

SUMMARY INSTRUCTIONS AND GUIDANCE

March 3, 2017

Accompanying Order Nos. 2017-OR-B-01, 2017-OR-FNMA-01, AND 2017-OR-FHLMC-01



Contents

Introduction	3
Stress Test Scenarios	3
Reporting Format and Timing	6
Stress Test Governance	6
Use of Stress Test Results	7
Incomplete Data	7
Evaluation of Stress Test Processes	7
Appendix 1: Regulatory Expectations for a Stress Testing Process	8
Appendix 2: FHFA DFA Reporting Templates - Enterprises	14
Appendix 3: FHFA DFA Reporting Templates - FHLBanks	79
Appendix 4: Baseline Scenario - Domestic	125
Appendix 5: Baseline Scenario - International	127
Appendix 6: Adverse Scenario - Domestic	129
Appendix 7: Adverse Scenario - International	131
Appendix 8: Severely Adverse Scenario - Domestic	133
Appendix 9: Severely Adverse Scenario - International	135
Appendix 10: Global Market Shock - Adverse	137
Appendix 11: Global Market Shock - Severely Adverse	153
Appendix 12: Data Notes	169

Introduction

Section 165(i)(2) of the 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 Federal Housing Finance Agency (FHFA) is the primary federal financial regulator of Fannie Mae and Freddie Mac (the Enterprises), and the eleven Federal Home Loan Banks (Banks). These entities are referred to herein as regulated entities.

Each regulated entity has total consolidated assets of more than \$10 billion and, therefore, each is required to conduct the annual stress test. The Enterprises' capital positions, supported and restricted by the Senior Preferred Stock Purchase Agreements with the Department of the Treasury, are unique. Nonetheless, the Enterprises incorporate capital into their business decision-making processes. FHFA expects the Enterprises to have processes and procedures for managing their businesses notwithstanding Treasury's support. Therefore, FHFA's rule on Stress Testing of Regulated Entities, 12 C.F.R. pt. 1238, and these instructions and guidance apply equally to the Enterprises and the Banks.

FHFA's stress testing rule establishes the basic requirements for each regulated entity to conduct Dodd-Frank Act Stress Tests and

report the results. This summary instructions and guidance document supplements the rule. FHFA expects each regulated entity to follow the instructions and guidance in conducting stress tests and reporting and publishing results under the rule. FHFA may communicate specific instructions to address particular issues relevant only to some of the regulated entities' completion of the stress tests. Each regulated entity is also expected to adhere to such individualized instructions.

General instructions and guidance are provided relating to:

- Scenario assumptions,
- Reporting and timing,
- Stress test process governance,
- Use of stress test results,
- Incomplete data,
- Evaluation of stress test processes, and
- Correspondence related to stress tests.

Stress Test Scenarios

The stress tests are based on portfolios as of December 31, 2016. The planning horizon for the stress test is nine quarters starting with the first quarter of 2017 and extending through the first quarter of 2019. The regulated entities are required to submit the results of stress tests based on three scenarios: Baseline, Adverse, and Severely Adverse. Assumptions for the variables in each scenario are contained in Appendices 4 through 9.

FHFA expects each regulated entity to use those variables that are relevant to the entity's

line of business and that are consumed by the entity's models. However, FHFA expects each regulated entity to apply all of the relevant global market shocks provided. Each regulated entity is expected to indicate which variables are included in its stress tests in its report to FHFA and the Federal Reserve Board of Governors (Board). FHFA also expects each regulated entity to extrapolate any of the aforementioned variables beyond the projection date as required. A year of scenario assumptions beyond the nine-quarter planning horizon will be provided and may be utilized, if needed. Historical data is provided in the event that models require that information.

It is important to note that the scenarios and assumptions provided are not forecasts, but instead are hypothetical scenarios and assumptions to assess the financial strength of the regulated entities.

Global Market Shock Assumptions

The global market assumptions provided by FHFA are to be applied to the regulated entities' trading securities, available-for-sale securities and other fair value assets as of December 31, 2016 for the Adverse and Severely Adverse scenarios.

The result of the global market shock is to be taken as an instantaneous loss and reduction of capital in the first quarter of the planning horizon. The global market shock should be treated as an add-on that is exogenous to the macroeconomic and financial market environment specified in the supervisory stress scenarios. The regulated entities should assume no recoveries of the losses generated by the global market shock over the nine quarters. The capital impact of the

global market shock is carried over the planning horizon.

If a regulated entity can demonstrate that its loss-estimation methodology stresses identical positions under both the global market shock and the macroeconomic scenario, the regulated entity may assume that the combined losses from such positions do not exceed the losses resulting from the greater of the global market shock losses or the macroeconomic losses.

Counterparty Default Scenario Component

The counterparty default scenario component of the global market shock should be treated as an add-on to the macroeconomic and financial market scenarios specified in the Adverse and Severely Adverse scenarios. The counterparty default scenario component involves an instantaneous and unexpected default of one of the following:

- a regulated entity's largest
 counterparty across the regulated
 entity's secured and unsecured
 lending, securities lending,
 repurchase/reverse repurchase
 agreements (collectively Securities
 Financing Transactions or SFTs) and
 derivative exposures, and the
 potential losses and effects on capital
 associated with such a default;
- a regulated entity's largest counterparty across the regulated entity's single-family mortgage insurance providers, and the potential losses and effects on capital associated with such a default; or
- a regulated entity's largest counterparty across the regulated

entity's providers of multifamily credit enhancements, and the potential losses and effects on capital associated with such a default.

The regulated entity should identify its largest counterparty by the counterparty that represents the largest total net stressed loss if the counterparty defaulted on its obligations. Net stressed losses for SFT counterparties are calculated after applying the instantaneous market shock to any non-cash SFT assets (securities/collateral) posted or received, and for derivatives, to the value of the trade position and non-cash collateral exchanged.¹

The as-of date for the counterparty default scenario component is December 31, 2016 – the same date as the global market shock.

All estimated losses from the counterparty default scenario component should be assumed to occur instantaneously and should be reported in the initial quarter of the planning horizon.

More detailed instructions for implementing certain assumptions follow:

House Prices

The House Price Index assumptions provided by FHFA describe the path of national house prices. Each regulated entity should extrapolate the national house price path beyond the projection date as needed.

Each regulated entity should also translate the national house price path in each scenario to regional house price paths as appropriate for each regulated entity's models, and should interpolate the house price paths to accommodate the frequency of data required by their models.

Missing Variables

Each regulated entity should use its internal assumptions for variables that its models consume but that FHFA does not provide.

Balance Sheet Evolution

Each regulated entity should also use its internal assumptions to roll its balance sheets forward through the nine-quarter projection period. The assumptions should reflect reasonable expectations for future business and should conform to the regulated entity's internal strategic plan. The Enterprise should ensure that the size and composition of its book of business during the stress test is consistent with the goals in FHFA's Conservatorship Scorecard.

Capital Actions

For capital actions, each Bank should take into account its actual capital actions as of the end of the calendar quarter preceding the first quarter of the nine-quarter planning horizon. For each succeeding quarter, each Bank should either assume payment of stock dividends equal to those paid in the year ending immediately prior to the first quarter of the planning horizon or follow any established rules it has for dividends payments.

Each Bank should either assume that it does not redeem or repurchase any capital instrument over the planning horizon or that

¹ In selecting its largest counterparty, a regulated entity will not consider certain sovereign entities (Canada, France, Germany, Italy, Japan, the United Kingdom, and the United States) or designated central clearing counterparties.

its capital actions will accord with its established capital plans. It should also assume that it will redeem all mandatorily redeemable capital stock per its usual practice unless restricted from doing so by FHFA actions.

Finally, each Bank should assume that it will cease dividend payments, capital redemptions, or repurchases (as applicable) when retained earnings fall to zero.

The Enterprises should comply with the terms of the Senior Preferred Stock Purchase Agreements, as amended, to determine the level of dividends to pay over the planning horizon.

Operational Risk Losses

Operational risk losses are losses that arise from external events or from inadequate internal processes, people, or systems. The regulated entities should estimate operational risk losses for each scenario and submit the results to FHFA.

Reporting Format and Timing

The Enterprises must submit results of the Baseline, Adverse, and Severely Adverse scenarios to FHFA and the Board on or before May 20, 2017 and must publicly disclose a summary of the results of only the Severely Adverse scenario between August 1 and August 15. The Banks are to report results of the Baseline, Adverse, and Severely Adverse scenarios to FHFA and the Board by August 31 and publicly disclose a summary of the results of only the Severely Adverse scenario between November 15 and November 30.

The results of a regulated entity's analysis for each scenario should encompass all

potential losses and other impacts to net income and capital that the regulated entity might experience under the scenarios. In all cases, each regulated entity should substantiate that its results are consistent with the specified macroeconomic and financial environment and that the components of its results are internally consistent within each scenario.

The regulated entities are required to report the results using the Dodd Frank Act (DFA) templates provided in Appendices 2 and 3.

The regulated entities are also required to submit qualitative information describing the methodologies, including any simplifying or other assumptions used to produce the estimates, as well as any other information necessary to fully support the reasonableness of the stress test results.

Each regulated entity must submit its results and any supporting information to FHFA through a secure site. The Enterprises must use the secure server. The Banks must use the secure bank portal.

Stress Test Governance

The board of directors of each regulated entity or a designated committee thereof is responsible for reviewing and approving policies and procedures established to comply with the rule. Each board of directors should also receive and review the results of the stress tests for compliance with the rule and established policies and procedures. Senior management of each regulated entity is responsible for establishing and testing controls. Senior management and each member of the board of directors are to receive a summary of the stress test results.

Use of Stress Test Results

The rule requires that each regulated entity take the results of the annual stress test into account in making changes as appropriate to its capital structure (including the level and composition of capital); and any changes to its exposures, concentrations, and risk positions; plans for recovery and resolution; or to improve overall risk management. Consultation with FHFA staff is expected in making any such changes. If a regulated entity is under FHFA conservatorship, any post-assessment actions would require FHFA's prior approval.

Results should include effects on capital, as required under the DFA stress testing rule. Specifically, and in accordance with the rule, each regulated entity must calculate how each of the following is affected during each quarter of the stress test planning horizon, for each scenario:

- Potential losses, pre-provision net revenues, allowance for loan losses, and capital positions over the planning horizon; and
- Capital levels and capital ratios, including regulatory capital and net worth, each Bank's leverage and permanent capital ratios, and any other capital ratios, as specified by FHFA.

Incomplete Data

All regulated entities are required to report all data elements in the attached FHFA DFA templates. Failure to submit complete data to FHFA in a timely manner may result in remedy or penalty authorized under the Federal Housing Enterprises Financial Safety and Soundness Act of 1992, as amended (12 U.S.C. 4501 et seq.) (Safety and Soundness Act) and the Federal Home Loan Bank Act, as amended (12 U.S.C. 1421 through 1449).

Evaluation of Stress Test Processes and Results

FHFA will focus particular attention on the processes related to the implementation of the scenarios to ensure that these processes are robust and that they capture and stress key vulnerabilities and idiosyncratic risks facing the firm and that the translation of the scenario into loss, revenue, and capital projections is conceptually sound and implemented in a well-controlled manner. FHFA will evaluate the extent to which stress testing processes at the regulated entities adhere to the regulatory principles outlined in Appendix 1. FHFA will also review the stress results for reasonableness.

FHFA will review each regulated entity's assumptions for reasonableness and consistency with the assumptions used by other regulated entities. FHFA may require a regulated entity to adjust its assumptions or resubmit its results where FHFA deems the stress test results, assumptions, or processes are unacceptable.

Appendix 1: Regulatory Expectations for a Stress Testing Process

A regulated entity's stress testing process should adhere to the following principles:

Principle 1: The regulated entity has a sound risk measurement and management infrastructure that supports the identification, measurement, assessment, and control of all material risks arising from its exposures and business activities.

- A satisfactory stress testing process requires (1) a comprehensive risk identification process, and (2) complete and accurate measurement and assessment of all material risks.
- A regulated entity should measure or assess the full spectrum of risks that face the regulated entity, using both quantitative and qualitative methods, where applicable.
- The regulated entity should have data capture and retention systems that allow for the input, use, and storage of information required for sound risk identification and measurement and to produce reliable inputs for assessments of capital adequacy.
- Quantitative processes for measuring risks should meet supervisory expectations for model effectiveness and be supported by robust model development, documentation, validation, and overall model governance practices.

Both qualitative and quantitative processes for assessing risk should be transparent, repeatable, and reviewable by an independent party.

• Any identified weaknesses in risk measures used as inputs to the stress testing process should be documented and reported to relevant parties, with an assessment of the potential impact of risk-measurement weaknesses on the reliability of the stress test results.

Principle 2: The regulated entity has effective processes for translating risk measures into estimates of potential losses over a range of stressful scenarios and environments and for aggregating those estimated losses across the regulated entity.

- Stress tests should include methodologies that generate estimates of potential losses for all material risk exposures, one of which should be an enterprise-wide stress test using scenario analysis. Methodologies should be complementary, not suffer from common limitations, and minimize reliance on common assumptions.
- Using the loss estimation methodologies for its various risk exposures, a regulated entity should develop consistent and repeatable processes to aggregate its loss estimates on an enterprise-wide basis.
- A regulated entity should demonstrate that its loss estimation tools are developed

using sound modeling approaches, appropriate for the manner in which they are being employed, and that the most relevant limitations are clearly identified, well documented, and appropriately communicated.

• A regulated entity should recognize that its loss projections are estimates and should have a good understanding of the uncertainty around those estimates, including the potential margin of error and the sensitivity of the estimates to changes in inputs and key assumptions.

Principle 3: The regulated entity has a clear definition of available capital resources and an effective process for estimating available capital resources (including any projected revenues) over the same range of stressful scenarios and environments used for estimating losses.

- Management and the board of directors should understand the loss absorption capabilities of the components of the regulated entity's capital base, and maintain projection methodologies for each of the capital components included in relevant capital adequacy metrics.
- In estimating available capital resources, a regulated entity will need to consider not only its current positions and mix of capital instruments, but also how its capital resources may evolve over time under varying circumstances and stress scenarios.
- As part of a comprehensive enterprisewide stress testing program, projections of

pre-provision net revenue (PPNR) should be consistent with balance sheet and other exposure assumptions used for related loss estimation. Projections should estimate all key elements of PPNR, including net interest income, non-interest income, and non-interest expense at a level of granularity consistent with material revenue and expense components.

- A regulated entity should demonstrate that its capital resource estimation tools are developed using sound modeling approaches, appropriate for the manner in which they are being employed, and that the most relevant limitations are clearly identified, well documented, and appropriately communicated.
- A regulated entity should recognize that its projections of capital resources are estimates and should have a good understanding of the uncertainty around those estimates, including the potential margin of error and the sensitivity of the estimates to changes in inputs and key assumptions.

Principle 4: The regulated entity has processes for bringing together estimates of losses and capital resources to assess the combined impact on capital adequacy in relation to the regulated entity's stated goals for the level and composition of capital.

• A regulated entity should have a comprehensive and consistently executed process for combining loss, resource, and balance sheet estimates to assess the baseline and post-stress impact of those estimates on capital measures.

- A regulated entity should calculate and use several capital measures that represent both leverage and risk at specified time horizons under both baseline and stressful conditions, consistent with its capital policy framework. Measures should include quarterly estimates for the impact on capital and leverage ratios as well as other capital and risk measures useful in assessing overall capital adequacy.
- The processes for bringing together estimates of losses and capital resources should ensure that appropriately stressful conditions over the regulated entity's planning horizon have been incorporated to properly address the institution's unique vulnerabilities.
- The processes should provide for the presentation of any information that may have material bearing on the regulated entity's capital adequacy assessment, including all relevant risks and strategic factors, as well as key uncertainties and process limitations.

Principle 5: The regulated entity has a comprehensive capital policy and robust capital planning practices for establishing capital goals, determining appropriate capital levels and composition of capital, making decisions about capital actions, and maintaining capital contingency plans.

Capital Policy

• A capital policy is defined as a regulated entity's written assessment of the principles and guidelines used for capital planning, capital issuance, and usage and distributions, including internal capital

- goals, the quantitative or qualitative guidelines for dividend and stock repurchase decisions, the strategies for addressing potential capital shortfalls, and the internal governance procedures around capital policy principles and guidelines.
- A regulated entity should establish capital goals aligned with its risk appetite and risk profile as well as expectations of stakeholders, providing specific targets for the level and composition of capital. The regulated entity should ensure that maintaining its internal capital goals will allow it to continue its operations under stressful conditions.
- The capital policy should describe the decision making processes regarding capital goals, the level and composition of capital, capital actions, and capital contingency plans, including an explanation of the roles and responsibilities of key decision makers and information and analysis used to make decisions.
- The regulated entity should outline in its policy specific capital contingency actions it would consider to remedy any current or prospective deficiencies in its capital position, including any triggers and escalation procedures. The policy should also include a detailed explanation of the circumstances in which it will reduce or suspend a dividend or repurchase program, or will not execute a previously planned capital action.
- A regulated entity should establish a minimum frequency with which its capital plan is reevaluated (at least annually). In addition, a regulated entity should review its capital policy at least annually to ensure

it remains relevant and current.

Capital Planning Practices

- At regular intervals, a regulated entity should compare the estimates of baseline and post-stress capital measures (see Principle 4) to the capital goals established in the capital policy for purposes of informing capital decisions.
- For capital decisions, consideration should be given to any information that may have material bearing on the regulated entity's capital adequacy assessment, including all relevant risks and strategic factors, key uncertainties, and limitations of the stress test.
- Assessments of capital adequacy and decisions about capital should be supported by high quality data and information, informed by current and relevant analysis, and subject to challenge by senior management and the board of directors.
- Periodically, the regulated entity should conduct a thorough assessment of its capital contingency strategies, including their feasibility under stress, impact, timing, and potential stakeholder reactions.
- A regulated entity should administer its capital planning activities and capital decision processes in conformance with its policy framework, documenting, and justifying any divergence from policy.

Principle 6: The regulated entity has robust internal controls governing capital adequacy process components, including

policies and procedures, change control, model validation and independent review, comprehensive documentation, and review by internal audit.

- The internal control framework should encompass the entire stress test, including the risk measurement and management systems used to produce input data, the models and other techniques used to estimate loss and resource estimates, the process for making capital adequacy decisions, and the aggregation and reporting framework used to produce management and board reporting. The set of control functions in place should provide confirmation that all aspects of the stress test are functioning as intended.
- Policies and procedures should ensure a consistent and repeatable process and provide transparency to third parties for their understanding of a regulated entity's stress test processes and practices. Policies and procedures should be comprehensive, relevant to their use in the stress test, periodically updated and approved, and cover the entire stress test and all of its components.
- Specific to the stress test, a regulated entity should have internal controls that ensure the integrity of reported results and that all material changes to the stress test and its components are appropriately documented, reviewed, and approved. A regulated entity should have controls to ensure that management information systems are robust enough to support stress tests with sufficient flexibility to run ad hoc analysis as needed.

- Expectations for validation and independent review for components of the stress test are consistent with existing supervisory guidance on model risk management. Models should be independently validated or otherwise reviewed in line with model risk management and model governance expectations.
- A regulated entity should have clear and comprehensive documentation for all aspects of its stress test, including its risk measurement and management infrastructure, loss- and resource-estimation methodologies, the process for making capital decisions, and efficacy of control and governance functions.
- A regulated entity's internal audit should play a strong role in evaluating the stress test and its components. A full review of the capital adequacy process component should be done by audit periodically to ensure that as a whole the stress test is functioning as expected and in accordance with the regulated entity's policies and procedures. Internal audit should review the manner in which stress test deficiencies are identified, tracked, and remediated.
- Principle 7: The regulated entity has effective board and senior management oversight of the stress test, including periodic review of the regulated entity's risk infrastructure and loss and resource estimation methodologies, evaluation of capital goals, assessment of the appropriateness of stressful scenarios considered, regular review of any limitations and uncertainties in all aspects of the stress test, and approval of capital decisions.
 - The board of directors should make informed decisions on capital adequacy for its regulated entity by receiving sufficient information detailing the risks the regulated entity faces, its exposures and activities, and the impact that loss

- and resource estimates may have on its capital position.
- Information provided to the board of directors about capital adequacy should be framed against the capital goals established by the regulated entity and by obligations to external stakeholders, and consider capital adequacy for the regulated entity with respect to the current circumstances as well as on a pro forma, post-stress basis.
- The information the board of directors reviews should include a representation of key limitations, assumptions, and uncertainties within the stress test, enabling the board of directors to have the perspective to effectively understand and challenge reported results. The board of directors should take action when weaknesses in the stress test are identified, giving full consideration to the impact of those weaknesses in their capital decisions.
- Senior management should ensure that all weaknesses in the stress test are identified, as well as key assumptions, limitations, and uncertainties, and evaluate them for materiality (both individually and collectively). Senior management also should have remediation plans for any weaknesses affecting stress test reliability or results.
- Using appropriate information, senior management should make informed recommendations to the board of directors about the regulated entity's capital, including capital goals and distribution decisions. Senior management should include supporting information to highlight key assumptions, limitations, and uncertainties in the stress test that may affect capital decisions.
- A regulated entity should appropriately document the key decisions about capital

adequacy—including capital actions—made by the board of directors and senior management,

and describe the information used to make those decisions.

Appendix 2: FHFA DFA Reporting Templates - Enterprises

Scenario Templates Cover Sheet
Each regulated entity is expected to provide input data for all the tabs in this spreadsheet.
Institution Name:
Date of Data Submission:
Institution Contact Name:
Institution Contact Phone Number:
Institution Contact Email Address:

Supplied Scenario Variables

(Please indicate which scenarios were used in your model by checking the appropriate box:)

Domestic Variables	International Variables
Real GDP Growth	☐ Euro Area Real GDP Growth
☐ Nominal GDP Growth	Euro Area Inflation
Real Disposable Income Growth	☐ Euro Area Bilateral Dollar Exchange Rate (\$/euro)
Nominal Disposable Income Growth	Developing Asia Real GDP Growth
Unemployment Rate	Developing Asia Inflation
CPI Inflation Rate	Developing Asia Bilateral Dollar Exchange Rate (F/UDS, indes, base = 2000,Q1)
3-month Treasury Yield	☐ Japan Real GDP Growth
5-year Treasury Yield	☐ Japan Inflation
10-year Treasury Yield	☐ Japan Bilateral Dollar Exchange Rate (yen/USD)
BBB Corporate Yield	U.K. Real GDP Growth
☐ Mortgage Rate	U.K. Inflation
☐ Prime Rate	U.K. Bilaeral Dollar Exchange Rate (USD/pound)
Dow Jones Total Stock Market Index	
☐ House Price Index	
Commercial Real Estate Price Index	
Market Volatility Index (VIX)	
Private Label Securities (PLS) or Non-Agency Prices for Residential Mortgage-backed Securities (RMBS), Assetbased Securities (ABS), Commercial Mortgage-backed Securities (CMBS) and other collateral	
Agency Securities Option-Adjusted Spreads (OAS)	
Municipal Securities	
Counterparty Default Risk	
For variables not used, please provide a brief explanation belo	ow as to why it was not used:
Variable Name	Explanation
1	
2	
3	
4	
5	

Scenario Variables Beyond Those Supplied

	Baseline Scenario (additional varial	oles used beyond those supplied)
Variable		
	Marialala Nama	Manialala Dafintalan
Number	Variable Name	Variable Definition
1		
2		
3		
4 5		
3		
	Adverse Scenario (additional variab	les used beyond those supplied)
Variable	·	., ,
Number	Variable Name	Variable Definition
1		
2		
3		
4		
5		
	Severely Adverse Scenario (additional vo	ariables used beyond those supplied)
Variable		
Number	Variable Name	Variable Definition
1	•	
2		
<i>3</i>		
4		
5		

Baseline

Spread Assumptions

Spread to Benchmark

		Actual					Projected				
Category	Benchmark	4Q 2016	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9
Example: Advance	3-Month LIBOR	10.0	10.0	10.0	10.0	15.0	15.0	15.0	15.0	15.0	15.0

Variables Used Beyond Those Supplied

	Actual					Projected				
Variable Name	4Q 2016	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9

Forward Curve

	Actual				P	rojected				
Maturity	4Q 2016	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9
3-Month Treasury	0.4	0.6	0.7	0.9	1.1	1.3	1.5	1.7	1.9	2.2
6-Month										
1 year										
2 year										
5 year Treasury	1.7	1.7	1.9	2.0	2.2	2.3	2.4	2.6	2.7	2.8
10 year Treasury	2.2	2.5	2.6	2.7	2.9	3.0	3.1	3.2	3.3	3.4
15 year										
30 year										

House Price Index

 $(NOTE: For \ printing \ purposes \ dates \ only \ goes \ to \ Oct-17. \ However, \ the \ underlying \ excel \ spreadsheet \ collects \ 30 \ years \ of \ data.)$

	Actual					Projected					
Region	4Q 2016	Jan-17	Feb-17	Mar-17	Apr-17	May-17	Jun-17	Jul-17	Aug-17	Sep-17	Oct-17

Region 1

Region 2

.

17 | P a g e

Adverse

Spread Assumptions

Spread to Benchmark

		Actual					Projected				
Category	Benchmark	4Q 2016	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9
Example: Advance	3-Month LIBOR	10.0	10.0	10.0	10.0	15.0	15.0	15.0	15.0	15.0	15.0

Variables Used Beyond Those Supplied

	Actual					Projected				
Variable Name	4Q 2016	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9

Forward Curve

	Actual					rojected				
Maturity	4Q 2016	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9
3-Month Treasury	0.4	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
6-Month										
1 year										
2 year										
5 year Treasury	1.7	1.7	1.8	1.8	1.9	1.9	1.9	2.0	2.0	2.0
10 year Treasury	2.2	2.3	2.4	2.5	2.5	2.6	2.7	2.7	2.7	2.7
15 year										
30 year										

House Price Index

(NOTE: For printing purposes dates only goes to Oct-17. However, the underlying excel spreadsheet collects 30 years of data.)

	Actual					Projected					
Region	40 2016	lan-17	Feb-17	Mar-17	Anr-17	May-17	lun-17	Iul-17	Διισ-17	Sen-17	Oct-17

Region 1

Region 2

Severely Adverse

Spread Assumptions

Spread to Benchmark

		Actual					Projected				
Category	Benchmark	4Q 2016	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9
	•	•	•		-		<u>.</u>	•	•		•
Example: Advance	3-Month LIBOR	10.0	10.0	10.0	10.0	15.0	15.0	15.0	15.0	15.0	15.0

Variables Used Beyond Those Supplied

	Actual				P	rojected				
Variable Name	4Q 2016	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9

Forward Curve

	Actual				Pı	rojected				
Maturity	4Q 2016	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9
3-Month Treasury	0.4	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
6-Month										
1 year										
2 year										
5 year Treasury	1.7	0.3	0.4	0.5	0.6	0.7	0.7	0.8	0.9	1.0
10 year Treasury	2.2	0.8	0.8	0.9	1.0	1.1	1.2	1.3	1.4	1.5
15 year										
30 year										

House Price Index

(NOTE: For printing purposes dates only go to Oct-17. However, the underlying excel spreadsheet collects 30 years of data.)

	Actual				P	rojected					
Region	4Q 2016	Jan-17	Feb-17	Mar-17	Apr-17	May-17	Jun-17	Jul-17	Aug-17	Sep-17	Oct-17

Region 1

Region 2

.

Stress Test Template Instructions											
1. All numbers should be reported in millions											
. Reported numbers should reflect the 12/31/2016 start date.											

Income Statement (BASELINE)	Most Recent Quarter	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Nine Quarter Cumulative Total
1 Net interest income (excluding management and guaranty fee income)											
2 Management and guaranty fee income ¹		İ									
3 Total net interest income											
4 Other income											
5 Total revenue											
6 REO (foreclosed property expense)											
7 SOP 03-3 losses, net											
8 Security impairments											
9 Operational risk losses											
10 Administrative expenses											
11 Other expenses											
12 Pre-provision net revenue											
13 (Provision) benefit for credit losses											
14 Derivatives gains (losses)											
15 Trading gains (losses)											
16 Other gains (losses)											
17 Global market shock impact on trading securities and held-for-sale loans											
18 Counterparty default losses											
19 Pre-Tax income (loss)											
20 (Provision) benefit for federal income taxes											
21 Extraordinary gains (losses), net of tax effect											
21 Extraordinary gams (103505), not of tax effect											
22 Net income (loss)											
23 Global market shock impact on available-for-sale securities											
24 Other comprehensive income											
21 Other comprehensive modific											
25 Comprehensive income (loss)											

¹ Includes guaranty fees received for managing credit risk on mortgage loans of consolidated trusts/PCs.

Capital Roll Forward (BASELINE)	Most Recent Quarter	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Nine Quarter Cumulative Total
CAPITAL 1 Beginning capital 2 Senior preferred Treasury draw (prior period) 3 Net income (loss) 4 Less: Dividends 5 Other capital actions 6 Change in AOCI 7 Change in non-controlling/minority interest 8 Other											
9 Ending capital (deficit)											
 Beginning PSPA funding commitment available Treasury draw required Remaining PSPA funding commitment available 											
OTHER 13 Deferred tax assets, net of allowance											
14 Total Assets											

<u>Por</u>	tfolio Balances (BASELINE)	Most Recent Quarter	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9
1 2 3 4 5 6 7	AINED PORTFOLIO Agency securities Single-family Multifamily Non-Agency securities Private Label Securities (PLS) Commercial Mortgage-backed Securities (CMBS) Other¹ Whole loans Single-family Multifamily										
8	Total retained portfolio										
9	Single-family guaranty book of business										

¹ Other includes mortgage revenue bonds and other

	edit Overview - Quarterly (BASELINE) cludes single-family and multifamily)	Most Recent Quarter	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Nine Quarter Cumulative Total
то	TAL PORTFOLIO											
1 2 3 4 5	CREDIT EXPENSES (\$s in millions) Foreclosed property expense (REO) Net charge-offs Credit losses Provision for credit losses Credit Expenses1											
6 7 8 9	LOAN LOSS RESERVE (\$s in millions) Beginning loan loss reserve Net charge-offs Provison (benefit) for loan losses Other											
10	Ending Total Loan Loss Reserve		 									
11	Unpaid Principal Balance (\$s in millions)											

¹ Amount depicts the summation of foreclosed property expense and provision for credit losses.

Multifamily - Income Statement (BASELINE)	Most Recent Quarter	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Nine Quarter Cumulative Total
 Net interest income¹ Management and guaranty fee income Other non-interest income 											
 Total revenue REO (foreclosed property exp.) Security impairments Other expenses² 											
8 Pre-provision net revenue											
 9 (Provision) benefit for credit losses 10 Derivatives gains (losses) 11 Gains (losses) on loans 12 Other fair value gains (losses) 13 Global market shock impact on trading securities and held-for-sale loans 											
14 Pre-Tax income (loss)											
15 Provision (benefit) for federal income taxes16 Extraordinary gains (losses), net of tax effect											
17 Net income (loss)											
18 Global market shock impact on available-for-sale securities19 Other comprehensive income											
20 Comprehensive income (loss)											

¹ Includes net interest income on multifamily whole loans, GSE multifamily MBS held in the retained portfolio, CMBS, and multifamily MRBs.

 $^{^{\}rm 2}$ Includes operational risk losses, administrative expenses, and gains from partnership investments.

<u>M</u> .	ultifamily Credit Overview - Quarterly (BASELINE)	Most Recent Quarter	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Nine Quarter Cumulative Total
то	TAL PORTFOLIO											
1 2 3 4 5	Credit losses											
6 7 8 9	Net charge-offs Provison (benefit) for loan losses											
10	Ending Total Loan Loss Reserve											
11	Unpaid Principal Balance (\$s in millions)											

 $^{^{\}rm 1}$ Amount depicts the summation of foreclosed property expense and provision for credit losses.

	Multifamily Key Metrics (BASELINE)	Most Recent Quarter	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Nine Quarter Cumulative Total
	(\$s in millions)											
1	Total multifamily market volume (industry)											
3 4	Enterprise market share percentage New acquisition volume Liquidation volume ¹ Securitization volume											
6	Effective guaranty fee rate ² (bps)											
	Guaranty portfolio balance Loans and securities held in portfolio											

 ¹ Includes property sales and other run-off/prepayments.
 ² Guaranty fee income divided by weighted average portfolio balance.

	Most Recent										Nine Quarter Cumulative
Single-Family Credit Overview - Quarterly (BASELINE)	Quarter	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Total
TOTAL PORTFOLIO											
CREDIT EXPENSES (\$s in millions) 1 Foreclosed property expense (REO) 2 Net charge-offs 3 Credit losses 4 Provision for credit losses											
5 Credit Expenses 1											
LOAN LOSS RESERVE (\$s in millions) Beginning loan loss reserve Net charge-offs Provison (benefit) for loan losses/guaranty losses Other											
10 Ending Total Loan Loss Reserve											
Memo: 11 FAS 5 Loan Loss Reserve 12 FAS 114 Loan Loss Reserve 13 Concessions in FAS 114 Loan Loss Reserve 2											
14 Unpaid Principal Balance (\$s in millions)											
		!									
CURRENT BOOK (as of 12/31/16)											
CREDIT EXPENSES (§s in millions) Foreclosed property expense (REO) Net charge-offs Provision for credit losses Provision for credit losses GRADIT EXPENSES 1											
LOAN LOSS RESERVE (\$s in millions) 20 Beginning loan loss reserve 21 Net charge-offs 22 Provison (benefit) for loan losses/guaranty losses 23 Other											
24 Ending Loan Loss Reserve - Current Book											
25 Unpaid Principal Balance (\$s in millions)											
NEW BUSINESS											
CREDIT EXPENSES (\$s in millions) 26 Foreclosed property expense (REO)											
27 Net charge-offs 28 Credit losses											
29 Provision for credit losses											
30 Credit Expenses 1											
LOAN LOSS RESERVE (\$s in millions) 31 Beginning loan loss reserve											
32 Net charge-offs 33 Provison (benefit) for loan losses/guaranty losses											
34 Other											
35 Ending Loan Loss Reserve - New Business											
36 Unpaid Principal Balance (\$s in millions)											

¹ Amount depicts the summation of foreclosed property expense, provision for credit losses, and SOP 03-3 losses.
² Amount includes the impact of all troubled debt restructuring (TDR) related impairments.

	Single-Family Credit Overview - Quarterly (BASELINE)	Most Recent Quarter	Q1	Q2	Q3	Q4	Q 5	Q6	Q7	Q8	Q9
	SERIOUSLY DELINQUENT LOAN ACTIVITY (count in '000s)										
1	Beginning seriously delinquent loans										
2	Seriously delinquent inflows - new SDQ										
3	Seriously delinquent inflows - cured										
4	Seriously delinquent cured by modification										
5	Seriously delinquent - cured										
6	Seriously delinquent to default										
7	Seriously delinquent to payoff										
8	Ending Seriously Delinquent Loans										
9 10	Ending seriously delinquent rate (%) Aggregate UPB of seriously delinquent loans (\$s in millions)										
11	Loan modifications (count in 000s)										
	PAYMENTS FROM PRIVATE MORTGAGE INSURERS (after haircut) (\$s in millions)										
12	Mortgage Guaranty Insurance Corporation										
13	Triad Guaranty Insurance Corporation										
14	Radian Guaranty Inc.										
15	United Guaranty Residential Insurance Co.										
16	Genworth Mortgage Insurance Corporation										
17	PMI Mortgage Insurance Co.										
18	Republic Mortgage Insurance Company										
19	Essent Guaranty, Inc.										
20	Arch Mortgage Insurance Company										
21	Other										
		1									

NOTE: Seriously delinquent loans are 90 days or more delinquent, or in the process of foreclosure.

Single-Family Credit Summary (BASELINE)

Delinquency Status - CURRENT BOOK

Loan Status	Most Recent Quarter	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	_
MODIFIED LOANS Current Less than 90 days delinquent Seriously delinquent (90 days or more delinquent or in the process of foreclosure) Total											
NON-MODIFIED LOANS Current Less than 90 days delinquent Seriously delinquent (90 days or more delinquent or in the process of foreclosure) Total											
(\$s in millions)					Loan Loss	Reserve					
Loan Status	Most Recent Quarter	Q1	Q2	Q3	Q4	Q 5	Q6	Q7	Q8	Q9	_
MODIFIED LOANS Current Less than 90 days delinquent Seriously delinquent (90 days or more delinquent or in the process of foreclosure) Total											
NON-MODIFIED LOANS Current Less than 90 days delinquent Seriously delinquent (90 days or more delinquent or in the process of foreclosure) Total											
(\$s in millions)			E	nd of Quar	ter Projecte	ed Charge-	Offs (Undi	scounted \$	Ss)		
Loan Status	Most Recent Quarter	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Nine Quarter Cumulativ Total
Modified Non-Modified											
	MODIFIED LOANS Current Less than 90 days delinquent Seriously delinquent (90 days or more delinquent or in the process of foreclosure) Total NON-MODIFIED LOANS Current Less than 90 days delinquent Seriously delinquent (90 days or more delinquent or in the process of foreclosure) Total (\$s in millions) Loan Status MODIFIED LOANS Current Less than 90 days delinquent Seriously delinquent (90 days or more delinquent or in the process of foreclosure) Total NON-MODIFIED LOANS Current Less than 90 days delinquent Seriously delinquent (90 days or more delinquent or in the process of foreclosure) Total NON-MODIFIED LOANS Current Less than 90 days delinquent Seriously delinquent (90 days or more delinquent or in the process of foreclosure) Total (\$s in millions) Loan Status Modified	MODIFIED LOANS Current Less than 90 days delinquent (so days or more delinquent or in the process of foreclosure) Total NON-MODIFIED LOANS Current Less than 90 days delinquent (so days or more delinquent or in the process of foreclosure) Total Most Recent Quarter MODIFIED LOANS Current Less than 90 days delinquent (so days or more delinquent or in the process of foreclosure) Total MODIFIED LOANS Current Less than 90 days delinquent (so days or more delinquent or in the process of foreclosure) Total NON-MODIFIED LOANS Current Less than 90 days delinquent (so days or more delinquent or in the process of foreclosure) Total NON-MODIFIED LOANS Current Less than 90 days delinquent Seriously delinquent (so days or more delinquent or in the process of foreclosure) Total (\$\$ in millions) Most Recent Quarter Modified	MODIFIED LOANS Current Less than 90 days delinquent (90 days or more delinquent or in the process of foreclosure) Total NON-MODIFIED LOANS Current Less than 90 days delinquent Seriously delinquent (90 days or more delinquent or in the process of foreclosure) Total Most Recent Quarter Q1 MODIFIED LOANS Current Less than 90 days delinquent Seriously delinquent (90 days or more delinquent or in the process of foreclosure) Total NON-MODIFIED LOANS Current Less than 90 days delinquent Seriously delinquent (90 days or more delinquent or in the process of foreclosure) Total NON-MODIFIED LOANS Current Less than 90 days delinquent Seriously delinquent (90 days or more delinquent or in the process of foreclosure) Total NON-MODIFIED LOANS Current Less than 90 days delinquent Seriously delinquent (90 days or more delinquent or in the process of foreclosure) Total Most Recent Quarter Q1	MODIFIED LOANS Current Less than 90 days delinquent Seriously delinquent (90 days or more delinquent or in the process of foreclosure) Total NON-MODIFIED LOANS Current Less than 90 days delinquent Seriously delinquent (90 days or more delinquent or in the process of foreclosure) Total (§s in millions) Most Recent Quarter Q1 Q2 MODIFIED LOANS Current Less than 90 days delinquent Seriously delinquent (90 days or more delinquent or in the process of foreclosure) Total NON-MODIFIED LOANS Current Less than 90 days delinquent Seriously delinquent (90 days or more delinquent or in the process of foreclosure) Total NON-MODIFIED LOANS Current Less than 90 days delinquent Seriously delinquent (90 days or more delinquent or in the process of foreclosure) Total Most Recent Quarter Q1 Q2 Modified	MODIFIED LOANS Current Less than 90 days delinquent (90 days or more delinquent or in the process of foreclosure) Total NON-MODIFIED LOANS Current Less than 90 days delinquent (90 days or more delinquent or in the process of foreclosure) Total (\$s in millions) Most Recent Quarter Q1 Q2 Q3	MODIFIED LOANS Current Less than 90 days delinquent (eto days or more delinquent or in the process of foreclosure) Total MON-MODIFIED LOANS Current Less than 90 days delinquent Seriously delinquent (eto days or more delinquent or in the process of foreclosure) Total (\$\$ in millions) Loan Status Most Recent Querter Q1 Q2 Q3 Q4 MODIFIED LOANS Current Less than 90 days delinquent Seriously delinquent (eto days or more delinquent or in the process of foreclosure) Total MODIFIED LOANS Current Less than 90 days delinquent Seriously delinquent (eto days or more delinquent or in the process of foreclosure) Total NON-MODIFIED LOANS Current Less than 90 days delinquent Seriously delinquent (eto days or more delinquent or in the process of foreclosure) Total NON-MODIFIED LOANS Current Less than 90 days delinquent (eto days or more delinquent or in the process of foreclosure) Total Most Recent Quarter Q1 Q2 Q3 Q4 Modified	MODIFIED LOANS Current Less than 90 days delinquent go days or more delinquent or in the process of foreclasure) Total (Se in millione) Loan Status MODIFIED LOANS Current Less than 90 days delinquent Seriously delinquent (so days or more delinquent or in the process of foreclasure) Total MOST Recent Quarter Q1 Q2 Q3 Q4 Q5 MODIFIED LOANS Current Less than 90 days delinquent Seriously delinquent (so days or more delinquent or in the process of foreclasure) Total MON-MODIFIED LOANS Current Less than 90 days delinquent Seriously delinquent (so days or more delinquent or in the process of foreclasure) Total Non-MODIFIED LOANS Current Less than 90 days delinquent Seriously delinquent (so days or more delinquent or in the process of foreclasure) Total Loan Status End of Quarter Projected Charge- Most Recent Quarter Q1 Q2 Q3 Q4 Q5 Modified Modified	MODIFIED LOANS Current Less than 90 days delinquent go days or more delinquent or in the process of foreclosure) Total NON-MODIFIED LOANS Current Less than 90 days delinquent go days or more delinquent or in the process of foreclosure) Total (\$6 in milliore) Loan Status MODIFIED LOANS Current Loan Status MODIFIED LOANS Current Less than 90 days delinquent Sentously delinquent go days or more delinquent or in the process of foreclosure) Total NON-MODIFIED LOANS Current Sentously delinquent go days or more delinquent or in the process of foreclosure) Total NON-MODIFIED LOANS Current Sentously delinquent go days or more delinquent or in the process of foreclosure) Total NON-MODIFIED LOANS Current Less than 90 days delinquent Sentously delinquent go days or more delinquent or in the process of foreclosure) Total NON-MODIFIED LOANS Current Less than 90 days delinquent Sentously delinquent go days or more delinquent or in the process of foreclosure) Total Modified Modified	MODIFIED LOANS Current Loss than 90 days delinquent po days or more ederquent or in the process of trenchouses) Total NON-MODIFIED LOANS Current Loss than 90 days delinquent Seriously delinquent po days or more defragant or in the process of trenchouses Total Most Recent Quarter Q1 Q2 Q3 Q4 Q5 Q6 Q7 MODIFIED LOANS Current Less than 90 days delinquent Seriously delinquent po days or more defragant or in the process of trenchouses) Total NON-MODIFIED LOANS Current Less than 90 days delinquent Seriously delinquent po days or more defragant or in the process of trenchouses) Total NON-MODIFIED LOANS Current Less than 90 days delinquent Seriously delinquent po days or more defragant or in the process of trenchouses) Total NON-MODIFIED LOANS Current Less than 90 days delinquent Seriously delinquent po days or more defragant or in the process of trenchouses) Total Most Recent Q1 Q2 Q3 Q4 Q5 Q6 Q7 Modified	MODIFIED LOANS Current Loss than 90 days delinquent corollary or more delinquent or in the process of forectosure) Total NON-MODIFIED LOANS Current Loan Status Most Recent Quarrier Q1 Q2 Q3 Q4 Q5 Q6 Q7 Q8 Most Recent Soliciously delinquent go days or more delinquent or in the process of forectosure) Total Most Recent Quarrier Q1 Q2 Q3 Q4 Q5 Q6 Q7 Q8 MODIFIED LOANS Current Leas than 90 days delinquent Soliciously delinquent go days or more delinquent or in the process of forectosure) Total MON-MODIFIED LOANS Current Leas than 90 days delinquent Soliciously delinquent go days or more delinquent or in the process of forectosure) Total Loan Status Modified Most Recent Q1 Q2 Q3 Q4 Q5 Q6 Q7 Q8 Modified Most Recent Q1 Q2 Q3 Q4 Q5 Q6 Q7 Q8 Modified	MODIFIED LOANS Current Less than 90 days delinquent (so days or more deforquent or in the process of breccisum) Total NON-MODIFIED LOANS Current Loan Status Most Recent Q1 Q2 Q3 Q4 Q5 Q6 Q7 Q8 Q9

Single-Family Credit Summary (BASELINE) Mark-to-Market Loan-to-Value - CURRENT BOOK

(\$s in millions)				End of Qu	uarter Unpaid	Principal Balar	ce (UPB)				
Loan Status	Most Recent Quarter	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	_
1 <=80% 2 >80% - 100% 3 >100% 4 Total											
(\$s in millions)					Loan Los:	s Reserve					
Loan Status	Most Recent Quarter	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	_
5 <=80% 6 >80% - 100% 7 >100% 8 Total											
(\$s in millions)				End of (Quarter Projec	cted Charge-O	ffs (Undiscou	nted \$s)			
Loan Status	Most Recent Quarter	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Nine Quarter Cumulative Total
9 <=80% 10 >80% - 100% 11 >100%											

End of Quarter Unpaid Principal Balance (UPB)

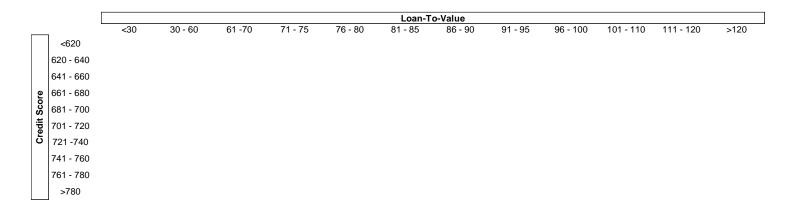
Single-Family Credit Summary (BASELINE)

Vintage Status - CURRENT BOOK

	Most Recent										
Loan Status	Quarter	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	
1 2004 and prior 2 2005 3 2006 4 2007 5 2008 6 2009 7 2010 8 2011 9 2012 10 2013 11 2014 12 2015 13 2016											
						_					
(\$s in millions)					Loan Loss	Keserve					
	Most Recent										
Loan Status	Quarter	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	
14 2004 and prior 15 2005 16 2006 17 2007 18 2008 19 2009 20 2010 21 2011 22 2012 23 2013 24 2014 25 2015 26 2016											
(\$s in millions)				End of C	Quarter Projec	ted Charge-Ot	ffs (Undiscour	ited \$s)			
Loan Status	Most Recent Quarter	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Nine Quarter Cumulative Total
27 2004 and prior 28 2005 29 2006 30 2007 31 2008 32 2009 33 2010 34 2011 35 2012 36 2013 37 2014 38 2015 39 2016		Ser	VL.	wo	W.T	wo	w	W.	wo	or o	· U NAV

(\$s in millions)

Single-Family - 9 Quarter Cumulative Credit Losses (BASELINE)



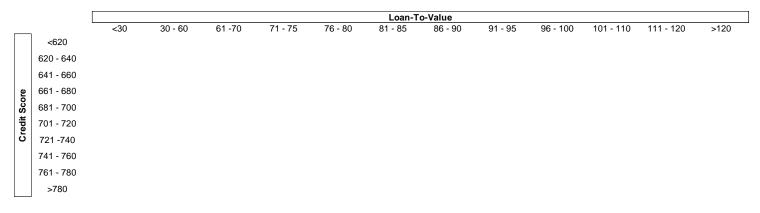
Credit losses represent the summation of net charge-offs and foreclosed property expenses (REO).

Use LTV and credit score as of December 31, 2016.

(\$s in millions)

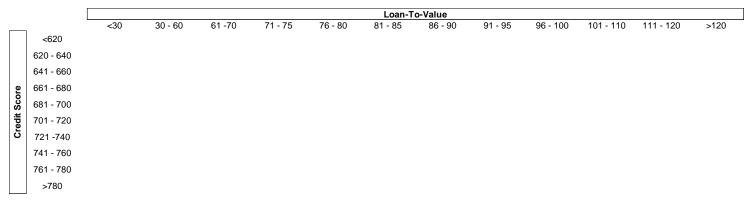
Single-Family - Loan Loss Reserves (BASELINE)

Loan Loss Reserves as of 12/31/16



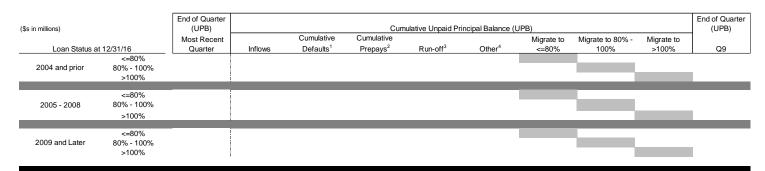
Use LTV and credit score as of December 31, 2016

Loan Loss Reserves at 3/31/19 (end of nine quarters)



Use LTV and credit score as of December 31, 2016

<u>Single-Family Credit Summary (BASELINE)</u> Vintage and MTMLTV Status - CURRENT BOOK



in millions)			L	oan Loss Reserves		
			Cumulative	Provision for		
Loan Status a	t 12/31/16	Beginning	Charge-offs	Credit Losses	Other	Ending
	<=80%					
2004 and prior	80% - 100%					
	>100%					
	<=80%					
2005 - 2008	80% - 100%					
	>100%					
	<=80%					
2009 and Later	80% - 100%					
	>100%					

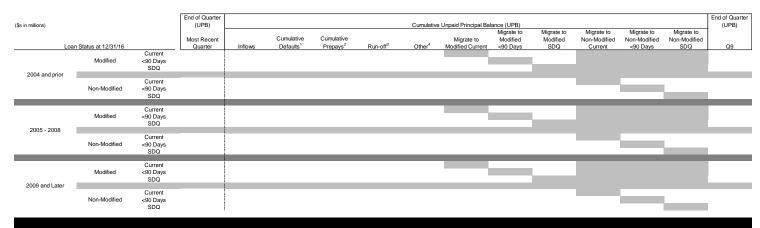
¹ Amount depicts principal balance of loans that are in the process of foreclosure.

² Amount depicts principal balance of loans that have prepaid through refinance.

³ Amount depicts reduction in principal balance due to amortization.

Amount depicts reduction in principal database due to amont
 Amount includes NPL sales and other miscellaneous items.

<u>Single-Family Credit Summary (BASELINE)</u> Vintage and Delinquency Status - CURRENT BOOK



in millions)				L	oan Loss Reserves		
				Cumulative	Provision for		
Loar	Status at 12/31/16		Beginning	Charge-offs	Credit Losses	Other	Ending
	Modified	Current <90 Days SDQ					
2004 and prior							
	Non-Modified	Current <90 Days SDQ					
	Modified	Current <90 Days SDQ					
2005 - 2008							
	Non-Modified	Current <90 Days SDQ					
	Modified	Current <90 Days SDQ					
2009 and Later							
	Non-Modified	Current <90 Days SDQ					

<sup>Amount depicts principal balance of loans that are in the process of foreclosure.
Amount depicts principal balance of loans that have prepaid through refinance.
Amount depicts reduction in principal balance due to amortization.
Amount pincipal palance due to amortization.</sup>

Single-Family Credit Summary (BASELINE)
MTMLTV and Delinquency Status - CURRENT BOOK

(\$s in millions)			End of Quarter (UPB)					Cumulative	Unpaid Principal Ba						End of Quarter (UPB)
	Loan Status at 12/31/1	S	Most Recent Quarter	Inflows	Cumulative Defaults ¹	Cumulative Prepays ²	Run-off ³	Other ⁴	Migrate to Modified Current	Migrate to Modified <90 Days	Migrate to Modified SDQ	Migrate to Non-Modified Current	Migrate to Non-Modified <90 Days	Migrate to Non-Modified SDQ	Q9
000	Modified	Current <90 Days SDQ													
<=80%	Non-Modified	Current <90 Days SDQ													_
80% - 100%	Modified	Current <90 Days SDQ													
0070 - 10070	Non-Modified	Current <90 Days SDQ													
>100%	Modified	Current <90 Days SDQ									=				
>100%	Non-Modified	Current <90 Days SDQ													

n millions)					oan Loss Reserves Provision		
Loor	Status at 12/31/16		Beginning	Cumulative Charge-offs	for Credit Losses	Other	Ending
LUai	1 Status at 12/31/10	Current	Degiriring	Charge-ons	Credit Losses	Other	Ending
<=80%	Modified	<90 Days SDQ					
<=80%		Current					
	Non-Modified	<90 Days SDQ					
	Modified	Current <90 Days SDQ					
80% - 100%		Current					
	Non-Modified	<90 Days SDQ					
4000/	Modified Current <90 Days SDQ Current Non-Modified <90 Days SDQ SDQ	<90 Days					
>100%							

¹ Amount depicts principal balance of loans that are in the process of foreclosure.
² Amount depicts principal balance of loans that have prepaid through refinance.
³ Amount depicts reduction in principal balance due to amortization.
⁴ Amount includes NPL sales and other miscellaneous items.

Credit Risk Transfers - Quarterly (BASELINE)	Most Recent Quarter	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Nine Quarter Cumulative Total
(\$s in millions)											
CAS/STACR Interest Expense Fair Value Gain (Loss) Cher Expenses Recoveries CIRT/ACIS Premiums Premium Expense Cher Expenses Recoveries Recoveries											
8 Total Income (Loss)											
9 CAS/STACR Debt Issuances 10 CIRT/ACIS Transactions											
11 Reference Pool (Quarter)											
12 Outstanding Reference Pool											

Income Statement (ADVERSE)	Most Recent Quarter	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Nine Quarter Cumulative Total
Net interest income (excluding management and guaranty fee income)		ļ									
2 Management and guaranty fee income ¹											
3 Total net interest income											
4 Other income											
5 Total revenue											
0.050%											
6 REO (foreclosed property expense) 7 SOP 03-3 losses, net											
8 Security impairments											
9 Operational risk losses											
10 Administrative expenses											
11 Other expenses											
40 Par marrial and account											
12 Pre-provision net revenue											
13 (Provision) benefit for credit losses											
14 Derivatives gains (losses)											
15 Trading gains (losses)											
16 Other gains (losses)											
17 Global market shock impact on trading securities and held-for-sale loans		1									
18 Counterparty default losses											
19 Pre-Tax income (loss)											
20 (Provision) benefit for federal income taxes											
21 Extraordinary gains (losses), net of tax effect											
22 Net income (loss)											
23 Global market shock impact on available-for-sale securities											
24 Other comprehensive income											
25 Comprehensive income (loss)											

¹ Includes guaranty fees received for managing credit risk on mortgage loans of consolidated trusts/PCs.

<u>Ca</u>	pital Roll Forward (ADVERSE)	Most Recent Quarter	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Nine Quarter Cumulative Total
CA	PITAL											
1	Beginning capital											
2	Senior preferred Treasury draw (prior period)											
3	Net income (loss)											
4	Less: Dividends											
5	Other capital actions											
6 7	Change in AOCI Change in non-controlling/minority interest											
8	Other											
U	Other											
9	Ending capital (deficit)											
10	Beginning PSPA funding commitment available											
11	Treasury draw required											
	,											
12	Remaining PSPA funding commitment available											
\circ	LIED											
	HER											
13	Deferred tax assets, net of allowance											
14	Total Assets											
	100010		i									

<u>Por</u>	tfolio Balances (ADVERSE)	Most Recent Quarter	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9
1 2 3 4 5 6 7	AINED PORTFOLIO Agency securities Single-family Multifamily Non-Agency securities Private Label Securities (PLS) Commercial Mortgage-backed Securities (CMBS) Other¹ Whole loans Single-family Multifamily										
8	Total retained portfolio										
9	Single-family guaranty book of business										

¹ Other includes mortgage revenue bonds and other

(\$s in millions)

Global Market Shock (ADVERSE)

Applicable UPB

Q1 Loss

- 1 Private Label Securities (PLS) or Non-Agency Prices for Residential Mortgage-backed Securities (RMBS)
- 2 Commercial Mortgage-backed Securities (CMBS)
- 3 Asset-based Securities (ABS) and other collateral
- 4 Single-Family Agency Securities
- 5 Multifamily Agency Securities
- 6 Municipal Securities
- 7 Single-Family Loans
- 8 Multifamily Loans
- 9 Counterparty Default Risk*
- * Please provide the name and attribution of counterparty default risk by type (eg: derivatives, repo, etc.) of the largest counterparty below:

Counterparty Name Counterparty Type Total Potential Income Statement Impact

Derivatives

Repo

Single-Family Mortgage Insurance Provider Multifamily Credit Enhancement Provider

Other

Total

(\$s in millions)

Global Market Shock (ADVERSE)

Applicable UPB

Q1 Loss

TRADING SECURITIES

- 1 Private Label Securities (PLS) or Non-Agency Prices for Residential Mortgage-backed Securities (RMBS)
- 2 Commercial Mortgage-backed Securities (CMBS)
- 3 Asset-based Securities (ABS) and other collateral
- 4 Single Family Agency Securities
- 5 Multifamily Agency Securities
- 6 Municipal Securities
- 7 Counterparty Default Risk

AVAILABLE-FOR-SALE SECURITIES (Post-Tax Amounts)

- 8 Private Label Securities (PLS) or Non-Agency Prices for Residential Mortgage-backed Securities (RMBS)
- 9 Commercial Mortgage-backed Securities (CMBS)
- 10 Asset-based Securities (ABS) and other collateral
- 11 Single Family Agency Securities
- 12 Multifamily Agency Securities
- 13 Municipal Securities

HELD-FOR-SALE LOANS

- 14 Single Family Loans
- 15 Multifamily Loans

Unspecified Vintage

SET TotalPre 2006
2006
2007
Post 2007
Unspecified Vintage

NR Total Pre 2006 2006

\$0 \$0 \$0 \$0 \$0 \$0

\$0 \$0 \$0 \$0 \$0 \$0

\$0

\$0

\$0

\$0

\$0

\$0

\$0

\$0

\$0

\$0

\$0

\$0

\$0

\$0

\$0

\$0 \$0 \$0 \$0 \$0 \$0

\$0 \$0 \$0 \$0 \$0 \$0

Enterprise Dodd-Frank Stress Test Template (Disclosure to FHFA ONLY)

(*Credit ratings should be as of December 31, 2016) RMBS CDO RMBS CDS Credit Basket PrimeX European Other / RMBS Unspecifie RMBS SubTotal Grand Total Option ARMS Other AltA ABX / TABX MV* (\$MM)

AAA Total

Pre 2006
2006
2007
Post 2007
Unspecified Vintage \$0 \$0 \$0 \$0 \$0 \$0 AA Total
Pre 2006
2006
2007
Post 2007
Unspecified Vintage \$0 A Total
Pre 2006
2006
2007
Post 2007
Unspecified Vintage \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 BBB Total
Pre 2006
2006
2007
Post 2007
Unspecified Vintage \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 BB Total \$0 Pre 2006 2006 2007 Post 2007 Unspecified Vintage \$0 \$0 B Total \$0 Pre 2006 2006 2007 Post 2007

2006	\$0																\$0
2007	\$0									ļ							\$0
Post 2007	\$0 \$0																\$0 \$0
Unspecified Vintage					l .												
Total	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Profit/Loss (\$MM)																	
AAA Total	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Pre 2006	\$0			1			1	1	1	1	1		, , , , , , , , , , , , , , , , , , ,	1	1		\$0
2006	\$0																\$0
2007	\$0																\$0
Post 2007	\$0																\$0
Unspecified Vintage	\$0																\$0
AA Total	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Pre 2006	\$0																\$0
2006	\$0																\$0
2007 Post 2007	\$0 \$0																\$0 \$0
Unspecified Vintage	\$0 \$0																\$0
A Total Pre 2006	\$0 \$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0 \$0
2006	\$0 \$0																\$0
2007	\$0																\$0
Post 2007	\$0																\$0
Unspecified Vintage	\$0																\$0
BBB Total	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Pre 2006	\$0																\$0
2006	\$0																\$0
2007	\$0																\$0
Post 2007 Unspecified Vintage	\$0 \$0	-															\$0 \$0
									1					·			
BB Total	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Pre 2006 2006	\$0 \$0																\$0 \$0
2007	\$0																\$0
Post 2007	\$0																\$0
Unspecified Vintage	\$0																\$0
B Total	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Pre 2006	\$0																\$0
2006	\$0																\$0
2007	\$0																\$0
Post 2007 Unspecified Vintage	\$0 \$0	-															\$0 \$0
									1					·			
<b td="" total<=""><td>\$0</td><td>\$0</td><td>\$0</td><td>\$0</td><td>\$0</td><td>\$0</td><td>\$0</td><td>\$0</td><td>\$0</td><td>\$0</td><td>\$0</td><td>\$0</td><td>\$0</td><td>\$0</td><td>\$0</td><td>\$0</td><td>\$0</td>	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Pre 2006 2006	\$0 \$0														1		\$0 \$0
2006	\$0 \$0			 													\$0 \$0
Post 2007	\$0																\$0
Unspecified Vintage	\$0																\$0
NR Total	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Pre 2006	\$0																\$0
2006	\$0																\$0
2007	\$0																\$0
Post 2007	\$0														-		\$0
Unspecified Vintage	\$0			<u> </u>	<u> </u>			<u> </u>	<u> </u>	<u> </u>			<u> </u>	<u>' </u>	<u> </u>		\$0
Total	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

*Credit ratings should be a	as of Decem	oer 31, 20	016)								,	וסוסנ	Jiosui	re to F	пга	OIL!	,						
ļ						ABS	Index			Cash Non-				CMBS				Co	orporate CDO	/ CLO Corporate		Warehous	Se .
	Grand Total	Autos		Student Loans	ABS	Credit Basket	Tranche	Other / Unspecified	ABS SubTotal	Agency CMBS		CMBS CDO	Credit Basket	Index Tranches	Whole Loans	Other / Unspecified	CMBS SubTotal	CLO	Other / Unspecified	CDO/CLO SubTotal	Total Size	Total Protection	Other Unspeci
MV* (\$MM) AAA Total	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Pre 2006 2006	\$0 \$0	-							\$0 \$0				, i				\$0 \$0			\$0 \$0			
2007 Post 2007	\$0								\$0 \$0								\$0			\$0 \$0			
Unspecified Vintage	\$0 \$0								\$0 \$0								\$0 \$0			\$0 \$0			
A Total Pre 2006	\$0 \$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0 \$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0 \$0	\$0	\$0	\$0 \$0	\$0	\$0	\$0
2006	\$0								\$0								\$0			\$0			
2007 Post 2007	\$0 \$0								\$0 \$0								\$0 \$0			\$0 \$0			
Unspecified Vintage	\$0 \$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0 \$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0 \$0	\$0	\$0	\$0 \$0	\$0	\$0	\$0
Pre 2006	\$0 \$0	ψU	\$0	\$U	\$0	\$0	\$0	\$0	\$0	\$ 0	\$0	\$ 0	\$0	\$ 0	\$0	\$ 0	\$0	\$0	\$0	\$0	\$ 0	\$ 0	\$0
2006 2007	\$0								\$0 \$0								\$0 \$0			\$0 \$0			
Post 2007 Unspecified Vintage	\$0 \$0								\$0 \$0								\$0 \$0			\$0 \$0			
BB Total	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Pre 2006 2006	\$0 \$0								\$0 \$0								\$0 \$0			\$0 \$0			
2007 Post 2007	\$0 \$0								\$0 \$0								\$0 \$0			\$0 \$0			
Unspecified Vintage	\$0								\$0					L			\$0			\$0			
B Total Pre 2006	\$0 \$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0 \$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0 \$0	\$0	\$0	\$0 \$0	\$0	\$0	\$0
2006 2007	\$0 \$0								\$0 \$0								\$0 \$0			\$0 \$0			
Post 2007 Unspecified Vintage	\$0 \$0								\$0 \$0								\$0 \$0			\$0 \$0			
Total	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Pre 2006 2006	\$0 \$0					\vdash			\$0 \$0								\$0 \$0			\$0 \$0			
2007 Post 2007	\$0 \$0								\$0 \$0								\$0 \$0			\$0 \$0			
Unspecified Vintage	\$0								\$0								\$0			\$0			
B Total Pre 2006	\$0 \$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0 \$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0 \$0	\$0	\$0	\$0 \$0	\$0	\$0	\$0
2006 2007	\$0 \$0								\$0 \$0								\$0 \$0			\$0 \$0			
Post 2007	\$0								\$0								\$0			\$0			
Unspecified Vintage R Total	\$0 \$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0 \$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0 \$0	\$0	\$0	\$0 \$0	\$0	\$0	\$0
Pre 2006 2006	\$0 \$0		-	-				Ų,	\$0 \$0			-		-		V	\$0 \$0	-		\$0 \$0	V	-	
2007	\$0								\$0								\$0			\$0			
Post 2007 Unspecified Vintage	\$0 \$0								\$0 \$0								\$0 \$0			\$0 \$0			
otal	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Profit/Loss (\$MM)																							
AA Total Pre 2006	\$0 \$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0 \$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0 \$0	\$0	\$0	\$0 \$0	\$0	\$0	\$0
2006 2007	\$0 \$0								\$0 \$0								\$0 \$0			\$0 \$0			
Post 2007 Unspecified Vintage	\$0 \$0								\$0 \$0								\$0 \$0			\$0 \$0			
A Total	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Pre 2006 2006	\$0 \$0								\$0 \$0								\$0 \$0			\$0 \$0			
2007 Post 2007	\$0 \$0								\$0 \$0								\$0 \$0			\$0 \$0			
Unspecified Vintage	\$0								\$0								\$0			\$0			
Total Pre 2006	\$0 \$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0 \$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0 \$0	\$0	\$0	\$0 \$0	\$0	\$0	\$0
2006 2007	\$0 \$0								\$0 \$0								\$0 \$0			\$0 \$0			
Post 2007	\$0								\$0								\$0			\$0 \$0			
Unspecified Vintage	\$0 \$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0 \$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0 \$0	\$0	\$0	\$0 \$0	\$0	\$0	\$0
Pre 2006	\$0	Ų.,	40		-	-	-	-	\$0	- 40		Ψ3	- 40	- 40			\$0			\$0	40	- 40	- 30
2006 2007	\$0 \$0								\$0 \$0								\$0 \$0			\$0 \$0			
Post 2007 Unspecified Vintage	\$0 \$0								\$0 \$0								\$0 \$0			\$0 \$0			
3 Total	\$0 \$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0 \$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0 \$0	\$0	\$0	\$0 \$0	\$0	\$0	\$1
Pre 2006 2006	\$0								\$0								\$0			\$0			
2007 Post 2007	\$0 \$0								\$0 \$0								\$0 \$0			\$0 \$0			
Inspecified Vintage	\$0	-	-						\$0								\$0			\$0			
Total re 2006	\$0 \$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0 \$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0 \$0	\$0	\$0	\$0 \$0	\$0	\$0	\$1
2006 2007	\$0 \$0								\$0 \$0								\$0 \$0			\$0 \$0			
Post 2007 Inspecified Vintage	\$0 \$0								\$0 \$0								\$0 \$0			\$0 \$0			
3 Total	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$
re 2006 006	\$0 \$0								\$0 \$0								\$0 \$0			\$0 \$0			
007 ost 2007	\$0 \$0								\$0 \$0								\$0 \$0			\$0 \$0			
Inspecified Vintage	\$0								\$0								\$0			\$0			
R Total Pre 2006	\$0 \$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0 \$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0 \$0	\$0	\$0	\$0 \$0	\$0	\$0	\$1
2006 2007	\$0								\$0								\$0			\$0			
/UU/	\$0	oxdot							\$0								\$0			\$0			+
Post 2007 Unspecified Vintage	\$0 \$0								\$0 \$0								\$0 \$0			\$0 \$0			

Trading and Other Fair Value Assets Munis (ADVERSE)

Munis (ADVERSE)				
	MV (\$MM) Available-for-Sale Securities	MV (\$MM) Trading Securities	Profit/Loss from OAS Widening (AFS)	Profit/Loss from OAS Widening (Trading Secs)
Bonds				
AAA AA A BBB BB B				
<b< td=""><td></td><td></td><td></td><td></td></b<>				
NR				
Bonds Total 1M	\$0	\$0	\$0	\$0
3M				
6M				
9M				
1Y				
2Y				
3Y				
5Y 7Y				
10Y				
15Y				
20Y				
30Y				
Bonds Total	\$0	\$0	\$0	\$0
Loans				1
AAA				
AA				
A BBB				
ВВ				
В				
<b< td=""><td></td><td></td><td></td><td></td></b<>				
NR				
Loans Total	\$0	\$0	\$0	\$0
1M				
3M 6M				
9M				
1Y				
2Y				
3Y				
5Y				
7Y				
10Y				
15Y				
20Y 30Y				
Loans Total	\$0	\$0	\$0	\$0
Louis Total	40	Ψ3	45	ψ0
CDS				
AAA				
AA				
Α				
BBB				+
BB B				
<b< td=""><td></td><td></td><td></td><td></td></b<>				
NR	+			
CDS Total	\$0	\$0	\$0	\$0
1M				
3M				
6M				-
9M				
1Y 2Y				
3Y				+
5Y				
7Y				
10Y				
15Y				
20Y				
30Y				
CDS Total	\$0	\$0	\$0	\$0

Trading and Other Fair Value Assets Munis (ADVERSE)

ndico	MV (\$MM) Available-for-Sale Securities	MV (\$MM) Trading Securities	Profit/Loss from OAS Widening (AFS)	Profit/Loss from OAS Widening (Trading Secs
ndices		1		
AAA AA				+
A				+
BBB				+
BB				+
				+
В				+
<b< td=""><td></td><td></td><td></td><td></td></b<>				
NR				
Indices Total	\$0	\$0	\$0	\$0
1M				
3M				
6M				_
9M				
1Y				
2Y				_
3Y				
5Y				
7Y				
10Y				
15Y				
20Y				
30Y				
Indices Total	\$0	\$0	\$0	\$0
Other / Unspecified Munis				
AAA	T	1		1
AA				1
A	 			+
BBB				+
				+
BB				+
В				+
<b< td=""><td></td><td></td><td></td><td></td></b<>				
NR				-
Other / Unspecified Munis Total	\$0	\$0	\$0	\$0
1M				
3M				
6M				_
9M				
1Y				
2Y				
3Y				
5Y				
7Y				
10Y				
15Y				
20Y				1
30Y				+
Other / Unspecified Munis Total	\$0	\$0	\$0	\$0
Other / Onspecimed Mariis Total	40	Ψ0	40	1 40
Grand Total				
AAA	\$0	0.2	40	40
AA AA	\$0 \$0	\$0 \$0	\$0 \$0	\$0 \$0
		\$0 \$0	\$0 \$0	\$0
A	\$0	\$0 \$0	\$0	\$0
BBB	\$0	\$0 \$0	\$0	\$0
BB	\$0	\$O	\$0	\$0
В	\$0	\$0	\$0	\$0
<b< td=""><td>\$0</td><td>\$O</td><td>\$0</td><td>\$0</td></b<>	\$0	\$O	\$0	\$0
NR	\$0	\$0	<u>\$0</u>	\$0
Grand Total	\$0	\$0	\$0	\$0
1M	\$0	\$ 0	\$0	\$0
3M	\$0	\$ 0	\$ 0	\$0
6M	\$0	\$0	\$ 0	\$0
9М	\$0	\$O	\$0	\$0
1Y	\$0	\$O	\$ 0	\$0
2Y	\$0	\$0	\$0	\$0
3Y	\$0	\$0	\$0	\$0
5Y	\$0	\$0	\$0	\$0
7Y	\$0	\$0	\$0	\$0
10Y	\$0	\$0	\$0	\$0
15Y	\$0	\$0	\$0	\$0
20Y	\$0	\$O	\$0 \$0	\$0
30Y	\$0			\$0
	\$0 \$0	\$0 \$0	\$0 \$0	\$0 \$0
Grand Total				

Trading & Other Fair Value Assets Template

Agencies (ADVERSE)

	MV (\$MM)	MV (\$MM)	Profit/Loss	Profit/Loss
	Available-for-Sale	Trading	from OAS	from OAS
	Securities	Securities	Widening	Widening
	Securities	Securities	(AFS)	(Trading Secs)
US Residential Agency Products	•			
IOs				
POs				
Other CMOs				
Pass-Throughs				
Agency Debt/Debentures				
IOS Index				
POS Index				
MBX Index				
Other Agency Derivatives				
TBA's				
Reverse Mortgages				
Residential Other / Unspecified				
Total	\$0	\$0	\$0	\$0
US Commercial Agency Products				
Cash Agency CMBS				
Agency CMBS Derivatives				
Commercial Other / Unspecified				
Total	\$0	\$0	\$0	\$0
Non-US Agency Products				
AAA				
AA				1
A				
ВВВ				1
ВВ				
В				
<b< td=""><td></td><td></td><td></td><td>1</td></b<>				1
T .	-			+
NR				

	Multifamily - Income Statement (ADVERSE)	Most Recent Quarter	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Nine Quarter Cumulative Total
2	Net interest income¹ Management and guaranty fee income Other non-interest income											
4	Total revenue											
6	REO (foreclosed property exp.) Security impairments Other expenses²											
8	Pre-provision net revenue											
10 11 12	(Provision) benefit for credit losses Derivatives gains (losses) Gains (losses) on loans Other fair value gains (losses) Global market shock impact on trading securities and held-for-sale loans											
14	Pre-Tax income (loss)											
	Provision (benefit) for federal income taxes Extraordinary gains (losses), net of tax effect											
17	Net income (loss)											
	Global market shock impact on available-for-sale securities Other comprehensive income											
20	Comprehensive income (loss)											

¹ Includes net interest income on multifamily whole loans, GSE multifamily MBS held in the retained portfolio, CMBS, and multifamily MRBs.

 $^{^{\}rm 2}$ Includes operational risk losses, administrative expenses, and gains from partnership investments.

