)	($0.08)
5	Global market shock impact on trading securities	($273.05)
6	Counterparty default losses	($3.91)
7	AHP assessments	($10.01)
8	Net income (loss)	($117.25)
9	Other comprehensive income (loss)	$3.10
10	Total comprehensive income (loss)	($114.15)
11	Total capital (GAAP) - starting (December 31, 2015)	$1,841.75
12	Total capital (GAAP) - ending (March 31, 2018)	$1,443.16
13	Regulatory capital ratio - starting (December 31, 2015)	4.19%
14	Regulatory capital ratio - ending (March 31, 2018)	4.18%

These simulations represent hypothetical internal estimates based on applying rules and conditions set forth in the FHFA's severely adverse scenario. These estimates are not forecasts of FHLBank Topeka's expected results and any distribution of dividends or repurchase of capital stock remain subject to approval by FHLBank Topeka's board of directors.

Severely Adverse Results – Regulatory Capital Analysis

- Regulatory capital, which is defined as the sum of capital stock, retained earnings and mandatorily redeemable capital stock, decreases from $1.864 billion at December 31, 2015 to $1.462 billion at March 31, 2018.
- All results shown below are modeled simulations, except for actual regulatory capital at December 31, 2015.



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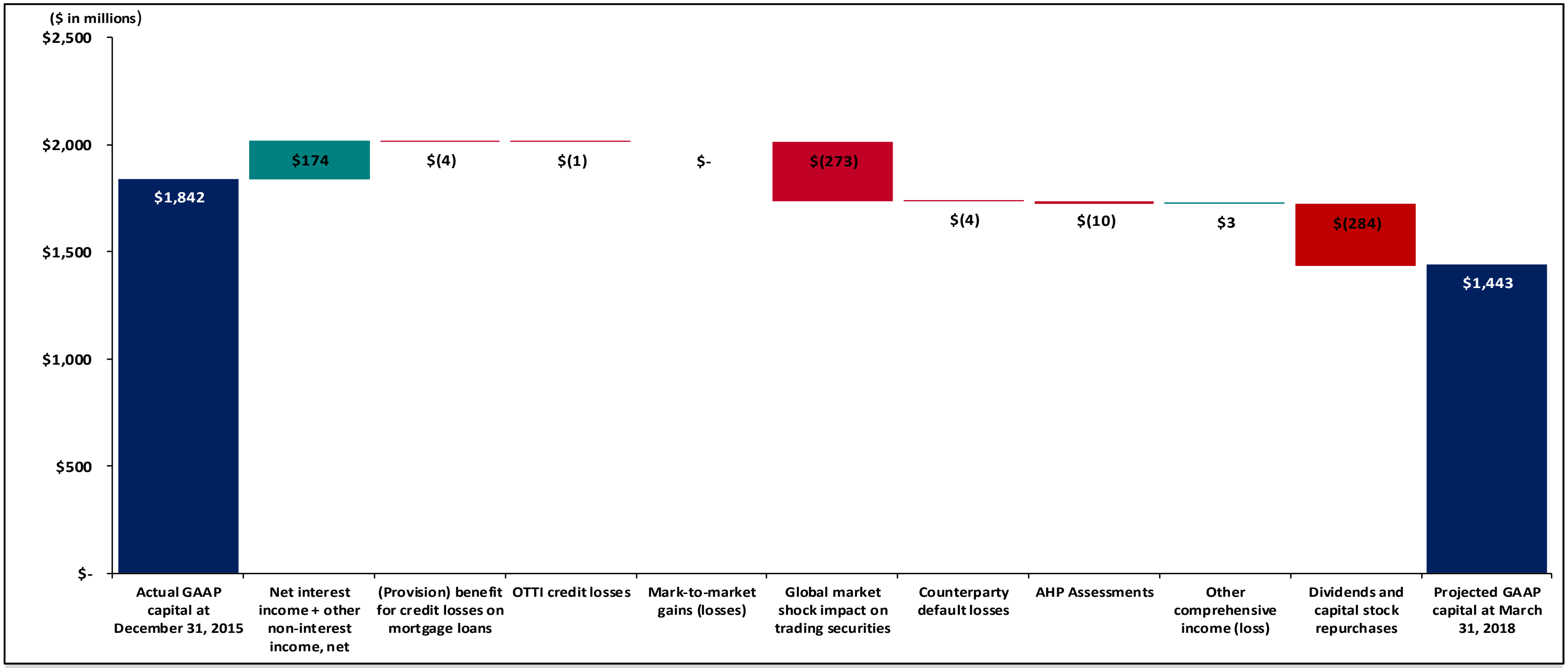
Severely Adverse Results – GAAP Capital Analysis

- GAAP capital, which is defined as the sum of capital stock, retained earnings and accumulated other comprehensive income (loss), decreases from $1.842 billion at December 31, 2015 to $1.443 billion at March 31, 2018.
- All results shown below are modeled simulations, except for actual GAAP capital at December 31, 2015.



