

SUMMARY INSTRUCTIONS AND GUIDANCE

March 2, 2016

Accompanying Order Nos. 2016-OR-B-1, 2016-OR-FNMA-1, AND 2016-OR-FHLMC-1



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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, Freddie Mac, and the eleven Federal Home Loan Banks (Banks) referred to herein as each of the Banks (any of the Banks singularly, Bank; Fannie Mae and Freddie Mac collectively, the Enterprises; the Enterprises and the Banks collectively, regulated entities; any of the regulated entities singularly, regulated entity).

Each regulated entity has total consolidated assets of more than \$10 billion, and therefore, 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 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
- Correspondence related to stress tests

Stress Test Scenarios

The stress tests are based on portfolios as of December 31, 2015. The planning horizon for the stress test is nine quarters starting with the first quarter of 2016 and extending through the first quarter of 2018. 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 may be found 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. Regulated entities are expected to indicate which variables are included in their stress tests in their reports 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 rather 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, 2015, 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 shocks 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 their 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, 2015 – 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 interpolate the house price paths to accommodate the frequency of data required by their models.

Missing Variables

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

Balance Sheet Evolution

Each regulated entity should also use their internal assumptions to roll their 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 plans. The Enterprises should ensure that the size and composition of their books of business during the stress test are consistent with the goals in FHFA's Conservatorship Scorecard.

Capital Actions

For capital actions, the Banks should take into account their 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, they should either assume payment of stock dividends equal to those paid in the year ending immediately prior to the first quarter

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.

of the planning horizon or follow any established rules they have for dividends payments.

The Banks should either assume that they do not redeem or repurchase any capital instrument over the planning horizon or that their capital actions will accord with their established capital plans.

They should also assume that they will redeem all mandatorily redeemable capital stock per their usual practice unless restricted from doing so by FHFA actions.

Finally, they should assume that they 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 the 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 and publish 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 publish 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, regulated entities should substantiate that their results are consistent with the specified macroeconomic and financial environment and that the components of their results are internally consistent within each scenario.

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

The regulated entities also are 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. The board 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 any changes, as appropriate, to its capital structure (including the level and composition of capital); its exposures, concentrations, and risk positions; any plans for recovery and resolution; and to improve overall risk management. Consultation with FHFA staff is expected in making such improvements. 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 schedules. Failure to submit complete data to FHFA in a timely manner may result in any 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 surrounding 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 those assumptions for reasonableness and consistency with the assumptions used by other regulated entities. In all cases, FHFA may require a regulated entity to adjust assumptions or resubmit results where it 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 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 to have the perspective to effectively understand and challenge reported results. The board 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 Schedules - Enterprises

Scenario Schedule 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 varia	bles used beyond those supplied)
Variable	1	
Number	Variable Name	Variable Definition
1	variable ivallie	Variable Definition
2		
3		
4		
5		
_		
	Adverse Scenario (additional varia	bles used beyond those supplied)
/ariable		
Number	Variable Name	Variable Definition
1		
2		
3		
4		
5		
	Severely Adverse Scenario (additional v	rariables used beyond those supplied)
Variable		
Number	Variable Name	Variable Definition
1		
2		
3		
4		
5		

Baseline

Spread Assumptions

Spread to Benchmark

		Actual				P	rojected				
Category	Benchmark	4Q 2015	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q 9
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				ı	Projected				
	Variable Name	4Q 2015	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9

Forward Curve

Maturity	4Q 2015	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9
3-Month Treasury	0.1	0.4	0.6	0.9	1.0	1.3	1.5	1.9	2.2	2.4
6-Month										
1 year										
2 year										
5 year Treasury	1.6	1.8	2.0	2.2	2.4	2.6	2.7	2.9	3.0	3.1
10 year Treasury	2.2	2.4	2.6	2.7	2.9	3.0	3.1	3.3	3.4	3.5
15 year										
30 year										

House Price Index

 $(NOTE: For \ printing \ purposes \ dates \ only \ goes \ to \ Oct-16. \ However, the \ underlying \ excel \ spreadsheet \ collects \ 30 \ years \ of \ data.)$

		Actual				ı	Projected					
Ī	Region	40 2015	Jan-16	Feb-16	Mar-16	Apr-16	May-16	Jun-16	Jul-16	Aug-16	Sep-16	Oct-16

Region 1

Region 2

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Adverse

Spread Assumptions

Spread to Benchmark

		Actual				P	rojected				
Category	Benchmark	4Q 2015	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

Variable Name 4Q 2015					1	Projected				
Variable Name	4Q 2015	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9

Forward Curve

	Actual				P	rojected				
Maturity	4Q 2015	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9
3-Month Treasury	0.1	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	1.6	0.5	0.7	0.8	1.0	1.2	1.3	1.5	1.6	1.8
10 year Treasury	2.2	1.3	1.4	1.5	1.7	1.8	1.9	2.2	2.3	2.4
15 year										
30 year										

House Price Index

 $(\textit{NOTE: For printing purposes dates only goes to Oct-16.} \ \textit{However, the underlying excel spreadsheet collects 30 years of data.})$

	Actual					Projected					
Region	4O 2015	Jan-16	Feb-16	Mar-16	Apr-16	May-16	lun-16	Jul-16	Δμσ-16	Sen-16	Oct-16

Region 1 Region 2

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Severely Adverse

Spread Assumptions

Spread to Benchmark

		Actual					Projected				
Category	Benchmark	4Q 2015	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
example. Advance	3-IVIOITUI LIBUR	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 2015	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	1

Forward Curve

	Actual									
Maturity	4Q 2015	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9
3-Month Treasury	0.1	0.0	-0.2	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5
6-Month										
1 year										
2 year										
5 year Treasury	1.6	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.3
10 year Treasury	2.2	0.2	0.4	0.4	0.6	0.7	0.8	1.0	1.1	1.2
15 year										
30 year										

House Price Index

(NOTE: For printing purposes dates only go to Oct-16. However, the underlying excel spreadsheet collects 30 years of data.)

	Actual				P	rojected					
Region	4Q 2015	Jan-16	Feb-16	Mar-16	Apr-16	May-16	Jun-16	Jul-16	Aug-16	Sep-16	Oct-16

Region 1

Region 2

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Stress Test Template Instructions											
1. All numbers should be reported in millions											
2. Reported numbers should reflect the 12/31/2015 start date.											

(\$s in millions)

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)		İ									
2 Management and guaranty fee income ¹		!									
3 Total net interest income		İ									
4.04		! !									
4 Other income 5 Total revenue		ļ									
5 Total revenue		ļ									
6 REO (foreclosed property expense)		į									
7 SOP 03-3 losses, net		i									
8 Security impairments		į									
9 Operational risk losses		<u> </u>									
10 Administrative expenses		ļ									
11 Other expenses		!									
12 Pre-provision net revenue											
13 (Provision) benefit for credit losses											
14 Derivatives gains (losses)		! !									
15 Trading gains (losses)		į									
16 Other gains (losses)		ļ									
17 Global market shock impact on trading securities		į									
18 Counterparty default losses											
19 Pre-Tax income (loss)											
20 Provision (benefit) for federal income taxes		ļ									
21 Extraordinary gains (losses), net of tax effect		į									
		!									
22 Net income (loss)											
23 Global market shock impact on available-for-sale securities		ļ									
24 Other comprehensive income		!									
24 Onici comprehensive income		į									
25 Comprehensive income (loss)											

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

(\$s i	n millions)										
		Most Recent									
Ra	lance Sheet (BASELINE)	Quarter	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9
<u> </u>	HAITEC ONCCE (BAOLEINE)	Guartor	Qı	QZ	QJ	Q4	QJ	QU	Qi	QU	<u> </u>
1	SETS Cash and cash equivalents Investments in securities Available-for-sale, at fair value Trading, at fair value Mortgage loans, excluding loss allowance Allowance for loan losses Deferred tax assets, net of allowance Other assets										
9	Total assets	İ									
10 11 12 13 14 15 16	ABILITIES Short-term debt Long-term debt Debt of consolidated trusts/PCs Guarantee fee obligation Reserve for guaranty losses Other liabilities Total liabilities Minority interest										
18 19 20 21 22 23	PITAL Senior preferred stock Preferred stock Common stock Retained earnings (deficit) Accumulated other comprehensive income (loss) Treasury stock Total stockholders' equity (deficit)										
25	Total capital (deficit)										
26	Total liabilities, minority interest and capital										

(\$s in millions)

<u>Ca</u>	pital Roll Forward (BASELINE)	Most Recent Quarter	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Nine Quarter Cumulative Total
C A	PITAL											
CA												
1	Beginning capital											
2	Senior preferred Treasury draw (prior period)											
3	Net income											
4	Less: Dividends											
5	Other capital actions											
6	Change in AOCI											
7	Change in non-controlling/minority interest											
8	Other											
9	Ending capital											
10	Beginning PSPA funding commitment available											
	· ·											
11	Treasury draw required											
12	Remaining PSPA funding commitment available											

(\$s in millions)

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

Single-Family Credit Overview - Cumulative Results (BASELINE)

				Credit Losses		Loa	an Loss Reserv	/e
	(\$s in millions)	Provision for Credit Losses	Foreclosed Property Expense	Net Charge-offs	Total	Beginning	Ending	Change
1	Current Book (as of 12/31/15)							
2	New Business							
3	Total Portfolio							
	Memo:							
4	FAS 5 Loan Loss Reserve							
5	FAS114 Loan Loss Reserve							
6	Concessions in FAS 114 Loan Loss Reserve ⁽¹⁾							

 $^{(1) \}hbox{ - amount includes the impact of all troubled debt restructuring (TDR) related impairments. } \\$

Single-Family Credit Overview - Quarterly (BASELINE)	Most Recent Quarter	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q 9	Nine Quarter Cumulative Total
TOTAL PORTFOLIO											
CREDIT EXPENSES (\$s in millions) Foreclosed property expense (REO) Net charge-offs Credit losses 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 12/31/15) CREDIT EXPENSES (\$s in millions) Foreclosed property expense (REO) Net charge-offs Provision for credit losses Provision for credit losses LOAN LOSS RESERVE (\$s in millions) Beginning loan loss reserve Net charge-offs											
22 Provison (benefit) for loan losses/guaranty losses23 Other											
24 Ending Loan Loss Reserve - Current Book											-
25 Unpaid Principal Balance (\$s in millions)											
NEW BUSINESS											
CREDIT EXPENSES (\$s in millions) Foreclosed properly expense (REO) Net charge-offs Credit losses Provision for credit losses											
30 Credit Expenses ⁽¹⁾											
LOAN LOSS RESERVE (\$s in millions) Beginning loan loss reserve Net charge-offs Provison (benefit) for loan losses/guaranty losses Uther											
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	Q5	Q6	Q7	Q8	Q9
3 4 5 6	SERIOUSLY DELINQUENT LOAN ACTIVITY (count in '000s) Beginning seriously delinquent loans Seriously delinquent cured by modification Seriously delinquent - self cured Seriously delinquent to default Seriously delinquent to payoff Ending Seriously Delinquent Loans										
	Ending seriously delinquent rate (%) Aggregate UPB of seriously delinquent loans (\$s in millions)										
10	Loan modifications (count in 000s)										
11 12 13 14 15 16 17 18 19 20	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										

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

	(\$s in millions)	End of Quarter Unpaid Principal Balance (UPB)											
	Loan Status	Most Recent Quarter	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9		
2 3	MODIFIED LOANS Current Less than 90 days delinquent Seriously delinquent (90 days or more delinquent or in the process of foreclosure) Total												
6 7	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	Q5	Q6	Q7	Q8	Q9
MODIFIED LOANS 9 Current 10 Less than 90 days delinquent 11 Seriously delinquent (90 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 (90 days or more delinquent or in the process of foreclosure) 16 Total										

Single-Family Credit Summary (BASELINE)

Mark-to-Market Loan to Value - CURRENT BOOK

	(\$s in millions)				End of Qua	arter Unpaid F	Principal Bala	nce (UPB)			
	Loan Status	Most Recent Quarter	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9
2	<=80% >80% - 100% >100% 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										

Single-Family Credit Summary (BASELINE)

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													

(\$s in millions)					Loan Loss	s Reserve				
Loan Status	Most Recent Quarter	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q 9
13 2004 and prior										
14 2005										
15 2006	į									
16 2007	į									
17 2008	į									
18 2009	į									
19 2010	İ									
20 2011										
21 2012	į									
22 2013	-									
23 2014	į									
24 2015										

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

(\$s in millions)					End of Quarter	Unpaid Principal E	Balance (UPB)			
		Most Recent		Cumulative	Cumulative			Migrate to	Migrate to 80% -	Migrate to
Loan Status a	t 12/31/15	Quarter	Q9	Defaults ¹	Prepays ²	Run-off ³	Other ⁴	<=80%	100%	>100%
	<=80%	İ								
2004 and prior	80% - 100%									
	>100%									
	<=80%									
2005 - 2008	80% - 100%									
	>100%									
	<=80%									
2009 and Later	80% - 100%									
	>100%									

(\$s in millions)				Loan Loss Reserves		
			Cumulative	Provision for		
Loan Status at		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
 4 - amount includes NPL sales and other miscellaneous items

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

(\$s in millions)						End of Q	uarter Unpaid	Principal Balanc	e (UPB)				
		Most Recent		Cumulative	Cumulative			Migrate to Modified	Migrate to Modified	Migrate to Modified	Migrate to Non-Modified	Migrate to Non-Modified	
Loan S	status at 12/31/15	Quarter	Q9	Defaults ¹	Prepays ²	Run-off ³	Other⁴	Current	<90 Days	SDQ	Current	<90 Days	SDQ
2004 and prior	Current Modified <90 Days SDQ												
2004 and phor	Current Non-Modified <90 Days SDQ												
2005 - 2008	Current Modified <90 Days SDQ												
2003 - 2008	Current Non-Modified <90 Days SDQ												
2000 and Later	Current Modified <90 Days SDQ												
2009 and Later	Current Non-Modified <90 Days SDQ												

(\$s in millions)				Lo	oan Loss Reserves	s	
(42				Cumulative	Provision for	-	
Loan S	tatus at 12/31/	15	Beginning	Charge-offs	Credit Losses	Other	Ending
	Modified	Current <90 Days SDQ					
2004 and prior	Non-Modified	Current <90 Days SDQ					
2005 - 2008	Modified	Current <90 Days SDQ					
2005 - 2006	Non-Modified	Current <90 Days SDQ					
0000 41	Modified	Current <90 Days SDQ					
2009 and Later	Non-Modified	Current <90 Days SDQ					

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

(\$s in millions)						End of C	uarter Unpaid	Principal Baland	ce (UPB)				
		Most Recent		Cumulative	Cumulative			Migrate to Modified	Migrate to Modified	Migrate to Modified	Migrate to Non-Modified		Migrate to Non-Modified
Loan S	Status at 12/31/15	Quarter	Q9	Defaults ¹	Prepays ²	Run-off ³	Other⁴	Current	<90 Days	SDQ	Current	<90 Days	SDQ
<=80%	Modified <90 Days SDQ												
1=0070	Current Non-Modified <90 Days SDQ												
909/ 4009/	Current Modified <90 Days SDQ												
80% - 100%	Current Non-Modified <90 Days SDQ												
4000/	Current Modified <90 Days SDQ												
>100%	Current Non-Modified <90 Days SDQ												