Credit Risk Transfers - Quarterly (ADVERSE)	Most Recent Quarter	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Nine Quarter Cumulative Total
(\$s in millions)											
CAS/STACR 1 Interest Expense 2 Fair Value Gain (Loss) 3 Other Expenses 4 Recoveries CIRT/ACIS Premiums 5 Premium Expense 6 Other Expenses 7 Recoveries											
8 Total Income (Loss)											
9 CAS/STACR Debt Issuances 10 CIRT/ACIS Transactions 11 Reference Pool (Quarter)	•										
12 Outstanding Reference Pool											

Income Statement (SEVERELY ADVERSE) (without establishing DTA)	Most Recent Quarter	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Nine Quarter Cumulative Total
Net interest income (excluding management and guaranty fee income)											
2 Management and guaranty fee income ¹											
3 Total net interest income											
4 Other income											
5 Total revenue											
o rotal tovolido											
6 REO (foreclosed property expense)											
7 SOP 03-3 losses, net											
8 Security impairments		ĺ									
9 Operational risk losses											
10 Administrative expenses											
11 Other expenses											
12 Pre-provision net revenue											
13 (Provision) benefit for credit losses											
14 Derivatives gains (losses)											
15 Trading gains (losses)											
16 Other gains (losses)											
17 Global market shock impact on trading securities and held-for-sale loans											
18 Counterparty default losses											
19 Pre-Tax income (loss)											
19 1 16-1 ax III collie (1033)											
20 (Provision) benefit for federal income taxes		į									
21 Extraordinary gains (losses), net of tax effect											
22 Net income (loss)											
23 Global market shock impact on available-for-sale securities		İ									
24 Other comprehensive income											
2. Calc. Comp. Storiotto moonto		-									
25 Comprehensive income (loss)											

¹ Includes guaranty fees received for managing credit risk on mortgage loans of consolidated trusts/PCs.

Income Statement (SEVERELY ADVERSE) (with establishing DTA)	Most Recent Quarter	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Nine Quarter Cumulative Total
 Net interest income (excluding management and guaranty fee income) Management and guaranty fee income¹ 											
3 Total net interest income											
4 Other income		ļ 									
5 Total revenue											
6 REO (foreclosed property exp.) 7 SOP 03-3 losses, net 8 Security impairments 9 Operational risk losses 10 Administrative expenses 11 Other expenses											
12 Pre-provision net revenue											
13 (Provision) benefit for credit losses											
 Derivatives gains (losses) Trading gains (losses) Other gains (losses) Global market shock impact on trading securities and held-for-sale loans Counterparty default losses 											
19 Pre-Tax income (loss)											
20 (Provision) benefit for federal income taxes 21 Extraordinary gains (losses), net of tax effect											
22 Net income (loss)											
23 Global market shock impact on available-for-sale securities24 Other comprehensive income											
25 Comprehensive income (loss)		ļ									

¹ Includes guaranty fees received for managing credit risk on mortgage loans of consolidated trusts/PCs.

	pital Roll Forward (SEVERELY ADVERSE) hout establishing DTA)	Most Recent Quarter	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Nine Quarter Cumulative Total
CA	PITAL											
1	Beginning capital		į									
2	Senior preferred Treasury draw (prior period)		! !									
3 4	Net income (loss) Less: Dividends		İ									
5	Other capital actions		ļ									
6	Change in AOCI											
7	Change in non-controlling/minority interest		! !									
8	Other											
•	Ending capital (deficit)		İ									
9	Ending capital (deficit)		l I									
			<u> </u>									
10	Beginning PSPA funding commitment available											
11	Treasury draw required		ļ									
• •	Troubary aran required		!									
12	Remaining PSPA funding commitment available		İ									
			1									
ОТ	HER											
	Deferred tax assets, net of allowance											
13	Deterred (ax assets, fiet of allowarde		ļ									
14	Total Assets		 									

Capital Roll Forward (SEVERELY ADVERSE) (with establishing DTA)	Most Recent Quarter	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Nine Quarter Cumulative Total
CAPITAL 1 Beginning capital 2 Senior preferred Treasury draw (prior period) 3 Net income (loss) 4 Less: Dividends 5 Other capital actions 6 Change in AOCI											
7 Change in non-controlling/minority interest 8 Other											
9 Ending capital (deficit)											
 Beginning PSPA funding commitment available Treasury draw required 											
12 Remaining PSPA funding commitment available											
OTHER 13 Deferred tax assets, net of allowance											
14 Total Assets											

<u>Por</u>	tfolio Balances (SEVERELY ADVERSE)	Most Recent Quarter	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9
RET	AINED PORTFOLIO										
	Agency securities										
1	Single-family										
2	Multifamily										
	Non-Agency securities										
3	Private Label Securities (PLS)										
4	Commercial Mortgage-backed Securities (CMBS)										
5	Other ¹										
	Whole loans										
6	Single-family										
7	Multifamily										
8	Total retained portfolio										
9	Single-family guaranty book of business										

¹ Other includes mortgage revenue bonds and other

(\$s in millions)

Global Market Shock (SEVERELY ADVERSE)

Applicable UPB

Q1 Loss

- 1 Private Label Securities (PLS) or Non-Agency Prices for Residential Mortgage-backed Securities (RMBS)
- 2 Commercial Mortgage-backed Securities (CMBS)
- Asset-based Securities (ABS) and other collateral
- 4 Single-Family Agency Securities
- 5 Multifamily Agency Securities
- Municipal Securities 6
- 7 Single-Family Loans
- Multifamily Loans
- Counterparty Default Risk*
- * Please provide the name and attribution of counterparty default risk by type (eg: derivatives, repo, etc.) of the largest counterparty below:

Counterparty Name Counterparty Type Total Potential Income Statement Impact

Derivatives

Repo

Single-Family Mortgage Insurance Provider Multifamily Credit Enhancement Provider Other

Total

(\$s in millions)

Global Market Shock (SEVERELY ADVERSE)

Applicable UPB

Q1 Loss

TRADING SECURITIES

- 1 Private Label Securities (PLS) or Non-Agency Prices for Residential Mortgage-backed Securities (RMBS)
- 2 Commercial Mortgage-backed Securities (CMBS)
- 3 Asset-based Securities (ABS) and other collateral
- 4 Single Family Agency Securities
- 5 Multifamily Agency Securities
- 6 Municipal Securities
- 7 Counterparty Default Risk

AVAILABLE-FOR-SALE SECURITIES (Post-Tax Amounts)

- 8 Private Label Securities (PLS) or Non-Agency Prices for Residential Mortgage-backed Securities (RMBS)
- 9 Commercial Mortgage-backed Securities (CMBS)
- 10 Asset-based Securities (ABS) and other collateral
- 11 Single Family Agency Securities
- 12 Multifamily Agency Securities
- 13 Municipal Securities

HELD-FOR-SALE LOANS

- 14 Single Family Loans
- 15 Multifamily Loans

(*Credit ratings should be as of December 31, 2016)

										RMBS							
	Grand Total	Non- Agency Prime	Sub- prime	Option ARMS	Other AltA	Unspec Non- Prime	HELOC	RMBS CDO	RMBS CDS	Credit Basket	PrimeX	ABX / TABX	Prime Whole Loans	Non-Prime Whole Loans	European RMBS	Other / Unspecified	RM Sub
(\$MM)																	
Total 2006 6 7	\$0 \$0 \$0 \$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$ \$ \$ \$
t 2007 pecified Vintage	\$0 \$0																\$
Total 12006 106 107	\$0 \$0 \$0 \$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0 \$0 \$0 \$0 \$0
st 2007 specified Vintage	\$0 \$0																\$
otal 2006 06 07	\$0 \$0 \$0 \$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1 \$1 \$1 \$1
st 2007 specified Vintage	\$0 \$0																\$
Total 2006 6	\$0 \$0 \$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$ \$ \$
7 t 2007 pecified Vintage	\$0 \$0 \$0																\$ \$ \$
otal 2006 6	\$0 \$0 \$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$ \$ \$
7 st 2007 specified Vintage	\$0 \$0 \$0																\$ \$ \$
tal 2006 6	\$0 \$0 \$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$ \$ \$
7 rt 2007 specified Vintage	\$0 \$0 \$0																\$ \$ \$
otal 2006 6	\$0 \$0 \$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$ \$ \$
7 7 st 2007 specified Vintage	\$0 \$0 \$0 \$0																\$ \$ \$
otal 2006 6	\$0 \$0 \$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$ \$ \$
or or st 2007 specified Vintage	\$0 \$0 \$0																\$ \$ \$
I	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$

Total	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Profit/Loss (\$MM)																	
AAA Total Pre 2006 2006	\$0 \$0 \$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0 \$0 \$0
2007 Post 2007 Unspecified Vintage	\$0 \$0 \$0																\$0 \$0 \$0
AA Total Pre 2006	\$0 \$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0 \$0
2006 2007 Post 2007	\$0 \$0 \$0																\$0 \$0 \$0
Unspecified Vintage	\$0																\$0
A Total Pre 2006 2006	\$0 \$0 \$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0 \$0 \$0
2007 Post 2007 Unspecified Vintage	\$0 \$0 \$0																\$0 \$0 \$0
BBB Total Pre 2006 2006	\$0 \$0 \$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0 \$0 \$0
2007 Post 2007 Unspecified Vintage	\$0 \$0 \$0																\$0 \$0 \$0
BB Total Pre 2006	\$0 \$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0 \$0
2006	\$0																\$0
2007 Post 2007 Unspecified Vintage	\$0 \$0 \$0																\$0 \$0 \$0
B Total Pre 2006	\$0 \$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0 \$0
2006	\$0 \$0																\$0
2007 Post 2007	\$0																\$0 \$0
Unspecified Vintage <b td="" total<=""><td>\$0 \$0</td><td>\$0</td><td>\$0</td><td>\$0</td><td>\$0</td><td>\$0</td><td>\$0</td><td>\$0</td><td>\$0</td><td>\$0</td><td>\$0</td><td>\$0</td><td>\$0</td><td>\$0</td><td>\$0</td><td>\$0</td><td>\$0 \$0</td>	\$0 \$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0 \$0
Pre 2006 2006	\$0 \$0		•		•												\$0 \$0
2006	\$0 \$0																\$0 \$0
Post 2007 Unspecified Vintage	\$0 \$0												-				\$0 \$0
NR Total	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Pre 2006 2006	\$0 \$0																\$0 \$0
2007 Post 2007	\$0 \$0																\$0 \$0
Unspecified Vintage	\$0 \$0																\$0 \$0
Total	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

						ABS								CMBS				Co	orporate CDO /	/ CLO		Warehouse	е
	and		Credit		ABS	Credit	Index Tranche	Other /	ABS	Cash Non- Agency	CMBS	CMBS	Credit	Index	Whole	Other /	CMBS		Other /	Corporate CDO/CLO		Total	Oth
MM)	otal		Cards		CDS	Basket	s	Unspecified	SubTotal	CMBS	CDS	CDO	Basket	Tranches	Loans	Unspecified	SubTotal	CLO	Unspecified	SubTotal	Total Size	Protection	
tal \$	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$(
	\$0 \$0								\$0 \$0								\$0 \$0			\$0			
s	\$0								\$0								\$0			\$0 \$0			
	\$0 \$0								\$0 \$0								\$0 \$0			\$0			
	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0 \$0	\$0	\$0	\$0 \$0	\$0	\$0	
s	\$0	\$0	ŞU	ŞU	\$0	\$0	\$0	\$0	\$0	\$ 0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$U	\$0	\$0	\$0	\$0	\$
	\$0								\$0								\$0 \$0			\$0			
	\$0 \$0								\$0 \$0								\$0 \$0			\$0 \$0			
fied Vintage \$	\$0								\$0								\$0			\$0			
	\$0 \$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0 \$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0 \$0	\$0	\$0	\$0 \$0	\$0	\$0	
\$	\$0								\$0								\$0			\$0			
	\$0 \$0	-							\$0 \$0								\$0 \$0			\$0 \$0			
	\$0								\$0								\$0			\$0			
al \$	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
	\$0 \$0								\$0 \$0								\$0 \$0			\$0 \$0			
	\$0 \$0								\$0								\$0 \$0			\$0			
	\$0 \$0								\$0 \$0								\$0 \$0			\$0 \$0			
	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	,
6 \$	\$0	\$ 0	ψU	ψU	\$0	ψU	ŞU	ŞU.	\$0	ŞU.	\$U	\$U	\$U	\$U	\$ 0	ŞU	\$0 \$0	ΨU	\$0	\$0	\$0	ŞU	
	\$0 \$0								\$0 \$0								\$0 \$0			\$0 \$0			
07 \$	\$0 \$0								\$0 \$0								\$0 \$0			\$0 \$0			
	\$0								\$0								\$0			\$0			
	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
	\$0 \$0								\$0 \$0								\$0 \$0			\$0 \$0			
	\$0								\$0								\$0			\$0			
	\$0 \$0								\$0 \$0								\$0 \$0			\$0 \$0			
	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	•
06 \$	\$0								\$0								\$0			\$0			
	\$0 \$0								\$0 \$0								\$0 \$0			\$0 \$0			
)7 \$	\$0								\$0								\$0			\$0			
	\$0								\$0				••				\$0			\$0			_
	\$0 \$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0 \$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0 \$0	\$0	\$0	\$0 \$0	\$0	\$0	
									\$0								\$0			\$0			
	\$0								30											- 50			_
s	\$0 \$0								\$0								\$0			\$0			
07 \$	\$0								\$0 \$0 \$0 \$0											\$0 \$0 \$0			
07 \$	\$0 \$0 \$0 \$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0 \$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0 \$0	\$0	\$0	\$0 \$0	\$0	\$0	
007 \$ sified Vintage \$	\$0 \$0 \$0 \$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0 \$0 \$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0 \$0 \$0	\$0	\$0	\$0 \$0 \$0	\$0	\$0	
07 \$ ified Vintage \$ \$ poss (\$MM) al \$	\$0 \$0 \$0 \$0 \$0	\$0 \$0	\$0 \$0	\$0 \$0	\$0 \$0	\$0 \$0	\$0 \$0	\$0 \$0	\$0 \$0 \$0 \$0	\$0 \$0	\$0 \$0	\$0 \$0	\$0 \$0	\$0 \$0	\$0 \$0	\$0 \$0	\$0 \$0 \$0 \$0	\$0 \$0	\$0 \$0	\$0 \$0 \$0 \$0	\$0 \$0	\$0 \$0	
07 \$ sified Vintage \$ spess (\$MM) al \$ specified \$ specified \$ specified Vintage \$ spe	\$0 \$0 \$0 \$0 \$0 \$0								\$0 \$0 \$0 \$0 \$0								\$0 \$0 \$0 \$0 \$0 \$0			\$0 \$0 \$0 \$0 \$0			
or specified Vintage specified Vintage specified Vintage specified Specified	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$								\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0								\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0			\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0			
07	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0								\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0								\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0			\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0			
077	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0	\$0	\$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0	\$0	\$0	
07 \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$								\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$								\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$			\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$			
S	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0	\$0	\$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0	\$0	
077	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0	\$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0	\$0	
007 \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0	\$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0	\$0	
S S S S S S S S S S	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0	\$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0	\$0	
077	50 50 50 50 50 50 50 50 50 50 50 50 50 5	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0	\$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0	\$0	
007 S S S S S S S S S S S S S S S S S S	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0	\$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0	\$0	
2007 S S S S S S S S S S S S S S S S S S	50 50 50 50 50 50 50 50 50 50 50 50 50 5	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0	\$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0	\$0	
007 S S S S S S S S S S S S S S S S S S	50 50 50 50 50 50 50 50 50 50 50 50 50 5	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0	\$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0	\$0	
07 \$ \$ \$ \$ \$ \$ \$ \$ \$	50 50 50 50 50 50 50 50 50 50 50 50 50 5	\$0	\$0	\$0 \$0 \$0	\$0	\$0	\$0	\$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0	\$0	\$0 \$0 \$0	\$0	\$0	\$0	\$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0	\$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0	\$0	
07 S S S S S S S S S	50 50 50 50 50 50 50 50 50 50 50 50 50 5	\$0	\$0	\$0 \$0 \$0	\$0	\$0	\$0	\$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0	\$0	\$0 \$0 \$0	\$0	\$0	\$0	\$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0	\$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0	\$0	
07 S S S S S S S S S	50 50 50 50 50 50 50 50 50 50 50 50 50 5	\$0	\$0	\$0 \$0 \$0	\$0	\$0	\$0	\$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0	\$0	\$0 \$0 \$0	\$0	\$0	\$0	\$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0	\$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0	\$0	
977 S S S S S S S S S	50 50 50 50 50 50 50 50 50 50 50 50 50 5	\$0	\$0	\$0 \$0 \$0 \$0	\$0	\$0	\$0	\$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0	\$0	\$0	\$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0	\$0 \$0 \$0	\$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0 \$0 \$0 \$0	\$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0	\$0 \$0 \$0 \$0	
10 10 10 10 10 10 10 10	50 50 50 50 50 50 50 50 50 50 50 50 50 5	\$0	\$0	\$0 \$0 \$0	\$0	\$0	\$0	\$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0	\$0	\$0 \$0 \$0	\$0	\$0	\$0	\$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0	\$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0	\$0	
07 S S S S S S S S S	50 50 50 50 50 50 50 50 50 50 50 50 50 5	\$0	\$0	\$0 \$0 \$0 \$0	\$0	\$0	\$0	\$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0	\$0	\$0	\$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0	\$0 \$0 \$0	\$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0 \$0 \$0 \$0	\$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0	\$0 \$0 \$0 \$0	
377 5 5 5 5 5 5 5 5 5	550 550 550 550 550 550 550 550	\$0	\$0	\$0 \$0 \$0 \$0	\$0	\$0	\$0	\$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0	\$0	\$0	\$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0	\$0 \$0 \$0	\$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0 \$0 \$0 \$0	\$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0	\$0 \$0 \$0 \$0	
07 S S S S S S S S S	550 550 550 550 550 550 550 550	\$0	\$0	\$0 \$0 \$0 \$0	\$0	\$0	\$0	\$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0 \$0 \$0 \$0	\$0	\$0	\$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0	\$0 \$0 \$0	\$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0	\$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0	\$0 \$0 \$0 \$0	
S S S S S S S S S S	550 550 550 550 550 550 550 550 550 550	\$0	\$0	\$0 \$0 \$0 \$0	\$0	\$0	\$0	\$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0	\$0	\$0	\$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0	\$0 \$0 \$0	\$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0 \$0 \$0 \$0	\$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0	\$0 \$0 \$0 \$0	
107 108	550 550 550 550 550 550 550 550	\$0 \$0 \$0 \$0 \$0 \$0 \$0	\$0	\$0	\$0 \$0 \$0 \$0 \$0	\$0	\$0	\$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0	\$0	\$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0	\$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0	\$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0	
07 S S S S S S S S S	50 50 50 50 50 50 50 50 50 50 50 50 50 5	\$0 \$0 \$0 \$0 \$0 \$0 \$0	\$0	\$0	\$0 \$0 \$0 \$0 \$0	\$0	\$0	\$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0	\$0	\$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0	\$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0	\$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0	
10	50 50 50 50 50 50 50 50 50 50 50 50 50 5	\$0 \$0 \$0 \$0 \$0 \$0 \$0	\$0	\$0	\$0 \$0 \$0 \$0 \$0	\$0	\$0	\$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0	\$0	\$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0	\$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0	\$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0	
07 S S S S S S S S S	50 50 50 50 50 50 50 50 50 50 50 50 50 5	\$0 \$0 \$0 \$0 \$0 \$0	\$0	\$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0	\$0 \$0 \$0 \$0 \$0	
07 S S S S S S S S S	50 50 50 50 50 50 50 50 50 50 50 50 50 5	\$0 \$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0	\$0	\$0 \$0 \$0 \$0 \$0	\$0	\$0	\$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0	\$0	\$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0	\$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0	
07 S S S S S S S S S	50 50 50 50 50 50 50 50 50 50 50 50 50 5	\$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0	\$0 \$0 \$0 \$0 \$0	
07 S S S S S S S S S	50 50 50 50 50 50 50 50 50 50 50 50 50 5	\$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0	\$0 \$0 \$0 \$0 \$0	
07 S S S S S S S S S	50 50 50 50 50 50 50 50 50 50 50 50 50 5	\$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0	\$0 \$0 \$0 \$0 \$0	
97 9 9 9 9 9 9 9 9 9	50	\$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0	\$0 \$0 \$0 \$0 \$0	
State	50 50 50 50 50 50 50 50 50 50 50 50 50 5	\$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0 \$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0 \$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0 \$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0	
2007 Signified Vintage Signified Vintage Signified Vintage Signified Vintage Signified Vintage Signified Vintage Signified Vintage Signified Vintage Signified Vintage Signified Vintage Signified Vintage Signified Vintage Signified Vintage Signified Vintage Signified Vintage Signified Vintage Signified Vintage Signified Vintage Signified Signifi	50 50 50 50 50 50 50 50 50 50 50 50 50 5	\$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0 \$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0 \$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0 \$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0	
2007 Signified Vintage Signifi	50	\$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0 \$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0 \$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0 \$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0	\$ \$

Trading and Other Fair Value Assets Munis (Severely Adverse)

	MV (\$MM) Available-for-Sale Securities	MV (\$MM) Trading Securities	Profit/Loss from OAS Widening	Profit/Loss from OAS Widening
Bonds			(AFS)	(Trading Secs)
AAA				
AA				
Α				
BBB				
BB				
B <b< td=""><td></td><td></td><td></td><td></td></b<>				
NR				
Bonds Total	\$0	\$0	\$0	\$0
1M		~		
3M				
6M				
9M				
1Y				
2Y 3Y				
5Y				
7Y				
10Y				+
15Y				
20Y				
30Y				
Bonds Total	\$0	\$0	\$0	\$0
Loans			_	
AAA				+
AA				
A BBB				+
BB				
В				
<b< td=""><td></td><td></td><td></td><td></td></b<>				
NR				
Loans Total	\$0	\$0	\$0	\$0
1M				
3M				
6M				
9M				
1Y				
2Y 3Y				
5Y				
7Y				
10Y				
15Y				
20Y				
30Y				
Loans Total	\$0	\$0	\$0	\$0
CDS		J	_	
AAA				
AA				+
A				-
BBB BB				+
В				+
B <b< td=""><td></td><td></td><td></td><td></td></b<>				
NR				
CDS Total	\$0	\$0	\$0	\$0
1M				
3M				
6M				
9M				+
1Y				
2Y 3Y				
5Y				+
7Y				+
10Y				
15Y				
20Y				
30Y				
CDS Total	\$0	\$0	\$0	\$0
		_		

Trading and Other Fair Value Assets Munis (Severely Adverse)

	MV (\$MM) Available-for-Sale Securities	MV (\$MM) Trading Securities	Profit/Loss from OAS Widening (AFS)	Profit/Loss from OAS Widening (Trading Secs
ndices			(4. 3)	(Trading Occs)
AAA				
AA				
A				
BBB				
вв				
В				
<b< td=""><td></td><td></td><td></td><td></td></b<>				
NR				
	\$0	\$0	\$0	\$0
Indices Total 1M	\$0	\$0	\$0	\$0
3M				
6M				
9М				
1Y				
2Y				
3Y				
5Y				
7Y				
10Y				
15Y				1
20Y				1
30Y			-	1
	4.5	**	• •	2.5
Indices Total	\$0	\$0	\$0	\$0
Other / Unspecified Munis	-1	4		T
AAA				
AA				
A				
BBB				
BB				
В				
<b< td=""><td></td><td></td><td></td><td></td></b<>				
NR				
Other / Unspecified Munis Total	\$0	\$0	\$0	\$0
1M				
3M				
6M				
9M				
1Y				
2Y				
3Y				
5Y				
7Y				
10Y				
15Y				
20Y				
30Y				
Other / Unspecified Munis Total	\$0	\$0	\$0	\$0
<u> </u>				
Grand Total				
AAA	\$0	\$0	\$0	\$0
AA	\$0	\$0	\$0	\$0
A				
	\$0	\$0	\$0	\$0
BBB	\$0	\$0	\$0	\$0
BB	\$0	\$0	<u>\$0</u>	\$0
В	\$0	\$0	\$ 0	\$0
<b< td=""><td>\$0</td><td>\$0</td><td>\$0</td><td>\$0</td></b<>	\$0	\$0	\$0	\$0
NR	\$0	\$0	\$ O	\$0
Grand Total	\$0	\$0	\$0	\$0
1M	\$0	\$0	\$0	\$0
3M	\$0	\$0	\$0	\$0
6M	\$0	\$0 \$0	\$0	\$0
9M	\$0	\$0 \$0	\$0	\$0
1Y	\$0	\$O	\$0	\$0
2Y	\$0	\$ 0	<u>\$0</u>	\$0
3Y	\$0	\$0	\$ 0	\$0
5Y	\$0	\$0	\$O	\$0
7Y	\$0	\$0	\$ O	\$0
10Y	\$0	\$0	\$0	\$0
15Y	\$0	\$0	\$0	\$0
			\$0	\$0
	\$0			
20Y	\$0	\$0 \$0		
	\$0 \$0 \$0	\$0 \$0 \$0	\$0 \$0	\$0 \$0

Trading & Other Fair Value Assets Template

Agencies (Severely Adverse)

	MV (\$MM) Available-for-Sale	MV (\$MM) Trading	Profit/Loss from OAS Widening	Profit/Loss from OAS Widening
	Securities	Securities	(AFS)	(Trading Secs)
US Decidential Agency Broducts			(AF3)	(Trading Secs)
US Residential Agency Products) [1
POs				
Other CMOs				
Pass-Throughs				
Agency Debt/Debentures				
IOS Index				
POS Index				
MBX Index				
Other Agency Derivatives				
TBA's				
Reverse Mortgages				
Residential Other / Unspecified				
Total	\$0	\$0	\$0	\$0
US Commercial Agency Products			1	T
Cash Agency CMBS				
Agency CMBS Derivatives				
Commercial Other / Unspecified	60	60	*	<u> </u>
Total	\$0	\$0	\$0	\$0
Non-US Agency Products				
AAA				
AA				
A				
BBB				
BB				
В				
<b< td=""><td></td><td></td><td></td><td></td></b<>				
NR				
Total	\$0	\$0	\$0	\$0

	edit Overview - Quarterly (SEVERELY ADVERSE) cludes single-family and multifamily)	Most Recent Quarter	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Nine Quarter Cumulative Total
то	TAL PORTFOLIO											
1 2 3 4	CREDIT EXPENSES (\$s in millions) Foreclosed property expense (REO) Net charge-offs Credit losses Provision for credit losses											
5	Credit Expenses ¹											
6 7 8 9	LOAN LOSS RESERVE (\$s in millions) Beginning loan loss reserve Net charge-offs Provison (benefit) for loan losses Other											
10	Ending Total Loan Loss Reserve											
11	Unpaid Principal Balance (\$s in millions)											

¹ Amount depicts the summation of foreclosed property expense and provision for credit losses.

1 Net interest income¹ 2 Management and guaranty fee income 3 Other non-interest income 4 Total revenue 5 REO (foreclosed property exp.) 6 Security impairments 7 Other expenses² 8 Pre-provision net revenue 9 (Provision) benefit for credit losses 10 Derivatives gains (losses) 11 Gains (losses) on loans 12 Other fair value gains (losses) 13 Global market shock impact on trading securities and held-for-sale loans	M	ultifamily - Income Statement (SEVERELY ADVERSE)	Most Recent Quarter	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Nine Quarter Cumulative Total
5 REO (foreclosed property exp.) 6 Security impairments 7 Other expenses² 8 Pre-provision net revenue 9 (Provision) benefit for credit losses 10 Derivatives gains (losses) 11 Gains (losses) on loans 12 Other fair value gains (losses)	2 N	fanagement and guaranty fee income ther non-interest income											
9 (Provision) benefit for credit losses 10 Derivatives gains (losses) 11 Gains (losses) on loans 12 Other fair value gains (losses)	6 S	EO (foreclosed property exp.) ecurity impairments											
10 Derivatives gains (losses) 11 Gains (losses) on loans 12 Other fair value gains (losses)	8	Pre-provision net revenue											
	10 D 11 G 12 C	erivatives gains (losses) ains (losses) on loans ther fair value gains (losses)											
14 Pre-Tax income (loss)	14	Pre-Tax income (loss)											
15 Provision (benefit) for federal income taxes 16 Extraordinary gains (losses), net of tax effect		rovision (benefit) for federal income taxes											
17 Net income (loss)	17 N	et income (loss)											
18 Global market shock impact on available-for-sale securities 19 Other comprehensive income													
20 Comprehensive income (loss)	20 C	omprehensive income (loss)											

¹ Includes net interest income on multifamily whole loans, GSE multifamily MBS held in the retained portfolio, CMBS, and multifamily MRBs.

 $^{^{\}rm 2}$ Includes operational risk losses, administrative expenses, and gains from partnership investments.

<u>Mu</u>	Iltifamily Credit Overview - Quarterly (SEVERELY ADVERSE)	Most Recent Quarter	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Nine Quarter Cumulative Total
то	TAL PORTFOLIO											
1 2 3 4 5	CREDIT EXPENSES (\$s in millions) Foreclosed property expense (REO) Net charge-offs Credit losses Provision for credit losses Credit Expenses¹											
6 7 8 9	LOAN LOSS RESERVE (\$s in millions) Beginning loan loss reserve Net charge-offs Provison (benefit) for loan losses Other											
10	Ending Total Loan Loss Reserve											
11	Unpaid Principal Balance (\$s in millions)											

¹ Amount depicts the summation of foreclosed property expense and provision for credit losses.

	Multifamily Key Metrics (SEVERELY ADVERSE)	Most Recent Quarter	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Nine Quarter Cumulative Total
	(\$s in millions)											
1	Total multifamily market volume (industry)											
2	Enterprise market share percentage											
3	New acquisition volume											
4	Liquidation volume ¹											
5	Securitization volume											
6	Effective guaranty fee rate ² (bps)											
7	Guaranty portfolio balance											
8	Loans and securities held in portfolio											

 ¹ Includes property sales and other run-off/prepayments.
 ² Guaranty fee income divided by weighted average portfolio balance.

Single-Family Credit Overview - Quarterly (SEVERELY ADVERSE)	Most Recent Quarter	Q1	Q2	Q3	Q4	Q 5	Q6	Q7	Q8	Q9	Nine Quarter Cumulative Total
TOTAL PORTFOLIO CREDIT EXPENSES (\$s in millions) 1 Foreclosed property expense (REO) 2 Net charge-offs 3 Credit losses 4 Provision for credit losses 5 Credit Expenses 1											
LOAN LOSS RESERVE (\$s in millions) 6 Beginning loan loss reserve 7 Net charge-offs 8 Provison (benefit) for loan losses/guaranty losses 9 Other 10 Ending Total Loan Loss Reserve											
Memo: 11 FAS 5 Loan Loss Reserve 12 FAS 114 Loan Loss Reserve 13 Concessions in FAS 114 Loan Loss Reserve 2 14 Unpaid Principal Balance (\$s in millions)											
CURRENT BOOK (as of 12/31/16) CREDIT EXPENSES (\$s in millions) 15 Foreclosed property expense (REO) 16 Net charge-offs 17 Credit losses 18 Provision for credit losses 19 Credit Expenses 1											
LOAN LOSS RESERVE (\$s in millions) 20 Beginning ban loss reserve 21 Net charge-offs 22 Provison (benefit) for loan losses/guaranty losses 23 Other 24 Ending Loan Loss Reserve - Current Book											
25 Unpaid Principal Balance (\$s in millions) NEW BUSINESS CREDIT EXPENSES (\$s in millions)											
26 Foreclosed property expense (REO) 27 Net charge-offs 28 Credit losses 29 Provision for credit losses 30 Credit Expenses 1											
LOAN LOSS RESERVE (\$s in millions) 11 Beginning loan loss reserve 12 Net charge-offs 13 Provison (benefit) for loan losses/guaranty losses 14 Other 15 Ending Loan Loss Reserve - New Business											
36 Unpaid Principal Balance (\$s in millions)											

¹ Amount depicts the summation of foreclosed property expense, provision for credit losses, and SOP 03-3 losses. ² Amount includes the impact of all troubled debt restructuring (TDR) related impairments.

	Single-Family Credit Overview - Quarterly (SEVERELY ADVERSE)	Most Recent Quarter	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9
1 2 3 4 5 6 7	SERIOUSLY DELINQUENT LOAN ACTIVITY (count in '000s) Beginning seriously delinquent loans Seriously delinquent inflows - new SDQ Seriously delinquent inflows - cured Seriously delinquent cured by modification Seriously delinquent - cured Seriously delinquent to default Seriously delinquent to payoff Ending Seriously Delinquent Loans										
9	Ending seriously delinquent rate (%) Aggregate UPB of seriously delinquent loans (\$s in millions)										
11	Loan modifications (count in 000s)										
12 13 14 15 16 17 18 19 20 21	PAYMENTS FROM PRIVATE MORTGAGE INSURERS (after haircut) (\$s in millions) Mortgage Guaranty Insurance Corporation Triad Guaranty Insurance Corporation Radian Guaranty Inc. United Guaranty Residential Insurance Co. Genworth Mortgage Insurance Corporation PMI Mortgage Insurance Co. Republic Mortgage Insurance Company Essent Guaranty, Inc. Arch Mortgage Insurance Company Other										

NOTE: Seriously delinquent loans are 90 days or more delinquent, or in the process of foreclosure.

Single-Family Credit Summary (SEVERELY ADVERSE)

Delinquency Status - CURRENT BOOK

11 Seriously delinquent (so days or more delinquent or in the process of foreclosure) 12 Total NON-MODIFIED LOANS 13 Current 14 Less than 90 days delinquent 15 Seriously delinquent (so days or more delinquent or in the process of foreclosure) 16 Total (\$s in millions) End of Quarter Projected Charge-Offs (Undiscounted \$s) Nine		(\$s in millions)	End of Quarter Unpaid Principal Balance (UPB)											
2 Leas than 90 days delinquent go days or more delargent or in the process of breclosure) 3 Seriously delinquent go days or more delargent or in the process of breclosure) 4 Total NON-MODIFIED LOANS 5 Current 6 Leas than 90 days delinquent 7 Seriously delinquent (and days or more delargent or in the process of breclosure) 8 Total MOSI Recent Q1 Q2 Q3 Q4 Q5 Q6 Q7 Q8 Q9 MODIFIED LOANS 9 Current 10 Leas than 90 days delinquent 11 Seriously delinquent (and days or more delargent or in the process of breclosure) 12 Total NON-MODIFIED LOANS 12 Total NON-MODIFIED LOANS 13 Current 15 Seriously delinquent (and days or more delargent or in the process of breclosure) 16 Total NON-MODIFIED LOANS 16 Leas than 90 days delinquent 17 Seriously delinquent (and delargent or in the process of breclosure) 18 Total Non-Modified End of Quarter Projected Charge-Offs (Undiscounted \$a) Nine Counter Counte		Loan Status	Recent	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	_	
So class than 90 days delinquent (or days or more detropert or in the process of foreclesure) (Sis in millione) Loan Status MODIFIED LOANS 9 Current 10 Less than 90 days delinquent 11 Seriously delinquent (or days or more detropert or in the process of foreclesure) 12 Total NON-MODIFIED LOANS 13 Current 14 Less than 90 days delinquent 15 Seriously delinquent (or days or more detropert or in the process of foreclesure) 16 Total Loan Status End of Quarter Projected Charge-Offs (Undiscounted \$s) End of Quarter Projected Charge-Offs (Undiscounted \$s) Nine Cuarter Quarter Q1 Q2 Q3 Q4 Q5 Q6 Q7 Q8 Q9 Total	2	Current Less than 90 days delinquent Seriously delinquent (90 days or more delinquent or in the process of foreclosure)												
MoDIFIED LOANS MODIFIED LOANS MODIFIED LOANS MODIFIED LOANS Current Non-MoDIFIED LOANS Non-MoDIFIED LOANS Non-Modified Modified End of Quarter Projected Charge-Offs (Undiscounted \$s) End of Quarter Projected Charge-Offs (Undiscounted \$s) Non-Modified	6 7	Current Less than 90 days delinquent Seriously delinquent (90 days or more delinquent or in the process of foreclosure)												
Most Recent Quarter Q1 Q2 Q3 Q4 Q5 Q6 Q7 Q8 Q9 MODIFIED LOANS 9 Current 10 Less than 90 days delinquent (so days or more delinquent or in the process of foreclosure) 12 Total NON-MODIFIED LOANS 13 Current 14 Less than 90 days delinquent 15 Seriously delinquent (so days or more delinquent or in the process of foreclosure) 16 Total End of Quarter Projected Charge-Offs (Undiscounted \$s) Most Recent Quarter Projected Charge-Offs (Undiscounted \$s)														
Loan Status Most Recent Quarter Quarter Quarter Quarter Quarter Q1 Q2 Q3 Q4 Q5 Q6 Q7 Q8 Q9 MODIFIED LOANS Urrent Seriously delinquent (80 days or more delinquent or in the process of foreclosure) NON-MODIFIED LOANS NON-MODIFIED LOANS Current Loan Status End of Quarter Projected Charge-Offs (Undiscounted \$s) End of Quarter Projected Charge-Offs (Undiscounted \$s) Nine Quarter		(\$s in millions)					Loan Loss	Reserve						
Loan Status Quarter Q1 Q2 Q3 Q4 Q5 Q6 Q7 Q8 Q9														
9 Current 10 Less than 90 days delinquent (so days or more delinquent or in the process of foreclosure) 11 Seriously delinquent (so days or more delinquent or in the process of foreclosure) 12 Total NON-MODIFIED LOANS 13 Current 14 Less than 90 days delinquent 15 Seriously delinquent (so days or more delinquent or in the process of foreclosure) 16 Total Seriously delinquent (so days or more delinquent or in the process of foreclosure) 16 Total Seriously delinquent (so days or more delinquent or in the process of foreclosure) 17 Total Seriously delinquent (so days or more delinquent or in the process of foreclosure) 18 Total Seriously delinquent (so days or more delinquent or in the process of foreclosure) 19 Modified		Loan Status		Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	_	
13 Current 14 Less than 90 days delinquent (so days or more delinquent or in the process of foreclosure) 15 Seriously delinquent (so days or more delinquent or in the process of foreclosure) (\$s in millions) End of Quarter Projected Charge-Offs (Undiscounted \$s) Nine Quarter Recent Quarter Q1 Q2 Q3 Q4 Q5 Q6 Q7 Q8 Q9 Total 9 Modified	10 11	Current Less than 90 days delinquent Seriously delinquent (90 days or more delinquent or in the process of foreclosure)												
Most Quarter Q1 Q2 Q3 Q4 Q5 Q6 Q7 Q8 Q9 Total Q9 Modified Quarter Q1 Q2 Q3 Q4 Q5 Q6 Q7 Q8 Q9 Total Q9 Q9 Q9 Q9 Q9 Q9 Q9 Q	14 15	Current Less than 90 days delinquent Seriously delinquent (90 days or more delinquent or in the process of foreclosure)												
Most Quarter Q1 Q2 Q3 Q4 Q5 Q6 Q7 Q8 Q9 Total														
Most Quarter Q1 Q2 Q3 Q4 Q5 Q6 Q7 Q8 Q9 Total Q9 Modified Quarter Q1 Q2 Q3 Q4 Q5 Q6 Q7 Q8 Q9 Total Q9 Q9 Q9 Q9 Q9 Q9 Q9 Q		(fo is millione)			F	nd of Quar	ter Projecte	ed Charge	-Offs (Undi	scounted 9	Se)			
Loan Status Quarter Q1 Q2 Q3 Q4 Q5 Q6 Q7 Q8 Q9 Total 9 Modified		(9S IIIIIIIIUUIS)	1					ou onargo	0.10 (0.14.		,,,,		Quarter	
		Loan Status		Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9		

Single-Family Credit Summary (SEVERELY ADVERSE)

Mark-to-Market Loan-to-Value - CURRENT BOOK

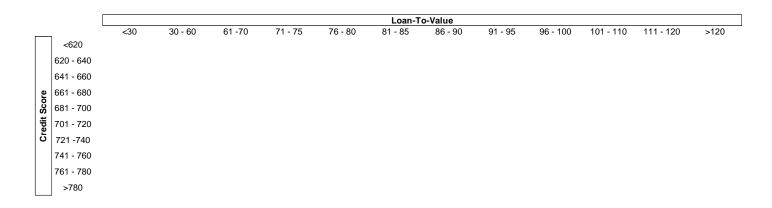
(\$s in millions)		End of Quarter Unpaid Principal Balance (UPB)												
Loan Status	Most Recent Quarter	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	_			
1 <=80% 2 >80% - 100% 3 >100% 4 Total														
(\$s in millions)					Loan Loss	s Reserve								
Loan Status	Most Recent Quarter	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	_			
5 <=80% 6 >80% - 100% 7 >100% 8 Total														
(\$s in millions)				End of 0	Quarter Projec	ted Charge-O	ffs (Undiscour	nted \$s)						
Loan Status	Most Recent Quarter	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Nine Quarter Cumulative Total			
9 <=80% 10 >80% - 100% 11 >100%														

Single-Family Credit Summary (SEVERELY ADVERSE) Vintage Status - CURRENT BOOK

(\$s in millions)	End of Quarter Unpaid Principal Balance (UPB)												
Loan Status	Most Recent Quarter	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	_		
1 2004 and prior 2 2005 3 2006 4 2007 5 2008 6 2009 7 2010 8 2011 9 2012 10 2013 11 2014 12 2015 13 2016													
(\$s in millions)					Loan Loss	Reserve							
	Most Recent										_		
Loan Status	Quarter	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	_		
14 2004 and prior 15 2005 16 2006 17 2007 18 2008 19 2009 20 2010 21 2011 22 2012 23 2013 24 2014 25 2016													
(\$s in millions)				End of 0	Quarter Projec	ted Charge-O	ffs (Undiscour	nted \$s)					
Loan Status	Most Recent Quarter	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Nine Quarter Cumulative Total		
27 2004 and prior 28 2005 29 2006 30 2007 31 2008 32 2009 33 2010 34 2011 35 2012 36 2013 37 2014 38 2015 39 2016													

(\$s in millions)

Single-Family - 9 Quarter Cumulative Credit Losses (SEVERELY ADVERSE)



Credit losses represent the summation of net charge-offs and foreclosed property expenses (REO).

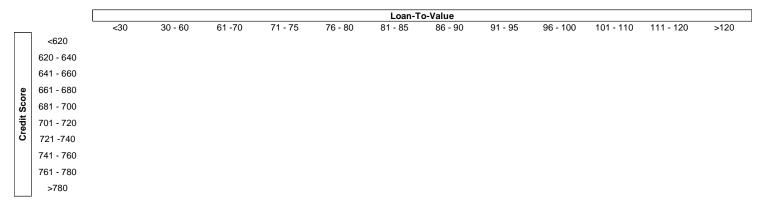
Use LTV and credit score as of December 31, 2016.

Enterprise Dodd-Frank Stress Test Template (Disclosure to FHFA ONLY)

(\$s in millions)

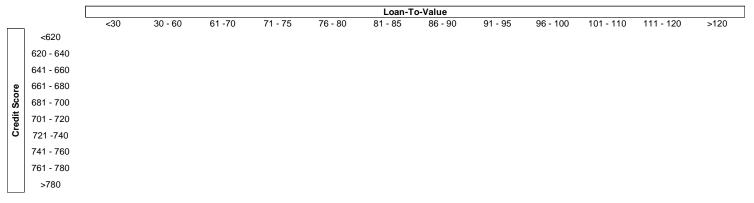
Single-Family - Loan Loss Reserves (SEVERELY ADVERSE)

Loan Loss Reserves as of 12/31/16



Use LTV and credit score as of December 31, 2016

Loan Loss Reserves at 3/31/19 (end of nine quarters)



Use LTV and credit score as of December 31, 2016 $\,$

Enterprise Dodd-Frank Stress Test Template (Disclosure to FHFA ONLY)

Single-Family Credit Summary (SEVERELY ADVERSE) Vintage and MTMLTV Status - CURRENT BOOK

\$s in millions)		End of Quarter (UPB)		Cumulative Unpaid Principal Balance (UPB)									
		Most Recent		Cumulative	Cumulative	•		Migrate to	Migrate to 80% -	Migrate to] ` `		
Loan Status a	t 12/31/16	Quarter	Inflows	Defaults ¹	Prepays ²	Run-off ³	Other⁴	<=80%	100%	>100%	Q9		
2004 and prior	<=80% 80% - 100% >100%												
									_				
2005 - 2008	<=80% 80% - 100%												
	>100%												
2009 and Later	<=80% 80% - 100% >100%												

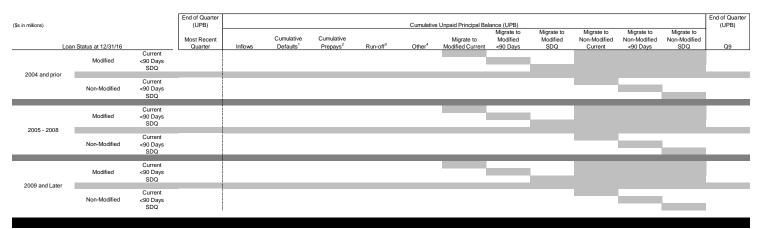
in millions)			Loan Loss Reserves									
			Cumulative	Provision for								
Loan Status a	t 12/31/16	Beginning	Charge-offs	Credit Losses	Other	Ending						
	<=80%											
2004 and prior	80% - 100%											
	>100%											
	<=80%											
2005 - 2008	80% - 100%											
	>100%											
	<=80%											
2009 and Later	80% - 100%											
	>100%											

¹ Amount depicts principal balance of loans that are in the process of foreclosure. ² Amount depicts principal balance of loans that have prepaid through refinance.

³ Amount depicts reduction in principal balance due to amortization.

Enterprise Dodd-Frank Stress Test Template (Disclosure to FHFA ONLY)

<u>Single-Family Credit Summary (SEVERELY ADVERSE)</u> Vintage and Delinquency Status - CURRENT BOOK



in millions)				l	oan Loss Reserves		
Loar	n Status at 12/31/16		Beginning	Cumulative Charge-offs	Provision for Credit Losses	Other	Ending
	Modified	Current <90 Days SDQ					
2004 and prior	Non-Modified	Current <90 Days SDQ					
	Modified	Current <90 Days SDQ					
2005 - 2008	Non-Modified	Current <90 Days SDQ					
2009 and Later	Modified	Current <90 Days SDQ					
	Non-Modified	Current <90 Days SDQ					

<sup>Amount depicts principal balance of loans that are in the process of foreclosure.
Amount depicts principal balance of loans that have prepaid through refinance.
Amount depicts reduction in principal balance due to amortization.

Amount includes NPL sales and other miscellamous items.</sup>

Enterprise Dodd-Frank Stress Test Template (Disclosure to FHFA ONLY)

Single-Family Credit Summary (SEVERELY ADVERSE) MTMLTV and Delinquency Status - CURRENT BOOK

(\$s in millions)	is in millions) Loan Status at 12/31/16													Migrate to Non-Modified	End of Quarter (UPB)
	Loan Status at 12/31/16		Most Recent Quarter	Inflows	Defaults1	Prepays ²	Run-off ³	Other ⁴	Modified Current	<90 Days	SDQ	Current	<90 Days	SDQ	Q9
<=80%	Modified	Current <90 Days SDQ													
Q=0076	Non-Modified	Current <90 Days SDQ													
80% - 100%	Modified	Current <90 Days SDQ													
3076 - 10076	Non-Modified	Current <90 Days SDQ													
>100%	Modified	Current <90 Days SDQ													
210076	Non-Modified	Current <90 Days SDQ													

millions)					oan Loss Reserves		
Loa	n Status at 12/31/16		Beginning	Cumulative Charge-offs	Provision for Credit Losses	Other	Ending
2004	Modified	Current <90 Days SDQ					
<=80%	Non-Modified	Current <90 Days SDQ					
	Modified	Current <90 Days SDQ					
80% - 100%	Non-Modified	Current <90 Days SDQ					
>100%	Modified	Current <90 Days SDQ					
	Non-Modified	Current <90 Days					

¹ Amount depicts principal balance of loans that are in the process of foreclosure.

² Amount depicts principal balance of loans that have prepaid through refinance.

³ Amount depicts reduction in principal balance due to amortization.

⁴ Amount includes NPL sales and other miscellaneous items.

Enterprise Dodd-Frank Stress Test Template (Disclosure to FHFA ONLY)

Credit Risk Transfers - Quarterly (SEVERELY ADVERSE)	Most Recent Quarter	Q1	Q2	Q3	Q4	Q 5	Q6	Q7	Q8	Q9	Nine Quarter Cumulative Total
(\$s in millions)											
CAS/STACR 1 Interest Expense 2 Fair Value Gain (Loss) 3 Other Expenses 4 Recoveries CIRT/ACIS Premiums 5 Premium Expense 6 Other Expenses 7 Recoveries											
8 Total Income (Loss)											
9 CAS/STACR Debt Issuances 10 CIRT/ACIS Transactions											
11 Reference Pool (Quarter) 12 Outstanding Reference Pool											

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

Cumulative Projected Financial Metrics (Q1 2017 - Q1 2019)

(\$s in billions)

Results without establishing valuation allowance on deferred tax assets

Impact of establishing valuation allowance on deferred tax assets

Results with establishing valuation allowance on deferred tax assets

- 1 Pre-provision net revenue¹
- 2 (Provision) benefit for credit losses
- 3 Mark-to-market gains (losses)²
- 4 Global market shock impact on trading securities and counterparty³
- 5 Net income before taxes
- 6 (Provision) benefit for taxes
- 7 Other comprehensive income (loss)⁴
- 8 Total comprehensive income (loss)
- 9 Dividends paid
- 10 PSPA funding commitment as of December 31, 2016
- 11 Treasury draws required
- 12 Remaining PSPA funding commitment
- 13 Credit losses⁵
- 14 Credit losses (% of average portfolio balance)

¹ Includes net interest income, security impairments, operational risk losses, foreclosed property income (expense), and other non-interest income/expenses.

² Includes fair value gains (losses) on derivative and trading securities, and other gains (losses) on investment securities.

 $^{^{\}rm 3}$ Includes global market shock impact on held-for-sale loans.

⁴ Includes global market shock impact on available-for-sale securities.

⁵ Credit losses are defined as charge-offs, net plus foreclosed property expenses.

Appendix 3: FHFA DFA Reporting Templates - FHLBanks

Stress Test Template Instructions 1. All numbers should be report in millions to two decimal places, except for capital ratios and credit enhancements in percentage. 2. Reported numbers should reflect the 12/31/2016 start date.

Scenario Templates Cover Sheet								
Each regulated entity is expected to provide input data for all the tabs in this spreadsheet.								
Institution Name:								
Date of Data Submission:								
Institution Contact Name:								
Institution Contact Phone Number:								
Institution Contact Email Address:								

Supplied Scenario Variables

(Please indicate which scenarios were used in your model by checking the appropriate box:)

Domestic Variables	International Variables
Real GDP Growth	☐ Euro Area Real GDP Growth
Nominal GDP Growth	☐ Euro Area Inflation
Real Disposable Income Growth	Euro Area Bilateral Dollar Exchange Rate (\$/euro)
Nominal Disposable Income Growth	Developing Asia Real GDP Growth
☐ Unemployment Rate	Developing Asia Inflation
☐ CPI Inflation Rate	Developing Asia Bilateral Dollar Exchange Rate (F/UDS, indes, base = 2000,Q1)
3-month Treasury Yield	☐ Japan Real GDP Growth
5-year Treasury Yield	☐ Japan Inflation
10-year Treasury Yield	☐ Japan Bilateral Dollar Exchange Rate (yen/USD)
BBB Corporate Yield	U.K. Real GDP Growth
☐ Mortgage Rate	U.K. Inflation
Prime Rate	U.K. Bilaeral Dollar Exchange Rate (USD/pound)
Dow Jones Total Stock Market Index	
House Price Index	
Commercial Real Estate Price Index	
Market Volatility Index (VIX)	
Private Label Securities (PLS) or Non-Agency Prices for Residential Mortgage-backed Securities (RMBS), Asset- based Securities (ABS), Commercial Mortgage-backed Securities (CMBS) and other collateral	
Agency Securities Option-Adjusted Spreads (OAS)	
Municipal Securities	
Counterparty Default Risk	
For variables not used, please provide a brief explanation belo	ow as to why it was not used:
Variable Name	Explanation
1	
2	
3	
4	
5	

Scenario Variables Beyond Those Supplied

	Baseline Scenario (additional	variables used beyond those supplied)
1		
Variable		
Number	Variable Name	Variable Definition
1		
2		
3		
4		
5		
	Adverse Scenario (additional v	variables used beyond those supplied)
Variable		
Number	Variable Name	Variable Definition
1		
2		
3		
4		
5		
_		
	Severely Adverse Scenario (additio	nal variables used beyond those supplied)
Variable		
Number	Variable Name	Variable Definition
1	variable Name	variable Bernitton
2		
_		
3		
4		
5		

Baseline

Spread Assumptions

Spread to Benchmark

		Actual					Projected				
Category	Benchmark	4Q 2016	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9
Example: Advance	3-Month LIBOR	10.0	10.0	10.0	10.0	15.0	15.0	15.0	15.0	15.0	15.0

Variables Used Beyond Those Supplied

	Actual				l	Projected				
Variable Name	4Q 2016	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9

Forward Curve

	Actual				P	rojected				
Maturity	4Q 2016	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9
3-Month Treasury	0.4	0.6	0.7	0.9	1.1	1.3	1.5	1.7	1.9	2.2
6-Month										
1 year										
2 year										
5 year Treasury	1.7	1.7	1.9	2.0	2.2	2.3	2.4	2.6	2.7	2.8
10 year Treasury	2.2	2.5	2.6	2.7	2.9	3.0	3.1	3.2	3.3	3.4
15 year										
30 year										

House Price Index

 $(NOTE: For printing \ purposes \ dates \ only \ goes \ to \ Oct-17. \ However, the \ underlying \ excel \ spreadsheet \ collects \ 30 \ years \ of \ data.)$

		Actual				ı	Projected					
Ī	Region	40 2016	Jan-17	Feb-17	Mar-17	Apr-17	May-17	Jun-17	Jul-17	Aug-17	Sep-17	Oct-17

Region 1

Region 2

.

.

Adverse

Spread Assumptions

Spread to Benchmark

		Actual					Projected				
Category	Benchmark	4Q 2016	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9
Example: Advance	3-Month LIBOR	10.0	10.0	10.0	10.0	15.0	15.0	15.0	15.0	15.0	15.0

Variables Used Beyond Those Supplied

_		Actual					Projected				
	Variable Name	4Q 2016	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9

Forward Curve

	Actual					Projected				
Maturity	4Q 2016	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9
3-Month Treasury	0.4	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
6-Month										
1 year										
2 year										
5 year Treasury	1.7	1.7	1.8	1.8	1.9	1.9	1.9	2.0	2.0	2.0
10 year Treasury	2.2	2.3	2.4	2.5	2.5	2.6	2.7	2.7	2.7	2.7
15 year										
30 year										

House Price Index

(NOTE: For printing purposes dates only goes to Oct-17. However, the underlying excel spreadsheet collects 30 years of data.)

	Actual					Projected					
Region	4Q 2016	Jan-17	Feb-17	Mar-17	Apr-17	May-17	Jun-17	Jul-17	Aug-17	Sep-17	Oct-17

Region 1

Region 2

.

Severely Adverse

Spread Assumptions

Spread to Benchmark

	Actual				Fiojected								
Category	Benchmark	4Q 2016	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9		
Example: Advance	3-Month LIBOR	10.0	10.0	10.0	10.0	15.0	15.0	15.0	15.0	15.0	15.0		

Variables Used Beyond Those Supplied

	Actual				P	rojected				
Variable Name	4Q 2016	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9

Forward Curve

	Actual				Pr	ojected				
Maturity	4Q 2016	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9
3-Month Treasury	0.4	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
6-Month										
1 year										
2 year										
5 year Treasury	1.7	0.3	0.4	0.5	0.6	0.7	0.7	0.8	0.9	1.0
10 year Treasury	2.2	0.8	0.8	0.9	1.0	1.1	1.2	1.3	1.4	1.5
15 year										
30 year										

House Price Index

 $(NOTE: For \ printing \ purposes \ dates \ only \ go \ to \ Oct-17. \ However, the \ underlying \ excel \ spreadsheet \ collects \ 30 \ years \ of \ data.)$

	Actual				P	rojected					
Region	40 2016	lan-17	Feb-17	Mar-17	Anr-17	May-17	lun-17	Iul-17	Διισ-17	Sen-17	Oct-17

Region 1

Region 2

kegion .

.

Most Recent **Income Statement - Aggregate (BASE)** Quarter Q1 Q2 Q3 Q4 Q5 Q6 Q7 Q8 Q9 Interest Income: 1 Advances 2 Whole loans held for portfolio **Investment Securities** 3 Fed Funds 5 Other Interest Income Total Interest Income 6 Interest Expense: CO Bonds 7 Discount Notes 9 Member Deposits 10 Other Interest Expense Total Interest Expense 11 12 Net interest income 13 Provision (reversal) for credit losses on mortgage loans 14 Net Interest Income after mortgage loan loss provision 15 Derivatives gains (losses) 16 Gains (losses) on securities 17 Total net gain (loss) on changes in fair value 18 Total OTTI credit charge 19 Other gains (losses) 20 Operating expenses 21 Other expenses 22 Income (loss) before assessments 23 Total assessments 24 Net Income (Loss)

Income Statement - Existing (BASE)	Most Recent Quarter	Q1	Q2	Q3	Q4	Q5	Q6	Q 7	Q8	Q9
Interest Income: 1 Advances 2 Whole loans held for portfolio										
 3 Investment Securities 4 Fed Funds 5 Other Interest Income 6 Total Interest Income 										
Interest Expense: 7 CO Bonds 8 Discount Notes 9 Member Deposits 10 Other Interest Expense 11 Total Interest Expense										
12 Net interest income										
13 Provision (reversal) for credit losses on mortgage loans										
14 Net Interest Income after mortgage loan loss provision										
 Derivatives gains (losses) Gains (losses) on securities Total net gain (loss) on changes in fair value Total OTTI credit charge Other gains (losses) 										
20 Operating expenses21 Other expenses										
22 Income (loss) before assessments										
23 Total assessments										
24 Net Income (Loss)										

Most Recent **Income Statement - Replacement (BASE)** Quarter Q1 Q2 Q3 Q4 Q5 Q6 Q7 Q8 Q9 Interest Income: 1 Advances Whole loans held for portfolio 3 **Investment Securities** Fed Funds 5 Other Interest Income Total Interest Income Interest Expense: CO Bonds Discount Notes 9 Member Deposits 10 Other Interest Expense Total Interest Expense 11 12 Net interest income 13 Provision (reversal) for credit losses on mortgage loans 14 Net Interest Income after mortgage loan loss provision 15 Derivatives gains (losses) 16 Gains (losses) on securities 17 Total net gain (loss) on changes in fair value 18 Total OTTI credit charge 19 Other gains (losses)

20 Operating expenses21 Other expenses

23 Total assessments24 Net Income (Loss)

22 Income (loss) before assessments

Most Recent **Balance Sheet - Aggregate (BASE)** Quarter Q1 Q2 Q3 Q4 Q5 Q6 Q7 Q8 Q9 **ASSETS** 1 Advances 2 Investment Securities 3 Mortgage Loans Allowance for loan losses 5 Fed Funds 6 Other assets **Total assets** LIABILITIES 8 CO bonds 9 Discount notes 10 Member deposits 11 Other liabilities **Total liabilities** 12 **CAPITAL** 13 Class B capital stock 14 Class A capital stock 15 Capital stock pre-conversion 16 Retained earnings (unrestricted) 17 Retained earnings (restricted) 18 Accumulated other comprehensive income (loss) **Total capital** 20 Total liabilities and capital

Balance Sheet - Existing (BASE)	Most Recent Quarter	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9
ASSETS 1 Advances 2 Investment Securities 3 Mortgage Loans 4 Allowance for loan losses 5 Fed Funds 6 Other assets 7 Total assets										
LIABILITIES 8 CO bonds 9 Discount notes 10 Member deposits 11 Other liabilities 12 Total liabilities										
CAPITAL 13 Class B capital stock 14 Class A capital stock 15 Capital stock pre-conversion 16 Retained earnings (unrestricted) 17 Retained earnings (restricted) 18 Accumulated other comprehensive income (loss) 19 Total capital										
20 Total liabilities and capital										

	Most									
Balance Sheet - Replacement (BASE)	Recent Quarter	04	00	00	04	05	00	07	00	00
balance Sheet - Replacement (BASL)	Quarter	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9
ASSETS	į									
1 Advances	į									
2 Investment Securities	į									
3 Mortgage Loans	į									
4 Allowance for loan losses	į į									
5 Fed Funds										
6 Other assets	!									
7 Total assets										
LIABILITIES	į									
8 CO bonds	I I									
9 Discount notes										
10 Member deposits										
11 Other liabilities	ļ									
12 Total liabilities										
CAPITAL	į									
13 Class B capital stock										
14 Class A capital stock	-									
15 Capital stock pre-conversion	į									
16 Retained earnings (unrestricted)	į									
17 Retained earnings (restricted)	į									
18 Accumulated other comprehensive income (loss)	į									
19 Total capital	İ									
20 Total liabilities and capital	ļ									

<u>Ca</u>	pital Roll Forward (BASE)	Most Recent Quarter	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9
1 2 3 4 5 6	CAPITAL Beginning Capital Net Income Less: Dividends Other Capital Actions Change in AOCI Other										
7	Ending Capital										
8	Regulatory Capital	į									
<u>Ca</u>	pital Ratios										
9 10 11	Regulatory Capital Leverage Capital Permanent Capital										

	Credit (BASE)	Most Recent Quarter	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9
1	CREDIT EXPENSES Provision for credit losses										
•	PLS CREDIT QUALITY										
2	Principal	- !									
3	Principal writedown										
4	Balance	į									
5	Credit support	ł									
	COUNTERPARTY CREDIT										
6	Net Exposure	į									
7	Secured Credit	İ									
8	Unsecured Credit	į									
9	Unsecured derivative counterparty exposure	- !									
10	Payment from private mortgage insurers	ļ									

Most Recent **Income Statement - Aggregate (ADVERSE)** Quarter Q1 Q2 Q3 Q4 Q5 Q6 Q7 Q8 Q9 Interest Income: Advances Whole loans held for portfolio 3 Investment Securities 4 Fed Funds 5 Other Interest Income Total Interest Income Interest Expense: 7 CO Bonds Discount Notes Member Deposits Other Interest Expense 10 **Total Interest Expense** 11 12 Net interest income 13 Provision (reversal) for credit losses on mortgage loans 14 Net Interest Income after mortgage loan loss provision 15 Derivatives gains (losses) 16 Gains (losses) on securities 17 Total net gain (loss) on changes in fair value 18 Total OTTI credit charge 19 Other gains (losses) 20 Operating expenses 21 Other expenses 22 Income (loss) before assessments 23 Total assessments 24 Net Income (Loss)

Most Recent **Income Statement - Existing (ADVERSE)** Quarter Q1 Q2 Q3 Q4 Q5 Q6 Q7 Q8 Q9 Interest Income: 1 Advances 2 Whole loans held for portfolio **Investment Securities** 4 Fed Funds Other Interest Income 5 Total Interest Income 6 Interest Expense: 7 CO Bonds 8 Discount Notes 9 Member Deposits 10 Other Interest Expense **Total Interest Expense** 11 12 Net interest income 13 Provision (reversal) for credit losses on mortgage loans 14 Net Interest Income after mortgage loan loss provision 15 Derivatives gains (losses) 16 Gains (losses) on securities 17 Total net gain (loss) on changes in fair value 18 Total OTTI credit charge 19 Other gains (losses) 20 Operating expenses 21 Other expenses 22 Income (loss) before assessments 23 Total assessments

24 Net Income (Loss)

Most Recent

Inc	come Statement - Replacement (ADVERSE)	Recent	04	00	00	0.4	0.5	00	07	00	00
1110	ome Statement - Replacement (ADVERSE)	Quarter	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9
1 2 3 4 5 6	Interest Income: Advances Whole loans held for portfolio Investment Securities Fed Funds Other Interest Income Total Interest Income Interest Expense: CO Bonds Discount Notes Member Deposits Other Interest Expense										
11	Total Interest Expense										
12	Net interest income										
13	Provision (reversal) for credit losses on mortgage loans										
14	Net Interest Income after mortgage loan loss provision										
16 17 18 19	Derivatives gains (losses) Gains (losses) on securities Total net gain (loss) on changes in fair value Total OTTI credit charge Other gains (losses)										
	Operating expenses Other expenses										
	Income (loss) before assessments										
23	Total assessments										
24	Net Income (Loss)	į									

Most Recent Balance Sheet-Aggregate (ADVERSE) Quarter Q1 Q2 Q3 Q4 Q5 Q6 Q7 Q8 Q9 **ASSETS** 1 Advances 2 Investment Securities 3 Mortgage Loans Allowance for loan losses 5 Fed Funds 6 Other assets 7 **Total assets** LIABILITIES 8 CO bonds 9 Discount notes 10 Member deposits 11 Other liabilities 12 **Total liabilities CAPITAL** 13 Class B capital stock 14 Class A capital stock 15 Capital stock pre-conversion 16 Retained earnings (unrestricted) 17 Retained earnings (restricted) 18 Accumulated other comprehensive income (loss) **Total capital** 19

20 Total liabilities and capital

Most Recent Balance Sheet - Existing (ADVERSE) Quarter Q1 Q2 Q3 Q4 Q5 Q7 Q6 Q8 Q9 **ASSETS** 1 Advances 2 Investment Securities 3 Mortgage Loans Allowance for loan losses 5 Fed Funds 6 Other assets **Total assets** LIABILITIES 8 CO bonds 9 Discount notes 10 Member deposits 11 Other liabilities **Total liabilities** 12 **CAPITAL** 13 Class B capital stock 14 Class A capital stock 15 Capital stock pre-conversion 16 Retained earnings (unrestricted) 17 Retained earnings (restricted)

18 Accumulated other comprehensive income (loss)

Total capital

20 Total liabilities and capital

Most Recent Quarter

Balance Sheet - Replacement (ADVERSE)	Quarter	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9
ASSETS	İ									
1 Advances										
2 Investment Securities	į									
3 Mortgage Loans	į									
4 Allowance for loan losses	į									
5 Fed Funds	į									
6 Other assets	į									
7 Total assets	ł									
LIABILITIES	ļ									
8 CO bonds	į									
9 Discount notes	į									
10 Member deposits	į									
11 Other liabilities	į									
12 Total liabilities										
CAPITAL	į									
13 Class B capital stock										
14 Class A capital stock	į									
15 Capital stock pre-conversion	į									
16 Retained earnings (unrestricted)	į									
17 Retained earnings (restricted)	į									
18 Accumulated other comprehensive income (loss)	į									
19 Total capital	į									
·	ŀ									
20 Total liabilities and capital										

<u>Ca</u>	pital Roll Forward (ADVERSE)	Most Recent Quarter	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9
1 2 3 4 5 6	CAPITAL Beginning Capital Net Income Less: Dividends Other Capital Actions Change in AOCI Other										
7	Ending Capital										
8	Regulatory Capital										
<u>Ca</u>	<u>pital Ratios</u>	ļ									
9 10 11	Regulatory Capital Leverage Capital Permanent Capital										

	Credit (ADVERSE)	Most Recent Quarter	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9
1	CREDIT EXPENSES Provision for credit losses										
2 3 4 5	Principal writedown Balance										
6 7 8	Unsecured derivative counterparty exposure										

Global Market Shock (ADVERSE)

Q1 Loss

Private Label Securities (PLS) or Non-Agency Prices for Residential Mortgage-backed Securities (RMBS), Asset-based Securities (ABS), Commercial Mortgage-

- 1 backed Securities (CMBS) and other collateral
- 2 Agency Securities Option-Adjusted Spread
- 3 Municipal Securities
- 4 Counterparty Default Risk*

* Please provide the name and type (eg: derivatives, repo, etc.) of the largest counterparty below:

Global Market Shock (ADVERSE)

Q1 Loss

TRADING SECURITIES

Private Label Securities (PLS) or Non-Agency Prices for Residential Mortgage-backed Securities (RMBS), Asset-based Securities (ABS), Commercial Mortgage-backed

- 1 Securities (CMBS) and other collateral
- 2 Agency Securities Option-Adjusted Spread
- 3 Municipal Securities

AVAILABLE-FOR-SALE SECURITIES

Private Label Securities (PLS) or Non-Agency Prices for Residential Mortgage-backed Securities (RMBS), Asset-based Securities (ABS), Commercial Mortgage-backed

- 4 Securities (CMBS) and other collateral
- 5 Agency Securities Option-Adjusted Spread
- 6 Municipal Securities

(*Credit ratings should be as of December 31, 2016)