These simulations represent hypothetical internal estimates based on applying rules and conditions set forth in the FHFA's severely adverse scenario. These estimates are not forecasts of FHLBank Topeka's expected results and any distribution of dividends or repurchase of capital stock remain subject to approval by FHLBank Topeka's board of directors.

Component Methodologies

Net interest income + other non-interest income, net

Description	▪ Reflects projections of net interest income (expense), operational expenses and other non-interest income (expense) over the nine-quarter time horizon. ▪ Material risks covered include interest-rate risk, operational 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 along with management assumptions. ▪ Non-interest income and expense estimated by management. ▪ Estimates operational risk losses based on the FHLBank Topeka's historical operational loss experience and relevant external data consistent with supervisory expectations.

(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 analyzing the performance of the entire portfolio over the nine-quarter period. Specifically:
	  ▪ Forecasts the amortized balances for the affected population under the FHFA-provided macroeconomic scenario.
	  ▪ Forecasts loss severity based on the stressed housing price index (HPI) curves.
	  ▪ Combines the projected amortized balances and loss severities to compute projected losses.

OTTI credit losses

Description	▪ Reflects credit-related OTTI losses for non-agency investment securities. ▪ Material risks covered include credit risk associated with the investment portfolio.
Methodologies	▪ Estimates OTTI of non-agency MBS, by projecting cash flow shortfalls. Incorporates FHFA-provided and internal assumptions for housing prices, interest rates, mortgage rates and monoline insurer performance. ▪ Estimates credit losses on Housing Finance Agency securities, incorporating historical default and recovery rates as related to the severely adverse scenario.

Component Methodologies (cont.)

Mark-to-market gains (losses)

Description	▪ Reflects mark-to-market gains (losses) from changes in fair value of derivatives, trading securities and assets and liabilities held at fair value due to changes in interest rates. ▪ Material risk covered includes interest rate risk.
Methodologies	▪ 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 assets and liabilities held at fair value.

Global market shocks

Description	▪ The global market shock is an instantaneous decline in market value of trading securities, AFS securities and those HTM securities that are deemed to have OTTI losses. The instantaneous losses and corresponding reduction of capital are taken in the first quarter of the testing horizon without any future recoveries during the nine-quarter time horizon. This shock is treated as an add-on to the macroeconomic and financial market environment specified in the stress test. Global shocks applied to AFS and OTTI HTM securities are included in other comprehensive income (loss).

Methodologies	▪ Applies FHFA-specified shocks, taken in the first quarter of the forecast horizon, to trading securities, AFS securities, and also used to calculate the non-credit component of OTTI associated with HTM securities:
	  ▪ Non-Agency Securitized Products: Relative Market Value Shock
	  ▪ Municipals: Spread Widening
	  ▪ Agencies: OAS Widening

Counterparty default losses

Description	▪ Reflects instantaneous and unexpected default of largest counterparty net exposure. ▪ Material risks covered include secured and unsecured lending, repurchase/reverse repurchase agreements, derivative exposures, single-family mortgage insurance providers and multifamily credit enhancements, but excludes advances and overnight positions.
Methodologies	▪ Estimates credit loss arising from largest counterparty net stressed exposure by applying global market shock to non-cash securities/collateral held or received and derivatives positions including non cash collateral exchanged. ▪ Incorporates FHFA-provided and management assumptions for interest rates, credit spreads and recovery rates.

Key Risks Considered

Market Risk	The risk to earnings or capital arising from changes in the market value of mortgage loans, investment 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 Topeka's earnings and capital includes the risk that the market value of the FHLBank Topeka'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 Topeka or otherwise perform as agreed. Specifically, credit risk to FHLBank Topeka as it pertained to the stress test includes the risk of loss due to defaults on principal and interest payments on advances and other member credit obligations, MBS, repurchase/reverse repurchase agreements and other investments, interest-rate exchange agreements, mortgage loans and unsecured extensions of credit. Based on the FHLBank Topeka's collateral management practices and further analysis of existing and supplemental collateral support, FHLBank Topeka projected no credit losses on advances. This is consistent with the history of the FHLBank System, which has never experienced a loss on a member advance even through highly stressful economic environments.
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 Topeka'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 Topeka'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 Topeka's capital levels by reducing its activity-based capital stock balance and slowing the pace at which FHLBank Topeka builds retained earnings. Additionally, the reduction in capital levels will limit the FHLBank Topeka's ability to purchase additional investments, thereby further limiting potential income and growth.