(\$s in millions)				Lo	oan Loss Reserves	3	
				Cumulative	Provision for		
Loan S	Status at 12/31/	15	Beginning	Charge-offs	Credit Losses	Other	Ending
<=80%	Modified	Current <90 Days SDQ		.			
<=80%	Non-Modified	Current <90 Days SDQ					
000/ 4000/	Modified	Current <90 Days SDQ					
80% - 100%	Non-Modified	Current <90 Days SDQ					
>100%	Modified	Current <90 Days SDQ					
>100%	Non-Modified	Current <90 Days					

 ⁻ 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 miscellaneous items

Single-Family Credit Summary (BASELINE)

Mark-to-Market Loan to Value - CURRENT BOOK

	(\$s in millions)	End of Quarter Projected Charge-Offs (Undiscounted \$s)											
	Loan Status	Most Recent Quarter	Q1	Q2	Q3	Q4	Q 5	Q6	Q7	Q8	Q9	Nine Quarter Cumulative Total	
1 2 3													

Single-Family Credit Summary (BASELINE)

Vin	tage Table - CURRENT BOOK		<u></u>										
(\$s	(\$s in millions)		End of Quarter Projected Charge-Offs (Undiscounted \$s)										
	Loan Status	Most Recent Quarter	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Nine Quarter Cumulative Total	
1	2004 and prior												
2	2005												
3 4	2006 2007												
5	2008	į											
6	2009												
7	2010												
8	2011	1											
9	2012	ļ											
10	2013												
11 12	2014 2015												

(\$s in millions)

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) Management and guaranty fee income¹ 											
3 Total net interest income		İ									
4.00		i i									
4 Other income 5 Total revenue		i i									
6 REO (foreclosed property expense)		į									
7 SOP 03-3 losses, net 8 Security impairments		! !									
9 Operational risk losses		ļ									
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)		į									
17 Global market shock impact on trading securities		!									
18 Counterparty default losses		 									
19 Pre-Tax income (loss)											
20 Provision (benefit) for federal income taxes		i i									
21 Extraordinary gains (losses), net of tax effect		i i									
22 Net income (loss)											
23 Global market shock impact on available-for-sale securities24 Other comprehensive income											
25 Comprehensive income (loss)											

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

(\$s in millions)										
	Most									
Polones Chast (ADVEDCE)	Recent			-			-		-	
Balance Sheet (ADVERSE)	Quarter	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9
ASSETS										
1 Cash and cash equivalents										
2 Investments in securities										
3 Available-for-sale, at fair value										
4 Trading, at fair value	į									
5 Mortgage loans, excluding loss allowance										
6 Allowance for loan losses										
7 Deferred tax assets, net of allowance	İ									
8 Other assets										
9 Total assets										
LIADILITIEC										
LIABILITIES	į									
10 Short-term debt										
11 Long-term debt12 Debt of consolidated trusts/PCs										
13 Guarantee fee obligation	İ									
14 Reserve for guaranty losses										
15 Other liabilities	į									
16 Total liabilities										
17 Minority interest										
	İ									
CAPITAL										
18 Senior preferred stock										
19 Preferred stock										
20 Common stock										
21 Retained earnings (deficit)	į									
22 Accumulated other comprehensive income (loss)										
23 Treasury stock24 Total stockholders' equity (deficit)	į									
24 Total Stockholders equity (deficit)										
25 Total capital (deficit)										
20 Can Capital (action)										
26 Total liabilities, minority interest and capital										

<u>Ca</u>	pital Roll Forward (ADVERSE)	Most Recent Quarter	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Nine Quarter Cumulative Total
C 4	PITAL											
CA												
1	Beginning capital	į										
2	Senior preferred Treasury draw (prior period)	į										
3	Net income											
4	Less: Dividends											
5	Other capital actions											
6	Change in AOCI											
7	Change in non-controlling/minority interest											
8	Other											
9	Ending capital											
10	Beginning PSPA funding commitment available											
	· ·											
11	Treasury draw required	ļ										
12	Remaining PSPA funding commitment available											

<u>Po</u>	rtfolio Balances (ADVERSE)	Most Recent Quarter	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9
RE1 1 2 3 4 5	AINED PORTFOLIO Agency securities Non-Agency securities Private Label Securities (PLS) Commercial Mortgage-backed Securities (CMBS) Other Whole loans										
6	Total retained portfolio Single-family guaranty book of business										

(\$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 Agency Securities Option-Adjusted Spread
- 5 Municipal Securities
- 6 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	
	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 Agency Securities Option-Adjusted Spread
- 5 Municipal Securities
- 6 Counterparty Default Risk*

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

- 7 Private Label Securities (PLS) or Non-Agency Prices for Residential Mortgage-backed Securities (RMBS)
- 8 Commercial Mortgage-backed Securities (CMBS)
- 9 Asset-based Securities (ABS) and other collateral
- 10 Agency Securities Option-Adjusted Spread
- 11 Municipal Securities

(*Credit ratings should be as of December 31, 2015)

										RMB	S						
	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	RMBS SubTot
MV* (\$MM) AAA 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
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
2007 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
Pre 2006	\$0	\$ 0	\$U	\$ U	\$U	\$ U	\$U	\$ U	ŞU	ΦU	\$U	\$0	\$0				
2006 2007	\$0 \$0																\$0 \$0
Post 2007 Unspecified Vintage	\$0 \$0																\$0 \$0
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 Post 2007	\$0 \$0																\$0 \$0
Inspecified Vintage	\$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 2007	\$0																\$0
Post 2007	\$0 \$0																\$0 \$0
Jnspecified Vintage Total	\$0 \$0	\$0	\$ 0	*0	\$ 0	\$0	*0	\$0	*0	\$0	\$0	\$ 0	*0	\$0	\$0	L	\$0 \$0
Pre 2006	\$0 \$0	φU	\$0	\$0	\$0	φU	\$0	\$0	\$0	φU	φυ	\$0	\$0	φυ	\$0	\$0	\$0 \$0
2006 2007	\$0 \$0																\$0 \$0
Post 2007 Unspecified Vintage	\$0 \$0																\$0 \$0
B 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
R 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	\$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
-	Ų.	-	4 0	40	Ψ0	4 0	4 0	40	4 0	40	40	4 0	Ψ0	40	40	Ψ0	Ţ.
Profit/Loss (\$MM) AA Total	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Pre 2006 2006	\$0 \$0																\$0
2007 Post 2007	\$0																\$0
																	\$0 \$0
Unspecified Vintage	\$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
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
Unspecified Vintage A 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
Unspecified Vintage A Total Pre 2006 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
Unspecified Vintage A Total Pre 2006 2006 2007 Post 2007 Unspecified Vintage 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
Unspecified Vintage A Total Pre 2006 2006 2006 2007 Post 2007 Unspecified Vintage Total Pre 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 \$
Jnspecified Vintage A Total Pre 2006 2006 2006 2007 Post 2007 Jnspecified Vintage 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 \$
Unspecified Vintage A Total Pre 2006 2006 2006 2007 Post 2007 Unspecified Vintage Total Pre 2006 2006 2007 Post 2007 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 \$0 \$
Unspecified Vintage A Total Pre 2006 2006 2006 2007 Post 2007 Unspecified Vintage Total Pre 2006 2006 2007 Post 2007 Unspecified Vintage BB 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 \$
Unspecified Vintage A Total Pre 2006 2006 2007 Post 2007 Unspecified Vintage Total Pre 2006 2007 Post 2007 Unspecified Vintage BB Total Pre 2006 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 \$
Unspecified Vintage A Total Pre 2006 2006 2007 Post 2007 Unspecified Vintage 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	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0 \$0	\$0	\$0	\$0	\$0	\$0	\$0 \$0 \$0	\$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$
Unspecified Vintage A Total Pre 2006 2006 2007 Post 2007 Unspecified Vintage Total Pre 2006 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 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 \$
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Inspecified Vintage Inspec	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0	\$0 \$0 \$0	\$0 \$0 \$0	\$0	\$0 \$0 \$0	\$0	\$0	\$0 \$0 \$0	\$0 \$0 \$0	\$0	\$0 \$0 \$0	\$0 \$0	\$0 \$0 \$0	\$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$
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(*Credit ratings should be as of December 31, 2015)

						ABS				Cash Non-				CMBS				Co	orporate CDO	/ CLO Corporate		Warehouse	
	Grand Total	Autos	Credit Cards	Student Loans	ABS CDS	Credit Basket	Index Tranches	Other / Unspecified	ABS SubTotal	Agency CMBS		CMBS CDO	Credit Basket	Index Tranches	Whole Loans	Other / Unspecified	CMBS SubTotal	CLO	Other / Unspecified	CDO/CLO	Total Size	Total Protection	Other / Unspecifie
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	\$0	\$ 0	ŞU.	\$ 0	ΨU	\$ 0	3 0	\$ 0	\$0	\$U	30	ψU	ψU	\$ 0	ψU	\$ 0	\$0	\$0	ŞU	\$0	30	\$ 0	3 0
2006 2007	\$0 \$0		-	\rightarrow					\$0 \$0								\$0 \$0			\$0 \$0			
Post 2007 Unspecified Vintage	\$0 \$0		$\overline{}$						\$0 \$0								\$0 \$0			\$0 \$0			
ATotal	\$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			
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			
Inspecified 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	\$0								\$0								\$0			\$0			
2007 Post 2007	\$0 \$0			-					\$0 \$0								\$0 \$0			\$0 \$0			
Unspecified Vintage	\$0		\Box						\$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	\$0				**	•		40	\$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 Unspecified Vintage	\$0 \$0		$\overline{}$						\$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	\$0							Ψ0	\$0	-				40		40	\$0		Ų.	\$0	- 00	•••	
2006 2007	\$0 \$0								\$0 \$0								\$0 \$0			\$0 \$0			
Post 2007 Unspecified Vintage	\$0 \$0		-						\$0 \$0								\$0 \$0			\$0 \$0			
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
Pre 2006 2006	\$0 \$0		=						\$0 \$0								\$0 \$0			\$0			
2007	\$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
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	\$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			
Total	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0 \$0	\$0	\$0	\$0	\$0	\$0	\$0						H +		
Pre 2006	\$0	-						Ψ0	\$0				+ 0			\$0		\$0	\$n	\$0 \$0	\$n	\$n	\$0
2006												40			90	\$0	\$0 \$0	\$0	\$0	\$0 \$0	\$0	\$0	\$0
2001	\$0 \$0								\$0 \$0			40			40	\$0	\$0 \$0 \$0 \$0	\$0	\$0	\$0 \$0 \$0 \$0	\$0	\$0	\$0
Post 2007	\$0 \$0 \$0											40			40	\$0	\$0 \$0 \$0	\$0	\$0	\$0 \$0 \$0	\$0	\$0	\$0
Post 2007 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 \$0 \$0	\$0 \$0	\$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0	\$0 \$0	\$0
Post 2007 Unspecified Vintage IBB 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			
Post 2007 Unspecified Vintage BB 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			
Post 2007 Unspecified Vintage BB 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			
Post 2007 Unspecified Vintage BB Total Pre 2006 2006 2007 Post 2007 Unspecified Vintage 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 \$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0			\$0				\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$			\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$			
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Post 2007 Unspecified Vintage BB Total Pre 2006 2006 2007 Post 2007 Unspecified Vintage B 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
Post 2007 Unspecified Vintage BB Total Pre 2006 0000 Post 2007 Post 2007 Inspecified Vintage B Total Pre 2006 0000 0000 0000 00007 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
Post 2007 Inspecified Vintage BB Total Pre 2006 2007 Post 2007 Inspecified Vintage B Total Pre 2006 2006 2007 Post 2007 Inspecified Vintage Total Total Total Total Total Total Total Total 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
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vost 2007 hspecified Virtage 3B T otal re 2006 0006 0007 osst 2007 hspecified Virtage 3 T otal re 2006 000 0007 osst 2007 osst 2007 osst 2007 osst 2007 osst 2007 osst 2006 000 0007 osst 2007 oss	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0	\$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0	\$0	\$0
Post 2007 Inspecified Virtage 3B Total Pre 2006 0006 0007 Virtage 3 Total Pre 2006 0006 0007 Virtage 3 Total Pre 2006 0007 Virtage 1 Total Pre 2006 0006 0007 Virtage 1 Total Virtage 1 Total Virtage 1 Total Virtage 1 Total Virtage 1 Total Virtage 1 Total Virtage 1 Total Virtage 1 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
Post 2007 Inspecified Vintage BB Total The 2006 2006 2007 2008 2007 2008 2007 2008 2008 2009 2009 2009 2009 2009 2009	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0	\$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0	\$0	\$0
Post 2007 Inspecified Virtage BB Total The 2006 0006 0007 Inspecified Virtage BT Total Pre 2006 0006 0007 Vost 2007 Vost 2007 Vost 2007 Vost 2007 Vost 2007 Vost 2007 Vost 2007 Vost 2007 Vost 2007 Vost 2007 Vost 2007 Vost 2007 Vost 2007 Vost 2006 0006 0007 Vost 2007 Vost 2007 Vost 2007 Vost 2007 Vost 2007 Vost 2008 Vost 2007 Vost 2008 Vost 2008 Vost 2008 Vost 2008 Vost 2008 Vost 2007 Vost 2007 Vost 2008 Vost 2008 Vost 2007 Vost 2007 Vost 2008	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0	\$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0	\$0	\$0
Post 2007 Inspecified Vintage BB Total Pre 2006 2007 Post 2007 Inspecified Vintage B Total Pre 2006 2007 Post 2007 Inspecified Vintage Pre 2006 2007 Post 2007 Inspecified Vintage Total Pre 2006 2007 Post 20	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0	\$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0	\$0	\$0
Post 2007 Inspecified Virtage BB Total Pre 2006 2006 2007 Post 2007 Inspecified Virtage B Total Pre 2006 2006 2007 Post 2007 P	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$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 Post 2007 Unspecified Vintage IBB Total Pre 2006 2007 Post 2007 Post 2007 Unspecified Vintage IB Total Pre 2006 2006 2007 Post 2007 Unspecified Vintage IT Total Pre 2006 2007 Post 2007 Unspecified Vintage IT Total Pre 2006 2007 Post 2007 Unspecified Vintage IT Total Pre 2006 2007 Post 2007 Unspecified Vintage IB Total Pre 2006 2007 Post 2007 Unspecified Vintage IR Total IR Total Pre 2006 2006 2007 Pre 2006 2006 2006 2007 Pre 2006 2006 2006 2006 2007	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
Post 2007 Inspecified Vintage BB Total The 2006 2006 2007 2008 2007 2008 2007 2008 2009 2009 2009 2009 2009 2009 2009	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

Trading and Other Fair Value Assets

Munis (Adverse)