										RMBS							
	Grand Total	Non- Agency Prime	Sub- prime	Option ARMS	Other AltA	Unspec Non- Prime	HELOC	RMBS CDO	RMBS CDS	Credit Basket	PrimeX	ABX / TABX	Prime Whole Loans	Non-Prime Whole Loans	European RMBS	Other / Unspecified	RME
V* (\$MM)																	
AA Total Pre 2006	\$0 \$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0 \$0
006	\$0																\$0
007	\$0																\$0
ost 2007 nspecified Vintage	\$0 \$0																\$0 \$0
Total	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
re 2006	\$0	Ų.		-	\$ 0		-	•••	•••		- 40	V		4 0			\$0
006	\$0																\$0
007 ost 2007	\$0 \$0																\$0 \$0
nspecified Vintage	\$0																\$0
otal	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
e 2006 106	\$0 \$0																\$0 \$0
07	\$0																\$0
st 2007 specified Vintage	\$0 \$0																\$0 \$0
B Total	\$0	\$0	\$0	\$0	\$0	\$0	**	••	\$0	\$0	40	\$0	\$0	\$0	\$0	\$0	\$0
e 2006	\$0 \$0	\$0	\$U	\$0	\$U	\$U	\$0	\$0	\$ U	\$ U	\$0	ψ	\$U	ψU	\$U	\$U	\$0
06	\$0																\$0
07 st 2007	\$0 \$0																\$0 \$0
specified Vintage	\$0																\$0
Total	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
e 2006 06	\$0 \$0																\$0 \$0
06 07	\$0																\$0
st 2007	\$0																\$0
specified Vintage	\$0	0-					05	•	•	•	25	0.5	05	A-		A	\$0
otal e 2006	\$0 \$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0 \$0
06	\$0																\$0
07 st 2007	\$0 \$0																\$0 \$0
st 2007 specified Vintage	\$0 \$0																\$0
Total	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
e 2006	\$0																\$0
06 07	\$0 \$0																\$0 \$0
st 2007	\$0 \$0																\$0
specified Vintage	\$0																\$0
Total	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
e 2006 06	\$0 \$0																\$0 \$0
07	\$0																\$0
ost 2007 nspecified Vintage	\$0 \$0																\$0
rispecified virtage			1														
-1		ŧ0	F0.	60	ŧ0	*0	**	¢0	*0	*0	¢0	¢0	¢0	¢0	60	60	\$0
al	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
ofit/Loss (\$MM)	\$0																\$0 \$0
ofit/Loss (\$MM)		\$0 \$0	\$0 \$0	\$0 \$0	\$0 \$0	\$0 \$0											
fit/Loss (\$MM) A Total e 2006 06	\$0 \$0 \$0 \$0																\$0 \$0 \$0 \$0 \$0
fit/Loss (\$MM) A Total e 2006 06 07	\$0 \$0 \$0 \$0 \$0																\$0 \$0 \$0 \$0 \$0 \$0
fit/Loss (\$MM) A Total e 2006 06 07 ost 2007	\$0 \$0 \$0 \$0																\$0 \$0 \$0 \$0 \$0 \$0 \$0
fit/Loss (\$MM) A Total e 2006 06 07 sist 2007 ispecified Vintage Total	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0																\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0
fit/Loss (\$MM) A Total e 2006 06 07 sist 2007 sispecified Vintage Total e 2006	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$
fitt/Loss (\$MM) A Total e 2006 06 07 sst 2007 sspecified Vintage Total e 2006 06	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$
ofit/Loss (\$MM) A Total e 2006 06 07 st 2007 specified Vintage Total e 2006 06 007 st 2007	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$
Mit/Loss (\$MM) A Total e 2006 06 07 sspecified Vintage Total e 2006 06 07 sspecified Voltage 06 07 sspecified Vintage	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0 \$0	\$0	\$0	\$0	\$0	\$0 \$0	\$0	\$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$
fit/Loss (\$MM) 1 Total 2 2006 06 07 st 2007 sspecified Vintage Total 2 2006 06 07 st 2007 st 2007	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$
fit/Loss (\$MM) 1 Total 2 2006 06 07 st 2007 sspecified Vintage Total 2 2006 06 07 sst 2007 sspecified Vintage total 2 2006 06 07 sspecified Vintage total	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0 \$0	\$0	\$0	\$0	\$0	\$0 \$0	\$0	\$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$
fit/Loss (\$MM) \ Total a 2006 06 60 7 st 2007 sspecified Vintage Total a 2006 06 07 st 2007 sspecified Vintage total a 2006 06 07	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0 \$0	\$0	\$0	\$0	\$0	\$0 \$0	\$0	\$0	\$00 \$00 \$00 \$00 \$00 \$00 \$00 \$00 \$00 \$00
Mit/Loss (\$MM) A Total e 2006 06 07 vist 2007 vist 2007 Total e 2006 06 07 or sts 2007 specified Vintage Total e 2006 06 07 specified Vintage total e 2006 06 07 vist 2007 vist 2007	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0 \$0	\$0	\$0	\$0	\$0	\$0 \$0	\$0	\$0	\$00 \$00 \$00 \$00 \$00 \$00 \$00 \$00 \$00 \$00
Mit/Loss (\$MM) A Total e 2006 06 07 st 2007 st 2007 st 2006 06 07 total e 2006 06 07 sspecified Vintage Total e 2006 06 07 sspecified Vintage total e 2006 06 07 sspecified Vintage total se 2006 06 07 sspecified Vintage	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0 \$0	\$0	\$0	\$0	\$0	\$0 \$0	\$0	\$0	\$60 \$60 \$60 \$60 \$60 \$60 \$60 \$60 \$60 \$60
fit/Loss (\$MM) \ Total 2 2006 06 07 sts 2007 specified Vintage Total 2 2006 06 07 sts 2007 specified Vintage Total 2 2006 06 07 st 2007 specified Vintage 06 07 st 2007 specified Vintage 3 Total 3 Total 3 2006	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0	\$0	\$0 \$0 \$0	\$0	\$0	\$0	\$0 \$0 \$0	\$0 \$0 \$0	\$0	\$0	\$0	\$0	\$0 \$0 \$0	\$0	\$0	\$60 \$60 \$60 \$60 \$60 \$60 \$60 \$60 \$60 \$60
fit/Loss (\$MM) A Total e 2006 06 07 st 2007 sspecified Vintage Total e 2006 06 07 sspecified Vintage vist 2007 sspecified Vintage 06 07 sspecified Vintage 06 07 sspecified Vintage 06 07 sspecified Vintage 08 07 sspecified Vintage 08 3 Total e 2006	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0	\$0	\$0 \$0 \$0	\$0	\$0	\$0	\$0 \$0 \$0	\$0 \$0 \$0	\$0	\$0	\$0	\$0	\$0 \$0 \$0	\$0	\$0	\$60 \$60 \$60 \$60 \$60 \$60 \$60 \$60 \$60 \$60
Mit/Loss (\$MM) A Total e 2006 06 07 st 2007 st 2007 st 2006 06 07 total e 2006 06 07 sspecified Vintage Total e 2006 06 07 sspecified Vintage otal e 2006 06 07 sspecified Vintage 3 Total e 2006 07 sspecified Vintage	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0	\$0	\$0 \$0 \$0	\$0	\$0	\$0	\$0 \$0 \$0	\$0 \$0 \$0	\$0	\$0	\$0	\$0	\$0 \$0 \$0	\$0	\$0	\$00 \$00 \$00 \$00 \$00 \$00 \$00 \$00 \$00 \$00
Mit/Loss (\$MM) A Total e 2006 006 007 st 2007 sspecified Vintage Total e 2006 006 007 sspecified Vintage otal e 2006 006 007 sspecified Vintage otal e 2006 006 007 sspecified Vintage B Total e 2006 007 sspecified Vintage	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0	\$0	\$0 \$0 \$0	\$0 \$0 \$0	\$0 \$0 \$0	\$0	\$0	\$0	\$0 \$0 \$0	\$0 \$0 \$0 \$0	\$0	\$00 \$00 \$00 \$00 \$00 \$00 \$00 \$00 \$00 \$00
Mit/Loss (\$MM) A Total a 2006 06 07 stst 2007 sspecified Vintage Total a 2006 06 07 sts 2007 sspecified Vintage total a 2006 06 07 sst 2007 sspecified Vintage 3 Total a 2006 06 07 sst 2007 sspecified Vintage 3 Total a 2006 06 07 sspecified Vintage 5 Total	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0	\$0	\$0 \$0 \$0	\$0	\$0	\$0	\$0 \$0 \$0	\$0 \$0 \$0	\$0	\$0	\$0	\$0	\$0 \$0 \$0	\$0	\$0	\$60 \$60 \$60 \$60 \$60 \$60 \$60 \$60 \$60 \$60
Mit/Loss (\$MM) A Total e 2006 06 07 ust 2007 uspecified Vintage Total e 2006 06 07 uspecified Vintage Total e 2006 06 07 uspecified Vintage 06 07 uspecified Vintage 06 07 uspecified Vintage 08 08 09 07 uspecified Vintage 08 09 07 uspecified Vintage 09 07 uspecified Vintage 09 07 uspecified Vintage 09 07 uspecified Vintage	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0	\$0	\$0 \$0 \$0	\$0 \$0 \$0	\$0 \$0 \$0	\$0	\$0	\$0	\$0 \$0 \$0	\$0 \$0 \$0 \$0	\$0	\$00 \$00 \$00 \$00 \$00 \$00 \$00 \$00 \$00 \$00
fit/Loss (\$MM) N Total 2006 06 07 sts 12007 specified Vintage Total 2006 06 07 sts 2007 specified Vintage 06 07 sts 2007 specified Vintage 07 st 2007 specified Vintage 3 Total 3 2006 06 07 st 2007 specified Vintage 3 Total 5 2006 06 07 st 2007 specified Vintage 3 Total 5 2006 06 07 Total 6 2006 06 07 Total 7 Total 6 2006 06 07 Total 7 Total 7 Total 7 Total 7 Total 7 Total 7 Total 7 Total 7 Total 7 Total 7 Total 7 Total 7 Total 7 Total 7 Total 7 Total	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0	\$0	\$0 \$0 \$0	\$0 \$0 \$0	\$0 \$0 \$0	\$0	\$0	\$0	\$0 \$0 \$0	\$0 \$0 \$0 \$0	\$0	\$60 \$60 \$60 \$60 \$60 \$60 \$60 \$60 \$60 \$60
Fit/Loss (\$MM) Total 2006 36 37 st 2007 st 2006 36 Total 2006 36 37 specified Vintage Total 2006 36 37 specified Vintage 32 306 36 37 specified Vintage 32 306 36 37 specified Vintage 32 306 36 37 specified Vintage 32 306 306 307 specified Vintage 32 306 307 specified Vintage 32 306 307 specified Vintage 32 306 307 specified Vintage 32 306 307 specified Vintage 32 307 specified Vintage 32 307 specified Vintage 32 307 specified Vintage 32 33 34 35 35 36 36 37 37 38 38 38 38 38 38 38 38 38 38 38 38 38	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0	\$0	\$0 \$0 \$0	\$0 \$0 \$0	\$0 \$0 \$0	\$0	\$0	\$0	\$0 \$0 \$0	\$0 \$0 \$0 \$0	\$0	\$60 \$60 \$60 \$60 \$60 \$60 \$60 \$60 \$60 \$60
fit/Loss (\$MM) 1 Total 2 2006 06 07 specified Vintage Total 2 2006 06 07 st 2007 specified Vintage 06 07 st 2007 specified Vintage 07 st 2007 specified Vintage 08 09 07 st 2007 st 2007 st 2000 06 07 st 2007 specified Vintage 1 Total 2 2006 06 07 st 2007 specified Vintage Total 2 2006 06 07 st 2007 specified Vintage	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0	\$0	\$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0	\$60 \$60 \$60 \$60 \$60 \$60 \$60 \$60 \$60 \$60
fit/Loss (\$MM) N Total 2006 06 07 specified Vintage Total 2006 06 07 sspecified Vintage Total 2007 sspecified Vintage 07 st 2007 sspecified Vintage 07 st 2007 specified Vintage 08 07 st 2007 specified Vintage 08 07 st 2007 specified Vintage 09 07 st 2007 specified Vintage 07 st 2007 specified Vintage 07 st 2007 specified Vintage 07 st 2007 specified Vintage 07 st 2007 specified Vintage	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0	\$0	\$0 \$0 \$0	\$0 \$0 \$0	\$0 \$0 \$0	\$0	\$0	\$0	\$0 \$0 \$0	\$0 \$0 \$0 \$0	\$0	\$60 \$60 \$60 \$60 \$60 \$60 \$60 \$60 \$60 \$60
fit/Loss (\$MM) N Total 2006 06 07 sts 2007 specified Vintage Total 2006 06 07 sts 2007 specified Vintage 1006 07 specified Vintage 1007 sts 2007 specified Vintage 1007 sts 2007 specified Vintage 1007 sts 2007	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0	\$0	\$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0	\$00 \$00 \$00 \$00 \$00 \$00 \$00 \$00 \$00 \$00
fit/Loss (\$MM) N Total 2006 06 07 sts 2007 specified Vintage Total 2006 06 07 sts 2007 specified Vintage Total 2006 06 07 st 2007 specified Vintage 3 Total 2006 06 07 st 2007 specified Vintage Total 2006 06 07 st 2007 specified Vintage Total 2006 06 07 st 2007 specified Vintage Total 2006 06 07 st 2007 specified Vintage Total 2006 06 07 st 2007 specified Vintage	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0	\$0	\$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0	\$00 \$00 \$00 \$00 \$00 \$00 \$00 \$00 \$00 \$00
fiti/Loss (\$MM) a Total a 2006 06 07 sts 2007 sspecified Vintage Total a 2006 06 07 sts 2007 sspecified Vintage otal a 2006 06 07 sts 2007 sspecified Vintage 07 sts 2007 sspecified Vintage 07 sts 2007 sspecified Vintage 07 sts 2007 sspecified Vintage 08 09 07 sts 2007 sspecified Vintage 09 sts 2007 sspecified Vintage 06 07 sts 2007 sspecified Vintage 07 sspecified Vintage 08 09 07 sspecified Vintage 09 00 07 07 07 07	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0	\$0	\$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0
Mit/Loss (\$MM) A Total C 2006 06 07 07 0812007	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0	\$0	\$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0	\$00 \$00 \$00 \$00 \$00 \$00 \$00 \$00 \$00 \$00
Mit/Loss (\$MM) A Total Protal	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0	\$60 \$60 \$60 \$60 \$60 \$60 \$60 \$60 \$60 \$60
Mit/Loss (\$MM) A Total e 2006 06 07 specified Vintage Total e 2006 06 07 specified Vintage Total e 2006 06 07 specified Vintage 06 07 stst 2007 specified Vintage 07 stst 2007 specified Vintage 08 07 stst 2007 specified Vintage 09 07 stst 2007 specified Vintage 07 stst 2007 specified Vintage 07 stst 2007 specified Vintage 08 09 09 09 stst 2007 specified Vintage 09 stst 2007 specified Vintage 09 stst 2007 specified Vintage 09 stst 2007 specified Vintage 09 stst 2007 specified Vintage 09 stst 2007 specified Vintage 09 stst 2007 specified Vintage 09 stst 2007 specified Vintage 09 stst 2007 specified Vintage 09 stst 2007 specified Vintage 09 stst 2007 specified Vintage 09 stst 2007 specified Vintage	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0	\$60 \$60 \$60 \$60 \$60 \$60 \$60 \$60 \$60 \$60
Mit/Loss (\$MM) A Total e 2006 06 07 specified Vintage Total e 2006 06 07 specified Vintage 006 07 specified Vintage 007 sst 2007 specified Vintage 007 sst 2007 specified Vintage 007 sst 2007 specified Vintage 007 sst 2007 sspecified Vintage 006 007 sst 2007 sspecified Vintage 007 sst 2007 sspecified Vintage 007 sst 2007 sspecified Vintage 007 sst 2007 sspecified Vintage 006 007 sst 2007 sspecified Vintage 006 007 sspecified Vintage 006 007 sspecified Vintage 006 007 sspecified Vintage 006 007 sspecified Vintage 006 007 sspecified Vintage 006 007 sspecified Vintage 006 007 sspecified Vintage 006 007 sspecified Vintage	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0	\$60 \$60 \$60 \$60 \$60 \$60 \$60 \$60 \$60 \$60
Mit/Loss (\$MM) A Total e 2006 06 07 specified Vintage Total e 2006 06 07 specified Vintage 06 07 specified Vintage 06 07 specified Vintage 07 specified Vintage 07 specified Vintage 08 07 specified Vintage 08 07 specified Vintage 09 07 specified Vintage 09 07 specified Vintage 09 07 specified Vintage 09 07 specified Vintage 09 07 specified Vintage 07 specified Vintage 07 specified Vintage 07 specified Vintage 07 specified Vintage 07 specified Vintage 07 specified Vintage 07 specified Vintage 08 09 07 specified Vintage 09 07 specified Vintage 09 07 specified Vintage	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0	\$60 \$60 \$60 \$60 \$60 \$60 \$60 \$60 \$60 \$60
diti/Loss (\$MM) A Total A Total C 2006 006 007 007 008 008 007 008 008 007 008 008	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0	\$60 \$60 \$60 \$60 \$60 \$60 \$60 \$60 \$60 \$60
Mit/Loss (\$MM) A Total a Total e 2006 006 007 sspecified Vintage Total e 2006 006 007 sst 2007 sspecified Vintage 007 sst 2007 sspecified Vintage 007 sst 2007 sspecified Vintage 007 sst 2007 sspecified Vintage 007 sst 2007 sspecified Vintage 006 007 sst 2007 sspecified Vintage 006 007 sst 2007 sspecified Vintage 006 007 sst 2007 sspecified Vintage 006 007 sspecified Vintage 006 007 sspecified Vintage 006 007 sspecified Vintage 006 007 sspecified Vintage 006 007 sspecified Vintage 007 sspecified Vintage 008 007 sspecified Vintage 008 007 sspecified Vintage 009 007 sspecified Vintage 009 007 sspecified Vintage 009 007 sspecified Vintage 009 007 sspecified Vintage 009 007 sspecified Vintage 009 007 sspecified Vintage 009 009 009 009 009 009 009 009 009 00	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0	\$60 \$60 \$60 \$60 \$60 \$60 \$60 \$60 \$60 \$60
ofit/Loss (\$MM) A Total A Total C 2006 DOS DOS DOS DOS DOS DOS DOS DOS DOS DOS	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0	\$00 \$00 \$00 \$00 \$00 \$00 \$00 \$00 \$00 \$00
fiti/Loss (\$MM) A Total a 2006 06 07 vist 2007 vispecified Vintage Total a 2006 06 07 vispecified Vintage 06 07 vispecified Vintage 07 vispecified Vintage 08 08 07 vispecified Vintage 08 08 09 07 vist 2007 vispecified Vintage 09 09 vist 2007 vispecified Vintage 09 vist 2007 vispecified Vintage 09 vist 2007 vispecified Vintage 09 vist 2007 vispecified Vintage 09 vist 2007 vist 2007 vist 2007 vist 2007 vist 2007 vist 2007 vist 2007 vist 2007 vist 2007 vist 2007 vist 2007 vist 2007 vist 2007 vist 2007 vist 2007 vist 2007 vist 2007 vist 2007 vist 2007 vispecified Vintage Total a 2006 06 07 vit 2007 vispecified Vintage Total a 2006 06 07 vist 2007 vispecified Vintage Total a 2006 06 07 vist 2007 vispecified Vintage Total a 2006 06 07 vist 2007 vispecified Vintage	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0	\$60 \$60 \$60 \$60 \$60 \$60 \$60 \$60 \$60 \$60

(*Credit ratings should be as of December 31, 2016)

						ABS	Index			Cash Non-				MBS				Co	rporate CDO	Corporate		Warehouse	
	Grand Total	Autos	Credit Cards	Student Loans	ABS CDS	Credit Basket	Tranche s	Other / Unspecified	ABS SubTotal	Agency CMBS	CMBS	CMBS	Credit Basket	Index Tranches	Whole Loans	Other / Unspecified	CMBS SubTotal	CLO	Other / Unspecified	CDO/CLO SubTotal	Total Size	Total Protection	Other / Unspecified
MV* (\$MM)		40	**	**	**	**	**			**	**	**					40						
AAA Total Pre 2006	\$0 \$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0 \$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0 \$0	\$0	\$0	\$0 \$0	\$0	\$0	\$0
2006 2007	\$0 \$0								\$0 \$0								\$0 \$0			\$0 \$0			
Post 2007	\$0								\$0								\$0			\$0			
Unspecified Vintage	\$0					4.			\$0					•-		•-	\$0		4.	\$0			•
AA Total Pre 2006	\$0 \$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0 \$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0 \$0	\$0	\$0	\$0 \$0	\$0	\$0	\$0
2006 2007	\$0 \$0								\$0 \$0								\$0 \$0			\$0 \$0			
Post 2007	\$0								\$0								\$0			\$0			
Unspecified Vintage	\$0								\$0								\$0			\$0		1	
A Total Pre 2006	\$0 \$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0 \$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0 \$0	\$0	\$0	\$0 \$0	\$0	\$0 	\$0
2006 2007	\$0 \$0								\$0 \$0								\$0 \$0			\$0 \$0			
Post 2007	\$0								\$0								\$0			\$0			
Unspecified Vintage	\$0	40	**		**	**	40	\$0	\$0	***	**	•	**	**		40	\$0	**	**	\$0	**	***	20
BBB Total Pre 2006	\$0 \$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0 \$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0 \$0	\$0	\$0	\$0 \$0	\$0	\$0	\$0
2006 2007	\$0 \$0								\$0 \$0								\$0 \$0			\$0 \$0			
Post 2007	\$0								\$0								\$0			\$0			
Unspecified Vintage	\$0	40	**	**	**	**	**	40	\$0	**	**	**	**	••		40	\$0	**	••	\$0	**	••	••
BB Total Pre 2006	\$0 \$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0 \$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0 \$0	\$0	\$0	\$0 \$0	\$0	\$0	\$0
2006 2007	\$0 \$0								\$0 \$0								\$0 \$0			\$0 \$0			
Post 2007	\$0								\$0								\$0			\$0			
Unspecified Vintage	\$0 \$0	ėo.	£0.	\$0	eo.	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0 \$0	**	\$0	\$0 \$0	\$0	\$0	\$0
B Total Pre 2006	\$0	\$0	\$0	φU	\$0	φU	φU	φÜ	\$0 \$0	ψÜ	φU	φu	φυ	ψÜ	- 	φÜ	\$0	\$0	φU	\$0	φU	φU	φU
2006 2007	\$0 \$0								\$0 \$0								\$0 \$0			\$0 \$0			
Post 2007	\$0								\$0								\$0			\$0			
Unspecified Vintage <b td="" total<=""><td>\$0 \$0</td><td>ėo.</td><td>eo.</td><td>ŧ0</td><td>eo.</td><td>¢0</td><td>\$0</td><td>\$0</td><td>\$0</td><td>\$0</td><td>¢0</td><td>¢0</td><td>\$0</td><td>\$0</td><td>60</td><td>\$0</td><td>\$0 \$0</td><td>**</td><td>\$0</td><td>\$0 \$0</td><td>\$0</td><td>**</td><td>eo.</td>	\$0 \$0	ėo.	eo.	ŧ0	eo.	¢0	\$0	\$0	\$0	\$0	¢0	¢0	\$0	\$0	60	\$0	\$0 \$0	**	\$0	\$0 \$0	\$0	**	eo.
Pre 2006	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0 \$0	\$0	\$0	\$0	ŞU	\$U	\$0	\$0	\$0	\$0	\$U	\$0 \$0	\$0	\$0	\$0
2006 2007	\$0 \$0								\$0 \$0								\$0 \$0			\$0 \$0			
Post 2007	\$0								\$0								\$0			\$0			
Unspecified Vintage NR Total	\$0 \$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0 \$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0 \$0	\$0	\$0	\$0 \$0	\$0	\$0	\$0
Pre 2006	\$0	ψU	ψU	ŞU.	ψU	ΨU	ψU	ψU	\$0	ψU	ψU	ŞU	ψU	30	30	3 0	\$0	ą0	φU	\$0	ΨU	30	\$ 0
2006 2007	\$0 \$0								\$0 \$0								\$0 \$0			\$0 \$0			
Post 2007	\$0 \$0								\$0								\$0 \$0			\$0			
Unspecified Vintage Total	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0 \$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0 \$0	\$0	\$0	\$0
	Ų.	V	V V	- V	,	V V	V V	40	Ψ.	Ų	V V	V V	V V	V V	V	40	V V	V U	- 	, ,,	Ų	Ų,	V
Profit/Loss (\$MM) AAA Total	\$0																						
D 0077	ψU	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Pre 2006 2006	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2006 2007	\$0 \$0 \$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0 \$0 \$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0 \$0 \$0	\$0	\$0	\$0 \$0 \$0	\$0	\$0	\$0
2006	\$0 \$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0 \$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0 \$0	\$0	\$0	\$0 \$0	\$0	\$0	\$0
2006 2007 Post 2007 Unspecified Vintage	\$0 \$0 \$0 \$0 \$0 \$0	\$0	\$0 \$0	\$0	\$0	\$0 \$0	\$0 \$0	\$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0	\$0 \$0	\$0	\$0 \$0	\$0 \$0	\$0 \$0	\$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0	\$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0	\$0 \$0	\$0 \$0
2006 2007 Post 2007 Unspecified Vintage	\$0 \$0 \$0 \$0 \$0								\$0 \$0 \$0 \$0 \$0 \$0 \$0								\$0 \$0 \$0 \$0 \$0 \$0			\$0 \$0 \$0 \$0 \$0			
2006 2007 Post 2007 Unspecified Vintage AA Total Pre 2006 2006 2007	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0								\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0								\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0			\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0			
2006 2007 Post 2007 Unspecified Vintage AA Total Pre 2006 2006	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0								\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0								\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0			\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0			
2006 2007 Post 2007 Unspecified Vintage AA Total Pre 2006 2007 Post 2007 Unspecified Vintage A Total	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$								\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$								\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$			\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0			
2006 2007 Post 2007 Unspecified Vintage AA Total Pre 2006 2007 Post 2007 Unspecified Vintage A Total Pre 2006 2007 Post 2007 Unspecified Vintage A Total Pre 2006 2006	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0	\$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0	\$0	\$0
2006 2007 Post 2007 Unspecified Vintage AA Total Pre 2006 2006 2007 Post 2007 Unspecified Vintage A Total Pre 2006	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0	\$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0	\$0	\$0
2006 2007 Post 2007 Unspecified Vintage AA Total Pre 2006 2006 2007 Post 2007 Unspecified Vintage A Total Pre 2006 2006 2007	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0	\$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0	\$0	\$0
2006 2007 Post 2007 Unspecified Vintage AA Total Pre 2006 2006 2007 Post 2007 Unspecified Vintage A Total Pre 2006 2007 Onspecified Vintage A Total Pre 2006 2006 2007 Unspecified Vintage BBB Total	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0	\$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0	\$0	\$0
2006 2007 Post 2007 Unspecified Vintage AA Total Pre 2006 2006 2007 Post 2007 Unspecified Vintage A Total Pre 2006 2007 Post 2007 Unspecified Vintage BB Total Pre 2006 2007	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0	\$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0	\$0	\$0
2006 2007 Post 2007 Unspecified Vintage AA Total Pre 2006 2006 2007 Post 2007 Unspecified Vintage A Total Pre 2006 2006 2007 Unspecified Vintage A Total Pre 2006 2006 2007 Post 2007 Unspecified Vintage BBE Total Pre 2006 2006 2006 2006	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0	\$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0	\$0	\$0
2006 2007 Post 2007 Unspecified Vintage AA Total Pre 2006 2006 2007 Post 2007 Unspecified Vintage A Total Pre 2006 2007 Post 2007 Unspecified Vintage BB Total Pre 2006 2007	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0	\$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0	\$0	\$0
2006 2007 Post 2007 Unspecified Vintage AA Total Pre 2006 2006 2007 Post 2007 Unspecified Vintage A Total Pre 2006 2006 2007 Post 2007 Unspecified Vintage BBB Total Pre 2006 2006 BBB Total BB Total BB Total	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0	\$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0	\$0	\$0
2006 2007 Post 2007 Unspecified Vintage AA Total Pre 2006 2006 2007 Post 2007 Unspecified Vintage A Total Pre 2006 2007 Post 2007 Unspecified Vintage BB Total Pre 2006 2007 Post 2007 Unspecified Vintage BBB Total Pre 2006 2007 Post 2007 Unspecified Vintage BBB Total Pre 2006 2007 Post 2007 Unspecified Vintage BB Total Pre 2006 2007 Post 2007 Unspecified Vintage BB Total Pre 2006 2007 Dost 2007 Dost 2007 Dost 2007 Dost 2007 Dost 2007 Dost 2007 Dost 2007 Dost 2007 Dost 2006 Dost 2007 Dost 2006 Dost 2006 Dost 2007 Dost 2006 Dost 2006 Dost 2007 Dost 2006 Dost 2006 Dost 2007 Dost 2006 Dost 2006 Dost 2007 Dost 2006 Dost 2006 Dost 2007 Dost 2006 Dost 2006 Dost 2007 Dost 2006 Dost 2006 Dost 2006 Dost 2007 Dost 2006 Dost 2007 Dost 2006 Dost 2007 Dost 2006 Dost 2007 Dost 2006 Dost 2007 Dost 2006 Dost 2007 Dost 2006 Dost 2007 Dost 2006 Dost 2007 Dost 2006 Dost 2007 Dost 2007 Dost 2006 Dost 2007 Do	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0	\$0 \$0 \$0	\$0	\$0	\$0	\$0	\$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0	\$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0	\$0	\$0
2006 2007 Post 2007 Unspecified Vintage AA Total Pre 2006 2006 2007 Post 2007 Unspecified Vintage A Total Pre 2006 2006 2007 Post 2007 Unspecified Vintage BBB Total Pre 2006 2006 2007 Post 2007 Post 2007 Post 2007 BBB Total Pre 2006 2006 2007 Post 2007	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0	\$0 \$0 \$0	\$0	\$0	\$0	\$0	\$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0	\$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0	\$0	\$0
2006 2007 Post 2007 Unspecified Vintage AA Total Pre 2006 2006 2007 Post 2007 Unspecified Vintage A Total Pre 2006 2007 Post 2007 Unspecified Vintage BB Total Pre 2006 2007 Post 2007 Unspecified Vintage BBB Total Pre 2006 2007 Post 2007 Unspecified Vintage BBB Total Pre 2006 2007 Post 2007 Unspecified Vintage BB Total Pre 2006 2007 Post 2007 Unspecified Vintage BB Total Pre 2006 2007 Dost 2007 Dost 2007 Dost 2007 Dost 2007 Dost 2007 Dost 2007 Dost 2007 Dost 2007 Dost 2006 Dost 2007 Dost 2006 Dost 2006 Dost 2007 Dost 2006 Dost 2006 Dost 2007 Dost 2006 Dost 2006 Dost 2007 Dost 2006 Dost 2006 Dost 2007 Dost 2006 Dost 2006 Dost 2007 Dost 2006 Dost 2006 Dost 2007 Dost 2006 Dost 2006 Dost 2006 Dost 2007 Dost 2006 Dost 2007 Dost 2006 Dost 2007 Dost 2006 Dost 2007 Dost 2006 Dost 2007 Dost 2006 Dost 2007 Dost 2006 Dost 2007 Dost 2006 Dost 2007 Dost 2006 Dost 2007 Dost 2007 Dost 2006 Dost 2007 Do	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0	\$0 \$0 \$0	\$0	\$0	\$0	\$0	\$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0	\$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0	\$0	\$0
2006 2007 Post 2007 Unspecified Vintage AA Total Pre 2006 2006 2007 Post 2007 Unspecified Vintage A Total Pre 2006 2006 2007 Post 2007 Unspecified Vintage BBB Total Pre 2006 2006 2007 Post 2007 Unspecified Vintage BB Total Pre 2006 2007 Post 2007 Post 2007 Unspecified Vintage B Total Pre 2006 2007 Post 2007 Unspecified Vintage B Total Pre 2006 2007 Post 2007 Post 2007 Post 2007 Post 2007 Post 2007 Post 2007 Post 2007 Post 2007 Post 2007	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0	\$0 \$0 \$0	\$0	\$0	\$0	\$0	\$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0	\$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0	\$0	\$0
2006 2007 Post 2007 Unspecified Vintage AA Total Pre 2006 2006 2007 Post 2007 Unspecified Vintage A Total Pre 2006 2006 2007 Post 2007 Unspecified Vintage BBB Total Pre 2006 2006 2007 Post 2007 Unspecified Vintage BBB Total Pre 2006 2007 Post 2007 Unspecified Vintage BB Total Pre 2006 2007 Post 2007 Unspecified Vintage BB Total Pre 2006 2007 Post 2007 Post 2007 Unspecified Vintage BB Total Pre 2006 2007 Post 2007 Post 2007 Unspecified Vintage BB Total Pre 2006 2007 Post 2007 Post 2007 Post 2007 Post 2007 Post 2007 Post 2007 Post 2007 Post 2007 Post 2007 Post 2006 B Total Pre 2006	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0	\$0	\$0	\$0 \$0 \$0 \$0	\$0	\$0	\$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0	\$0	\$0	\$0 \$0 \$0 \$0	\$0 \$0 \$0	\$0	\$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0	\$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0	\$0	\$0
2006 2007 Post 2007 Unspecified Vintage AA Total Pre 2006 2006 2007 Post 2007 Unspecified Vintage A Total Pre 2006 2007 Post 2007 Unspecified Vintage BB Total Pre 2006 2007 Post 2007 Unspecified Vintage BB Total Pre 2006 2007 Unspecified Vintage BB Total Pre 2006 2007 Unspecified Vintage BB Total Pre 2006 2007 Unspecified Vintage BB Total Pre 2006 2007 Post 2007 Unspecified Vintage BB Total Pre 2006 2007 Post 2007 Unspecified Vintage BB Total Pre 2006	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0	\$0	\$0	\$0 \$0 \$0 \$0	\$0	\$0	\$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0	\$0	\$0	\$0 \$0 \$0 \$0	\$0 \$0 \$0	\$0	\$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0	\$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0	\$0	\$0
2006 2007 Post 2007 Unspecified Vintage AA Total Pre 2006 2006 A Total Pre 2006 2007 Post 2007 Post 2007 Post 2007 Post 2007 Post 2007 Post 2007 Unspecified Vintage BBB Total Pre 2006 2007 Unspecified Vintage BB Total Pre 2006 2007 Unspecified Vintage BB Total Pre 2006 2007 Post 2007 Unspecified Vintage BB Total Pre 2006 2006 2007 Post 2007 Pre 2006 2006 2007 Post 2007 Post 2007 Post 2007 Post 2007 Post 2007 Post 2007 Post 2007 Post 2007 Post 2007 Post 2007 Post 2006 2006 2006 2006 2006	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0	\$0	\$0	\$0 \$0 \$0 \$0	\$0	\$0	\$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0	\$0	\$0	\$0 \$0 \$0 \$0	\$0 \$0 \$0	\$0	\$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0	\$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0	\$0	\$0
2006 2007 Post 2007 Unspecified Vintage AA Total Pre 2006 2006 A Total Pre 2006 2007 Post 2007 Post 2007 Post 2007 Post 2007 Post 2007 Post 2007 Unspecified Vintage BBB Total Pre 2006 2007 Post 2007 Unspecified Vintage BB Total Pre 2006 2007 Post 2007 Unspecified Vintage BB Total Pre 2006 2007 Post 2007 Unspecified Vintage BB Total Pre 2006 2006 2007 Post 2007 Unspecified Vintage B Total Pre 2006 2006 2007 Post 2007 Unspecified Vintage B Total Pre 2006 2007 Post 2007 Unspecified Vintage	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0	\$0	\$0	\$0 \$0 \$0 \$0	\$0	\$0	\$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0	\$0	\$0	\$0 \$0 \$0 \$0	\$0 \$0 \$0	\$0	\$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0	\$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0	\$0	\$0
2006 2007 Post 2007 Unspecified Vintage AA Total Pre 2006 2006 A Total Pre 2006 2007 Conspecified Vintage A Total Pre 2006 2007 Unspecified Vintage BB Total Pre 2006 2007 Unspecified Vintage BB Total Pre 2006 2007 Unspecified Vintage BB Total Pre 2006 2007 Unspecified Vintage BB Total Pre 2006 2007 Unspecified Vintage BB Total Pre 2006 2007 Unspecified Vintage B Total Pre 2006 2007 Post 2007 Unspecified Vintage B Total Pre 2006 2007 Unspecified Vintage B Total Pre 2006 2007 Unspecified Vintage B Total Pre 2006 2007 Unspecified Vintage B Total Pre 2006 2007 Post 2007 Unspecified Vintage B Total Pre 2006 2006 Conspecified Vintage B Total Pre 2006 2006 Conspecified Vintage B Total Pre 2006 2006	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0	\$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0	\$0	\$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0	\$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0	\$0
2006 2007 Post 2007 Unspecified Vintage AA Total Pre 2006 2006 2007 Post 2007 Unspecified Vintage A Total Pre 2006 2007 Post 2007 Unspecified Vintage BB Total Pre 2006 2007 Post 2007 Unspecified Vintage BB Total Pre 2006 2007 Post 2007 Unspecified Vintage BB Total Pre 2006 2007 Post 2007 Unspecified Vintage BB Total Pre 2006 2007 Post 2007 Unspecified Vintage B Total Pre 2006 2007 Post 2007 Unspecified Vintage B Total Pre 2006 2007 Post 2007 Unspecified Vintage B Total Pre 2006 2006 2007 Post 2007 Post 2007 Unspecified Vintage B Total Pre 2006 2006 2007 Post 2007 Post 2007 Unspecified Vintage B Total Pre 2006 2006 2007 Post 2007 Post 2007 Post 2007 Unspecified Vintage B Total Pre 2006 2006	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0	\$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0	\$0	\$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0	\$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0	\$0
2006 2007 Post 2007 Unspecified Vintage AA Total Pre 2006 2006 A Total Pre 2006 2007 Post 2007 Unspecified Vintage A Total Pre 2006 2007 Unspecified Vintage BB Total Pre 2006 2007 Unspecified Vintage BB Total Pre 2006 2007 Unspecified Vintage BB Total Pre 2006 2007 Unspecified Vintage BB Total Pre 2006 2007 Post 2007 Unspecified Vintage B Total Pre 2006 2007 Post 2007 Unspecified Vintage B Total Pre 2006 2007 Post 2007 Unspecified Vintage B Total Pre 2006 2007 Post 2007 Unspecified Vintage B Total Pre 2006 2006 2007 Post 2007 Unspecified Vintage B Total Pre 2006 2006 2007 Post 2007 Post 2007 Unspecified Vintage B Total Pre 2006 2006	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0	\$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0	\$0	\$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0	\$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0	\$0
2006 2007 Post 2007 Unspecified Vintage AA Total Pre 2006 2006 2007 Post 2007 Unspecified Vintage A Total Pre 2006 2007 Post 2007 Unspecified Vintage BB Total Pre 2006 2007 Post 2007 Unspecified Vintage BB Total Pre 2006 2007 Post 2007 Unspecified Vintage BB Total Pre 2006 2007 Post 2007 Unspecified Vintage BB Total Pre 2006 2007 Post 2007 Unspecified Vintage B Total Pre 2006 2007 Post 2007 Unspecified Vintage B Total Pre 2006 2007 Post 2007 Unspecified Vintage B Total Pre 2006 2006 2007 Post 2007 Unspecified Vintage B Total Pre 2006 2007 Post 2007 Unspecified Vintage B Total Pre 2006 2007 Post 2007 Unspecified Vintage NR Total	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0	\$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0	\$0	\$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0	\$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0	\$0
2006 2007 Post 2007 Unspecified Vintage AA Total Pre 2006 2006 2007 Post 2007 Unspecified Vintage A Total Pre 2006 2007 Post 2007 Unspecified Vintage BB Total Pre 2006 2007 Post 2007 Unspecified Vintage BB Total Pre 2006 2007 Post 2007 Unspecified Vintage BB Total Pre 2006 2007 Post 2007 Unspecified Vintage B Total Pre 2006 2007 Post 2007 Unspecified Vintage Compacified Vintage Compacified Vintage Compacified Vintage Compacified Vintage Compacified Vintage Compacified Vintage Compacified Vintage Compacified Vintage NE Total Pre 2006 2007 Post 2007 Unspecified Vintage NE Total Pre 2006 2007 Post 2007 Unspecified Vintage NE Total Pre 2006 2006 2007 Post 2007 Unspecified Vintage NE Total Pre 2006 2006 Reverance Vintage NE Total Pre 2006 2007 Post 2007 Unspecified Vintage NE Total Pre 2006 2006 Reverance Vintage NE Total Pre 2006 2006 Reverance Vintage NE Total Pre 2006 2006 Reverance Vintage NE Total Pre 2006 2006 Reverance Vintage NE Total Pre 2006 2006 Reverance Vintage NE Total Pre 2006 2006 Reverance Vintage NE Total Pre 2006 2006	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0	\$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0	\$0	\$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0 \$0 \$0 \$0 \$0	\$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0	\$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0 \$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0	\$0
2006 2007 Post 2007 Unspecified Vintage AA Total Pre 2006 2006 2007 Post 2007 Unspecified Vintage A Total Pre 2006 2007 Post 2007 Unspecified Vintage BB Total Pre 2006 2007 Post 2007 Unspecified Vintage BB Total Pre 2006 2007 Post 2007 Unspecified Vintage BB Total Pre 2006 2007 Post 2007 Unspecified Vintage B Total Pre 2006 2007 Post 2007 Unspecified Vintage B Total Pre 2006 2007 Post 2007 Unspecified Vintage B Total Pre 2006 2007 Post 2007 Unspecified Vintage NB Total Pre 2006 2007 Post 2007 Unspecified Vintage NB Total Pre 2006 2007 Post 2007 Pre 2006 2006 2007 Post 2007 Post 2007 Pre 2006 2006 RT Total Pre 2006 2006 2007 Post 2007 Pre 2006 2006 RT Total Pre 2006 2007 Post 2007 Pre 2006 2007 Post 2007 Pre 2006 2006	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0	\$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0	\$0	\$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0 \$0 \$0 \$0 \$0	\$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0	\$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0 \$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0	\$0
2006 2007 Post 2007 Unspecified Vintage AA Total Pre 2006 2006 A Total Pre 2006 2007 Post 2007 Unspecified Vintage A Total Pre 2006 2007 Post 2007 Unspecified Vintage BB Total Pre 2006 2007 Unspecified Vintage BB Total Pre 2006 2007 Unspecified Vintage BB Total Pre 2006 2007 Unspecified Vintage B Total Pre 2006 2007 Post 2007 Unspecified Vintage B Total Pre 2006 2007 Post 2007 Unspecified Vintage B Total Pre 2006 2007 Post 2007 Unspecified Vintage B Total Pre 2006 2007 Post 2007 Unspecified Vintage NE Total Pre 2006 2007 Post 2007 Unspecified Vintage R Total Pre 2006 2007 Post 2007 Vinspecified Vintage NE Total Pre 2006 2007 Post 2007 Vinspecified Vintage NE Total Pre 2006 2007 Post 2007 Vinspecified Vintage NE Total Pre 2006 2007 Post 2007 Vinspecified Vintage NE Total Pre 2006 2006 R Total Pre 2006 2007	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0	\$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0	\$0	\$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0 \$0 \$0 \$0 \$0	\$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0	\$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0 \$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0	\$0

Trading and Other Fair Value Assets

Munis (Adverse)

	MV (\$MM) Available-for-Sale Securities	MV (\$MM) Trading Securities	Profit/Loss from OAS Widening (AFS)	Profit/Loss from OAS Widening (Trading Secs)
Bonds			<u> </u>	
AAA				
AA				1
A			i	1
BBB			ł	+
			l	-
BB				
В				
<b< td=""><td></td><td></td><td></td><td></td></b<>				
NR				
Bonds Total	\$0	\$0	\$0	\$0
1M				
3M				1
6M				+
			+	-
9M				
1Y				
2Y				
3Y				
5Y				
7Y			1	1
10Y	+		1	
			1	+
15Y	+		 	+
20Y				
30Y				
Bonds Total	\$0	\$0	\$0	\$0
Loans				
			7	1
AAA			ł	+
AA			ł –	<u> </u>
Α			ļ <u> </u>	1
BBB			l	
ВВ				
В			1	1
			1	1
<b< td=""><td></td><td></td><td>ł </td><td>+</td></b<>			ł 	+
NR	_	•		
Loans Total	\$0	\$0	\$0	\$0
1M				
3M				
6M				
9M			1	1
			1	+
1Y			1	+
2Y			l	+
3Y				
5Y			ļ <u> </u>	
7Y				
10Y				
15Y			1 -	†
			1	
20Y			 	+
30Y				
Loans Total	\$0	\$0	\$0	\$0
CDS				
AAA	ı			
			1	
AA			 	+
Α			ł 	
BBB			ļ <u> </u>	1
вв			l	
В				
<b< td=""><td></td><td></td><td>1</td><td>1</td></b<>			1	1
	 		1	+
NR CDS Total	#2	60	20	60
CDS Total	\$0	\$0	\$0	\$0
1M				1
3M		<u> </u>		
6M				
9M			1	1
1Y			1	
			1	+
2Y			l	+
3Y			<u> </u>	
5Y				
7Y				
10Y			1	
15Y				+
20Y			1 -	+
	-		 	+
30Y	_			
CDS Total	\$0	\$0	\$0	\$0

Trading and Other Fair Value Assets

Munis (Adverse)

	BAN ((CBABA)	BA)// (Profit/Loss	Profit/Loss
	MV (\$MM) Available-for-Sale	MV (\$MM) Trading	from OAS	from OAS
	Securities	Securities	Widening	Widening
	0000	0000	(AFS)	(Trading Secs)
Indices			<u></u>	
AAA				
AA				_
A				+
BBB BB	+			+
B	+			+
<b< td=""><td></td><td></td><td></td><td>1</td></b<>				1
NR				
Indices Total	\$0	\$0	\$0	\$0
1M				
3M				
6M				_
9M 1Y				
2Y	1			+
3Y				+
5Y				1
7Y				
10Y				
15Y				
20Y				
30Y	A			-
Indices Total	\$0	\$0	\$0	\$0
Other / Unspecified Munis		1		1
AAA				
AA A	+			†
BBB				+
BB				
В				
<b< td=""><td></td><td></td><td></td><td></td></b<>				
NR				
Other / Unspecified Munis Total	\$0	\$0	\$0	\$0
1M				_
3M 6M				+
9M	1			+
1Y				+
2Y				1
3Y				
5Y				
7Y				
10Y				
15Y				
20Y				+
30Y Other / Unspecified Munis Total	\$0	\$0	\$0	\$0
Other / Orispecined Munis 1 otal	\$0	ΨΟ	\$0	φ0
Grand Total				
AAA	\$0	\$0	\$0	\$0
AA	\$0	\$0	\$0	\$0
A	\$0	\$0	\$0	\$0
BBB	\$0	\$0	\$0	\$0
ВВ	\$0	\$0	\$0	\$0
В_	\$0	\$0	\$0	\$0
<b< td=""><td>\$0</td><td>\$0</td><td>\$0</td><td>\$0</td></b<>	\$0	\$0	\$0	\$0
NR Grand Total	\$0 \$0	\$0 \$0	\$0 \$0	\$0 \$0
Grand Total 1M	\$0 \$0	\$0 \$0	\$0 \$0	\$0
3M	\$0	\$0 \$0	\$0 \$0	\$0
6M	\$0	\$0 \$0	\$0 \$0	\$0
9M	\$0	\$0	\$0	\$0
1Y	\$0	\$0	\$0	\$0
2Y	\$0	\$0	\$0	\$0
3Y	\$0	\$0	\$0	\$0
5Y	\$O	\$0	\$0	\$0
7Y	\$0	\$0	\$0	\$0
10Y	\$0	\$0	\$0	\$0
15Y 20Y	\$0 \$0	\$0 \$0	\$0 \$0	\$0 \$0
30Y	\$0 \$0	\$0 \$0	<u>\$0</u> \$0	\$0 \$0
Grand Total	\$ 0	\$0 \$0	\$0 \$0	\$0 \$0
	40		40	

Trading & Other Fair Value Assets Template

Agencies (Adverse)

	M∨(\$MM)	M∨(\$MM)	Profit/Loss	Profit/Loss
	Available-for-Sale	Trading	fromOAS	from OAS
	Securities	Securities	Widening	Widening
LIC Decidential Amenay Draducts			(AFS)	(Trading Secs)
US Residential Agency Products	1			
IOs				
POs				
Other CMOs				
Pass-Throughs				
Agency Debt/Debentures				
IOS Index				
POS Index				
MBX Index				
Other Agency Derivatives				
TBA's				
Reverse Mortgages				
Residential Other / Unspecified	40	•	^	40
Total	\$0	\$0	\$0	\$0
US Commercial Agency Products				
Cash Agency CMBS				
Agency CMBS Derivatives				
Commercial Other / Unspecified				
Total	\$0	\$0	\$0	\$0
Non-US Agency Products				
AAA				
AA				
A				
BBB				
ВВ				
В				
<b< td=""><td></td><td></td><td></td><td></td></b<>				
NR				
Total	\$0	\$0	\$0	\$0

Most Recent **Income Statement-Aggregate (SEVERELY ADVERSE)** Quarter Q1 Q2 Q3 Q4 Q5 Q6 Q7 Q8 Q9 Interest Income: 1 Advances 2 Whole loans held for portfolio 3 Investment Securities 4 Fed Funds 5 Other Interest Income Total Interest Income Interest Expense: CO Bonds 8 Discount Notes 9 Member Deposits 10 Other Interest Expense 11 Total Interest Expense 12 Net interest income 13 Provision (reversal) for credit losses on mortgage loans 14 Net Interest Income after mortgage loan loss provision 15 Derivatives gains (losses) 16 Gains (losses) on securities 17 Total net gain (loss) on changes in fair value 18 Total OTTI credit charge 19 Other gains (losses) 20 Operating expenses 21 Other expenses 22 Income (loss) before assessments 23 Total assessments 24 Net Income (Loss)

Most Recent

Interest Income: 1 Advances 2 Whole loans held for portfolio 3 Investment Securities 4 Fed Funds 5 Other Interest Income 6 Total Interest Income Interest Expense: 7 CO Bonds 8 Discount Notes 9 Member Deposits 10 Other Interest Expense 11 Total Interest Expense 12 Net Interest Expense 13 Provision (reversal) for credit losses on mortgage loans 14 Net Interest Income after mortgage loan loss provision 15 Derivatives gains (losses) 16 Gains (losses) on securities 17 Total net gain (loss) on changes in fair value 18 Total OTTI credit charge 19 Other gains (losses) 20 Operating expenses 21 Income (loss) before assessments	Ind	come Statement - Existing (SEVERELY ADVERSE)	Quarter	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9
1 Advances 2 Whole loans held for portfolio 3 Investment Securities 4 Fed Funds 5 Other Interest Income 6 Total Interest Income Interest Expense: 7 CO Bonds 8 Discount Notes 9 Member Deposits 10 Other Interest Expense 11 Total Interest Expense 12 Net interest Expense 13 Provision (reversal) for credit losses on mortgage loans 14 Net Interest income 15 Derivatives gains (losses) 16 Gains (losses) on securities 17 Total net gain (loss) on changes in fair value 18 Total OTTI credit charge 19 Other gains (losses) 20 Operating expenses 21 Other expenses 22 Income (loss) before assessments	····	omo otatomont Exioting (OEVERTEE! ADVERTOE)		Q I	- QZ	QU.	Φ,	Q0	Q.U	Q,	QU.	
Whole loans held for portfolio Investment Securities Fed Funds Other Interest Income Total Interest Income Interest Expense: CO Bonds Discount Notes Member Deposits Other Interest Expense Total Interest Expense Net Interest Expense Ret Interest Expense Ret Interest Expense Provision (reversal) for credit losses on mortgage loans Ret Interest Income after mortgage loan loss provision Perivatives gains (losses) Gains (losses) on securities Total net gain (loss) on changes in fair value Total net gain (loss) on changes in fair value Total net gains (losses) Operating expenses Coperating expenses Income (loss) before assessments		Interest Income:	i									
Investment Securities Fed Funds Fed Funds Other Interest Income Interest Expense: CO Bonds Discount Notes Member Deposits Other Interest Expense Total Interest Expense Provision (reversal) for credit losses on mortgage loans Net Interest Income Provision (reversal) for credit losses on mortgage loans Net Interest Income after mortgage loan loss provision Derivatives gains (losses) Gains (losses) on securities Total OTTI credit charge Other gains (losses) Other gains (losses) Other gains (losses) Other gains (losses) Co Operating expenses Other expenses Counce (loss) before assessments	1	Advances	į									
Total Interest Income Total Interest Expense: CO Bonds Discount Notes Member Deposits Other Interest Expense Total Interest Expense Total Interest Expense Provision (reversal) for credit losses on mortgage loans Net Interest Income after mortgage loan loss provision Derivatives gains (losses) Gains (losses) on securities Total OTTI credit charge Total OTTI credit charge Operating expenses Operating expenses Company of the provision losses on the provision losses on the gain (losses) Total net gain (loss) on changes in fair value Total OTTI credit charge Operating expenses Company of the provision losses on the gain (losses) Total assessments	2											
Total Interest Income Interest Expense: CO Bonds Discount Notes Member Deposits Other Interest Expense Total Interest Expense Member Deposits Other Interest Expense Total Interest Expense Total Interest Expense 12 Net interest income 13 Provision (reversal) for credit losses on mortgage loans 14 Net Interest Income after mortgage loan loss provision 15 Derivatives gains (losses) G Gains (losses) on securities 17 Total net gain (loss) on changes in fair value 18 Total OTTI credit charge 19 Other gains (losses) Operating expenses 21 Other expenses 22 Income (loss) before assessments	3											
Interest Expense: 7 CO Bonds 8 Discount Notes 9 Member Deposits 10 Other Interest Expense 11 Total Interest Expense 12 Net interest income 13 Provision (reversal) for credit losses on mortgage loans 14 Net Interest Income after mortgage loan loss provision 15 Derivatives gains (losses) 16 Gains (losses) on securities 17 Total net gain (loss) on changes in fair value 18 Total OTTI credit charge 19 Other gains (losses) 20 Operating expenses 21 Other expenses 22 Income (loss) before assessments												
Interest Expense: 7 CO Bonds 8 Discount Notes 9 Member Deposits 10 Other Interest Expense 11 Total Interest Expense 12 Net interest income 13 Provision (reversal) for credit losses on mortgage loans 14 Net Interest income after mortgage loan loss provision 15 Derivatives gains (losses) 16 Gains (losses) on securities 17 Total net gain (loss) on changes in fair value 18 Total OTTI credit charge 19 Other gains (losses) 20 Operating expenses 21 Other expenses 22 Income (loss) before assessments	_		i									
7 CO Bonds 8 Discount Notes 9 Member Deposits 10 Other Interest Expense 11 Total Interest Expense 12 Net interest income 13 Provision (reversal) for credit losses on mortgage loans 14 Net Interest Income after mortgage loan loss provision 15 Derivatives gains (losses) 16 Gains (losses) on securities 17 Total net gain (loss) on changes in fair value 18 Total OTTI credit charge 19 Other gains (losses) 20 Operating expenses 21 Other expenses 22 Income (loss) before assessments	6	Total Interest Income	i									
B Discount Notes Member Deposits Other Interest Expense Total Interest Expense 12 Net interest income 13 Provision (reversal) for credit losses on mortgage loans 14 Net Interest Income after mortgage loan loss provision 15 Derivatives gains (losses) 16 Gains (losses) on securities 17 Total net gain (loss) on changes in fair value 18 Total OTTI credit charge 19 Other gains (losses) 20 Operating expenses 21 Other expenses 22 Income (loss) before assessments		Interest Expense:										
9 Member Deposits 10 Other Interest Expense 11 Total Interest Expense 12 Net interest income 13 Provision (reversal) for credit losses on mortgage loans 14 Net Interest Income after mortgage loan loss provision 15 Derivatives gains (losses) 16 Gains (losses) on securities 17 Total net gain (loss) on changes in fair value 18 Total OTTI credit charge 19 Other gains (losses) 20 Operating expenses 21 Other expenses 22 Income (loss) before assessments	7	CO Bonds										
Other Interest Expense Total Interest Expense 12 Net interest income 13 Provision (reversal) for credit losses on mortgage loans 14 Net Interest Income after mortgage loan loss provision 15 Derivatives gains (losses) 16 Gains (losses) on securities 17 Total net gain (loss) on changes in fair value 18 Total OTTI credit charge 19 Other gains (losses) 20 Operating expenses 21 Other expenses 22 Income (loss) before assessments	8	Discount Notes										
Total Interest Expense 12 Net interest income 13 Provision (reversal) for credit losses on mortgage loans 14 Net Interest Income after mortgage loan loss provision 15 Derivatives gains (losses) 16 Gains (losses) on securities 17 Total net gain (loss) on changes in fair value 18 Total OTTI credit charge 19 Other gains (losses) 20 Operating expenses 21 Other expenses 22 Income (loss) before assessments	9	•	į									
12 Net interest income 13 Provision (reversal) for credit losses on mortgage loans 14 Net Interest Income after mortgage loan loss provision 15 Derivatives gains (losses) 16 Gains (losses) on securities 17 Total net gain (loss) on changes in fair value 18 Total OTTI credit charge 19 Other gains (losses) 20 Operating expenses 21 Other expenses 22 Income (loss) before assessments	-		į									
Provision (reversal) for credit losses on mortgage loans 14 Net Interest Income after mortgage loan loss provision 15 Derivatives gains (losses) 16 Gains (losses) on securities 17 Total net gain (loss) on changes in fair value 18 Total OTTI credit charge 19 Other gains (losses) 20 Operating expenses 21 Other expenses 22 Income (loss) before assessments 23 Total assessments	11	Total Interest Expense	į									
14 Net Interest Income after mortgage loan loss provision 15 Derivatives gains (losses) 16 Gains (losses) on securities 17 Total net gain (loss) on changes in fair value 18 Total OTTI credit charge 19 Other gains (losses) 20 Operating expenses 21 Other expenses 22 Income (loss) before assessments 23 Total assessments	12	Net interest income										
15 Derivatives gains (losses) 16 Gains (losses) on securities 17 Total net gain (loss) on changes in fair value 18 Total OTTI credit charge 19 Other gains (losses) 20 Operating expenses 21 Other expenses 22 Income (loss) before assessments 23 Total assessments	13	Provision (reversal) for credit losses on mortgage loans										
16 Gains (losses) on securities 17 Total net gain (loss) on changes in fair value 18 Total OTTI credit charge 19 Other gains (losses) 20 Operating expenses 21 Other expenses 22 Income (loss) before assessments 23 Total assessments	14	Net Interest Income after mortgage loan loss provision										
16 Gains (losses) on securities 17 Total net gain (loss) on changes in fair value 18 Total OTTI credit charge 19 Other gains (losses) 20 Operating expenses 21 Other expenses 22 Income (loss) before assessments 23 Total assessments	15	Derivatives gains (losses)										
Total net gain (loss) on changes in fair value Total OTTI credit charge Other gains (losses) Operating expenses Other expenses Income (loss) before assessments Total assessments			İ									
18 Total OTTI credit charge 19 Other gains (losses) 20 Operating expenses 21 Other expenses 22 Income (loss) before assessments 23 Total assessments		· · · · · · · · · · · · · · · · · · ·										
19 Other gains (losses) 20 Operating expenses 21 Other expenses 22 Income (loss) before assessments 23 Total assessments												
21 Other expenses 22 Income (loss) before assessments 23 Total assessments												
21 Other expenses 22 Income (loss) before assessments 23 Total assessments	20	Operating expenses	į									
22 Income (loss) before assessments 23 Total assessments		• • •										
23 Total assessments	۷1	Other expenses										
	22	Income (loss) before assessments	İ									
	23	Total assessments										
24 Net Income (Loss)	24	Net Income (Loss)										

Most Recent

Interest Income: 1 Advances 2 Whole loans held for portfolio 3 Investment Securities 4 Fed Funds 5 Other Interest Income 5 Total Interest Income Interest Expense: 7 CO Bonds 8 Discount Notes 9 Member Deposits 10 Other Interest Expense 11 Total Interest Expense 12 Net Interest Expense 13 Provision (reversal) for credit losses on mortgage loans 14 Net Interest Income after mortgage loan loss provision 15 Derivatives gains (losses) 16 Gains (losses) on securities 17 Total net gain (loss) on changes in fair value 18 Total OTTI credit charge 19 Other gains (losses) 20 Operating expenses 21 Income (loss) before assessments 23 Total assessments 24 Net Income (Loss)	Inc	come Statement - Replacement (SEVERELY ADVERSE)	Quarter	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9
1 Advances 2 Whole loans held for portfolio 3 Investment Securities 4 Fed Funds 5 Other Interest Income 6 Total Interest Income Interest Expense: 7 CO Bonds 8 Discount Notes 9 Member Deposits 10 Other Interest Expense 11 Total Interest Expense 12 Net interest Expense 13 Provision (reversal) for credit losses on mortgage loans 14 Net Interest Income after mortgage loan loss provision 15 Derivatives gains (losses) 16 Gains (losses) on securities 17 Total net gain (loss) on changes in fair value 18 Total OTTI Credit Charge 19 Other gains (losses) 20 Operating expenses 21 Other expenses 22 Income (loss) before assessments												
Whole toans held for portfolio Investment Securities Fed Funds Other Interest Income Total Interest Income Interest Expense: CO Bonds Discount Notes Member Deposits Other Interest Expense Total Interest Expense Nember Deposits Other Interest Expense Very Interest Expense Net Interest Expense Very Interest Expense Very Interest Expense Very Interest Expense Very Interest Income Response Very Interest Income Very Interest Income Servatives gains (losses on mortgage loans) Net Interest Income after mortgage loan loss provision Derivatives gains (losses) Gains (losses) on securities Total net gain (loss) on changes in fair value Total OTTI credit charge Other gains (losses) Operating expenses Operating expenses Operating expenses Common (loss) before assessments												
3 Investment Securities 4 Fed Funds 5 Other Interest Income 6 Total Interest Income Interest Expense: 7 CO Bonds 8 Discount Notes 9 Member Deposits 10 Other Interest Expense 11 Total Interest Expense 12 Net interest Expense 13 Provision (reversal) for credit losses on mortgage loans 14 Net Interest Income after mortgage loan loss provision 15 Derivatives gains (losses) 16 Gains (losses) on securities 17 Total net gain (loss) on changes in fair value 18 Total OTTI credit charge 19 Other gains (losses) 20 Operating expenses 21 Other expenses 22 Income (loss) before assessments	1											
4 Fed Funds 5 Other Interest Income 6 Total Interest Income Interest Expense: 7 CO Bonds 8 Discount Notes 9 Member Deposits 10 Other Interest Expense 11 Total Interest Expense 12 Net interest income 13 Provision (reversal) for credit losses on mortgage loans 14 Net Interest Income after mortgage loan loss provision 15 Derivatives gains (losses) 16 Gains (losses) on securities 17 Total net gain (loss) on changes in fair value 18 Total OTTI credit charge 19 Other gains (losses) 20 Operating expenses 21 Other expenses 22 Income (loss) before assessments		•										
Total Interest Income Interest Expense: CO Bonds Discount Notes Member Deposits Other Interest Expense Total Interest Expense Member Deposits Other Interest Expense Total Interest Expense Provision (reversal) for credit losses on mortgage loans Net Interest Income after mortgage loan loss provision Derivatives gains (losses) Cains (losses) on securities Total OTTI credit charge Other gains (losses) Other gains (losses) Other gains (losses) Coperating expenses Coperating expenses Coperating expenses Company to the deposition of the provision												
Interest Expense: CO Bonds Discount Notes Member Deposits Other Interest Expense Total Interest Expense Total Interest Expense Provision (reversal) for credit losses on mortgage loans Provision (reversal) for credit losses on mortgage loans Pervatives gains (losses) Derivatives gains (losses) Gains (losses) on securities Total OTTI credit charge Other gains (losses) Operating expenses Operating expenses Concerning the mortal desired assessments Total assessments	•											
Interest Expense: 7 CO Bonds 8 Discount Notes 9 Member Deposits 10 Other Interest Expense 11 Total Interest Expense 12 Net interest income 13 Provision (reversal) for credit losses on mortgage loans 14 Net Interest Income after mortgage loan loss provision 15 Derivatives gains (losses) 16 Gains (losses) on securities 17 Total net gain (loss) on changes in fair value 18 Total OTTI credit charge 19 Other gains (losses) 20 Operating expenses 21 Other expenses 22 Income (loss) before assessments												
7 CO Bonds 8 Discount Notes 9 Member Deposits 10 Other Interest Expense 11 Total Interest Expense 12 Net interest income 13 Provision (reversal) for credit losses on mortgage loans 14 Net Interest Income after mortgage loan loss provision 15 Derivatives gains (losses) 16 Gains (losses) on securities 17 Total net gain (loss) on changes in fair value 18 Total OTTI credit charge 19 Other gains (losses) 20 Operating expenses 21 Other expenses 22 Income (loss) before assessments	ь	i otal interest income										
8 Discount Notes 9 Member Deposits 10 Other Interest Expense 11 Total Interest Expense 12 Net interest income 13 Provision (reversal) for credit losses on mortgage loans 14 Net Interest Income after mortgage loan loss provision 15 Derivatives gains (losses) 16 Gains (losses) on securities 17 Total net gain (loss) on changes in fair value 18 Total OTTI credit charge 19 Other gains (losses) 20 Operating expenses 21 Other expenses 22 Income (loss) before assessments		Interest Expense:										
9 Member Deposits 10 Other Interest Expense 11 Total Interest Expense 12 Net interest income 13 Provision (reversal) for credit losses on mortgage loans 14 Net Interest Income after mortgage loan loss provision 15 Derivatives gains (losses) 16 Gains (losses) on securities 17 Total net gain (loss) on changes in fair value 18 Total OTTI credit charge 19 Other gains (losses) 20 Operating expenses 21 Other expenses 22 Income (loss) before assessments	7	CO Bonds										
Other Interest Expense Total Interest Expense 12 Net interest income 13 Provision (reversal) for credit losses on mortgage loans 14 Net Interest Income after mortgage loan loss provision 15 Derivatives gains (losses) 16 Gains (losses) on securities 17 Total net gain (loss) on changes in fair value 18 Total OTTI credit charge 19 Other gains (losses) 20 Operating expenses 21 Other expenses 22 Income (loss) before assessments	8	Discount Notes										
Total Interest Expense 12 Net interest income 13 Provision (reversal) for credit losses on mortgage loans 14 Net Interest Income after mortgage loan loss provision 15 Derivatives gains (losses) 16 Gains (losses) on securities 17 Total net gain (loss) on changes in fair value 18 Total OTTI credit charge 19 Other gains (losses) 20 Operating expenses 21 Other expenses 22 Income (loss) before assessments 23 Total assessments	9	Member Deposits										
12 Net interest income 13 Provision (reversal) for credit losses on mortgage loans 14 Net Interest Income after mortgage loan loss provision 15 Derivatives gains (losses) 16 Gains (losses) on securities 17 Total net gain (loss) on changes in fair value 18 Total OTTI credit charge 19 Other gains (losses) 20 Operating expenses 21 Other expenses 22 Income (loss) before assessments 23 Total assessments	10	Other Interest Expense										
13 Provision (reversal) for credit losses on mortgage loans 14 Net Interest Income after mortgage loan loss provision 15 Derivatives gains (losses) 16 Gains (losses) on securities 17 Total net gain (loss) on changes in fair value 18 Total OTTI credit charge 19 Other gains (losses) 20 Operating expenses 21 Other expenses 22 Income (loss) before assessments	11	Total Interest Expense										
14 Net Interest Income after mortgage loan loss provision 15 Derivatives gains (losses) 16 Gains (losses) on securities 17 Total net gain (loss) on changes in fair value 18 Total OTTI credit charge 19 Other gains (losses) 20 Operating expenses 21 Other expenses 22 Income (loss) before assessments 23 Total assessments	12	Net interest income										
15 Derivatives gains (losses) 16 Gains (losses) on securities 17 Total net gain (loss) on changes in fair value 18 Total OTTI credit charge 19 Other gains (losses) 20 Operating expenses 21 Other expenses 22 Income (loss) before assessments 23 Total assessments	13	Provision (reversal) for credit losses on mortgage loans										
16 Gains (losses) on securities 17 Total net gain (loss) on changes in fair value 18 Total OTTI credit charge 19 Other gains (losses) 20 Operating expenses 21 Other expenses 22 Income (loss) before assessments 23 Total assessments	14	Net Interest Income after mortgage loan loss provision										
16 Gains (losses) on securities 17 Total net gain (loss) on changes in fair value 18 Total OTTI credit charge 19 Other gains (losses) 20 Operating expenses 21 Other expenses 22 Income (loss) before assessments 23 Total assessments	15	Derivatives gains (losses)										
17 Total net gain (loss) on changes in fair value 18 Total OTTI credit charge 19 Other gains (losses) 20 Operating expenses 21 Other expenses 22 Income (loss) before assessments 23 Total assessments				l								
18 Total OTTI credit charge 19 Other gains (losses) 20 Operating expenses 21 Other expenses 22 Income (loss) before assessments 23 Total assessments				l								
19 Other gains (losses) 20 Operating expenses 21 Other expenses 22 Income (loss) before assessments 23 Total assessments												
21 Other expenses 22 Income (loss) before assessments 23 Total assessments		· · · · · · · · · · · · · · · · · · ·										
21 Other expenses 22 Income (loss) before assessments 23 Total assessments	20	Operating expenses										
22 Income (loss) before assessments 23 Total assessments		, , ,										
23 Total assessments	21	Other expenses										
	22	Income (loss) before assessments										
24 Net Income (Loss)	23	Total assessments										
	24	Net Income (Loss)										

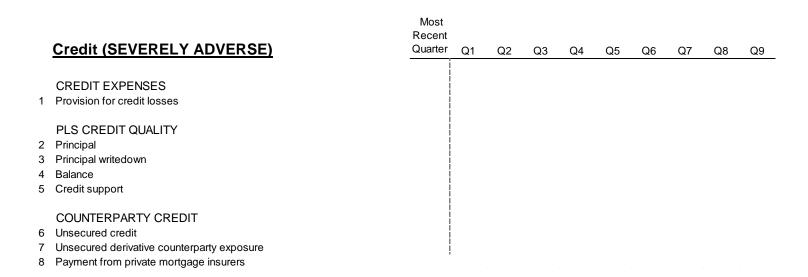
	Most									
	Recent									
Balance Sheet-Aggregate (SEVERELY ADVERSE)	Quarter	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9
ASSETS	į									
1 Advances	į									
2 Investment Securities	į									
3 Mortgage Loans	į									
4 Allowance for loan losses	į									
5 Fed Funds	į									
6 Other assets	į									
7 Total assets	ł									
LIABILITIES										
8 CO bonds	į									
9 Discount notes	į									
10 Member deposits	ļ									
11 Other liabilities	ł									
12 Total liabilities										
CAPITAL	į									
13 Class B capital stock										
14 Class A capital stock	ļ									
15 Capital stock pre-conversion	ŀ									
16 Retained earnings (unrestricted)										
17 Retained earnings (restricted)	į									
18 Accumulated other comprehensive income (loss)	į									
19 Total capital										
20 Total liabilities and capital	1									

Most Recent **Balance Sheet - Existing (SEVERELY ADVERSE)** Quarter Q1 Q2 Q3 Q4 Q5 Q6 Q7 Q8 Q9 **ASSETS** 1 Advances 2 Investment Securities 3 Mortgage Loans 4 Allowance for loan losses 5 Fed Funds 6 Other assets **Total assets** LIABILITIES 8 CO bonds 9 Discount notes 10 Member deposits 11 Other liabilities **Total liabilities** 12 **CAPITAL** 13 Class B capital stock 14 Class A capital stock 15 Capital stock pre-conversion 16 Retained earnings (unrestricted) 17 Retained earnings (restricted) 18 Accumulated other comprehensive income (loss) 19 Total capital 20 Total liabilities and capital

Most Recent

Balance Sheet - Replacement (SEVERELY ADVERSE)	Recent Quarter	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9
ASSETS 1 Advances 2 Investment Securities 3 Mortgage Loans 4 Allowance for loan losses 5 Fed Funds 6 Other assets 7 Total assets										
LIABILITIES 8 CO bonds 9 Discount notes 10 Member deposits 11 Other liabilities 12 Total liabilities										
CAPITAL 13 Class B capital stock 14 Class A capital stock 15 Capital stock pre-conversion 16 Retained earnings (unrestricted) 17 Retained earnings (restricted) 18 Accumulated other comprehensive income (loss) 19 Total capital										
20 Total liabilities and capital										

<u>Ca</u>	pital Roll Forward (SEVERELY ADVERSE)	Most Recent Quarter	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9
1 2 3 4 5 6	CAPITAL Beginning Capital Net Income Less: Dividends Other Capital Actions Change in AOCI Other										
7	Ending Capital										
8 Ca	Regulatory Capital pital Ratios	 									
9 10 11	Regulatory Capital Leverage Capital Permanent Capital	 									



Global Market Shock (SEVERELY ADVERSE)

Q1 Loss

Private Label Securities (PLS) or Non-Agency Prices for Residential Mortgage-backed Securities (RMBS), Asset-based Securities (ABS), Commercial Mortgage-

- 1 backed Securities (CMBS) and other collateral
- 2 Agency Securities Option-Adjusted Spread
- 3 Municipal Securities
- 4 Counterparty Default Risk*
- * Please provide the name and type (eg: derivatives, repo, etc.) of the largest counterparty below:

Global Market Shock (SEVERELY ADVERSE)

Q1 Loss

TRADING SECURITIES

Private Label Securities (PLS) or Non-Agency Prices for Residential Mortgage-backed Securities (RMBS), Asset-based Securities (ABS), Commercial Mortgage-backed

- 1 Securities (CMBS) and other collateral
- 2 Agency Securities Option-Adjusted Spread
- 3 Municipal Securities

AVAILABLE-FOR-SALE SECURITIES

Private Label Securities (PLS) or Non-Agency Prices for Residential Mortgage-backed Securities (RMBS), Asset-based Securities (ABS), Commercial Mortgage-backed

- 4 Securities (CMBS) and other collateral
- 5 Agency Securities Option-Adjusted Spread
- 6 Municipal Securities

(*Credit ratings should be as of December 31, 2016)

Grand Agency Sub- Option Other Non- RMBS RMBS Credit Basket Prime ABX Wh.	ans Loans R	opean Other / Unspecified \$
AA Total Pre 2006 2006 2007 Post 2007 Post 2007 Post 2007 Post 2007 Post 2007 Post 2006 S0 S0 S0 S0 S0 S0 S0 S0 S0 S0 S0 S0 S0	\$0 \$0	
06		\$0 \$0
\$0		\$0 \$0
SO SO SO SO SO SO SO SO		\$0 \$0
2 2006 50		\$0 \$0
07	0 \$0	
Specified Vintage	0 \$0	
SO SO SO SO SO SO SO SO	0 \$0	
06		\$0 \$0
77		
specified Vintage \$0		
Total \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0		
Total \$0 50 50 50 50 50 50 50 50 50 50 50 50 50	50 \$0	\$0 \$0
16 SO SO SO SO SO SO SO SO SO SO SO SO SO		
t 2007 \$0		
\$0	so \$0	\$0 \$0
2006 \$0		40
06 \$0 50 50 50 50 50 50 50 50 50 50 50 50 50		
st 2007 S0 Specified Vintage S0 S0 S0 S0 S0 S0 S0 S0 S0 S0 S0 S0 S0		
tal \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0	0 \$0	\$0 \$0
2006		
07		
specified Vintage \$0		
Total \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0	50 \$0	\$0 \$0
06 \$0		
st 2007 \$0 Specified Vintage \$0		
	50 \$0	\$0 \$0
2006 \$0		
07 \$0		
st 2007 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0		
al \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0	60 \$0	\$0 \$0
ofit/Loss (\$MM)		
A Total \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0	50 \$0	\$0 \$0
06		-
set 2007 \$0 specified Vintage \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0		
	0 \$0	\$0 \$0
e 2006 \$0		
007		
sst 2007 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0		
otal \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0	50 \$0	\$0 \$0
17		
77 \$0 \$0 \$1 \$0 \$207 \$50 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0	0 60	\$0 \$0
77 \$0 \$1 \$0 \$1 \$2007 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0	50 \$0	\$0 \$0
77 \$0 \$1 \$0 \$1 \$2007 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0	0 \$0	\$0 \$0
17	0 \$0	\$0 \$0
17		\$0 \$0
S0 S0 S0 S0 S0 S0 S0 S0		
77		
7	\$0	\$0 \$0
77	\$0	
7	\$0	\$0 \$0
7	\$0	\$0 \$0
\$0	50 50	\$0 \$0
S	50 50	\$0 \$0
\$0	50 50	\$0 \$0
\$0	50 50	\$0 \$0
\$0	50 \$0 50 \$0 50 \$0	\$0 \$0
\$0	50 \$0 50 \$0 50 \$0	\$0 \$0
\$0	50 \$0 50 \$0 50 \$0	\$0 \$0
SO SO SO SO SO SO SO SO	50 \$0 50 \$0 50 \$0	\$0 \$0

(*Credit ratings should be a	s of Decem	ber 31, 2	016)									וסוסנ	JioSui	e to F	пга	ONLY)						
						ABS	Index		ı	Cash Non-				CMBS			1	Co	orporate CDO	/ CLO Corporate		Warehous	e
	Grand Total	Autos	Credit Cards	Student	ABS CDS	Credit Basket	Tranche	Other / Unspecified	ABS SubTotal	Agency	CMBS CDS	CMBS	Credit Basket	Index Tranches	Whole	Other / Unspecified	CMBS SubTotal	CLO	Other / Unspecified	CDO/CLO	Total Size	Total Protection	Other / Unspecified
MV* (\$MM)		•																					
AAA Total Pre 2006	\$0 \$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0 \$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0 \$0	\$0	\$0	\$0 \$0	\$0	\$0	\$0
2006 2007	\$0 \$0								\$0 \$0								\$0 \$0			\$0 \$0			
Post 2007 Unspecified Vintage	\$0 \$0								\$0 \$0								\$0 \$0			\$0 \$0			
AA Total	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Pre 2006 2006	\$0 \$0								\$0 \$0								\$0 \$0			\$0 \$0			
2007 Post 2007	\$0 \$0								\$0 \$0								\$0 \$0			\$0 \$0			
Unspecified Vintage	\$0								\$0								\$0			\$0			
A Total Pre 2006	\$0 \$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0 \$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0 \$0	\$0	\$0	\$0 \$0	\$0	\$0	\$0
2006 2007	\$0 \$0								\$0 \$0								\$0 \$0			\$0 \$0			-
Post 2007 Unspecified Vintage	\$0 \$0								\$0 \$0								\$0 \$0			\$0 \$0			
BBB Total	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Pre 2006 2006	\$0 \$0								\$0 \$0								\$0 \$0			\$0 \$0			
2007 Post 2007	\$0 \$0								\$0 \$0								\$0 \$0			\$0 \$0			
Unspecified Vintage	\$0								\$0								\$0			\$0			
BB Total Pre 2006	\$0 \$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0 \$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0 \$0	\$0	\$0	\$0 \$0	\$0	\$0	\$0
2006 2007	\$0 \$0								\$0 \$0								\$0 \$0			\$0 \$0			
Post 2007 Unspecified Vintage	\$0 \$0								\$0 \$0								\$0 \$0			\$0 \$0			
B Total	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Pre 2006 2006	\$0 \$0								\$0 \$0								\$0 \$0			\$0 \$0			
2007 Post 2007	\$0 \$0								\$0 \$0								\$0 \$0			\$0 \$0			
Unspecified Vintage	\$0								\$0								\$0			\$0			
<b total<br="">Pre 2006	\$0 \$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0 \$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0 \$0	\$0	\$0	\$0 \$0	\$0	\$0	\$0
2006 2007	\$0 \$0								\$0 \$0								\$0 \$0			\$0 \$0			
Post 2007 Unspecified Vintage	\$0 \$0								\$0 \$0								\$0 \$0			\$0 \$0			
NR Total	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Pre 2006 2006	\$0 \$0								\$0 \$0								\$0 \$0			\$0 \$0			
2007 Post 2007	\$0 \$0								\$0 \$0								\$0 \$0			\$0 \$0			
Unspecified Vintage	\$0								\$0								\$0			\$0			<u> </u>
Total	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Profit/Loss (\$MM) AAA Total	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Pre 2006 2006	\$0 \$0				H			•	\$0 \$0				,-			•	\$0 \$0	**		\$0 \$0	**		
2007 Post 2007	\$0 \$0								\$0 \$0								\$0 \$0			\$0 \$0			
Unspecified Vintage	\$0								\$0								\$0			\$0			
AA Total Pre 2006	\$0 \$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0 \$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0 \$0	\$0	\$0	\$0 \$0	\$0	\$0	\$0
2006 2007	\$0 \$0								\$0 \$0								\$0 \$0			\$0 \$0			
Post 2007	\$0 \$0								\$0 \$0								\$0 \$0			\$0			
Unspecified Vintage A Total	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0 \$0	\$0	\$0	\$0
Pre 2006 2006	\$0 \$0				H				\$0 \$0								\$0 \$0			\$0 \$0			
2007 Post 2007	\$0 \$0								\$0 \$0								\$0 \$0			\$0 \$0			
Unspecified Vintage	\$0								\$0								\$0			\$0			
BBB Total Pre 2006	\$0 \$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0 \$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0 \$0	\$0	\$0	\$0 \$0	\$0	\$0	\$0
2006 2007	\$0 \$0								\$0 \$0								\$0 \$0			\$0 \$0			
Post 2007 Unspecified Vintage	\$0 \$0 \$0								\$0								\$0 \$0 \$0			\$0			
Unspecified Vintage BB Total	\$0 \$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0 \$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0 \$0	\$0	\$0	\$0 \$0	\$0	\$0	\$0
Pre 2006 2006	\$0 \$0								\$0 \$0								\$0 \$0			\$0 \$0			
2007 Post 2007	\$0 \$0								\$0 \$0								\$0 \$0			\$0 \$0			
Unspecified Vintage	\$0								\$0								\$0			\$0			
B Total Pre 2006	\$0 \$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0 \$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0 \$0	\$0	\$0	\$0 \$0	\$0	\$0	\$0
2006 2007	\$0 \$0								\$0 \$0								\$0 \$0			\$0 \$0			1
Post 2007	\$0								\$0								\$0			\$0			1
Unspecified Vintage <b td="" total<=""><td>\$0 \$0</td><td>\$0</td><td>\$0</td><td>\$0</td><td>\$0</td><td>\$0</td><td>\$0</td><td>\$0</td><td>\$0 \$0</td><td>\$0</td><td>\$0</td><td>\$0</td><td>\$0</td><td>\$0</td><td>\$0</td><td>\$0</td><td>\$0 \$0</td><td>\$0</td><td>\$0</td><td>\$0 \$0</td><td>\$0</td><td>\$0</td><td>\$0</td>	\$0 \$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0 \$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0 \$0	\$0	\$0	\$0 \$0	\$0	\$0	\$0
Pre 2006 2006	\$0 \$0								\$0 \$0								\$0 \$0			\$0 \$0			
2007	\$0								\$0								\$0			\$0			
Post 2007 Unspecified Vintage	\$0 \$0								\$0 \$0								\$0 \$0			\$0 \$0			
NR Total Pre 2006	\$0 \$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0 \$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0 \$0	\$0	\$0	\$0 \$0	\$0	\$0	\$0
2006 2007	\$0 \$0 \$0								\$0 \$0 \$0								\$0 \$0 \$0			\$0 \$0 \$0			
Post 2007	\$0								\$0								\$0			\$0			
Unspecified Vintage Total	\$0 \$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0 \$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0 \$0	\$0	\$0	\$0 \$0	\$0	\$0	\$0
. Juli	φυ	φU	ψU	ψÜ	φU	ψU	ψU	ψU	ψU	ψU	φU	ψU	ΨU	ΨU	ψU	ψU	φU	φU	ΨU	ψU	ΨU	ψU	ΨU