Overview of FHLBank Capital Requirements

- FHLBank Topeka, one of 11 federally chartered FHLBanks, is a member-owned financial cooperative that serves regulated depositories, insurance companies, and community development financial institutions located within our region.
- FHLBank Topeka's capital requirements and prescribed capital actions are set forth in our Capital Plan, which is governed by FHFA regulations (12 C.F.R. Parts 932 and 1277).
  - Under 12C.F.R. Part 932, the FHLBanks are required to meet three regulatory capital requirements: (1) Total Capital; (2) Leverage Capital; and (3) Risk-based Capital.
  - The FHLBanks manage to these regulatory capital requirements, with the Total Capital requirement (4.00% of total assets) generally being the primary capital constraint.
  - The FHLBanks can issue two classes of redeemable capital stock under 12 C.F.R. Part 1277: (1) Class A Stock (six-month redemption period); and (2) Class B Stock (five-year redemption period).
- The FHLBanks are structured to expand and contract in asset size in response to changes in their membership and in their members' credit needs.
- As a cooperative, FHLBank members purchase capital stock in their regional FHLBank as a condition of membership (asset-based stock purchase requirement) and purchase additional capital stock to support their borrowing activity (activity-based stock purchase requirement).
  - An FHLBank's capital stock and asset balances typically increase as its members increase their advances from the FHLBank.
  - Conversely, as demand for its advances to members declines, an FHLBank typically reduces its capital stock and asset balances by repurchasing excess capital stock from its members.
  - Member activity-based stock is required to remain outstanding as long as the activity is outstanding.
  - When a member requests redemption of excess capital stock or withdraws from FHLBank membership voluntarily, through a merger or otherwise, and that stock is not repurchased at an FHLBank's discretion, the capital stock is classified as mandatorily redeemable capital stock, which is a liability and not counted as capital under GAAP but is considered capital for regulatory capital purposes.

Use of Stress Test Results in Capital Planning

- FHLBank Topeka's Risk Appetite Statement requires immediate attention if the residual risk exposure from any risk category or in aggregate from multiple risk categories results in an unacceptably high likelihood that there would be a breach of one or more of the following: (1) any interruption of prompt member access to liquidity from FHLBank Topeka at reasonable costs; (2) the impairment of the $100 par value of members' capital stock in FHLBank Topeka; (3) the inability of FHLBank Topeka to repurchase or redeem members' capital stock; or (4) the inability of FHLBank Topeka to pay an acceptable dividend rate or any dividend for a period of time.
- FHLBank Topeka cannot take any of the following capital actions if it is not in compliance with all three regulatory capital requirements: (1) redeem capital stock at the end of the applicable redemption period; (2) repurchase excess capital stock at its discretion; or (3) pay dividends.
  - The FHLBank Topeka's board of directors can also limit or prevent any of the above capital actions at its discretion, or could be required to do so at the direction of the FHFA.
- FHLBank Topeka considers the DFAST results along with modeling of various other stress scenarios in its capital planning, including the establishment of:
  - Asset-based and activity-based stock purchase requirements within the ranges set forth in its Capital Plan. Under its Capital Plan, the board of directors is required to regularly review and, as necessary, adjust the asset-based and activity-based stock purchase requirements to ensure that the capital stock required to be purchased and maintained by Members, along with other allowable sources of capital including retained earnings, is sufficient to allow the FHLBank Topeka to comply with its regulatory capital requirements.
  - The targeted level of retained earnings.
- FHLBank Topeka met its Total Capital requirement throughout the nine-quarter stress test horizon.
- FHLBank Topeka did not project its Risk-based Capital requirements at the end of the nine quarter-ends included in the stress test horizon.
- FHLBank Topeka does not mandatorily repurchase excess capital stock every month and is not required to repurchase excess capital stock under its capital plan, but does so on a regular basis to manage the amount of capital stock. FHLBank Topeka discontinued its discretionary monthly repurchases of excess capital stock for the first two quarters of the stress test horizon in the severely adverse scenario, but continued to repurchase excess capital stock upon request and pay dividends on capital stock consistent with its past practices throughout the nine-quarter horizon.

Additional Disclosures

- FHLBank Topeka management judgment is required in various assumptions and methodologies (e.g., advance volumes, replacement assumptions, asset / liability composition, funding spreads, mortgage loan credit loss estimates, etc.). Actual severely adverse scenario risks could materialize in unforeseen ways and potentially alter estimates of income, losses and capital.
- FHLBank Topeka uses models to determine relationships between the severely adverse scenario macroeconomic variables and financial results. Historical relationships between macroeconomic variables and financial results during a stress environment may not accurately forecast future outcomes.
- FHLBank Topeka relies on third-party models to execute certain stress test projections and may have limited insights into the inner workings of those models, which increases the risk of inconsistency across models.
- Stress test results for the severely adverse scenario are not expected outcomes. They are modeled projections based on hypothetical economic conditions prescribed by the FHFA. Actual outcomes may be very different.
- *Forward-looking statements:* This presentation contains forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995. These statements are based on the current beliefs and expectations of FHLBank Topeka's management within the context of the FHFA's public disclosure of the severely adverse scenario financial projection and are subject to significant risks and uncertainties. Actual results may differ from those set forth in the forward-looking statements. Factors that could cause the FHLBank Topeka's actual results to differ materially from those described in the forward-looking statements can be found in the FHLBank Topeka's Annual Report on Form 10-K for the year ended December 31, 2015, which has been filed with the Securities and Exchange Commission and is available on the Securities and Exchange Commission's website (www.sec.gov).