Bonds AAA BBB BBB BBB BCB BCB BCB BC		MV (\$MM) Available-for-Sale Securities	MV (\$MM) Trading Securities	Profit/Loss from OAS Widening (AFS)	Profit/Loss from OAS Widening (Trading Secs)
## Part	Bonds	-			
ASB BB BB BB BB BB BB BB BB BB BB BB BB B					
BBB BB BB BB BB BB BB BB BB BB BB BB BB					
BB B B B B B B B B					
S					
SB Bonds Total SO SO SO SO SO SO SO S					
NR					
Bonds Total					
1M				4.5	
SM		\$0	\$0	\$0	\$0
GM SM SM SM SM SM SM SM					
9M					
1					
2Y 3YY 3YY 10Y 15Y 15Y 20Y Bonds Total SO SO SO SO SO SO SO SO SO SO SO SO SO					-
3Y 5YY 10Y 10Y 10Y 10Y 10Y 10Y 10Y 10Y 10Y 1					
SY 10					
TYY					1
10Y 115Y 20Y 20Y 20Y 20Y 20Y 20Y 20Y 20Y 20Y 20					
15Y 20Y 30Y	7Y				
20Y					1
Bonds Total					1
Bonds Total					<u> </u>
Loans AAA AA BBB BB BB BB CB CB NR Loans Total SO SO SO SO SO SO SO SO SO S					
AAA A A BBB BB BB BB BB BB BB BB BB BB B	Bonds Total	\$0	\$0	\$0	\$0
AAA A A BBB BB BB BB BB BB BB BB BB BB B					
AA A BBB BB BB BB BB BB BB BB BB BB BB B					
A BBB BB BB BB BB BB BB BB BB BB BB BB B	AAA				
BBB BB B B B B B B B B B B B B B B B B	AA				
BBB BB B B B B B B B B B B B B B B B B					
BB B B B B B B B B B B B B B B B B B B					
B					
Cloans Total					
NR					
Loans Total \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0					
1M 3M 6M 9M 11Y 2Y 33Y 10Y 15Y 20Y 10S CDS AAA A A BBB BB BB BB BB BB BB BB BB BB		\$0	\$0	\$0	\$0
SM SM SM SM SM SM SM SM	1M	45	40	- 45	40
SM SM SM SM SM SM SM SM					
9M 11Y 22Y 33Y 55Y 77Y 10Y 15Y 20Y 20Y Loans Total \$0 \$0 \$0 \$0 CDS AAA AA AA BBB BB BB BB BB BC CDS Total \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$					+
1Y					
2Y					+
3Y 5Y 7Y 10Y 15Y 20Y 30Y Loans Total \$0 \$0 \$0 CDS AAA A A BBBB BB BB BB BB BB CDS TOTAL TIM TOTAL TIM TOTAL TIM TOTAL TIM TOTAL TIM TOTAL TOT					+
SY 7Y 10Y 15Y 15Y 10A 10A					+
TYY 10Y 15Y 20Y 20Y 20Y 20S CDS AAA AA AA BBB BB BB BB BB BB BB BB BB					+
10Y 15Y 20Y 30Y Loans Total \$0 \$0 \$0 CDS AAA AA AA ABBB BB BB BR CDS Total \$0 \$0 \$0					+
15Y 20Y 30Y \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0					+
20Y 30Y Loans Total \$0 \$0 \$0 CDS AAA AA AA ABBB BB BB BC CDS Total \$0 \$0 SO \$0					
Loans Total					
Loans Total \$0					
CDS AAA AA A BBBB BB B CDS Total S0 S0 S0 S0 S0 S0 S0 S0 S0 S				•	
AAA AA BBBB BB BB CB NR CDS Total S0 S0 S0 S0 S0 S0 S0 S0 S0 S0 S0 S0 S0	Loans Total	\$0	\$0	\$0	\$0
AAA AA BBBB BB BB CB NR CDS Total S0 S0 S0 S0 S0 S0 S0 S0 S0 S0 S0 S0 S0					
AA A BBB BB BB BB B C CDS Total					
A BBB BB BB BB BB BB BB BB BB BB BB BB B					4
BBB BB BB BB BB BB BB BB BB BB BB BB BB					_
BB B C CDS Total SO SO SO SO SO SO SO SO SO SO SO SO SO					
B < B NR CDS Total \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0					
B < B NR CDS Total \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0					
<b nr<="" p=""> CDS Total \$0 \$	В				
NR CDS Total \$0 \$0 1M 3M 6M 9M 11Y 2Y 33Y 5Y 77Y 10Y 10Y 20Y 30Y					
CDS Total \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0	NR				
1M 3M 6M 9M 1Y 2Y 3Y 5Y 7Y 10Y 20Y 30Y	CDS Total	\$0	\$0	\$0	\$0
6M 9M 11Y 2Y 3Y 5Y 10Y 10Y 20Y					
6M 9M 11Y 2Y 3Y 5Y 10Y 10Y 20Y	3M				
1Y 2Y 3Y 5Y 7Y 10Y 20Y 30Y	6M				
1Y 2Y 3Y 5Y 7Y 10Y 20Y 30Y					
2Y 3Y 5Y 7Y 10Y 20Y 30Y					1
3Y 5Y 7Y 10Y 15Y 20Y					†
5Y 7Y 10Y 15Y 20Y 30Y	3Y				
7Y 10Y 15Y 20Y 30Y	5Y				
10Y 15Y 20Y 30Y	7				+
15Y 20Y 30Y					+
20Y 30Y					+
30Y	207				+
					+
50 \$0 \$0 \$0		\$0	\$0	\$0	\$ 0
	CDS LOTAL	ΦU	ΦU	\$U	⊅ U

Trading and Other Fair Value Assets

Munis (Adverse)

AAA AA BBB BBB BB B B AW AA AA BBB BB BB BB BB BB BB BB BB BB BB	Indices	_			
A					
BBB BB BB BB BB BB BB BB BB BB BB BB BB					
BB					
B					
Section Sect					
NIR					
Indices Total \$0					
SAM SO SO SO SO SO SO SO SO SO SO SO SO SO		\$0	\$0	\$0	\$0
Seminary Seminary	1M				
9M					
1					
2Y 3Y 5Y 7Y 10Y 115Y 20Y Indices Total					
SY SY SY SY SY SY SY SY					
SY					
TYY					
15Y 20Y 30Y					
20Y Indices Total \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	10Y				
Indices Total					
Indices Total					
Other / Unspecified Munis		#	60		
AAA A BBB BB BB BB BB BB BB BB BB BB BB	Other / Uneposition Munic	\$ 0	\$ 0	\$0	\$0
AA A BBB BB BB BB BB BB BB BB BB BB BB B		1	T	1	1
BBB BB					
BBB BB BB BB BB BB BB BB BB BB BB BB BB					
BB B					
B					
NR					
Other / Unspecified Munis Total \$0					
1M					
SM SM SM SM SM SM SM SM		\$0	\$0	\$0	\$0
SM					
9M					
1Y 2Y 3Y 5Y 7Y 10Y 115Y 20Y 30Y Other / Unspecified Munis Total \$0 \$0 \$0 Frand Total AAA \$0 \$0 \$0 \$0 AA \$0 \$0 \$0 BBB \$0 \$0 \$0 BB \$0 \$0 \$0 BB \$0 \$0 \$0 BB \$0 \$0 \$0 BB \$0 \$0 \$0 BB \$0 \$0 \$0 BB \$0 \$0 \$0 BB \$0 \$0 \$0 BB \$0 \$0 \$0 BB \$0 \$0 \$0 BB \$0 \$0 \$0 BB \$0 \$0 \$0 BB \$0 \$0 \$0 BB \$0 \$0 \$0 BB \$0 \$0 \$0 BB \$0 \$0 \$0 BB \$0 \$0 \$0 BB \$0 \$0 \$0 BD \$0 BD \$0 \$0 BD \$0 BD \$0 \$0 BD \$0 BD \$0 \$0 BD \$0 BD \$0 \$0 BD \$0					
SY SY SY SY SY SY SY SY					
SY SY SY SY SY SY SY SY					
TYY					
10Y					
15Y 20Y 30Y 50 \$0 \$0 \$0 \$0 \$0 \$0 \$0					
20Y 30Y					
Solid Soli					
Other / Unspecified Munis Total \$0 \$0 Grand Total \$0 \$0 AAA \$0 \$0 AA \$0 \$0 BBB \$0 \$0 BB \$0 \$0 \$0					
AAA		\$0	\$0	\$0	•0
AAA AAA AAA AAA AAA AAA AAA AAA AAA AA	Other / Orispecified Munis Total	40	φ0	40	\$0
AAA AAA AAA AAA AAA AAA AAA AAA AAA AA	Grand Total				
AA		\$0	\$0	\$0	\$0
SO					
SO					
SO		\$0	\$0	\$0	\$0
SO					
NR \$0 \$0 Grand Total \$0 \$0 1M \$0 \$0 3M \$0 \$0 6M \$0 \$0 9M \$0 \$0 1Y \$0 \$0 2Y \$0 \$0 3Y \$0 \$0 5Y \$0 \$0 5Y \$0 \$0 10Y \$0 \$0 10Y \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 <					
Grand Total \$0 \$0 1M \$0 \$0 3M \$0 \$0 6M \$0 \$0 9M \$0 \$0 9M \$0 \$0 1Y \$0 \$0 2Y \$0 \$0 3Y \$0 \$0 5Y \$0 \$0 5Y \$0 \$0 7Y \$0 \$0 10Y \$0 \$0 15Y \$0 \$0 20Y \$0 \$0 30Y \$0 \$0					
1M \$0<					
3M \$0<					
6M \$0 \$0 9M \$0 \$0 1Y \$0 \$0 2Y \$0 \$0 3Y \$0 \$0 5Y \$0 \$0 5Y \$0 \$0 5Y \$0 \$0 5Y \$0 \$0 5O \$0 \$0 5O \$0 \$0 10Y \$0 \$0 5O \$0 \$0 20Y \$0 \$0 30Y \$0 \$0					\$0
9M \$0 \$0 1Y \$0 \$0 2Y \$0 \$0 3Y \$0 \$0 5Y \$0 \$0 5Y \$0 \$0 5Y \$0 \$0 5Y \$0 \$0 5O \$0 \$0 5O \$0 \$0 10Y \$0 \$0 5O \$0 \$0 20Y \$0 \$0 30Y \$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 \$0 \$0 \$0 30Y \$0 \$0 \$0 \$0	9M	\$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 \$0 \$0 \$0 30Y \$0 \$0 \$0 \$0					
5Y \$0 \$0 \$0 \$0 7Y \$0 \$0 \$0 \$0 \$0 10Y \$0 \$0 \$0 \$0 \$0 15Y \$0 \$0 \$0 \$0 20Y \$0 \$0 \$0 \$0 30Y \$0 \$0 \$0 \$0				\$0	\$0
7Y \$0 \$0 \$0 \$0 10Y \$0 \$0 \$0 \$0 15Y \$0 \$0 \$0 \$0 20Y \$0 \$0 \$0 \$0 30Y \$0 \$0 \$0 \$0					
10Y \$0 \$0 \$0 \$0 15Y \$0 \$0 \$0 \$0 20Y \$0 \$0 \$0 \$0 30Y \$0 \$0 \$0 \$0					
15Y \$0 \$0 \$0 \$0 20Y \$0 \$0 \$0 \$0 \$0 \$0 30Y \$0 \$0 \$0 \$0 \$0 \$0 \$0					\$0
20Y \$0 \$0 \$0 \$0 30Y \$0 \$0 \$0 \$0					
30Y \$0 \$0 \$0 \$0					
		\$0			

Trading & Other Fair Value Assets Schedule

Agencies (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	1			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				
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 BBBB				
BB				
В				
S <b< td=""><td></td><td></td><td></td><td></td></b<>				
NR				

Income Statement (SEVERELY ADVERSE) (without re-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)		i i									
2 Management and guaranty fee income ¹		į									
3 Total net interest income											
		į									
4 Other income		<u> </u>									
5 Total revenue		ļ									
6 REO (foreclosed property expense)		į									
7 SOP 03-3 losses, net		<u> </u>									
8 Security impairments		į									
9 Operational risk losses		•									
10 Administrative expenses											
11 Other expenses		İ									
		<u> </u>									
12 Pre-provision net revenue		į									
13 (Provision) benefit for credit losses											
14 Derivatives gains (losses)		į									
15 Trading gains (losses)		į									
16 Other gains (losses)		¦									
17 Global market shock impact on trading securities		į									
18 Counterparty default losses		}									
· ·		į									
19 Pre-Tax income (loss)		<u> </u>									
20 Provision (benefit) for federal income taxes		į									
21 Extraordinary gains (losses), net of tax effect		<u> </u>									
21 Extraordinary gams (1055e5), her or tax effect		İ									
22 Net income (loss)											
		}									
23 Global market shock impact on available-for-sale securities		į									
24 Other comprehensive income		}									
25 Comprehensive income (loss)		<u> </u>									
20 00 mp. 0											

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

Income Statement (SEVERELY ADVERSE) (with re-establishing DTA)	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)		<u>.</u>									
 2 Management and guaranty fee income¹ 3 Total net interest income 											
3 Total net interest income		į									
4 Other income		į									
5 Total revenue											
6 REO (foreclosed property exp.)		į									
7 SOP 03-3 losses, net		į									
8 Security impairments		<u> </u>									
9 Operational risk losses		į									
10 Administrative expenses		}									
11 Other expenses		į									
12 Pre-provision net revenue		! ! !									
13 (Provision) benefit for credit losses		i i									
14 Derivatives gains (losses)		i i									
15 Trading gains (losses)		į									
16 Other gains (losses)		i i									
17 Global market shock impact on trading securities		<u>!</u> !									
18 Counterparty default losses		į									
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		į									
24 Other comprehensive income		i i									
25 Comprehensive income (loss)		i i									
, ,		•									

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

(\$s in millions) Balance Sheet (SEVERELY ADVERSE) (without re-establishing DTA)	Most Recent Quarter	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9
ASSETS 1 Cash and cash equivalents 2 Investments in securities 3 Available-for-sale, at fair value 4 Trading, at fair value 5 Mortgage loans, excluding loss allowance 6 Allowance for loan losses 7 Deferred tax assets, net of allowance 8 Other assets										
9 Total assets	į									
LIABILITIES 10 Short-term debt 11 Long-term debt 12 Debt of consolidated trusts/PCs 13 Guarantee fee obligation 14 Reserve for guaranty losses 15 Other liabilities 16 Total liabilities										
17 Minority interest	 									
CAPITAL 18 Senior preferred stock 19 Preferred stock 20 Common stock 21 Retained earnings (deficit) 22 Accumulated other comprehensive income (loss) 23 Treasury stock 24 Total stockholders' equity (deficit)										
25 Total capital (deficit)										
26 Total liabilities, minority interest and capital										

(\$s in millions) Balance Sheet (SEVERELY ADVERSE) (with re-establishing DTA)	Most Recent Quarter	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9
ASSETS 1 Cash and cash equivalents 2 Investments in securities 3 Available-for-sale, at fair value 4 Trading, at fair value 5 Mortgage loans, excluding loss allowance 6 Allowance for loan losses 7 Deferred tax assets, net of allowance 8 Other assets										
9 Total assets										
LIABILITIES 10 Short-term debt 11 Long-term debt 12 Debt of consolidated trusts/PCs 13 Guarantee fee obligation 14 Reserve for guaranty losses 15 Other liabilities 16 Total liabilities										
17 Minority interest	İ									
CAPITAL 18 Senior preferred stock 19 Preferred stock 20 Common stock 21 Retained earnings (deficit) 22 Accumulated other comprehensive income (loss) 23 Treasury stock 24 Total stockholders' equity (deficit)										
25 Total capital (deficit)										
26 Total liabilities, minority interest and capital										

Capital Roll Forward (SEVERELY ADVERSE (without re-establishing DTA)	Most Recent Quarter	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Nine Quarter Cumulative Total
CAPITAL											
Beginning capital Senior preferred Treasury draw (prior period)											
3 Net income											
4 Less: Dividends											
5 Other capital actions											
6 Change in AOCI											
7 Change in non-controlling/minority interest											
8 Other											
9 Ending capital											
10 Beginning PSPA funding commitment available											
11 Treasury draw required											
12 Remaining PSPA funding commitment available											