Trading and Other Fair Value Assets Munis (Severely Adverse)

	MV (\$MM)	M∨ (\$MM)	Profit/Loss	Profit/Loss
	Available-for-Sale	Trading	from OAS	from OAS
	Securities	Securities	Widening	Widening
Bonds			(AFS)	(Trading Secs)
AAA				1
AA				
A				
BBB				
ВВ				
В				_
<b NR</b 				+
Bonds Total	\$0	\$0	\$0	\$0
1M	40	4 5	45	+
3M				
6M				
9M				
1Y				<u> </u>
2Y				
3Y 5Y				1
7Y				†
10Y				
15Y				1
20Y				
30Y				
Bonds Total	\$0	\$0	\$0	\$0
1				
Loans AAA		1		Т
AA				1
A	 			†
ВВВ				1
вв				
В				
<b< td=""><td></td><td></td><td></td><td></td></b<>				
NR	. -	4.5		
Loans Total	\$0	\$0	\$0	\$0
1M 3M				+
6M				
9M				
1Y				
2Y				
3Y				
5Y				<u> </u>
7Y 10Y				
15Y				+
20Y				+
30Y				
Loans Total	\$0	\$0	\$0	\$0
			•	
CDS			<u></u>	
AAA				<u> </u>
AA				1
A				+
BBB BB				†
В				†
<b< td=""><td></td><td></td><td></td><td></td></b<>				
NR				
CDS Total	\$0	\$0	\$0	\$0
1M				
3M 6M				+
9M				+
1Y				†
2Y				1
3Y				
5Y				
7Y				ļ
10Y				<u> </u>
15Y				+
20Y 30Y				+
CDS Total	\$0	\$0	\$0	\$0
020 10101	ΨΟ	ΨΟ	Ψ0	Ψυ

Trading and Other Fair Value Assets Munis (Severely Adverse)

	M∨ (\$MM)	M∨ (\$MM)	Profit/Loss	Profit/Loss
	Available-for-Sale	Trading	from OAS	from OAS
	Securities	Securities	Widening	Widening
			(AFS)	(Trading Secs)
Indices				_
AAA				
AA				
A				
BBB BB	-			+
В				
В <В				
NR				+
Indices Total	\$0	\$0	\$0	\$0
1M			**	***
3M				
6M				
9M				
1Y				
2Y				
3Y				
5Y				
7Y				
10Y				
15Y				
20Y				
30Y		,		
Indices Total	\$ 0	\$0	\$0	\$0
Other / Unspecified Munis				1
AAA				4
AA	-			_
A				4
BBB				
BB				
В	-			-
<b< td=""><td></td><td></td><td></td><td></td></b<>				
NR Other / Unspecified Munis Total	\$0	\$0	\$0	\$0
1M	\$0	\$0	40	40
3M				
6M				+
9M				
1Y				1
2Y				
3Y				
5Y				
7Y				
10Y				
15Y				
20Y				
30Y				
Other / Unspecified Munis Total	\$0	\$0	\$0	\$0
			<u> </u>	·
Grand Total				
AAA	\$O	\$0	<u>\$0</u>	\$0
AA	\$O	\$0	\$O	\$0
A	\$0	\$0	\$O	\$0
BBB	\$0	\$0	\$0	\$0
BB	\$0	\$0	\$0 \$0	\$0
B	\$0	\$0	\$0	\$0
<b< td=""><td>\$0</td><td>\$0</td><td>\$0</td><td>\$0</td></b<>	\$0	\$0	\$0	\$0
NR Grand Total	\$0 \$0	\$0 \$0	\$0 \$0	\$0 \$0
1M	\$0	\$0 \$0	\$0 \$0	\$0
3M	\$0	\$0 \$0	\$0 \$0	\$0
6M	\$0	\$0 \$0	\$0 \$0	\$0
9M	\$0	\$0 \$0	\$0 \$0	\$0
1Y	\$0	\$0	\$0	\$0
2Y	\$0	\$0	\$0	\$0
3Y	\$0	\$0	\$0	\$0
5Y	\$0	\$0	\$0	\$0
7Y	\$0	\$0	\$0	\$0
10Y	\$0	\$0	\$0	\$0
15Y	\$0	\$0	\$0	\$0
20Y	\$O	\$0	\$0	\$0
30Y	\$0	\$0	\$0	\$0
Grand Total	\$0	\$0	\$0	\$0

Trading & Other Fair Value Assets Template Agencies (Severely Adverse)

erely Adverse)				
	MV (\$MM) Available-for-Sale Securities	MV (\$MM) Trading Securities	Profit/Loss from OAS Widening (AFS)	Profit/Loss from OAS Widening (Trading Secs)
US Residential Agency Products	s		<u> </u>	, ,
IOs				
POs				
Other CMOs				
Pass-Throughs				
Agency Debt/Debentures				
IOS Index				
POS Index				
MBX Index				
Other Agency Derivatives				
TBA's				
Reverse Mortgages				
Residential Other / Unspecified				
Total	\$0	\$0	\$0	\$0
US Commercial Agency Produc Cash Agency CMBS Agency CMBS Derivatives Commercial Other / Unspecified		40		
Total	\$0	\$0	\$0	\$0
Non-US Agency Products				
AAA				
AA				
A				
BBB				
BB				
В				
<b< td=""><td></td><td></td><td></td><td></td></b<>				
NR	**	**	**	**
Total	\$0	\$0	\$0	\$0

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

Cumulative Projected Financial Metrics (Q1 2017 - Q1 2019)

- 1 Net interest income + other non-interest income, net
- 2 (Provision) benefit for credit losses on mortgage loans
- 3 OTTI credit losses
- 4 Mark-to-market gains (losses)
- 5 Global market shock impact on trading securities
- 6 Counterparty default losses
- 7 AHP assessments
- 8 Net income (loss)
- 9 Other comprehensive income (loss)
- 10 Total comprehensive income (loss)
- 11 Total capital (GAAP) starting
- 12 Total capital (GAAP) ending
- 13 Regulatory capital ratio starting
- 14 Regulatory capital ratio ending

Appendix 4: Baseline Scenario - Domestic

	Real	Nominal	Real disposable	Nominal disposable	Unemployment	CPI inflation	3-month	5-year	10-year	BBB corporate			Dow Jones Total Stock	House Price	Commercial Real Estate	Market Volatility
<u>Date</u>	GDP	GDP growth	income	income	rate	rate	Treasury rate	Treasury yield	Treasury yield	yield	Mortgage rate	Prime rate	Market Index	<u>Index</u>	Price Index	Index
	growth_		growth	growth									(Level)	(Level)	(Level)	(Level)
2002 Q1	3.7	5.1	10.1	10.9	5.7	1.3	1.7	4.5	5.4	7.6	7.0	4.8	10775.7	120.3	137.4	26.1
2002 Q2	2.2	3.8	2.0	5.2	5.8	3.2	1.7	4.5	5.4	7.6	6.8	4.8	9384.0	123.4	135.8	28.4
2002 Q3	2.0	3.8	-0.5	1.5	5.7	2.2	1.6	3.4	4.5	7.3	6.2	4.8	7773.6	126.5	138.7	45.1
2002 Q4	0.3	2.4	1.9	3.8	5.9	2.4	1.3	3.1	4.3	7.0	6.1	4.5	8343.2	129.2	142.5	42.6
2003 Q1	2.1	4.6	1.1		5.9	4.2	1.2		4.2		5.8	4.3	8051.9	131.8	147.9	
2003 Q2		5.1	5.9	6.3	6.1	-0.7	1.0	2.6	3.8	5.7	5.5	4.2	9342.4	134.6	149.2	
2003 Q3	6.9	9.3	6.7	9.3	6.1	3.0	0.9	3.1	4.4	6.0	6.1	4.0	9649.7	138.5	147.3	
2003 Q4	4.8	6.8	1.6		5.8	1.5	0.9		4.4	5.8	5.9		10799.6	143.0	145.7	21.1
2004 Q1	2.3	5.9	2.9		5.7	3.4	0.9	3.0	4.1	5.5	5.6	4.0	11039.4	148.0	152.9	21.6
2004 Q2		6.6	4.0	7.0	5.6	3.2	1.1		4.7	6.1	6.2		11144.6	153.9	160.4	20.0
2004 Q3		6.3	2.1	4.5	5.4	2.6	1.5		4.4	5.8	5.9	4.4	10893.8	159.4	171.8	
2004 Q4	3.5	6.4	5.1	8.5	5.4	4.4	2.0		4.3	5.4	5.7	4.9	11951.5	165.3	175.8	16.6
2005 Q1	4.3	8.3	-3.8	-1.8	5.3	2.0	2.5		4.4	5.4	5.8	5.4	11637.3	172.2	175.8	
2005 Q2		5.1	3.2			2.7	2.9		4.2		5.7	5.9	11856.7		182.3	
2005 Q3		7.3	2.1	6.6	5.0	6.2	3.4		4.3	5.5	5.8		12282.9	185.2	187.1	14.2
2005 Q4		5.4	3.4				3.8		4.6		6.2		12497.2		195.4	
2006 Q1	4.9	8.2	9.5		4.7	2.1	4.4		4.7	6.0	6.3		13121.6		200.0	
2006 Q2	1.2	4.5	0.6		4.6	3.7	4.7		5.2		6.6		12808.9		209.0	
2006 Q3		3.2	1.2		4.6	3.8	4.9		5.0	6.4	6.5		13322.5		218.6	
2006 Q4	3.2	4.6	5.3			-1.6	4.9		4.7	6.1	6.2		14215.8		217.3	
2007 Q1	0.2	4.8	2.6		4.5	4.0	5.0		4.8	6.1	6.2		14354.0		227.1	19.6
2007 Q2	3.1	5.4	0.8		4.5	4.6	4.7		4.9	6.3	6.4		15163.1		236.4	18.9
2007 Q3	2.7	4.2	1.1	3.4	4.7	2.6	4.3		4.8	6.5	6.5		15317.8		249.1	30.8
2007 Q4	1.4	3.2	0.3		4.8	5.0	3.4		4.4	6.4	6.2		14753.6		251.5	
2008 Q1	-2.7	-0.5	2.9		5.0	4.4	2.1		3.9		5.9		13284.1		239.9	
2008 Q2		4.0	8.7		5.3	5.3	1.6		4.1	6.8	6.1		13016.4		223.9	
2008 Q3	-1.9	0.8	-8.9		6.0	6.3	1.5		4.1	7.2	6.3		11826.0		233.4	46.7
2008 Q4	-8.2	-7.7	2.6		6.9	-8.9	0.3		3.7	9.4	5.8		9056.7	141.5	222.5	80.9
2009 Q1	-5.4	-4.5	-0.8			-2.7	0.2		3.2		5.0		8044.2		208.9	56.7
2009 Q2	-0.5	-1.2	2.9		9.3	2.1	0.2		3.7	8.2	5.1	3.3	9342.8		178.5	
2009 Q3		1.2	-4.3				0.2		3.8		5.1		10812.8		154.0	31.3
2009 Q4		5.2	-0.5		9.9	3.2	0.1		3.7	6.1	4.9		11385.1		155.2	
2010 Q1	1.7	3.2	0.4			0.6	0.1		3.9	5.8	5.0		12032.5		149.8	
2010 Q2		5.8	5.3			-0.1	0.1		3.6		4.8		10645.8		164.5	
2010 Q3		4.6	2.0		9.5	1.2	0.2		2.9		4.4		11814.0		166.9	32.9
2010 Q4	2.5	4.7	2.8	5.0	9.5	3.3	0.1	1.5	3.0	5.0	4.5	3.3	13131.5	133.5	172.7	23.5

Appendix 4: Baseline Scenario - Domestic (Cont.)

<u>Date</u>	Real GDP	Nominal	<u>Real</u> disposable	Nominal disposable	Unemployment	CPI inflation	3-month	5-year	10-year	BBB corporate	Mortgage rate	Prime rate	Dow Jones Total Stock	House Price	Commercial Real Estate	<u>Market</u> <u>Volatility</u>
Date	growth	GDP growth	<u>income</u>	income	<u>rate</u>	<u>rate</u>	Treasury rate	Treasury yield	Treasury yield	<u>yield</u>	WOTEGAGE TALE	rime race	Market Index	(Level)	Price Index	<u>Index</u>
2011.01			growth	growth	0.0		0.1		0.5			2.2	(Level)		(Level)	(Level)
2011 Q1	-1.5	0.2	5.0	8.2 3.5	9.0		0.1		3.5		4.9		13908.5			
2011 Q2	2.9	6.0 3.3	-0.6 2.1	3.5 4.3	9.1 9.0	4.6	0.0	1.8	3.3 2.5	5.1 4.9	4.6 4.2		13843.5 11676.5			
2011 Q3 2011 Q4	0.8 4.6	5.2	0.2	1.6	9.0 8.6	2.6 1.8	0.0	1.1 1.0	2.5	4.9 5.0	4.2		13019.3	132.3		
2011 Q4 2012 Q1	2.7	4.9	6.7	9.2	8.3	2.4	0.0	0.9	2.1	4.7	3.9		14627.5			
2012 Q1 2012 Q2	1.9	3.8	3.1	4.4	8.2	0.8	0.1	0.8	1.8	4.7	3.8		14100.2			
2012 Q2 2012 Q3	0.5	2.7	-0.2	1.1	8.0	1.6	0.1	0.7	1.6	4.2	3.5		14894.7	139.9		
2012 Q3 2012 Q4	0.3	1.7	10.9	13.3	7.8	2.9	0.1	0.7	1.7	3.9	3.4		14834.9	142.9		
2012 Q4 2013 Q1	2.8	4.4	-15.7	-14.5	7.7	1.6	0.1	0.8	1.9	4.0	3.5		16396.2			
2013 Q2	0.8	1.6	2.4	2.5	7.5	-0.5	0.1	0.9	2.0	4.1	3.7		16771.3	150.6		
2013 Q3	3.1	5.1	2.4	3.9	7.3	2.0	0.0	1.5	2.7	4.9	4.4		17718.3	154.4		
2013 Q4	4.0	6.1	0.9	2.6	6.9	1.9	0.1	1.4	2.8	4.8	4.3		19413.2	157.5		
2014 Q1	-1.2	0.6	4.5	6.6	6.7	2.4	0.0	1.6	2.8	4.6	4.4		19711.2			
2014 Q2	4.0	6.3	5.3	7.3	6.2	1.9	0.0	1.7	2.7	4.3	4.2		20568.7	160.8		
2014 Q3	5.0	6.7	4.1	5.2	6.1	0.9	0.0	1.7	2.5	4.2	4.1	3.3	20458.8	162.9	244.8	17.0
2014 Q4	2.3	2.8	4.3	4.3	5.7	-0.3	0.0	1.6	2.3	4.2	3.9	3.3	21424.6	165.4	253.0	26.3
2015 Q1	2.0	2.1	2.0	0.3	5.6	-2.9	0.0	1.5	2.0	4.0	3.7	3.3	21707.6	167.8	261.6	22.4
2015 Q2	2.6	4.9	3.9	5.8	5.4	2.4	0.0	1.5	2.2	4.2	3.8	3.3	21630.9	169.9	265.5	18.9
2015 Q3	2.0	3.2	3.3	4.4	5.2	1.4	0.0	1.6	2.3	4.5	3.9	3.3	19959.3	172.1	272.1	40.7
2015 Q4	0.9	1.8	3.0	3.4	5.0	0.8	0.1	1.6	2.2	4.6	3.9	3.3	21100.9	174.2	277.3	24.4
2016 Q1	0.8	1.3	2.1	2.4	4.9	-0.3	0.3	1.4	2.0	4.6	3.7	3.5	21179.4	176.6	277.6	28.1
2016 Q2	1.4	3.7	2.9	5.0	4.9	2.5	0.3	1.3	1.8	4.1	3.6	3.5	21621.5	178.8	283.0	25.8
2016 Q3	3.5	5.0	2.6	4.1	4.9	1.6	0.3	1.2	1.6	3.7	3.4	3.5	22468.6	182.0	290.3	18.1
2016 Q4	3.1	6.1	1.6	4.5	4.7	3.4	0.4	1.7	2.2	4.1	3.9	3.5	23276.7	183.3	293.9	22.5
2017 Q1	2.2	4.3	2.2	4.3	4.7	2.4	0.6	1.7	2.5	4.2	4.2	3.8	23551.5	184.3	297.6	19.0
2017 Q2	2.3	4.3	2.5	4.6	4.6	2.4	0.7	1.9	2.6	4.4	4.3	3.9	23830.5	185.4	301.4	20.3
2017 Q3	2.4	4.5	2.9	5.0	4.6	2.3	0.9	2.0	2.7	4.5	4.4		24123.0	186.6	305.2	
2017 Q4	2.3	4.5	2.7	4.8	4.5	2.3	1.1	2.2	2.9	4.6	4.5	4.3	24421.8	187.8	309.0	19.4
2018 Q1	2.4	4.6	2.9	4.9	4.5	2.3	1.3	2.3	3.0	4.7	4.6		24726.8			
2018 Q2	2.4	4.7	2.6	4.7	4.5	2.3	1.5	2.4	3.1	4.8	4.7	4.6	25042.2	190.1	316.8	
2018 Q3	2.4	4.6	2.6	4.7	4.4	2.3	1.7	2.6	3.2	4.9	4.8	4.8	25354.2	191.3	320.8	19.3
2018 Q4	2.3	4.5	2.4	4.6	4.4	2.4	1.9	2.7	3.3	5.0	5.0		25667.6			
2019 Q1	2.0	4.2	2.2	4.3	4.5	2.3	2.2	2.8	3.4	5.1	5.0		25967.5	194.0		
2019 Q2	2.1	4.2	2.3	4.3	4.6	2.3	2.4	2.9	3.4	5.1	5.1		26268.6			
2019 Q3	2.1	4.1	2.2	4.3	4.6	2.2	2.6	2.9	3.5	5.2	5.1		26570.7	196.9		
2019 Q4	2.0	4.1	2.2	4.2	4.7	2.2	2.8	3.0	3.5	5.2	5.2		26874.3	198.4		
2020 Q1	2.0	4.0	2.1	4.0	4.7	2.1	2.9	3.0	3.5	5.2	5.2	5.9	27172.8	199.9	337.3	20.2

Appendix 5: Baseline Scenario - International

<u>Date</u>	Euro area real GDP growth	Euro area inflation	Euro area bilateral dollar exchange rate (USD/euro)	Developing Asia real GDP growth	<u>Developing</u> <u>Asia inflation</u>	Developing Asia bilateral dollar exchange rate (F/USD, index)	Japan real GDP growth	Japan inflation	Japan bilateral dollar exchange rate (yen/USD)	U.K. real GDP growth	U.K. inflation	U.K. bilateral dollar exchange rate (USD/pound)
2002 Q1	0.7	3.1		7.7	0.4	107.3	0.3	-2.7	132.7	1.7		1.4
2002 Q2	1.9	2.0	1.0	8.1	1.1	104.8	3.2	1.7	119.9	3.0		1.5
2002 Q3	1.6	1.6	1.0	7.2	1.5	105.5	1.7	-0.7	121.7	3.1	1.3	1.6
2002 Q4	0.4	2.3	1.0	6.5	0.8	104.5	1.5	-0.4	118.8	3.5	1.9	1.6
2003 Q1	-0.8	3.3	1.1	6.7	3.6	105.5	-1.2	-1.6	118.1	3.3	1.7	1.6
2003 Q2	0.2	0.5	1.2	2.1	1.2	104.0	3.8	1.7	119.9	3.7	0.2	1.7
2003 Q3	2.2	2.1	1.2	14.3	0.1	102.6	1.7	-0.7	111.4	4.0	1.7	1.7
2003 Q4	2.9	2.3	1.3	13.0	5.5	103.4	4.3	-0.6	107.1	3.3	1.7	1.8
2004 Q1	2.4	2.2	1.2	5.6	4.1	101.4	3.5	-0.9	104.2	2.3	1.4	1.8
2004 Q2	2.1	2.6	1.2	6.9	4.1	102.8	-0.3	1.1	109.4	1.9	0.8	1.8
2004 Q3	1.3	2.0	1.2	8.3	4.0	102.7	1.9	0.1	110.2	0.8	1.1	1.8
2004 Q4	1.4	2.4	1.4	6.4	0.8	98.9	-1.6	1.7	102.7	2.4	2.4	1.9
2005 Q1	0.8	1.4	1.3	10.6	2.9	98.6	2.2	-2.7	107.2	2.3	2.6	1.9
2005 Q2	2.6	2.2	1.2	8.6	1.5	98.9	3.6	-1.0	110.9	4.4	1.8	1.8
2005 Q3	3.1	3.1	1.2	9.3	2.3	98.6	3.9	-1.0	113.3	4.4	2.8	1.8
2005 Q4	2.5	2.5	1.2	11.7	1.7	98.1	0.7	0.2	117.9	5.5	1.4	1.7
2006 Q1	3.7	1.7	1.2	11.0	2.4	96.8	0.2	1.2	117.5	1.3	1.9	1.7
2006 Q2	4.2	2.5	1.3	7.0	3.2	96.7	1.7	0.4	114.5	0.9	3.0	1.8
2006 Q3	2.6	2.1	1.3	10.3	2.1	96.4	-0.7	0.4	118.0	0.6	3.3	1.9
2006 Q4	4.4	0.9	1.3	11.2	3.7	94.6	4.5	-0.6	119.0	1.4	2.7	2.0
2007 Q1	3.1	2.3	1.3	13.9	3.6	94.0	3.6	-0.7	117.6	4.1	2.5	2.0
2007 Q2	2.5	2.3	1.4	10.5	4.9	91.9	-0.4	0.4	123.4	3.0	1.8	2.0
2007 Q3	1.8	2.1	1.4	8.7	7.5	90.6	-1.2	0.3	115.0	3.1	0.3	2.0
2007 Q4	2.2	4.9	1.5	12.8	6.0	89.4	1.9	2.2	111.7	3.0	4.0	2.0
2008 Q1	2.0	4.3	1.6	7.2	8.1	88.0	1.6	1.3	99.9	0.6	3.4	2.0
2008 Q2	-1.3	3.2	1.6	5.9	6.4	88.7	-2.8	1.8	106.2	-2.6	5.8	2.0
2008 Q3	-2.2	3.2	1.4	3.1	2.8	91.5	-4.8	3.5	105.9	-6.6	5.9	1.8
2008 Q4	-6.8	-1.4	1.4	0.3	-1.0	92.2	-8.3	-2.1	90.8	-8.7	0.4	1.5
2009 Q1	-11.4	-1.1	1.3	4.4	-1.4	94.2	-18.0	-3.6	99.2	-6.4	-0.2	1.4
2009 Q2	-0.9	0.0	1.4	15.1	2.2	92.2	8.2	-1.6	96.4	-0.9	2.3	1.6
2009 Q3	1.2	1.1	1.5	12.8	3.9	91.3	-0.3	-1.4	89.5	0.3	3.6	1.6
2009 Q4	2.1	1.6	1.4	9.2	5.1	90.6	6.1	-1.6	93.1	1.6	2.8	1.6
2010 Q1	1.8	1.8		9.9	4.4	89.8	4.4	1.1	93.4	2.2	4.2	1.5
2010 Q2	4.0	2.0		9.7	3.4	91.0	4.0	-1.4	88.5	4.1	3.3	1.5
2010 Q3	1.6	1.6		8.8	4.0	88.4	7.7	-2.1	83.5	2.3	2.2	1.6
2010 Q4	2.3	2.6		9.3	7.7	87.4	-2.7	1.4	81.7	0.5	3.9	1.5

Appendix 5: Baseline Scenario - International (Cont.)

<u>Date</u>	Euro area real GDP growth	Euro area inflation	Euro area bilateral dollar exchange rate (USD/euro)	Developing Asia real GDP growth	<u>Developing</u> <u>Asia inflation</u>	Developing Asia bilateral dollar exchange rate (F/USD, index)	Japan real GDP growth	Japan inflation	Japan bilateral dollar exchange rate (yen/USD)	U.K. real GDP growth	U.K. inflation	U.K. bilateral dollar exchange rate (USD/pound)
2011 Q1	3.2	3.7	1.4	9.8	6.3	86.4	-5.7	0.0	82.8	2.2	7.0	1.6
2011 Q2	0.0	3.2	1.5	6.5	5.4	85.3	-2.0	-0.8	80.6	0.3	4.6	1.6
2011 Q3	0.1	1.3	1.3	5.2	5.1	87.3	9.5	0.3	77.0	1.7	3.5	1.6
2011 Q4	-1.4	3.5	1.3	6.9	3.2	87.2	-0.5	-0.7	77.0	1.0	3.4	1.6
2012 Q1	-0.8	2.8	1.3	7.3	3.3	86.2	4.4	2.5	82.4	1.8	2.3	1.6
2012 Q2	-1.3	2.3	1.3	6.0	3.9	88.0	-1.6		79.8	-0.3	1.9	1.6
2012 Q3	-0.6	1.6	1.3	6.5	2.1	86.3	-1.8	-1.8	77.9	4.7	2.0	1.6
2012 Q4	-1.7	2.4	1.3	7.3	3.6	85.9	0.3	0.3	86.6	-0.9	4.2	1.6
2013 Q1	-1.2	1.3	1.3	6.6	4.3	86.1	5.1	0.6	94.2	2.5	3.0	1.5
2013 Q2	1.8	0.4	1.3	6.5	2.9	87.1	4.3	-0.2	99.2	2.1	1.6	1.5
2013 Q3	1.3	1.2	1.4	7.8	3.7	86.7	2.4	2.4	98.3	3.1	2.0	1.6
2013 Q4	0.8	0.3	1.4	6.4	4.0	85.7	-0.8	3.1	105.3	2.0	1.7	1.7
2014 Q1	1.3	0.9	1.4	6.4	1.4	86.8	4.9	1.3	103.0	3.4	1.9	1.7
2014 Q2	0.7	-0.1	1.4	7.0	2.5	86.7	-7.1	7.7	101.3	3.8	1.5	1.7
2014 Q3	1.4	0.2	1.3	6.9	2.4	87.0	-0.8	1.6	109.7	3.3	0.6	1.6
2014 Q4	1.8	-0.4	1.2	5.6	1.2	88.1	2.1	-0.3	119.9	3.4	-0.4	1.6
2015 Q1	3.3	-0.8	1.1	6.2	0.8	88.1	6.3	0.4	120.0	1.0	-1.2	1.5
2015 Q2	1.5	1.8	1.1	6.6	2.7	88.3	-0.5	0.3	122.1	1.9	0.9	1.6
2015 Q3	1.1	-0.3	1.1	6.6	2.7	90.9	0.8	0.0	119.8	1.1	0.5	1.5
2015 Q4	2.0	0.0	1.1	5.4	1.6	92.2	-1.8	0.1	120.3	2.8	0.0	1.5
2016 Q1	2.0	-1.2	1.1	6.3	2.8	91.7	2.8	-0.1	112.4	1.4	0.1	1.4
2016 Q2	1.2	1.2	1.1	6.4	2.7	94.0	1.8	-1.3	102.8	2.6	0.9	1.3
2016 Q3	1.8	1.1	1.1	6.6	1.2	93.6	1.3	-0.8	101.2	2.3	1.9	1.3
2016 Q4	1.4	1.9	1.1	6.0	2.5	97.4	0.8	0.3	116.8	1.4	2.0	1.2
2017 Q1	1.5	1.3	1.1	6.0	2.4	97.9	0.9	0.5	116.4	1.2	1.9	1.2
2017 Q2	1.5	1.4	1.0	5.9	2.5	98.4	0.9	0.6	116.0	1.1	2.0	1.2
2017 Q3	1.6		1.0	5.9	2.6	98.9	0.9	0.8	115.6	1.0	2.1	1.2
2017 Q4	1.6		1.0	5.8	2.6	99.4	0.9	0.9	115.2	1.1	2.2	1.2
2018 Q1	1.6		1.0	5.8	2.6	99.7	0.9	1.1	115.6	1.3	2.2	1.2
2018 Q2	1.6		1.0	5.7	2.6	100.0	0.8	1.2	116.1	1.4	2.2	1.2
2018 Q3	1.5	1.6	1.0	5.7	2.6	100.3	0.8	1.3	116.5	1.6	2.2	1.2
2018 Q4	1.5	1.6	1.0	5.8	2.7	100.6	0.8	1.3	117.0	1.7	2.1	1.3
2019 Q1	1.5	1.7	1.0	5.8	2.7	100.6	0.8	1.4	117.0	1.8	2.1	1.3
2019 Q2	1.5	1.7	1.0	5.9	2.8	100.6	0.8	1.5	117.0	1.8	2.0	1.3
2019 Q3	1.5	1.7	1.0	5.9	2.9	100.6	0.8	1.5	117.0	1.9	2.0	1.3
2019 Q4	1.5	1.8	1.0	5.8	2.9	100.6	0.8	1.6	117.0	1.9	2.0	1.3
2020 Q1	1.5	1.8	1.0	5.8	3.0	100.6	0.8	1.6	117.0	1.9	1.9	1.3

Appendix 6: Adverse Scenario - Domestic

Dete	Real GDP	Nominal GDP	<u>Real</u> disposable	Nominal disposable	Unemployment	CPI inflation	3-month	5-year	<u>10-year</u>	BBB corporate	Manhar	Duime	Dow Jones Total Stock	House Price	Commercial Real Estate	Market Volatility
<u>Date</u>	growth	growth	income	income	rate	rate	Treasury rate	Treasury yield	Treasury yield	<u>vield</u>	Mortgage rate	Prime rate	Market Index	<u>Index</u>	Price Index	Index
			growth	growth									(Level)	(Level)	(Level)	(Level)
2002 Q1	3.7	5.1	10.1	10.9	5.7	1.3	1.7	4.5	5.4	7.6	7.0	4.8	10775.7	120.3	137.4	26.1
2002 Q2	2.2	3.8	2.0	5.2	5.8	3.2	1.7	4.5	5.4	7.6	6.8	4.8	9384.0	123.4	135.8	28.4
2002 Q3	2.0	3.8	-0.5	1.5	5.7	2.2	1.6	3.4	4.5	7.3	6.2	4.8	7773.6	126.5	138.7	45.1
2002 Q4	0.3	2.4	1.9	3.8	5.9	2.4	1.3	3.1	4.3		6.1	4.5	8343.2	129.2	142.5	42.6
2003 Q1	2.1	4.6	1.1		5.9	4.2	1.2	2.9	4.2				8051.9	131.8		34.7
2003 Q2		5.1	5.9		6.1	-0.7	1.0		3.8				9342.4	134.6		29.1
2003 Q3		9.3	6.7		6.1	3.0	0.9		4.4	6.0			9649.7	138.5		22.7
2003 Q4		6.8	1.6		5.8	1.5	0.9		4.4				10799.6	143.0		21.1
2004 Q1	2.3	5.9	2.9		5.7	3.4	0.9		4.1				11039.4	148.0		21.6
2004 Q2		6.6	4.0		5.6		1.1	3.7	4.7				11144.6	153.9		20.0
2004 Q3		6.3	2.1		5.4	2.6	1.5		4.4				10893.8	159.4		19.3
2004 Q4		6.4	5.1		5.4	4.4	2.0	3.5	4.3				11951.5	165.3		16.6
2005 Q1	4.3	8.3	-3.8		5.3	2.0	2.5		4.4				11637.3	172.2	175.8	14.6
2005 Q2		5.1	3.2		5.1	2.7	2.9		4.2				11856.7	179.0		17.7
2005 Q3		7.3	2.1		5.0	6.2	3.4	4.0	4.3				12282.9	185.2	187.1	14.2
2005 Q4		5.4	3.4		5.0		3.8		4.6				12497.2	190.7	195.4	16.5
2006 Q1	4.9	8.2	9.5		4.7	2.1	4.4	4.6	4.7				13121.6	193.9		14.6
2006 Q2		4.5	0.6		4.6		4.7	5.0	5.2				12808.9	193.1	209.0	23.8
2006 Q3		3.2	1.2		4.6		4.9		5.0				13322.5	191.6		18.6
2006 Q4		4.6	5.3		4.4	-1.6	4.9		4.7				14215.8	191.2		12.7
2007 Q1	0.2	4.8	2.6		4.5	4.0	5.0		4.8				14354.0	189.0		19.6
2007 Q2		5.4	0.8		4.5	4.6	4.7	4.7	4.9				15163.1	183.4	236.4	18.9
2007 Q3		4.2	1.1		4.7	2.6	4.3	4.5	4.8				15317.8	177.7	249.1	30.8
2007 Q4		3.2	0.3		4.8	5.0	3.4	3.8	4.4				14753.6	171.8		31.1
2008 Q1	-2.7	-0.5	2.9		5.0	4.4	2.1	2.8	3.9				13284.1	164.5	239.9	32.2
2008 Q2 2008 Q3		4.0 0.8	8.7 -8.9		5.3 6.0	5.3 6.3	1.6 1.5		4.1 4.1				13016.4	156.6 149.2		24.1 46.7
		-7.7	2.6				0.3		3.7				11826.0			80.9
2008 Q4 2009 Q1	-8.2 -5.4	-7.7 -4.5	-0.8		6.9 8.3	-8.9 -2.7	0.3	2.2 1.9	3.7				9056.7 8044.2	141.5 137.2	222.5 208.9	56.7
2009 Q1 2009 Q2		-4.5	2.9			2.1	0.2	2.3	3.7				9342.8	137.2	178.5	42.3
2009 Q2 2009 Q3		1.2	-4.3		9.3 9.6	3.5	0.2		3.7				10812.8	137.1	178.5	31.3
2009 Q3 2009 Q4		5.2	-4.3 -0.5		9.6	3.5	0.2	2.3	3.8				11385.1	137.7		30.7
2009 Q4 2010 Q1	1.7	3.2	0.4		9.8	0.6	0.1	2.3	3.7				12032.5	138.3	149.8	27.3
2010 Q1 2010 Q2		5.8	5.3		9.6		0.1	2.4	3.9				12032.5	138.3		45.8
2010 Q2 2010 Q3		4.6	2.0		9.5	-0.1 1.2	0.1	1.6	2.9				11814.0	137.4	164.5	45.8 32.9
2010 Q3 2010 Q4		4.5	2.0		9.5		0.2	1.5	3.0				13131.5	134.7		23.5
2010 Q4	2.5	4.7	2.8	5.0	9.5	3.3	0.1	1.5	3.0	5.0	4.5	3.3	13131.5	133.5	1/2./	23.5

Appendix 6: Adverse Scenario - Domestic (Cont.)

<u>Date</u>	Real GDP I	Nominal GDP	Real disposable income	Nominal disposable income	Unemployment rate	CPI inflation rate	3-month Treasury rate	5-year Treasury yield	<u>10-year</u> Treasury yield	BBB corporate	Mortgage rate	Prime rate	Dow Jones Total Stock Market Index	House Price Index	Commercial Real Estate Price Index	Market Volatility Index
			growth	growth					,				(Level)	(Level)	(Level)	(Level)
2011 Q1	-1.5	0.2	5.0	8.2	9.0	4.3	0.1	2.1	3.5	5.4	4.9	3.3	13908.5	132.3	179.6	29.4
2011 Q2	2.9	6.0	-0.6	3.5	9.1	4.6	0.0	1.8	3.3	5.1	4.6	3.3	13843.5	131.7	177.0	22.7
2011 Q3	0.8	3.3	2.1	4.3	9.0	2.6	0.0	1.1	2.5	4.9	4.2	3.3	11676.5	132.3	177.0	48.0
2011 Q4	4.6	5.2	0.2	1.6	8.6	1.8	0.0	1.0	2.1	5.0	4.0	3.3	13019.3	132.4	188.4	45.5
2012 Q1	2.7	4.9	6.7	9.2	8.3	2.4	0.1	0.9	2.1	4.7	3.9	3.3	14627.5	133.8	188.2	23.0
2012 Q2	1.9	3.8	3.1	4.4	8.2	0.8	0.1	0.8	1.8	4.5	3.8	3.3	14100.2	137.2	189.4	26.7
2012 Q3	0.5	2.7	-0.2	1.1	8.0	1.6	0.1	0.7	1.6		3.5			139.9	196.6	20.5
2012 Q4	0.1	1.7	10.9	13.3	7.8	2.9	0.1	0.7	1.7	3.9	3.4	3.3		142.9	198.3	22.7
2013 Q1	2.8	4.4	-15.7	-14.5	7.7	1.6	0.1	0.8	1.9		3.5		16396.2	146.6	202.0	19.0
2013 Q2	0.8	1.6	2.4	2.5	7.5	-0.5	0.1	0.9	2.0	4.1	3.7	3.3	16771.3	150.6	212.6	20.5
2013 Q3	3.1	5.1	2.4	3.9	7.3	2.0	0.0	1.5	2.7	4.9	4.4	3.3	17718.3	154.4	223.9	17.0
2013 Q4	4.0	6.1	0.9	2.6	6.9	1.9	0.1	1.4	2.8	4.8	4.3	3.3	19413.2	157.5	229.2	20.3
2014 Q1	-1.2	0.6	4.5	6.6	6.7	2.4	0.0	1.6	2.8		4.4	3.3		159.6	229.4	21.4
2014 Q2	4.0	6.3	5.3	7.3	6.2	1.9	0.0	1.7	2.7	4.3	4.2	3.3		160.8	239.3	17.0
2014 Q3	5.0	6.7	4.1	5.2	6.1	0.9	0.0	1.7	2.5	4.2	4.1	3.3	20458.8	162.9	244.8	17.0
2014 Q4	2.3	2.8	4.3	4.3	5.7	-0.3	0.0	1.6	2.3	4.2	3.9			165.4	253.0	26.3
2015 Q1	2.0	2.1	2.0		5.6	-2.9	0.0	1.5	2.0		3.7	3.3		167.8	261.6	22.4
2015 Q2	2.6	4.9	3.9		5.4	2.4	0.0	1.5	2.2		3.8			169.9	265.5	18.9
2015 Q3	2.0	3.2	3.3	4.4	5.2	1.4	0.0	1.6	2.3	4.5	3.9			172.1	272.1	40.7
2015 Q4	0.9	1.8	3.0		5.0	0.8	0.1	1.6	2.2	4.6	3.9			174.2	277.3	24.4
2016 Q1	0.8	1.3	2.1	2.4	4.9	-0.3	0.3	1.4	2.0		3.7	3.5	21179.4	176.6	277.6	28.1
2016 Q2	1.4	3.7	2.9	5.0	4.9	2.5	0.3	1.3	1.8	4.1	3.6			178.8	283.0	25.8
2016 Q3	3.5	5.0	2.6		4.9	1.6	0.3	1.2	1.6		3.4	3.5		182.0	290.3	18.1
2016 Q4	3.1	6.1	1.6		4.7	3.4	0.4	1.7	2.2	4.1	3.9		23276.7	183.3	293.9	22.5
2017 Q1	-1.5	0.9	0.7	2.4	5.2	1.8	0.1	1.7	2.3	5.6	4.7	3.3	15959.6	181.4	291.2	37.1
2017 Q2	-2.8	-0.7	-0.6		5.8	1.8	0.1	1.8	2.4	5.9	4.9		15042.3	179.0	283.1	32.7
2017 Q3	-2.0	0.0	-0.5		6.3	1.8	0.1	1.8	2.5		5.1			176.1	275.2	34.4
2017 Q4	-1.5	0.5	-0.5	1.2	6.8	1.8	0.1	1.9	2.5		5.2			173.0	267.1	32.0
2018 Q1	-0.5	1.4	0.2	1.9	7.1	1.8	0.1	1.9	2.6		5.2			170.1	259.4	28.5
2018 Q2	1.0	3.0	0.6		7.3	2.0	0.1	1.9	2.7	5.8	5.2			166.3	254.2	25.8
2018 Q3	1.4	3.3	1.0		7.4	2.0	0.1	2.0	2.7	5.6	5.1			163.1	249.5	23.6
2018 Q4	2.6	4.4	1.5	3.4	7.3	2.1	0.1	2.0	2.7	5.4	5.1			160.9	249.1	21.6
2019 Q1	2.6	4.3	1.6		7.2	2.1	0.1	2.0	2.7	5.2	5.0			160.6	249.3	20.1
2019 Q2	3.0	4.6	2.1	3.8	7.1	2.0	0.1	2.0	2.7	5.0	4.9			161.0	251.4	18.7
2019 Q3	3.0	4.5	2.2	3.8	7.0	2.0	0.1	2.0	2.7	4.8	4.8	3.2		161.8	254.9	18.2
2019 Q4	3.0	4.5	2.1	3.8	6.9	1.9	0.1	2.0	2.7	4.7	4.8			162.9	258.6	17.6
2020 Q1	3.0	4.5	2.0	3.5	6.8	1.8	0.1	2.0	2.7	4.5	4.7	3.2	20867.0	164.5	262.2	17.3

Appendix 7: Adverse Scenario – International

<u>Date</u>	Euro area real GDP growth	Euro area inflation	Euro area bilateral dollar exchange rate (USD/euro)	Developing Asia real GDP growth	Developing Asia inflation	Developing Asia bilateral dollar exchange rate (F/USD, index)	Japan real GDP growth	Japan inflation	Japan bilateral dollar exchange rate (yen/USD)	U.K. real GDP growth	U.K. inflation	U.K. bilateral dollar exchange rate (USD/pound)
2002 Q1	0.7	3.1	0.9	7.7	0.4	107.3	0.3	-2.7	132.7	1.7	2.0	1.4
2002 Q2	1.9	2.0	1.0	8.1	1.1	104.8	3.2	1.7	119.9	3.0	0.9	1.5
2002 Q3	1.6	1.6	1.0	7.2	1.5	105.5	1.7	-0.7	121.7	3.1	1.3	1.6
2002 Q4	0.4	2.3	1.0	6.5	0.8	104.5	1.5	-0.4	118.8	3.5	1.9	1.6
2003 Q1	-0.8	3.3	1.1	6.7	3.6	105.5	-1.2	-1.6	118.1	3.3	1.7	1.6
2003 Q2	0.2	0.5	1.2	2.1	1.2	104.0	3.8	1.7	119.9	3.7	0.2	1.7
2003 Q3	2.2	2.1	1.2	14.3	0.1	102.6	1.7	-0.7	111.4	4.0	1.7	1.7
2003 Q4	2.9	2.3	1.3	13.0	5.5	103.4	4.3	-0.6	107.1	3.3	1.7	1.8
2004 Q1	2.4	2.2	1.2	5.6	4.1	101.4	3.5	-0.9	104.2	2.3	1.4	1.8
2004 Q2	2.1	2.6	1.2	6.9	4.1	102.8	-0.3	1.1	109.4	1.9	0.8	1.8
2004 Q3	1.3	2.0	1.2	8.3	4.0	102.7	1.9	0.1	110.2	0.8	1.1	1.8
2004 Q4	1.4	2.4	1.4	6.4	0.8	98.9	-1.6	1.7	102.7	2.4	2.4	1.9
2005 Q1	0.8	1.4	1.3	10.6	2.9	98.6	2.2	-2.7	107.2	2.3	2.6	1.9
2005 Q2	2.6	2.2	1.2	8.6	1.5	98.9	3.6	-1.0	110.9	4.4	1.8	1.8
2005 Q3	3.1	3.1	1.2	9.3	2.3	98.6	3.9	-1.0	113.3	4.4	2.8	1.8
2005 Q4	2.5	2.5	1.2	11.7	1.7	98.1	0.7	0.2	117.9	5.5	1.4	1.7
2006 Q1	3.7	1.7		11.0	2.4	96.8	0.2	1.2	117.5	1.3	1.9	1.7
2006 Q2	4.2	2.5	1.3	7.0	3.2	96.7	1.7	0.4	114.5	0.9	3.0	1.8
2006 Q3	2.6	2.1	1.3	10.3	2.1	96.4	-0.7	0.4	118.0	0.6	3.3	1.9
2006 Q4	4.4	0.9	1.3	11.2	3.7	94.6	4.5	-0.6	119.0	1.4	2.7	2.0
2007 Q1	3.1	2.3		13.9	3.6	94.0	3.6	-0.7	117.6	4.1	2.5	2.0
2007 Q2	2.5	2.3	1.4	10.5	4.9	91.9	-0.4	0.4	123.4	3.0	1.8	2.0
2007 Q3	1.8	2.1		8.7	7.5	90.6	-1.2	0.3	115.0	3.1	0.3	2.0
2007 Q4	2.2	4.9	1.5	12.8	6.0	89.4	1.9	2.2	111.7	3.0	4.0	2.0
2008 Q1	2.0	4.3		7.2	8.1	88.0	1.6	1.3	99.9	0.6	3.4	2.0
2008 Q2	-1.3	3.2	1.6	5.9	6.4	88.7	-2.8	1.8	106.2	-2.6	5.8	2.0
2008 Q3	-2.2	3.2	1.4	3.1	2.8	91.5	-4.8	3.5	105.9	-6.6	5.9	1.8
2008 Q4	-6.8	-1.4	1.4	0.3	-1.0	92.2	-8.3	-2.1	90.8	-8.7	0.4	1.5
2009 Q1	-11.4	-1.1	1.3	4.4	-1.4	94.2	-18.0	-3.6	99.2	-6.4	-0.2	1.4
2009 Q2	-0.9	0.0	1.4	15.1	2.2	92.2	8.2	-1.6	96.4	-0.9	2.3	1.6
2009 Q3	1.2	1.1	1.5	12.8	3.9	91.3	-0.3	-1.4	89.5	0.3	3.6	1.6
2009 Q4	2.1	1.6	1.4	9.2	5.1	90.6	6.1	-1.6	93.1	1.6	2.8	1.6
2010 Q1	1.8	1.8	1.4	9.9	4.4	89.8	4.4	1.1	93.4	2.2	4.2	1.5
2010 Q2	4.0	2.0	1.2	9.7	3.4	91.0	4.0	-1.4	88.5	4.1	3.3	1.5
2010 Q3	1.6	1.6	1.4	8.8	4.0	88.4	7.7	-2.1	83.5	2.3	2.2	1.6
2010 Q4	2.3	2.6	1.3	9.3	7.7	87.4	-2.7	1.4	81.7	0.5	3.9	1.5

Appendix 7: Adverse Scenario - International (Cont.)

<u>Date</u>	Euro area real GDP growth	Euro area inflation	Euro area bilateral dollar exchange rate (USD/euro)	Developing Asia real GDP growth	<u>Developing</u> <u>Asia inflation</u>	Developing Asia bilateral dollar exchange rate (F/USD, index)	Japan real GDP growth	Japan inflation	Japan bilateral dollar exchange rate (yen/USD)	U.K. real GDP growth	U.K. inflation	U.K. bilateral dollar exchange rate (USD/pound)
2011 Q1	3.2			9.8	6.3		-5.7	0.0	82.8	2.2	7.0	1.6
2011 Q2	0.0		1.5	6.5	5.4	85.3	-2.0	-0.8	80.6	0.3	4.6	1.6
2011 Q3	0.1	1.3	1.3	5.2	5.1	87.3	9.5	0.3	77.0	1.7	3.5	1.6
2011 Q4	-1.4	3.5	1.3	6.9	3.2	87.2	-0.5	-0.7	77.0	1.0	3.4	1.6
2012 Q1	-0.8		1.3	7.3	3.3	86.2	4.4	2.5	82.4	1.8	2.3	1.6
2012 Q2	-1.3	2.3	1.3	6.0	3.9	88.0	-1.6	-1.6	79.8	-0.3	1.9	1.6
2012 Q3	-0.6		1.3	6.5	2.1	86.3	-1.8	-1.8	77.9	4.7	2.0	1.6
2012 Q4	-1.7		1.3	7.3	3.6	85.9	0.3	0.3	86.6	-0.9	4.2	1.6
2013 Q1	-1.2		1.3	6.6	4.3	86.1	5.1	0.6	94.2	2.5	3.0	1.5
2013 Q2	1.8		1.3	6.5	2.9	87.1	4.3	-0.2	99.2	2.1	1.6	1.5
2013 Q3	1.3		1.4	7.8	3.7	86.7	2.4	2.4	98.3	3.1	2.0	1.6
2013 Q4	0.8		1.4	6.4	4.0	85.7	-0.8	3.1	105.3	2.0	1.7	1.7
2014 Q1	1.3	0.9	1.4	6.4	1.4	86.8	4.9	1.3	103.0	3.4	1.9	1.7
2014 Q2	0.7	-0.1	1.4	7.0	2.5	86.7	-7.1	7.7	101.3	3.8	1.5	1.7
2014 Q3	1.4	0.2	1.3	6.9	2.4	87.0	-0.8	1.6	109.7	3.3	0.6	1.6
2014 Q4	1.8		1.2	5.6	1.2	88.1	2.1	-0.3	119.9	3.4	-0.4	1.6
2015 Q1	3.3		1.1	6.2	0.8	88.1	6.3	0.4	120.0	1.0	-1.2	1.5
2015 Q2	1.5		1.1	6.6	2.7	88.3	-0.5	0.3	122.1	1.9	0.9	1.6
2015 Q3	1.1	-0.3	1.1	6.6	2.7	90.9	0.8	0.0	119.8	1.1	0.5	1.5
2015 Q4	2.0		1.1	5.4	1.6	92.2	-1.8	0.1	120.3	2.8	0.0	1.5
2016 Q1			1.1	6.3	2.8	91.7	2.8	-0.1	112.4	1.4	0.1	1.4
2016 Q2	1.2		1.1	6.4	2.7	94.0	1.8	-1.3	102.8	2.6	0.9	1.3
2016 Q3	1.8		1.1	6.6	1.2	93.6	1.3	-0.8	101.2	2.3	1.9	1.3
2016 Q4 2017 Q1	1.4 -3.0	1.9 0.7	1.1 1.0	6.0 1.4	2.5 1.7	97.4 105.4	0.8	0.3	116.8	1.4	2.0 0.5	1.2 1.2
2017 Q1 2017 Q2	-3.9		1.0	1.4	0.9	105.4	-3.2 -6.3	-2.5 -3.4	111.4 108.0	-2.9 -4.3	0.0	1.2
2017 Q2 2017 Q3	-2.7	0.1	1.0	3.5	0.9	109.1	-5.8	-3.4 -2.7	109.2	-4.3 -3.7	0.0	1.2
2017 Q3 2017 Q4	-2.7		1.0	5.3	-0.1	109.4	-5.8 -4.4	-2.7 -2.7	108.8	-3.7 -2.7	0.1	1.2
2017 Q4 2018 Q1	-0.2		1.0	6.4	0.0	109.4	-3.1	-2.7	109.2	-2.7	0.2	1.2
2018 Q1 2018 Q2	0.7	0.4	1.0	6.7	0.0	108.7	-1.9	-2.1 -1.5	109.2	-1.4	0.4	1.2
2018 Q2 2018 Q3			1.0	6.7	0.1	108.1	-0.9	-1.5 -1.0	110.0	-0.2 0.7	1.0	1.2
2018 Q3 2018 Q4	1.3				0.4	106.9		-1.0 -0.5			1.0	1.2
2018 Q4 2019 Q1	1.7 1.9		1.0 1.0	6.8 6.8	1.0	106.9	-0.1 0.5	-0.5 -0.2	110.5 110.6	1.5 2.0	1.2	1.2
2019 Q1 2019 Q2	2.0		1.0	6.9	1.0	105.2		-0.2 0.2	110.8	2.0		1.2
2019 Q2 2019 Q3	2.0		1.0	7.0	1.3	105.5	1.0 1.3	0.2	110.8	2.4	1.4 1.5	1.2
2019 Q3 2019 Q4	1.9		1.0	7.0	1.6	105.0	1.5	0.5	111.1	2.6	1.5	1.2
2020 Q1	1.9	1.6	1.0	7.0	2.1	104.4	1.6	0.9	111.6	2.7	1.6	1.2

Appendix 8: Severely Adverse Scenario - Domestic

	Real GDP	Nominal GDP	Real disposable	Nominal disposable	Unemployment	CPI inflation	3-month	5-year	10-year	BBB corporate			<u>Dow Jones</u> Total Stock	House Price	Commercial Real Estate	Market Volatility
<u>Date</u>	growth	growth	income	income	rate	rate	Treasury rate	Treasury yield		vield	Mortgage rate	Prime rate	Market Index	Index	Price Index	Index
	growth	growth	growth	growth	<u>rate</u>	<u>iute</u>	Treasury rate	Treasury yielu	Treasury yielu	<u>yiciu</u>			(Level)	(Level)	(Level)	(Level)
2002 Q1	3.7	5.1	10.1	10.9	5.7	1.3	1.7	4.5	5.4	7.6	7.0	4.8	10775.7	120.3	137.4	26.1
2002 Q2	2.2	3.8	2.0	5.2	5.8	3.2	1.7	4.5	5.4	7.6	6.8	4.8	9384.0	123.4	135.8	28.4
2002 Q3	2.0	3.8	-0.5	1.5	5.7	2.2	1.6	3.4	4.5	7.3	6.2	4.8	7773.6	126.5	138.7	45.1
2002 Q4	0.3	2.4	1.9	3.8	5.9	2.4	1.3	3.1	4.3	7.0	6.1	4.5	8343.2	129.2	142.5	42.6
2003 Q1	2.1	4.6	1.1	4.0	5.9	4.2	1.2	2.9	4.2	6.5	5.8	4.3	8051.9	131.8	147.9	34.7
2003 Q2	3.8	5.1	5.9	6.3	6.1	-0.7	1.0	2.6	3.8	5.7	5.5	4.2	9342.4	134.6	149.2	29.1
2003 Q3	6.9	9.3	6.7	9.3	6.1	3.0	0.9	3.1	4.4	6.0	6.1	4.0	9649.7	138.5	147.3	22.7
2003 Q4	4.8	6.8	1.6	3.3	5.8	1.5	0.9	3.2	4.4	5.8	5.9	4.0	10799.6	143.0	145.7	21.1
2004 Q1	2.3	5.9	2.9	6.1	5.7	3.4	0.9	3.0	4.1	5.5	5.6	4.0	11039.4	148.0	152.9	21.6
2004 Q2	3.0	6.6	4.0	7.0	5.6	3.2	1.1	3.7	4.7	6.1	6.2	4.0	11144.6	153.9	160.4	20.0
2004 Q3	3.7	6.3	2.1	4.5	5.4	2.6	1.5	3.5	4.4	5.8	5.9	4.4	10893.8	159.4	171.8	19.3
2004 Q4	3.5	6.4	5.1	8.5	5.4	4.4	2.0	3.5	4.3	5.4	5.7	4.9	11951.5	165.3	175.8	16.6
2005 Q1	4.3	8.3	-3.8	-1.8		2.0	2.5		4.4	5.4	5.8	5.4	11637.3	172.2	175.8	14.6
2005 Q2	2.1	5.1	3.2	6.0		2.7	2.9	3.9	4.2	5.5	5.7	5.9	11856.7	179.0	182.3	17.7
2005 Q3	3.4	7.3	2.1	6.6	5.0	6.2	3.4	4.0	4.3	5.5	5.8	6.4	12282.9	185.2	187.1	14.2
2005 Q4	2.3	5.4	3.4	6.6	5.0	3.8	3.8	4.4	4.6	5.9	6.2	7.0	12497.2	190.7	195.4	16.5
2006 Q1	4.9	8.2	9.5	11.5	4.7	2.1	4.4	4.6	4.7	6.0	6.3		13121.6	193.9	200.0	14.6
2006 Q2	1.2	4.5	0.6	3.7	4.6	3.7	4.7	5.0	5.2	6.5	6.6		12808.9	193.1	209.0	23.8
2006 Q3	0.4	3.2		4.1	4.6	3.8	4.9		5.0	6.4	6.5		13322.5	191.6	218.6	18.6
2006 Q4	3.2	4.6	5.3	4.6		-1.6	4.9		4.7	6.1	6.2		14215.8	191.2	217.3	12.7
2007 Q1	0.2	4.8	2.6		4.5	4.0	5.0		4.8	6.1	6.2	8.3	14354.0	189.0	227.1	19.6
2007 Q2	3.1	5.4	0.8			4.6	4.7	4.7	4.9	6.3	6.4	8.3	15163.1	183.4	236.4	18.9
2007 Q3	2.7	4.2	1.1	3.4	4.7	2.6	4.3	4.5	4.8	6.5	6.5		15317.8	177.7	249.1	30.8
2007 Q4	1.4	3.2	0.3	4.4	4.8	5.0	3.4	3.8	4.4	6.4	6.2	7.5	14753.6	171.8	251.5	31.1
2008 Q1	-2.7	-0.5	2.9		5.0	4.4	2.1	2.8	3.9	6.5	5.9		13284.1	164.5	239.9	32.2
2008 Q2	2.0	4.0		13.3	5.3	5.3	1.6		4.1	6.8	6.1	5.1	13016.4	156.6	223.9	24.1
2008 Q3	-1.9	0.8	-8.9		6.0	6.3	1.5		4.1	7.2	6.3	5.0	11826.0	149.2	233.4	46.7
2008 Q4	-8.2	-7.7	2.6		6.9	-8.9	0.3		3.7	9.4	5.8		9056.7	141.5	222.5	80.9
2009 Q1	-5.4	-4.5	-0.8			-2.7	0.2		3.2	9.0	5.0		8044.2	137.2	208.9	56.7
2009 Q2	-0.5	-1.2		4.7	9.3	2.1	0.2		3.7	8.2	5.1	3.3	9342.8	137.1	178.5	42.3
2009 Q3	1.3	1.2		-1.9		3.5	0.2		3.8	6.8	5.1		10812.8	137.7	154.0	31.3
2009 Q4	3.9	5.2		2.2		3.2	0.1	2.3	3.7	6.1	4.9		11385.1	138.2	155.2	30.7
2010 Q1	1.7	3.2	0.4	1.8		0.6	0.1	2.4	3.9	5.8	5.0		12032.5	138.3	149.8	27.3
2010 Q2	3.9	5.8		5.8		-0.1	0.1	2.3	3.6		4.8		10645.8	137.4	164.5	45.8
2010 Q3	2.7	4.6	2.0	3.2	9.5	1.2	0.2		2.9	5.1	4.4	3.3	11814.0	134.7	166.9	32.9
2010 Q4	2.5	4.7	2.8	5.0	9.5	3.3	0.1	1.5	3.0	5.0	4.5	3.3	13131.5	133.5	172.7	23.5

Appendix 8: Severely Adverse Scenario - Domestic (Cont.)

Date		Nominal GDP	Real disposable	Nominal disposable		CPI inflation	3-month	5-year	<u>10-year</u>	BBB corporate	Mortgage rate	Prime rate	Dow Jones Total Stock	House Price	Commercial Real Estate	Market Volatility
	growth_	growth_	<u>income</u> growth	<u>income</u> growth	<u>rate</u>	<u>rate</u>	Treasury rate	Treasury yield	Treasury yield	<u>vield</u>			Market Index (Level)	(Level)	Price Index (Level)	<u>Index</u> (Level)
2011 Q1	-1.5	0.2	5.0		9.0	4.3	0.1	2.1	3.5	5.4	4.9	3.3		132.3	179.6	<u>(Level)</u> 29.4
2011 Q1 2011 Q2	2.9	6.0	-0.6		9.1	4.6	0.0	1.8			4.6			131.7	177.0	22.7
2011 Q2	0.8	3.3	2.1		9.0	2.6	0.0	1.1	2.5		4.2			132.3	177.0	48.0
2011 Q4	4.6	5.2	0.2	1.6	8.6		0.0	1.0	2.1	5.0		3.3		132.4	188.4	45.5
2012 Q1	2.7	4.9	6.7	9.2	8.3	2.4	0.1	0.9	2.1	4.7	3.9			133.8	188.2	23.0
2012 Q2	1.9	3.8	3.1	4.4	8.2	0.8	0.1	0.8	1.8	4.5	3.8	3.3	14100.2	137.2	189.4	26.7
2012 Q3	0.5	2.7	-0.2	1.1	8.0	1.6	0.1	0.7	1.6	4.2	3.5	3.3	14894.7	139.9	196.6	20.5
2012 Q4	0.1	1.7	10.9	13.3	7.8	2.9	0.1	0.7	1.7	3.9	3.4	3.3	14834.9	142.9	198.3	22.7
2013 Q1	2.8	4.4	-15.7	-14.5	7.7	1.6	0.1	0.8	1.9	4.0	3.5	3.3	16396.2	146.6	202.0	19.0
2013 Q2	0.8	1.6	2.4	2.5	7.5	-0.5	0.1	0.9	2.0	4.1	3.7	3.3	16771.3	150.6	212.6	20.5
2013 Q3	3.1	5.1	2.4	3.9	7.3	2.0	0.0	1.5	2.7	4.9	4.4	3.3	17718.3	154.4	223.9	17.0
2013 Q4	4.0	6.1	0.9	2.6	6.9		0.1	1.4	2.8	4.8	4.3	3.3	19413.2	157.5	229.2	20.3
2014 Q1	-1.2	0.6	4.5	6.6	6.7	2.4	0.0	1.6			4.4	3.3		159.6	229.4	21.4
2014 Q2	4.0	6.3	5.3	7.3	6.2	1.9	0.0	1.7	2.7		4.2	3.3		160.8	239.3	17.0
2014 Q3	5.0	6.7	4.1	5.2	6.1	0.9	0.0	1.7	2.5		4.1			162.9	244.8	17.0
2014 Q4	2.3	2.8	4.3	4.3	5.7	-0.3	0.0	1.6	2.3		3.9	3.3		165.4	253.0	26.3
2015 Q1	2.0	2.1	2.0		5.6		0.0	1.5	2.0		3.7	3.3		167.8	261.6	22.4
2015 Q2	2.6	4.9	3.9	5.8	5.4	2.4	0.0	1.5	2.2		3.8			169.9	265.5	18.9
2015 Q3	2.0	3.2	3.3	4.4	5.2	1.4	0.0	1.6	2.3		3.9			172.1	272.1	40.7
2015 Q4	0.9	1.8	3.0	3.4	5.0	0.8	0.1	1.6			3.9			174.2	277.3	24.4
2016 Q1	0.8	1.3	2.1	2.4	4.9	-0.3	0.3	1.4	2.0		3.7	3.5		176.6	277.6	28.1
2016 Q2 2016 Q3	1.4 3.5	3.7 5.0	2.9 2.6		4.9	2.5	0.3	1.3	1.8 1.6		3.6 3.4	3.5 3.5		178.8 182.0	283.0 290.3	25.8 18.1
2016 Q3 2016 Q4	3.1	6.1	1.6		4.9 4.7	1.6 3.4	0.3	1.2 1.7	2.2		3.4			183.3	290.3	22.5
2010 Q4 2017 Q1	-5.1	-2.7	-1.0		5.6		0.4	0.3	0.8		4.0			179.2	288.0	68.7
2017 Q1 2017 Q2	-7.5	-5.5	-4.0	-2.7	6.9	1.3	0.1	0.4	0.8		4.3	3.3		174.0	269.6	50.9
2017 Q2	-5.9	-4.1	-3.9	-2.6	8.0	1.3	0.1	0.5	0.9		4.5			168.0	251.5	57.2
2017 Q4	-5.1	-3.3	-3.7	-2.3	8.9	1.4	0.1	0.6	1.0		4.6			161.7	234.0	49.3
2018 Q1	-3.0	-1.4	-2.5		9.6	1.5	0.1	0.7	1.1	6.1	4.5	3.2		155.7	217.8	39.1
2018 Q2	0.0	1.6	-1.4	0.2	9.8	1.7	0.1	0.7	1.2		4.4	3.2	13325.5	148.3	206.4	31.9
2018 Q3	0.7	2.3	-0.4	1.1	10.0	1.7	0.1	0.8	1.3		4.4	3.2	14348.1	142.1	196.2	26.7
2018 Q4	3.0	4.5	0.8	2.4	9.9	1.9	0.1	0.9	1.4	5.0	4.3	3.2	15625.0	138.0	193.4	22.2
2019 Q1	3.0	4.4	1.4	2.9	9.8		0.1	1.0	1.5		4.1	3.2		137.5	192.1	19.3
2019 Q2	3.9	5.1	2.2	3.7	9.6	1.7	0.1	1.1	1.6	4.3	4.0	3.2	18738.7	138.2	194.0	16.8
2019 Q3	3.9	5.0	2.5	3.8	9.4	1.6	0.1	1.1	1.6	4.0	3.9	3.2	19908.7	139.6	198.0	16.0
2019 Q4	3.9	4.9	2.6	3.8	9.1	1.6	0.1	1.2	1.7	3.8	3.9	3.2	21185.7	141.8	202.6	14.9
2020 Q1	3.9	4.8	2.5	3.6	8.9	1.4	0.1	1.2	1.8	3.6	3.8	3.2	22577.4	144.6	207.3	14.3

Appendix 9: Severely Adverse Scenario - International

<u>Date</u>	Euro area real GDP growth	Euro area inflation	Euro area bilateral dollar exchange rate (USD/euro)	Developing Asia real GDP growth	Developing Asia inflation	Developing Asia bilateral dollar exchange rate (F/USD, index)	Japan real GDP growth	Japan inflation	Japan bilateral dollar exchange rate (yen/USD)	U.K. real GDP growth	U.K. inflation	U.K. bilateral dollar exchange rate (USD/pound)
2002 Q1	0.7	3.1	0.9	7.7	0.4	107.3	0.3	-2.7	132.7	1.7	2.0	1.4
2002 Q2	1.9	2.0	1.0	8.1	1.1	104.8	3.2	1.7	119.9	3.0	0.9	1.5
2002 Q3	1.6	1.6	1.0	7.2	1.5	105.5	1.7	-0.7	121.7	3.1	1.3	1.6
2002 Q4	0.4	2.3	1.0	6.5	0.8	104.5	1.5	-0.4	118.8	3.5	1.9	1.6
2003 Q1	-0.8	3.3		6.7	3.6	105.5	-1.2	-1.6	118.1	3.3	1.7	1.6
2003 Q2	0.2	0.5	1.2	2.1	1.2	104.0	3.8	1.7	119.9	3.7	0.2	1.7
2003 Q3	2.2	2.1	1.2	14.3	0.1	102.6	1.7	-0.7	111.4	4.0	1.7	1.7
2003 Q4	2.9	2.3	1.3	13.0	5.5	103.4	4.3	-0.6	107.1	3.3	1.7	1.8
2004 Q1	2.4	2.2		5.6	4.1	101.4	3.5	-0.9	104.2	2.3	1.4	1.8
2004 Q2	2.1	2.6	1.2	6.9	4.1	102.8	-0.3	1.1	109.4	1.9	0.8	1.8
2004 Q3	1.3	2.0	1.2	8.3	4.0	102.7	1.9	0.1	110.2	0.8	1.1	1.8
2004 Q4	1.4	2.4	1.4	6.4	0.8	98.9	-1.6	1.7	102.7	2.4	2.4	1.9
2005 Q1	0.8	1.4		10.6	2.9	98.6	2.2	-2.7	107.2	2.3	2.6	1.9
2005 Q2	2.6	2.2	1.2	8.6	1.5	98.9	3.6	-1.0	110.9	4.4	1.8	1.8
2005 Q3	3.1	3.1	1.2	9.3	2.3	98.6	3.9	-1.0	113.3	4.4	2.8	1.8
2005 Q4	2.5	2.5	1.2	11.7	1.7	98.1	0.7	0.2	117.9	5.5	1.4	1.7
2006 Q1	3.7	1.7		11.0	2.4	96.8	0.2	1.2	117.5	1.3	1.9	1.7
2006 Q2	4.2	2.5	1.3	7.0	3.2	96.7	1.7	0.4	114.5	0.9	3.0	1.8
2006 Q3	2.6	2.1		10.3	2.1	96.4	-0.7	0.4	118.0	0.6	3.3	1.9
2006 Q4	4.4	0.9	1.3	11.2	3.7	94.6	4.5	-0.6	119.0	1.4	2.7	2.0
2007 Q1	3.1	2.3	1.3	13.9	3.6	94.0	3.6	-0.7	117.6	4.1	2.5	2.0
2007 Q2	2.5	2.3	1.4	10.5	4.9	91.9	-0.4	0.4	123.4	3.0	1.8	2.0
2007 Q3	1.8	2.1		8.7	7.5	90.6	-1.2	0.3	115.0	3.1	0.3	2.0
2007 Q4	2.2	4.9		12.8	6.0	89.4	1.9	2.2	111.7	3.0	4.0	2.0
2008 Q1	2.0	4.3		7.2	8.1	88.0	1.6	1.3	99.9	0.6	3.4	2.0
2008 Q2	-1.3	3.2		5.9	6.4	88.7	-2.8	1.8	106.2	-2.6	5.8	2.0
2008 Q3	-2.2	3.2		3.1	2.8	91.5	-4.8	3.5	105.9	-6.6	5.9	1.8
2008 Q4	-6.8	-1.4		0.3	-1.0	92.2	-8.3	-2.1	90.8	-8.7	0.4	1.5
2009 Q1	-11.4	-1.1		4.4	-1.4	94.2	-18.0	-3.6	99.2	-6.4	-0.2	1.4
2009 Q2	-0.9	0.0		15.1	2.2	92.2	8.2	-1.6	96.4	-0.9	2.3	1.6
2009 Q3	1.2	1.1		12.8	3.9	91.3	-0.3	-1.4	89.5	0.3	3.6	1.6
2009 Q4	2.1	1.6		9.2	5.1	90.6	6.1	-1.6	93.1	1.6	2.8	1.6
2010 Q1	1.8	1.8		9.9	4.4	89.8	4.4	1.1	93.4	2.2	4.2	1.5
2010 Q2	4.0	2.0		9.7	3.4	91.0	4.0	-1.4	88.5	4.1	3.3	1.5
2010 Q3	1.6	1.6		8.8	4.0	88.4	7.7	-2.1	83.5	2.3	2.2	1.6
2010 Q4	2.3	2.6	1.3	9.3	7.7	87.4	-2.7	1.4	81.7	0.5	3.9	1.5

Appendix 9: Severely Adverse Scenario - International (Cont.)

<u>Date</u>	Euro area real GDP growth	Euro area inflation	Euro area bilateral dollar exchange rate (USD/euro)	Developing Asia real GDP growth	Developing Asia inflation	Developing Asia bilateral dollar exchange rate (F/USD, index)	Japan real GDP growth	Japan inflation	Japan bilateral dollar exchange rate (yen/USD)	U.K. real GDP growth	U.K. inflation	U.K. bilateral dollar exchange rate (USD/pound)
2011 Q1	3.2	3.7	1.4	9.8	6.3	86.4	-5.7	0.0	82.8	2.2	7.0	1.6
2011 Q2	0.0	3.2	1.5	6.5	5.4	85.3	-2.0	-0.8	80.6	0.3	4.6	1.6
2011 Q3	0.1	1.3	1.3	5.2	5.1	87.3	9.5	0.3	77.0	1.7	3.5	1.6
2011 Q4	-1.4	3.5	1.3	6.9	3.2	87.2	-0.5	-0.7	77.0	1.0	3.4	1.6
2012 Q1	-0.8	2.8		7.3	3.3	86.2	4.4	2.5	82.4	1.8	2.3	1.6
2012 Q2	-1.3	2.3		6.0	3.9	88.0	-1.6	-1.6	79.8	-0.3	1.9	1.6
2012 Q3	-0.6	1.6	1.3	6.5	2.1	86.3	-1.8	-1.8	77.9	4.7	2.0	1.6
2012 Q4	-1.7	2.4	1.3	7.3	3.6	85.9	0.3	0.3	86.6	-0.9	4.2	1.6
2013 Q1	-1.2	1.3	1.3	6.6	4.3	86.1	5.1	0.6	94.2	2.5	3.0	1.5
2013 Q2	1.8	0.4	1.3	6.5	2.9	87.1	4.3	-0.2	99.2	2.1	1.6	1.5
2013 Q3	1.3	1.2		7.8	3.7	86.7	2.4	2.4	98.3	3.1	2.0	1.6
2013 Q4	0.8	0.3		6.4	4.0	85.7	-0.8	3.1	105.3	2.0	1.7	1.7
2014 Q1	1.3	0.9		6.4	1.4	86.8	4.9	1.3	103.0	3.4	1.9	1.7
2014 Q2	0.7	-0.1		7.0	2.5	86.7	-7.1	7.7	101.3	3.8	1.5	1.7
2014 Q3	1.4	0.2		6.9	2.4	87.0	-0.8	1.6	109.7	3.3	0.6	1.6
2014 Q4	1.8	-0.4	1.2	5.6	1.2	88.1	2.1	-0.3	119.9	3.4	-0.4	1.6
2015 Q1	3.3	-0.8		6.2	0.8	88.1	6.3	0.4	120.0	1.0	-1.2	1.5
2015 Q2	1.5	1.8		6.6	2.7	88.3	-0.5	0.3	122.1	1.9	0.9	1.6
2015 Q3	1.1	-0.3		6.6	2.7	90.9	0.8		119.8	1.1	0.5	1.5
2015 Q4	2.0	0.0		5.4	1.6	92.2	-1.8	0.1	120.3	2.8	0.0	1.5
2016 Q1	2.0	-1.2		6.3	2.8	91.7	2.8		112.4	1.4	0.1	1.4
2016 Q2	1.2	1.2		6.4	2.7	94.0	1.8		102.8	2.6	0.9	1.3
2016 Q3	1.8	1.1	1.1	6.6	1.2	93.6	1.3	-0.8	101.2	2.3	1.9	1.3
2016 Q4	1.4	1.9		6.0	2.5	97.4	0.8		116.8	1.4	2.0	1.2
2017 Q1	-6.0	0.6		-0.1	0.5		-4.3	-3.1	113.0	-4.7	-0.1	1.2
2017 Q2	-7.0	-0.2		0.4	-0.5	112.1	-7.8		110.4	-6.6	-0.8	1.2
2017 Q3	-5.7	-1.0		2.2	-1.2	114.3	-9.2	-4.6	109.5	-6.1	-1.1	1.1
2017 Q4	-4.7	-1.5		3.4	-1.6		-9.5 	-4.9	108.0	-5.0	-1.0	1.1
2018 Q1	-2.9	-1.5		5.1	-1.6		-7.7	-4.2	108.1	-3.1	-0.6	1.1
2018 Q2	-1.5	-1.3		5.9	-1.3	113.2	-5.5		108.2	-1.4	-0.1	1.2
2018 Q3	-0.3	-0.9		6.2	-1.0	112.0	-3.6	-2.8	108.4	0.1	0.2	1.2
2018 Q4	0.6	-0.4		6.3	-0.6		-2.1	-2.2	108.7	1.2	0.6	1.2
2019 Q1	1.3	0.1	1.0	6.4	-0.2	109.6	-0.9	-1.6	108.7	2.0	0.8	1.2
2019 Q2	1.8	0.5		6.5	0.2	108.5	0.0	-1.1	108.7	2.6	1.0	1.2
2019 Q3	2.0	0.7	1.0	6.6	0.6	107.5	0.7	-0.6	108.9	2.9	1.1	1.2
2019 Q4	2.1	0.9		6.6	0.9	106.7	1.1	-0.3	109.2	3.0	1.3	1.2
2020 Q1	2.1	1.1	1.0	6.7	1.3	106.0	1.4	0.1	109.4	3.0	1.4	1.2

Appendix 10: Global Market Shock - Adverse

Securitized Products

Trading, PE & Other Fair Value AssetsSecuritized Products

								RMBS							
														_	·
	Non-Agency Prime	Cult materia	Option ARMS	041	Unspec Non- Prime	HELOC	RMBS CDO	RMBS CDS	Credit Basket	PrimeX	ABX / TABX	Prime Whole	Non-Prime Whole Loans	European RMBS	Other /
Balania any shaat Ba		Sub-prime	Option Akivis	Other AltA	Prime	HELUC	KIVIBS CDO	KIVIBS CDS	Credit Basket	Primex	ABX / TABX	Loans	whole Loans	KIVIBS	Unspecified
Relative MV Shock Bas	ed on Current	Rating (%)													
AAA Total Pre 2006	-6.4%	-6.4%	-6.4%	-6.4%	-6.4%	-6.4%	-6.4%	-6.4%	C 40/	-6.4%	C 40/	-6.4%	-6.4%	-6.4%	-6.4%
2006	-6.4%	-6.4%	-6.4%	-6.4%	-6.4%	-6.4%	-6.4%	-6.4%	-6.4% -17.2%	-17.2%	-6.4% -17.2%	-6.4%	-6.4%	-6.4%	-6.4%
2007	-17.2%	-17.2%	-17.2%	-17.2%	-17.2%	-17.2%	-17.2%	-17.2%	-17.2%	-17.2%	-17.2%	-15.7%	-17.2%	-17.2%	-17.2%
Post 2007	-15.7%	-15.7%	-15.7%	-15.7%	-15.7%	-15.7%	-15.7%	-15.7%	-15.7%	-15.7%	-15.7%	-15.7%	-15.7%	-15.7%	-15.7%
Unspecified Vintage	-15.7%	-15.7%	-15.7%	-15.7%	-15.7%	-15.7%	-15.7%	-15.7%	-15.7%	-15.7%	-15.7%	-15.7%	-15.7%	-15.7%	-15.7%
	13.770	13.770	13.776	13.770	13.770	13.770	15.770	13.770	13.770	13.770	13.770	13.770	15.770	13.770	15.776
AA Total															
Pre 2006	-13.3%	-13.3%	-13.3%	-13.3%	-13.3%	-13.3%	-13.3%	-13.3%	-13.3%	-13.3%	-13.3%	-13.3%	-13.3%	-13.3%	-13.3%
2006	-35.8%	-35.8%	-35.8%	-35.8%	-35.8%	-35.8%	-35.8%	-35.8%	-35.8%	-35.8%	-35.8%	-35.8%	-35.8%	-35.8%	-35.8%
2007	-32.7%	-32.7%	-32.7%	-32.7%	-32.7%	-32.7%	-32.7%	-32.7%	-32.7%	-32.7%	-32.7%	-32.7%	-32.7%	-32.7%	-32.7%
Post 2007	-32.7%	-32.7%	-32.7%	-32.7%	-32.7%	-32.7%	-32.7%	-32.7%	-32.7%	-32.7%	-32.7%	-32.7%	-32.7%	-32.7%	-32.7%
Unspecified Vintage	-32.7%	-32.7%	-32.7%	-32.7%	-32.7%	-32.7%	-32.7%	-32.7%	-32.7%	-32.7%	-32.7%	-32.7%	-32.7%	-32.7%	-32.7%
A Total															
Pre 2006	-14.2%	-14.2%	-14.2%	-14.2%	-14.2%	-14.2%	-14.2%	-14.2%	-14.2%	-14.2%	-14.2%	-14.2%	-14.2%	-14.2%	-14.2%
2006	-38.2%	-38.2%	-38.2%	-38.2%	-38.2%	-38.2%	-38.2%	-38.2%	-38.2%	-38.2%	-38.2%	-38.2%	-38.2%	-38.2%	-38.2%
2007	-34.9%	-34.9%	-34.9%	-34.9%	-34.9%	-34.9%	-34.9%	-34.9%	-34.9%	-34.9%	-34.9%	-34.9%	-34.9%	-34.9%	-34.9%
Post 2007	-34.9%	-34.9%	-34.9%	-34.9%	-34.9%	-34.9%	-34.9%	-34.9%	-34.9%	-34.9%	-34.9%	-34.9%	-34.9%	-34.9%	-34.9%
Unspecified Vintage	-34.9%	-34.9%	-34.9%	-34.9%	-34.9%	-34.9%	-34.9%	-34.9%	-34.9%	-34.9%	-34.9%	-34.9%	-34.9%	-34.9%	-34.9%
				<u>_</u>									!		
BBB Total			1 1												т
Pre 2006	-15.7%	-15.7%	-15.7%	-15.7%	-15.7%	-15.7%	-15.7%	-15.7%	-15.7%	-15.7%	-15.7%	-15.7%	-15.7%	-15.7%	-15.7%
2006	-42.3%	-42.3%	-42.3%	-42.3%	-42.3%	-42.3%	-42.3%	-42.3%	-42.3%	-42.3%	-42.3%	-42.3%	-42.3%	-42.3%	-42.3%
2007	-38.6%	-38.6%	-38.6%	-38.6%	-38.6%	-38.6%	-38.6%	-38.6%	-38.6%	-38.6%	-38.6%	-38.6%	-38.6%	-38.6%	-38.6%
Post 2007	-38.6%	-38.6%	-38.6%	-38.6%	-38.6%	-38.6%	-38.6%	-38.6%	-38.6%	-38.6%	-38.6%	-38.6%	-38.6%	-38.6%	-38.6%
Unspecified Vintage	-38.6%	-38.6%	-38.6%	-38.6%	-38.6%	-38.6%	-38.6%	-38.6%	-38.6%	-38.6%	-38.6%	-38.6%	-38.6%	-38.6%	-38.6%
BB Total															
Pre 2006	-20.2%	-20.2%	-20.2%	-20.2%	-20.2%	-20.2%	-20.2%	-20.2%	-20.2%	-20.2%	-20.2%	-20.2%	-20.2%	-20.2%	-20.2%
2006	-45.8%	-45.8%	-45.8%	-45.8%	-45.8%	-45.8%	-45.8%	-45.8%	-45.8%	-45.8%	-45.8%	-45.8%	-45.8%	-45.8%	-45.8%
2007	-45.8%	-45.8%	-45.8%	-45.8%	-45.8%	-45.8%	-45.8%	-45.8%	-45.8%	-45.8%	-45.8%	-45.8%	-45.8%	-45.8%	-45.8%
Post 2007	-45.8%	-45.8%	-45.8%	-45.8%	-45.8%	-45.8%	-45.8%	-45.8%	-45.8%	-45.8%	-45.8%	-45.8%	-45.8%	-45.8%	-45.8%
Unspecified Vintage	-45.8%	-45.8%	-45.8%	-45.8%	-45.8%	-45.8%	-45.8%	-45.8%	-45.8%	-45.8%	-45.8%	-45.8%	-45.8%	-45.8%	-45.8%
B Total															
Pre 2006	-20.2%	-20.2%	-20.2%	-20.2%	-20.2%	-20.2%	-20.2%	-20.2%	-20.2%	-20.2%	-20.2%	-20.2%	-20.2%	-20.2%	-20.2%
2006	-45.8%	-45.8%	-45.8%	-45.8%	-45.8%	-45.8%	-45.8%	-45.8%	-45.8%	-45.8%	-45.8%	-45.8%	-45.8%	-45.8%	-45.8%
2007	-45.8%	-45.8%	-45.8%	-45.8%	-45.8%	-45.8%	-45.8%	-45.8%	-45.8%	-45.8%	-45.8%	-45.8%	-45.8%	-45.8%	-45.8%
Post 2007	-45.8%	-45.8%	-45.8%	-45.8%	-45.8%	-45.8%	-45.8%	-45.8%	-45.8%	-45.8%	-45.8%	-45.8%	-45.8%	-45.8%	-45.8%
Unspecified Vintage	-45.8%	-45.8%	-45.8%	-45.8%	-45.8%	-45.8%	-45.8%	-45.8%	-45.8%	-45.8%	-45.8%	-45.8%	-45.8%	-45.8%	-45.8%
_	13.070	13.070	15.670	15.670	15.670	13.070	15.670	13.070	13.070	15.070	13.070	13.070	13.670	13.070	15.670
<b td="" total<=""><td></td><td></td><td>,</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>,</td><td></td><td>-</td>			,										,		-
Pre 2006	-20.2%	-20.2%	-20.2%	-20.2%	-20.2%	-20.2%	-20.2%	-20.2%	-20.2%	-20.2%	-20.2%	-20.2%	-20.2%	-20.2%	-20.2%
2006	-45.8%	-45.8%	-45.8%	-45.8%	-45.8%	-45.8%	-45.8%	-45.8%	-45.8%	-45.8%	-45.8%	-45.8%	-45.8%	-45.8%	-45.8%
2007	-45.8%	-45.8%	-45.8%	-45.8%	-45.8%	-45.8%	-45.8%	-45.8%	-45.8%	-45.8%	-45.8%	-45.8%	-45.8%	-45.8%	-45.8%
Post 2007	-45.8%	-45.8%	-45.8%	-45.8%	-45.8%	-45.8%	-45.8%	-45.8%	-45.8%	-45.8%	-45.8%	-45.8%	-45.8%	-45.8%	-45.8%
Unspecified Vintage	-45.8%	-45.8%	-45.8%	-45.8%	-45.8%	-45.8%	-45.8%	-45.8%	-45.8%	-45.8%	-45.8%	-45.8%	-45.8%	-45.8%	-45.8%
NR Total															
Pre 2006	-20.2%	-20.2%	-20.2%	-20.2%	-20.2%	-20.2%	-20.2%	-20.2%	-20.2%	-20.2%	-20.2%	-20.2%	-20.2%	-20.2%	-20.2%
2006	-45.8%	-45.8%	-45.8%	-45.8%	-45.8%	-45.8%	-45.8%	-45.8%	-45.8%	-45.8%	-45.8%	-45.8%	-45.8%	-45.8%	-45.8%
2007	-45.8%	-45.8%	-45.8%	-45.8%	-45.8%	-45.8%	-45.8%	-45.8%	-45.8%	-45.8%	-45.8%	-45.8%	-45.8%	-45.8%	-45.8%
Post 2007	-45.8%	-45.8%	-45.8%	-45.8%	-45.8%	-45.8%	-45.8%	-45.8%	-45.8%	-45.8%	-45.8%	-45.8%	-45.8%	-45.8%	-45.8%
Unspecified Vintage	-45.8%	-45.8%	-45.8%	-45.8%	-45.8%	-45.8%	-45.8%	-45.8%	-45.8%	-45.8%	-45.8%	-45.8%	-45.8%	-45.8%	-45.8%
5specified vilitage	45.070	43.070	45.670	43.070	43.070	45.070	-5.070	75.070	43.070	-5.070	43.070	45.070	75.070	45.070	45.070

Securitized Products

Trading, PE & Other Fair Value Assets

Securitized Products

				ABS							CMBS				Corporate	CDO / CLO	Ware	house	Ī
Į.																-			
			Student			Index	Other/	Cash Non-				Index		Other/		Other/		Total	Other /
	Autos	Credit Cards	Loans	ABS CDS	Credit Basket	Tranches	Unspecified	Agency CMBS	CMBS CDS	CMBS CDO	Credit Basket	Tranches	Whole Loans	Unspecified	CLO	Unspecified	Total Size	Protection	Unspecified
Relative MV Shock Base	ed on Curren	t Rating (%)															•		
AAA Total					1											1		ı	
Pre 2006	-2.1%	-6.6%	-5.4%	-6.6%	-6.6%	-6.6%	-6.6%	-2.5%	-1.5%	-2.5%	-1.5%	-1.5%	-2.5%	-2.5%	-3.0%	-3.0%	-9.2%	9.2%	-1.4%
2006	-2.1%	-6.6%	-6.0%	-6.6%	-6.6%	-6.6%	-6.6%	-1.4%	-0.8%	-1.4%	-0.8%	-0.8%	-1.4%	-1.4%	-3.0%	-3.0%	-11.1%	11.1%	-1.4%
2007	-2.1%	-6.6%	-7.2%	-7.2%	-7.2%	-7.2%	-7.2%	-2.7%	-1.6%	-2.7%	-1.6%	-1.6%	-2.7%	-2.7%	-3.0%	-3.0%	-11.1%	11.1%	-1.4%
Post 2007	-2.1%	-6.6% -6.6%	-5.8% -7.2%	-6.6% -7.2%	-6.6% -7.2%	-6.6% -7.2%	-6.6% -7.2%	-11.7% -2.7%	-7.0% -1.6%	-11.7% -2.7%	-7.0% -1.6%	-7.0% -1.6%	-11.7% -2.7%	-11.7% -2.7%	-8.9% -3.0%	-8.9% -3.0%	-9.2% -11.1%	9.2% 11.1%	-1.4% -1.4%
Unspecified Vintage	-2.1%	-0.0%	-1.2%	-7.2%	-7.2%	-7.2%	-7.2%	-2.7%	-1.6%	-2.1%	-1.6%	-1.0%	-2.7%	-2.7%	-3.0%	-3.0%	-11.1%	11.1%	-1.4%
AA Total																			
Pre 2006	-3.9%	-10.0%	-13.0%	-13.0%	-13.0%	-13.0%	-13.0%	-6.3%	-3.8%	-6.3%	-3.8%	-3.8%	-6.3%	-6.3%	-13.1%	-13.1%	-9.2%	9.2%	-1.4%
2006	-3.9%	-10.0%	-14.5%	-14.5%	-14.5%	-14.5%	-14.5%	-3.4%	-2.0%	-3.4%	-2.0%	-2.0%	-3.4%	-3.4%	-13.1%	-13.1%	-11.1%	11.1%	-1.4%
2007	-3.9%	-10.0%	-17.3%	-17.3%	-17.3%	-17.3%	-17.3%	-6.8%	-4.1%	-6.8%	-4.1%	-4.1%	-6.8%	-6.8%	-13.1%	-13.1%	-11.1%	11.1%	-1.4%
Post 2007	-3.9%	-10.0%	-14.0%	-14.0%	-14.0%	-14.0%	-14.0%	-29.2%	-17.5%	-29.2%	-17.5%	-17.5%	-29.2%	-29.2%	-28.0%	-28.0%	-9.2%	9.2%	-1.4%
Unspecified Vintage	-3.9%	-10.0%	-17.3%	-17.3%	-17.3%	-17.3%	-17.3%	-6.8%	-4.1%	-6.8%	-4.1%	-4.1%	-6.8%	-6.8%	-13.1%	-13.1%	-11.1%	11.1%	-1.4%
A Total																			
Pre 2006	-7.3%	-10.0%	-14.7%	-14.7%	-14.7%	-14.7%	-14.7%	-8.1%	-4.8%	-8.1%	-4.8%	-4.8%	-8.1%	-8.1%	-20.9%	-20.9%	-9.2%	9.2%	-1.4%
2006	-7.3%	-10.0%	-16.4%	-16.4%	-16.4%	-16.4%	-16.4%	-4.3%	-2.6%	-4.3%	-2.6%	-2.6%	-4.3%	-4.3%	-20.9%	-20.9%	-11.1%	11.1%	-1.4%
2007	-7.3%	-10.0%	-19.6%	-19.6%	-19.6%	-19.6%	-19.6%	-8.7%	-5.2%	-8.7%	-5.2%	-5.2%	-8.7%	-8.7%	-20.9%	-20.9%	-11.1%	11.1%	-1.4%
Post 2007	-7.3%	-10.0%	-15.9%	-15.9%	-15.9%	-15.9%	-15.9%	-37.2%	-22.3%	-37.2%	-22.3%	-22.3%	-37.2%	-37.2%	-41.2%	-41.2%	-9.2%	9.2%	-1.4%
Unspecified Vintage	-7.3%	-10.0%	-19.6%	-19.6%	-19.6%	-19.6%	-19.6%	-8.7%	-5.2%	-8.7%	-5.2%	-5.2%	-8.7%	-8.7%	-20.9%	-20.9%	-11.1%	11.1%	-1.4%
BBB Total																			
Pre 2006	-7.3%	-19.0%	-17.7%	-19.0%	-19.0%	-19.0%	-19.0%	-9.4%	-5.6%	-9.4%	-5.6%	-5.6%	-9.4%	-9.4%	-22.3%	-22.3%	-9.2%	9.2%	-22.0%
2006	-7.3%	-19.0%	-17.7%	-19.7%	-19.7%	-19.7%	-19.7%	-5.0%	-3.0%	-5.0%	-3.0%	-3.0%	-5.0%	-5.0%	-22.3%	-22.3%	-11.1%	11.1%	-22.0%
2007	-7.3%	-19.0%	-23.5%	-23.5%	-23.5%	-23.5%	-23.5%	-10.0%	-6.0%	-10.0%	-6.0%	-6.0%	-10.0%	-10.0%	-22.3%	-22.3%	-11.1%	11.1%	-22.0%
Post 2007	-7.3%	-19.0%	-19.0%	-19.0%	-19.0%	-19.0%	-19.0%	-43.1%	-25.8%	-43.1%	-25.8%	-25.8%	-43.1%	-43.1%	-43.0%	-43.0%	-9.2%	9.2%	-22.0%
Unspecified Vintage	-7.3%	-19.0%	-23.5%	-23.5%	-23.5%	-23.5%	-23.5%	-10.0%	-6.0%	-10.0%	-6.0%	-6.0%	-10.0%	-10.0%	-22.3%	-22.3%	-11.1%	11.1%	-22.0%
1		•		•			•	,		•			•			•			
BB Total	-9.4%	-19.0%	-17.7%	-19.0%	-19.0%	-19.0%	-19.0%	-9.4%	-5.6%	-9.4%	-5.6%	-5.6%	-9.4%	-9.4%	-23.8%	-23.8%	-9.2%	9.2%	-22.0%
Pre 2006 2006	-9.4%	-19.0%	-17.7%	-19.0%	-19.0%	-19.0%	-19.0%	-5.0%	-3.0%	-9.4%	-3.0%	-3.0%	-9.4%	-5.0%	-23.8%	-23.8%	-9.2% -11.1%	11.1%	-22.0%
2006	-9.4%	-19.0%	-19.7%	-19.7%	-13.7%	-19.7%	-19.7%	-10.0%	-6.0%	-10.0%	-6.0%	-6.0%	-10.0%	-10.0%	-23.8%	-23.8%	-11.1%	11.1%	-22.0%
Post 2007	-9.4%	-19.0%	-19.0%	-19.0%	-19.0%	-19.0%	-19.0%	-43.1%	-25.8%	-43.1%	-25.8%	-25.8%	-43.1%	-43.1%	-43.7%	-43.7%	-9.2%	9.2%	-22.0%
Unspecified Vintage	-9.4%	-19.0%	-23.5%	-23.5%	-23.5%	-23.5%	-23.5%	-10.0%	-6.0%	-10.0%	-6.0%	-6.0%	-10.0%	-10.0%	-22.3%	-22.3%	-11.1%	11.1%	-22.0%
1	3. 170	25.070	23.370	23.370	25.570	25.570	25.575	10.070	0.070	10.070	0.070	0.070	10.070	10.070	22.570	22.570	11.170	1 11.1/0	22.070
B Total					1					1									
Pre 2006	-9.4%	-19.0%	-17.7%	-19.0%	-19.0%	-19.0%	-19.0%	-9.4%	-5.6%	-9.4%	-5.6%	-5.6%	-9.4%	-9.4%	-23.8%	-23.8%	-9.2%	9.2%	-22.0%
2006	-9.4%	-19.0%	-19.7%	-19.7%	-19.7%	-19.7%	-19.7%	-5.0%	-3.0%	-5.0%	-3.0%	-3.0%	-5.0%	-5.0%	-23.8%	-23.8%	-11.1%	11.1%	-22.0%
2007	-9.4% -9.4%	-19.0% -19.0%	-23.5% -19.0%	-23.5%	-23.5%	-23.5%	-23.5%	-10.0%	-6.0% -25.8%	-10.0%	-6.0%	-6.0%	-10.0% -43.1%	-10.0% -43.1%	-23.8%	-23.8%	-11.1% -9.2%	11.1%	-22.0%
Post 2007 Unspecified Vintage	-9.4%	-19.0%	-19.0%	-19.0% -23.5%	-19.0% -23.5%	-19.0% -23.5%	-19.0% -23.5%	-43.1% -10.0%	-6.0%	-43.1% -10.0%	-25.8% -6.0%	-25.8% -6.0%	-43.1%	-43.1%	-43.7% -22.3%	-43.7% -22.3%	-9.2% -11.1%	9.2% 11.1%	-22.0% -22.0%
onspecified vintage	-9.4%	-19.0%	-23.3%	-23.3%	-23.3%	-23.376	-23.3%	-10.0%	-0.0%	-10.0%	-0.0%	-0.0%	-10.0%	-10.0%	-22.5%	-22.5%	-11.176	11.170	-22.0%
<b td="" total<=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td>																			
Pre 2006	-9.4%	-19.0%	-17.7%	-19.0%	-19.0%	-19.0%	-19.0%	-9.4%	-5.6%	-9.4%	-5.6%	-5.6%	-9.4%	-9.4%	-23.8%	-23.8%	-9.2%	9.2%	-22.0%
2006	-9.4%	-19.0%	-19.7%	-19.7%	-19.7%	-19.7%	-19.7%	-5.0%	-3.0%	-5.0%	-3.0%	-3.0%	-5.0%	-5.0%	-23.8%	-23.8%	-11.1%	11.1%	-22.0%
2007	-9.4%	-19.0%	-23.5%	-23.5%	-23.5%	-23.5%	-23.5%	-10.0%	-6.0%	-10.0%	-6.0%	-6.0%	-10.0%	-10.0%	-23.8%	-23.8%	-11.1%	11.1%	-22.0%
Post 2007	-9.4%	-19.0%	-19.0%	-19.0%	-19.0%	-19.0%	-19.0%	-43.1%	-25.8%	-43.1%	-25.8%	-25.8%	-43.1%	-43.1%	-43.7%	-43.7%	-9.2%	9.2%	-22.0%
Unspecified Vintage	-9.4%	-19.0%	-23.5%	-23.5%	-23.5%	-23.5%	-23.5%	-10.0%	-6.0%	-10.0%	-6.0%	-6.0%	-10.0%	-10.0%	-22.3%	-22.3%	-11.1%	11.1%	-22.0%
NR Total																			1 1
Pre 2006	-9.4%	-19.0%	-17.7%	-19.0%	-19.0%	-19.0%	-19.0%	-9.4%	-5.6%	-9.4%	-5.6%	-5.6%	-9.4%	-9.4%	-23.8%	-23.8%	-9.2%	9.2%	-22.0%
2006	-9.4%	-19.0%	-19.7%	-19.7%	-19.7%	-19.7%	-19.7%	-5.0%	-3.0%	-5.0%	-3.0%	-3.0%	-5.0%	-5.0%	-23.8%	-23.8%	-11.1%	11.1%	-22.0%
2007	-9.4%	-19.0%	-23.5%	-23.5%	-23.5%	-23.5%	-23.5%	-10.0%	-6.0%	-10.0%	-6.0%	-6.0%	-10.0%	-10.0%	-23.8%	-23.8%	-11.1%	11.1%	-22.0%
Post 2007	-9.4%	-19.0%	-19.0%	-19.0%	-19.0%	-19.0%	-19.0%	-43.1%	-25.8%	-43.1%	-25.8%	-25.8%	-43.1%	-43.1%	-43.7%	-43.7%	-9.2%	9.2%	-22.0%
Unspecified Vintage	-9.4%	-19.0%	-23.5%	-23.5%	-23.5%	-23.5%	-23.5%	-10.0%	-6.0%	-10.0%	-6.0%	-6.0%	-10.0%	-10.0%	-22.3%	-22.3%	-11.1%	11.1%	-22.0%
L																			

Municipals

Trading, PE & Other Fair Value Assets

Munis

	Spread Widening (bps)
Bonds	Spread Wideling (Sps)
AAA	43.3
AA	61.3
A	94.6
ВВВ	137.3
BB	274.6
В	411.9
<b< td=""><td>549.2</td></b<>	549.2
NR	549.2
NIX	343.2
Loans	
AAA	43.3
AA	61.3
A	94.6
ВВВ	137.3
BB	274.6
В	411.9
<b< td=""><td>549.2</td></b<>	549.2
NR	549.2
	3.3.2
CDS	
AAA	30.3
AA	42.9
A	66.2
ВВВ	96.1
ВВ	192.2
В	288.3
<b< td=""><td>384.4</td></b<>	384.4
NR	384.4
Indices	
AAA	21.5
AA	30.5
Α	47.0
ввв	68.2
ВВ	136.5
В	204.7
<b< td=""><td>273.0</td></b<>	273.0
NR	273.0
Other / Unspecified Munis	
AAA	43.3
AA	61.3
A	94.6
BBB	137.3
BB	274.6
В	411.9
<b< td=""><td>549.2</td></b<>	549.2
NR	549.2
	3.3.2

Agencies

Trading, PE & Other Fair Value Assets

Agencies

US Residential Agency Products

IOS
POS
Other CMOs
Pass-Throughs
Agency Debt/Debentures
IOS Index
POS Index
MBX Index
Other Agency Derivatives
TBA's
Reverse Mortgages
Residential Other / Unspecified

1,186.2	
109.9	
61.3	
50.5	
13.6	
1,186.2	
109.9	
50.5	
13.6	
50.5	
61.3	
50.5	

OAS Widening (bps)

US Commercial Agency Products

Cash Agency CMBS
Agency CMBS Derivatives
Commercial Other / Unspecified

50.0	
50.0	
50.0	

Non-US Agency Products

AAA		
AA		
Α		
BBB		
ВВ		
B <b< th=""><td></td><td></td></b<>		
<b< th=""><td></td><td></td></b<>		
NR		

74.9
111.7
147.7
183.7
219.7
255.7
291.7
291.7

Rates DV01

DFAST 2017 Market Shocks: Adverse Scenario

Rates DV01

							MATURITY						
Rates Shocks (bps)	1M	3M	6M	9М	1Y	2Y	3Y	5Y	7Y	10Y	15Y	20Y	30Y
AUD Directional Risks													
Governments	(7.6)	(7.6)	(7.2)	(6.8)	(6.4)	7.5	16.8	25.6	35.1	41.2	48.6	52.4	57.2
Agencies	(7.6)	(7.6)	(7.2)	(6.8)	(6.4)	7.5	16.8	25.6	35.1	41.2	48.6	52.4	57.2
Municipals	(7.6)	(7.6)	(7.2)	(6.8)	(6.4)	7.5	16.8	25.6	35.1	41.2	48.6	52.4	57.2
Swaps / Discounting Curve	(32.5)	(32.5)	(33.3)	(29.8)	(26.3)	(25.1)	(18.9)	(13.1)	(9.2)	(3.6)	0.7	1.7	0.7
Instruments shocked by MV**	(62.0)	(62.6)	(00.0)	(20.0)	(2010)	(2012)	(=0.0)	(20.2)	(0.2)	(5.5)			
Other	(32.5)	(32.5)	(33.3)	(29.8)	(26.3)	(25.1)	(18.9)	(13.1)	(9.2)	(3.6)	0.7	1.7	0.7
		•								•	•		•
AUD Basis Risks (Do not include the swap	o/discounting curve sp	ecified above)											
OIS Basis													
1m Basis													
3m Basis													
6m Basis													
12m Basis													
Other Basis													
	•						-						
CAD Directional Risks													
Governments	12.6	12.6	18.0	19.3	20.6	22.8	24.3	27.1	26.5	27.9	25.7	25.4	25.2
Agencies	12.6	12.6	18.0	19.3	20.6	22.8	24.3	27.1	26.5	27.9	25.7	25.4	25.2
Municipals	12.6	12.6	18.0	19.3	20.6	22.8	24.3	27.1	26.5	27.9	25.7	25.4	25.2
Swaps / Discounting Curve	22.7	22.7	22.8	24.9	27.0	31.2	33.2	36.1	36.0	36.4	37.3	37.0	34.9
Instruments shocked by MV**													
Other	22.7	22.7	22.8	24.9	27.0	31.2	33.2	36.1	36.0	36.4	37.3	37.0	34.9
						i							
CAD Basis Risks (Do not include the swap	o/discounting curve sp	ecified above)											
CAD Basis Risks (Do not include the swap	o/discounting curve sp	ecified above)			1								
	o/discounting curve sp	pecified above)											
OIS Basis 1m Basis	o/discounting curve sp	pecified above)											
OIS Basis 1m Basis 3m Basis	o/discounting curve sp	pecified above)											
OIS Basis 1m Basis 3m Basis 6m Basis	o/discounting curve sp	pecified above)											
OIS Basis 1m Basis 3m Basis 6m Basis 12m Basis	o/discounting curve sp	pecified above)											
OIS Basis 1m Basis 3m Basis 6m Basis	o/discounting curve sp	pecified above)											
OIS Basis 1m Basis 3m Basis 6m Basis 12m Basis	o/discounting curve sp	ecified above)											
OIS Basis 1m Basis 3m Basis 6m Basis 12m Basis Other Basis	o/discounting curve sp	secified above)											
OIS Basis 1m Basis 3m Basis 6m Basis 12m Basis Other Basis Other Basis			(1.6)	(1.6)	(1.7)	(1.4)	(1.2)	(0.9)	(0.7)	(0.6)	(0.4)	(0,4)	(0.3)
OIS Basis 1m Basis 3m Basis 6m Basis 12m Basis Other Basis Other Basis	(1.3)	(1.3)	(1.6)	(1.6)	(1.7)	(1.4)	(1.2)	(0.9)	(0.7)	(0.6)	(0.4)	(0.4)	(0.3)
OIS Basis 1m Basis 3m Basis 6m Basis 12m Basis Other Basis Other Basis CHF Directional Risks Governments Agencies	(1.3)	(1.3) (1.3)	(1.6)	(1.6)	(1.7)	(1.4)	(1.2)	(0.9)	(0.7)	(0.6)	(0.4)	(0.4)	(0.3)
OIS Basis 1m Basis 3m Basis 6m Basis 12m Basis Other Basis Other Basis CHF Directional Risks Governments Agencies Municipals	(1.3) (1.3) (1.3)	(1.3) (1.3) (1.3)	(1.6) (1.6)	(1.6) (1.6)	(1.7) (1.7)	(1.4) (1.4)	(1.2) (1.2)	(0.9) (0.9)	(0.7)	(0.6) (0.6)	(0.4)	(0.4)	(0.3)
OIS Basis 1m Basis 3m Basis 6m Basis 12m Basis Other Basis Other Basis CHF Directional Risks Governments Agencies Municipals Swaps / Discounting Curve	(1.3)	(1.3) (1.3)	(1.6)	(1.6)	(1.7)	(1.4)	(1.2)	(0.9)	(0.7)	(0.6)	(0.4)	(0.4)	(0.3)
OIS Basis 1m Basis 3m Basis 6m Basis 12m Basis Other Basis Other Basis CHF Directional Risks Governments Agencies Municipals Swaps / Discounting Curve Instruments shocked by MV**	(1.3) (1.3) (1.3) (1.6)	(1.3) (1.3) (1.3) (1.6)	(1.6) (1.6) (1.8)	(1.6) (1.6) (1.7)	(1.7) (1.7) (1.6)	(1.4) (1.4) (1.4)	(1.2) (1.2) (1.3)	(0.9) (0.9) (1.0)	(0.7) (0.7) (0.8)	(0.6) (0.6) (0.6)	(0.4) (0.4) (0.5)	(0.4) (0.4) (0.4)	(0.3) (0.3) (0.4)
OIS Basis 1m Basis 3m Basis 6m Basis 12m Basis Other Basis Other Basis CHF Directional Risks Governments Agencies Municipals Swaps / Discounting Curve	(1.3) (1.3) (1.3)	(1.3) (1.3) (1.3)	(1.6) (1.6)	(1.6) (1.6)	(1.7) (1.7)	(1.4) (1.4)	(1.2) (1.2)	(0.9) (0.9)	(0.7)	(0.6) (0.6)	(0.4)	(0.4)	(0.3)
OIS Basis 1m Basis 3m Basis 6m Basis 12m Basis Other Basis Other Basis CHF Directional Risks Governments Agencies Municipals Swaps / Discounting Curve Instruments shocked by MV** Other	(1.3) (1.3) (1.3) (1.6)	(1.3) (1.3) (1.3) (1.6) (1.6)	(1.6) (1.6) (1.8)	(1.6) (1.6) (1.7)	(1.7) (1.7) (1.6)	(1.4) (1.4) (1.4)	(1.2) (1.2) (1.3)	(0.9) (0.9) (1.0)	(0.7) (0.7) (0.8)	(0.6) (0.6) (0.6)	(0.4) (0.4) (0.5)	(0.4) (0.4) (0.4)	(0.3) (0.3) (0.4)
OIS Basis 1m Basis 3m Basis 6m Basis 12m Basis Other Basis Other Basis CHF Directional Risks Governments Agencies Municipals Swaps / Discounting Curve Instruments shocked by MV** Other CHF Basis Risks (Do not include the swap	(1.3) (1.3) (1.3) (1.6)	(1.3) (1.3) (1.3) (1.6) (1.6)	(1.6) (1.6) (1.8)	(1.6) (1.6) (1.7)	(1.7) (1.7) (1.6)	(1.4) (1.4) (1.4)	(1.2) (1.2) (1.3)	(0.9) (0.9) (1.0)	(0.7) (0.7) (0.8)	(0.6) (0.6) (0.6)	(0.4) (0.4) (0.5)	(0.4) (0.4) (0.4)	(0.3) (0.3) (0.4)
OIS Basis 1m Basis 3m Basis 6m Basis 12m Basis Other Basis Other Basis CHF Directional Risks Governments Agencies Municipals Swaps / Discounting Curve Instruments shocked by MV** Other CHF Basis Risks (Do not include the swap OIS Basis	(1.3) (1.3) (1.3) (1.6)	(1.3) (1.3) (1.3) (1.6) (1.6)	(1.6) (1.6) (1.8)	(1.6) (1.6) (1.7)	(1.7) (1.7) (1.6)	(1.4) (1.4) (1.4)	(1.2) (1.2) (1.3)	(0.9) (0.9) (1.0)	(0.7) (0.7) (0.8)	(0.6) (0.6) (0.6)	(0.4) (0.4) (0.5)	(0.4) (0.4) (0.4)	(0.3) (0.3) (0.4)
OIS Basis 1m Basis 3m Basis 6m Basis 12m Basis Other Basis Other Basis CHF Directional Risks Governments Agencies Municipals Swaps / Discounting Curve Instruments shocked by MV** Other CHF Basis Risks (Do not include the swap OIS Basis 1m Basis	(1.3) (1.3) (1.3) (1.6)	(1.3) (1.3) (1.3) (1.6) (1.6)	(1.6) (1.6) (1.8)	(1.6) (1.6) (1.7)	(1.7) (1.7) (1.6)	(1.4) (1.4) (1.4)	(1.2) (1.2) (1.3)	(0.9) (0.9) (1.0)	(0.7) (0.7) (0.8)	(0.6) (0.6) (0.6)	(0.4) (0.4) (0.5)	(0.4) (0.4) (0.4)	(0.3) (0.3) (0.4)
OIS Basis 1m Basis 3m Basis 6m Basis 12m Basis Other Basis Other Basis CHF Directional Risks Governments Agencies Municipals Swaps / Discounting Curve Instruments shocked by MV** Other CHF Basis Risks (Do not include the swap OIS Basis 1m Basis 3m Basis	(1.3) (1.3) (1.3) (1.6)	(1.3) (1.3) (1.3) (1.6) (1.6)	(1.6) (1.6) (1.8)	(1.6) (1.6) (1.7)	(1.7) (1.7) (1.6)	(1.4) (1.4) (1.4)	(1.2) (1.2) (1.3)	(0.9) (0.9) (1.0)	(0.7) (0.7) (0.8)	(0.6) (0.6) (0.6)	(0.4) (0.4) (0.5)	(0.4) (0.4) (0.4)	(0.3) (0.3) (0.4)
OIS Basis 1m Basis 3m Basis 6m Basis 12m Basis Other Basis Other Basis CHF Directional Risks Governments Agencies Municipals Swaps / Discounting Curve Instruments shocked by MV** Other CHF Basis Risks (Do not include the swap OIS Basis 1m Basis 3m Basis 6m Basis 6m Basis	(1.3) (1.3) (1.3) (1.6)	(1.3) (1.3) (1.3) (1.6) (1.6)	(1.6) (1.6) (1.8)	(1.6) (1.6) (1.7)	(1.7) (1.7) (1.6)	(1.4) (1.4) (1.4)	(1.2) (1.2) (1.3)	(0.9) (0.9) (1.0)	(0.7) (0.7) (0.8)	(0.6) (0.6) (0.6)	(0.4) (0.4) (0.5)	(0.4) (0.4) (0.4)	(0.3) (0.3) (0.4)
OIS Basis 1m Basis 3m Basis 6m Basis 12m Basis Other Basis Other Basis CHF Directional Risks Governments Agencies Municipals Swaps / Discounting Curve Instruments shocked by MV** Other CHF Basis Risks (Do not include the swap OIS Basis 1m Basis 3m Basis	(1.3) (1.3) (1.3) (1.6)	(1.3) (1.3) (1.3) (1.6) (1.6)	(1.6) (1.6) (1.8)	(1.6) (1.6) (1.7)	(1.7) (1.7) (1.6)	(1.4) (1.4) (1.4)	(1.2) (1.2) (1.3)	(0.9) (0.9) (1.0)	(0.7) (0.7) (0.8)	(0.6) (0.6) (0.6)	(0.4) (0.4) (0.5)	(0.4) (0.4) (0.4)	(0.3) (0.3) (0.4)

Rates DV01 (Continued)

DKK Directional Risks													
Governments	9.2	9.2	9.2	9.0	8.9	5.4	5.5	5.4	6.2	7.5	9.9	10.8	9.8
Agencies	9.2	9.2	9.2	9.0	8.9	5.4	5.5	5.4	6.2	7.5	9.9	10.8	9.8
Municipals	9.2	9.2	9.2	9.0	8.9	5.4	5.5	5.4	6.2	7.5	9.9	10.8	9.8
Swaps / Discounting Curve	11.1	11.1	10.8	10.0	9.1	6.8	5.5	5.4	6.5	8.4	10.4	10.8	10.0
Instruments shocked by MV**													
Other	11.1	11.1	10.8	10.0	9.1	6.8	5.5	5.4	6.5	8.4	10.4	10.8	10.0
					V		0.0			1			
DKK Basis Risks (Do not include the swap/d	liscounting curve sp	pecified above)	1	1	1	T	1					1	
OIS Basis													
1m Basis													
3m Basis								<u> </u>					
6m Basis													
12m Basis								<u> </u>					
Other Basis								<u> </u>					
EUR Directional Risks				•									
Governments: Austria	(4.7)	(4.7)	(11.4)	(14.8)	(18.2)	(24.7)	(28.3)	(33.0)	(36.7)	(41.3)	(46.4)	(50.5)	(56.0)
Governments: Belgium	(4.7)	(4.7)	(11.4)	(14.8)	(18.2)	(24.7)	(28.3)	(33.0)	(36.7)	(41.3)	(46.4)	(50.5)	(56.0)
Governments: Finland	(4.7)	(4.7)	(11.4)	(14.8)	(18.2)	(24.7)	(28.3)	(33.0)	(36.7)	(41.3)	(46.4)	(50.5)	(56.0)
Governments: France	(15.5)	(15.5)	(14.4)	(13.8)	(13.2)	(7.5)	(4.0)	1.5	4.8	8.9	13.2	16.1	19.4
Governments: Germany	(4.7)	(4.7)	(11.4)	(14.8)	(18.2)	(24.7)	(28.3)	(33.0)	(36.7)	(41.3)	(46.4)	(50.5)	(56.0)
Governments: Greece	69.4	130.2	221.5	312.8	404.1	769.4	1,256.5	953.9	824.2	727.0	651.4	612.4	574.6
Governments: Ireland	(4.7)	(4.7)	(11.4)	(14.8)	(18.2)	(24.7)	(28.3)	(33.0)	(36.7)	(41.3)	(46.4)	(50.5)	(56.0)
Governments: Italy	(22.1)	(22.1)	(20.3)	(17.1)	(14.0)	(4.7)	0.4	4.4	7.9	14.0	14.6	15.7	17.7
Governments: Netherlands	(5.8)	(5.8)	(6.3)	(4.6)	(2.8)	1.1	3.4	6.2	7.4	9.2	10.3	11.3	12.1
Governments: Portugal	(15.3)	(15.3)	(30.1)	(45.3)	(60.5)	(100.4)	(124.9)	(122.8)	(108.7)	(75.9)	(55.9)	(33.4)	(17.8)
Governments: Spain	(19.7)	(19.7)	(18.5)	(14.9)	(11.2)	(1.7)	4.4	12.2	18.9	26.1	31.4	33.9	37.3
Governments: Other	(5.8)	(5.8)	(6.3)	(4.6)	(2.8)	1.1	3.4	6.2	7.4	9.2	10.3	11.3	12.1
Agencies	(5.8)	(5.8)	(6.3)	(4.6)	(2.8)	1.1	3.4	6.2	7.4	9.2	10.3	11.3	12.1
Municipals	(5.8)	(5.8)	(6.3)	(4.6)	(2.8)	1.1	3.4	6.2	7.4	9.2	10.3	11.3	12.1
Swaps / Discounting Curve	(7.7)	(7.7)	(7.2)	(4.4)	(1.6)	4.5	7.5	11.6	14.8	18.9	23.2	25.4	27.1
Instruments shocked by MV**		, ,	, ,	, ,	, ,								
Other	(7.7)	(7.7)	(7.2)	(4.4)	(1.6)	4.5	7.5	11.6	14.8	18.9	23.2	25.4	27.1
EUR Basis Risks (Do not include the swap/d	liccounting cumes co	nacified above)											
OIS Basis	(1.3)	(1.1)	(1.0)	(0.9)	(0.9)	(0.7)	(0.2)	(0.2)	(0.7)	(1.5)	(2.1)	(2.3)	(2.4)
1m Basis	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.1	0.1	0.1	0.1
3m Basis	-												
6m Basis	1.9	1.5	1.4	1.3	1.3	0.8	0.2	0.1	0.4	0.6	0.7	0.7	0.5
12m Basis	5.1	4.0	3.7	3.5	3.4	1.9	0.5	0.3	0.9	1.4	1.5	1.4	1.0
Other Basis													
	'	•		1				1			•		
CDD Divertion of Biolog													
GBP Directional Risks Governments	(4.3)	(4.3)	(1.8)	1.9	5.6	7.3	4.9	0.5	(4.8)	(7.0)	(10.3)	(12.3)	(13.0)
		(4.3)	(1.8)			7.3	4.9		(4.8)		(10.3)	(12.3)	(13.0)
Agencies Municipals	(4.3)	(4.3)	(1.8)	1.9	5.6 5.6	7.3	4.9	0.5	(4.8)	(7.0) (7.0)	(10.3)	(12.3)	(13.0)
	23.4	23.4	16.9	18.2	19.6	18.1	14.9	8.5	3.6	(0.6)	(3.3)	(5.1)	(7.2)
Swaps / Discounting Curve Instruments shocked by MV**	23.4	23.4	10.9	16.2	13.0	10.1	14.9	0.5	5.0	(0.0)	(5.3)	(3.1)	(7.2)
Other	23.4	23.4	16.9	18.2	19.6	18.1	14.9	8.5	3.6	(0.6)	(3.3)	(5.1)	(7.2)
								1		1 (0.0)	()	(=/	1 ()
GBP Basis Risks (Do not include the swap/d			(4.0)	(4.0)	(4.0)	(4.4)	(4.4)	T (4.7)	(2.4)	T (2.5)	(2.0)	(2.0)	T (2.0)
OIS Basis	(0.7)	(0.9)	(1.0)	(1.0)	(1.0)	(1.4)	(1.4)	(1.7)	(2.1)	(2.5)	(2.8)	(2.8)	(2.9)
1m Basis	(2.0)	(2.7)	(2.7)	(2.8)	(2.9)	(3.0)	(2.8)	(2.8)	(2.8)	(2.8)	(2.8)	(2.6)	(2.3)
3m Basis								_	<u> </u>	_			<u> </u>
	1.8	2.4	2.4	2.5	2.5	2.3	2.0	1.9	2.0	2.1	2.2	2.2	2.2
6m Basis				_	_	-	_				_		
12m Basis Other Basis	3.9	5.2	5.3	5.4	5.5	6.0	5.9	5.5	5.4	5.3	5.1	4.9	4.5

Rates DV01 (Continued)

JPY Directional Risks	(5.6)	(5.6)	(6.3)	(5.4)	(4.4)	(6.5)	(10.6)	(15.2)	(21.7)	(23.3)	(29.9)	(33.4)	(35.2)
Governments	(5.6)	(5.6)	(6.3)	(5.4)	(4.4)	(6.5)	(10.6)	(15.2)	(21.7)		(29.9)	(33.4)	(35.2)
Agencies				(5.4)				(15.2)		(23.3)	(29.9)	(33.4)	
Municipals	(5.6)	(5.6)	(6.3)		(4.4)	(6.5)	(10.6)		(21.7) (11.8)	(23.3)		(35.4)	(35.2)
Swaps / Discounting Curve	4.2	4.2	4.2	2.6	1.0	(1.8)	(2.3)	(6.5)	(11.8)	(21.9)	(31.1)	(35.0)	(39.5)
Instruments shocked by MV**	1.3	4.3	4.3	2.6	4.0	(4.0)	(2.2)	(6.5)	(44.0)	(24.0)	(24.4)	(25.0)	(20.5)
Other	4.2	4.2	4.2	2.6	1.0	(1.8)	(2.3)	(6.5)	(11.8)	(21.9)	(31.1)	(35.0)	(39.5)
JPY Basis Risks (Do not include the swap/	discounting curve sne	cified above)											
OIS Basis	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1m TIBOR Basis	0.4	0.3	0.2	0.2	0.1	0.2	0.2	0.3	0.3	0.4	0.7	0.9	1.1
3m TIBOR Basis	0.4	0.5	0.2	0.2	0.1	0.2	0.2	0.5	0.5	0.4	0.7	0.5	1.1
6m TIBOR Basis	0.5	0.3	0.3	0.2	0.2	0.1	0.1	0.2	0.2	0.3	0.3	0.3	0.2
12m TIBOR Basis	0.5	0.5	0.5	0.2	0.2	0.1	0.1	0.2	0.2	0.5	0.5	0.5	0.2
1m LIBOR Basis	0.4	0.3	0.2	0.2	0.1	0.2	0.2	0.3	0.3	0.4	0.7	0.9	1.1
3m LIBOR Basis	0	0.5	0.2	0.2	0.1	0.2	0.2	0.5	0.5	0	0.7	0.5	1.1
6m LIBOR Basis	0.5	0.3	0.3	0.2	0.2	0.1	0.1	0.2	0.2	0.3	0.3	0.3	0.2
12m LIBOR Basis	0.5	0.5	0.5	0.2	0.2	0.1	0.1	0.2	0.2	0.5	0.5	0.5	0.2
Other Basis													
2000		1										l .	
NOK Directional Risks													
Governments	43.4	43.4	42.0	39.5	37.0	19.7	19.9	13.7	11.9	11.3	12.4	12.9	12.9
Agencies	43.4	43.4	42.0	39.5	37.0	19.7	19.9	13.7	11.9	11.3	12.4	12.9	12.9
Municipals	43.4	43.4	42.0	39.5	37.0	19.7	19.9	13.7	11.9	11.3	12.4	12.9	12.9
Swaps / Discounting Curve	7.8	7.8	9.3	12.2	15.2	11.4	7.6	0.6	(5.0)	(8.1)	(9.6)	(9.9)	(10.7)
Instruments shocked by MV**													
Other	7.8	7.8	9.3	12.2	15.2	11.4	7.6	0.6	(5.0)	(8.1)	(9.6)	(9.9)	(10.7)
			•	•	•	•		•	•				
NOK Basis Risks (Do not include the swap	discounting curve sp	ecified above)											
OIS Basis													
1m Basis													
3m Basis													
l													
6m Basis													
12m Basis													
12m Basis													
12m Basis Other Basis													
12m Basis Other Basis NZD Directional Risks													
12m Basis Other Basis NZD Directional Risks Governments	11.6	11.6	11.6	13.4	15.2	16.3	15.1	13.1	11.4	10.0	10.1	10.5	10.5
12m Basis Other Basis NZD Directional Risks Governments Agencies	11.6	11.6	11.6	13.4	15.2	16.3	15.1	13.1	11.4	10.0	10.1	10.5	10.5
12m Basis Other Basis NZD Directional Risks Governments Agencies Municipals	11.6 11.6	11.6 11.6	11.6 11.6	13.4 13.4	15.2 15.2	16.3 16.3	15.1 15.1	13.1 13.1	11.4 11.4	10.0 10.0	10.1 10.1	10.5 10.5	10.5 10.5
12m Basis Other Basis NZD Directional Risks Governments Agencies Municipals Swaps / Discounting Curve	11.6	11.6	11.6	13.4	15.2	16.3	15.1	13.1	11.4	10.0	10.1	10.5	10.5
12m Basis Other Basis NZD Directional Risks Governments Agencies Municipals Swaps / Discounting Curve Instruments shocked by MV**	11.6 11.6 11.6	11.6 11.6 11.6	11.6 11.6 11.6	13.4 13.4 13.4	15.2 15.2 15.2	16.3 16.3 16.3	15.1 15.1 15.1	13.1 13.1 13.1	11.4 11.4 11.4	10.0 10.0 10.0	10.1 10.1 10.1	10.5 10.5 10.5	10.5 10.5 10.5
12m Basis Other Basis NZD Directional Risks Governments Agencies Municipals Swaps / Discounting Curve	11.6 11.6	11.6 11.6	11.6 11.6	13.4 13.4	15.2 15.2	16.3 16.3	15.1 15.1	13.1 13.1	11.4 11.4	10.0 10.0	10.1 10.1	10.5 10.5	10.5 10.5
12m Basis Other Basis NZD Directional Risks Governments Agencies Municipals Swaps / Discounting Curve Instruments shocked by MV** Other	11.6 11.6 11.6 11.6	11.6 11.6 11.6 11.6	11.6 11.6 11.6	13.4 13.4 13.4	15.2 15.2 15.2	16.3 16.3 16.3	15.1 15.1 15.1	13.1 13.1 13.1	11.4 11.4 11.4	10.0 10.0 10.0	10.1 10.1 10.1	10.5 10.5 10.5	10.5 10.5 10.5
12m Basis Other Basis NZD Directional Risks Governments Agencies Municipals Swaps / Discounting Curve Instruments shocked by MV** Other NZD Basis Risks (Do not include the swap,	11.6 11.6 11.6 11.6	11.6 11.6 11.6 11.6	11.6 11.6 11.6	13.4 13.4 13.4	15.2 15.2 15.2	16.3 16.3 16.3	15.1 15.1 15.1	13.1 13.1 13.1	11.4 11.4 11.4	10.0 10.0 10.0	10.1 10.1 10.1	10.5 10.5 10.5	10.5 10.5 10.5
12m Basis Other Basis NZD Directional Risks Governments Agencies Municipals Swaps / Discounting Curve Instruments shocked by MV** Other NZD Basis Risks (Do not include the swap, OIS Basis	11.6 11.6 11.6 11.6	11.6 11.6 11.6 11.6	11.6 11.6 11.6	13.4 13.4 13.4	15.2 15.2 15.2	16.3 16.3 16.3	15.1 15.1 15.1	13.1 13.1 13.1	11.4 11.4 11.4	10.0 10.0 10.0	10.1 10.1 10.1	10.5 10.5 10.5	10.5 10.5 10.5
12m Basis Other Basis NZD Directional Risks Governments Agencies Municipals Swaps / Discounting Curve Instruments shocked by MV** Other NZD Basis Risks (Do not include the swap, OIS Basis Im Basis	11.6 11.6 11.6	11.6 11.6 11.6 11.6	11.6 11.6 11.6	13.4 13.4 13.4	15.2 15.2 15.2	16.3 16.3 16.3	15.1 15.1 15.1	13.1 13.1 13.1	11.4 11.4 11.4	10.0 10.0 10.0	10.1 10.1 10.1	10.5 10.5 10.5	10.5 10.5 10.5
12m Basis Other Basis NZD Directional Risks Governments Agencies Municipals Swaps / Discounting Curve Instruments shocked by MV** Other NZD Basis Risks (Do not include the swap, OIS Basis 1m Basis 3m Basis	11.6 11.6 11.6	11.6 11.6 11.6 11.6	11.6 11.6 11.6	13.4 13.4 13.4	15.2 15.2 15.2	16.3 16.3 16.3	15.1 15.1 15.1	13.1 13.1 13.1	11.4 11.4 11.4	10.0 10.0 10.0	10.1 10.1 10.1	10.5 10.5 10.5	10.5 10.5 10.5
12m Basis Other Basis NZD Directional Risks Governments Agencies Municipals Swaps / Discounting Curve Instruments shocked by MV** Other NZD Basis Risks (Do not include the swap, OIS Basis 1m Basis 3m Basis 6m Basis	11.6 11.6 11.6	11.6 11.6 11.6 11.6	11.6 11.6 11.6	13.4 13.4 13.4	15.2 15.2 15.2	16.3 16.3 16.3	15.1 15.1 15.1	13.1 13.1 13.1	11.4 11.4 11.4	10.0 10.0 10.0	10.1 10.1 10.1	10.5 10.5 10.5	10.5 10.5 10.5
12m Basis Other Basis NZD Directional Risks Governments Agencies Municipals Swaps / Discounting Curve Instruments shocked by MV** Other NZD Basis Risks (Do not include the swap, OIS Basis Im Basis 3m Basis 6m Basis 12m Basis 12m Basis	11.6 11.6 11.6	11.6 11.6 11.6 11.6	11.6 11.6 11.6	13.4 13.4 13.4	15.2 15.2 15.2	16.3 16.3 16.3	15.1 15.1 15.1	13.1 13.1 13.1	11.4 11.4 11.4	10.0 10.0 10.0	10.1 10.1 10.1	10.5 10.5 10.5	10.5 10.5 10.5
12m Basis Other Basis NZD Directional Risks Governments Agencies Municipals Swaps / Discounting Curve Instruments shocked by MV** Other NZD Basis Risks (Do not include the swap, OIS Basis 1m Basis 3m Basis 6m Basis	11.6 11.6 11.6	11.6 11.6 11.6 11.6	11.6 11.6 11.6	13.4 13.4 13.4	15.2 15.2 15.2	16.3 16.3 16.3	15.1 15.1 15.1	13.1 13.1 13.1	11.4 11.4 11.4	10.0 10.0 10.0	10.1 10.1 10.1	10.5 10.5 10.5	10.5 10.5 10.5
12m Basis Other Basis NZD Directional Risks Governments Agencies Municipals Swaps / Discounting Curve Instruments shocked by MV** Other NZD Basis Risks (Do not include the swap, OIS Basis Im Basis 3m Basis 6m Basis 12m Basis 12m Basis	11.6 11.6 11.6	11.6 11.6 11.6 11.6	11.6 11.6 11.6	13.4 13.4 13.4	15.2 15.2 15.2	16.3 16.3 16.3	15.1 15.1 15.1	13.1 13.1 13.1	11.4 11.4 11.4	10.0 10.0 10.0	10.1 10.1 10.1	10.5 10.5 10.5	10.5 10.5 10.5
12m Basis Other Basis NZD Directional Risks Governments Agencies Municipals Swaps / Discounting Curve Instruments shocked by MV** Other NZD Basis Risks (Do not include the swap, OIS Basis 1m Basis 3m Basis 6m Basis 12m Basis 12m Basis 0ther Basis Other Basis	11.6 11.6 11.6	11.6 11.6 11.6 11.6	11.6 11.6 11.6	13.4 13.4 13.4	15.2 15.2 15.2	16.3 16.3 16.3	15.1 15.1 15.1	13.1 13.1 13.1	11.4 11.4 11.4	10.0 10.0 10.0	10.1 10.1 10.1	10.5 10.5 10.5	10.5 10.5 10.5
12m Basis Other Basis NZD Directional Risks Governments Agencies Municipals Swaps / Discounting Curve Instruments shocked by MV** Other NZD Basis Risks (Do not include the swap, OIS Basis 1m Basis 3m Basis 6m Basis 12m Basis Other Basis	11.6 11.6 11.6 11.6 (discounting curve sp	11.6 11.6 11.6 11.6 11.6	11.6 11.6 11.6 11.6	13.4 13.4 13.4 13.4	15.2 15.2 15.2 15.2	16.3 16.3 16.3 16.3	15.1 15.1 15.1 15.1	13.1 13.1 13.1 13.1	11.4 11.4 11.4 11.4	10.0 10.0 10.0 10.0	10.1 10.1 10.1 10.1	10.5 10.5 10.5 10.5	10.5 10.5 10.5 10.5
12m Basis Other Basis NZD Directional Risks Governments Agencies Municipals Swaps / Discounting Curve Instruments shocked by MV** Other NZD Basis Risks (Do not include the swap, OIS Basis 1m Basis 3m Basis 6m Basis 12m Basis 12m Basis Other Basis Other Basis Governments	11.6 11.6 11.6 11.6 /discounting curve sp	11.6 11.6 11.6 11.6 ecified above)	11.6 11.6 11.6 11.6 (14.5)	13.4 13.4 13.4 13.4 (14.6)	15.2 15.2 15.2 15.2 15.2	16.3 16.3 16.3 16.3	15.1 15.1 15.1 15.1 (20.0)	13.1 13.1 13.1 13.1 (26.0)	11.4 11.4 11.4 11.4 (32.2)	10.0 10.0 10.0 10.0	10.1 10.1 10.1 10.1 (51.1)	10.5 10.5 10.5 10.5	10.5 10.5 10.5 10.5 (58.2)
12m Basis Other Basis NZD Directional Risks Governments Agencies Municipals Swaps / Discounting Curve Instruments shocked by MV** Other NZD Basis Risks (Do not include the swap, OIS Basis 1m Basis 3m Basis 6m Basis 12m Basis Other Basis Other Basis SEK Directional Risks Governments Agencies	11.6 11.6 11.6 11.6 (discounting curve sp	11.6 11.6 11.6 11.6 11.6 ecified above)	11.6 11.6 11.6 11.6 11.6 (14.5)	13.4 13.4 13.4 13.4 (14.6) (14.6)	15.2 15.2 15.2 15.2 15.2	16.3 16.3 16.3 16.3 (17.4)	15.1 15.1 15.1 15.1 (20.0) (20.0)	13.1 13.1 13.1 13.1 (26.0) (26.0)	11.4 11.4 11.4 11.4 (32.2) (32.2)	10.0 10.0 10.0 10.0 10.0	10.1 10.1 10.1 10.1 (51.1) (51.1)	10.5 10.5 10.5 10.5 10.5	10.5 10.5 10.5 10.5 (58.2)
12m Basis Other Basis NZD Directional Risks Governments Agencies Municipals Swaps / Discounting Curve Instruments shocked by MV** Other NZD Basis Risks (Do not include the swap, OIS Basis 1m Basis 3m Basis 6m Basis 12m Basis Other Basis Other Basis Other Basis Municipals	11.6 11.6 11.6 11.6 (discounting curve sp	11.6 11.6 11.6 11.6 11.6 (15.7) (15.7)	11.6 11.6 11.6 11.6 11.6 (14.5) (14.5) (14.5)	13.4 13.4 13.4 13.4 13.4 (14.6) (14.6) (14.6)	15.2 15.2 15.2 15.2 15.2 (14.7) (14.7) (14.7)	16.3 16.3 16.3 16.3 16.3 (17.4) (17.4) (17.4)	15.1 15.1 15.1 15.1 (20.0) (20.0) (20.0)	13.1 13.1 13.1 13.1 (26.0) (26.0) (26.0)	11.4 11.4 11.4 11.4 11.4 (32.2) (32.2) (32.2)	10.0 10.0 10.0 10.0 10.0	(51.1) (51.1) (51.1)	10.5 10.5 10.5 10.5 10.5 (57.2) (57.2)	10.5 10.5 10.5 10.5 10.5
12m Basis Other Basis NZD Directional Risks Governments Agencies Municipals Swaps / Discounting Curve Instruments shocked by MV** Other NZD Basis Risks (Do not include the swap, OIS Basis 1m Basis 3m Basis 6m Basis 12m Basis Other Basis Other Basis Other Basis SEK Directional Risks Governments Agencies Municipals Swaps / Discounting Curve	11.6 11.6 11.6 11.6 (discounting curve sp	11.6 11.6 11.6 11.6 11.6 ecified above)	11.6 11.6 11.6 11.6 11.6 (14.5)	13.4 13.4 13.4 13.4 (14.6) (14.6)	15.2 15.2 15.2 15.2 15.2	16.3 16.3 16.3 16.3 (17.4)	15.1 15.1 15.1 15.1 (20.0) (20.0)	13.1 13.1 13.1 13.1 (26.0) (26.0)	11.4 11.4 11.4 11.4 (32.2) (32.2)	10.0 10.0 10.0 10.0 10.0	10.1 10.1 10.1 10.1 (51.1) (51.1)	10.5 10.5 10.5 10.5 10.5	10.5 10.5 10.5 10.5 10.5
12m Basis Other Basis NZD Directional Risks Governments Agencies Municipals Swaps / Discounting Curve Instruments shocked by MV** Other NZD Basis Risks (Do not include the swap, OIS Basis 1m Basis 3m Basis 6m Basis 12m Basis Other Basis Other Basis SEK Directional Risks Governments Agencies Municipals Swaps / Discounting Curve Instruments shocked by MV**	11.6 11.6 11.6 11.6 (discounting curve sp	11.6 11.6 11.6 11.6 11.6 (15.7) (15.7) (15.7) (21.9)	11.6 11.6 11.6 11.6 11.6 (14.5) (14.5) (14.5) (25.8)	13.4 13.4 13.4 13.4 13.4 (14.6) (14.6) (14.6) (23.8)	15.2 15.2 15.2 15.2 15.2 15.2 (14.7) (14.7) (14.7) (21.8)	16.3 16.3 16.3 16.3 16.3 (17.4) (17.4) (17.4) (17.4) (22.8)	15.1 15.1 15.1 15.1 (20.0) (20.0) (20.0) (25.0)	13.1 13.1 13.1 13.1 (26.0) (26.0) (26.0) (26.0) (30.4)	11.4 11.4 11.4 11.4 11.4 (32.2) (32.2) (32.2) (35.3)	10.0 10.0 10.0 10.0 10.0 (40.1) (40.1) (40.1) (41.3)	(51.1) (51.1) (48.4)	10.5 10.5 10.5 10.5 10.5 (57.2) (57.2) (57.2) (57.2)	10.5 10.5 10.5 10.5 10.5 (58.2) (58.2) (58.2) (55.5)
12m Basis Other Basis NZD Directional Risks Governments Agencies Municipals Swaps / Discounting Curve Instruments shocked by MV** Other NZD Basis Risks (Do not include the swap, OIS Basis 1m Basis 3m Basis 6m Basis 12m Basis Other Basis Other Basis Other Basis SEK Directional Risks Governments Agencies Municipals Swaps / Discounting Curve	11.6 11.6 11.6 11.6 (discounting curve sp	11.6 11.6 11.6 11.6 11.6 (15.7) (15.7)	11.6 11.6 11.6 11.6 11.6 (14.5) (14.5) (14.5)	13.4 13.4 13.4 13.4 13.4 (14.6) (14.6) (14.6)	15.2 15.2 15.2 15.2 15.2 (14.7) (14.7) (14.7)	16.3 16.3 16.3 16.3 16.3 (17.4) (17.4) (17.4)	15.1 15.1 15.1 15.1 (20.0) (20.0) (20.0)	13.1 13.1 13.1 13.1 (26.0) (26.0) (26.0)	11.4 11.4 11.4 11.4 11.4 (32.2) (32.2) (32.2)	10.0 10.0 10.0 10.0 10.0	(51.1) (51.1) (51.1)	10.5 10.5 10.5 10.5 10.5 (57.2) (57.2)	10.5 10.5 10.5 10.5 10.5
12m Basis Other Basis Other Basis NZD Directional Risks Governments Agencies Municipals Swaps / Discounting Curve Instruments shocked by MV** Other NZD Basis Risks (Do not include the swap. OIS Basis 1m Basis 3m Basis 6m Basis 12m Basis Other Basis Other Basis Other Basis Governments Agencies Municipals Swaps / Discounting Curve Instruments shocked by MV** Other	11.6 11.6 11.6 11.6 (15.7) (15.7) (15.7) (21.9)	11.6 11.6 11.6 11.6 11.6 (15.7) (15.7) (15.7) (21.9)	11.6 11.6 11.6 11.6 11.6 (14.5) (14.5) (14.5) (25.8)	13.4 13.4 13.4 13.4 13.4 (14.6) (14.6) (14.6) (23.8)	15.2 15.2 15.2 15.2 15.2 15.2 (14.7) (14.7) (14.7) (21.8)	16.3 16.3 16.3 16.3 16.3 (17.4) (17.4) (17.4) (17.4) (22.8)	15.1 15.1 15.1 15.1 (20.0) (20.0) (20.0) (25.0)	13.1 13.1 13.1 13.1 (26.0) (26.0) (26.0) (26.0) (30.4)	11.4 11.4 11.4 11.4 11.4 (32.2) (32.2) (32.2) (35.3)	10.0 10.0 10.0 10.0 10.0 (40.1) (40.1) (40.1) (41.3)	(51.1) (51.1) (48.4)	10.5 10.5 10.5 10.5 10.5 (57.2) (57.2) (57.2) (57.2)	10.5 10.5 10.5 10.5 10.5 (58.2) (58.2) (58.2) (55.5)
12m Basis Other Basis NZD Directional Risks Governments Agencies Municipals Swaps / Discounting Curve Instruments shocked by MV** Other NZD Basis Risks (Do not include the swap, OIS Basis 1m Basis 3m Basis 6m Basis 12m Basis Other Basis Other Basis SEK Directional Risks Governments Agencies Municipals Swaps / Discounting Curve Instruments shocked by MV** Other	11.6 11.6 11.6 11.6 (15.7) (15.7) (15.7) (21.9)	11.6 11.6 11.6 11.6 11.6 (15.7) (15.7) (15.7) (21.9)	11.6 11.6 11.6 11.6 11.6 (14.5) (14.5) (14.5) (25.8)	13.4 13.4 13.4 13.4 13.4 (14.6) (14.6) (14.6) (23.8)	15.2 15.2 15.2 15.2 15.2 15.2 (14.7) (14.7) (14.7) (21.8)	16.3 16.3 16.3 16.3 16.3 (17.4) (17.4) (17.4) (17.4) (22.8)	15.1 15.1 15.1 15.1 (20.0) (20.0) (20.0) (25.0)	13.1 13.1 13.1 13.1 (26.0) (26.0) (26.0) (26.0) (30.4)	11.4 11.4 11.4 11.4 11.4 (32.2) (32.2) (32.2) (35.3)	10.0 10.0 10.0 10.0 10.0 (40.1) (40.1) (40.1) (41.3)	(51.1) (51.1) (48.4)	10.5 10.5 10.5 10.5 10.5 (57.2) (57.2) (57.2) (57.2)	10.5 10.5 10.5 10.5 10.5 (58.2) (58.2) (58.2) (55.5)
12m Basis Other Basis NZD Directional Risks Governments Agencies Municipals Swaps / Discounting Curve Instruments shocked by MV** Other NZD Basis Risks (Do not include the swap, OIS Basis 1m Basis 3m Basis 6m Basis 12m Basis Other Basis Other Basis SEK Directional Risks Governments Agencies Municipals Swaps / Discounting Curve Instruments shocked by MV** Other SEK Basis Risks (Do not include the swap/ Ots Basis Risks (Do not include the swap/	11.6 11.6 11.6 11.6 (15.7) (15.7) (15.7) (21.9)	11.6 11.6 11.6 11.6 11.6 (15.7) (15.7) (15.7) (21.9)	11.6 11.6 11.6 11.6 11.6 (14.5) (14.5) (14.5) (25.8)	13.4 13.4 13.4 13.4 13.4 (14.6) (14.6) (14.6) (23.8)	15.2 15.2 15.2 15.2 15.2 15.2 (14.7) (14.7) (14.7) (21.8)	16.3 16.3 16.3 16.3 16.3 (17.4) (17.4) (17.4) (17.4) (22.8)	15.1 15.1 15.1 15.1 (20.0) (20.0) (20.0) (25.0)	13.1 13.1 13.1 13.1 (26.0) (26.0) (26.0) (26.0) (30.4)	11.4 11.4 11.4 11.4 11.4 (32.2) (32.2) (32.2) (35.3)	10.0 10.0 10.0 10.0 10.0 (40.1) (40.1) (40.1) (41.3)	(51.1) (51.1) (48.4)	10.5 10.5 10.5 10.5 10.5 (57.2) (57.2) (57.2) (57.2)	10.5 10.5 10.5 10.5 10.5 (58.2) (58.2) (58.2) (55.5)
12m Basis Other Basis Other Basis NZD Directional Risks Governments Agencies Municipals Swaps / Discounting Curve Instruments shocked by MV** Other NZD Basis Risks (Do not include the swap, OIS Basis 1m Basis 3m Basis 6m Basis 12m Basis Other Basis Other Basis SEK Directional Risks Governments Agencies Municipals Swaps / Discounting Curve Instruments shocked by MV** Other SEK Basis Risks (Do not include the swap) OIS Basis OIS Basis OIS Basis Risks (Do not include the swap) OIS Basis	11.6 11.6 11.6 11.6 (15.7) (15.7) (15.7) (21.9)	11.6 11.6 11.6 11.6 11.6 (15.7) (15.7) (15.7) (21.9)	11.6 11.6 11.6 11.6 11.6 (14.5) (14.5) (14.5) (25.8)	13.4 13.4 13.4 13.4 13.4 (14.6) (14.6) (14.6) (23.8)	15.2 15.2 15.2 15.2 15.2 15.2 (14.7) (14.7) (14.7) (21.8)	16.3 16.3 16.3 16.3 16.3 (17.4) (17.4) (17.4) (17.4) (22.8)	15.1 15.1 15.1 15.1 (20.0) (20.0) (20.0) (25.0)	13.1 13.1 13.1 13.1 (26.0) (26.0) (26.0) (26.0) (30.4)	11.4 11.4 11.4 11.4 11.4 (32.2) (32.2) (32.2) (35.3)	10.0 10.0 10.0 10.0 10.0 (40.1) (40.1) (40.1) (41.3)	(51.1) (51.1) (48.4)	10.5 10.5 10.5 10.5 10.5 (57.2) (57.2) (57.2) (57.2)	10.5 10.5 10.5 10.5 10.5 (58.2) (58.2) (58.2) (55.5)
12m Basis Other Basis NZD Directional Risks Governments Agencies Municipals Swaps / Discounting Curve Instruments shocked by MV** Other NZD Basis Risks (Do not include the swap, OIS Basis 1m Basis 3m Basis 12m Basis 12m Basis Other Basis Other Basis SEK Directional Risks Governments Agencies Municipals Swaps / Discounting Curve Instruments shocked by MV** Other SEK Basis Risks (Do not include the swap/ Other	11.6 11.6 11.6 11.6 (15.7) (15.7) (15.7) (21.9)	11.6 11.6 11.6 11.6 11.6 (15.7) (15.7) (15.7) (21.9)	11.6 11.6 11.6 11.6 11.6 (14.5) (14.5) (14.5) (25.8)	13.4 13.4 13.4 13.4 13.4 (14.6) (14.6) (14.6) (23.8)	15.2 15.2 15.2 15.2 15.2 15.2 (14.7) (14.7) (14.7) (21.8)	16.3 16.3 16.3 16.3 16.3 (17.4) (17.4) (17.4) (17.4) (22.8)	15.1 15.1 15.1 15.1 (20.0) (20.0) (20.0) (25.0)	13.1 13.1 13.1 13.1 (26.0) (26.0) (26.0) (26.0) (30.4)	11.4 11.4 11.4 11.4 11.4 (32.2) (32.2) (32.2) (35.3)	10.0 10.0 10.0 10.0 10.0 (40.1) (40.1) (40.1) (41.3)	(51.1) (51.1) (48.4)	10.5 10.5 10.5 10.5 10.5 (57.2) (57.2) (57.2) (57.2)	10.5 10.5 10.5 10.5 10.5 (58.2) (58.2) (58.2) (55.5)
12m Basis Other Basis Other Basis NZD Directional Risks Governments Agencies Municipals Swaps / Discounting Curve Instruments shocked by MV** Other NZD Basis Risks (Do not include the swap. OIS Basis 1m Basis 3m Basis 6m Basis 12m Basis Other Basis Other Basis Other Basis Other Basis SEK Directional Risks Governments Agencies Municipals Swaps / Discounting Curve Instruments shocked by MV** Other SEK Basis Risks (Do not include the swap/ OIS Basis 1m Basis 3m Basis 6m Basis 6m Basis	11.6 11.6 11.6 11.6 (15.7) (15.7) (15.7) (21.9)	11.6 11.6 11.6 11.6 11.6 (15.7) (15.7) (15.7) (21.9)	11.6 11.6 11.6 11.6 11.6 (14.5) (14.5) (14.5) (25.8)	13.4 13.4 13.4 13.4 13.4 (14.6) (14.6) (14.6) (23.8)	15.2 15.2 15.2 15.2 15.2 15.2 (14.7) (14.7) (14.7) (21.8)	16.3 16.3 16.3 16.3 16.3 (17.4) (17.4) (17.4) (17.4) (22.8)	15.1 15.1 15.1 15.1 (20.0) (20.0) (20.0) (25.0)	13.1 13.1 13.1 13.1 (26.0) (26.0) (26.0) (26.0) (30.4)	11.4 11.4 11.4 11.4 11.4 (32.2) (32.2) (32.2) (35.3)	10.0 10.0 10.0 10.0 10.0 (40.1) (40.1) (40.1) (41.3)	(51.1) (51.1) (48.4)	10.5 10.5 10.5 10.5 10.5 (57.2) (57.2) (57.2) (57.2)	10.5 10.5 10.5 10.5 10.5 (58.2) (58.2) (58.2) (55.5)
12m Basis Other Basis NZD Directional Risks Governments Agencies Municipals Swaps / Discounting Curve Instruments shocked by MV** Other NZD Basis Risks (Do not include the swap, OIS Basis 1m Basis 3m Basis 6m Basis 12m Basis Other Basis Other Basis Covernments Agencies Municipals Swaps / Discounting Curve Instruments shocked by MV** Other SEK Basis Risks (Do not include the swap, OIS Basis 1m Basis 1m Basis 1m Basis	11.6 11.6 11.6 11.6 (15.7) (15.7) (15.7) (21.9)	11.6 11.6 11.6 11.6 11.6 (15.7) (15.7) (15.7) (21.9)	11.6 11.6 11.6 11.6 11.6 (14.5) (14.5) (14.5) (25.8)	13.4 13.4 13.4 13.4 13.4 (14.6) (14.6) (14.6) (23.8)	15.2 15.2 15.2 15.2 15.2 15.2 (14.7) (14.7) (14.7) (21.8)	16.3 16.3 16.3 16.3 16.3 (17.4) (17.4) (17.4) (17.4) (22.8)	15.1 15.1 15.1 15.1 (20.0) (20.0) (20.0) (25.0)	13.1 13.1 13.1 13.1 (26.0) (26.0) (26.0) (26.0) (30.4)	11.4 11.4 11.4 11.4 11.4 (32.2) (32.2) (32.2) (35.3)	10.0 10.0 10.0 10.0 10.0 (40.1) (40.1) (40.1) (41.3)	(51.1) (51.1) (48.4)	10.5 10.5 10.5 10.5 10.5 (57.2) (57.2) (57.2) (57.2)	10.5 10.5 10.5 10.5 10.5 (58.2) (58.2) (58.2) (55.5)