Capital Roll Forward (SEVERELY ADVERSE) (with re-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 4 Less: Dividends											
5 Other capital actions											
6 Change in AOCI											
7 Change in non-controlling/minority interest											
8 Other											
9 Ending capital											
10 Beginning PSPA funding commitment available											
11 Treasury draw required											
12 Remaining PSPA funding commitment available											

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

(\$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)
- 3 Asset-based Securities (ABS) and other collateral
- 4 Agency Securities Option-Adjusted Spread
- 5 Municipal Securities
- 6 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	
	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 Agency Securities Option-Adjusted Spread
- 5 Municipal Securities
- 6 Counterparty Default Risk*

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

- 7 Private Label Securities (PLS) or Non-Agency Prices for Residential Mortgage-backed Securities (RMBS)
- 8 Commercial Mortgage-backed Securities (CMBS)
- 9 Asset-based Securities (ABS) and other collateral
- 10 Agency Securities Option-Adjusted Spread
- 11 Municipal Securities

(*Credit ratings should be as of December 31, 2015)

		Non-				Unspec				RMBS			Prime	Non-Prime	,		
	Grand Total	Agency Prime	Sub- prime	Option ARMS	Other AltA	Non- Prime	HELOC	RMBS CDO	RMBS CDS	Credit Basket	PrimeX	ABX / TABX	Whole Loans	Whole Loans	European	Other / Unspecified	RI Sub
/* (\$MM) A Total	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
re 2006	\$0	\$0	30	\$ 0	30	\$ 0	\$0	\$0	3 0	30	30	\$ 0	30	\$ 0	\$0	\$ 0] :
006 007	\$0 \$0																:
ost 2007 ospecified Vintage	\$0 \$0																
Total	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	:
e 2006 106	\$0 \$0																-
07 ost 2007	\$0																
specified Vintage	\$0 \$0																:
otal	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
∋ 2006 06	\$0 \$0																:
07 st 2007	\$0 \$0																:
specified Vintage	\$0			L					L				L				
B Total e 2006	\$0 \$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	-
06 07	\$0 \$0																:
st 2007	\$0																
specified Vintage Total	\$0 \$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
e 2006	\$0														-	V -	
06 07	\$0 \$0																
st 2007 specified Vintage	\$0 \$0																:
otal	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
∋ 2006 06	\$0 \$0																:
07 st 2007	\$0 \$0																:
specified Vintage	\$0																
Total e 2006	\$0 \$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
06	\$0																
07 st 2007	\$0 \$0																
specified Vintage	\$0																:
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Investment Securities and Fair Value Trading Assets Securitized Products (Severely Adverse)

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

(*Credit ratings should be as of December 31, 2015)

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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								\$0 \$0			\$0 \$0			
2007	\$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	\$0								\$0								\$0			\$0			
Post 2007 Unspecified Vintage	\$0 \$0								\$0 \$0								\$0 \$0			\$0 \$0			
ATotal	\$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			
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	\$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	\$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			
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Pre 2006 2006	\$0 \$0								\$0 \$0								\$0 \$0			\$0 \$0			
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Unspecified Vintage	\$0								\$0								\$0			\$0			
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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
Unspecified Vintage Total Profit/Loss (\$MM)	\$0 \$0								\$0 \$0 \$0								\$0 \$0 \$0			\$0 \$0 \$0			
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Urspecified Vintage Total AAA Total Pre 2006 2006 2007 Urspecified Vintage AA Total Pre 2006 2007 Urspecified Vintage AT Total Pre 2006 2007 Post 2007 Urspecified Vintage BB Total Pre 2006 2006 2007 Urspecified Vintage BB Total Pre 2006 2006 2007 Urspecified Vintage BB Total Pre 2006 2007 Urspecified Vintage BB Total Pre 2006 2007 Urspecified Vintage BB Total Pre 2006 2007 Urspecified Vintage BB Total Pre 2006 2007 Post 2007 Urspecified Vintage BB Total Pre 2006 2007 Post 2007 Urspecified Vintage BT Total Pre 2006 2007 Post 2007 Urspecified Vintage B Total Pre 2006 2007 Post 2007 Urspecified Vintage B Total Pre 2006 2007 Post 2007 Urspecified Vintage B Total Pre 2006 2007 Post 2007 Urspecified Vintage B Total Pre 2006 2007 Post 2007 Urspecified Vintage 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	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0 \$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0 \$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0
Urspecified Vintage Total AAA Total Pre 2006 2006 2007 Urspecified Vintage AA Total Pre 2006 2007 Urspecified Vintage AT Total Pre 2006 2007 Post 2007 Urspecified Vintage BB Total Pre 2006 2006 2007 Urspecified Vintage BB Total Pre 2006 2006 2007 Urspecified Vintage BB Total Pre 2006 2007 Urspecified Vintage BB Total Pre 2006 2007 Urspecified Vintage BB Total Pre 2006 2007 Urspecified Vintage BB Total Pre 2006 2007 Urspecified Vintage BB Total Pre 2006 2007 Post 2007 Urspecified Vintage B Total Pre 2006 2007 Post 2007 Urspecified Vintage B Total Pre 2006 2007 Post 2007 Urspecified Vintage B Total Pre 2006 2007 Post 2007 Urspecified Vintage B Total Pre 2006 2007 Post 2007 Urspecified Vintage B Total Pre 2006 2007 Post 2007 Urspecified Vintage NR Total Pre 2006 2006 2007 Urspecified Vintage NR 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 \$0 \$0 \$0 \$0 \$	\$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0 \$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0 \$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0
Unspecified Vintage Total AAA Total Pre 2006 2006 2007 Post 2007 Unspecified Vintage AA Total Pre 2006 2006 2007 Post 2007 Unspecified Vintage ATotal Pre 2006 2006 2007 Post 2007 Unspecified Vintage ATotal 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 2006 2007 Post 2007 Unspecified Vintage B Total Pre 2006 2006 2007 Post 2007 Unspecified Vintage B 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 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	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0 \$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0 \$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0 \$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0
Unspecified Vintage Total AAATotal Pre 2006 2006 2007 Post 2007 Unspecified Vintage AT total Pre 2006 2006 2007 Post 2007 Unspecified Vintage AT total Pre 2006 2006 2007 Post 2007 Unspecified Vintage BB Total Pre 2006 2006 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 2006 2007 Post 2007 Unspecified Vintage B Total Pre 2006 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 NR Total 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 2007 Post 2006 Post 2006 Post 2006 Post 2006 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 \$0 \$	\$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0 \$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0 \$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$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)

	M∨ (\$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				-
ВВВ				-
BB				
В				1
<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
Bolius I Otal	\$0	40	\$0	\$0
Loans				
AAA				T
AA				+
AA				+
BBB				+
BB				-
В				-
<b< td=""><td></td><td></td><td></td><td>+</td></b<>				+
NR				+
Loans Total	\$0	\$0	\$0	\$0
1M		•	•	
3M				1
6M				
9M				
1Y				
2Y				
3Y				
5Y				
7Y				
10Y				
15Y				
20Y				
30Y				
Loans Total	\$0	\$0	\$0	\$0
CDS		4		
AAA				
AA				+
A				+
BBB				+
BB				+
B				+
<b NR</b 				+
CDS Total	\$0	\$0	\$0	\$0
1M	70		- 40	T
3M				†
6M				†
9M				1
1Y				1
2Y				
3Y				1
5Y				
7Y				1
10Y				1
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)
Indices			(12.0)	(Trading CCCS)
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				1
7Y	-			1
10Y	-			
15Y				
20Y				
30Y	\$ 0	**	#0	60
Indices Total	\$0	\$0	\$0	\$0
Other / Unspecified Munis	-		1	
AAA				
AA				
A				
BBB				
BB				
B_				
<b< td=""><td></td><td></td><td></td><td></td></b<>				
NR		***	20	
Other / Unspecified Munis Total	\$0	\$0	\$0	\$0
1M				
3M 6M			-	+
9M			-	+
1Y			<u> </u>	+
2Y			<u> </u>	+
3Y				+
5Y				+
7Y				+
10Y				+
15Y				+
20Y				+
30Y				+
Other / Unspecified Munis Total	\$0	\$0	\$0	\$0
Other / Orispecined Warns Total	40	40	40	\$6
Grand Total				
AAA	\$0	\$0	\$0	\$0
AA	\$0	\$0 \$0	\$0	\$0
A	\$0 \$0	\$0 \$0	\$0	\$0
BBB	\$0 \$0	\$0 \$0	\$0	\$0
BB	\$0 \$0	\$0 \$0	\$0	\$0
В	\$0 \$0	\$0 \$0	\$0	\$0
<b< td=""><td>\$O</td><td>\$0</td><td>\$0</td><td>\$0</td></b<>	\$O	\$0	\$0	\$0
NR NR	\$O	\$0 \$0	\$0	\$0
Grand Total	\$0	\$ 0	\$0	\$0
1M	\$0	\$0	\$0	\$0
3M	\$0	\$0	\$0	\$0
6M	\$0	\$0	\$0	\$0
9M	\$O	\$0 \$0	\$0	\$0
1Y	\$O	\$0 \$0	\$0	\$0
2Y	\$0	\$0	\$0	\$0
3Y	\$0	\$0	\$0	\$0
5Y	\$0	\$0 \$0	\$0	\$0
7Y	\$0	\$0 \$0	\$0	\$0
10Y	\$O	\$0 \$0	\$0	\$0
15Y	\$0	\$0 \$0	\$0	\$0
20Y	\$0	\$0	\$0	\$0
30Y	\$0	\$0 \$0	\$0	\$0
Grand Total	\$0	\$0	\$0	\$0 50 D

Trading & Other Fair Value Assets Schedule

Agencies (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)
US Residential Agency Produc	ets			
lOs				
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 Produ Cash Agency CMBS Agency CMBS Derivatives Commercial Other / Unspecified	icts			
Total	\$0	\$0	\$0	\$0
Non-US Agency Products				
AA				
A				
BBB				
ВВ				
В				
<b< td=""><td></td><td></td><td></td><td></td></b<>				
NR				
Total	\$0	\$0	\$0	\$0

Single-Family Credit Overview - Cumulative Results (SEVERELY ADVERSE)

				Credit Losses		Lo	an Loss Reser	ve
	(\$s in millions)	Provision for Credit Losses	Foreclosed Property Expense	Net Charge-offs	Total	Beginning	Ending	Change
1	Current Book (as of 12/31/15)							
2	New Business							
3	Total Portfolio							
	Memo:							
4	FAS 5 Loan Loss Reserve							
5	FAS114 Loan Loss Reserve							
6	Concessions in FAS 114 Loan Loss Reserve ⁽¹⁾							

 $^{(1) -} amount includes the impact of all troubled debt restructuring (TDR) \ related impairments. \\$

	Most Recent										Nine Quarter Cumulative
Single-Family Credit Overview - Quarterly (SEVERELY ADVERSE)	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(f)											
LOAN LOSS RESERVE (\$s in millions) Beginning loan loss reserve Net charge-offs Provison (benefit) for loan losses/guaranty losses Other In 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 14 Unpaid Principal Balance (\$s in millions)											
CURRENT BOOK (as of 12/31/15) 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**											
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)	ļ	İ									

^{(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
3 4 5 6 7	Seriously delinquent to payoff Ending Seriously Delinquent Loans										
	Ending seriously delinquent rate (%) Aggregate UPB of seriously delinquent loans (\$s in millions)										
10	Loan modifications (count in 000s)										
11 12 13 14 15 16 17 18 19 20	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

(\$s in millions)	End of Quarter Unpaid Principal Balance (UPB)											
Loan Status	Most Recent Quarter	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9		
MODIFIED LOANS 1 Current 2 Less than 90 days delinquent 3 Seriously delinquent (90 days or more delinquent or in the process of foreclosure) 4 Total												
NON-MODIFIED LOANS 5 Current 6 Less than 90 days delinquent 7 Seriously delinquent (90 days or more delinquent or in the process of foreclosure) 8 Total												

(\$s in millions)						Loan Loss	Reserve				
	Loan Status	Most Recent Quarter	Q1	Q2	Q3	Q4	Q 5	Q6	Q7	Q8	Q9
MODIFIED LO. 9 Current 10 Less than 90 da 11 Seriously delino											
NON-MODIFIE 13 Current 14 Less than 90 da 15 Seriously delino 16 Total											

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 1 <=80% 2 >80% - 100% 3 >100% 4 Total	Most Recent Quarter	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	

(\$s in millions)		Loan Loss Reserve											
Loan Status	Most Recent Quarter	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9			
5 <=80% 6 >80% - 100% 7 >100% 8 Total													

Single-Family Credit Summary (SEVERELY ADVERSE)

Vintage Status - CURRENT BOOK

(\$s in millions)				End of Qu	arter Unpaid	Principal Bala	nce (UPB)			
Loan Status	Most Recent Quarter	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9
1 2004 and prior										
2 2005	į									
3 2006	}									
4 2007	İ									
5 2008	į									
6 2009										
7 2010	į									
8 2011	!									
9 2012	<u> </u>									
0 2013	į									
1 2014	}									
2 2015	}									

(\$s in millions)					Loan Loss	s Reserve				
Loan Status	Most Recent Quarter	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9
13 2004 and prior 14 2005 15 2006 16 2007 17 2008 18 2009 19 2010 20 2011 21 2012 22 2013 23 2014										

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

s in millions)					End of Quarter	Unpaid Principal E	Balance (UPB)			
	•	Most Recent		Cumulative	Cumulative			Migrate to	Migrate to 80% -	Migrate to
Loan Status at	12/31/15	Quarter	Q9	Defaults ¹	Prepays ²	Run-off ³	Other⁴	<=80%	100%	>100%
	<=80%									
2004 and prior	80% - 100%									
	>100%									
	<=80%									
2005 - 2008	80% - 100%									
	>100%									
	<=80%									
2009 and Later	80% - 100%									
	>100%									

\$s in millions)			I	oan Loss Reserves		
			Cumulative	Provision for		
Loan Status a	t 12/31/15	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
 4 - amount includes NPL sales and other miscellaneous items

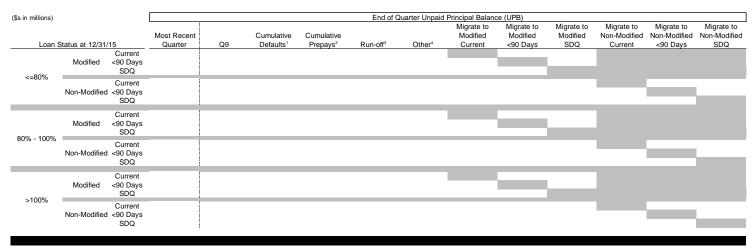
Single-Family Credit Summary (SEVERELY ADVERSE) Vintage and Delinquency Status - CURRENT BOOK

(\$s in millions)							End of C	uarter Unpaid	Principal Balanc	e (UPB)				
			Most Recent		Cumulative	Cumulative			Migrate to Modified	Migrate to Modified	Migrate to Modified	Migrate to Non-Modified		
Loan S	tatus at 12/31/1	5	Quarter	Q9	Defaults ¹	Prepays ²	Run-off ³	Other⁴	Current	<90 Days	SDQ	Current	<90 Days	SDQ
2004 and prior		Current <90 Days SDQ												
	Non-Modified	Current <90 Days SDQ												
2005 - 2008	Modified	Current <90 Days SDQ												
2000 2000	Non-Modified	Current <90 Days SDQ												
2009 and Later		Current <90 Days SDQ												
2009 and Later	Non-Modified	Current <90 Days SDQ												