Rates DV01 (Continued)

USD Directional Risks													
Governments	(25.3)	(25.3)	(28.2)	(35.2)	(42.3)	(38.3)	(33.8)	(19.6)	(14.5)	(18.2)	(18.6)	(21.6)	(21.8)
Agencies	(25.3)	(25.3)	(28.2)	(35.2)	(42.3)	(38.3)	(33.8)	(19.6)	(14.5)	(18.2)	(18.6)	(21.6)	(21.8)
Municipals	(25.3)	(25.3)	(28.2)	(35.2)	(42.3)	(38.3)	(33.8)	(19.6)	(14.5)	(18.2)	(18.6)	(21.6)	(21.8)
Swaps / Discounting Curve	(1.6)	(1.6)	(1.6)	(5.6)	(9.5)	(12.6)	(8.8)	(3.7)	(0.5)	2.2	3.7	3.2	1.8
Instruments shocked by MV**													
Other	(1.6)	(1.6)	(1.6)	(5.6)	(9.5)	(12.6)	(8.8)	(3.7)	(0.5)	2.2	3.7	3.2	1.8
USD Basis Risks (Do not include the swap/disco			(44.2)	(4.4.4)	(44.5)	(0.2)	(5.2)	(4.2)	(4.2)	(0.0)	(0.0)	(0.0)	(0.0)
Prime Basis	(11.9)	(11.8)	(11.2)	(11.4)	(11.6)	(8.3)	(5.2)	(4.2)	(1.2)	(0.8)	(0.8)	(0.8)	(0.8)
CP Basis	(13.7)	(13.5)	(12.9)	(13.0)	(13.3)	(9.7)	(8.6)	(5.6)	(2.9)	(4.0)	(4.1)	(4.2)	(4.1)
OIS Basis	(9.5)	(9.4)	(9.0)	(9.1)	(9.3)	(6.5)	(3.6)	(2.8)	(1.8)	(1.8)	(1.8)	2.1	(1.8) 2.6
1m Basis 3m Basis	(26.6)	(26.3)	(15.6)	(11.4)	(10.2)	(5.7)	(3.8)	(1.5)	(0.4)	0.6	0.6	2.1	2.6
6m Basis	10.5	10.4	9.9	10.0	10.2	7.9	7.1	5.7	5.2	5.1	5.3	5.3	5.3
F	21.7	21.5	20.5	20.7	21.2	16.9	14.9	11.9	10.7	11.1	8.4	7.5	5.5
12m Basis Other Basis	21./	21.5	20.5	20.7	21.2	10.9	14.5	11.9	10.7	11.1	0.4	7.5	5.5
Other pasis		ļ											
Т	(31.4)	8.8	(2.5)	8.3	19.2	19.5	20.1	21.3	21.2	20.1	15.1	12.1	8.5
Absolute increase in Muni SIFMA/Libor Ratio	(31.4)	0.0	(2.5)	0.5	15.2	15.5	20.1	21.5	21.2	20.1	13.1	12.1	0.5
(Pts)													
Other Advanced Economies Directional Risks													
Governments	(25.3)	(25.3)	(28.2)	(35.2)	(42.3)	(38.3)	(33.8)	(19.6)	(14.5)	(18.2)	(18.6)	(21.6)	(21.8)
Agencies	(25.3)	(25.3)	(28.2)	(35.2)	(42.2)	(20.2)	(33.8)	(10 C)	(4.4.5)	/10.3\	(18.6)	(21.6)	(21.8)
ABCIICIES .	(25.3)	(25.3)	(28.2)	(35.2)	(42.3)	(38.3)	(33.8)	(19.6)	(14.5)	(18.2)	(18.6)	(21.6)	(21.0)
Municipals	(25.3)	(25.3)	(28.2)	(35.2)	(42.3)	(38.3)	(33.8)	(19.6)	(14.5)	(18.2)	(18.6)	(21.6)	(21.8)
 								, ,	. ,				. ,
Municipals	(25.3)	(25.3)	(28.2)	(35.2)	(42.3)	(38.3)	(33.8)	(19.6)	(14.5)	(18.2)	(18.6)	(21.6)	(21.8)
Municipals Swaps / Discounting Curve	(25.3)	(25.3)	(28.2)	(35.2)	(42.3)	(38.3)	(33.8)	(19.6)	(14.5)	(18.2)	(18.6)	(21.6)	(21.8)
Municipals Swaps / Discounting Curve Instruments shocked by MV**	(25.3) (1.6)	(25.3) (1.6)	(28.2)	(35.2) (5.6)	(42.3) (9.5)	(38.3) (12.6)	(33.8)	(19.6) (3.7)	(14.5) (0.5)	(18.2)	(18.6)	(21.6)	(21.8)
Municipals Swaps / Discounting Curve Instruments shocked by MV** Other	(25.3) (1.6)	(25.3) (1.6)	(28.2)	(35.2) (5.6)	(42.3) (9.5)	(38.3) (12.6)	(33.8)	(19.6) (3.7)	(14.5) (0.5)	(18.2)	(18.6)	(21.6)	(21.8)
Municipals Swaps / Discounting Curve Instruments shocked by MV** Other Directional Risks: Emerging Europe	(25.3) (1.6) (1.6)	(25.3) (1.6) (1.6)	(28.2) (1.6) (1.6)	(35.2) (5.6) (5.6)	(42.3) (9.5) (9.5)	(38.3) (12.6) (12.6)	(33.8) (8.8) (8.8)	(19.6) (3.7) (3.7)	(14.5) (0.5) (0.5)	(18.2) 2.2 2.2	(18.6) 3.7 3.7	(21.6) 3.2 3.2	(21.8) 1.8 1.8
Municipals Swaps / Discounting Curve Instruments shocked by MV** Other Directional Risks: Emerging Europe BGN	(25.3) (1.6) (1.6)	(25.3) (1.6) (1.6)	(28.2) (1.6) (1.6)	(35.2) (5.6) (5.6)	(42.3) (9.5) (9.5)	(38.3) (12.6) (12.6)	(33.8) (8.8) (8.8)	(19.6) (3.7) (3.7)	(14.5) (0.5) (0.5)	(18.2) 2.2 2.2 (41.3)	(18.6) 3.7 3.7 (46.4)	(21.6) 3.2 3.2 (50.5)	(21.8) 1.8 1.8 (56.0)
Municipals Swaps / Discounting Curve Instruments shocked by MV** Other Directional Risks: Emerging Europe BGN CZK	(25.3) (1.6) (1.6) (4.7) (4.7)	(25.3) (1.6) (1.6) (4.7) (4.7)	(28.2) (1.6) (1.6) (11.4) (11.4)	(35.2) (5.6) (5.6) (14.8) (14.8)	(42.3) (9.5) (9.5) (9.5)	(38.3) (12.6) (12.6) (12.6) (24.7) (24.7)	(33.8) (8.8) (8.8) (8.8) (28.3) (28.3)	(33.0) (33.0)	(14.5) (0.5) (0.5) (0.5) (36.7) (36.7)	(18.2) 2.2 2.2 (41.3) (41.3)	(18.6) 3.7 3.7 (46.4) (46.4)	(21.6) 3.2 3.2 (50.5) (50.5)	(21.8) 1.8 1.8 (56.0) (56.0)
Municipals Swaps / Discounting Curve Instruments shocked by MV** Other Directional Risks: Emerging Europe BGN CZK HRK	(25.3) (1.6) (1.6) (1.7) (4.7) (4.7)	(25.3) (1.6) (1.6) (1.7) (4.7) (4.7)	(28.2) (1.6) (1.6) (11.4) (11.4) (11.4)	(35.2) (5.6) (5.6) (14.8) (14.8) (14.8)	(42.3) (9.5) (9.5) (9.5) (18.2) (18.2) (18.2)	(38.3) (12.6) (12.6) (12.6) (24.7) (24.7) (24.7)	(33.8) (8.8) (8.8) (8.8) (28.3) (28.3) (28.3)	(19.6) (3.7) (3.7) (33.0) (33.0) (33.0)	(14.5) (0.5) (0.5) (0.5) (36.7) (36.7) (36.7)	(18.2) 2.2 2.2 2.2 (41.3) (41.3) (41.3)	(18.6) 3.7 3.7 3.7 (46.4) (46.4) (46.4)	(21.6) 3.2 3.2 3.2 (50.5) (50.5) (50.5)	(21.8) 1.8 1.8 1.8 (56.0) (56.0) (56.0)
Municipals Swaps / Discounting Curve Instruments shocked by MV** Other Directional Risks: Emerging Europe BGN CZK HRK HUF	(25.3) (1.6) (1.6) (1.7) (4.7) (4.7) (4.7)	(25.3) (1.6) (1.6) (1.6) (4.7) (4.7) (4.7) (4.7)	(28.2) (1.6) (1.6) (1.4) (11.4) (11.4) (11.4)	(35.2) (5.6) (5.6) (14.8) (14.8) (14.8) (14.8)	(42.3) (9.5) (9.5) (9.5) (18.2) (18.2) (18.2) (18.2)	(38.3) (12.6) (12.6) (12.6) (24.7) (24.7) (24.7) (24.7)	(33.8) (8.8) (8.8) (8.8) (28.3) (28.3) (28.3)	(33.0) (33.0) (33.0) (33.0) (33.0)	(14.5) (0.5) (0.5) (0.5) (36.7) (36.7) (36.7) (36.7)	(18.2) 2.2 2.2 (41.3) (41.3) (41.3) (41.3)	(18.6) 3.7 3.7 3.7 (46.4) (46.4) (46.4) (46.4)	(21.6) 3.2 3.2 3.2 (50.5) (50.5) (50.5) (50.5)	(21.8) 1.8 1.8 1.8 (56.0) (56.0) (56.0) (56.0)
Municipals Swaps / Discounting Curve Instruments shocked by MV** Other Directional Risks: Emerging Europe BGN CZK HRK HUF PLN	(25.3) (1.6) (1.6) (4.7) (4.7) (4.7) (4.7) (4.7)	(25.3) (1.6) (1.6) (4.7) (4.7) (4.7) (4.7) (4.7)	(28.2) (1.6) (1.6) (1.4) (11.4) (11.4) (11.4) (11.4)	(35.2) (5.6) (5.6) (14.8) (14.8) (14.8) (14.8) (14.8)	(42.3) (9.5) (9.5) (18.2) (18.2) (18.2) (18.2) (18.2)	(38.3) (12.6) (12.6) (12.6) (24.7) (24.7) (24.7) (24.7) (24.7)	(33.8) (8.8) (8.8) (28.3) (28.3) (28.3) (28.3) (28.3)	(33.0) (33.0) (33.0) (33.0) (33.0) (33.0) (33.0)	(14.5) (0.5) (0.5) (0.5) (36.7) (36.7) (36.7) (36.7) (36.7)	(18.2) 2.2 2.2 (41.3) (41.3) (41.3) (41.3) (41.3)	(18.6) 3.7 3.7 3.7 (46.4) (46.4) (46.4) (46.4) (46.4)	(21.6) 3.2 3.2 (50.5) (50.5) (50.5) (50.5) (50.5)	(21.8) 1.8 1.8 (56.0) (56.0) (56.0) (56.0) (56.0)
Municipals Swaps / Discounting Curve Instruments shocked by MV** Other Directional Risks: Emerging Europe BGN CZK HRK HUF PLN RON	(25.3) (1.6) (1.6) (4.7) (4.7) (4.7) (4.7) (4.7) (4.7)	(25.3) (1.6) (1.6) (1.7) (4.7) (4.7) (4.7) (4.7) (4.7)	(28.2) (1.6) (1.6) (1.4) (11.4) (11.4) (11.4) (11.4) (11.4)	(35.2) (5.6) (5.6) (14.8) (14.8) (14.8) (14.8) (14.8)	(42.3) (9.5) (9.5) (18.2) (18.2) (18.2) (18.2) (18.2) (18.2)	(38.3) (12.6) (12.6) (12.6) (24.7) (24.7) (24.7) (24.7) (24.7) (24.7)	(33.8) (8.8) (8.8) (28.3) (28.3) (28.3) (28.3) (28.3)	(33.0) (33.0) (33.0) (33.0) (33.0) (33.0) (33.0) (33.0)	(36.7) (36.7) (36.7) (36.7) (36.7) (36.7) (36.7)	(18.2) 2.2 2.2 (41.3) (41.3) (41.3) (41.3) (41.3) (41.3)	(18.6) 3.7 3.7 (46.4) (46.4) (46.4) (46.4) (46.4) (46.4)	(21.6) 3.2 3.2 (50.5) (50.5) (50.5) (50.5) (50.5) (50.5)	(21.8) 1.8 1.8 (56.0) (56.0) (56.0) (56.0) (56.0) (56.0)
Municipals Swaps / Discounting Curve Instruments shocked by MV** Other Directional Risks: Emerging Europe BGN CZK HRK HUF PLN RON RUB	(25.3) (1.6) (1.6) (4.7) (4.7) (4.7) (4.7) (4.7) (4.7) 100.0	(25.3) (1.6) (1.6) (1.6) (4.7) (4.7) (4.7) (4.7) (4.7) (4.7) (99.4)	(28.2) (1.6) (1.6) (1.4) (11.4) (11.4) (11.4) (11.4) (11.4) 98.6	(35.2) (5.6) (5.6) (14.8) (14.8) (14.8) (14.8) (14.8) 97.8	(42.3) (9.5) (9.5) (9.5) (18.2) (18.2) (18.2) (18.2) (18.2) 96.9	(38.3) (12.6) (12.6) (12.6) (24.7) (24.7) (24.7) (24.7) (24.7) (24.7) 93.6	(28.3) (28.3) (28.3) (28.3) (28.3) (28.3) (28.3) (28.3) 90.3	(33.0) (33.0) (33.0) (33.0) (33.0) (33.0) (33.0) (33.0) (33.0)	(36.7) (36.7) (36.7) (36.7) (36.7) (36.7) (36.7) (36.7) 76.9	(41.3) (41.3) (41.3) (41.3) (41.3) (41.3) (41.3) (66.9	(46.4) (46.4) (46.4) (46.4) (46.4) (46.4) (46.4) (46.4)	(21.6) 3.2 3.2 (50.5) (50.5) (50.5) (50.5) (50.5) (50.5) 33.4	(21.8) 1.8 1.8 (56.0) (56.0) (56.0) (56.0) (56.0) (56.0) 0.0
Municipals Swaps / Discounting Curve Instruments shocked by MV** Other Directional Risks: Emerging Europe BGN CZK HRK HUF PLN RON RUB	(25.3) (1.6) (1.6) (4.7) (4.7) (4.7) (4.7) (4.7) (4.7)	(25.3) (1.6) (1.6) (1.7) (4.7) (4.7) (4.7) (4.7) (4.7)	(28.2) (1.6) (1.6) (1.4) (11.4) (11.4) (11.4) (11.4) (11.4)	(35.2) (5.6) (5.6) (14.8) (14.8) (14.8) (14.8) (14.8)	(42.3) (9.5) (9.5) (18.2) (18.2) (18.2) (18.2) (18.2) (18.2)	(38.3) (12.6) (12.6) (12.6) (24.7) (24.7) (24.7) (24.7) (24.7) (24.7)	(33.8) (8.8) (8.8) (28.3) (28.3) (28.3) (28.3) (28.3)	(33.0) (33.0) (33.0) (33.0) (33.0) (33.0) (33.0) (33.0)	(36.7) (36.7) (36.7) (36.7) (36.7) (36.7) (36.7)	(18.2) 2.2 2.2 (41.3) (41.3) (41.3) (41.3) (41.3) (41.3)	(18.6) 3.7 3.7 (46.4) (46.4) (46.4) (46.4) (46.4) (46.4)	(21.6) 3.2 3.2 (50.5) (50.5) (50.5) (50.5) (50.5) (50.5)	(21.8) 1.8 1.8 (56.0) (56.0) (56.0) (56.0) (56.0) (56.0)
Municipals Swaps / Discounting Curve Instruments shocked by MV** Other Directional Risks: Emerging Europe BGN CZK HRK HUF PLN RON RUB Other Emerging Europe	(25.3) (1.6) (1.6) (4.7) (4.7) (4.7) (4.7) (4.7) (4.7) 100.0	(25.3) (1.6) (1.6) (1.6) (4.7) (4.7) (4.7) (4.7) (4.7) (4.7) (99.4)	(28.2) (1.6) (1.6) (1.4) (11.4) (11.4) (11.4) (11.4) (11.4) 98.6	(35.2) (5.6) (5.6) (14.8) (14.8) (14.8) (14.8) (14.8) 97.8	(42.3) (9.5) (9.5) (9.5) (18.2) (18.2) (18.2) (18.2) (18.2) 96.9	(38.3) (12.6) (12.6) (12.6) (24.7) (24.7) (24.7) (24.7) (24.7) (24.7) 93.6	(28.3) (28.3) (28.3) (28.3) (28.3) (28.3) (28.3) (28.3) 90.3	(33.0) (33.0) (33.0) (33.0) (33.0) (33.0) (33.0) (33.0) (33.0)	(36.7) (36.7) (36.7) (36.7) (36.7) (36.7) (36.7) (36.7) 76.9	(41.3) (41.3) (41.3) (41.3) (41.3) (41.3) (41.3) (66.9	(46.4) (46.4) (46.4) (46.4) (46.4) (46.4) (46.4) (46.4)	(21.6) 3.2 3.2 (50.5) (50.5) (50.5) (50.5) (50.5) (50.5) 33.4	(21.8) 1.8 1.8 (56.0) (56.0) (56.0) (56.0) (56.0) (56.0) 0.0
Municipals Swaps / Discounting Curve Instruments shocked by MV** Other Directional Risks: Emerging Europe BGN CZK HRK HUF PLN RON RUB Other Emerging Europe Directional Risks: Latin America & Caribbean	(25.3) (1.6) (1.6) (4.7) (4.7) (4.7) (4.7) (4.7) (4.7) 100.0	(25.3) (1.6) (1.6) (1.6) (4.7) (4.7) (4.7) (4.7) (4.7) (4.7) (99.4)	(28.2) (1.6) (1.6) (1.4) (11.4) (11.4) (11.4) (11.4) (11.4) 98.6	(35.2) (5.6) (5.6) (14.8) (14.8) (14.8) (14.8) (14.8) 97.8	(42.3) (9.5) (9.5) (9.5) (18.2) (18.2) (18.2) (18.2) (18.2) 96.9	(38.3) (12.6) (12.6) (12.6) (24.7) (24.7) (24.7) (24.7) (24.7) (24.7) 93.6	(28.3) (28.3) (28.3) (28.3) (28.3) (28.3) (28.3) (28.3) 90.3	(33.0) (33.0) (33.0) (33.0) (33.0) (33.0) (33.0) (33.0) (33.0)	(36.7) (36.7) (36.7) (36.7) (36.7) (36.7) (36.7) (36.7) 76.9	(41.3) (41.3) (41.3) (41.3) (41.3) (41.3) (41.3) (66.9	(46.4) (46.4) (46.4) (46.4) (46.4) (46.4) (46.4) (46.4)	(21.6) 3.2 3.2 (50.5) (50.5) (50.5) (50.5) (50.5) (50.5) (50.5)	(21.8) 1.8 1.8 (56.0) (56.0) (56.0) (56.0) (56.0) (56.0) (56.0)
Municipals Swaps / Discounting Curve Instruments shocked by MV** Other Directional Risks: Emerging Europe BGN CZK HRK HUF PLN RON RUB Other Emerging Europe	(25.3) (1.6) (1.6) (1.6) (4.7) (4.7) (4.7) (4.7) (4.7) (4.7) 100.0 (4.7)	(25.3) (1.6) (1.6) (1.6) (4.7) (4.7) (4.7) (4.7) (4.7) (4.7) 99.4 (4.7)	(28.2) (1.6) (1.6) (1.4) (11.4) (11.4) (11.4) (11.4) (11.4) 98.6 (11.4)	(35.2) (5.6) (5.6) (14.8) (14.8) (14.8) (14.8) (14.8) (14.8) 97.8 (14.8)	(42.3) (9.5) (9.5) (9.5) (18.2) (18.2) (18.2) (18.2) (18.2) (18.2) (18.2) (18.2)	(38.3) (12.6) (12.6) (12.6) (24.7) (24.7) (24.7) (24.7) (24.7) (24.7) 93.6 (24.7)	(28.3) (28.3) (28.3) (28.3) (28.3) (28.3) (28.3) (28.3) (28.3) (28.3)	(33.0) (33.0) (33.0) (33.0) (33.0) (33.0) (33.0) (33.0) (33.0) (33.0) (33.0)	(36.7) (36.7) (36.7) (36.7) (36.7) (36.7) (36.7) (36.7) (36.7) (36.7)	(18.2) 2.2 2.2 2.2 (41.3) (41.3) (41.3) (41.3) (41.3) (41.3) (66.9 (41.3)	(46.4) (46.4) (46.4) (46.4) (46.4) (46.4) (46.4) (46.4) (46.4) (46.4)	(21.6) 3.2 3.2 (50.5) (50.5) (50.5) (50.5) (50.5) (50.5) (50.5) 33.4 (50.5)	(21.8) 1.8 1.8 1.8 (56.0) (56.0) (56.0) (56.0) (56.0) (56.0) (56.0) (56.0)
Municipals Swaps / Discounting Curve Instruments shocked by MV** Other Directional Risks: Emerging Europe BGN CZK HRK HUF PLN RON RUB Other Emerging Europe Directional Risks: Latin America & Caribbean ARS	(25.3) (1.6) (1.6) (4.7) (4.7) (4.7) (4.7) (4.7) (4.7) 100.0	(25.3) (1.6) (1.6) (1.6) (4.7) (4.7) (4.7) (4.7) (4.7) (4.7) (4.7) (4.7) (4.7)	(28.2) (1.6) (1.6) (1.1.4) (11.4) (11.4) (11.4) (11.4) 98.6 (11.4)	(35.2) (5.6) (5.6) (14.8) (14.8) (14.8) (14.8) (14.8) 97.8 (14.8)	(42.3) (9.5) (9.5) (18.2) (18.2) (18.2) (18.2) (18.2) (18.2) 96.9 (18.2)	(38.3) (12.6) (12.6) (12.6) (24.7) (24.7) (24.7) (24.7) (24.7) (24.7) 93.6 (24.7)	(33.8) (8.8) (8.8) (28.3) (28.3) (28.3) (28.3) (28.3) 90.3 (28.3)	(33.0) (33.0) (33.0) (33.0) (33.0) (33.0) (33.0) (33.0) (33.0) 83.6 (33.0)	(36.7) (36.7) (36.7) (36.7) (36.7) (36.7) (36.7) 76.9	(18.2) 2.2 2.2 (41.3) (41.3) (41.3) (41.3) (41.3) (41.3) (41.3) 66.9 (41.3)	(18.6) 3.7 3.7 3.7 (46.4) (46.4) (46.4) (46.4) (46.4) 50.1 (46.4)	(21.6) 3.2 3.2 (50.5) (50.5) (50.5) (50.5) (50.5) (50.5) 33.4 (50.5)	(21.8) 1.8 1.8 1.8 (56.0) (56.0) (56.0) (56.0) (56.0) (56.0) 0.0 (56.0)
Municipals Swaps / Discounting Curve Instruments shocked by MV** Other Directional Risks: Emerging Europe BGN CZK HRK HUF PLN RON RUB Other Emerging Europe Directional Risks: Latin America & Caribbean ARS BRL	(25.3) (1.6) (1.6) (1.6) (4.7) (4.7) (4.7) (4.7) (4.7) 100.0 (4.7)	(25.3) (1.6) (1.6) (1.6) (4.7) (4.7) (4.7) (4.7) (4.7) (4.7) 99.4 (4.7)	(28.2) (1.6) (1.6) (1.4) (11.4) (11.4) (11.4) (11.4) 98.6 (11.4) 98.6 (11.4)	(35.2) (5.6) (5.6) (14.8) (14.8) (14.8) (14.8) (14.8) 97.8 (14.8) 97.8	(42.3) (9.5) (9.5) (9.5) (18.2) (18.2) (18.2) (18.2) (18.2) (18.2) 96.9 (18.2)	(38.3) (12.6) (12.6) (12.6) (24.7) (24.7) (24.7) (24.7) (24.7) 93.6 (24.7) 93.6 93.6	(28.3) (28.3) (28.3) (28.3) (28.3) (28.3) (28.3) (28.3) 90.3 (28.3)	(33.0) (33.0) (33.0) (33.0) (33.0) (33.0) (33.0) (33.0) (33.0) (33.0) 83.6 (33.0)	(36.7) (36.7) (36.7) (36.7) (36.7) (36.7) (36.7) (36.7) 76.9 (36.7)	(41.3) (41.3) (41.3) (41.3) (41.3) (41.3) (41.3) (41.3) (66.9 (41.3)	(46.4) (46.4) (46.4) (46.4) (46.4) (46.4) (46.4) (46.4) 50.1 (46.4)	(21.6) 3.2 3.2 (50.5) (50.5) (50.5) (50.5) (50.5) (50.5) 33.4 (50.5)	(21.8) 1.8 1.8 1.8 (56.0) (56.0) (56.0) (56.0) (56.0) (56.0) 0.0 (56.0)
Municipals Swaps / Discounting Curve Instruments shocked by MV** Other Directional Risks: Emerging Europe BGN CZK HRK HUF PLN RON RUB Other Emerging Europe Directional Risks: Latin America & Caribbean ARS BRL CLP	(25.3) (1.6) (1.6) (1.6) (4.7) (4.7) (4.7) (4.7) (4.7) 100.0 (4.7) 100.0 100.0 22.3	(25.3) (1.6) (1.6) (1.6) (4.7) (4.7) (4.7) (4.7) (4.7) (4.7) 99.4 (4.7)	(28.2) (1.6) (1.6) (1.4) (11.4) (11.4) (11.4) (11.4) (11.4) (11.4) 98.6 (11.4) 98.6 (20.5)	(35.2) (5.6) (5.6) (14.8) (14.8) (14.8) (14.8) (14.8) 97.8 (14.8) 97.8 (14.8)	(42.3) (9.5) (9.5) (9.5) (18.2) (18.2) (18.2) (18.2) (18.2) 96.9 (18.2)	(38.3) (12.6) (12.6) (12.6) (24.7) (24.7) (24.7) (24.7) (24.7) 93.6 (24.7) 93.6 93.6 93.6 6.8	(28.3) (28.3) (28.3) (28.3) (28.3) (28.3) (28.3) (28.3) (28.3) 90.3 (28.3)	(33.0) (33.0) (33.0) (33.0) (33.0) (33.0) (33.0) (33.0) (33.0) 83.6 (33.0)	(36.7) (36.7) (36.7) (36.7) (36.7) (36.7) (36.7) (36.7) 76.9 (36.7) 76.9 (17.8)	(18.2) 2.2 2.2 (41.3) (41.3) (41.3) (41.3) (41.3) (41.3) (41.3) 66.9 (41.3)	(46.4) (46.4) (46.4) (46.4) (46.4) (46.4) (46.4) (46.4) 50.1 (46.4) 50.1 (25.1)	(21.6) 3.2 3.2 (50.5) (50.5) (50.5) (50.5) (50.5) (50.5) (50.5) 33.4 (50.5) 33.4 (26.5)	(21.8) 1.8 1.8 1.8 (56.0) (56.0) (56.0) (56.0) (56.0) (56.0) 0.0 (56.0)
Municipals Swaps / Discounting Curve Instruments shocked by MV** Other Directional Risks: Emerging Europe BGN CZK HRK HUF PLN RON RUB Other Emerging Europe Directional Risks: Latin America & Caribbean ARS BRL CLP COP	(25.3) (1.6) (1.6) (1.6) (4.7) (4.7) (4.7) (4.7) (4.7) 100.0 (4.7) 100.0 100.0 22.3 100.0	(25.3) (1.6) (1.6) (1.6) (4.7) (4.7) (4.7) (4.7) (4.7) (4.7) (4.7) 99.4 (4.7) 99.4 (22.3) 99.4	(28.2) (1.6) (1.6) (1.4) (11.4) (11.4) (11.4) (11.4) (11.4) 98.6 (11.4) 98.6 (20.5) 98.6	(35.2) (5.6) (5.6) (14.8) (14.8) (14.8) (14.8) (14.8) 97.8 (14.8) 97.8 (14.8)	(42.3) (9.5) (9.5) (9.5) (18.2) (18.2) (18.2) (18.2) (18.2) 96.9 (18.2) 96.9 96.9 96.9 96.9	(38.3) (12.6) (12.6) (12.6) (12.6) (24.7) (24.7) (24.7) (24.7) (24.7) 93.6 (24.7) 93.6 93.6 93.6 6.8	(33.8) (8.8) (8.8) (8.8) (28.3) (28.3) (28.3) (28.3) (28.3) 90.3 (28.3) 90.3 (1.2) 90.3	(33.0) (33.0) (33.0) (33.0) (33.0) (33.0) (33.0) (33.0) (33.0) 83.6 (33.0)	(36.7) (36.7) (36.7) (36.7) (36.7) (36.7) (36.7) (36.7) 76.9 (36.7) 76.9 (17.8)	(41.3) (41.3) (41.3) (41.3) (41.3) (41.3) (41.3) (41.3) (41.3) (41.3) (66.9 (41.3)	(46.4) (46.4) (46.4) (46.4) (46.4) (46.4) (46.4) (46.4) 50.1 (46.4) 50.1 (25.1)	(21.6) 3.2 3.2 (50.5) (50.5) (50.5) (50.5) (50.5) (50.5) (50.5) 33.4 (50.5) 33.4 (26.5) 33.4	(21.8) 1.8 1.8 1.8 (56.0) (56.0) (56.0) (56.0) (56.0) (56.0) 0.0 (56.0) 0.0 (31.9) 0.0
Municipals Swaps / Discounting Curve Instruments shocked by MV** Other Directional Risks: Emerging Europe BGN CZK HRK HUF PLN RON RUB Other Emerging Europe Directional Risks: Latin America & Caribbean ARS BRL CLP COP MXN	(25.3) (1.6) (1.6) (1.6) (4.7) (4.7) (4.7) (4.7) (4.7) 100.0 (4.7) 100.0 100.0 22.3 100.0 100.0	(25.3) (1.6) (1.6) (1.6) (4.7) (4.7) (4.7) (4.7) (4.7) (4.7) 99.4 (4.7) 99.4 99.4 99.4	(28.2) (1.6) (1.6) (1.4) (11.4) (11.4) (11.4) (11.4) 98.6 (11.4) 98.6 (20.5) 98.6 98.6 98.6	(35.2) (5.6) (5.6) (14.8) (14.8) (14.8) (14.8) (14.8) 97.8 (14.8) 97.8 97.8 97.8	(42.3) (9.5) (9.5) (9.5) (18.2) (18.2) (18.2) (18.2) (18.2) 96.9 (18.2) 96.9 96.9 96.9	(38.3) (12.6) (12.6) (12.6) (12.6) (24.7) (24.7) (24.7) (24.7) (24.7) 93.6 (24.7) 93.6 (24.7) 93.6 93.6 93.6 93.6	(28.3) (28.3) (28.3) (28.3) (28.3) (28.3) (28.3) (28.3) 90.3 (28.3) 90.3 (1.2) 90.3 90.3	(33.0) (33.0) (33.0) (33.0) (33.0) (33.0) (33.0) (33.0) 83.6 (33.0) 83.6 (33.0)	(14.5) (0.5) (0.5) (0.5) (0.5) (0.5) (36.7) (36.7) (36.7) (36.7) (36.7) (36.7) 76.9 (36.7) 76.9 (17.8) 76.9 76.9	(18.2) 2.2 2.2 (41.3) (41.3) (41.3) (41.3) (41.3) (41.3) (41.3) 66.9 (41.3) 66.9 (41.9) 66.9 66.9 66.9	(18.6) 3.7 3.7 3.7 (46.4) (46.4) (46.4) (46.4) (46.4) (46.4) (46.4) (46.4) (50.1 (46.4) (50.1 (50.1 (50.1 (50.1) (50.1	(21.6) 3.2 3.2 (50.5) (50.5) (50.5) (50.5) (50.5) (50.5) 33.4 (50.5) 33.4 33.4 33.4 33.4	(21.8) 1.8 1.8 1.8 (56.0) (56.0) (56.0) (56.0) (56.0) (56.0) 0.0 (56.0) 0.0 (56.0) 0.0 0.0 0.0

CNY	22.3	22.3	20.5	18.9	17.2	6.8	(1.2)	(10.2)	(17.8)	(19.9)	(25.1)	(26.5)	(31.9)
KD	22.3	22.3	20.5	18.9	17.2	6.8	(1.2)	(10.2)	(17.8)	(19.9)	(25.1)	(26.5)	(31.9)
DR .	400.3	405.8	403.4	468.7	534.0	426.6	383.0	342.9	345.0	303.3	286.6	269.9	236.5
IR .	28.7	28.7	24.0	14.3	4.7	(12.8)	(17.0)	(44.3)	(56.2)	(66.2)	(61.2)	(66.1)	(74.1
RW	3.7	3.7	3.7	2.6	1.6	(4.2)	(7.8)	(11.5)	(12.6)	(13.7)	(14.1)	(14.1)	(14.1
IYR	826.0	806.4	794.6	854.3	913.9	852.5	810.8	771.5	744.5	692.9	676.2	659.4	626.0
HP	891.9	915.2	947.6	999.8	1,051.9	815.5	753.4	668.6	636.2	591.9	575.2	558.4	525.0
GD	22.3	22.3	20.5	18.9	17.2	6.8	(1.2)	(10.2)	(17.8)	(19.9)	(25.1)	(26.5)	(31.9
НВ	35.8	35.8	35.8	35.8	35.8	41.2	44.9	49.6	51.5	53.8	54.1	56.9	56.9
WD	28.7	28.7	24.0	14.3	4.7	(12.8)	(17.0)	(44.3)	(56.2)	(66.2)	(61.2)	(66.1)	(74.1)
ther Asia Ex-Japan	22.3	22.3	20.5	18.9	17.2	6.8	(1.2)	(10.2)	(17.8)	(19.9)	(25.1)	(26.5)	(31.9)
Directional Risks: Middle East/North				T									
LS	(25.3)	(25.3)	(28.2)	(35.2)	(42.3)	(38.3)	(33.8)	(19.6)	(14.5)	(18.2)	(18.6)	(21.6)	(21.8
	1.8	1.8	(0.5)	(11.0)	(21.5)	(20.4)	(19.5)	(19.2)	(17.9)	(17.3)	(22.2)	(22.2)	(22.2
ther Middle East/Africa	(16.5)	(16.5)	(22.1)	(30.4)	(38.6)	(61.9)	(64.1)	(62.5)	(60.7)	(59.5)	(54.8)	(51.9)	(54.9
TRY Other Middle East/Africa Directional Risks: Sub-Saharan Africa	(16.5)	(16.5)	(22.1)	(30.4)	(38.6)	(61.9)	(64.1)	(62.5)	(60.7)	(59.5)	(54.8)		(51.9)
Second Risks. Sub Sundrum Arrica	(16.5)	(16.5)	(22.1)	(30.4)	(38.6)	(61.9)	(64.1)	(62.5)	(60.7)	(59.5)	(54.8)	(51.9)	(5
Other Sub-Saharan Africa	(16.5)	(16.5)	(22.1)	(30.4)	(38.6)	(61.9)	(64.1)	(62.5)	(60.7)	(59.5)	(54.8)	(51.9)	(54.

Relative Normal Interest Rate Shocks

Rates Vega Relative Normal Interest Rate Shocks (%)

			Rate Snocks	(,,,				MATI	JRITY						
		1M	3M	6M	9M	1Y	2Y	3Y	5Y	7Y	10Y	15Y	20Y	25Y	30Y
	AUD	2.00	5.01	0.0.	3.0.			J.	J.		10.	13.		23.	50.
	1M	-70.9%	-70.9%	-70.9%	-70.9%	-70.9%	-40.0%	-26.5%	-18.2%	-17.8%	-15.2%	-14.4%	-15.1%	-15.4%	-15.8%
	3M	-61.7%	-61.7%	-61.7%	-61.7%	-61.7%	-39.4%	-26.0%	-18.7%	-18.4%	-16.2%	-15.4%	-16.1%	-16.4%	-16.9%
	6M	-47.7%	-47.7%	-47.7%	-47.7%	-47.7%	-34.0%	-24.0%	-19.0%	-17.6%	-16.7%	-16.0%	-16.6%	-16.7%	-16.5%
	9M	-35.1%	-35.1%	-35.1%	-35.1%	-35.1%	-28.5%	-22.7%	-19.4%	-17.8%	-17.1%	-16.6%	-17.0%	-16.8%	-15.9%
	1Y	-25.3%	-25.3%	-25.3%	-25.3%	-25.3%	-23.6%	-21.5%	-19.7%	-18.1%	-17.6%	-17.2%	-17.5%	-17.0%	-15.3%
≿	2Y	-22.3%	-22.3%	-22.3%	-22.3%	-22.3%	-21.6%	-20.1%	-20.0%	-18.3%	-16.7%	-17.0%	-17.3%	-17.3%	-16.1%
1 = 1	3Y	-23.3%	-23.3%	-23.3%	-23.3%	-23.3%	-21.4%	-19.8%	-20.6%	-19.0%	-16.0%	-16.9%	-17.2%	-17.7%	-17.0%
EXPIRY	5Y	-22.2%	-22.2%	-22.2%	-22.2%	-22.2%	-23.6%	-22.8%	-22.8%	-22.1%	-18.9%	-20.2%	-21.2%	-21.1%	-20.5%
	7Y	-23.5%	-23.5%	-23.5%	-23.5%	-23.5%	-23.7%	-22.7%	-23.0%	-22.8%	-23.1%	-21.9%	-22.7%	-22.7%	-21.0%
	10Y	-24.5%	-24.5%	-24.5%	-24.5%	-24.5%	-25.0%	-24.2%	-23.8%	-25.0%	-25.3%	-25.7%	-24.8%	-16.7%	-22.8%
	15Y	-22.3%	-22.3%	-22.3%	-22.3%	-22.3%	-47.5%	-28.2%	-21.2%	-22.9%	-31.1%	-27.6%	-24.6%	-24.0%	-22.3%
	20Y	-17.9%	-17.9%	-17.9%	-17.9%	-17.9%	-17.0%	-16.1%	-16.9%	-17.5%	-31.3%	-26.0%	-20.6%	-21.3%	-18.8%
	30Y	-22.7%	-22.7%	-22.7%	-22.7%	-22.7%	-22.9%	-23.4%	-18.0%	-18.5%	-19.4%	-22.4%	-24.6%	-26.5%	-28.0%
			•												•
_	EUR														
	1M	-92.6%	-92.6%	-92.6%	-92.6%	-92.6%	-94.5%	-58.9%	-30.0%	-25.2%	-19.8%	-19.9%	-21.6%	-22.2%	-23.4%
	3M	-93.2%	-93.2%	-93.2%	-93.2%	-93.2%	-91.9%	-56.9%	-29.4%	-24.7%	-19.4%	-19.7%	-21.3%	-22.1%	-23.6%
	6M	-94.1%	-94.1%	-94.1%	-94.1%	-94.1%	-75.6%	-50.7%	-27.9%	-24.9%	-19.1%	-19.6%	-21.2%	-21.9%	-22.4%
	9M	-79.0%	-79.0%	-79.0%	-79.0%	-79.0%	-59.8%	-44.2%	-27.2%	-25.8%	-18.9%	-19.5%	-21.0%	-21.5%	-20.9%
	1Y	-58.4%	-58.4%	-58.4%	-58.4%	-58.4%	-47.7%	-39.2%	-26.6%	-26.5%	-18.9%	-19.6%	-20.8%	-21.1%	-19.4%
EXPIRY	2Y	-38.8%	-38.8%	-38.8%	-38.8%	-38.8%	-33.1%	-29.8%	-22.7%	-25.1%	-16.9%	-18.2%	-19.3%	-19.0%	-18.7%
ᆵ	3Y	-28.1%	-28.1%	-28.1%	-28.1%	-28.1%	-24.9%	-24.3%	-20.3%	-24.4%	-15.4%	-17.3%	-18.0%	-17.0%	-18.0%
<u> </u>	5Y	-32.9%	-32.9%	-32.9%	-32.9%	-32.9%	-21.4%	-23.6%	-19.2%	-24.8%	-15.9%	-18.1%	-20.1%	-20.5%	-20.9%
	7Y	-32.0%	-32.0%	-32.0%	-32.0%	-32.0%	-20.9%	-24.0%	-29.7%	-28.7%	-18.7%	-19.6%	-21.3%	-22.0%	-21.5%
	10Y	-19.2%	-19.2%	-19.2%	-19.2%	-19.2%	-19.8%	-24.5%	-20.3%	-30.7%	-18.6%	-21.6%	-22.6%	-10.8%	-23.5%
	15Y	-30.9%	-30.9%	-30.9%	-30.9%	-30.9%	-33.2%	-19.1%	-28.2%	-29.4%	-19.8%	-20.9%	-22.7%	-23.3%	-22.1%
	20Y	-19.2%	-19.2%	-19.2%	-19.2%	-19.2%	-13.3%	-22.0%	-18.5%	-22.2%	-19.7%	-18.2%	-20.7%	-20.9%	-19.0%
	30Y	-21.0%	-21.0%	-21.0%	-21.0%	-21.0%	-20.5%	-20.4%	-13.0%	-13.1%	-13.4%	-14.6%	-15.7%	-16.2%	-16.7%
	GBP		T												
	1M	-88.0%	-88.0%	-88.0%	-88.0%	-88.0%	-53.4%	-30.0%	-16.7%	-14.2%	-12.3%	-11.8%	-12.8%	-13.3%	-13.6%
	3M	-86.1%	-86.1%	-86.1%	-86.1%	-86.1%	-48.0%	-28.0%	-16.6%	-13.9%	-12.3%	-11.9%	-12.9%	-13.4%	-13.7%
	6M	-60.2%	-60.2%	-60.2%	-60.2%	-60.2%	-37.5%	-24.3%	-15.1%	-12.7%	-12.0%	-11.7%	-12.6%	-12.9%	-12.7%
	9M 1Y	-43.0%	-43.0% -31.0%	-43.0% -31.0%	-43.0%	-43.0% -31.0%	-30.6% -25.0%	-21.6%	-14.4% -13.7%	-12.3%	-11.7% -11.5%	-11.7% -11.7%	-12.5%	-12.6%	-12.0%
>	2Y	-31.0% -21.7%	-31.0%	-31.0%	-31.0% -21.7%	-31.0%	-25.0%	-19.7% -16.7%	-13.7%	-11.5% -11.6%	-11.5%	-11.7%	-12.5% -12.1%	-12.3% -11.3%	-11.2% -11.1%
EXPIRY	3Y	-19.3%	-19.3%	-19.3%	-19.3%	-19.3%	-17.3%	-15.8%	-13.9%	-11.9%	-10.7%	-11.4%	-12.1%	-10.4%	-11.1%
~	5Y	-16.2%	-16.2%	-16.2%	-16.2%	-16.2%	-17.3%	-14.4%	-13.6%	-11.3%	-10.0%	-11.1%	-12.0%	-10.4%	-11.1%
ш	7Y	-15.7%	-15.7%	-15.7%	-15.7%	-15.7%	-15.1%	-15.6%	-13.6%	-11.5%	-10.2%	-13.1%	-13.7%	-11.8%	-13.4%
	10Y	-17.9%	-17.9%	-13.7%	-17.9%	-13.7%	-18.4%	-15.6%	-15.8%	-15.0%	-14.8%	-15.1%	-15.1%	-7.5%	-13.4%
	15Y	-15.0%	-15.0%	-15.0%	-15.0%	-15.0%	-23.6%	-13.7%	-15.9%	-16.2%	-15.7%	-17.0%	-15.5%	-15.0%	-14.7%
	20Y	-10.0%	-10.0%	-10.0%	-10.0%	-10.0%	-10.6%	-13.0%	-14.7%	-14.8%	-15.9%	-13.9%	-15.2%	-13.8%	-11.6%
	30Y	-9.3%	-9.3%	-9.3%	-9.3%	-9.3%	-9.6%	-9.8%	-10.0%	-10.2%	-10.5%	-11.0%	-11.5%	-12.1%	-12.6%
														-	
	JPY														
	1M	-85.3%	-85.3%	-85.3%	-85.3%	-85.3%	-66.3%	-53.7%	-35.3%	-40.2%	-38.1%	-26.8%	-20.6%	-18.6%	-16.9%
	3M	-68.3%	-68.3%	-68.3%	-68.3%	-68.3%	-58.3%	-46.7%	-30.0%	-34.4%	-33.1%	-25.3%	-20.4%	-18.5%	-16.9%
	6M	-57.7%	-57.7%	-57.7%	-57.7%	-57.7%	-52.1%	-44.5%	-34.4%	-37.4%	-35.7%	-28.2%	-23.2%	-21.1%	-19.3%
	9M	-49.1%	-49.1%	-49.1%	-49.1%	-49.1%	-47.2%	-43.2%	-38.8%	-40.4%	-38.3%	-30.2%	-24.1%	-22.5%	-21.1%
	1Y	-40.8%	-40.8%	-40.8%	-40.8%	-40.8%	-42.5%	-41.9%	-43.2%	-43.2%	-40.8%	-33.5%	-26.5%	-24.5%	-22.9%
EXPIRY	2Y	-39.5%	-39.5%	-39.5%	-39.5%	-39.5%	-40.0%	-41.9%	-51.4%	-46.3%	-39.3%	-33.3%	-27.3%	-26.2%	-25.1%
_	3Y	-38.9%	-38.9%	-38.9%	-38.9%	-38.9%	-38.9%	-43.0%	-57.3%	-46.6%	-37.7%	-32.8%	-27.5%	-26.5%	-25.5%
EX	5Y	-48.6%	-48.6%	-48.6%	-48.6%	-48.6%	-51.1%	-53.2%	-52.6%	-44.1%	-37.5%	-34.8%	-30.6%	-29.6%	-28.7%
	7Y	-58.0%	-58.0%	-58.0%	-58.0%	-58.0%	-56.1%	-56.8%	-46.4%	-49.0%	-43.0%	-40.5%	-36.8%	-35.8%	-34.8%
	10Y	-53.5%	-53.5%	-53.5%	-53.5%	-53.5%	-50.9%	-51.3%	-46.6%	-44.8%	-38.3%	-36.8%	-35.5%	-34.6%	-33.7%
	15Y	-43.3%	-43.3%	-43.3%	-43.3%	-43.3%	-48.2%	-27.1%	-41.8%	-42.6%	-38.4%	-36.3%	-34.7%	-33.7%	-32.9%
	20Y	-23.5%	-23.5%	-23.5%	-23.5%	-23.5%	-25.2%	-29.9%	-28.7%	-28.1%	-36.3%	-34.3%	-32.5%	-31.6%	-30.8%
	30Y	-15.3%	-15.3%	-15.3%	-15.3%	-15.3%	-16.2%	-16.4%	-15.5%	-15.3%	-15.1%	-12.7%	-11.9%	-11.2%	-10.5%

Relative Normal Interest Rate Shocks (Continued)

	USD	-91.8%	-91.8%	01.00/	-91.8%	-91.8%	-49.1%	-33.2%	-20.2%	-20.4%	-19.4%	-19.7%	-21.4%	-22.1%	-22.6%
	1M 3M	-91.8% -73.2%	-91.8%	-91.8% -73.2%	-73.2%	-91.8% -73.2%	-49.1%	-33.2%	-20.2%	-20.4%	-19.4%	-19.7%	-21.4%	-22.1%	-20.9%
	6M	-73.2% -51.1%	-73.2%	-73.2%	-73.2% -51.1%	-73.2%	-40.1%	-28.1%	-18.5%	-18.5%	-17.6%	-18.0%	-19.5%	-20.3%	-20.9%
	9M	-34.6%	-34.6%	-34.6%	-34.6%	-34.6%	-27.7%	-22.4%	-18.8%	-18.1%	-17.7%	-18.5%	-19.1%	-19.6%	-18.3%
	1Y	-25.8%	-25.8%	-25.8%	-25.8%	-25.8%	-23.1%	-21.4%	-18.9%	-17.6%	-17.7%	-18.7%	-19.7%	-19.3%	-17.3%
>	2Y	-20.3%	-20.3%	-20.3%	-20.3%	-20.3%	-19.0%	-17.5%	-18.4%	-17.2%	-16.3%	-17.6%	-18.6%	-18.6%	-17.2%
EXPIRY	3Y	-18.7%	-18.7%	-18.7%	-18.7%	-18.7%	-17.8%	-16.9%	-18.3%	-17.1%	-14.9%	-16.8%	-17.7%	-18.1%	-17.2%
× ×	5Y	-18.4%	-18.4%	-18.4%	-18.4%	-18.4%	-19.7%	-19.2%	-19.3%	-19.2%	-16.5%	-19.0%	-20.4%	-20.2%	-19.5%
ш	7Y	-20.5%	-20.5%	-20.5%	-20.5%	-20.5%	-21.1%	-20.2%	-20.2%	-20.1%	-20.4%	-20.7%	-21.8%	-21.7%	-20.0%
	10Y	-23.0%	-23.0%	-23.0%	-23.0%	-23.0%	-24.0%	-23.0%	-22.3%	-23.3%	-23.6%	-25.2%	-24.8%	-16.6%	-22.3%
	15Y	-23.7%	-23.7%	-23.7%	-23.7%	-23.7%	-51.2%	-30.2%	-22.2%	-23.6%	-31.4%	-28.8%	-26.5%	-25.7%	-22.7%
	20Y	-20.2%	-20.2%	-20.2%	-20.2%	-20.2%	-19.3%	-18.0%	-18.2%	-18.3%	-31.9%	-28.2%	-22.0%	-21.4%	-17.9%
	30Y	-16.8%	-16.8%	-16.8%	-16.8%	-16.8%	-17.0%	-16.9%	-19.6%	-19.7%	-19.8%	-21.7%	-20.8%	-20.9%	-21.1%
	US MBS Vega Other Advance	ed Economies													
	1M	-56.1%	-56.1%	-56.1%	-56.1%	-56.1%	-31.7%	-20.1%	-13.2%	-13.3%	-11.5%	-12.4%	-13.9%	-14.6%	-15.9%
	3M	-48.8%	-48.8%	-48.8%	-48.8%	-48.8%	-31.2%	-19.8%	-13.5%	-13.8%	-12.3%	-13.2%	-14.8%	-15.6%	-17.0%
	6M	-38.2%	-38.2%	-38.2%	-38.2%	-38.2%	-26.7%	-18.2%	-13.8%	-14.2%	-12.7%	-13.6%	-15.0%	-15.6%	-16.2%
	9M	-28.6%	-28.6%	-28.6%	-28.6%	-28.6%	-22.0%	-17.3%	-14.2%	-15.5%	-13.1%	-13.9%	-15.1%	-15.5%	-15.3%
_	1Y	-21.0%	-21.0%	-21.0%	-21.0%	-21.0%	-18.0%	-16.4%	-14.5%	-16.9%	-13.4%	-14.2%	-15.2%	-15.4%	-14.3%
EXPIRY	2Y	-17.9%	-17.9%	-17.9%	-17.9%	-17.9%	-16.5%	-16.1%	-14.8%	-18.1%	-13.3%	-14.3%	-15.1%	-14.8%	-14.6%
~	3Y	-18.1%	-18.1%	-18.1%	-18.1%	-18.1%	-16.3%	-16.6%	-15.4%	-19.9%	-13.2%	-14.5%	-14.9%	-14.1%	-14.9%
ш	5Y 7Y	-27.3% -29.0%	-27.3% -29.0%	-27.3% -29.0%	-27.3% -29.0%	-27.3%	-18.3% -19.2%	-20.3%	-17.4% -28.4%	-22.9% -28.1%	-15.6% -19.1%	-16.8% -18.7%	-18.4% -20.0%	-18.6% -20.2%	-18.7% -19.5%
						-29.0%		-22.3%							
	10Y 15Y	-18.1% -26.8%	-18.1% -26.8%	-18.1% -26.8%	-18.1% -26.8%	-18.1% -26.8%	-18.8% -29.5%	-23.7% -17.2%	-20.1% -26.1%	-30.9% -28.3%	-19.2% -19.7%	-21.0% -19.7%	-21.7% -20.3%	-10.1% -20.2%	-21.7% -19.5%
	20Y			-26.8%			-29.5%	-17.2%	-26.1%	-28.3% -21.7%	-19.7%	-19.7%	-20.3%	-20.2%	-17.2%
	30Y	-16.5%	-16.5%	-16.5%	-16.5% -26.9%	-16.5%	-11.7%	-19.8%	-17.5%		-19.9%				
	301	-26.9%	-26.9%	-26.9%	-26.9%	-26.9%	-21.2%	-27.7%	-11.3%	-11.7%	-12.2%	-14.1%	-15.5%	-16.7%	-17.7%
	Total Emerging	g Europe													
	1M	-85.0%	-85.0%	-85.0%	-85.0%	-85.0%	-84.8%	-88.4%	-78.9%	-66.7%	-48.9%	-45.4%	-45.2%	-47.0%	-50.5%
	3M	-83.4%	-83.4%	-83.4%	-83.4%	-83.4%	-85.1%	-89.0%	-76.3%	-64.7%	-48.0%	-44.8%	-44.9%	-46.8%	-50.3%
	6M	-80.7%	-80.7%	-80.7%	-80.7%	-80.7%	-86.0%	-90.0%	-74.1%	-66.0%	-47.4%	-44.1%	-43.8%	-45.2%	-46.4%
	9M	-81.6%	-81.6%	-81.6%	-81.6%	-81.6%	-87.5%	-91.0%	-71.5%	-66.9%	-46.7%	-43.5%	-42.8%	-43.6%	-42.6%
	1Y	-83.4%	-83.4%	-83.4%	-83.4%	-83.4%	-89.0%	-92.0%	-68.7%	-67.3%	-45.9%	-42.8%	-41.8%	-42.1%	-38.8%
EXPIRY	2Y	-91.8%	-91.8%	-91.8%	-91.8%	-91.8%	-81.3%	-69.9%	-55.5%	-58.6%	-38.7%	-37.4%	-37.1%	-36.3%	-35.9%
_	3Y	-69.9%	-69.9%	-69.9%	-69.9%	-69.9%	-57.4%	-55.7%	-45.8%	-53.4%	-33.4%	-33.2%	-33.1%	-31.1%	-33.4%
ä	5Y	-81.4%	-81.4%	-81.4%	-81.4%	-81.4%	-52.3%	-52.3%	-39.9%	-51.2%	-31.9%	-31.4%	-34.8%	-35.0%	-36.6%
	7Y	-62.7%	-62.7%	-62.7%	-62.7%	-62.7%	-41.0%	-46.0%	-57.1%	-54.3%	-33.8%	-32.0%	-34.7%	-35.7%	-35.8%
	10Y	-37.5%	-37.5%	-37.5%	-37.5%	-37.5%	-38.2%	-46.4%	-36.6%	-52.7%	-30.0%	-34.1%	-35.3%	-17.3%	-38.5%
	15Y	-44.6%	-44.6%	-44.6%	-44.6%	-44.6%	-48.3%	-27.5%	-39.4%	-44.3%	-31.1%	-31.6%	-34.7%	-36.2%	-34.6%
	20Y	-33.8%	-33.8%	-33.8%	-33.8%	-33.8%	-23.8%	-39.8%	-33.5%	-39.7%	-34.4%	-31.6%	-35.2%	-35.5%	-32.0%
	30Y	-43.5%	-43.5%	-43.5%	-43.5%	-43.5%	-43.6%	-43.9%	-27.8%	-28.1%	-28.5%	-29.3%	-30.0%	-30.6%	-31.3%
	Total Latam &	Caribbean													
	1M	-21.5%	-21.5%	-21.5%	-21.5%	-21.5%	-15.8%	-12.3%	-9.0%	-9.4%	-9.0%	-8.8%	-9.3%	-9.4%	-9.6%
	3M	-20.1%	-20.1%	-20.1%	-20.1%	-20.1%	-15.0%	-11.7%	-8.6%	-9.0%	-8.7%	-8.6%	-9.1%	-9.3%	-9.5%
	6M	-17.3%	-17.3%	-17.3%	-17.3%	-17.3%	-13.7%	-11.3%	-8.8%	-8.9%	-8.8%	-8.7%	-9.1%	-9.1%	-9.0%
	9M	-14.2%	-14.2%	-14.2%	-14.2%	-14.2%	-12.3%	-10.9%	-9.0%	-8.7%	-8.6%	-8.7%	-9.0%	-8.8%	-8.3%
	1Y	-11.2%	-11.2%	-11.2%	-11.2%	-11.2%	-10.9%	-10.3%	-9.1%	-8.5%	-8.5%	-8.6%	-8.8%	-8.4%	-7.6%
~	2Y	-10.0%	-10.0%	-10.0%	-10.0%	-10.0%	-9.6%	-9.1%	-8.9%	-8.0%	-7.0%	-7.3%	-7.4%	-7.4%	-6.9%
EXPIRY	3Y	-9.9%	-9.9%	-9.9%	-9.9%	-9.9%	-9.1%	-8.3%	-8.5%	-7.7%	-6.3%	-6.8%	-6.8%	-7.0%	-6.8%
E	5Y	-8.7%	-8.7%	-8.7%	-8.7%	-8.7%	-9.1%	-8.7%	-8.3%	-8.1%	-6.8%	-7.2%	-7.4%	-7.3%	-7.2%
	7Y	-8.8%	-8.8%	-8.8%	-8.8%	-8.8%	-8.9%	-8.5%	-8.1%	-8.0%	-7.8%	-7.3%	-7.4%	-7.4%	-7.1%
	10Y	-8.2%	-8.2%	-8.2%	-8.2%	-8.2%	-8.5%	-8.2%	-8.1%	-8.2%	-8.1%	-7.9%	-7.5%	-5.3%	-7.4%
	15Y	-7.1%	-7.1%	-7.1%	-7.1%	-7.1%	-15.5%	-9.2%	-7.0%	-7.0%	-9.1%	-8.0%	-7.7%	-8.0%	-7.4%
	20Y 30Y	-4.7% -14.3%	-4.7% -14.3%	-4.7% -14.3%	-4.7% -14.3%	-4.7% -14.3%	-4.5% -14.6%	-4.4% -14.9%	-4.6% -18.0%	-4.8% -18.6%	-8.5% -19.3%	-8.4% -20.4%	-7.4% -21.4%	-7.8% -22.3%	-7.0% -23.2%
	3UY	-14.3%	-14.3%	-14.3%	- 14.3%	-14.3%	-14.6%	-14.9%	- 18.U%	-18.6%	-19.3%	-20.4%	-21.4%	-22.3%	-23.2%

Relative Normal Interest Rate Shocks (Continued)

	Total Asia Ex-Ja	ıpan													
	1M	45.9%	45.9%	45.9%	45.9%	45.9%	39.3%	31.7%	24.7%	25.3%	-24.0%	-24.1%	-27.8%	-29.7%	-31.4%
	3M	46.2%	46.2%	46.2%	46.2%	46.2%	39.3%	31.5%	24.6%	25.2%	-23.9%	-24.1%	-27.8%	-29.7%	-31.5%
•	6M	41.5%	41.5%	41.5%	41.5%	41.5%	36.6%	31.5%	26.6%	26.4%	-25.0%	-25.6%	-29.2%	-30.6%	-31.1%
•	9M	34.9%	34.9%	34.9%	34.9%	34.9%	34.1%	31.6%	28.7%	27.3%	-26.5%	-27.6%	-31.0%	-31.9%	-31.0%
	1Y	28.7%	28.7%	28.7%	28.7%	28.7%	31.5%	31.5%	30.8%	28.2%	-28.0%	-29.5%	-32.7%	-33.1%	-30.7%
Α .	2Y	30.9%	30.9%	30.9%	30.9%	30.9%	33.1%	32.2%	33.9%	31.4%	-28.9%	-32.2%	-35.4%	-36.7%	-35.1%
_	3Y	33.6%	33.6%	33.6%	33.6%	33.6%	33.8%	32.2%	35.3%	33.0%	-28.4%	-33.3%	-36.2%	-38.6%	-38.1%
×	5Y	36.3%	36.3%	36.3%	36.3%	36.3%	38.2%	39.1%	38.9%	38.6%	-32.5%	-39.2%	-43.0%	-43.9%	-43.8%
	7Y	37.7%	37.7%	37.7%	37.7%	37.7%	37.8%	37.3%	37.9%	37.8%	-37.8%	-39.5%	-42.3%	-43.4%	-41.2%
	10Y	43.0%	43.0%	43.0%	43.0%	43.0%	43.5%	43.0%	41.5%	43.6%	-42.6%	-44.4%	-43.5%	-29.9%	-41.5%
	15Y	57.7%	57.7%	57.7%	57.7%	57.7%	96.7%	73.5%	54.0%	52.2%	-61.6%	-53.4%	-48.1%	-47.3%	-42.4%
	20Y	43.8%	43.8%	43.8%	43.8%	43.8%	41.2%	38.5%	38.3%	36.5%	-58.2%	-49.4%	-39.7%	-39.2%	-33.4%
	30Y	-38.0%	-38.0%	-38.0%	-38.0%	-38.0%	-37.8%	-37.8%	-43.9%	-42.2%	-39.7%	-40.8%	-41.8%	-42.8%	-43.8%
	Total ME/N. Af		1	1	Т	1	Г	T		1		П	T	1	1
	1M	-48.0%	-48.0%	-48.0%	-48.0%	-48.0%	-39.3%	-30.9%	-23.3%	-21.8%	-18.3%	-19.7%	-22.6%	-24.6%	-26.4%
	3M	-31.3%	-31.3%	-31.3%	-31.3%	-31.3%	-26.6%	-22.0%	-17.8%	-17.7%	-16.3%	-17.7%	-20.2%	-22.0%	-23.7%
	6M	-24.6%	-24.6%	-24.6%	-24.6%	-24.6%	-21.4%	-18.6%	-15.7%	-15.3%	-14.5%	-15.9%	-18.1%	-19.3%	-20.0%
	9M	-19.5%	-19.5%	-19.5%	-19.5%	-19.5%	-17.8%	-16.2%	-14.4%	-13.5%	-13.2%	-14.7%	-16.5%	-17.3%	-17.1%
>	1Y	-15.0%	-15.0%	-15.0%	-15.0%	-15.0%	-14.7%	-14.0%	-13.3%	-12.3%	-12.5%	-14.0%	-15.6%	-16.1%	-15.2%
~	2Y	-15.7%	-15.7%	-15.7%	-15.7%	-15.7%	-15.3%	-14.8%	-14.5%	-13.3%	-12.8%	-14.9%	-16.6%	-17.6%	-17.1%
XPI	3Y	-16.8%	-16.8%	-16.8%	-16.8%	-16.8%	-15.8%	-14.7%	-15.3%	-14.0%	-13.0%	-15.7%	-17.4%	-19.0%	-19.0%
Ē	5Y	-16.9%	-16.9%	-16.9%	-16.9%	-16.9%	-17.9%	-17.5%	-17.4%	-19.1%	-17.9%	-21.6%	-24.4%	-25.5%	-25.9%
	7Y	-16.9%	-16.9%	-16.9%	-16.9%	-16.9%	-17.5%	-16.8%	-19.8%	-21.4%	-23.4%	-24.6%	-27.0%	-28.3%	-27.3%
	10Y	-25.7%	-25.7%	-25.7%	-25.7%	-25.7%	-28.1%	-27.7%	-28.2%	-30.5%	-31.9%	-33.8%	-33.6%	-23.5%	-32.9%
	15Y	-28.3%	-28.3%	-28.3%	-28.3%	-28.3%	-63.9%	-38.7%	-30.0%	-32.7%	-44.6%	-40.3%	-37.2%	-37.3%	-34.0%
	20Y	-25.2%	-25.2%	-25.2%	-25.2%	-25.2%	-25.1%	-24.2%	-25.6%	-26.5%	-47.3%	-40.8%	-33.3%	-33.3%	-28.7%
	30Y	-24.0%	-24.0%	-24.0%	-24.0%	-24.0%	-25.2%	-25.9%	-31.9%	-33.1%	-34.5%	-35.9%	-37.2%	-38.5%	-39.7%
	Total Sub-Saha	ran Africa													
	1M	-48.2%	-48.2%	-48.2%	-48.2%	-48.2%	-29.5%	-22.1%	-12.7%	-12.3%	-11.8%	-11.4%	-12.7%	-13.9%	-15.4%
	3M	-45.6%	-45.6%	-45.6%	-45.6%	-45.6%	-25.0%	-19.5%	-11.9%	-11.6%	-11.2%	-10.9%	-12.1%	-13.2%	-14.7%
	6M	-29.5%	-29.5%	-29.5%	-29.5%	-29.5%	-18.8%	-15.7%	-11.5%	-10.9%	-10.6%	-10.5%	-11.6%	-12.4%	-13.1%
	9M	-20.4%	-20.4%	-20.4%	-20.4%	-20.4%	-15.8%	-14.2%	-11.4%	-10.6%	-10.5%	-10.5%	-11.5%	-12.1%	-12.3%
	1Y	-14.5%	-14.5%	-14.5%	-14.5%	-14.5%	-13.4%	-13.1%	-11.3%	-10.3%	-10.4%	-10.6%	-11.5%	-11.8%	-11.4%
<u>۳</u>	2Y	-11.5%	-11.5%	-11.5%	-11.5%	-11.5%	-11.7%	-11.0%	-10.6%	-9.7%	-9.1%	-9.8%	-10.4%	-10.8%	-10.4%
4	3Y	-11.7%	-11.7%	-11.7%	-11.7%	-11.7%	-10.5%	-9.8%	-10.1%	-9.3%	-8.0%	-8.9%	-9.4%	-10.1%	-10.0%
×	5Y	-11.0%	-11.0%	-11.0%	-11.0%	-11.0%	-10.9%	-10.5%	-10.1%	-9.9%	-8.3%	-9.3%	-10.1%	-10.2%	-10.1%
_	7Y	-10.6%	-10.6%	-10.6%	-10.6%	-10.6%	-10.7%	-10.2%	-10.0%	-9.7%	-9.5%	-9.6%	-10.2%	-10.4%	-9.7%
	10Y	-10.4%	-10.4%	-10.4%	-10.4%	-10.4%	-10.7%	-10.3%	-9.9%	-10.2%	-10.0%	-10.6%	-10.5%	-7.3%	-10.1%
	15Y	-11.8%	-11.8%	-11.8%	-11.8%	-11.8%	-23.9%	-13.7%	-10.2%	-10.8%	-13.9%	-12.3%	-11.5%	-11.6%	-10.6%
	20Y	-10.9%	-10.9%	-10.9%	-10.9%	-10.9%	-9.8%	-8.8%	-8.8%	-8.8%	-14.6%	-13.2%	-11.1%	-11.3%	-9.9%
	30Y	-20.7%	-20.7%	-20.7%	-20.7%	-20.7%	-20.5%	-18.7%	-19.9%	-18.3%	-16.4%	-17.1%	-17.9%	-18.5%	-19.2%

Absolute Normal Interest Rate Shocks

Rates Vega
Absolute Normal Interest Rate Shocks (bps)