(\$s in millions)				Lo	oan Loss Reserves	3	
					Provision		
				Cumulative	for		
Loan S	tatus at 12/31/	15	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		Current					
	Non-Modified						

Single-Family Credit Summary (SEVERELY ADVERSE)

MTMLTV and Delinquency Status - CURRENT BOOK



(\$s in millions)				Lo	oan Loss Reserve	S	
				Cumulative	Provision for		
Loan S	Status at 12/31/	15	Beginning	Charge-offs	Credit Losses	Other	Ending
<=80%	Modified	Current <90 Days SDQ		<u> </u>			
<=00%	Non-Modified	Current <90 Days SDQ					
80% - 100%	Modified	Current <90 Days SDQ					
80% - 100%	Non-Modified	Current <90 Days SDQ					
- 4000/	Modified	Current <90 Days SDQ					
>100%	Non-Modified	Current <90 Days SDQ					

amount depicts principal balance of loans that are in the process of foreclosure
 amount depicts principal balance of loans that have prepaid through refinance
 a amount depicts reduction in principal balance due to amortization
 amount depicts reduction in principal balance due to amortization
 amount depicts reduction in principal balance sitems

Single-Family Credit Summary (SEVERELY ADVERSE)

Mark-to-Market Loan to Value - CURRENT BOOK

(\$s in millions)		End of Quarter Projected Charge-Offs (Undiscounted \$s)											
_	Loan Status	Most Recent Quarter	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Nine Quarter Cumulative Total	
1 2 3	<=80% >80% - 100% >100%												

Single-Family Credit Summary (SEVERELY ADVERSE)

Vir	ntage Table - CURRENT BOOK												
(\$s	(\$s in millions)		End of Quarter Projected Charge-Offs (Undiscounted \$s)										
	Loan Status	Most Recent Quarter	Q1	Q2	Q3	Q4	Q 5	Q6	Q 7	Q8	Q9	Nine Quarter Cumulative Total	
1 2 3 4 5 6 7 8 9 10 11	2004 and prior 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015												

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

Cumulative Projected Financial Metrics (Q1 2016 - Q1 2018)

(\$s in billions)

Results without re-establishing valuation allowance on deferred tax assets

valuation allowance on deferred tax assets

Results with Impact of re-establishing re-establishing valuation allowance on deferred tax assets

- Pre-provision net revenue¹
- (Provision) benefit for credit losses 2
- Mark-to-market gains (losses)²
- Global market shock impact on trading securities and counterparty
- Net income before taxes
- (Provision) benefit for taxes
- Other comprehensive income (loss)³
- Total comprehensive income (loss)
- Dividends paid
- 10 PSPA funding commitment as of December 31, 2015
- 11 Treasury draws required
- 12 Remaining PSPA funding commitment
- 13 Credit losses⁴
- 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.
 - 3. Includes global market shock impact on available -for-sale securities
 - 4. Credit losses are defined as charge-offs, net plus foreclosed property expenses

Appendix 3: FHFA DFA Reporting Schedules - FHLBanks

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Scenario Schedule Cover Sheet 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:							
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

Variable Number								
Variable Number Variable Name Variable Definition 1 2 3 4 5 5 Adverse Scenario (additional variables used beyond those supplied) Variable Number Variable Name Variable Definition Severely Adverse Scenario (additional variables used beyond those supplied) Variable Number Variable Name Variable Definition 1 2								
Variable Number								
Number	Variable Name	Variable Definition						
1								
2								
3								
4								
5								
Variable Number Variable Name Variable Definition 1 2 3 4 5 5 Adverse Scenario (additional variables used beyond those supplied) Variable Number Variable Name Variable Definition Severely Adverse Scenario (additional variables used beyond those supplied) Variable Number Variable Name Variable Definition 1 2 3 3 4 5 5								
Variable								
Number	Variable Name	Variable Definition						
1								
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<i>3</i>								
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	Severely Adverse Scenario (addition	al variables used beyond those supplied)						
Variable	-							
	Variable Name	Variable Definition						
Variable Number Variable Name Variable Definition 1 2 3 4 5 Adverse Scenario (additional variables used beyond those supplied) Variable Number Variable Name Variable Definition 1 2 3 4 5 Severely Adverse Scenario (additional variables used beyond those supplied) Variable Number Variable Name Variable Definition 1 2 3								
_								
-								

Baseline

Spread Assumptions

Spread to Benchmark

		Actual					Projected				
Category	Benchmark	4Q 2015	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 2015	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9

Forward Curve

	Actual				F	rojected				
Maturity	4Q 2015	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q 9
3-Month Treasury	0.1	0.4	0.6	0.9	1.0	1.3	1.5	1.9	2.2	2.4
6-Month										
1 year										
2 year										
5 year Treasury	1.6	1.8	2.0	2.2	2.4	2.6	2.7	2.9	3.0	3.1
10 year Treasury	2.2	2.4	2.6	2.7	2.9	3.0	3.1	3.3	3.4	3.5
15 year										
30 year										

House Price Index

 $(NOTE: For printing \ purposes \ dates \ only \ goes \ to \ Oct-16. \ However, \ the \ underlying \ excel \ spreadsheet \ collects \ 30 \ years \ of \ data.)$

Actual Region 4Q 2015 Jan-16						Projected					-
Region	4Q 2015	Jan-16	Feb-16	Mar-16	Apr-16	May-16	Jun-16	Jul-16	Aug-16	Sep-16	Oct-16

Region 1

Region 2

Adverse

Spread Assumptions

Spread to Benchmark

		Actual					Projected				
Category	Benchmark	4Q 2015	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9
5 and Alam	2.14	40.0	40.0	40.0	40.0	45.0	45.0	45.0	45.0	45.0	45.0
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 able Name 4Q 2015 Q1						Projected				
Variable Nam	e	4Q 2015	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9

Forward Curve

Actual **Projected** 4Q 2015 Maturity Q1 Q2 Q3 Q4 Q5 Q6 Q7 Q8 Q9 3-Month Treasury 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1 6-Month 1 year 2 year 0.5 0.7 1.8 5 year Treasury 1.6 0.8 1.0 1.2 1.3 1.5 1.6 10 year Treasury 2.2 1.3 1.4 1.5 1.7 1.8 1.9 2.2 2.3 2.4 15 year 30 year

House Price Index

 $(NOTE: For \ printing \ purposes \ dates \ only \ goes \ to \ Oct-16. \ However, \ the \ underlying \ excel \ spreadsheet \ collects \ 30 \ years \ of \ data.)$

200	Projected							350	200		
Region	4Q 2015	Jan-16	Feb-16	Mar-16	Apr-16	May-16	Jun-16	Jul-16	Aug-16	Sep-16	Oct-16

Region 1

Region 2

78 | Page

Severely Adverse

Spread Assumptions

Spread to Benchmark

	_	Actual					Projectea				
Category	Benchmark	4Q 2015	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

í		Actual				P	rojected				
	Variable Name	4Q 2015	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9

Forward Curve

	Actual				Pr	ojected				
Maturity	4Q 2015	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9
3-Month Treasury	0.1	0.0	-0.2	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5
6-Month										
1 year										
2 year										
5 year Treasury	1.6	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.3
10 year Treasury	2.2	0.2	0.4	0.4	0.6	0.7	0.8	1.0	1.1	1.2
15 year										
30 year										

House Price Index

 $(NOTE: For \ printing \ purposes \ dates \ only \ go \ to \ Oct-16. \ However, the \ underlying \ excel \ spreadsheet \ collects \ 30 \ years \ of \ data.)$

	Actual				P	rojected					
Region	40 2015	lan-16	Feb-16	Mar-16	Apr-16	May-16	lun-16	Iul-16	Διισ-16	Sen-16	Oct-16

Region 1

Region 2

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Income Statement - Aggregate (BASE)	Most Recent									
	Quarter	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9
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Most Recent Income Statement - Existing (BASE) Quarter Q4 Q5 Q6 Q7 Q8 Q9 Q1 Q2 Q3 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: 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 Income Statement - Replacement (BASE) Quarter Q1 Q2 Q3 Q4 Q5 Q6 Q7 Q8 Q9 Interest Income: Advances 2 Whole loans held for portfolio Investment Securities Fed Funds Other Interest Income Total Interest Income Interest Expense: 7 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 expenses 21 Other expenses

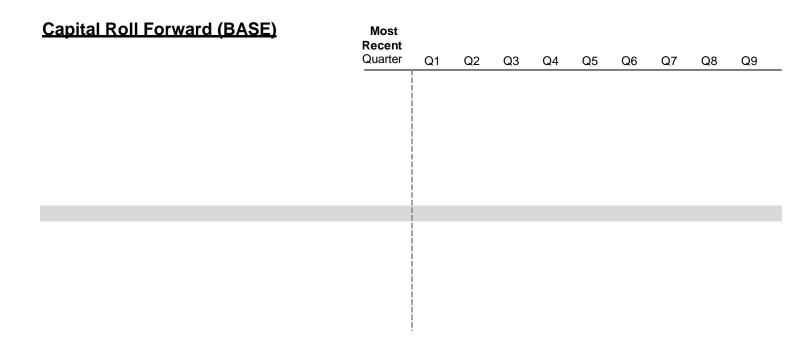
22 Income (loss) before assessments

23 Total assessments
24 Net Income (Loss)

<u>Bala</u>	ance Sheet - Aggregate (BASE)	Most Recent Quarter	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9
2 II 3 N 4 5 F 6 C	Advances nvestment Securities Mortgage Loans Allowance for loan losses Fed Funds Other assets										
7	Total assets										
8 C 9 C 10 N	LITIES CO bonds Discount notes Member deposits Other liabilities Total liabilities										
CAPI	TAL										
13 C 14 C 15 C 16 F 17 F	Class B capital stock Class A capital stock Capital stock pre-conversion Retained earnings (unrestricted) Retained earnings (restricted) Accumulated other comprehensive income (loss) Total capital										
20 T	Total liabilities and capital										

Most Recent **Balance Sheet - Existing (BASE)** 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 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									
Ba	lance Sheet - Replacement (BASE)	Quarter	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9
	NETO.	1									
	SETS	į									
	Advances	į									
	Investment Securities	į									
3	Mortgage Loans	i									
4	Allowance for loan losses	į									
0.23	Fed Funds	į									
A 212	Other assets	i									
7	Total assets	i									
LIA	BILITIES	į									
	CO bonds	- 1									
9	Discount notes	1									
10	Member deposits										
11	Other liabilities	- 1									
12	Total liabilities										
CAF	PITAL	į									
	Class B capital stock										
	Class A capital stock	1									
15		į									
	Retained earnings (unrestricted)	į									
17	Retained earnings (restricted)	į									
	Accumulated other comprehensive income (loss)	į									
19	Total capital	į.									
-											
20	Total liabilities and capital	l									



	Credit (BASE)	Most Recent Quarter	Q1	02	03	Q4	Q5	06	Q 7	00	00
	Credit (BASL)	Quarter	Qı	Q2	Q3	Q4	Qo	Q6	Q1	Q8	Q9
1	CREDIT EXPENSES Provision for credit losses										
	PLS CREDIT QUALITY										
2	Principal										
3	Principal writedown										
4	Balance										
5	Creditsupport										
	COUNTERPARTYCREDIT										
6	Net Exposure										
7	Secured Credit										
8	Unsecured Credit										
9	Unsecured derivative counterparty exposure										
10	Payment from private mortgage insurers										

Income Statement - Aggregate (ADVERSE)	Most Recent Quarter	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q 9
			- QL	<u> Q</u> 0	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	

Income Statement - Existing (ADVERSE)	Recent									
	Quarter	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9
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	Most Recent									
Income Statement - Replacement (ADVERSE)	Quarter	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9
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Balance Sheet-Aggregate (ADVERSE)	Recent									
	Quarter	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9
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Most Recent Balance Sheet - Existing (ADVERSE) Quarter Q1 Q8 Q2 Q3 Q4 Q5 Q6 Q7 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 - Replacement (ADVERSE)	Most Recent									
	Quarter	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9
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Capital Roll Forward (ADVERSE)	Most Recent Quarter	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9

	Credit (ADVERSE)	Most Recent Quarter	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9
4	CREDIT EXPENSES Provision for credit losses										
,		į									
2	PLS CREDIT QUALITY Principal	į									
3 4	Principal writedown Balance	I I									
5	Credit support										
	COUNTERPARTY CREDIT	!									
6		1									
8	Unsecured derivative counterparty exposure Payment from private mortgage insurers	I									

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:

Counterparty Name	Counterparty Type
-------------------	-------------------

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, 2015)

March Marc	Credit ratings should be	as of Dece	mber 31, 2	2015)						(2.0								
Martin											RMBS					_		
MATCHAN 19								HELOC				PrimeX						
The Section 19 10 10 10 10 10 10 10 10 10 10 10 10 10		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
SOOT WELL AND STATE OF THE STAT	Pre 2006	\$0			"													\$0
Company	2007	\$0																\$0
Second Second																		
Section Sect	AA Total		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Pro- 1985	2006	\$0																\$0
Unspecified Vision 160																		
Product Section Sect	,																	
Page Page			\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0 	\$0	\$0	\$0	\$0	\$0	\$0	\$0 	
Fig. 2007 Fig. 2007																		
March Marc	Post 2007	\$0																\$0
Program Sept			\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
STORY STOR	Pre 2006	\$0	4 0		ļ.,		-		4 0					1				\$0
Marganetin Marga Sept	2007	\$0																\$0
March 19																		
SOOR SO	BB Total		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
SOFT SOFT																		
Unspecial Virlage 15 15 15 15 15 15 15 15																		\$0
Pro2000 2007 2010 2010 2010 2010 2010 2010																		
900 90 90 90 90 90 90 90	B Total Pre 2006		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Pace 1907 Pace 1907	2006	\$0																\$0
48 Total Pro 2006 Pro 2007 Pro 2006 Pro 2006 Pro 2006 Pro 2006 Pro 2006 Pro 2006 Pro 2007 Pro 2006 Pro 2007 Pro 2006 Pro 2007 Pro 2006 Pro 2007 Pro 2007 Pro 2006 Pro 2007 Pro 2006 Pro 2007 Pro 2006 Pro 2007 Pro	Post 2007	\$0																\$0
Pre 2006			**	**	***		•••	**	**	***	.		**		***			
2007 50 50 50 50 50 50 50	Pre 2006	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Unspecified Virtuge So So So So So So So S																		
NR Total Pre 2006 Pre																		
2006 2007 2008	NR Total		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
2007 Post 2007 P																		
Despective of Windows 10 10 10 10 10 10 10 1	2007	\$0																\$0
Profit/Loss (\$MM) AAA Troial SD SD SD SD SD SD SD SD SD S																		
AMA Total	Total	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Pre 2006 So	Profit/Loss (\$MM)								-						-			
Solid Soli	Pre 2006	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0 	\$0	\$0
Post 2007 March																		
AAT Total Pre 2006	Post 2007	\$0																\$0
Pre 2006 2007 200			\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Solid Soli	Pre 2006	\$0																\$0
Unspecified Viritage A foral A foral A foral S	2007	\$0																\$0
Pre 2006 So																		\$0 \$0
2006 50	ATotal		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Post 2007 Post	2006	\$0																\$0
See See																		
Pre 2006 So So So So So So So S																		
So			\$0	\$0	\$0	\$0 	<u>\$0</u>	\$0	<u>\$0</u>	\$0	\$0 	\$0 	\$0 	<u>\$0</u>	<u>\$0</u>	\$0 	\$0 	
Post 2007 Post															<u> </u>			
SO SO SO SO SO SO SO SO	Post 2007	\$0																\$0
Pre 2006 2007 2007 2007 2007 2007 2007 2007			\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
2007	Pre 2006	\$0					-									1		\$0
Unspecified Vintage S0	2007	\$0																\$0
B Total Pre 2006 2006 2007 Post 2007 S0 S0 S0 S0 S0 S0 S0 S0 S0 S0 S0 S0 S0					<u> </u>													\$0 \$0
2006 2007 2007 2007 2007 2007 2008 2008 2008	B Total	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2007 S0	2006	\$0												\perp				\$0
Unspecified Vintage																		\$0
Pre 2006 2006 50 50 50 50 50 50 50 50 50 50 50 50 50		\$0												1		İ	İ	
2006 2007 Post 2007 Unspecified Vintage \$0	<b 2006<="" pre="" td="" total=""><td></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></td>		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Post 2007 Unspecified Vintage	2006	\$0																\$0
NR Total Pre 2006 2006 2007 Post 2007 Unspecified Vintage	Post 2007	\$0																\$0
Pre 2006 \$0 <														1				
2006 \$0 \$	Pre 2006	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Post 2007 Unspecified Vintage	2006	\$0													1			\$0
	Post 2007	\$0																\$0
	Unspecified Vintage Total		\$0	\$0	\$0	I \$0	\$0	\$0.	\$0	\$0.	£0.	<u> </u>	l ¢o	F0.	<u> </u>	£0.	\$0	

(*Credit ratings should be as of December 31, 2015)

İ		mber 31,				ABS								CMBS				Co	rporate CDO	/CLO		Warehouse	9
							Index			Cash Non									.,	Corporate			
	Grand Total	Autos	Credit Cards	Student Loans	ABS CDS	Credit Basket	Tranche	Other / Unspecified	ABS SubTotal	Agency CMBS		CMBS CDO	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	\$0								\$0								\$0			\$0			
Unspecified Vintage 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 \$0	\$0	\$0	\$0
Pre 2006	\$0	-			-			Ψ0	\$0	-		"	40		-		\$0		-	\$0	40	-	
2006 2007	\$0 \$0								\$0 \$0								\$0 \$0			\$0 \$0			
Post 2007 Unspecified Vintage	\$0 \$0								\$0 \$0								\$0 \$0			\$0 \$0			
ATotal	\$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			
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 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	\$0	ψU	\$0	\$0	\$0	\$0	\$0	ŞU	\$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						-1		\$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	\$0								\$0								\$0			\$0			
2007 Post 2007	\$0 \$0								\$0 \$0								\$0 \$0			\$0 \$0			
Unspecified Vintage	\$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			
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
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								\$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			
Unspecified Vintage ATotal	\$0 \$0	\$0	\$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	-			-			40	\$0	••			40		-		\$0	-	-	\$0	40	-	
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		L	\$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 B Total	\$0 \$0	**	•••	•••	•••	**	er.	**	\$0 \$0	en.	•••	L	**	- 60	**	60	\$0 \$0	en.		\$0 \$0	**	60	\$0
Pre 2006	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$ U
2006 2007	\$0 \$0					L			\$0 \$0					<u> </u>			\$0 \$0			\$0 \$0			
Post 2007 Unspecified Vintage	\$0 \$0								\$0 \$0								\$0 \$0		<u> </u>	\$0 \$0			
<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><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	\$0	\$0	\$0	\$0	\$0	\$0
Pre 2006 2006	\$0 \$0								\$0 \$0								\$0 \$0			\$0 \$0			
2007	\$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			
Total	\$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)

	M∨ (\$MM)	MV (\$MM)	Profit/Loss	Profit/Loss
	Available-for-Sale	Trading	from OAS	from OAS
	Securities	Securities	Widening	Widening
	33333	0000	(AFS)	(Trading Secs)
Bonds	_			
AAA				
AA				
A				
BBB				
BB				
В_				
<b< td=""><td></td><td></td><td></td><td></td></b<>				
NR Banda Tatal	*	¢0	\$ 0	60
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	_			
AAA				
AA				
Α				
BBB				
BB				
В				
<b< td=""><td> </td><td></td><td></td><td></td></b<>	 			
NR	60	* C	*	# 2
Loans Total 1M	\$0	\$0	\$0	\$0
3M	+			
6M	+			
9M	+			1
1Y				+
2Y	 			1
3Y				
5Y				1
7Y				
10Y				
15Y				
20Y				
30Y				
Loans Total	\$0	\$0	\$0	\$0
CDS				
AAA		<u></u>		
AA				
Α				
ВВВ				ļ
ВВ				
В				
<b< td=""><td> </td><td></td><td></td><td>1</td></b<>				1
NR CDS Tatal	60	* C	* 2	60
CDS Total	\$0	\$0	\$0	\$0
3M	+			
6M	+			1
9M				1
1Y				
2Y				
3Y				
5Y				+
7Y	 			1
10Y				1
15Y				1
20Y				
30Y				
CDS Total	\$0	\$0	\$0	\$0

Trading and Other Fair Value Assets

Munis (Adverse)

	BAN ((CRABA)	BAN/ (Profit/Loss	Profit/Loss
	MV (\$MM) Available-for-Sale	MV (\$MM) Trading	from OAS	from OAS
	Securities	Securities	Widening	Widening
	0000111100	0000	(AFS)	(Trading Secs)
Indices				,
AAA				<u> </u>
AA				
A				
BBB BB	+			
B				
<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		T -	40	
AAA				
AA				
A				
BBB				
ВВ				
В				
<b< td=""><td></td><td></td><td></td><td></td></b<>				
NR				
Other / Unspecified Munis Total	\$0	\$0	\$0	\$0
1M				<u> </u>
3M				
6M				
9M 1Y				
2Y				+
3Y				+
5Y				
7Y				
10Y				
15Y				
20Y				
30Y				
Other / Unspecified Munis Total	\$0	\$0	\$0	\$0
			·	·
Grand Total	-			
AAA	\$0	\$0	<u>\$0</u>	\$0
AA	\$0	\$0	\$0	\$0
A	\$0	\$0	\$0	\$0
BBB	\$0 \$0	\$0	\$0	\$0
BB	\$0 \$0	\$0	\$0	\$0
B <b< td=""><td>\$0 \$0</td><td>\$0 \$0</td><td>\$0 \$0</td><td>\$0</td></b<>	\$0 \$0	\$0 \$0	\$0 \$0	\$0
<b NR</b 	\$0 \$0	\$0 \$0	\$0 \$0	\$0 \$0
Grand Total	\$ 0	\$ 0	\$0 \$0	\$0 \$0
1M	\$0	\$0	\$0	\$0
3M	\$0	\$0	\$0	\$0
6M	\$0	\$0	\$O	\$0
9M	\$0	\$0	\$ 0	\$0
1Y	\$0	\$0	\$O	\$0
2Y	\$0	\$0	\$O	\$0
3Y	\$0	\$0	\$O	\$0
5Y	\$ 0	\$0	\$O	\$0
7Y	\$0	\$0	\$0	\$0
10Y	\$0	\$ 0	\$ 0	\$0
15Y	\$0	\$0	<u>\$0</u>	\$0
		\$ 0	\$ 0	\$0
20Y	\$0			
30Y Grand Total	\$0 \$0 \$0	\$0 \$0	\$0 \$0	\$0 \$0

Trading & Other Fair Value Assets Schedule

Agencies (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				,
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				1
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

Most Recent Income Statement-Aggregate (SEVERELY ADVERSE) Quarter Q7 Q9 Q1 Q2 Q3 Q4 Q5 Q6 Q8 Interest Income: 1 Advances Whole loans held for portfolio 3 Investment Securities 4 Fed Funds Other Interest Income 6 Total Interest Income 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 Income Statement - Existing (SEVERELY ADVERSE) Quarter Q1 Q2 Q3 Q4 Q5 Q6 Q7 Q8 Q9 Interest Income: Advances 2 Whole loans held for portfolio 3 Investment Securities 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 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)

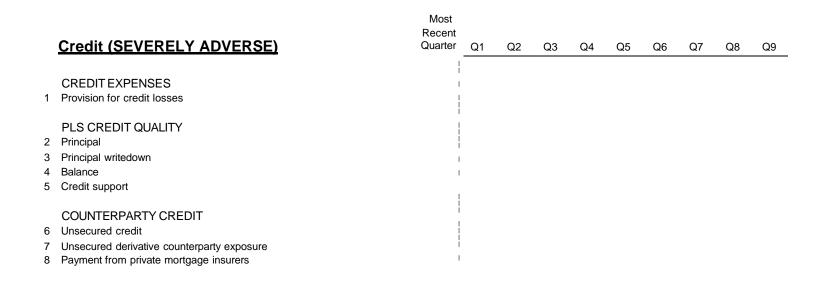
Income Statement - Replacement (SEVERELY ADVERSE)	Most Recent Quarter	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9
		1								

Balance Sheet-Aggregate (SEVERELY ADVERSE)	Most Recent Quarter	Q1	Q2	Q3	Q4	Q 5	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										
	!									

Balance Sheet - Existing (SEVERELY ADVERSE)	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										

Balance Sheet - Replacement (SEVERELY ADVERSE)	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										
		i								

<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	i 									
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, 2015)

										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
MM) al	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
D6	\$0	\$U	\$U	\$U	\$U	\$ U	\$ 0	ΨU	\$U	\$U	φU	\$U	φU	\$0	\$0	\$ 0
	\$0 \$0															
007 cified Vintage	\$0 \$0															
l	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
06	\$0						1				1					
	\$0 \$0															
007	\$0															
cified Vintage	\$0	60	60	¢0	¢0	**	60	¢0	* 0	**	**	÷0	**	ŧ0	**	ro.
06	\$0 \$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
	\$0 \$0															
007	\$0															
cified Vintage	\$0			l					L	<u> </u>		l .				l
otal 06	\$0 \$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
	\$0															
007	\$0 \$0															
cified Vintage	\$0															
al 06	\$0 \$0	\$0	\$0	\$0 	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
	\$0															
007	\$0 \$0															
cified Vintage	\$0															
06	\$0 \$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
30	\$0															
007	\$0 \$0															
cified Vintage	\$0															
i l 06	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
06	\$0 \$0															
007	\$0 \$0															
cified Vintage	\$0															
al	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
06	\$0 \$0															
				l .			l .									
207	\$0 \$0															
007 cified Vintage	\$0 \$0 \$0															
	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
cified Vintage	\$0 \$0 \$0															
cified 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
cified Vintage	\$0 \$0 \$0 \$0 \$0 \$0 \$0															
cified Vintage	\$0 \$0 \$0 \$0															
coss (\$MM) al 06 007 cified 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
.oss (\$MM) al D06 007 cified Vintage	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$															
coss (\$MM) al 06 007 cified 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
.oss (\$MM) al D06 007 cified 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
.oss (\$MM) al 0007 cified 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
coss (\$MM) al obs obs obs obs obs obs obs obs obs obs	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0	\$0	\$0	\$0	\$0 	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
.oss (\$MM) al 006 007 iffied Vintage 1 006	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0	\$0	\$0	\$0 \$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
coss (\$MM) al obs obs obs obs obs obs obs obs obs obs	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0	\$0	\$0	\$0 \$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
oss (\$MM) al D06 D07 ciffied Vintage I D06 D07 ciffied Vintage D06 D07 ciffied Vintage D06 D07 ciffied 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
ooss (\$MM) al al al al al al al al al al al al 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
oss (\$MM) al D06 D07 ciffied Vintage I D06 D07 ciffied Vintage D06 D07 ciffied Vintage D06 D07 ciffied 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
ooss (\$MM) al be corrected vintage l l corrected vintage l correct	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0	\$0	\$0 \$0 \$0	\$0	\$0 \$0 \$0	\$0 \$0 \$0 \$0	\$0 \$0 \$0	\$0 \$0 \$0	\$0	\$0	\$0 \$0 \$0	\$0 \$0 \$0	\$0	\$0	\$0
ooss (\$MM) al al al al al al al al al al al al 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
ooss (\$MM) al be corrected vintage l l corrected vintage l corrected vintage correct	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0	\$0	\$0 \$0 \$0	\$0	\$0 \$0 \$0	\$0 \$0 \$0 \$0	\$0 \$0 \$0	\$0 \$0 \$0	\$0	\$0	\$0 \$0 \$0	\$0 \$0 \$0	\$0	\$0	\$0
ooss (\$MM) all all all all all all all all all 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 \$0 \$0 \$0	\$0 \$0 \$0 \$0
oss (\$MM) all black coss (\$MM) all c	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0
ooss (\$MM) al be corrected vintage l l corrected vintage l corrected vintage correct	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0
coss (\$MM) all coss (\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0
ooss (\$MM) al 06 007 ciffed Vintage 1 06 007 ciffed Vintage 06 007 ciffied Vintage 06 007 ciffied Vintage 06 007 ciffied Vintage 06 007 ciffied Vintage 06 007 ciffied 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
ooss (\$MM) al booss (\$MM) al composition of the com	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0
ooss (\$MM) al obs 007 ciffied Vintage 1 006 007 ciffied Vintage 006 007 ciffied Vintage 006 007 ciffied Vintage 006 007 ciffied Vintage 006 007 ciffied Vintage 007 ciffied Vintage 007 ciffied Vintage 007 ciffied 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
ooss (\$MM) al booss (\$MM) al composition of the com	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0
coss (\$MM) all loss (\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0
ooss (\$MM) al obs 007 ciffied Vintage 1 006 007 ciffied Vintage 006 007 ciffied Vintage 010 007 ciffied Vintage 010 007 ciffied Vintage 010 007 ciffied Vintage 010 007 ciffied Vintage 010 007 ciffied Vintage 010 007 ciffied Vintage 010 010 010 010 010 010 010 010 010 01	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0
cified Vintage coss (\$MM) all coss (\$MM) all coss (\$MM) coss	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0
cified Vintage coss (\$MM) al coss (\$MM) al coss (\$MM) coss (\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0 \$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0
cified Vintage coss (\$MM) all coss (\$MM) all coss (\$MM) coss	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0
coss (\$MM) coss (\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$0 \$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0

(*Credit ratings should be as of December 31, 2015)