								МАТ	URITY						
		1M	3M	6M	9M	1Y	2Y	3Y	5Y	7Y	10Y	15Y	20Y	25Y	30Y
	AUD														
	1M	(25.3)	(25.3)	(25.3)	(25.3)	(25.3)	(22.0)	(18.5)	(15.4)	(16.0)	(15.4)	(15.5)	(16.8)	(17.4)	(17.9)
	3M	(25.3)	(25.3)	(25.3)	(25.3)	(25.3)	(22.0)	(18.5)	(15.4)	(16.0)	(15.4)	(15.5)	(16.8)	(17.4)	(17.9)
	6M	(22.1)	(22.1)	(22.1)	(22.1)	(22.1)	(20.4)	(18.1)	(15.8)	(15.9)	(15.6)	(15.9)	(16.9)	(17.2)	(17.0)
	9M	(18.9)	(18.9)	(18.9)	(18.9)	(18.9)	(18.8)	(17.6)	(16.2)	(15.8)	(15.8)	(16.2)	(17.1)	(17.0)	(16.0)
_	1Y	(15.7)	(15.7)	(15.7)	(15.7)	(15.7)	(17.2)	(17.2)	(16.6)	(15.7)	(15.9)	(16.5)	(17.2)	(16.8)	(15.1)
-R	2Y 3Y	(16.6)	(16.6)	(16.6)	(16.6)	(16.6)	(16.9)	(16.4)	(16.5)	(15.5)	(14.6)	(15.5)	(16.0)	(16.0)	(14.8)
EXP	5Y	(17.5) (17.3)	(17.5) (17.3)	(17.5) (17.3)	(17.5) (17.3)	(17.5) (17.3)	(16.6) (18.1)	(15.5) (17.6)	(16.5) (17.4)	(15.4) (17.1)	(13.2) (14.3)	(14.5) (15.6)	(14.9) (16.4)	(15.2) (16.1)	(14.5) (15.5)
ш	7Y	(17.3)	(17.3)	(17.3)	(17.3)	(17.3)	(18.1)	(17.6)	(17.4)	(17.1)	(14.3)	(16.1)	(16.4)	(16.1)	(15.5)
	10Y	(18.7)	(18.7)	(18.7)	(18.7)	(18.7)	(19.3)	(18.4)	(17.7)	(18.2)	(17.9)	(17.9)	(17.0)	(11.3)	(15.3)
	15Y	(17.4)	(17.4)	(17.4)	(17.4)	(17.4)	(37.2)	(21.8)	(16.0)	(16.7)	(21.6)	(18.5)	(16.3)	(15.7)	(13.8)
	20Y	(13.4)	(13.4)	(13.4)	(13.4)	(13.4)	(12.7)	(11.8)	(11.9)	(11.8)	(20.1)	(16.5)	(10.3)	(12.5)	(10.4)
	30Y	(10.0)	(10.0)	(10.0)	(10.0)	(10.0)	(10.0)	(10.0)	(11.7)	(11.7)	(11.7)	(11.7)	(11.7)	(11.7)	(11.7)
		(10.0)	(10.0)	(10.0)	(10.0)	(10.0)	(10.0)	(10.0)	(11.7)	(11.7)	(11.7)	(11.7)	(11.7)	(11.7)	(11.7)
	EUR														
	1M	(12.5)	(12.5)	(12.5)	(12.5)	(12.5)	(17.1)	(14.1)	(11.1)	(11.9)	(11.6)	(13.3)	(15.5)	(16.5)	(18.0)
	3M	(13.6)	(13.6)	(13.6)	(13.6)	(13.6)	(17.5)	(14.1)	(11.1)	(11.9)	(11.6)	(13.3)	(15.5)	(16.5)	(18.0)
	6M	(15.9)	(15.9)	(15.9)	(15.9)	(15.9)	(16.0)	(13.7)	(11.5)	(12.8)	(11.8)	(13.4)	(15.3)	(16.1)	(16.7)
	9M	(15.4)	(15.4)	(15.4)	(15.4)	(15.4)	(14.6)	(13.4)	(11.8)	(13.7)	(12.0)	(13.5)	(15.1)	(15.7)	(15.4)
	1Y	(13.1)	(13.1)	(13.1)	(13.1)	(13.1)	(13.1)	(13.1)	(12.2)	(14.6)	(12.2)	(13.6)	(15.0)	(15.3)	(14.1)
~	2Y	(13.3)	(13.3)	(13.3)	(13.3)	(13.3)	(12.9)	(13.1)	(12.2)	(15.3)	(11.6)	(13.0)	(13.9)	(13.7)	(13.4)
EXPIR	3Y	(13.5)	(13.5)	(13.5)	(13.5)	(13.5)	(12.6)	(13.1)	(12.3)	(16.1)	(10.9)	(12.4)	(12.9)	(12.1)	(12.7)
E E	5Y	(21.3)	(21.3)	(21.3)	(21.3)	(21.3)	(14.0)	(15.7)	(13.3)	(17.8)	(11.8)	(13.0)	(14.2)	(14.1)	(14.2)
	7Y	(22.6)	(22.6)	(22.6)	(22.6)	(22.6)	(15.0)	(17.3)	(21.6)	(21.1)	(14.0)	(13.8)	(14.6)	(14.5)	(13.9)
	10Y	(13.8)	(13.8)	(13.8)	(13.8)	(13.8)	(14.5)	(18.0)	(14.9)	(22.5)	(13.6)	(14.7)	(14.8)	(6.8)	(14.5)
	15Y	(20.9)	(20.9)	(20.9)	(20.9)	(20.9)	(23.1)	(13.3)	(19.7)	(20.6)	(13.7)	(13.3)	(13.5)	(13.2)	(12.1)
	20Y 30Y	(12.3) (11.8)	(12.3) (11.8)	(12.3) (11.8)	(12.3) (11.8)	(12.3) (11.8)	(8.7) (11.8)	(14.6) (11.8)	(12.3) (7.4)	(14.6) (7.4)	(12.7) (7.4)	(10.7) (7.4)	(11.3) (7.4)	(10.9) (7.4)	(9.5) (7.4)
	GBP 1M	(19.7)	(19.7)	(19.7)	(19.7)	(19.7)	(16.2)	(12.4)	(10.2)	(10.2)	(10.3)	(10.0)	(10.8)	(11.2)	(11.4)
	3M	(19.7)	(19.7)	(19.7)	(19.7)	(19.7)	(16.2)	(12.4)	(10.2)	(10.2)	(10.3)	(10.0)	(10.8)	(11.2)	(11.4)
	6M	(17.3)	(17.3)	(17.3)	(17.3)	(17.3)	(15.0)	(12.2)	(10.1)	(9.9)	(10.1)	(10.0)	(10.7)	(10.9)	(10.8)
	9M	(14.9)	(14.9)	(14.9)	(14.9)	(14.9)	(13.8)	(11.9)	(10.1)	(9.5)	(10.0)	(10.0)	(10.7)	(10.7)	(10.1)
	1Y	(12.5)	(12.5)	(12.5)	(12.5)	(12.5)	(12.6)	(11.6)	(10.0)	(9.2)	(9.9)	(10.0)	(10.7)	(10.5)	(9.5)
~	2Y	(13.3)	(13.3)	(13.3)	(13.3)	(13.3)	(12.8)	(12.0)	(11.0)	(9.6)	(9.1)	(9.6)	(10.2)	(9.5)	(9.2)
EXPI	3Y	(14.0)	(14.0)	(14.0)	(14.0)	(14.0)	(13.1)	(12.4)	(12.0)	(9.9)	(8.4)	(9.2)	(9.7)	(8.4)	(8.9)
×	5Y	(13.5)	(13.5)	(13.5)	(13.5)	(13.5)	(12.5)	(11.9)	(11.2)	(9.2)	(8.2)	(8.9)	(9.3)	(8.9)	(9.3)
	7Y	(13.4)	(13.4)	(13.4)	(13.4)	(13.4)	(13.9)	(12.9)	(10.5)	(11.0)	(10.5)	(10.0)	(10.2)	(10.1)	(9.6)
	10Y	(14.8)	(14.8)	(14.8)	(14.8)	(14.8)	(14.8)	(14.0)	(12.2)	(11.4)	(11.0)	(10.8)	(10.4)	(5.0)	(9.7)
	15Y	(11.4)	(11.4)	(11.4)	(11.4)	(11.4)	(17.4)	(9.9)	(11.1)	(11.1)	(10.5)	(10.9)	(9.6)	(8.9)	(8.1)
	20Y	(7.0)	(7.0)	(7.0)	(7.0)	(7.0)	(7.2)	(8.7)	(9.4)	(9.3)	(9.8)	(8.2)	(8.6)	(7.4)	(6.0)
	30Y	(5.9)	(5.9)	(5.9)	(5.9)	(5.9)	(5.9)	(5.9)	(5.8)	(5.8)	(5.8)	(5.8)	(5.8)	(5.8)	(5.8)
	JPY	(10.0)	(40.0)	(40.0)	(40.0)	(40.0)	(40.0)	(0.0)	(6.6)	(0.1)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)
	1M	(12.0)	(12.0)	(12.0)	(12.0)	(12.0)	(10.3)	(8.6)	(6.9)	(8.4)	(9.0)	(9.0)	(9.0)	(9.0)	(9.0)
	3M	(12.0)	(12.0)	(12.0)	(12.0)	(12.0)	(10.3)	(8.6)	(6.9)	(8.4)	(9.0)	(9.0)	(9.0)	(9.0)	(9.0)
	6M 9M	(10.5)	(10.5)	(10.5) (9.0)	(10.5)	(10.5) (9.0)	(9.6) (8.8)	(8.4)	(7.6) (8.2)	(8.9)	(9.6) (10.2)	(9.6) (10.2)	(9.6)	(9.6) (10.2)	(9.6) (10.2)
	9M 1Y	(9.0)	(9.0) (7.5)	(9.0)	(9.0) (7.5)	(9.0)	(8.8)	(8.2)	(8.2)	(9.4)	(10.2)	(10.2)	(10.2) (10.7)	(10.2)	(10.2)
>	2Y	(8.1)	(8.1)	(8.1)	(8.1)	(8.1)	(8.3)	(8.7)	(8.9)	(10.0)	(10.7)	(10.7)	(10.7)	(10.7)	(10.7)
~	3Y	(8.1)	(8.1)	(8.1)	(8.1)	(8.1)	(8.3)	(9.5)	(11.0)	(10.7)	(10.7)	(10.7)	(10.7)	(10.7)	(10.7)
EXP	5Y	(12.5)	(12.5)	(12.5)	(12.5)	(12.5)	(13.1)	(13.5)	(13.1)	(12.4)	(10.7)	(10.7)	(10.7)	(10.7)	(10.7)
ш	7Y	(15.7)	(15.7)	(15.7)	(15.7)	(15.7)	(15.1)	(15.6)	(12.9)	(14.6)	(14.3)	(14.3)	(14.3)	(14.3)	(14.3)
	10Y	(16.1)	(16.1)	(16.1)	(16.1)	(16.1)	(15.8)	(16.3)	(15.3)	(15.3)	(13.9)	(13.9)	(13.9)	(13.9)	(13.9)
	15Y	(14.6)	(14.6)	(14.6)	(14.6)	(14.6)	(16.3)	(9.3)	(14.9)	(15.5)	(14.5)	(14.5)	(14.5)	(14.5)	(14.5)
	20Y	(8.9)	(8.9)	(8.9)	(8.9)	(8.9)	(9.3)	(11.0)	(11.1)	(11.0)	(14.5)	(14.5)	(14.5)	(14.5)	(14.5)
	30Y	(6.2)	(6.2)	(6.2)	(6.2)	(6.2)	(6.2)	(6.2)	(6.2)	(6.2)	(6.2)	(6.2)	(6.2)	(6.2)	(6.2)
	301	(0.2)	(0.2)	(0.2)	(0.2)	(0.2)	(0.2)	(0.2)	(0.2)	(0.2)	(0.2)	(0.2)	(0.2)	(0.2)	

Absolute Normal Interest Rate Shocks (Continued)

	USD														
	1M	(25.3)	(25.3)	(25.3)	(25.3)	(25.3)	(22.0)	(18.5)	(15.4)	(16.0)	(15.4)	(15.5)	(16.8)	(17.4)	(17.9)
	3M	(25.3)	(25.3)	(25.3)	(25.3)	(25.3)	(22.0)	(18.5)	(15.4)	(16.0)	(15.4)	(15.5)	(16.8)	(17.4)	(17.9)
	6M	(22.1)	(22.1)	(22.1)	(22.1)	(22.1)	(20.4)	(18.1)	(15.8)	(15.9)	(15.6)	(15.9)	(16.9)	(17.2)	(17.0)
	9M	(18.9)	(18.9)	(18.9)	(18.9)	(18.9)	(18.8)	(17.6)	(16.2)	(15.8)	(15.8)	(16.2)	(17.1)	(17.0)	(16.0)
	1Y	(15.7)	(15.7)	(15.7)	(15.7)	(15.7)	(17.2)	(17.2)	(16.6)	(15.7)	(15.9)	(16.5)	(17.2)	(16.8)	(15.1)
EXPIRY	2Y	(16.6)	(16.6)	(16.6)	(16.6)	(16.6)	(16.9)	(16.4)	(16.5)	(15.5)	(14.6)	(15.5)	(16.0)	(16.0)	(14.8)
=	3Y	(17.5)	(17.5)	(17.5)	(17.5)	(17.5)	(16.6)	(15.5)	(16.5)	(15.4)	(13.2)	(14.5)	(14.9)	(15.2)	(14.5)
<u> </u>	5Y	(17.3)	(17.3)	(17.3)	(17.3)	(17.3)	(18.1)	(17.6)	(17.4)	(17.1)	(14.3)	(15.6)	(16.4)	(16.1)	(15.5)
	7Y	(18.3)	(18.3)	(18.3)	(18.3)	(18.3)	(18.5)	(17.6)	(17.5)	(17.1)	(16.9)	(16.1)	(16.5)	(16.3)	(15.0)
	10Y	(18.7)	(18.7)	(18.7)	(18.7)	(18.7)	(19.3)	(18.4)	(17.7)	(18.2)	(17.9)	(17.9)	(17.0)	(11.3)	(15.3)
	15Y	(17.4)	(17.4)	(17.4)	(17.4)	(17.4)	(37.2)	(21.8)	(16.0)	(16.7)	(21.6)	(18.5)	(16.3)	(15.7)	(13.8)
	20Y	(13.4)	(13.4)	(13.4)	(13.4)	(13.4)	(12.7)	(11.8)	(11.9)	(11.8)	(20.1)	(16.5)	(12.9)	(12.5)	(10.4)
	30Y	(10.0)	(10.0)	(10.0)	(10.0)	(10.0)	(10.0)	(10.0)	(11.7)	(11.7)	(11.7)	(11.7)	(11.7)	(11.7)	(11.7)
	US MBS Vega Other Advance	d Economies	I												
	1M	(20.0)	(20.0)	(20.0)	(20.0)	(20.0)	(17.5)	(14.1)	(11.1)	(11.9)	(11.6)	(13.3)	(15.5)	(16.5)	(18.0)
	3M	(20.0)	(20.0)	(20.0)	(20.0)	(20.0)	(17.5)	(14.1)	(11.1)	(11.9)	(11.6)	(13.3)	(15.5)	(16.5)	(18.0)
	6M	(17.7)	(17.7)	(17.7)	(17.7)	(17.7)	(16.0)	(13.7)	(11.5)	(12.8)	(11.8)	(13.4)	(15.3)	(16.1)	(16.7)
	9M	(15.4)	(15.4)	(15.4)	(15.4)	(15.4)	(14.6)	(13.4)	(11.8)	(13.7)	(12.0)	(13.5)	(15.1)	(15.7)	(15.4)
_	1Y	(13.1)	(13.1)	(13.1)	(13.1)	(13.1)	(13.1)	(13.1)	(12.2)	(14.6)	(12.2)	(13.6)	(15.0)	(15.3)	(14.1)
EXPIRY	2Y	(13.3)	(13.3)	(13.3)	(13.3)	(13.3)	(12.9)	(13.1)	(12.2)	(15.3)	(11.6)	(13.0)	(13.9)	(13.7)	(13.4)
<u> </u>	3Y	(13.5)	(13.5)	(13.5)	(13.5)	(13.5)	(12.6)	(13.1)	(12.3)	(16.1)	(10.9)	(12.4)	(12.9)	(12.1)	(12.7)
<u> </u>	5Y	(21.3)	(21.3)	(21.3)	(21.3)	(21.3)	(14.0)	(15.7)	(13.3)	(17.8)	(11.8)	(13.0)	(14.2)	(14.1)	(14.2)
	7Y	(22.6)	(22.6)	(22.6)	(22.6)	(22.6)	(15.0)	(17.3)	(21.6)	(21.1)	(14.0)	(13.8)	(14.6)	(14.5)	(13.9)
	10Y	(13.8)	(13.8)	(13.8)	(13.8)	(13.8)	(14.5)	(18.0)	(14.9)	(22.5)	(13.6)	(14.7)	(14.8)	(6.8)	(14.5)
	15Y	(20.9)	(20.9)	(20.9)	(20.9)	(20.9)	(23.1)	(13.3)	(19.7)	(20.6)	(13.7)	(13.3)	(13.5)	(13.2)	(12.1)
	20Y	(12.3)	(12.3)	(12.3)	(12.3)	(12.3)	(8.7)	(14.6)	(12.3)	(14.6)	(12.7)	(10.7)	(11.3)	(10.9)	(9.5)
	30Y	(11.8)	(11.8)	(11.8)	(11.8)	(11.8)	(11.8)	(11.8)	(7.4)	(7.4)	(7.4)	(7.4)	(7.4)	(7.4)	(7.4)
	Total Emerging	F													
	1M	(5.7)	(5.7)	(5.7)	(5.7)	(5.7)	(5.6)	(7.6)	(11.1)	(11.9)	(11.6)	(13.3)	(15.5)	(16.5)	(18.0)
	3M	(5.0)	(5.0)	(5.0)	(5.0)	(5.0)	(5.7)	(8.1)	(11.1)	(11.9)	(11.6)	(13.3)	(15.5)	(16.5)	(18.0)
	6M	(4.2)	(4.2)	(4.2)	(4.2)	(4.2)	(6.1)	(9.0)	(11.5)	(12.8)	(11.8)	(13.4)	(15.3)	(16.1)	(16.7)
	9M	(4.4)	(4.4)	(4.4)	(4.4)	(4.4)	(7.0)	(10.1)	(11.8)	(13.7)	(12.0)	(13.5)	(15.1)	(15.7)	(15.4)
	1Y	(5.0)	(5.0)	(5.0)	(5.0)	(5.0)	(8.1)	(11.6)	(12.2)	(14.6)	(12.2)	(13.6)	(15.0)	(15.3)	(14.1)
≿	2Y	(11.2)	(11.2)	(11.2)	(11.2)	(11.2)	(12.9)	(13.1)	(12.2)	(15.3)	(11.6)	(13.0)	(13.9)	(13.7)	(13.4)
PIRY	3Y	(13.5)	(13.5)	(13.5)	(13.5)	(13.5)	(12.6)	(13.1)	(12.3)	(16.1)	(10.9)	(12.4)	(12.9)	(12.1)	(12.7)
×	5Y	(21.3)	(21.3)	(21.3)	(21.3)	(21.3)	(14.0)	(15.7)	(13.3)	(17.8)	(11.8)	(13.0)	(14.2)	(14.1)	(14.2)
	7Y	(22.6)	(22.6)	(22.6)	(22.6)	(22.6)	(15.0)	(17.3)	(21.6)	(21.1)	(14.0)	(13.8)	(14.6)	(14.5)	(13.9)
	10Y	(13.8)	(13.8)	(13.8)	(13.8)	(13.8)	(14.5)	(18.0)	(14.9)	(22.5)	(13.6)	(14.7)	(14.8)	(6.8)	(14.5)
	15Y	(20.9)	(20.9)	(20.9)	(20.9)	(20.9)	(23.1)	(13.3)	(19.7)	(20.6)	(13.7)	(13.3)	(13.5)	(13.2)	(12.1)
	20Y	(12.3)	(12.3)	(12.3)	(12.3)	(12.3)	(8.7)	(14.6)	(12.3)	(14.6)	(12.7)	(10.7)	(11.3)	(10.9)	(9.5)
	30Y	(11.8)	(11.8)	(11.8)	(11.8)	(11.8)	(11.8)	(11.8)	(7.4)	(7.4)	(7.4)	(7.4)	(7.4)	(7.4)	(7.4)
	Total Latam &		T												
	1M	(25.3)	(25.3)	(25.3)	(25.3)	(25.3)	(22.0)	(18.5)	(15.4)	(16.0)	(15.4)	(15.5)	(16.8)	(17.4)	(17.9)
	3M	(25.3)	(25.3)	(25.3)	(25.3)	(25.3)	(22.0)	(18.5)	(15.4)	(16.0)	(15.4)	(15.5)	(16.8)	(17.4)	(17.9)
	6M	(22.1)	(22.1)	(22.1)	(22.1)	(22.1)	(20.4)	(18.1)	(15.8)	(15.9)	(15.6)	(15.9)	(16.9)	(17.2)	(17.0)
	9M	(18.9)	(18.9)	(18.9)	(18.9)	(18.9)	(18.8)	(17.6)	(16.2)	(15.8)	(15.8)	(16.2)	(17.1)	(17.0)	(16.0)
>	1Y 2Y	(15.7)	(15.7)	(15.7)	(15.7)	(15.7)	(17.2)	(17.2)	(16.6)	(15.7)	(15.9)	(16.5)	(17.2)	(16.8)	(15.1)
- R		(16.6)	(16.6)	(16.6)	(16.6)	(16.6)	(16.9)	(16.4)	(16.5)	(15.5)	(14.6)	(15.5)	(16.0)	(16.0)	(14.8)
EXPI	3Y 5Y	(17.5) (17.3)	(17.5) (17.3)	(17.5)	(17.5)	(17.5) (17.3)	(16.6) (18.1)	(15.5) (17.6)	(16.5) (17.4)	(15.4)	(13.2) (14.3)	(14.5) (15.6)	(14.9) (16.4)	(15.2)	(14.5)
ш	7Y	(17.3)	(17.3)	(17.3) (18.3)	(17.3) (18.3)	(17.3)	(18.1)	(17.6)	(17.4)	(17.1) (17.1)	(14.3)	(15.6)	(16.4)	(16.1) (16.3)	(15.5) (15.0)
	10Y	(18.3)	(18.3)	(18.3)	(18.3)	(18.7)	(18.5)	(17.6)	(17.7)	(17.1)	(16.9)	(16.1)	(17.0)	(16.3)	(15.0)
	15Y	(18.7)	(18.7)	(18.7)	(17.4)	(17.4)	(37.2)	(21.8)	(17.7)	(16.7)	(21.6)	(17.9)	(16.3)	(11.3)	(13.8)
	20Y	(17.4)	(17.4)	(17.4)	(17.4)	(17.4)	(12.7)	(21.8)	(11.9)	(11.8)	(21.6)	(16.5)	(12.9)	(12.5)	(10.4)
		(13.4)	(13.4)	(13.4)	(13.4)	(±3.4)	(12.7)	(11.0)	(11.5)	(11.0)	(20.1)	(10.5)	(12.3)	(12.3)	(10.4)

Absolute Normal Interest Rate Shocks (Continued)

-	Total Asia Ex-Ja	pan													
	1M	25.3	25.3	25.3	25.3	25.3	22.0	18.5	15.4	16.0	(15.4)	(15.5)	(16.8)	(17.4)	(17.9)
	3M	25.3	25.3	25.3	25.3	25.3	22.0	18.5	15.4	16.0	(15.4)	(15.5)	(16.8)	(17.4)	(17.9)
	6M	22.1	22.1	22.1	22.1	22.1	20.4	18.1	15.8	15.9	(15.6)	(15.9)	(16.9)	(17.2)	(17.0)
	9M	18.9	18.9	18.9	18.9	18.9	18.8	17.6	16.2	15.8	(15.8)	(16.2)	(17.1)	(17.0)	(16.0)
	1Y	15.7	15.7	15.7	15.7	15.7	17.2	17.2	16.6	15.7	(15.9)	(16.5)	(17.2)	(16.8)	(15.1)
2	2Y	16.6	16.6	16.6	16.6	16.6	16.9	16.4	16.5	15.5	(14.6)	(15.5)	(16.0)	(16.0)	(14.8)
7	3Y	17.5	17.5	17.5	17.5	17.5	16.6	15.5	16.5	15.4	(13.2)	(14.5)	(14.9)	(15.2)	(14.5)
۱,	5Y	17.3	17.3	17.3	17.3	17.3	18.1	17.6	17.4	17.1	(14.3)	(15.6)	(16.4)	(16.1)	(15.5)
	7Y	18.3	18.3	18.3	18.3	18.3	18.5	17.6	17.5	17.1	(16.9)	(16.1)	(16.5)	(16.3)	(15.0)
	10Y	18.7	18.7	18.7	18.7	18.7	19.3	18.4	17.7	18.2	(17.9)	(17.9)	(17.0)	(11.3)	(15.3)
	15Y	17.4	17.4	17.4	17.4	17.4	29.0	21.8	16.0	16.7	(21.6)	(18.5)	(16.3)	(15.7)	(13.8)
	20Y	13.4	13.4	13.4	13.4	13.4	12.7	11.8	11.9	11.8	(20.1)	(16.5)	(12.9)	(12.5)	(10.4)
	30Y	(10.0)	(10.0)	(10.0)	(10.0)	(10.0)	(10.0)	(10.0)	(11.7)	(11.7)	(11.7)	(11.7)	(11.7)	(11.7)	(11.7)
-	Total ME/N. Af	rica													
	1M	(25.3)	(25.3)	(25.3)	(25.3)	(25.3)	(22.0)	(18.5)	(15.4)	(16.0)	(15.4)	(15.5)	(16.8)	(17.4)	(17.9)
ŀ	3M	(25.3)	(25.3)	(25.3)	(25.3)	(25.3)	(22.0)	(18.5)	(15.4)	(16.0)	(15.4)	(15.5)	(16.8)	(17.4)	(17.9)
f	6M	(22.1)	(22.1)	(22.1)	(22.1)	(22.1)	(20.4)	(18.1)	(15.8)	(15.9)	(15.6)	(15.9)	(16.9)	(17.2)	(17.0)
ŀ	9M	(18.9)	(18.9)	(18.9)	(18.9)	(18.9)	(18.8)	(17.6)	(16.2)	(15.8)	(15.8)	(16.2)	(17.1)	(17.0)	(16.0)
-	1Y	(15.7)	(15.7)	(15.7)	(15.7)	(15.7)	(17.2)	(17.2)	(16.6)	(15.7)	(15.9)	(16.5)	(17.2)	(16.8)	(15.1)
:	2Y	(16.6)	(16.6)	(16.6)	(16.6)	(16.6)	(16.9)	(16.4)	(16.5)	(15.5)	(14.6)	(15.5)	(16.0)	(16.0)	(14.8)
	3Y	(17.5)	(17.5)	(17.5)	(17.5)	(17.5)	(16.6)	(15.5)	(16.5)	(15.4)	(13.2)	(14.5)	(14.9)	(15.2)	(14.5)
	5Y	(17.3)	(17.3)	(17.3)	(17.3)	(17.3)	(18.1)	(17.6)	(17.4)	(17.1)	(14.3)	(15.6)	(16.4)	(16.1)	(15.5)
' F	7Y	(18.3)	(18.3)	(18.3)	(18.3)	(18.3)	(18.5)	(17.6)	(17.5)	(17.1)	(16.9)	(16.1)	(16.5)	(16.3)	(15.0)
F	10Y	(18.7)	(18.7)	(18.7)	(18.7)	(18.7)	(19.3)	(18.4)	(17.7)	(18.2)	(17.9)	(17.9)	(17.0)	(11.3)	(15.3)
	15Y	(17.4)	(17.4)	(17.4)	(17.4)	(17.4)	(37.2)	(21.8)	(16.0)	(16.7)	(21.6)	(18.5)	(16.3)	(15.7)	(13.8)
	20Y	(13.4)	(13.4)	(13.4)	(13.4)	(13.4)	(12.7)	(11.8)	(11.9)	(11.8)	(20.1)	(16.5)	(12.9)	(12.5)	(10.4)
F	30Y	(10.0)	(10.0)	(10.0)	(10.0)	(10.0)	(10.0)	(10.0)	(11.7)	(11.7)	(11.7)	(11.7)	(11.7)	(11.7)	(11.7)
	Total Sub-Saha	ran Africa								,					
	1M	(25.3)	(25.3)	(25.3)	(25.3)	(25.3)	(22.0)	(18.5)	(15.4)	(16.0)	(15.4)	(15.5)	(16.8)	(17.4)	(17.9)
f	3M	(25.3)	(25.3)	(25.3)	(25.3)	(25.3)	(22.0)	(18.5)	(15.4)	(16.0)	(15.4)	(15.5)	(16.8)	(17.4)	(17.9)
f	6M	(22.1)	(22.1)	(22.1)	(22.1)	(22.1)	(20.4)	(18.1)	(15.8)	(15.9)	(15.6)	(15.9)	(16.9)	(17.2)	(17.0)
ľ	9M	(18.9)	(18.9)	(18.9)	(18.9)	(18.9)	(18.8)	(17.6)	(16.2)	(15.8)	(15.8)	(16.2)	(17.1)	(17.0)	(16.0)
	1Y	(15.7)	(15.7)	(15.7)	(15.7)	(15.7)	(17.2)	(17.2)	(16.6)	(15.7)	(15.9)	(16.5)	(17.2)	(16.8)	(15.1)
2	2Y	(16.6)	(16.6)	(16.6)	(16.6)	(16.6)	(16.9)	(16.4)	(16.5)	(15.5)	(14.6)	(15.5)	(16.0)	(16.0)	(14.8)
	3Y	(17.5)	(17.5)	(17.5)	(17.5)	(17.5)	(16.6)	(15.5)	(16.5)	(15.4)	(13.2)	(14.5)	(14.9)	(15.2)	(14.5)
	5Y	(17.3)	(17.3)	(17.3)	(17.3)	(17.3)	(18.1)	(17.6)	(17.4)	(17.1)	(14.3)	(15.6)	(16.4)	(16.1)	(15.5)
	7Y	(18.3)	(18.3)	(18.3)	(18.3)	(18.3)	(18.5)	(17.6)	(17.5)	(17.1)	(16.9)	(16.1)	(16.5)	(16.3)	(15.0)
	10Y	(18.7)	(18.7)	(18.7)	(18.7)	(18.7)	(19.3)	(18.4)	(17.7)	(18.2)	(17.9)	(17.9)	(17.0)	(11.3)	(15.3)
	15Y	(17.4)	(17.4)	(17.4)	(17.4)	(17.4)	(37.2)	(21.8)	(16.0)	(16.7)	(21.6)	(18.5)	(16.3)	(15.7)	(13.8)
	20Y	(13.4)	(13.4)	(13.4)	(13.4)	(13.4)	(12.7)	(11.8)	(11.9)	(11.8)	(20.1)	(16.5)	(12.9)	(12.5)	(10.4)
	30Y	(10.0)	(10.0)	(10.0)	(10.0)	(10.0)	(10.0)	(10.0)	(11.7)	(11.7)	(11.7)	(11.7)	(11.7)	(11.7)	(11.7)

Other Rates

Absolute Change in Inflation (bps)

							MATURITY	7					
Currency	1M	3M	6M	9M	1Y	2Y	3Y	5Y	7Y	10Y	15Y	20Y	30Y
AUD	(94.1)	(94.1)	(94.1)	(94.1)	(94.1)	(81.1)	(81.4)	(75.3)	(66.6)	(63.4)	(59.6)	(61.2)	(59.5)
EUR	(137.4)	(137.4)	(137.4)	(137.4)	(137.4)	(133.0)	(128.6)	(116.2)	(115.9)	(111.0)	(95.0)	(97.8)	(88.1)
GBP	(203.6)	(203.6)	(203.6)	(203.6)	(203.6)	(161.5)	(150.9)	(141.9)	(133.7)	(123.0)	(117.3)	(108.6)	(104.2)
JPY	(94.0)	(94.0)	(94.0)	(94.0)	(94.0)	(108.6)	(109.8)	(127.3)	(126.9)	(117.4)	(116.1)	(109.4)	(170.2)
USD	(111.6)	(111.6)	(111.6)	(111.6)	(111.6)	(118.7)	(123.1)	(126.8)	(130.0)	(114.8)	(113.3)	(109.8)	(105.4)
Other	(111.6)	(111.6)	(111.6)	(111.6)	(111.6)	(118.7)	(123.1)	(126.8)	(130.0)	(114.8)	(113.3)	(109.8)	(105.4)

Absolute Change in Cross-Currency vs. USD Basis (bps)

(move in bps of spread on non-USD leg)

							MATURITY	1					
Currency	1M	3M	6M	9M	1Y	2Y	3Y	5Y	7Y	10Y	15Y	20Y	30Y
AUD	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
EUR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GBP	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JPY	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Other	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Appendix 11: Global Market Shock - Severely Adverse

Securitized Products

Trading, PE & Other Fair Value Assets

Securitized Products

								RMBS							
	Non-Agency				Unspec Non-							Prime Whole	Non-Prime		Other/
	Prime	Sub-prime	Option ARMS	Other AltA	Prime	HELOC	RMBS CDO	RMBS CDS	Credit Basket	PrimeX	ABX / TABX	Loans	Whole Loans	European RMBS	Unspecified
Relative MV Shock Bas	d on Current Ra	ting (%)	•												
AAA Total															
Pre 2006	-12.8%	-12.8%	-12.8%	-12.8%	-12.8%	-12.8%	-12.8%	-12.8%	-12.8%	-12.8%	-12.8%	-12.8%	-12.8%	-12.8%	-12.8%
2006	-34.4%	-34.4%	-34.4%	-34.4%	-34.4%	-34.4%	-34.4%	-34.4%	-34.4%	-34.4%	-34.4%	-34.4%	-34.4%	-34.4%	-34.4%
2007	-31.5%	-31.5%	-31.5%	-31.5%	-31.5%	-31.5%	-31.5%	-31.5%	-31.5%	-31.5%	-31.5%	-31.5%	-31.5%	-31.5%	-31.5%
Post 2007	-31.5%	-31.5%	-31.5%	-31.5%	-31.5%	-31.5%	-31.5%	-31.5%	-31.5%	-31.5%	-31.5%	-31.5%	-31.5%	-31.5%	-31.5%
Unspecified Vintage	-34.4%	-34.4%	-34.4%	-34.4%	-34.4%	-34.4%	-34.4%	-34.4%	-34.4%	-34.4%	-34.4%	-34.4%	-34.4%	-34.4%	-34.4%
AA Total															
Pre 2006	-26.6%	-26.6%	-26.6%	-26.6%	-26.6%	-26.6%	-26.6%	-26.6%	-26.6%	-26.6%	-26.6%	-26.6%	-26.6%	-26.6%	-26.6%
2006	-71.5%	-71.5%	-71.5%	-71.5%	-71.5%	-71.5%	-71.5%	-71.5%	-71.5%	-71.5%	-71.5%	-71.5%	-71.5%	-71.5%	-71.5%
2007	-65.4%	-65.4%	-65.4%	-65.4%	-65.4%	-65.4%	-65.4%	-65.4%	-65.4%	-65.4%	-65.4%	-65.4%	-65.4%	-65.4%	-65.4%
Post 2007	-65.4%	-65.4%	-65.4%	-65.4%	-65.4%	-65.4%	-65.4%	-65.4%	-65.4%	-65.4%	-65.4%	-65.4%	-65.4%	-65.4%	-65.4%
Unspecified Vintage	-71.5%	-71.5%	-71.5%	-71.5%	-71.5%	-71.5%	-71.5%	-71.5%	-71.5%	-71.5%	-71.5%	-71.5%	-71.5%	-71.5%	-71.5%
A Total															
Pre 2006	-28.4%	-28.4%	-28.4%	-28.4%	-28.4%	-28.4%	-28.4%	-28.4%	-28.4%	-28.4%	-28.4%	-28.4%	-28.4%	-28.4%	-28.4%
2006	-76.5%	-76.5%	-76.5%	-76.5%	-76.5%	-76.5%	-76.5%	-76.5%	-76.5%	-76.5%	-76.5%	-76.5%	-76.5%	-76.5%	-76.5%
2007	-69.9%	-69.9%	-69.9%	-69.9%	-69.9%	-69.9%	-69.9%	-69.9%	-69.9%	-69.9%	-69.9%	-69.9%	-69.9%	-69.9%	-69.9%
Post 2007	-69.9%	-69.9%	-69.9%	-69.9%	-69.9%	-69.9%	-69.9%	-69.9%	-69.9%	-69.9%	-69.9%	-69.9%	-69.9%	-69.9%	-69.9%
Unspecified Vintage	-76.5%	-76.5%	-76.5%	-76.5%	-76.5%	-76.5%	-76.5%	-76.5%	-76.5%	-76.5%	-76.5%	-76.5%	-76.5%	-76.5%	-76.5%
BBB Total							•	•				•			
Pre 2006	-31.4%	-31.4%	-31.4%	-31.4%	-31.4%	-31.4%	-31.4%	-31.4%	-31.4%	-31.4%	-31.4%	-31.4%	-31.4%	-31.4%	-31.4%
2006	-84.6%	-84.6%	-84.6%	-84.6%	-84.6%	-84.6%	-31.4%	-31.4%	-84.6%	-84.6%	-84.6%	-84.6%	-84.6%	-84.6%	-84.6%
2007	-77.3%	-77.3%	-77.3%	-77.3%	-77.3%	-77.3%	-77.3%	-77.3%	-77.3%	-77.3%	-77.3%	-77.3%	-77.3%	-77.3%	-77.3%
Post 2007	-77.3%	-77.3%	-77.3%	-77.3%	-77.3%	-77.3%	-77.3%	-77.3%	-77.3%	-77.3%	-77.3%	-77.3%	-77.3%	-77.3%	-77.3%
Unspecified Vintage	-84.6%	-84.6%	-84.6%	-84.6%	-84.6%	-84.6%	-84.6%	-84.6%	-84.6%	-84.6%	-84.6%	-84.6%	-84.6%	-84.6%	-84.6%
,										0.1.07.5		4			
BB Total			1				1	1			1	1		1	
Pre 2006	-40.5%	-40.5%	-40.5%	-40.5%	-40.5%	-40.5%	-40.5%	-40.5%	-40.5%	-40.5%	-40.5%	-40.5%	-40.5%	-40.5%	-40.5%
2006 2007	-91.5% -91.5%	-91.5% -91.5%	-91.5% -91.5%	-91.5% -91.5%	-91.5% -91.5%	-91.5% -91.5%	-91.5% -91.5%	-91.5% -91.5%	-91.5% -91.5%	-91.5% -91.5%	-91.5% -91.5%	-91.5% -91.5%	-91.5% -91.5%	-91.5% -91.5%	-91.5% -91.5%
Post 2007	-91.5%	-91.5%	-91.5%	-91.5%	-91.5%	-91.5%	-91.5%	-91.5% -91.5%	-91.5%	-91.5%	-91.5% -91.5%	-91.5%	-91.5%	-91.5%	-91.5%
Unspecified Vintage	-91.5%	-91.5%	-91.5%	-91.5%	-91.5%	-91.5%	-91.5%	-91.5%	-91.5%	-91.5%	-91.5%	-91.5%	-91.5%	-91.5%	-91.5%
onspecified vintage	-91.376	-91.576	-91.5/6	-91.376	-91.376	-91.376	-91.5/6	-91.376	-91.376	-91.5/6	-91.376	-91.376	-91.376	-91.576	-91.576
B Total															
Pre 2006	-40.5%	-40.5%	-40.5%	-40.5%	-40.5%	-40.5%	-40.5%	-40.5%	-40.5%	-40.5%	-40.5%	-40.5%	-40.5%	-40.5%	-40.5%
2006	-91.5%	-91.5%	-91.5%	-91.5%	-91.5%	-91.5%	-91.5%	-91.5%	-91.5%	-91.5%	-91.5%	-91.5%	-91.5%	-91.5%	-91.5%
2007	-91.5%	-91.5%	-91.5%	-91.5%	-91.5%	-91.5%	-91.5%	-91.5%	-91.5%	-91.5%	-91.5%	-91.5%	-91.5%	-91.5%	-91.5%
Post 2007	-91.5%	-91.5%	-91.5%	-91.5%	-91.5%	-91.5%	-91.5%	-91.5%	-91.5%	-91.5%	-91.5%	-91.5%	-91.5%	-91.5%	-91.5%
Unspecified Vintage	-91.5%	-91.5%	-91.5%	-91.5%	-91.5%	-91.5%	-91.5%	-91.5%	-91.5%	-91.5%	-91.5%	-91.5%	-91.5%	-91.5%	-91.5%
<b td="" total<=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td>															
Pre 2006	-40.5%	-40.5%	-40.5%	-40.5%	-40.5%	-40.5%	-40.5%	-40.5%	-40.5%	-40.5%	-40.5%	-40.5%	-40.5%	-40.5%	-40.5%
2006	-91.5%	-91.5%	-91.5%	-91.5%	-91.5%	-91.5%	-91.5%	-91.5%	-91.5%	-91.5%	-91.5%	-91.5%	-91.5%	-91.5%	-91.5%
2007	-91.5%	-91.5%	-91.5%	-91.5%	-91.5%	-91.5%	-91.5%	-91.5%	-91.5%	-91.5%	-91.5%	-91.5%	-91.5%	-91.5%	-91.5%
Post 2007	-91.5%	-91.5%	-91.5%	-91.5%	-91.5%	-91.5%	-91.5%	-91.5%	-91.5%	-91.5%	-91.5%	-91.5%	-91.5%	-91.5%	-91.5%
Unspecified Vintage	-91.5%	-91.5%	-91.5%	-91.5%	-91.5%	-91.5%	-91.5%	-91.5%	-91.5%	-91.5%	-91.5%	-91.5%	-91.5%	-91.5%	-91.5%
NR Total															
Pre 2006	-40.5%	-40.5%	-40.5%	-40.5%	-40.5%	-40.5%	-40.5%	-40.5%	-40.5%	-40.5%	-40.5%	-40.5%	-40.5%	-40.5%	-40.5%
2006	-91.5%	-91.5%	-91.5%	-91.5%	-91.5%	-91.5%	-91.5%	-91.5%	-91.5%	-91.5%	-91.5%	-91.5%	-91.5%	-91.5%	-91.5%
2007	-91.5%	-91.5%	-91.5%	-91.5%	-91.5%	-91.5%	-91.5%	-91.5%	-91.5%	-91.5%	-91.5%	-91.5%	-91.5%	-91.5%	-91.5%
Post 2007	-91.5%	-91.5%	-91.5%	-91.5%	-91.5%	-91.5%	-91.5%	-91.5%	-91.5%	-91.5%	-91.5%	-91.5%	-91.5%	-91.5%	-91.5%
Unspecified Vintage	-91.5%	-91.5%	-91.5%	-91.5%	-91.5%	-91.5%	-91.5%	-91.5%	-91.5%	-91.5%	-91.5%	-91.5%	-91.5%	-91.5%	-91.5%

Securitized Products

Trading, PE & Other Fair Value Assets

Securitized Products

				ABS							CMBS				Corporate	e CDO / CLO	Ware	house	1
•																			
			Student			Index	Other/	Cash Non-				Index		Other/		Other/		Total	Other /
	Autos	Credit Cards	Loans	ABS CDS	Credit Basket	Tranches	Unspecified	Agency CMBS	CMBS CDS	CMBS CDO	Credit Basket	Tranches	Whole Loans	Unspecified	CLO	Unspecified	Total Size	Protection	Unspecified
Relative MV Shock Base	d on Curren	t Rating (%)																	
AAA Total					I I													1	
Pre 2006	-4.3% -4.3%	-13.2% -13.2%	-10.8%	-13.2% -13.2%	-13.2%	-13.2%	-13.2%	-5.1%	-3.1%	-5.1%	-3.1%	-3.1%	-5.1%	-5.1%	-6.1%	-6.1% -6.1%	-18.4%	18.4%	-2.7%
2006 2007	-4.3%	-13.2%	-12.1% -14.4%	-13.2%	-13.2% -14.4%	-13.2% -14.4%	-13.2% -14.4%	-2.7% -5.5%	-1.6% -3.3%	-2.7% -5.5%	-1.6% -3.3%	-1.6% -3.3%	-2.7% -5.5%	-2.7% -5.5%	-6.1% -6.1%	-6.1%	-22.1% -22.1%	22.1% 22.1%	-2.7% -2.7%
Post 2007	-4.3%	-13.2%	-14.4%	-14.4%	-14.4%	-14.4%	-14.4%	-3.5%	-14.1%	-23.4%	-3.5%	-3.3%	-3.4%	-3.3%	-17.7%	-0.1%	-18.4%	18.4%	-2.7%
Unspecified Vintage	-4.3%	-13.2%	-14.4%	-14.4%	-14.4%	-14.4%	-14.4%	-23.4%	-14.1%	-23.4%	-14.1%	-14.1%	-23.4%	-23.4%	-17.7%	-17.7%	-22.1%	22.1%	-2.7%
		1	-		1 1		1	,										1	
AA Total		20.40/	25.40/	25.40/	25.40/	25.40/	25.40/	42.70/	7.60/	42.70/	7.60/	7.60/	40.70/	42.70/	25.20/	25.20/	40.40/	1 40 40/	2.70/
Pre 2006 2006	-7.7% -7.7%	-20.1% -20.1%	-26.1% -29.0%	-26.1% -29.0%	-26.1% -29.0%	-26.1% -29.0%	-26.1% -29.0%	-12.7% -6.8%	-7.6% -4.1%	-12.7% -6.8%	-7.6% -4.1%	-7.6% -4.1%	-12.7% -6.8%	-12.7% -6.8%	-26.2% -26.2%	-26.2% -26.2%	-18.4% -22.1%	18.4% 22.1%	-2.7% -2.7%
2006	-7.7%	-20.1%	-29.0%	-29.0%	-29.0%	-29.0%	-29.0%	-0.8%	-4.1%	-6.8%	-4.1%	-4.1%	-6.8%	-0.8%	-26.2%	-26.2%	-22.1%	22.1%	-2.7%
Post 2007	-7.7%	-20.1%	-34.7%	-28.1%	-28.1%	-28.1%	-28.1%	-58.4%	-35.0%	-58.4%	-35.0%	-35.0%	-58.4%	-58.4%	-56.1%	-56.1%	-18.4%	18.4%	-2.7%
Unspecified Vintage	-7.7%	-20.1%	-34.7%	-34.7%	-34.7%	-34.7%	-34.7%	-58.4%	-35.0%	-58.4%	-35.0%	-35.0%	-58.4%	-58.4%	-56.1%	-56.1%	-22.1%	22.1%	-2.7%
A Total		1		- · · · · · ·			4								3312,2			1	
Pre 2006	-14.5%	-20.1%	-29.5%	-29.5%	-29.5%	-29.5%	-29.5%	-16.2%	-9.7%	-16.2%	-9.7%	-9.7%	-16.2%	-16.2%	-41.9%	-41.9%	-18.4%	18.4%	-2.7%
2006	-14.5%	-20.1%	-32.8%	-32.8%	-32.8%	-32.8%	-32.8%	-8.6%	-5.2%	-8.6%	-5.2%	-5.2%	-8.6%	-8.6%	-41.9%	-41.9%	-22.1%	22.1%	-2.7%
2007	-14.5%	-20.1%	-39.2%	-39.2%	-39.2%	-39.2%	-39.2%	-17.3%	-10.4%	-17.3%	-10.4%	-10.4%	-17.3%	-17.3%	-41.9%	-41.9%	-22.1%	22.1%	-2.7%
Post 2007	-14.5%	-20.1%	-31.7%	-31.7%	-31.7%	-31.7%	-31.7%	-74.4%	-44.6%	-74.4%	-44.6%	-44.6%	-74.4%	-74.4%	-82.3%	-82.3%	-18.4%	18.4%	-2.7%
Unspecified Vintage	-14.5%	-20.1%	-39.2%	-39.2%	-39.2%	-39.2%	-39.2%	-74.4%	-44.6%	-74.4%	-44.6%	-44.6%	-74.4%	-74.4%	-82.3%	-82.3%	-22.1%	22.1%	-2.7%
BBB Total																			
Pre 2006	-14.5%	-37.9%	-35.4%	-37.9%	-37.9%	-37.9%	-37.9%	-18.7%	-11.2%	-18.7%	-11.2%	-11.2%	-18.7%	-18.7%	-44.7%	-44.7%	-18.4%	18.4%	-43.9%
2006	-14.5%	-37.9%	-39.4%	-39.4%	-39.4%	-39.4%	-39.4%	-10.0%	-6.0%	-10.0%	-6.0%	-6.0%	-10.0%	-10.0%	-44.7%	-44.7%	-22.1%	22.1%	-43.9%
2007	-14.5%	-37.9%	-47.0%	-47.0%	-47.0%	-47.0%	-47.0%	-20.1%	-12.0%	-20.1%	-12.0%	-12.0%	-20.1%	-20.1%	-44.7%	-44.7%	-22.1%	22.1%	-43.9%
Post 2007	-14.5%	-37.9%	-38.1%	-38.1%	-38.1%	-38.1%	-38.1%	-86.2%	-51.7%	-86.2%	-51.7%	-51.7%	-86.2%	-86.2%	-85.9%	-85.9%	-18.4%	18.4%	-43.9%
Unspecified Vintage	-14.5%	-37.9%	-47.0%	-47.0%	-47.0%	-47.0%	-47.0%	-86.2%	-51.7%	-86.2%	-51.7%	-51.7%	-86.2%	-86.2%	-85.9%	-85.9%	-22.1%	22.1%	-43.9%
BB Total																			
Pre 2006	-18.8%	-37.9%	-35.4%	-37.9%	-37.9%	-37.9%	-37.9%	-18.7%	-11.2%	-18.7%	-11.2%	-11.2%	-18.7%	-18.7%	-47.7%	-47.7%	-18.4%	18.4%	-43.9%
2006	-18.8%	-37.9%	-39.4%	-39.4%	-39.4%	-39.4%	-39.4%	-10.0%	-6.0%	-10.0%	-6.0%	-6.0%	-10.0%	-10.0%	-47.7%	-47.7%	-22.1%	22.1%	-43.9%
2007	-18.8%	-37.9%	-47.0%	-47.0%	-47.0%	-47.0%	-47.0%	-20.1%	-12.0%	-20.1%	-12.0%	-12.0%	-20.1%	-20.1%	-47.7%	-47.7%	-22.1%	22.1%	-43.9%
Post 2007	-18.8%	-37.9%	-38.1%	-38.1%	-38.1%	-38.1%	-38.1%	-86.2%	-51.7%	-86.2%	-51.7%	-51.7%	-86.2%	-86.2%	-87.4%	-87.4%	-18.4%	18.4%	-43.9%
Unspecified Vintage	-18.8%	-37.9%	-47.0%	-47.0%	-47.0%	-47.0%	-47.0%	-86.2%	-51.7%	-86.2%	-51.7%	-51.7%	-86.2%	-86.2%	-87.4%	-87.4%	-22.1%	22.1%	-43.9%
B Total																			
Pre 2006	-18.8%	-37.9%	-35.4%	-37.9%	-37.9%	-37.9%	-37.9%	-18.7%	-11.2%	-18.7%	-11.2%	-11.2%	-18.7%	-18.7%	-47.7%	-47.7%	-18.4%	18.4%	-43.9%
2006	-18.8%	-37.9%	-39.4%	-39.4%	-39.4%	-39.4%	-39.4%	-10.0%	-6.0%	-10.0%	-6.0%	-6.0%	-10.0%	-10.0%	-47.7%	-47.7%	-22.1%	22.1%	-43.9%
2007	-18.8%	-37.9%	-47.0%	-47.0%	-47.0%	-47.0%	-47.0%	-20.1%	-12.0%	-20.1%	-12.0%	-12.0%	-20.1%	-20.1%	-47.7%	-47.7%	-22.1%	22.1%	-43.9%
Post 2007	-18.8%	-37.9%	-38.1%	-38.1%	-38.1%	-38.1%	-38.1%	-86.2%	-51.7%	-86.2%	-51.7%	-51.7%	-86.2%	-86.2%	-87.4%	-87.4%	-18.4%	18.4%	-43.9%
Unspecified Vintage	-18.8%	-37.9%	-47.0%	-47.0%	-47.0%	-47.0%	-47.0%	-86.2%	-51.7%	-86.2%	-51.7%	-51.7%	-86.2%	-86.2%	-87.4%	-87.4%	-22.1%	22.1%	-43.9%
<b td="" total<=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td>																			
Pre 2006	-18.8%	-37.9%	-35.4%	-37.9%	-37.9%	-37.9%	-37.9%	-18.7%	-11.2%	-18.7%	-11.2%	-11.2%	-18.7%	-18.7%	-47.7%	-47.7%	-18.4%	18.4%	-43.9%
2006	-18.8%	-37.9%	-39.4%	-39.4%	-39.4%	-39.4%	-39.4%	-10.0%	-6.0%	-10.0%	-6.0%	-6.0%	-10.0%	-10.0%	-47.7%	-47.7%	-22.1%	22.1%	-43.9%
2007	-18.8%	-37.9%	-47.0%	-47.0%	-47.0%	-47.0%	-47.0%	-20.1%	-12.0%	-20.1%	-12.0%	-12.0%	-20.1%	-20.1%	-47.7%	-47.7%	-22.1%	22.1%	-43.9%
Post 2007	-18.8%	-37.9%	-38.1%	-38.1%	-38.1%	-38.1%	-38.1%	-86.2%	-51.7%	-86.2%	-51.7%	-51.7%	-86.2%	-86.2%	-87.4%	-87.4%	-18.4%	18.4%	-43.9%
Unspecified Vintage	-18.8%	-37.9%	-47.0%	-47.0%	-47.0%	-47.0%	-47.0%	-86.2%	-51.7%	-86.2%	-51.7%	-51.7%	-86.2%	-86.2%	-87.4%	-87.4%	-22.1%	22.1%	-43.9%
NR Total																			
Pre 2006	-18.8%	-37.9%	-35.4%	-37.9%	-37.9%	-37.9%	-37.9%	-18.7%	-11.2%	-18.7%	-11.2%	-11.2%	-18.7%	-18.7%	-47.7%	-47.7%	-18.4%	18.4%	-43.9%
2006	-18.8%	-37.9%	-39.4%	-39.4%	-39.4%	-39.4%	-39.4%	-10.0%	-6.0%	-10.0%	-6.0%	-6.0%	-10.0%	-10.0%	-47.7%	-47.7%	-22.1%	22.1%	-43.9%
2007	-18.8%	-37.9%	-47.0%	-47.0%	-47.0%	-47.0%	-47.0%	-20.1%	-12.0%	-20.1%	-12.0%	-12.0%	-20.1%	-20.1%	-47.7%	-47.7%	-22.1%	22.1%	-43.9%
Post 2007	-18.8%	-37.9%	-38.1%	-38.1%	-38.1%	-38.1%	-38.1%	-86.2%	-51.7%	-86.2%	-51.7%	-51.7%	-86.2%	-86.2%	-87.4%	-87.4%	-18.4%	18.4%	-43.9%
Unspecified Vintage	-18.8%	-37.9%	-47.0%	-47.0%	-47.0%	-47.0%	-47.0%	-86.2%	-51.7%	-86.2%	-51.7%	-51.7%	-86.2%	-86.2%	-87.4%	-87.4%	-22.1%	22.1%	-43.9%

Municipals

Trading, PE & Other Fair Value Assets

Munis

	Spread Widening (bps)
Bonds	
AAA	49.0
AA	70.0
A	136.0
BBB	344.0
BB	688.0
В	1,032.0
<b< td=""><td>1,376.0</td></b<>	1,376.0
NR	1,376.0
Loans	
AAA	49.0
AA	70.0
Α	136.0
ввв	344.0
BB	688.0
В	1,032.0
<b< td=""><td>1,376.0</td></b<>	1,376.0
NR	1,376.0
CDS	
AAA	34.3
AA	49.0
A	95.2
BBB	240.8
BB	481.6
В	722.4
<b< td=""><td>963.2</td></b<>	963.2
NR	963.2
Indices	
AAA	24.5
AA	35.0
A	68.0
ввв	172.0
ВВ	344.0
В	516.0
<b< td=""><td>688.0</td></b<>	688.0
NR	688.0
Other / Unspecified Munis	
AAA	49.0
AA	70.0
A	136.0
BBB	344.0
BB	688.0
	1,032.0
В	
B <b< td=""><td>1,376.0</td></b<>	1,376.0

Agencies

Trading, PE & Other Fair Value Assets

Agencies

US Residential Agency Product

US Residential Agency Products
IOs
POs
Other CMOs
Pass-Throughs
Agency Debt/Debentures
IOS Index
POS Index
MBX Index
Other Agency Derivatives
TBA's
Reverse Mortgages
Residential Other / Unspecified

1,687.0	
330.0	
177.0	
158.0	
149.0	
1,687.0	

330.0 158.0 149.0 133.0 177.0 158.0

OAS Widening (bps)

US Commercial Agency Products

Cash Agency CMBS
Agency CMBS Derivatives
Commercial Other / Unspecified

205.0	
205.0	
205.0	

Non-US Agency Products

AAA			
AA			
Α			
BBB			
ВВ			
В			
<b< th=""><td></td><td></td><td></td></b<>			
NR			

84.0	
235.0	
271.0	
307.0	
343.0	
379.0	
415.0	
415.0	

Rates DV01

DFAST 2017 Market Shocks: Adverse Scenario

Rates DV01

Other Basis

	MATURITY 1M 3M 6M 9M 1Y 2Y 3Y 5Y 7Y 10Y 15Y 20Y 30Y												
Rates Shocks (bps)	1M	3M	6M	9M	1Y	2Y	3Y	5Y	7Y	10Y	15Y	20Y	30Y
AUD Directional Risks										-			
Governments	4.1	4.1	1.4	(2.9)	(7.2)	(12.9)	(11.8)	(10.7)	(10.7)	(10.5)	(11.5)	(12.3)	(13.0)
Agencies	4.1	4.1	1.4	(2.9)	(7.2)	(12.9)	(11.8)	(10.7)	(10.7)	(10.5)	(11.5)	(12.3)	(13.0)
Municipals	4.1	4.1	1.4	(2.9)	(7.2)	(12.9)	(11.8)	(10.7)	(10.7)	(10.5)	(11.5)	(12.3)	(13.0)
Swaps / Discounting Curve	(17.5)	(17.5)	(20.1)	(22.1)	(24.2)	(36.5)	(37.4)	(38.8)	(40.3)	(40.5)	(40.0)	(41.4)	(46.5)
Instruments shocked by MV**													
Other	(17.5)	(17.5)	(20.1)	(22.1)	(24.2)	(36.5)	(37.4)	(38.8)	(40.3)	(40.5)	(40.0)	(41.4)	(46.5)
AUD Basis Risks (Do not include the swa	p/discounting cu	rve specified a	bove)										
OIS Basis													
1m Basis													
3m Basis													
6m Basis													
12m Basis													
Other Basis													
CAD Directional Risks													
Governments	(7.4)	(7.4)	(10.1)	(10.9)	(11.6)	(12.6)	(14.1)	(17.1)	(17.9)	(19.3)	(18.3)	(18.3)	(18.1)
Agencies	(7.4)	(7.4)	(10.1)	(10.9)	(11.6)	(12.6)	(14.1)	(17.1)	(17.9)	(19.3)	(18.3)	(18.3)	(18.1)
Municipals	(7.4)	(7.4)	(10.1)	(10.9)	(11.6)	(12.6)	(14.1)	(17.1)	(17.9)	(19.3)	(18.3)	(18.3)	(18.1)
Swaps / Discounting Curve	(15.0)	(15.0)	(13.8)	(14.5)	(15.3)	(17.1)	(18.7)	(21.9)	(22.8)	(24.3)	(25.5)	(25.6)	(24.6)
Instruments shocked by MV**													
Other	(15.0)	(15.0)	(13.8)	(14.5)	(15.3)	(17.1)	(18.7)	(21.9)	(22.8)	(24.3)	(25.5)	(25.6)	(24.6)
CAD Basis Risks (Do not include the swa	p/discounting cur	ve specified a	bove)							_			
OIS Basis													
1m Basis													
3m Basis													
6m Basis													
12m Basis													
Other Basis													
CHF Directional Risks													
Governments	(1.0)	(1.0)	(1.1)	(1.1)	(1.1)	(1.6)	(1.6)	(1.8)	(2.0)	(2.3)	(2.4)	(2.6)	(3.1)
Agencies	(1.0)	(1.0)	(1.1)	(1.1)	(1.1)	(1.6)	(1.6)	(1.8)	(2.0)	(2.3)	(2.4)	(2.6)	(3.1)
Municipals	(1.0)	(1.0)	(1.1)	(1.1)	(1.1)	(1.6)	(1.6)	(1.8)	(2.0)	(2.3)	(2.4)	(2.6)	(3.1)
Swaps / Discounting Curve	(1.4)	(1.4)	(1.5)	(1.7)	(1.8)	(2.0)	(2.1)	(2.1)	(2.3)	(2.4)	(2.7)	(2.8)	(3.1)
Instruments shocked by MV**													
Other	(1.4)	(1.4)	(1.5)	(1.7)	(1.8)	(2.0)	(2.1)	(2.1)	(2.3)	(2.4)	(2.7)	(2.8)	(3.1)
CHF Basis Risks (Do not include the swap	discounting cur	ve specified al	oove)										
OIS Basis													
1m Basis													
3m Basis													
6m Basis													

DKK Directional Risks													
Governments	(5.8)	(5.8)	(6.1)	(7.0)	(7.8)	(10.1)	(11.9)	(12.1)	(12.3)	(13.7)	(14.4)	(14.1)	(14.1)
Agencies	(5.8)	(5.8)	(6.1)	(7.0)	(7.8)	(10.1)	(11.9)	(12.1)	(12.3)	(13.7)	(14.4)	(14.1)	(14.1)
Municipals	(5.8)	(5.8)	(6.1)	(7.0)	(7.8)	(10.1)	(11.9)	(12.1)	(12.3)	(13.7)	(14.4)	(14.1)	(14.1)
Swaps / Discounting Curve	(4.3)	(4.3)	(4.8)	(7.1)	(9.4)	(13.0)	(13.7)	(14.0)	(14.4)	(15.1)	(16.2)	(16.5)	(16.8)
Instruments shocked by MV**	()	()	()	()	(=: .)	(20.0)	(==::)	(=)	(=)	(==:=)	(==:=)	(==:=)	(20.0)
Other	(4.3)	(4.3)	(4.8)	(7.1)	(9.4)	(13.0)	(13.7)	(14.0)	(14.4)	(15.1)	(16.2)	(16.5)	(16.8)
oute.	(5)	(5)	()	(7.1)	(3)	(13.0)	(13.7)	(1)	(2)	(13.1)	(10.2)	(10.5)	(10.0)
DKK Basis Risks (Do not include the swap/d	liscounting cui	ve specified a	bove)										
OIS Basis													
1m Basis													
3m Basis													
6m Basis													
12m Basis													
Other Basis													
	•	•	•	•	•	•	•	•	•	•	•	•	
EUR Directional Risks													
Governments: Austria	1.1	1.1	(6.4)	(9.0)	(11.6)	(14.7)	(14.9)	(15.4)	(15.6)	(15.0)	(14.6)	(13.6)	(14.6)
Governments: Belgium	1.1	1.1	(6.4)	(9.0)	(11.6)	(14.7)	(14.9)	(15.4)	(15.6)	(15.0)	(14.6)	(13.6)	(14.6)
Governments: Finland	1.1	1.1	(6.4)	(9.0)	(11.6)	(14.7)	(14.9)	(15.4)	(15.6)	(15.0)	(14.6)	(13.6)	(14.6)
Governments: France	(5.7)	(5.7)	(7.0)	(7.7)	(8.4)	(10.4)	(11.1)	(12.2)	(12.5)	(13.3)	(15.1)	(17.0)	(19.2)
Governments: Germany	1.1	1.1	(6.4)	(9.0)	(11.6)	(14.7)	(14.9)	(15.4)	(15.6)	(15.0)	(14.6)	(13.6)	(14.6)
Governments: Greece	269.4	399.8	595.4	791.1	986.7	1,769.4	1,923.1	1,353.9	1,109.9	927.0	784.7	712.4	641.3
Governments: Ireland	1.1	1.1	(6.4)	(9.0)	(11.6)	(14.7)	(14.9)	(15.4)	(15.6)	(15.0)	(14.6)	(13.6)	(14.6)
Governments: Italy	11.2	11.2	15.0	16.9	18.8	22.0	21.0	20.8	20.2	18.9	16.4	15.8	13.8
Governments: Netherlands	(4.8)	(4.8)	(6.1)	(7.2)	(8.3)	(10.8)	(11.5)	(12.4)	(12.7)	(13.9)	(14.4)	(15.3)	(16.3)
Governments: Portugal	4.5	4.5	9.3	16.3	23.3	56.6	73.2	75.4	70.2	52.8	43.7	30.8	23.1
Governments: Spain	(16.5)	(16.5)	(17.7)	(17.3)	(17.0)	(18.0)	(17.5)	(16.9)	(17.6)	(19.2)	(19.7)	(19.7)	(20.3)
Governments: Other	(4.8)	(4.8)	(6.1)	(7.2)	(8.3)	(10.8)	(11.5)	(12.4)	(12.7)	(13.9)	(14.4)	(15.3)	(16.3)
Agencies	(4.8)	(4.8)	(6.1)	(7.2)	(8.3)	(10.8)	(11.5)	(12.4)	(12.7)	(13.9)	(14.4)	(15.3)	(16.3)
Municipals	(4.8)	(4.8)	(6.1)	(7.2)	(8.3)	(10.8)	(11.5)	(12.4)	(12.7)	(13.9)	(14.4)	(15.3)	(16.3)
Swaps / Discounting Curve	(3.1)	(3.1)	(3.6)	(5.5)	(7.5)	(10.4)	(11.3)	(12.0)	(12.8)	(14.2)	(15.6)	(16.5)	(16.9)
Instruments shocked by MV**													
Other	(3.1)	(3.1)	(3.6)	(5.5)	(7.5)	(10.4)	(11.3)	(12.0)	(12.8)	(14.2)	(15.6)	(16.5)	(16.9)
EUR Basis Risks (Do not include the swap/d								(4.4.4)			(0.0)	(0.0)	()
OIS Basis	(15.5)	(15.5)	(15.5)	(15.5)	(15.5)	(14.4)	(12.2)	(11.6)	(11.0)	(10.6)	(9.9)	(9.4)	(9.3)
1m Basis	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	0.0	0.0	0.0	0.1	0.1	0.1	0.1
3m Basis	(4.0)	(4.5)	(0.0)	(4.2)	(4.2)	(0.0)	(0.3)	0.4		0.6	0.7	0.7	0.5
6m Basis	(1.9)	(1.5)	(1.4)	(1.3)	(1.3)	(0.8)	(0.2)	0.1	0.4	0.6	0.7	0.7	0.5
12m Basis	(5.1)	(4.0)	(3.7)	(3.5)	(3.4)	(1.9)	(0.5)	0.3	0.9	1.4	1.5	1.4	1.0
Other Basis			L			L			L				L
GBP Directional Risks													
Governments	(18.9)	(18.9)	(18.8)	(18.2)	(17.6)	(19.6)	(19.0)	(19.5)	(21.0)	(20.7)	(20.1)	(19.9)	(18.2)
Agencies	(18.9)	(18.9)	(18.8)	(18.2)	(17.6)	(19.6)	(19.0)	(19.5)	(21.0)	(20.7)	(20.1)	(19.9)	(18.2)
Municipals	(18.9)	(18.9)	(18.8)	(18.2)	(17.6)	(19.6)	(19.0)	(19.5)	(21.0)	(20.7)	(20.1)	(19.9)	(18.2)
Swaps / Discounting Curve	(3.3)	(3.3)	(6.2)	(8.9)	(11.5)	(14.6)	(16.3)	(17.8)	(18.3)	(18.5)	(17.7)	(17.0)	(15.3)
Instruments shocked by MV**	(3.3)	(3.3)	(0.2)	(0.3)	(11.3)	(14.0)	(10.3)	(17.0)	(10.3)	(10.5)	(1/./)	(17.0)	(13.3)
Other	(3.3)	(3.3)	(6.2)	(8.9)	(11.5)	(14.6)	(16.3)	(17.8)	(18.3)	(18.5)	(17.7)	(17.0)	(15.3)
	(3.5)	(3.3)	()	(5.5)	(=2.5)	(=)	(=5.5)	(=7.0)	(=3.5)	(=3.5)	\-···/	(=3.0)	,_3.5/
GBP Basis Risks (Do not include the swap/d	liscounting cui	ve specified a	bove)										
OIS Basis	(15.5)	(15.5)	(15.5)	(15.5)	(15.5)	(14.4)	(12.2)	(11.6)	(11.0)	(10.6)	(9.9)	(9.4)	(9.3)
1m Basis	(2.0)	(2.7)	(2.7)	(2.8)	(2.9)	(3.0)	(2.8)	(2.8)	(2.8)	(2.8)	(2.8)	(2.6)	(2.3)
3m Basis	` '	, ,	, ,	, ,	, ,	` '	, ,	, ,	, ,	, ,	, ,	, ,	, ,
6m Basis	1.8	2.4	2.4	2.5	2.5	2.3	2.0	1.9	2.0	2.1	2.2	2.2	2.2
12m Basis	3.9	5.2	5.3	5.4	5.5	6.0	5.9	5.5	5.4	5.3	5.1	4.9	4.5
Other Basis												1	
	1	-		-	-					-	-	1	

JPY Directional Risks													
Governments	(15.5)	(15.5)	(14.7)	(12.4)	(10.1)	(10.4)	(11.6)	(10.6)	(7.7)	(13.4)	(18.6)	(20.7)	(20.2)
Agencies	(15.5)	(15.5)	(14.7)	(12.4)	(10.1)	(10.4)	(11.6)	(10.6)	(7.7)	(13.4)	(18.6)	(20.7)	(20.2)
Municipals	(15.5)	(15.5)	(14.7)	(12.4)	(10.1)	(10.4)	(11.6)	(10.6)	(7.7)	(13.4)	(18.6)	(20.7)	(20.2)
Swaps / Discounting Curve	4.6	4.6	5.0	4.9	4.9	3.3	2.9	2.0	(1.4)	(3.8)	(7.8)	(9.8)	(11.5)
Instruments shocked by MV**	4.0	4.0	5.0	4.5	4.5	5.5	2.3	2.0	(1.4)	(3.0)	(7.0)	(5.0)	(11.5)
Other	4.6	4.6	5.0	4.9	4.9	3.3	2.9	2.0	(1.4)	(3.8)	(7.8)	(9.8)	(11.5)
Other	4.6	4.0	5.0	4.9	4.9	3.3	2.9	2.0	(1.4)	(5.6)	(7.8)	(9.8)	(11.5)
JPY Basis Risks (Do not include the swap/d	liscounting curv	ve specified ab	ove)										
OIS Basis	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1m TIBOR Basis	(0.4)	(0.3)	(0.2)	0.2	0.1	0.2	0.2	0.3	0.3	0.4	0.7	0.9	1.1
3m TIBOR Basis	(-)	, , , , , , , , , , , , , , , , , , ,	\ - /		-	_	-						
6m TIBOR Basis	(0.5)	(0.3)	(0.3)	0.2	0.2	0.1	0.1	0.2	0.2	0.3	0.3	0.3	0.2
12m TIBOR Basis	(0.5)	(0.5)	(0.5)	0.2	0.2	0.1	0.1	0.2	0.2	0.5	0.5	0.5	0.2
1m LIBOR Basis	(0.4)	(0.3)	(0.2)	0.2	0.1	0.2	0.2	0.3	0.3	0.4	0.7	0.9	1.1
	(0.4)	(0.3)	(0.2)	0.2	0.1	0.2	0.2	0.5	0.5	0.4	0.7	0.9	1.1
3m LIBOR Basis	(0.5)	(0.0)	(0.0)	0.0	0.0	0.4	0.4		0.0				
6m LIBOR Basis	(0.5)	(0.3)	(0.3)	0.2	0.2	0.1	0.1	0.2	0.2	0.3	0.3	0.3	0.2
12m LIBOR Basis													
Other Basis		ļ	ļ										
NOK Directional Risks													
Governments	14.7	14.7	13.4	10.1	6.8	(3.6)	(14.0)	(13.2)	(12.5)	(12.0)	(11.7)	(11.9)	(12.2)
Agencies	14.7	14.7	13.4	10.1	6.8	(3.6)	(14.0)	(13.2)	(12.5)	(12.0)	(11.7)	(11.9)	(12.2)
Municipals	14.7	14.7	13.4	10.1	6.8	(3.6)	(14.0)	(13.2)	(12.5)	(12.0)	(11.7)	(11.9)	(12.2)
Swaps / Discounting Curve	(29.1)	(29.1)	(32.6)	(27.8)	(22.9)	(26.3)	(25.5)	(24.1)	(24.6)	(23.9)	(23.8)	(23.2)	(25.0)
Instruments shocked by MV**	(29.1)	(23.1)	(32.0)	(27.8)	(22.5)	(20.3)	(23.3)	(24.1)	(24.0)	(23.9)	(23.8)	(23.2)	(23.0)
mstruments shocked by MV													
Othor	(20.1)	(20.1)	(22.6)	(27.0)	(22.0)	(26.2)	(2E E)	(24.1)	(24.6)	(22.0)	(22.0)	(22.2)	(2E 0)
Other	(29.1)	(29.1)	(32.6)	(27.8)	(22.9)	(26.3)	(25.5)	(24.1)	(24.6)	(23.9)	(23.8)	(23.2)	(25.0)
	<u> </u>	, , ,	, , ,	(27.8)	(22.9)	(26.3)	(25.5)	(24.1)	(24.6)	(23.9)	(23.8)	(23.2)	(25.0)
NOK Basis Risks (Do not include the swap/	<u> </u>	, , ,	, , ,	(27.8)	(22.9)	(26.3)	(25.5)	(24.1)	(24.6)	(23.9)	(23.8)	(23.2)	(25.0)
NOK Basis Risks (Do not include the swap/ OIS Basis	<u> </u>	, , ,	, , ,	(27.8)	(22.9)	(26.3)	(25.5)	(24.1)	(24.6)	(23.9)	(23.8)	(23.2)	(25.0)
NOK Basis Risks (Do not include the swap/ OIS Basis 1m Basis	<u> </u>	, , ,	, , ,	(27.8)	(22.9)	(26.3)	(25.5)	(24.1)	(24.6)	(23.9)	(23.8)	(23.2)	(25.0)
NOK Basis Risks (Do not include the swap/ OIS Basis 1m Basis 3m Basis	<u> </u>	, , ,	, , ,	(27.8)	(22.9)	(26.3)	(25.5)	(24.1)	(24.6)	(23.9)	(23.8)	(23.2)	(25.0)
NOK Basis Risks (Do not include the swap/ OIS Basis 1m Basis 3m Basis 6m Basis	<u> </u>	, , ,	, , ,	(27.8)	(22.9)	(26.3)	(25.5)	(24.1)	(24.6)	(23.9)	(23.8)	(23.2)	(25.0)
NOK Basis Risks (Do not include the swap/ OIS Basis 1m Basis 3m Basis 6m Basis 12m Basis	<u> </u>	, , ,	, , ,	(27.8)	(22.9)	(26.3)	(25.5)	(24.1)	(24.6)	(23.9)	(23.8)	(23.2)	(25.0)
NOK Basis Risks (Do not include the swap/ OIS Basis 1m Basis 3m Basis 6m Basis	<u> </u>	, , ,	, , ,	(27.8)	(22.9)	(26.3)	(25.5)	(24.1)	(24.6)	(23.9)	(23.8)	(23.2)	(25.0)
NOK Basis Risks (Do not include the swap/ OIS Basis 1m Basis 3m Basis 6m Basis 12m Basis	<u> </u>	, , ,	, , ,	(27.8)	(22.9)	(26.3)	(25.5)	(24.1)	(24.6)	(23.9)	(23.8)	(23.2)	(25.0)
NOK Basis Risks (Do not include the swap/ OIS Basis 1m Basis 3m Basis 6m Basis 12m Basis Other Basis	<u> </u>	, , ,	, , ,	(27.8)	(22.9)	(26.3)	(25.5)	(24.1)	(24.6)	(23.9)	(23.8)	(23.2)	(25.0)
NOK Basis Risks (Do not include the swap/ OIS Basis 1m Basis 3m Basis 6m Basis 12m Basis Other Basis	discounting cu	rve specified a	ibove)										
NOK Basis Risks (Do not include the swap/ OIS Basis 1m Basis 3m Basis 6m Basis 12m Basis Other Basis	discounting cu	rve specified a	(11.0)	(12.4)	(13.8)	(15.9)	(16.6)	(17.4)	(17.6)	(18.0)	(18.1)	(19.3)	(19.3)
NOK Basis Risks (Do not include the swap/ OIS Basis 1m Basis 3m Basis 6m Basis 12m Basis Other Basis Other Basis NZD Directional Risks Governments Agencies	(9.3) (9.3)	(9.3) (9.3)	(11.0) (11.0)	(12.4)	(13.8)	(15.9) (15.9)	(16.6)	(17.4)	(17.6)	(18.0)	(18.1)	(19.3)	(19.3) (19.3)
NOK Basis Risks (Do not include the swap/ools Basis 1m Basis 3m Basis 6m Basis 12m Basis Other Basis Other Basis NZD Directional Risks Governments Agencies Municipals	(9.3) (9.3) (9.3)	(9.3) (9.3) (9.3)	(11.0) (11.0) (11.0) (11.0)	(12.4) (12.4) (12.4) (12.4)	(13.8) (13.8) (13.8)	(15.9) (15.9) (15.9)	(16.6) (16.6) (16.6)	(17.4) (17.4) (17.4) (17.4)	(17.6) (17.6) (17.6)	(18.0) (18.0) (18.0)	(18.1) (18.1) (18.1) (18.1)	(19.3) (19.3) (19.3)	(19.3) (19.3) (19.3)
NOK Basis Risks (Do not include the swap/ OIS Basis 1m Basis 3m Basis 6m Basis 12m Basis Other Basis Other Basis NZD Directional Risks Governments Agencies Municipals Swaps / Discounting Curve	(9.3) (9.3)	(9.3) (9.3)	(11.0) (11.0)	(12.4)	(13.8)	(15.9) (15.9)	(16.6)	(17.4)	(17.6)	(18.0)	(18.1)	(19.3)	(19.3) (19.3)
NOK Basis Risks (Do not include the swap/s OIS Basis 1m Basis 3m Basis 6m Basis 12m Basis Other Basis Other Basis NZD Directional Risks Governments Agencies Municipals Swaps / Discounting Curve Instruments shocked by MV**	(9.3) (9.3) (9.3) (9.3) (9.3)	(9.3) (9.3) (9.3) (9.3) (9.3)	(11.0) (11.0) (11.0) (11.0)	(12.4) (12.4) (12.4) (12.4)	(13.8) (13.8) (13.8) (13.8)	(15.9) (15.9) (15.9) (15.9)	(16.6) (16.6) (16.6) (16.6)	(17.4) (17.4) (17.4) (17.4)	(17.6) (17.6) (17.6) (17.6)	(18.0) (18.0) (18.0) (18.0)	(18.1) (18.1) (18.1) (18.1)	(19.3) (19.3) (19.3) (19.3)	(19.3) (19.3) (19.3) (19.3)
NOK Basis Risks (Do not include the swap/ OIS Basis 1m Basis 3m Basis 6m Basis 12m Basis Other Basis Other Basis NZD Directional Risks Governments Agencies Municipals Swaps / Discounting Curve	(9.3) (9.3) (9.3)	(9.3) (9.3) (9.3)	(11.0) (11.0) (11.0) (11.0)	(12.4) (12.4) (12.4) (12.4)	(13.8) (13.8) (13.8)	(15.9) (15.9) (15.9)	(16.6) (16.6) (16.6)	(17.4) (17.4) (17.4) (17.4)	(17.6) (17.6) (17.6)	(18.0) (18.0) (18.0)	(18.1) (18.1) (18.1) (18.1)	(19.3) (19.3) (19.3)	(19.3) (19.3) (19.3)
NOK Basis Risks (Do not include the swap/ OIS Basis 1m Basis 3m Basis 6m Basis 12m Basis Other Basis Other Basis NZD Directional Risks Governments Agencies Municipals Swaps / Discounting Curve Instruments shocked by MV** Other	(9.3) (9.3) (9.3) (9.3) (9.3)	(9.3) (9.3) (9.3) (9.3) (9.3)	(11.0) (11.0) (11.0) (11.0) (11.0)	(12.4) (12.4) (12.4) (12.4)	(13.8) (13.8) (13.8) (13.8)	(15.9) (15.9) (15.9) (15.9)	(16.6) (16.6) (16.6) (16.6)	(17.4) (17.4) (17.4) (17.4)	(17.6) (17.6) (17.6) (17.6)	(18.0) (18.0) (18.0) (18.0)	(18.1) (18.1) (18.1) (18.1)	(19.3) (19.3) (19.3) (19.3)	(19.3) (19.3) (19.3) (19.3)
NOK Basis Risks (Do not include the swap/ OIS Basis 1m Basis 3m Basis 6m Basis 12m Basis Other Basis Other Basis NZD Directional Risks Governments Agencies Municipals Swaps / Discounting Curve Instruments shocked by MV** Other NZD Basis Risks (Do not include the swap/o	(9.3) (9.3) (9.3) (9.3) (9.3)	(9.3) (9.3) (9.3) (9.3) (9.3)	(11.0) (11.0) (11.0) (11.0) (11.0)	(12.4) (12.4) (12.4) (12.4)	(13.8) (13.8) (13.8) (13.8)	(15.9) (15.9) (15.9) (15.9)	(16.6) (16.6) (16.6) (16.6)	(17.4) (17.4) (17.4) (17.4)	(17.6) (17.6) (17.6) (17.6)	(18.0) (18.0) (18.0) (18.0)	(18.1) (18.1) (18.1) (18.1)	(19.3) (19.3) (19.3) (19.3)	(19.3) (19.3) (19.3) (19.3)
NOK Basis Risks (Do not include the swap/s OIS Basis 1m Basis 3m Basis 6m Basis 12m Basis Other Basis Other Basis NZD Directional Risks Governments Agencies Municipals Swaps / Discounting Curve Instruments shocked by MV** Other NZD Basis Risks (Do not include the swap/s	(9.3) (9.3) (9.3) (9.3) (9.3)	(9.3) (9.3) (9.3) (9.3) (9.3)	(11.0) (11.0) (11.0) (11.0) (11.0)	(12.4) (12.4) (12.4) (12.4)	(13.8) (13.8) (13.8) (13.8)	(15.9) (15.9) (15.9) (15.9)	(16.6) (16.6) (16.6) (16.6)	(17.4) (17.4) (17.4) (17.4)	(17.6) (17.6) (17.6) (17.6)	(18.0) (18.0) (18.0) (18.0)	(18.1) (18.1) (18.1) (18.1)	(19.3) (19.3) (19.3) (19.3)	(19.3) (19.3) (19.3) (19.3)
NOK Basis Risks (Do not include the swap/s OIS Basis 1m Basis 3m Basis 6m Basis 12m Basis Other Basis Other Basis NZD Directional Risks Governments Agencies Municipals Swaps / Discounting Curve Instruments shocked by MV** Other NZD Basis Risks (Do not include the swap/s OIS Basis 1m Basis	(9.3) (9.3) (9.3) (9.3) (9.3)	(9.3) (9.3) (9.3) (9.3) (9.3)	(11.0) (11.0) (11.0) (11.0) (11.0)	(12.4) (12.4) (12.4) (12.4)	(13.8) (13.8) (13.8) (13.8)	(15.9) (15.9) (15.9) (15.9)	(16.6) (16.6) (16.6) (16.6)	(17.4) (17.4) (17.4) (17.4)	(17.6) (17.6) (17.6) (17.6)	(18.0) (18.0) (18.0) (18.0)	(18.1) (18.1) (18.1) (18.1)	(19.3) (19.3) (19.3) (19.3)	(19.3) (19.3) (19.3) (19.3)
NOK Basis Risks (Do not include the swap/s OIS Basis 1m Basis 3m Basis 6m Basis 12m Basis Other Basis Other Basis NZD Directional Risks Governments Agencies Municipals Swaps / Discounting Curve Instruments shocked by MV** Other NZD Basis Risks (Do not include the swap/s OIS Basis 1m Basis 3m Basis	(9.3) (9.3) (9.3) (9.3) (9.3)	(9.3) (9.3) (9.3) (9.3) (9.3)	(11.0) (11.0) (11.0) (11.0) (11.0)	(12.4) (12.4) (12.4) (12.4)	(13.8) (13.8) (13.8) (13.8)	(15.9) (15.9) (15.9) (15.9)	(16.6) (16.6) (16.6) (16.6)	(17.4) (17.4) (17.4) (17.4)	(17.6) (17.6) (17.6) (17.6)	(18.0) (18.0) (18.0) (18.0)	(18.1) (18.1) (18.1) (18.1)	(19.3) (19.3) (19.3) (19.3)	(19.3) (19.3) (19.3) (19.3)
NOK Basis Risks (Do not include the swap/ OIS Basis 1m Basis 3m Basis 6m Basis 12m Basis Other Basis Other Basis NZD Directional Risks Governments Agencies Municipals Swaps / Discounting Curve Instruments shocked by MV** Other NZD Basis Risks (Do not include the swap/s OIS Basis 1m Basis 3m Basis 5m Basis 6m Basis	(9.3) (9.3) (9.3) (9.3) (9.3)	(9.3) (9.3) (9.3) (9.3) (9.3)	(11.0) (11.0) (11.0) (11.0) (11.0)	(12.4) (12.4) (12.4) (12.4)	(13.8) (13.8) (13.8) (13.8)	(15.9) (15.9) (15.9) (15.9)	(16.6) (16.6) (16.6) (16.6)	(17.4) (17.4) (17.4) (17.4)	(17.6) (17.6) (17.6) (17.6)	(18.0) (18.0) (18.0) (18.0)	(18.1) (18.1) (18.1) (18.1)	(19.3) (19.3) (19.3) (19.3)	(19.3) (19.3) (19.3) (19.3)
NOK Basis Risks (Do not include the swap/s OIS Basis 1m Basis 3m Basis 6m Basis 12m Basis Other Basis Other Basis NZD Directional Risks Governments Agencies Municipals Swaps / Discounting Curve Instruments shocked by MV** Other NZD Basis Risks (Do not include the swap/s OIS Basis 1m Basis 3m Basis	(9.3) (9.3) (9.3) (9.3) (9.3)	(9.3) (9.3) (9.3) (9.3) (9.3)	(11.0) (11.0) (11.0) (11.0) (11.0)	(12.4) (12.4) (12.4) (12.4)	(13.8) (13.8) (13.8) (13.8)	(15.9) (15.9) (15.9) (15.9)	(16.6) (16.6) (16.6) (16.6)	(17.4) (17.4) (17.4) (17.4)	(17.6) (17.6) (17.6) (17.6)	(18.0) (18.0) (18.0) (18.0)	(18.1) (18.1) (18.1) (18.1)	(19.3) (19.3) (19.3) (19.3)	(19.3) (19.3) (19.3) (19.3)

Instruments shocked by MV**

Other

	,												
SEK Directional Risks					•		•				•	•	
Governments	(4.4)	(4.4)	(4.3)	(4.5)	(4.7)	(6.4)	(7.7)	(10.2)	(12.8)	(16.0)	(20.3)	(22.6)	(23.1)
Agencies	(4.4)	(4.4)	(4.3)	(4.5)	(4.7)	(6.4)	(7.7)	(10.2)	(12.8)	(16.0)	(20.3)	(22.6)	(23.1)
Municipals	(4.4)	(4.4)	(4.3)	(4.5)	(4.7)	(6.4)	(7.7)	(10.2)	(12.8)	(16.0)	(20.3)	(22.6)	(23.1)
Swaps / Discounting Curve	(5.4)	(5.4)	(6.5)	(6.7)	(6.9)	(8.1)	(9.3)	(12.0)	(14.2)	(16.6)	(19.4)	(21.1)	(22.2)
Instruments shocked by MV**													
Other	(5.4)	(5.4)	(6.5)	(6.7)	(6.9)	(8.1)	(9.3)	(12.0)	(14.2)	(16.6)	(19.4)	(21.1)	(22.2)
SEK Basis Risks (Do not include the swap/d	liccounting cum	va anacifical ab											
OIS Basis	iscounting cur	ve specified at	Jovej										
1m Basis													
3m Basis													
6m Basis													
12m Basis								1					
Other Basis													
	<u> </u>	1		1	1	1	1	1	1		1	1	
USD Directional Risks							1				1	1	
Governments	(13.1)	(13.1)	(13.1)	(26.1)	(39.1)	(33.6)	(28.5)	(12.7)	(13.2)	(23.9)	(29.5)	(35.4)	(35.8)
Agencies	(13.1)	(13.1)	(13.1)	(26.1)	(39.1)	(33.6)	(28.5)	(12.7)	(13.2)	(23.9)	(29.5)	(35.4)	(35.8)
Municipals	(13.1)	(13.1)	(13.1)	(26.1)	(39.1)	(33.6)	(28.5)	(12.7)	(13.2)	(23.9)	(29.5)	(35.4)	(35.8)
Swaps / Discounting Curve	0.3	0.3	0.3	0.5	0.6	3.1	9.9	14.5	15.3	16.0	17.3	16.0	13.5
Instruments shocked by MV**													
Other	0.3	0.3	0.3	0.5	0.6	3.1	9.9	14.5	15.3	16.0	17.3	16.0	13.5
UCD Basis Bisles (Da wat in shed ath a sever /	dia.a		h \										
USD Basis Risks (Do not include the swap/o	(11.9)	(11.8)	(11.2)	(11.4)	(11.6)	(8.3)	(5.2)	(4.2)	(1.2)	(0.8)	(0.8)	(0.8)	(0.8)
CP Basis	(13.7)	(13.5)	(12.9)	(13.0)	(13.3)	(9.7)	(8.6)	(5.6)	(2.9)	(4.0)	(4.1)	(4.2)	(4.1)
OIS Basis	(23.6)	(23.6)	(23.6)	(23.6)	(23.6)	(15.4)	(8.0)	(6.0)	(3.8)	(3.5)	(3.5)	(3.5)	(3.5)
1m Basis	(26.6)	(26.3)	(15.6)	(11.4)	(10.2)	(5.7)	(3.8)	(1.5)	(0.4)	0.6	0.6	2.1	2.6
3m Basis	(20.0)	(20.3)	(13.0)	(11.4)	(10.2)	(5.7)	(5.8)	(1.5)	(0.4)	0.0	0.0	2.1	2.0
6m Basis	10.5	10.4	9.9	10.0	10.2	7.9	7.1	5.7	5.2	5.1	5.3	5.3	5.3
12m Basis	21.7	21.5	20.5	20.7	21.2	16.9	14.9	11.9	10.7	11.1	8.4	7.5	5.5
	21.7	21.3	20.3	20.7	21.2	10.9	14.9	11.9	10.7	11.1	0.4	7.3	3.3
Other Basis	<u>l</u>		<u> </u>	1				1					<u> </u>
About the transport to A	(31.4)	8.8	(2.5)	8.3	19.2	19.5	20.1	21.3	21.2	20.1	15.1	12.1	8.5
Absolute increase in Muni SIFMA/Libor	, ,		, , ,	ı	1		1	ı			1	1	
Ratio (Pts)													
	_												
Other Advanced Economies Directional Ris		(12.1)	(12.1)	(20.4)	(20.4)	(22.6)	(20.5)	(12.7)	(12.2)	(22.0)	(20.5)	(25.4)	(25.0)
Governments	(13.1)	(13.1)	(13.1)	(26.1)	(39.1)	(33.6)	(28.5)	(12.7)	(13.2)	(23.9)	(29.5)	(35.4)	(35.8)
Agencies	(13.1)	(13.1)	(13.1)	(26.1)	(39.1)	(33.6)	(28.5)	(12.7)	(13.2)	(23.9)	(29.5)	(35.4)	(35.8)
Municipals	(13.1)	(13.1)	(13.1)	(26.1)	(39.1)	(33.6)	(28.5)	(12.7)	(13.2)	(23.9)	(29.5)	(35.4)	(35.8)
Swaps / Discounting Curve	0.3	0.3	0.3	0.5	0.6	3.1	9.9	14.5	15.3	16.0	17.3	16.0	13.5

14.5

9.9

16.0

15.3

17.3

16.0

0.3

0.3

0.3

0.5

0.6

3.1

13.5

Directional Risks: Emerging Europe													
BGN	1.1	1.1	(6.4)	(9.0)	(11.6)	(14.7)	(14.9)	(15.4)	(15.6)	(15.0)	(14.6)	(13.6)	(14.6)
CZK	1.1	1.1	(6.4)	(9.0)	(11.6)	(14.7)	(14.9)	(15.4)	(15.6)	(15.0)	(14.6)	(13.6)	(14.6)
HRK	1.1	1.1	(6.4)	(9.0)	(11.6)	(14.7)	(14.9)	(15.4)	(15.6)	(15.0)	(14.6)	(13.6)	(14.6)
HUF	1.1	1.1	(6.4)	(9.0)	(11.6)	(14.7)	(14.9)	(15.4)	(15.6)	(15.0)	(14.6)	(13.6)	(14.6)
PLN	1.1	1.1	(6.4)	(9.0)	(11.6)	(14.7)	(14.9)	(15.4)	(15.6)	(15.0)	(14.6)	(13.6)	(14.6)
RON	1.1	1.1	(6.4)	(9.0)	(11.6)	(14.7)	(14.9)	(15.4)	(15.6)	(15.0)	(14.6)	(13.6)	(14.6)
RUB	200.0	198.9	197.2	195.5	193.9	187.2	180.5	167.1	153.8	133.7	100.3	66.9	0.0
Other Emerging Europe	1.1	1.1	(6.4)	(9.0)	(11.6)	(14.7)	(14.9)	(15.4)	(15.6)	(15.0)	(14.6)	(13.6)	(14.6)
Directional Risks: Latin America & Caribbea		T	T	T	T	T	T	T	T	1	ı	T	T
ARS	200.0	198.9	197.2	195.5	193.9	187.2	180.5	167.1	153.8	133.7	100.3	66.9	0.0
BRL	200.0	198.9	197.2	195.5	193.9	187.2	180.5	167.1	153.8	133.7	100.3	66.9	0.0
CLP	5.6	5.6	4.5	3.3	2.1	(5.6)	(12.2)	(19.4)	(25.2)	(26.0)	(31.6)	(33.7)	(39.0)
СОР	200.0	198.9	197.2	195.5	193.9	187.2	180.5	167.1	153.8	133.7	100.3	66.9	0.0
MXN	200.0	198.9	197.2	195.5	193.9	187.2	180.5	167.1	153.8	133.7	100.3	66.9	0.0
PEN	5.6	5.6	4.5	3.3	2.1	(5.6)	(12.2)	(19.4)	(25.2)	(26.0)	(31.6)	(33.7)	(39.0)
VEF	200.0	198.9	197.2	195.5	193.9	187.2	180.5	167.1	153.8	133.7	100.3	66.9	0.0
Other Latam & Caribbean	200.0	198.9	197.2	195.5	193.9	187.2	180.5	167.1	153.8	133.7	100.3	66.9	0.0
Directional Risks: Asia Ex-Japan													
CNY	5.6	5.6	4.5	3.3	2.1	(5.6)	(12.2)	(19.4)	(25.2)	(26.0)	(31.6)	(33.7)	(39.0)
HKD	5.6	5.6	4.5	3.3	2.1	(5.6)	(12.2)	(19.4)	(25.2)	(26.0)	(31.6)	(33.7)	(39.0)
IDR	500.3	505.2	502.0	566.5	631.0	520.2	473.3	426.4	421.9	370.2	336.8	303.3	236.5
INR	79.7	79.7	78.5	69.6	60.7	43.6	35.3	17.1	10.8	9.6	8.5	(3.0)	(4.5)
KRW	(8.1)	(8.1)	(8.1)	(9.8)	(11.5)	(14.2)	(14.6)	(14.6)	(14.4)	(14.2)	(14.1)	(14.1)	(14.1)
MYR	926.0	905.9	893.2	952.0	1,010.9	946.1	901.0	855.1	821.4	759.7	726.3	692.9	626.0
PHP	991.9	1,014.7	1,046.2	1,097.5	1,148.9	909.1	843.7	752.1	713.1	658.7	625.3	591.9	525.0
SGD	5.6	5.6	4.5	3.3	2.1	(5.6)	(12.2)	(19.4)	(25.2)	(26.0)	(31.6)	(33.7)	(39.0)
ТНВ	(13.8)	(13.8)	(13.8)	(13.8)	(13.8)	(15.4)	(15.9)	(17.2)	(17.5)	(18.1)	(18.9)	(19.4)	(19.4)
TWD	5.6	5.6	4.5	3.3	2.1	(5.6)	(12.2)	(19.4)	(25.2)	(26.0)	(31.6)	(33.7)	(39.0)
Other Asia Ex-Japan	5.6	5.6	4.5	3.3	2.1	(5.6)	(12.2)	(19.4)	(25.2)	(26.0)	(31.6)	(33.7)	(39.0)
Directional Risks: Middle East/North Africa													
ILS	(13.1)	(13.1)	(13.1)	(26.1)	(39.1)	(33.6)	(28.5)	(12.7)	(13.2)	(23.9)	(29.5)	(35.4)	(35.8)
TRY	5.8	5.8	5.2	11.4	17.5	17.7	18.0	18.7	18.9	20.2	17.0	17.0	17.0
Other Middle East/Africa	(35.8)	(35.8)	(47.3)	(54.9)	(62.4)	(57.9)	(58.0)	(59.0)	(60.9)	(64.0)	(67.2)	(61.8)	(65.5)
Other Middle Eddy Affica	(55.0)	(55.0)	(47.5)	(54.5)	(02.7)	(57.5)	(50.0)	(55.0)	(00.5)	(07.0)	(07.2)	(01.0)	(03.3)
Directional Risks: Sub-Saharan Africa				1			1	1			_	1	
ZAR	(35.8)	(35.8)	(47.3)	(54.9)	(62.4)	(57.9)	(58.0)	(59.0)	(60.9)	(64.0)	(67.2)	(61.8)	(65.5)
Other Sub-Saharan Africa	(35.8)	(35.8)	(47.3)	(54.9)	(62.4)	(57.9)	(58.0)	(59.0)	(60.9)	(64.0)	(67.2)	(61.8)	(65.5)

Relative Normal Interest Rate Shocks

Rates Vega Relative Normal Interest Rate Shocks (%)

		ai interest r		. ,				MAT	URITY						
		1M	3M	6M	9M	1Y	2Y	3Y	5Y	7Y	10Y	15Y	20Y	25Y	30Y
	AUD														
	1M	13.4%	13.4%	13.4%	13.4%	13.4%	7.9%	5.4%	4.3%	4.4%	3.7%	3.5%	3.7%	3.9%	3.8%
	3M	11.7%	11.7%	11.7%	11.7%	11.7%	7.8%	5.3%	4.4%	4.5%	3.9%	3.7%	3.9%	4.2%	4.1%
	6M	8.9%	8.9%	8.9%	8.9%	8.9%	6.8%	5.0%	4.4%	4.2%	4.0%	3.9%	4.1%	4.2%	4.0%
	9M	6.4%	6.4%	6.4%	6.4%	6.4%	5.8%	4.7%	4.4%	4.2%	4.1%	4.0%	4.2%	4.2%	3.9%
	1Y	4.5%	4.5%	4.5%	4.5%	4.5%	4.9%	4.5%	4.4%	4.1%	4.1%	4.2%	4.3%	4.2%	3.7%
EXPIRY	2Y	4.4%	4.4%	4.4%	4.4%	4.4%	4.6%	4.3%	4.6%	4.1%	4.0%	4.1%	4.3%	4.3%	4.0%
<u>-</u>	3Y	5.0%	5.0%	5.0%	5.0%	5.0%	4.7%	4.3%	4.8%	4.3%	3.9%	4.1%	4.3%	4.4%	4.3%
🙃	5Y	5.2%	5.2%	5.2%	5.2%	5.2%	5.7%	5.5%	5.6%	5.5%	4.9%	5.1%	5.4%	5.5%	5.2%
	7Y	5.8%	5.8%	5.8%	5.8%	5.8%	5.9%	5.6%	5.9%	5.8%	6.0%	5.6%	5.9%	5.9%	5.3%
	10Y 15Y	6.3% 5.4%	6.3% 5.4%	6.3% 5.4%	6.3% 5.4%	6.3% 5.4%	6.6% 13.3%	6.2% 8.7%	6.1% 5.3%	6.6% 5.8%	6.5% 7.4%	6.8%	6.5%	5.6% 6.0%	5.8% 5.5%
	20Y	4.4%	4.4%	4.4%	4.4%	4.4%	4.4%	4.2%	4.7%	4.9%	7.4%	6.5%	5.3%	5.5%	4.8%
	30Y	7.0%	7.0%	7.0%	7.0%	7.0%	7.1%	7.2%	4.4%	4.6%	4.8%	5.5%	6.1%	6.5%	6.9%
	301	7.0%	7.0%	7.078	7.0%	7.0%	7.176	7.276	4.476	4.0%	4.876	3.376	0.176	0.376	0.5%
	EUR														
	1M	23.9%	23.9%	23.9%	23.9%	23.9%	16.7%	10.5%	6.5%	5.8%	4.5%	4.7%	5.2%	5.6%	5.6%
	3M	22.1%	22.1%	22.1%	22.1%	22.1%	15.8%	10.1%	6.4%	5.7%	4.4%	4.6%	5.1%	5.6%	5.7%
	6M	16.7%	16.7%	16.7%	16.7%	16.7%	13.2%	9.1%	5.9%	5.7%	4.3%	4.6%	5.1%	5.5%	5.4%
	9M	12.5%	12.5%	12.5%	12.5%	12.5%	10.5%	8.0%	5.6%	5.8%	4.2%	4.5%	5.1%	5.3%	5.0%
	1Y	9.1%	9.1%	9.1%	9.1%	9.1%	8.5%	7.2%	5.3%	5.9%	4.1%	4.5%	5.0%	5.1%	4.7%
EXPIRY	2Y	6.7%	6.7%	6.7%	6.7%	6.7%	6.2%	5.8%	4.7%	5.7%	3.8%	4.2%	4.6%	4.6%	4.5%
9	3Y	5.3%	5.3%	5.3%	5.3%	5.3%	4.9%	5.0%	4.3%	5.6%	3.6%	4.0%	4.3%	4.1%	4.4%
G	5Y	8.1%	8.1%	8.1%	8.1%	8.1%	4.8%	5.5%	4.4%	6.2%	4.0%	4.3%	4.9%	5.2%	5.2%
-	7Y 10Y	8.2%	8.2%	8.2%	8.2%	8.2%	4.9%	5.9%	7.8%	7.5%	4.7%	4.8%	5.4%	5.6%	5.4%
	15Y	4.7%	4.7%	4.7%	4.7%	4.7%	4.9%	6.3%	5.0%	8.4%	4.5%	5.5%	5.8%	3.9%	6.0%
H	20Y	7.8% 4.6%	7.8% 4.6%	7.8% 4.6%	7.8% 4.6%	7.8% 4.6%	8.8% 3.1%	5.9% 5.9%	7.3% 5.2%	7.7% 6.3%	4.0% 3.9%	4.7% 4.0%	5.4% 5.1%	5.6% 5.2%	5.2% 4.7%
1	30Y	6.5%	6.5%	6.5%	6.5%	6.5%	6.3%	6.3%	2.8%	2.8%	2.9%	3.1%	3.3%	3.5%	3.6%
	50.	0.570	0.570	0.570	0.570	0.570	0.570	0.570	2.070	2.070	2.370	3.170	3.570	3.370	3.070
	GBP														
	1M	14.1%	14.1%	14.1%	14.1%	14.1%	8.7%	4.9%	3.5%	3.1%	2.7%	2.6%	2.8%	3.1%	2.9%
	3M	13.8%	13.8%	13.8%	13.8%	13.8%	7.8%	4.6%	3.5%	3.1%	2.7%	2.6%	2.8%	3.2%	2.9%
	6M	9.5%	9.5%	9.5%	9.5%	9.5%	6.2%	4.0%	3.0%	2.6%	2.5%	2.5%	2.8%	3.0%	2.7%
	9M	6.6%	6.6%	6.6%	6.6%	6.6%	5.2%	3.6%	2.7%	2.4%	2.4%	2.5%	2.7%	2.8%	2.5%
	1Y	4.6%	4.6%	4.6%	4.6%	4.6%	4.3%	3.4%	2.4%	2.1%	2.3%	2.4%	2.7%	2.7%	2.4%
EXPIRY	2Y	3.7%	3.7%	3.7%	3.7%	3.7%	3.6%	3.1%	2.7%	2.1%	2.2%	2.4%	2.7%	2.4%	2.4%
<u>~</u> .	3Y	3.7%	3.7%	3.7%	3.7%	3.7%	3.5%	3.2%	3.1%	2.2%	2.2%	2.3%	2.6%	2.2%	2.5%
iui	5Y	3.5%	3.5%	3.5%	3.5%	3.5%	3.3%	3.1%	2.9%	2.3%	2.3%	2.4%	2.6%	2.6%	2.7%
-	7Y 10Y	3.5% 4.4%	3.5% 4.4%	3.5% 4.4%	3.5% 4.4%	3.5% 4.4%	3.9% 4.6%	3.6% 4.3%	2.9% 3.7%	3.1% 3.6%	3.1% 3.4%	2.9% 3.6%	3.2% 3.5%	3.3% 2.8%	3.1% 3.4%
-	15Y	3.2%	3.2%	3.2%	3.2%	3.2%	5.9%	4.3%	3.6%	3.7%	2.7%	3.6%	3.3%	3.2%	2.9%
1	20Y	1.9%	1.9%	1.9%	1.9%	1.9%	2.4%	3.2%	4.0%	4.0%	2.6%	2.7%	3.5%	3.1%	2.5%
	30Y	2.9%	2.9%	2.9%	2.9%	2.9%	3.0%	3.1%	1.9%	1.9%	2.0%	2.1%	2.2%	2.3%	2.4%
								•	•	•					
_	JPY														
	1M	6.1%	6.1%	6.1%	6.1%	6.1%	5.9%	5.7%	6.1%	8.2%	7.9%	5.6%	4.3%	3.9%	3.5%
	3M	4.9%	4.9%	4.9%	4.9%	4.9%	5.2%	5.0%	5.2%	7.0%	6.9%	5.3%	4.3%	3.9%	3.5%
	6M	3.9%	3.9%	3.9%	3.9%	3.9%	4.8%	4.8%	5.8%	7.5%	7.4%	5.9%	4.8%	4.4%	4.0%
	9M	3.0%	3.0%	3.0%	3.0%	3.0%	4.6%	4.8%	6.5%	7.8%	7.9%	6.3%	5.0%	4.7%	4.4%
_	1Y	2.1%	2.1%	2.1%	2.1%	2.1%	4.4%	4.7%	7.2%	8.2%	8.4%	6.9%	5.5%	5.1%	4.7%
EXPIRY	2Y	3.6%	3.6%	3.6%	3.6%	3.6%	5.1%	6.1%	10.1%	9.1%	8.7%	7.3%	6.0%	5.8%	5.5%
A P	3Y 5Y	4.9% 10.2%	4.9% 10.2%	4.9% 10.2%	4.9% 10.2%	4.9% 10.2%	5.8% 11.2%	7.4% 11.9%	12.5% 12.1%	9.4%	8.8% 9.4%	7.7% 8.7%	6.4% 7.6%	6.2% 7.4%	6.0% 7.2%
ш	7Y	13.7%	13.7%	13.7%	13.7%	10.2%	13.3%	13.7%	11.0%	10.1%	10.8%	10.1%	9.2%	9.0%	8.7%
-	10Y	13.4%	13.4%	13.4%	13.4%	13.4%	13.3%	13.7%	11.0%	11.6%	9.4%	9.0%	8.7%	8.5%	8.7%
	15Y	10.0%	10.0%	10.0%	10.0%	10.0%	11.9%	8.5%	10.2%	10.6%	8.0%	7.5%	7.2%	7.0%	6.8%
	20Y	5.0%	5.0%	5.0%	5.0%	5.0%	6.1%	7.7%	7.9%	7.8%	7.6%	7.2%	6.8%	6.6%	6.4%
	30Y	4.8%	4.8%	4.8%	4.8%	4.8%	5.1%	5.1%	4.8%	4.8%	4.7%	4.0%	3.7%	3.5%	3.3%
		1.070	1.070	-1.070	1.070	1.070	3.170		-1.070	1.070		1.070		3.370	5.570

Relative Normal Interest Rate Shocks (Continued)

	USD 1M	47.40/	17.4%	47.40/	17.4%	17.4%	0.70/	6.00/	4.00/	F 00/	4.70/	4.00/	F 20/	F 60/	5.4%
	3M	17.4% 13.9%	17.4%	17.4% 13.9%	17.4%	17.4%	9.7% 7.9%	6.8% 5.8%	4.8% 4.3%	5.0% 4.5%	4.7% 4.3%	4.8%	5.2% 4.8%	5.6% 5.2%	5.4%
	6M	9.6%	9.6%	9.6%	9.6%	9.6%	6.5%	4.7%	4.3%	4.3%	4.3%	4.4%	4.8%	4.9%	4.7%
	9M	6.4%	6.4%	6.4%	6.4%	6.4%	5.6%	4.7%	4.3%	4.2%	4.2%	4.5%	4.9%	4.9%	4.4%
	1Y	4.6%	4.6%	4.6%	4.6%	4.6%	4.7%	4.5%	4.2%	4.0%	4.2%	4.5%	4.9%	4.7%	4.2%
≿	2Y	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	3.8%	4.2%	3.9%	3.9%	4.3%	4.6%	4.6%	4.3%
<u> </u>	3Y	4.0%	4.0%	4.0%	4.0%	4.0%	3.9%	3.7%	4.3%	3.9%	3.7%	4.1%	4.4%	4.5%	4.3%
EXPI	5Y	4.3%	4.3%	4.3%	4.3%	4.3%	4.8%	4.6%	4.7%	4.8%	4.3%	4.8%	5.2%	5.2%	4.9%
_	7Y	5.0%	5.0%	5.0%	5.0%	5.0%	5.2%	5.0%	5.2%	5.1%	5.3%	5.3%	5.7%	5.7%	5.1%
	10Y	5.9%	5.9%	5.9%	5.9%	5.9%	6.3%	5.9%	5.7%	6.2%	6.1%	6.7%	6.5%	5.6%	5.7%
	15Y	5.7%	5.7%	5.7%	5.7%	5.7%	14.3%	9.3%	5.5%	5.9%	7.5%	7.2%	6.6%	6.5%	5.6%
	20Y	4.9%	4.9%	4.9%	4.9%	4.9%	5.0%	4.7%	5.1%	5.1%	7.5%	7.0%	5.6%	5.5%	4.6%
	30Y	5.2%	5.2%	5.2%	5.2%	5.2%	5.3%	5.2%	4.8%	4.8%	4.9%	5.3%	5.1%	5.2%	5.2%
	US MBS Vega Other Advanced Economies 1M 9.1% 9.1% 9.1% 9.1% 9.1% 5.5% 3.6% 2.8% 3.1% 2.6% 2.9% 3.3% 3.7% 3.8%														
	1M	9.1%	9.1%	9.1%	9.1%	9.1%	5.5%	3.6%	2.8%	3.1%	2.6%	2.9%	3.3%	3.7%	3.8%
	3M	7.9%	7.9%	7.9%	7.9%	7.9%	5.4%	3.5%	2.9%	3.2%	2.8%	3.1%	3.5%	3.9%	4.1%
	6M	6.1%	6.1%	6.1%	6.1%	6.1%	4.6%	3.3%	2.9%	3.2%	2.8%	3.2%	3.6%	3.9%	3.9%
	9M	4.5%	4.5%	4.5%	4.5%	4.5%	3.9%	3.1%	2.9%	3.5%	2.9%	3.2%	3.6%	3.8%	3.7%
_	1Y	3.3%	3.3%	3.3%	3.3%	3.3%	3.2%	3.0%	2.9%	3.8%	2.9%	3.3%	3.7%	3.7%	3.4%
EXPIR	2Y	3.1%	3.1%	3.1%	3.1%	3.1%	3.1%	3.1%	3.0%	4.1%	3.0%	3.3%	3.6%	3.6%	3.5%
<u>~</u>	3Y	3.4%	3.4%	3.4%	3.4%	3.4%	3.2%	3.4%	3.3%	4.5%	3.1%	3.4%	3.6%	3.4%	3.6%
<u> </u>	5Y	6.8%	6.8%	6.8%	6.8%	6.8%	4.1%	4.8%	4.0%	5.7%	3.9%	4.0%	4.5%	4.7%	4.6%
	7Y	7.4%	7.4%	7.4%	7.4%	7.4%	4.5%	5.5%	7.5%	7.4%	4.8%	4.6%	5.1%	5.2%	4.9%
	10Y	4.4%	4.4%	4.4%	4.4%	4.4%	4.7%	6.1%	5.0%	8.4%	4.7%	5.4%	5.5%	3.6%	5.5%
	15Y	6.8%	6.8%	6.8%	6.8%	6.8%	7.8%	5.4%	6.8%	7.4%	4.0%	4.5%	4.8%	4.9%	4.6%
	20Y	3.9%	3.9%	3.9%	3.9%	3.9%	2.8%	5.3%	4.9%	6.1%	3.9%	3.7%	4.5%	4.7%	4.3%
	30Y	8.3%	8.3%	8.3%	8.3%	8.3%	8.4%	8.5%	2.4%	2.5%	2.6%	3.0%	3.3%	3.6%	3.8%
	Total Emerging	Europe													
	1M	48.5%	48.5%	48.5%	48.5%	48.5%	45.8%	28.9%	17.0%	15.3%	11.1%	10.7%	10.8%	11.9%	12.2%
	3M	53.6%	53.6%	53.6%	53.6%	53.6%	45.0%	27.5%	16.4%	14.8%	10.9%	10.5%	10.8%	11.8%	12.1%
	6M	54.6%	54.6%	54.6%	54.6%	54.6%	39.0%	24.8%	15.6%	15.0%	10.6%	10.3%	10.5%	11.3%	11.2%
	9M	44.7%	44.7%	44.7%	44.7%	44.7%	32.1%	21.9%	14.7%	15.0%	10.3%	10.1%	10.3%	10.7%	10.2%
	1Y	33.6%	33.6%	33.6%	33.6%	33.6%	25.7%	19.2%	13.7%	15.0%	10.0%	9.9%	10.1%	10.2%	9.3%
ГR	2Y	18.8%	18.8%	18.8%	18.8%	18.8%	15.2%	13.6%	11.4%	13.2%	8.7%	8.7%	8.9%	8.7%	8.7%
_	3Y	13.1%	13.1%	13.1%	13.1%	13.1%	11.2%	11.4%	9.7%	12.2%	7.9%	7.7%	7.9%	7.4%	8.1%
EX	5Y	20.1%	20.1%	20.1%	20.1%	20.1%	11.8%	12.2%	9.1%	12.8%	7.9%	7.5%	8.5%	8.9%	9.1%
	7Y	16.1%	16.1%	16.1%	16.1%	16.1%	9.7%	11.3%	15.0%	14.3%	8.4%	7.9%	8.8%	9.2%	9.0%
	10Y	9.1%	9.1%	9.1%	9.1%	9.1%	9.5%	12.0%	9.1%	14.4%	7.3%	8.8%	9.0%	6.2%	9.8%
	15Y	11.3%	11.3%	11.3%	11.3%	11.3%	12.7%	8.6%	10.2%	11.6%	6.3%	7.2%	8.3%	8.7%	8.2%
	20Y	8.1%	8.1%	8.1%	8.1%	8.1%	5.6%	10.7%	9.4%	11.2%	6.7%	7.0%	8.7%	8.9%	8.0%
	30Y	13.4%	13.4%	13.4%	13.4%	13.4%	13.4%	13.5%	5.9%	6.0%	6.1%	6.2%	6.4%	6.5%	6.7%
	Total Latam & 0		T	1	1		T	T		1	1	1		1	
	1M	4.1%	4.1%	4.1%	4.1%	4.1%	3.1%	2.5%	2.1%	2.3%	2.2%	2.1%	2.3%	2.4%	2.3%
	3M	3.8%	3.8%	3.8%	3.8%	3.8%	3.0%	2.4%	2.0%	2.2%	2.1%	2.1%	2.2%	2.4%	2.3%
	6M	3.2%	3.2%	3.2%	3.2%	3.2%	2.7%	2.3%	2.0%	2.1%	2.1%	2.1%	2.2%	2.3%	2.2%
	9M	2.6%	2.6%	2.6%	2.6%	2.6%	2.5%	2.3%	2.0%	2.0%	2.1%	2.1%	2.2%	2.2%	2.0%
>	1Y 2Y	2.0%	2.0%	2.0%	2.0%	2.0%	2.2%	2.2%	2.1%	1.9%	2.0%	2.1%	2.2%	2.1%	1.9%
I R		2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	1.8%	1.7%	1.8%	1.8%	1.8%	1.7%
EXP	3Y 5Y	2.1%	2.1%	2.1%	2.1%	2.1%	2.0%	1.8% 2.1%	2.0%	1.7% 2.0%	1.6% 1.7%	1.6%	1.7% 1.9%	1.7% 1.9%	1.7% 1.8%
ш	7Y	2.0%	2.0%	2.0%	2.0%	2.2%	2.2%	2.1%	2.1%	2.0%	2.0%	1.8%	1.9%	1.9%	1.8%
	10Y	2.2%	2.2%	2.2%	2.2%	2.2%	2.2%	2.1%	2.1%	2.0%	2.0%	2.1%	2.0%	1.9%	1.8%
	15Y	1.7%	1.7%	1.7%	1.7%	1.7%	4.3%	2.1%	1.7%	1.8%	2.1%	2.1%	1.9%	2.0%	1.8%
	20Y	1.1%	1.1%	1.1%	1.1%	1.1%	1.2%	1.1%	1.3%	1.3%	2.0%	2.1%	1.9%	2.0%	1.8%
	30Y	4.4%	4.4%	4.4%	4.4%	4.4%	4.5%	4.6%	4.4%	4.6%	4.8%	5.0%	5.3%	5.5%	5.7%

Relative Normal Interest Rate Shocks (Continued)

	Total Asia Ex-Ja	ıpan													
	1M	8.7%	8.7%	8.7%	8.7%	8.7%	7.8%	6.5%	5.8%	6.2%	5.8%	5.8%	6.8%	7.6%	7.6%
	3M	8.8%	8.8%	8.8%	8.8%	8.8%	7.8%	6.5%	5.8%	6.2%	5.8%	5.9%	6.8%	7.6%	7.6%
	6M	7.8%	7.8%	7.8%	7.8%	7.8%	7.3%	6.5%	6.2%	6.3%	6.0%	6.2%	7.2%	7.7%	7.5%
	9M	6.4%	6.4%	6.4%	6.4%	6.4%	6.9%	6.6%	6.6%	6.4%	6.3%	6.7%	7.7%	8.0%	7.5%
	1Y	5.1%	5.1%	5.1%	5.1%	5.1%	6.5%	6.6%	6.9%	6.4%	6.6%	7.1%	8.1%	8.2%	7.5%
Ϋ́	2Y	6.1%	6.1%	6.1%	6.1%	6.1%	7.0%	6.9%	7.8%	7.1%	6.9%	7.8%	8.8%	9.1%	8.7%
4	3Y	7.1%	7.1%	7.1%	7.1%	7.1%	7.4%	7.1%	8.3%	7.4%	7.0%	8.1%	9.0%	9.7%	9.5%
Ä	5Y	8.5%	8.5%	8.5%	8.5%	8.5%	9.3%	9.4%	9.5%	9.6%	8.4%	9.8%	10.9%	11.4%	11.1%
	7Y	9.3%	9.3%	9.3%	9.3%	9.3%	9.4%	9.2%	9.6%	9.6%	9.8%	10.1%	11.0%	11.4%	10.5%
	10Y	11.1%	11.1%	11.1%	11.1%	11.1%	11.4%	11.1%	10.7%	11.6%	11.0%	11.8%	11.4%	10.1%	10.6%
	15Y	14.0%	14.0%	14.0%	14.0%	14.0%	34.6%	22.7%	13.4%	13.2%	14.7%	13.3%	12.0%	11.9%	10.4%
	20Y	10.7%	10.7%	10.7%	10.7%	10.7%	10.6%	10.0%	10.7%	10.2%	13.7%	12.3%	10.1%	10.1%	8.5%
	30Y	11.7%	11.7%	11.7%	11.7%	11.7%	11.7%	11.7%	10.8%	10.4%	9.8%	10.0%	10.3%	10.5%	10.8%
	T-4-1845/81 86														
	Total ME/N. Afi	9.1%	9.1%	9.1%	9.1%	9.1%	7.8%	6.3%	5.5%	5.3%	4.4%	4.8%	5.5%	6.3%	6.4%
	3M	5.9%	5.9%	5.9%	5.9%	5.9%	5.2%	4.5%	4.2%	4.3%	3.9%	4.8%	4.9%	5.6%	5.7%
-	6M	4.6%	4.6%	4.6%	4.6%	4.6%	4.3%	3.8%	3.6%	3.7%	3.5%	3.9%	4.4%	4.9%	4.8%
	9M	3.6%	3.6%	3.6%	3.6%	3.6%	3.6%	3.4%	3.3%	3.2%	3.1%	3.6%	4.4%	4.3%	4.1%
-	1Y	2.7%	2.7%	2.7%	2.7%	2.7%	3.0%	2.9%	3.0%	2.8%	2.9%	3.4%	3.9%	4.0%	3.7%
>	2Y	3.1%	3.1%	3.1%	3.1%	3.1%	3.2%	3.2%	3.3%	3.0%	3.1%	3.6%	4.1%	4.4%	4.2%
PIR	3Y	3.6%	3.6%	3.6%	3.6%	3.6%	3.5%	3.2%	3.6%	3.2%	3.2%	3.8%	4.1%	4.4%	4.8%
×	5Y	4.0%	4.0%	4.0%	4.0%	4.0%	4.3%	4.2%	4.3%	4.7%	4.6%	5.4%	6.2%	6.6%	6.5%
ш	7Y	4.1%	4.1%	4.1%	4.1%	4.1%	4.3%	4.2%	5.0%	5.4%	6.0%	6.3%	7.0%	7.4%	6.9%
	10Y	6.6%	6.6%	6.6%	6.6%	6.6%	7.4%	7.2%	7.3%	8.1%	8.2%	9.0%	8.8%	7.9%	8.4%
-	15Y	6.9%	6.9%	6.9%	6.9%	6.9%	17.8%	11.9%	7.5%	8.2%	10.6%	10.0%	9.3%	9.4%	8.3%
	20Y	6.2%	6.2%	6.2%	6.2%	6.2%	6.5%	6.3%	7.1%	7.4%	11.1%	10.2%	8.5%	8.5%	7.3%
	30Y	7.4%	7.4%	7.4%	7.4%	7.4%	7.8%	8.0%	7.1%	8.1%	8.5%	8.8%	9.2%	9.5%	9.8%
			7.470	7.470	7.470	7.470	7.070	0.070	7.570	0.170	0.570	0.070	3.270	3.370	3.076
	Total Sub-Sahai												T		T
	1M	9.2%	9.2%	9.2%	9.2%	9.2%	5.8%	4.5%	3.0%	3.0%	2.9%	2.8%	3.1%	3.5%	3.7%
	3M	8.7%	8.7%	8.7%	8.7%	8.7%	4.9%	4.0%	2.8%	2.8%	2.7%	2.6%	3.0%	3.4%	3.5%
	6M	5.5%	5.5%	5.5%	5.5%	5.5%	3.8%	3.2%	2.7%	2.6%	2.5%	2.5%	2.8%	3.1%	3.2%
-	9M	3.7%	3.7%	3.7%	3.7%	3.7%	3.2%	3.0%	2.6%	2.5%	2.5%	2.6%	2.8%	3.0%	3.0%
>	1Y	2.6%	2.6%	2.6%	2.6%	2.6%	2.8%	2.7%	2.5%	2.3%	2.5%	2.6%	2.8%	2.9%	2.8%
~	2Y	2.3%	2.3%	2.3%	2.3%	2.3%	2.5%	2.4%	2.4%	2.2%	2.2%	2.4%	2.6%	2.7%	2.6%
ХРІ	3Y	2.5%	2.5%	2.5%	2.5%	2.5%	2.3%	2.1%	2.4%	2.1%	2.0%	2.2%	2.3%	2.5%	2.5%
ώ.	5Y	2.6%	2.6%	2.6%	2.6%	2.6%	2.6%	2.5%	2.5%	2.4%	2.1%	2.3%	2.5%	2.6%	2.6%
	7Y	2.6%	2.6%	2.6%	2.6%	2.6%	2.7%	2.5%	2.5%	2.5%	2.5%	2.4%	2.6%	2.7%	2.5%
	10Y	2.7%	2.7%	2.7%	2.7%	2.7%	2.8%	2.7%	2.5%	2.7%	2.6%	2.8%	2.7%	2.4%	2.6%
	15Y	2.9%	2.9%	2.9%	2.9%	2.9%	6.7%	4.2%	2.5%	2.7%	3.3%	3.1%	2.9%	2.9%	2.6%
	20Y	2.7%	2.7%	2.7%	2.7%	2.7%	2.5%	2.3%	2.4%	2.5%	3.4%	3.3%	2.8%	2.9%	2.5%
	30Y	6.4%	6.4%	6.4%	6.4%	6.4%	6.3%	5.8%	4.9%	4.5%	4.0%	4.2%	4.4%	4.6%	4.7%

Absolute Normal Interest Rate Shocks

Rates Vega
Absolute Normal Interest Rate Shocks (bps)

Absolute Normal Interest Rate Shocks (bps) MATURITY															
		1M	3M	6M	9M	1Y	2Y	3Y	5Y	7Y	10Y	15Y	20Y	25Y	30Y
	AUD	I	T	1		Г	Γ	T	T	1	T	T	Г	T	т т
-	1M	4.8	4.8	4.8	4.8	4.8	4.4	3.8	3.6	3.9	3.7	3.8	4.1	4.4	4.3
-	3M 6M	4.8	4.8	4.8	4.8	4.8	4.4	3.8	3.6	3.9	3.7	3.8	4.1	4.4	4.3
-	9M	4.1 3.5	4.1 3.5	4.1 3.5	4.1 3.5	4.1 3.5	4.1 3.8	3.7 3.7	3.7 3.7	3.8 3.7	3.7 3.7	3.8 3.9	4.2 4.2	4.3 4.2	4.1 3.9
-	1Y	2.8	2.8	2.8	2.8	2.8	3.5	3.6	3.7	3.6	3.8	4.0	4.3	4.1	3.7
≿	2Y	3.3	3.3	3.3	3.3	3.3	3.6	3.5	3.8	3.5	3.5	3.8	4.0	4.0	3.7
EXPIRY	3Y	3.7	3.7	3.7	3.7	3.7	3.6	3.4	3.9	3.5	3.3	3.5	3.7	3.8	3.6
=	5Y	4.1	4.1	4.1	4.1	4.1	4.4	4.2	4.3	4.2	3.7	3.9	4.1	4.2	3.9
-	7Y	4.5	4.5	4.5	4.5	4.5	4.6	4.4	4.5	4.4	4.4	4.1	4.3	4.3	3.8
	10Y	4.8	4.8	4.8	4.8	4.8	5.1	4.8	4.5	4.8	4.6	4.8	4.4	3.8	3.9
	15Y	4.2	4.2	4.2	4.2	4.2	10.4	6.7	4.0	4.2	5.2	4.6	4.1	4.0	3.4
	20Y	3.3	3.3	3.3	3.3	3.3	3.3	3.1	3.3	3.3	4.7	4.1	3.3	3.2	2.6
	30Y	3.1	3.1	3.1	3.1	3.1	3.1	3.1	2.9	2.9	2.9	2.9	2.9	2.9	2.9
	EUR		2.2	1 22	2.2	1 22	2.0	2.5	2.4	2.7	2.0	2.4	1 27	4.2	4.2
	1M 3M	3.2	3.2	3.2	3.2	3.2	3.0	2.5	2.4	2.7	2.6	3.1	3.7	4.2	4.3 4.3
-	6M	3.2 2.8	2.8	3.2 2.8	3.2 2.8	3.2 2.8	3.0 2.8	2.5 2.5	2.4	2.7	2.6	3.1 3.1	3.7 3.7	4.2 4.0	4.3
-	9M	2.4	2.4	2.4	2.4	2.4	2.6	2.4	2.4	3.1	2.6	3.1	3.6	3.8	3.7
	1Y	2.0	2.0	2.0	2.0	2.0	2.3	2.4	2.4	3.3	2.6	3.2	3.6	3.7	3.4
≿	2Y	2.3	2.3	2.3	2.3	2.3	2.4	2.5	2.5	3.5	2.6	3.0	3.4	3.3	3.2
EXPIRY	3Y	2.5	2.5	2.5	2.5	2.5	2.5	2.7	2.6	3.7	2.6	2.9	3.1	2.9	3.1
X	5Y	5.3	5.3	5.3	5.3	5.3	3.2	3.7	3.0	4.4	2.9	3.1	3.5	3.6	3.5
	7Y	5.8	5.8	5.8	5.8	5.8	3.5	4.3	5.7	5.6	3.5	3.4	3.7	3.7	3.5
	10Y	3.3	3.3	3.3	3.3	3.3	3.6	4.6	3.7	6.1	3.3	3.8	3.8	2.5	3.7
	15Y	5.3	5.3	5.3	5.3	5.3	6.1	4.2	5.1	5.4	2.8	3.0	3.2	3.2	2.9
	20Y	2.9	2.9	2.9	2.9	2.9	2.1	3.9	3.4	4.1	2.5	2.4	2.8	2.7	2.4
	30Y	3.6	3.6	3.6	3.6	3.6	3.6	3.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6
	600														
	GBP 1M	3.2	3.2	3.2	3.2	3.2	2.6	2.0	2.1	2.2	2.2	2.2	2.3	2.6	2.4
-	3M	3.2	3.2	3.2	3.2	3.2	2.6	2.0	2.1	2.2	2.2	2.2	2.3	2.6	2.4
1	6M	2.7	2.7	2.7	2.7	2.7	2.5	2.0	2.0	2.1	2.1	2.1	2.3	2.5	2.3
	9M	2.3	2.3	2.3	2.3	2.3	2.3	2.0	1.9	1.9	2.1	2.1	2.3	2.4	2.2
	1Y	1.9	1.9	1.9	1.9	1.9	2.2	2.0	1.8	1.7	2.0	2.1	2.3	2.3	2.0
EXPIRY	2Y	2.3	2.3	2.3	2.3	2.3	2.4	2.2	2.2	1.8	1.9	2.0	2.2	2.0	2.0
_	3Y	2.7	2.7	2.7	2.7	2.7	2.6	2.5	2.5	1.8	1.8	1.9	2.1	1.8	2.0
	5Y	2.9	2.9	2.9	2.9	2.9	2.7	2.5	2.4	1.9	1.9	1.9	2.0	2.0	2.0
	7Y	3.0	3.0	3.0	3.0	3.0	3.2	2.9	2.4	2.5	2.4	2.2	2.4	2.4	2.2
_	10Y	3.7	3.7	3.7	3.7	3.7	3.7	3.4	2.9	2.8	2.5	2.6	2.5	1.9	2.2
-	15Y	2.4	2.4	2.4	2.4	2.4	4.4	3.1	2.5	2.5	1.8	2.3	2.0	1.9	1.7
-	20Y 30Y	1.3	1.3	1.3	1.3	1.3	1.6 1.8	2.1 1.8	2.6 1.1	2.5 1.1	1.6 1.1	1.6	2.0	1.7 1.1	1.3
	301	1.0	1.0	1.0	1.6	1.8	1.8	1.8	1.1	1.1	1.1	1.1	1.1	1.1	1.1
	JPY														
	1M	0.9	0.9	0.9	0.9	0.9	0.9	0.9	1.2	1.7	1.9	1.9	1.9	1.9	1.9
	3M	0.9	0.9	0.9	0.9	0.9	0.9	0.9	1.2	1.7	1.9	1.9	1.9	1.9	1.9
	6M	0.7	0.7	0.7	0.7	0.7	0.9	0.9	1.3	1.8	2.0	2.0	2.0	2.0	2.0
	9M	0.5	0.5	0.5	0.5	0.5	0.9	0.9	1.4	1.8	2.1	2.1	2.1	2.1	2.1
	1Y	0.4	0.4	0.4	0.4	0.4	0.8	0.9	1.5	1.9	2.2	2.2	2.2	2.2	2.2
EXPIRY	2Y	0.7	0.7	0.7	0.7	0.7	1.1	1.3	2.2	2.1	2.4	2.4	2.4	2.4	2.4
A .	3Y	1.1	1.1	1.1	1.1	1.1	1.3	1.6	2.9	2.3	2.5	2.5	2.5	2.5	2.5
<u> </u>	5Y	2.6	2.6	2.6	2.6	2.6	2.9	3.0	3.2	2.8	3.0	3.0	3.0	3.0	3.0
	7Y 10Y	3.7	3.7	3.7	3.7	3.7	3.6	3.8	3.1	3.6	3.6	3.6	3.6	3.6	3.6
	10Y 15Y	4.0 3.4	4.0 3.4	4.0 3.4	4.0 3.4	4.0 3.4	4.0 4.0	4.1 2.9	3.8	4.0 3.9	3.4	3.4	3.4 3.0	3.4 3.0	3.4 3.0
-	20Y	1.9	1.9	1.9	1.9	1.9	4.0 2.2	2.9	3.6	3.9	3.0	3.0	3.0	3.0	3.0
	30Y	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9
	301	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9

Absolute Normal Interest Rate Shocks (Continued)

	USD														
	1M	4.8	4.8	4.8	4.8	4.8	4.4	3.8	3.6	3.9	3.7	3.8	4.1	4.4	4.3
	3M	4.8	4.8	4.8	4.8	4.8	4.4	3.8	3.6	3.9	3.7	3.8	4.1	4.4	4.3
	6M	4.1	4.1	4.1	4.1	4.1	4.1	3.7	3.7	3.8	3.7	3.8	4.2	4.3	4.1
	9M	3.5	3.5	3.5	3.5	3.5	3.8	3.7	3.7	3.7	3.7	3.9	4.2	4.2	3.9
	1Y	2.8	2.8	2.8	2.8	2.8	3.5	3.6	3.7	3.6	3.8	4.0	4.3	4.1	3.7
EXPIRY	2Y	3.3	3.3	3.3	3.3	3.3	3.6	3.5	3.8	3.5	3.5	3.8	4.0	4.0	3.7
	3Y	3.7	3.7	3.7	3.7	3.7	3.6	3.4	3.9	3.5	3.3	3.5	3.7	3.8	3.6
<u>@</u>	5Y	4.1	4.1	4.1	4.1	4.1	4.4	4.2	4.3	4.2	3.7	3.9	4.1	4.2	3.9
	7Y	4.5	4.5	4.5	4.5	4.5	4.6	4.4	4.5	4.4	4.4	4.1	4.3	4.3	3.8
	10Y	4.8	4.8	4.8	4.8	4.8	5.1	4.8	4.5	4.8	4.6	4.8	4.4	3.8	3.9
	15Y	4.2	4.2	4.2	4.2	4.2	10.4	6.7	4.0	4.2	5.2	4.6	4.1	4.0	3.4
	20Y 30Y	3.3 3.1	3.3 3.1	3.3	3.3	3.3 3.1	3.3 3.1	3.1 3.1	3.3 2.9	3.3 2.9	4.7 2.9	4.1 2.9	3.3 2.9	3.2 2.9	2.6
	US MBS Vega Other Advanced Economies 1M 3.2 3.2 3.2 3.2 3.2 3.2 3.2 3.2 3.0 2.5 2.4 2.7 2.6 3.1 3.7 4.2 4.3														
	3M	3.2	3.2	3.2	3.2	3.2	3.0	2.5	2.4	2.7	2.6	3.1	3.7	4.2	4.3
	6M	2.8	2.8	2.8	2.8	2.8	2.8	2.5	2.4	2.9	2.6	3.1	3.7	4.0	4.0
	9M	2.4	2.4	2.4	2.4	2.4	2.6	2.4	2.4	3.1	2.6	3.1	3.6	3.8	3.7
>	1Y 2Y	2.0	2.0	2.0	2.0	2.0	2.3	2.4	2.4	3.3	2.6	3.2 3.0	3.6 3.4	3.7 3.3	3.4
EXPIRY	3Y	2.3 2.5	2.5	2.3	2.3	2.3	2.4	2.5	2.5 2.6	3.5 3.7	2.6	2.9	3.4	2.9	3.2
×	5Y	5.3	5.3	5.3	5.3	5.3	3.2	3.7	3.0	4.4	2.9	3.1	3.5	3.6	3.5
ш	7Y	5.8	5.8	5.8	5.8	5.8	3.5	4.3	5.7	5.6	3.5	3.4	3.7	3.7	3.5
	10Y	3.3	3.3	3.3	3.3	3.3	3.6	4.6	3.7	6.1	3.3	3.8	3.8	2.5	3.7
	15Y	5.3	5.3	5.3	5.3	5.3	6.1	4.2	5.1	5.4	2.8	3.0	3.2	3.2	2.9
	20Y	2.9	2.9	2.9	2.9	2.9	2.1	3.9	3.4	4.1	2.5	2.4	2.8	2.7	2.4
	30Y	3.6	3.6	3.6	3.6	3.6	3.6	3.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6
			•	'				•				1	•		
	Total Emerging		1							1			1		
	1M	3.2	3.2	3.2	3.2	3.2	3.0	2.5	2.4	2.7	2.6	3.1	3.7	4.2	4.3
	3M	3.2	3.2	3.2	3.2	3.2	3.0	2.5	2.4	2.7	2.6	3.1	3.7	4.2	4.3
	6M	2.8	2.8	2.8	2.8	2.8	2.8	2.5	2.4	2.9	2.6	3.1	3.7	4.0	4.0
	9M	2.4	2.4	2.4	2.4	2.4	2.6	2.4	2.4	3.1	2.6	3.1	3.6	3.8	3.7
>	1Y 2Y	2.0	2.0	2.0	2.0	2.0	2.3	2.4	2.4	3.3 3.5	2.6	3.2 3.0	3.6 3.4	3.7 3.3	3.4
EXPIRY	3Y	2.5	2.5	2.5	2.5	2.5	2.4	2.5	2.5	3.7	2.6	2.9	3.4	2.9	3.1
×	5Y	5.3	5.3	5.3	5.3	5.3	3.2	3.7	3.0	4.4	2.9	3.1	3.5	3.6	3.5
ш	7Y	5.8	5.8	5.8	5.8	5.8	3.5	4.3	5.7	5.6	3.5	3.4	3.7	3.7	3.5
	10Y	3.3	3.3	3.3	3.3	3.3	3.6	4.6	3.7	6.1	3.3	3.8	3.8	2.5	3.7
	15Y	5.3	5.3	5.3	5.3	5.3	6.1	4.2	5.1	5.4	2.8	3.0	3.2	3.2	2.9
	20Y	2.9	2.9	2.9	2.9	2.9	2.1	3.9	3.4	4.1	2.5	2.4	2.8	2.7	2.4
	30Y	3.6	3.6	3.6	3.6	3.6	3.6	3.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6
	Total Latam & 0		1.0	10	4.0	4.0	4.4	2.0	7.5	2.0	2.7	1 20	1.1		4.2
	1M 3M	4.8 4.8	4.8 4.8	4.8	4.8	4.8 4.8	4.4 4.4	3.8	3.6 3.6	3.9 3.9	3.7 3.7	3.8 3.8	4.1 4.1	4.4 4.4	4.3 4.3
	6M	4.8	4.8	4.8	4.8	4.8	4.4	3.8	3.6	3.9	3.7	3.8	4.1	4.4	4.3
	9M	3.5	3.5	3.5	3.5	3.5	3.8	3.7	3.7	3.8	3.7	3.8	4.2	4.3	3.9
	1Y	2.8	2.8	2.8	2.8	2.8	3.5	3.6	3.7	3.6	3.8	4.0	4.2	4.1	3.7
≿	2Y	3.3	3.3	3.3	3.3	3.3	3.6	3.5	3.8	3.5	3.5	3.8	4.0	4.0	3.7
PIRY	3Y	3.7	3.7	3.7	3.7	3.7	3.6	3.4	3.9	3.5	3.3	3.5	3.7	3.8	3.6
ä	5Y	4.1	4.1	4.1	4.1	4.1	4.4	4.2	4.3	4.2	3.7	3.9	4.1	4.2	3.9
	7Y	4.5	4.5	4.5	4.5	4.5	4.6	4.4	4.5	4.4	4.4	4.1	4.3	4.3	3.8
	10Y	4.8	4.8	4.8	4.8	4.8	5.1	4.8	4.5	4.8	4.6	4.8	4.4	3.8	3.9
	15Y	4.2	4.2	4.2	4.2	4.2	10.4	6.7	4.0	4.2	5.2	4.6	4.1	4.0	3.4
	20Y	3.3	3.3	3.3	3.3	3.3	3.3	3.1	3.3	3.3	4.7	4.1	3.3	3.2	2.6
	30Y	3.1	3.1	3.1	3.1	3.1	3.1	3.1	2.9	2.9	2.9	2.9	2.9	2.9	2.9

Absolute Normal Interest Rate Shocks (Continued)

	Total Asia Ex-Ja	ipan													
	1M	4.8	4.8	4.8	4.8	4.8	4.4	3.8	3.6	3.9	3.7	3.8	4.1	4.4	4.3
	3M	4.8	4.8	4.8	4.8	4.8	4.4	3.8	3.6	3.9	3.7	3.8	4.1	4.4	4.3
	6M	4.1	4.1	4.1	4.1	4.1	4.1	3.7	3.7	3.8	3.7	3.8	4.2	4.3	4.1
	9M	3.5	3.5	3.5	3.5	3.5	3.8	3.7	3.7	3.7	3.7	3.9	4.2	4.2	3.9
	1Y	2.8	2.8	2.8	2.8	2.8	3.5	3.6	3.7	3.6	3.8	4.0	4.3	4.1	3.7
R ≺	2Y	3.3	3.3	3.3	3.3	3.3	3.6	3.5	3.8	3.5	3.5	3.8	4.0	4.0	3.7
_	3Y	3.7	3.7	3.7	3.7	3.7	3.6	3.4	3.9	3.5	3.3	3.5	3.7	3.8	3.6
×	5Y	4.1	4.1	4.1	4.1	4.1	4.4	4.2	4.3	4.2	3.7	3.9	4.1	4.2	3.9
	7Y	4.5	4.5	4.5	4.5	4.5	4.6	4.4	4.5	4.4	4.4	4.1	4.3	4.3	3.8
	10Y	4.8	4.8	4.8	4.8	4.8	5.1	4.8	4.5	4.8	4.6	4.8	4.4	3.8	3.9
	15Y	4.2	4.2	4.2	4.2	4.2	10.4	6.7	4.0	4.2	5.2	4.6	4.1	4.0	3.4
	20Y	3.3	3.3	3.3	3.3	3.3	3.3	3.1	3.3	3.3	4.7	4.1	3.3	3.2	2.6
	30Y	3.1	3.1	3.1	3.1	3.1	3.1	3.1	2.9	2.9	2.9	2.9	2.9	2.9	2.9
	Total ME/N. Af														
	1M	4.8	4.8	4.8	4.8	4.8	4.4	3.8	3.6	3.9	3.7	3.8	4.1	4.4	4.3
	3M	4.8	4.8	4.8	4.8	4.8	4.4	3.8	3.6	3.9	3.7	3.8	4.1	4.4	4.3
	6M	4.1	4.1	4.1	4.1	4.1	4.1	3.7	3.7	3.8	3.7	3.8	4.2	4.3	4.1
	9M	3.5	3.5	3.5	3.5	3.5	3.8	3.7	3.7	3.7	3.7	3.9	4.2	4.2	3.9
>	1Y 2Y	2.8	2.8	2.8	2.8	2.8	3.5	3.6	3.7	3.6	3.8	4.0	4.3	4.1	3.7
P.R		3.3	3.3	3.3	3.3	3.3	3.6	3.5	3.8	3.5	3.5	3.8	4.0	4.0	3.7
×	3Y 5Y	3.7 4.1	3.7 4.1	3.7 4.1	3.7 4.1	3.7 4.1	3.6 4.4	3.4 4.2	3.9 4.3	3.5 4.2	3.3 3.7	3.5 3.9	3.7 4.1	3.8 4.2	3.6
ш	7Y	4.1	4.1	4.1	4.1	4.1	4.4	4.2	4.5	4.4	4.4	4.1	4.1	4.2	3.9
	10Y	4.8	4.8	4.3	4.3	4.8	5.1	4.4	4.5	4.4	4.4	4.1	4.4	3.8	3.9
	15Y	4.8	4.8	4.0	4.0	4.0	10.4	6.7	4.0	4.0	5.2	4.6	4.4	4.0	3.4
	20Y	3.3	3.3	3.3	3.3	3.3	3.3	3.1	3.3	3.3	4.7	4.1	3.3	3.2	2.6
	30Y	3.1	3.1	3.1	3.1	3.1	3.1	3.1	2.9	2.9	2.9	2.9	2.9	2.9	2.9
	301	5.1	3.1	3.1	3.1	5.1	5.1	3.1	2.3	2.3	2.3	2.3	2.5	2.5	2.3
	Total Sub-Saha	ran Africa													
	1M	4.8	4.8	4.8	4.8	4.8	4.4	3.8	3.6	3.9	3.7	3.8	4.1	4.4	4.3
	3M	4.8	4.8	4.8	4.8	4.8	4.4	3.8	3.6	3.9	3.7	3.8	4.1	4.4	4.3
	6M	4.1	4.1	4.1	4.1	4.1	4.1	3.7	3.7	3.8	3.7	3.8	4.2	4.3	4.1
	9M	3.5	3.5	3.5	3.5	3.5	3.8	3.7	3.7	3.7	3.7	3.9	4.2	4.2	3.9
	1Y	2.8	2.8	2.8	2.8	2.8	3.5	3.6	3.7	3.6	3.8	4.0	4.3	4.1	3.7
I R	2Y	3.3	3.3	3.3	3.3	3.3	3.6	3.5	3.8	3.5	3.5	3.8	4.0	4.0	3.7
Δ.	3Y	3.7	3.7	3.7	3.7	3.7	3.6	3.4	3.9	3.5	3.3	3.5	3.7	3.8	3.6
ä	5Y	4.1	4.1	4.1	4.1	4.1	4.4	4.2	4.3	4.2	3.7	3.9	4.1	4.2	3.9
	7Y	4.5	4.5	4.5	4.5	4.5	4.6	4.4	4.5	4.4	4.4	4.1	4.3	4.3	3.8
	10Y	4.8	4.8	4.8	4.8	4.8	5.1	4.8	4.5	4.8	4.6	4.8	4.4	3.8	3.9
	15Y	4.2	4.2	4.2	4.2	4.2	10.4	6.7	4.0	4.2	5.2	4.6	4.1	4.0	3.4
	20Y	3.3	3.3	3.3	3.3	3.3	3.3	3.1	3.3	3.3	4.7	4.1	3.3	3.2	2.6
	30Y	3.1	3.1	3.1	3.1	3.1	3.1	3.1	2.9	2.9	2.9	2.9	2.9	2.9	2.9

Other Rates

Absolute Change in Inflation (bps)

		MATURITY													
Currency	1M	3M	6M	9M	1Y	2Y	3Y	5Y	7 Y	10Y	15Y	20Y	30Y		
AUD	(55.6)	(55.6)	(55.6)	(55.6)	(55.6)	(47.9)	(48.1)	(44.5)	(39.3)	(37.7)	(35.1)	(36.4)	(35.4)		
EUR	(54.4)	(54.4)	(54.4)	(54.4)	(54.4)	(52.9)	(51.2)	(46.2)	(46.2)	(44.4)	(38.2)	(39.4)	(35.4)		
GBP	(105.2)	(105.2)	(105.2)	(105.2)	(105.2)	(83.7)	(78.3)	(73.7)	(69.5)	(64.0)	(61.2)	(56.7)	(54.5)		
JPY	(48.9)	(48.9)	(48.9)	(48.9)	(48.9)	(56.8)	(57.7)	(66.5)	(66.3)	(61.4)	(60.8)	(57.4)	(88.0)		
USD	(68.4)	(68.4)	(68.4)	(68.4)	(68.4)	(72.2)	(75.2)	(78.2)	(80.6)	(71.3)	(70.3)	(68.1)	(65.6)		
Other	(68.4)	(68.4)	(68.4)	(68.4)	(68.4)	(72.2)	(75.2)	(78.2)	(80.6)	(71.3)	(70.3)	(68.1)	(65.6)		

Absolute Change in Cross-Currency vs. USD Basis (bps)

(move in bps of spread on non-USD leg)

		MATURITY													
Currency	1M	3M	6M	9M	1Y	2Y	3Y	5Y	7Y	10Y	15Y	20Y	30Y		
AUD	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
EUR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
GBP	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
JPY	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Other	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		

Appendix 12: Data Notes

Sources for data through 2016:Q4 (as released through 1/18/2017). The 2016:Q4 values of variables marked with an asterisk (*) are projected.

U.S. real GDP growth*: Percent change in real Gross Domestic Product in chained dollars, expressed at an annualized rate, Bureau of Economic Analysis (NIPA table 1.1.6, line 1).

U.S. nominal GDP growth*: Percent change in nominal Gross Domestic Product, expressed at an annualized rate, Bureau of Economic Analysis (NIPA table 1.1.5, line 1).

U.S. real disposable income growth*: Percent change in nominal disposable personal income, divided by the price index for personal consumption expenditures, expressed at an annualized rate, Bureau of Economic Analysis (NIPA table 1.2, line 27, and NIPA table 1.1.4, line 2).

U.S. nominal disposable income growth*: Percent change in nominal disposable personal income, expressed at an annualized rate, Bureau of Economic Analysis (NIPA table 1.2, line 27).

U.S. unemployment rate: Quarterly average of seasonally-adjusted monthly data for the unemployment rate of the civilian, noninstitutional population of age 16 years and older, Bureau of Labor Statistics (series LNS14000000).

U.S. CPI inflation: Percent change in the quarterly average of seasonally-adjusted monthly data for the Consumer Price Index, expressed at an annualized rate, Bureau of Labor Statistics (series CUSR0000SA0).

U.S. 3-month Treasury rate: Quarterly average of 3-month Treasury bill secondary market rate on a discount basis, H.15 Release, Selected Interest Rates, Federal Reserve Board. **U.S. 5-year Treasury yield:** Quarterly average of the yield on 5-year U.S. Treasury bonds, constructed for the FRB/U.S. model by Federal Reserve staff based on the Svensson smoothed term structure model; see Lars E. O. Svensson (1995), "Estimating Forward Interest Rates with the Extended Nelson-Siegel Method," *Quarterly Review*, no. 3, Sveriges Riksbank, pp. 13–

U.S. 10-year Treasury yield: Quarterly average of the yield on 10-year U.S. Treasury bonds, constructed for the FRB/U.S. model by Federal Reserve staff based on the Svensson smoothed term structure model; see id.

U.S. BBB corporate yield: Quarterly average of the yield on 10-year BBB-rated corporate bonds, constructed for the FRB/U.S. model by Federal Reserve staff using a Nelson-Siegel smoothed yield curve model; see Charles R. Nelson and Andrew F. Siegel (1987), "Parsimonious Modeling of Yield Curves," *Journal of Business*, vol. 60, pp. 473-89. Data prior to 1997 is based on the WARGA database. Data after 1997 is based on the Merrill Lynch database.

U.S. mortgage rate: Quarterly average of weekly series for the interest rate of a conventional, conforming, 30-year fixed rate mortgage, obtained from the Primary Mortgage Market Survey of the Federal Home Loan Mortgage Corporation.

U.S. prime rate: Quarterly average of monthly series, H.15Release, Selected Interest Rates, Federal Reserve Board.U.S. Dow Jones Total Stock Market (Float Cap) Index: End of

quarter value, Dow Jones.

U.S. House Price Index*: CoreLogic, index level, seasonally adjusted by Federal Reserve staff.

U.S. Commercial Real Estate Price Index*: From the Financial Accounts of the United States, Federal Reserve Board (Z.1 release); the series corresponds to the data for price indexes: Commercial Real Estate Price Index (series FL075035503.Q, divided by 1000).

U.S. Market Volatility Index (VIX): Chicago Board Options Exchange, converted to quarterly by using the maximum close-of-day value in any quarter.

Euro area real GDP growth*: Percent change in real gross domestic product at an annualized rate, staff calculations based on Statistical Office of the European Communities via Haver, extended back using ECB Area Wide Model dataset (ECB Working Paper series no. 42).

Euro area inflation: Percent change in the quarterly average of the harmonized index of consumer prices at an annualized rate, staff calculations based on Statistical Office of the European Communities via Haver.

Developing Asia real GDP growth*: Percent change in real gross domestic product at an annualized rate, staff calculations based on Bank of Korea via Haver; Chinese National Bureau of Statistics via CEIC; Indian Central Statistical Organization via CEIC; Census and Statistics Department of Hong Kong via CEIC; and Taiwan Directorate-General of Budget, Accounting, and Statistics via CEIC.

Developing Asia inflation*: Percent change in the quarterly average of the consumer price index, or local equivalent, at an annualized rate, staff calculations based on Chinese National Bureau of Statistics via CEIC; Indian Ministry of Statistics and Programme Implementation via Haver; Labour Bureau of India via CEIC; National Statistical Office of Korea via CEIC; Census and Statistic Department of Hong Kong via CEIC; and Taiwan Directorate-General of Budget, Accounting, and Statistics via CEIC.

Japan real GDP growth*: Percent change in gross domestic product at an annualized rate, Cabinet Office via Haver.

Japan inflation*: Percent change in the quarterly average of the Consumer Price Index at an annualized rate, Ministry of Internal

U.K. real GDP growth*: Percent change in gross domestic product at an annualized rate, Office for National Statistics via

Affairs and Communications via Haver.

U.K. inflation: Percent change in the quarterly average of the Consumer Price Index at an annualized rate, Office for National Statistics via Haver.

Exchange rates: Quarterly average of daily rates, Bloomberg.