(*Credit ratings should be	as of Decer	nber 31,	2015)						(DISC	.oou.		/											
						ABS							(CMBS				Co	orporate CDO			Warehous	е
	Grand			Student		Credit		Other /	ABS	Cash Non- Agency	CMBS		Credit	Index	Whole	Other /	CMBS		Other /	Corporate CDO/CLO		Total	Other /
MV* (\$MM)	Total				CDS	Basket		Unspecified		CMBS	CDS	CDO				Unspecified							Unspecified
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 Post 2007	\$0 \$0 \$0								\$0 \$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	\$0 \$0								\$0 \$0								\$0 \$0			\$0 \$0			
Post 2007 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 2007	\$0 \$0								\$0 \$0								\$0 \$0			\$0 \$0			
Post 2007 Unspecified Vintage	\$0 \$0								\$0 \$0								\$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			
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 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 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 2007	\$0 \$0 \$0								\$0 \$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 2007	\$0 \$0 \$0								\$0 \$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
Profit/Loss (\$MM)	40	**	**	***	**	**	•	20	***	•	20	**	•	**	***	***	**	**	***	40	1 40	**	
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 \$0 \$0	\$0	\$0	\$0 \$0 \$0	\$0	\$0	\$0
2007 Post 2007	\$0 \$0								\$0 \$0								\$0 \$0			\$0 \$0			
Unspecified Vintage AA Total	\$0	**	**	•	**	•	•	**	\$0 \$0	**	**	\$0	***	**	\$0	\$0	\$0	40	**	\$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	\$U	\$0	\$0 \$0 \$0	\$0	\$0	\$0 \$0 \$0	\$0	\$0	\$0
2007 Post 2007	\$0 \$0								\$0 \$0								\$0 \$0			\$0 \$0			
Unspecified Vintage	\$0	\$n	\$0	\$0					\$0	\$n	\$0				-		\$0			\$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 \$0 \$0	\$0	\$0	\$0 \$0 \$0	\$0	\$0	\$0
2007 Post 2007	\$0 \$0								\$0 \$0								\$0 \$0			\$0 \$0			
Unspecified Vintage	\$0		4-		4.				\$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 \$0 \$0	\$0	\$0	\$0 \$0 \$0	\$0	\$0	\$0
2006 2007 Post 2007	\$0 \$0 \$0								\$0 \$0 \$0								\$0 \$0 \$0			\$0 \$0 \$0			
Unspecified Vintage	\$0								\$0								\$0			\$0			
BB 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
2006 2007 Post 2007	\$0 \$0 \$0								\$0 \$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 Post 2007	\$0 \$0 \$0								\$0 \$0 \$0								\$0 \$0 \$0			\$0 \$0 \$0			
Unspecified Vintage	\$0								\$0			Щ					\$0			\$0			
<b 2006<="" pre="" 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
2006 2007 Post 2007	\$0 \$0								\$0 \$0								\$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			
Post 2007 Unspecified Vintage	\$0 \$0								\$0 \$0								\$0 \$0		<u> </u>	\$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

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
Dando			(AFS)	(Trading Secs)
Bonds AAA	7			1
AA				+
A				
ВВВ				
вв				
В				
<b< td=""><td></td><td></td><td></td><td></td></b<>				
NR	 	22	-	
Bonds Total	\$0	\$0	\$0	\$0
1M 3M				
6M				
9M				
1Y				
2Y				
3Y				
5Y				
7Y				
10Y				
15Y				<u> </u>
20Y	4			
30Y		**	4.5	
Bonds Total	\$0	\$0	\$0	\$0
Loans				
AAA	1			1
AA				
A	 			†
BBB				
BB				
В				1
<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				1
30Y				
Loans Total	\$0	\$0	\$0	\$0
CDS				,
AAA				
AA	ļ			+
A	 		<u> </u>	+
BBB BB	 	-	-	+
B BB	 		 	+
В <В	+			†
NR				1
CDS Total	\$0	\$0	\$0	\$0
1M				
3M				
6M				
9M	4			
1Y	4			+
2Y	4			+
3Y 5Y	+			+
7Y	+			+
10Y	1			+
15Y	1			†
20Y	1	+		†
30Y	1			1
CDS Total	\$0	\$0	\$0	\$0

Trading and Other Fair Value Assets Munis (Severely Adverse)

MV (SMM)					1
Available-for-Sale Trading Securities Securities		MV (\$MM)	MV (\$MM)	Profit/Loss	Profit/Loss
Medening Widening Widening Widening Widening Securities Widening Widening Securities Widening Widening Securities Widening Securities Securities Securities Widening Securities				from OAS	from OAS
Indices				Widening	Widening
AAA A A B B B B B B B B B B B B B B B B		0000111100	0000	(AFS)	(Trading Secs)
AA				<u></u>	
A	AAA				
BBB BB BB BB BB BB BB					
BB	Α				
B					
S	BB				
NR	В				
Indices Total	<b< td=""><td></td><td></td><td></td><td></td></b<>				
1M					
SMM SM SM SM SM SM SM S		\$0	\$0	\$0	\$0
SM					
9M					
1					
2Y 30					
3Y 5Y 7Y 10Y 15Y 10Y 1					
SY	2Y				
TY					
10Y					
157					
20Y 10					
Indices Total	15Y				
Indices Total \$0	20Y				
Other / Unspecified Munis AAA					
AAA A BBB BB BB BB R R Other / Unspecified Munis Total SO SO SO SO SO SO SO SO SO SO SO SO SO		\$0	\$0	\$0	\$0
AA A BBB BB BB BB BB BB BB BB BB BB BB B	Other / Unspecified Munis				
A BBB BB BB BB BB BB BB BB BB BB BB BB B	AAA				
A BBB BB BB BB BB BB BB BB BB BB BB BB B	AA				
BB B	Α				
B C C C C C C C C C	ввв				
CB	ВВ				
NR	В				
NR					
Other / Unspecified Munis Total \$0					
1M		\$0	\$0	\$0	\$0
Section Sect		·	·	-	
9M 11Y 22Y 33Y 55Y 77Y 10Y 15Y 220Y 30Y Other / Unspecified Munis Total \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0					
9M 11Y 22Y 33Y 55Y 77Y 10Y 15Y 220Y 30Y Other / Unspecified Munis Total \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0		i			1
1Y	9M				
2Y 3Y 5Y 77Y 7		i			1
SY SY SY SY SY SY SY SY					
SY		i			1
TY					1
10Y					1
15Y 20Y 30Y					1
20Y 30Y					1
Other / Unspecified Munis Total \$0					
Other / Unspecified Munis Total \$0 \$0 Grand Total \$0 \$0 \$0 AAA \$0 \$0 \$0 \$0 AA \$0 \$0 \$0 \$0 BBB \$0 \$0 \$0 \$0 BB \$0 \$0 \$0 \$0 BB \$0 \$0 \$0 \$0 BB \$0 \$0 \$0 \$0 BB \$0 \$0 \$0 \$0 BB \$0 \$0 \$0 \$0 BB \$0 \$0 \$0 \$0 BB \$0 \$0 \$0 \$0 BB \$0 \$0 \$0 \$0 BB \$0 \$0 \$0 \$0 BB \$0 \$0 \$0 \$0 BB \$0 \$0 \$0 \$0 BB \$0 \$0 \$0 \$0 BB					1
AAA		\$0	\$0	\$0	\$0
AAA		, ,	40	40	
AAA	Grand Total				
AA A BBB BBB BB BB BB BB BB BB BB BB BB		\$0	\$0	\$0	\$0
SO					
BBB \$0					
BB					
SO			7.0		7.7
SO					
NR \$0<					
Grand Total \$0 \$0 1M \$0 \$0 3M \$0 \$0 6M \$0 \$0 9M \$0 \$0 1Y \$0 \$0 2Y \$0 \$0 3Y \$0 \$0 5Y \$0 \$0 5Y \$0 \$0 5Y \$0 \$0 5Y \$0 \$0 5Y \$0 \$0 5Y \$0 \$0 5Y \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 <td< td=""><td></td><td></td><td></td><td></td><td></td></td<>					
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3M \$0 \$0 6M \$0 \$0 9M \$0 \$0 1Y \$0 \$0 2Y \$0 \$0 3Y \$0 \$0 5Y \$0 \$0 7Y \$0 \$0 10Y \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0					
6M \$0 \$0 9M \$0 \$0 1Y \$0 \$0 2Y \$0 \$0 3Y \$0 \$0 5Y \$0 \$0 5Y \$0 \$0 5O \$0 \$0 40 \$0 \$0 50 \$0 \$0 50 \$0 \$0 50 \$0 \$0 50 \$0 \$0 50 \$0 \$0 50 \$0 \$0 30Y \$0 \$0					
9M \$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 \$0 \$0 \$0 \$0 30Y \$0 \$0 \$0 \$0					
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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 \$0 \$0 \$0 30Y \$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 \$0 \$0 \$0 30Y \$0 \$0 \$0 \$0					
7Y \$0 \$0 \$0 \$0 10Y \$0 \$0 \$0 \$0 15Y \$0 \$0 \$0 \$0 20Y \$0 \$0 \$0 \$0 30Y \$0 \$0 \$0 \$0					
10Y \$0 \$0 \$0 15Y \$0 \$0 \$0 20Y \$0 \$0 \$0 30Y \$0 \$0 \$0					
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20Y \$0 \$0 \$0 30Y \$0 \$0 \$0					
30Y \$0 \$0 \$0					
75					
			7.5	40	

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

rerely 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			, , ,
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 Product Cash Agency CMBS Agency CMBS Derivatives	ts			
Commercial Other / Unspecified	**	**	**	***
Total	\$0	\$0	\$0	\$0
Non-US Agency Products				T
AAA				
AA				
A BBB				
BB				
В				
<b< td=""><td></td><td></td><td></td><td></td></b<>				
NR				
Total	\$0	\$0	\$0	\$0
	70	¥~	ΨΨ	7.

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

Cumulative Projected Financial Metrics (Q1 2016 - Q1 2018)

- 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 Scenarios - Domestic

	Pool CDD	Nominal GDP	Real disposable	Nominal	linomaloum == t	CPI inflation	2 month	Even	10 year	BBB corporate			<u>Dow Jones</u> Total Stock	House Price	Commercial	Market Valatility
<u>Date</u>	growth	growth	income		Unemployment		3-month Treasury rate	5-year Treasury yield		yield	Mortgage rate	Prime rate	Market Index	<u>Index</u>	Real Estate Price Index	Volatility Index
	growth	growth	growth	income growth	<u>rate</u>	<u>rate</u>	rreasury rate	Treasury yielu	Treasury yielu	<u>yieiu</u>			(Level)	(Level)	(Level)	(Level)
Q1 2001	-1.1	1.4			4.2	3.9	4.8	4.9	5.3	7.4	7.0	8.6		113.3	139.0	32.8
Q2 2001	2.1	5.1	-0.3	1.6	4.4	2.8	3.7	4.9	5.5				11407.2	115.2	139.0	34.7
Q3 2001	-1.3	0.0			4.8	1.1	3.2	4.6	5.3	7.3			9563.0	117.5	141.0	43.7
Q4 2001	1.1	2.3	-4.9		5.5		1.9	4.2	5.1	7.2			10707.7	119.8	136.0	35.3
Q1 2002	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	122.1	137.0	26.1
Q2 2002	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	125.4	136.0	28.4
Q3 2002	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	128.6	139.0	45.1
Q4 2002	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	131.3	142.0	42.6
Q1 2003	2.1	4.6	1.1	4.0	5.9	4.2	1.2	2.9	4.2	6.5			8051.9	134.1	148.0	34.7
Q2 2003	3.8	5.1	5.9		6.1	-0.7	1.0	2.6	3.8				9342.4	137.0	149.0	29.1
Q3 2003	6.9	9.3	6.7	9.3	6.1	3.0	0.9	3.1	4.4	6.0			9649.7	141.0	147.0	22.7
Q4 2003	4.8	6.8			5.8	1.5	0.9	3.2	4.4	5.8			10799.6	145.9	146.0	21.1
Q1 2004	2.3	5.9			5.7	3.4	0.9	3.0	4.1	5.5			11039.4	151.6	153.0	21.6
Q2 2004	3.0	6.6		7.0	5.6		1.1	3.7	4.7	6.1			11144.6	157.9	160.0	20.0
Q3 2004	3.7	6.3	2.1	4.5	5.4	2.6	1.5	3.5	4.4	5.8			10893.8	163.2	172.0	19.3
Q4 2004	3.5	6.4	5.1	8.5	5.4	4.4	2.0	3.5	4.3	5.4			11951.5	169.2	176.0	16.6
Q1 2005 Q2 2005	4.3 2.1	8.3 5.1	-3.8 3.2		5.3	2.0	2.5 2.9	3.9 3.9	4.4 4.2	5.4 5.5			11637.3 11856.7	177.1 184.5	176.0	14.6 17.7
Q2 2005 Q3 2005	3.4	7.3	2.1	6.0 6.6	5.1 5.0	2.7 6.2	3.4	4.0	4.2	5.5 5.5			12282.9	190.2	182.0 187.0	17.7
Q4 2005	2.3	7.3 5.4	3.4	6.6	5.0	3.8	3.8	4.4	4.5				12497.2	190.2	195.0	16.5
Q4 2003 Q1 2006	4.9	8.2	9.5		4.7	2.1	4.4	4.6	4.7	6.0			13121.6	198.0	200.0	14.6
Q2 2006	1.2	4.5	0.6		4.6	3.7	4.7	5.0	5.2	6.5			12808.9	197.1	209.0	23.8
Q3 2006	0.4	3.2		4.1	4.6		4.9	4.8	5.0				13322.5	195.8	219.0	18.6
Q4 2006	3.2	4.6		4.6	4.4	-1.6	4.9	4.6	4.7	6.1	6.2		14215.8	195.8	217.0	12.7
Q1 2007	0.2	4.8	2.6	6.5	4.5	4.0	5.0	4.6	4.8	6.1	6.2	8.3	14354.0	193.3	227.0	19.6
Q2 2007	3.1	5.4	0.8	4.0	4.5	4.6	4.7	4.7	4.9	6.3	6.4	8.3	15163.1	188.5	236.0	18.9
Q3 2007	2.7	4.2	1.1	3.4	4.7	2.6	4.3	4.5	4.8	6.5	6.5	8.2	15317.8	183.2	249.0	30.8
Q4 2007	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	177.8	251.0	31.1
Q1 2008	-2.7	-0.5	2.9	6.5	5.0	4.4	2.1	2.8	3.9	6.5	5.9	6.2	13284.1	171.1	240.0	32.2
Q2 2008	2.0	4.0	8.7	13.3	5.3	5.3	1.6	3.2	4.1	6.8	6.1	5.1	13016.4	163.9	224.0	24.1
Q3 2008	-1.9	0.8	-8.9	-5.1	6.0	6.3	1.5	3.1	4.1	7.2	6.3	5.0	11826.0	157.4	233.0	46.7
Q4 2008	-8.2	-7.7	2.6	-3.2	6.9	-8.9	0.3	2.2	3.7	9.4	5.8	4.1	9056.7	149.5	223.0	80.9
Q1 2009	-5.4	-4.5	-0.8	-3.0	8.3	-2.7	0.2	1.9	3.2	9.0	5.0	3.3	8044.2	143.5	209.0	56.7
Q2 2009	-0.5	-1.2	2.9	4.7	9.3	2.1	0.2	2.3	3.7	8.2	5.1	3.3	9342.8	143.2	178.0	42.3
Q3 2009	1.3	1.2	-4.3	-1.9	9.6	3.5	0.2	2.5	3.8	6.8	5.1	3.3	10812.8	144.3	154.0	31.3
Q4 2009	3.9	5.2	-0.5	2.2	9.9	3.2	0.1	2.3	3.7	6.1	4.9	3.3	11385.1	145.2	155.0	30.7

Appendix 4: Baseline Scenarios - Domestic (Cont.)

Part Part				<u>Real</u>	Nominal									<u>Dow Jones</u>	House Price	Commercial	Market
Care Free	Date										l——•	Mortgage rate	Prime rate				
12 17 32 0.0 1.8 9.8 0.6 0.1 2.4 3.9 5.8 5.0 3.3 10325 1455 500 273		growth	<u>growth</u>			<u>rate</u>	<u>rate</u>	Treasury rate	Treasury yield	Treasury yield	<u>yield</u>						
02 2010																	
Q3 2010 2.7 4.6 2.0 3.2 9.5 1.2 0.2 1.6 2.9 5.1 4.4 3.3 118140 141.6 167.0 32.5 Q4 2010 2.5 4.7 2.8 5.0 9.5 3.3 0.1 1.5 5.0 4.6 3.3 13908.5 138.5 180.0 224.0 Q2 2011 4.6 0.0 0.6 3.5 9.1 4.7 0.0 1.8 3.3 13908.5 138.5 180.0 224.0 Q4 2011 4.6 5.2 0.2 1.6 8.6 1.7 0.0 1.0 2.1 5.0 4.0 3.3 13019.3 137.6 188.0 45.5 Q4 2011 4.6 5.2 0.2 1.6 8.6 1.7 0.0 1.0 2.1 4.7 3.3 3.3 1402.7 197.0 480.0 Q2 2012 1.9 3.8 3.1 4.4 8.2 1.0 0.1 0.7	-																
QA 2010 2.5																	
Q12011 1-5																	
02 2011 29 60 -06 35 91 47 00 1.8 3.3 5.1 46 33 138485 1377 177.0 227 03 2011 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 1377 177.0 425 04 2011 4.6 5.2 0.2 1.6 8.6 1.7 0.0 1.0 2.1 5.0 4.0 3.3 13019.3 137.6 188.0 45.5 01 2012 2.7 4.9 6.7 9.2 8.3 2.2 0.1 0.9 2.1 4.7 3.9 3.3 14027.5 139.6 188.0 23.0 2012 1.9 3.8 3.1 4.4 8.2 1.0 0.1 0.8 1.8 4.5 3.8 3.3 1400.2 142.8 189.0 26.7 0.3 2012 0.5 2.7 -0.2 1.1 8.0 1.8 0.1 0.7 1.6 4.2 3.5 3.3 14894.7 145.7 197.0 20.5 0.2 0.1 1.7 10.9 13.3 7.8 2.6 0.1 0.7 1.6 4.2 3.5 3.3 14894.9 149.3 198.0 22.7 0.1 0.1 0.9 2.0 4.1 3.9 3.3 14894.9 149.3 198.0 22.7 0.1 0.1 0.9 2.0 4.1 3.7 3.3 1636.2 1.5 1.8 20.0 1.0 0.1 0.8 1.8 0.1 0.7 1.6 4.2 3.5 3.3 14894.9 149.3 198.0 22.7 0.2 0.3 1.1 2.1 2.7 3.1 7.5 -0.1 0.1 0.9 2.0 4.1 3.7 3.3 1676.3 158.8 202.0 19.0 0.2 0.3 1.1 2.1 2.7 3.1 7.5 -0.1 0.1 0.9 2.0 4.1 3.7 3.3 1676.3 158.8 202.0 19.0 0.2 0.3 1.1 2.1 2.7 3.1 5.5 6 5.6 6.7 2.1 0.0 1.4 0.1 1.4 2.8 4.8 4.3 3.3 1413.2 166.3 229.0 20.3 0.2 0.2 0.3 3.0 4.9 2.2 3.9 7.2 2.3 0.0 1.5 2.7 4.9 4.4 3.3 17718.3 158.8 213.0 20.0 0.2 0.2 0.3 0.2 0.2 0.3 0.3 0.4 0.0 0.6 4.0 5.6 6.7 2.1 0.0 1.4 0.1 1.4 2.8 4.8 4.8 4.3 3.3 1413.2 166.3 229.0 20.0 0.2 0.2 0.2 0.2 0.2 0.2 0.2 0.2	-																
Q3 2011 Q8																	
O4 2011 46 5.2 0.2 1.6 8.6 1.7 0.0 1.0 2.1 5.0 4.0 3.3 1309.3 137.6 188.0 45.5 Q1 2012 2.7 4.9 6.7 9.2 8.3 2.2 0.1 0.9 2.1 4.7 3.9 3.3 14627.5 139.6 188.0 23.0 Q2 2012 1.9 3.8 3.1 4.4 8.2 1.0 0.1 0.8 1.8 4.5 3.8 3.1 144.0 8.2 2.6 7.0 1.1 8.0 1.8 0.1 0.7 1.7 3.9 3.4 4.8 4.9 148.9 199.0 3.3 1489.47 145.7 197.0 2.0 1.1 1.7 1.99 1.3 7.8 2.2 1.1 2.7 1.4 0.1 0.8 1.9 4.0 3.5 3.3 1637.6 158.8 202.0 18.0 4.5 5.3 163.1 159.2 1.7 <t< 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></t<>																	
Q1 2012 2.7	-																
Q2 2012 1.9 3.8 3.1 4.4 8.2 1.0 0.1 0.8 1.8 4.5 3.8 3.3 1410.02 142.8 189.0 26.7 Q3 2012 0.5 2.7 -0.2 1.1 8.0 1.8 0.1 0.7 1.6 4.2 3.5 3.3 14894.7 197.0 20.7 Q1 2013 1.9 3.6 -15.9 -14.7 7.7 1.4 0.1 0.8 1.9 4.0 3.5 3.3 16396.2 153.8 202.0 19.0 Q2 2013 1.1 2.1 2.7 3.1 7.5 -0.1 0.1 0.9 2.0 4.1 3.7 3.3 16396.2 153.8 202.0 19.0 0.3 19.0 4.0 3.5 3.3 16396.2 150.0 19.0 0.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.1 2.2 4.9 4.4 3.3 19711.2	-																
03 2012																	
Q4 2012 0.1 1.7 109 13.3 7.8 2.6 0.1 0.7 1.7 3.9 3.4 3.3 14884.9 149.3 198.0 22.7 Q1 2013 1.9 3.6 -15.9 1.4 7.7 1.4 0.1 0.8 1.9 4.0 3.5 3.3 16396.2 153.8 202.0 19.0 Q2 2013 3.0 4.9 2.2 3.9 7.2 2.3 0.0 1.5 2.7 4.9 4.4 3.3 19718.3 163.0 224.0 17.0 Q4 2013 3.8 5.6 0.6 2.0 7.0 1.4 0.1 1.4 2.8 4.6 4.4 3.3 19711.2 169.3 220.0 20.3 Q1 2014 -0.9 0.6 4.0 5.6 6.7 2.1 0.0 1.6 2.8 4.6 4.4 3.3 19711.2 169.3 220.0 2.1 Q2 2014 4.6 6.6 9.3	-																
Q1 2013 1.9 3.6 -15.9 -14.7 7.7 1.4 0.1 0.8 1.9 4.0 3.5 3.3 16396.2 153.8 20.20 19.0 Q2 2013 1.1 2.1 2.7 3.1 7.5 -0.1 0.1 0.9 2.0 4.1 3.7 3.3 16771.3 158.8 213.0 20.5 0.3 2013 3.0 4.9 2.2 3.9 7.2 2.3 0.0 1.5 2.7 4.9 4.4 3.3 19711.2 166.3 224.0 10.0 0.1 2014 -0.9 0.6 6.0 2.0 7.0 1.4 0.1 1.4 2.8 4.8 4.3 3.3 19911.2 166.3 229.0 20.3 1.2 2014 4.6 6.9 3.0 5.2 6.2 2.4 0.0 1.7 2.5 4.2 4.1 3.3 20458.8 172.5 242.0 17.0 23201.2 4.1 3.3 20458.8	-																
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Q3 2016 2.6 4.3 2.6 4.5 4.7 2.3 0.9 2.2 2.7 4.8 4.3 4.0 21834.8 186.3 283.8 23.2 Q4 2016 2.5 4.3 2.6 4.6 4.6 2.3 1.0 2.4 2.9 4.9 4.5 4.1 22093.2 187.5 287.4 22.7 Q1 2017 2.4 4.1 2.8 4.8 4.6 2.2 1.3 2.6 3.0 5.0 4.6 4.4 22347.4 188.7 291.0 22.5 Q2 2017 2.5 4.6 2.6 4.8 4.6 2.4 1.5 2.7 3.1 5.1 4.7 4.6 22626.3 189.9 294.7 22.0 Q3 2017 2.3 4.6 2.5 4.7 4.5 2.4 1.9 2.9 3.3 5.2 4.9 5.0 22908.0 191.1 298.4 21.4 Q4 2018 2.6 4.3 2.9			4.0	2.8	3.5	4.9	1.2	0.4	1.8	2.4	4.5	4.1	3.6	21336.7	184.0	276.8	24.8
Q4 2016 2.5 4.3 2.6 4.6 4.6 2.3 1.0 2.4 2.9 4.9 4.5 4.1 22093.2 187.5 287.4 22.7 Q1 2017 2.4 4.1 2.8 4.8 4.6 2.2 1.3 2.6 3.0 5.0 4.6 4.4 22347.4 188.7 291.0 22.5 Q2 2017 2.5 4.6 2.6 4.8 4.6 2.4 1.5 2.7 3.1 5.1 4.7 4.6 22626.3 189.9 294.7 22.0 Q3 2017 2.3 4.6 2.5 4.7 4.5 2.4 1.9 2.9 3.3 5.2 4.9 5.0 22908.0 191.1 298.4 21.4 Q4 2017 2.3 4.4 2.6 4.7 4.5 2.3 2.2 3.0 3.4 5.3 5.0 5.3 23183.2 192.2 302.1 21.7 Q1 2018 2.6 4.3 2.9 4.7 4.5 2.0 2.4 3.1 3.5 5.4 5.2 5.5	Q2 2016	2.6	4.0	2.5	4.3	4.8	2.2	0.6	2.0	2.6	4.7	4.2	3.8	21578.3	185.2	280.3	24.6
Q1 2017 2.4 4.1 2.8 4.8 4.6 2.2 1.3 2.6 3.0 5.0 4.6 4.4 22347.4 188.7 291.0 22.5 Q2 2017 2.5 4.6 2.6 4.8 4.6 2.4 1.5 2.7 3.1 5.1 4.7 4.6 22626.3 189.9 294.7 22.0 Q3 2017 2.3 4.6 2.5 4.7 4.5 2.4 1.9 2.9 3.3 5.2 4.9 5.0 22908.0 191.1 298.4 21.4 Q4 2017 2.3 4.4 2.6 4.7 4.5 2.3 2.2 3.0 3.4 5.3 5.0 5.3 23183.2 192.2 302.1 21.7 Q1 2018 2.6 4.3 2.9 4.7 4.5 2.0 2.4 3.1 3.5 5.4 5.2 5.5 23458.2 193.7 304.4 21.4 Q2 2018 2.4 4.2 2.6 4.6 4.6 2.1 2.7 3.2 3.7 5.6 5.4 5.8	Q3 2016	2.6	4.3	2.6	4.5	4.7	2.3	0.9	2.2	2.7	4.8	4.3	4.0	21834.8	186.3	283.8	23.2
Q2 2017 2.5 4.6 2.6 4.8 4.6 2.4 1.5 2.7 3.1 5.1 4.7 4.6 22626.3 189.9 294.7 22.0 Q3 2017 2.3 4.6 2.5 4.7 4.5 2.4 1.9 2.9 3.3 5.2 4.9 5.0 22908.0 191.1 298.4 21.4 Q4 2017 2.3 4.4 2.6 4.7 4.5 2.3 2.2 3.0 3.4 5.3 5.0 5.3 23183.2 192.2 302.1 21.7 Q1 2018 2.6 4.3 2.9 4.7 4.5 2.0 2.4 3.1 3.5 5.4 5.2 5.5 23458.2 193.7 304.4 21.4 Q2 2018 2.4 4.2 2.6 4.6 4.6 2.1 2.6 3.2 3.6 5.5 5.3 5.7 23733.2 195.2 306.7 21.5 Q3 2018 2.3 4.2 2.6 4.5 4.6 2.1 2.7 3.2 3.7 5.6 5.4 5.8	Q4 2016	2.5	4.3	2.6	4.6	4.6	2.3	1.0	2.4	2.9	4.9	4.5	4.1	22093.2	187.5	287.4	22.7
Q3 2017 2.3 4.6 2.5 4.7 4.5 2.4 1.9 2.9 3.3 5.2 4.9 5.0 22908.0 191.1 298.4 21.4 Q4 2017 2.3 4.4 2.6 4.7 4.5 2.3 2.2 3.0 3.4 5.3 5.0 5.3 23183.2 192.2 302.1 21.7 Q1 2018 2.6 4.3 2.9 4.7 4.5 2.0 2.4 3.1 3.5 5.4 5.2 5.5 23458.2 193.7 304.4 21.4 Q2 2018 2.4 4.2 2.6 4.6 4.6 2.1 2.6 3.2 3.6 5.5 5.3 5.7 23733.2 195.2 306.7 21.5 Q3 2018 2.3 4.2 2.6 4.5 4.6 2.1 2.7 3.2 3.7 5.6 5.4 5.8 24008.9 196.6 309.0 21.4 Q4 2018 2.3 4.1 2.5 4.5 4.7 2.1 2.8 3.3 3.8 5.6 5.5 5.9	Q1 2017	2.4	4.1	2.8	4.8	4.6	2.2	1.3	2.6	3.0	5.0	4.6	4.4	22347.4	188.7	291.0	22.5
Q4 2017 2.3 4.4 2.6 4.7 4.5 2.3 2.2 3.0 3.4 5.3 5.0 5.3 23183.2 192.2 302.1 21.7 Q1 2018 2.6 4.3 2.9 4.7 4.5 2.0 2.4 3.1 3.5 5.4 5.2 5.5 23458.2 193.7 304.4 21.4 Q2 2018 2.4 4.2 2.6 4.6 4.6 2.1 2.6 3.2 3.6 5.5 5.3 5.7 23733.2 195.2 306.7 21.5 Q3 2018 2.3 4.2 2.6 4.5 4.6 2.1 2.7 3.2 3.7 5.6 5.4 5.8 24008.9 196.6 309.0 21.4 Q4 2018 2.3 4.1 2.5 4.5 4.7 2.1 2.8 3.3 3.8 5.6 5.5 5.9 24285.1 198.1 311.4 21.5	Q2 2017	2.5	4.6	2.6	4.8	4.6	2.4	1.5	2.7	3.1	5.1	4.7	4.6	22626.3	189.9	294.7	22.0
Q1 2018 2.6 4.3 2.9 4.7 4.5 2.0 2.4 3.1 3.5 5.4 5.2 5.5 23458.2 193.7 304.4 21.4 Q2 2018 2.4 4.2 2.6 4.6 4.6 2.1 2.6 3.2 3.6 5.5 5.3 5.7 23733.2 195.2 306.7 21.5 Q3 2018 2.3 4.2 2.6 4.5 4.6 2.1 2.7 3.2 3.7 5.6 5.4 5.8 24008.9 196.6 309.0 21.4 Q4 2018 2.3 4.1 2.5 4.5 4.7 2.1 2.8 3.3 3.8 5.6 5.5 5.9 24285.1 198.1 311.4 21.5	Q3 2017	2.3	4.6	2.5	4.7	4.5	2.4	1.9	2.9	3.3	5.2	4.9	5.0	22908.0	191.1	298.4	21.4
Q2 2018 2.4 4.2 2.6 4.6 4.6 2.1 2.6 3.2 3.6 5.5 5.3 5.7 23733.2 195.2 306.7 21.5 Q3 2018 2.3 4.2 2.6 4.5 4.6 2.1 2.7 3.2 3.7 5.6 5.4 5.8 24008.9 196.6 309.0 21.4 Q4 2018 2.3 4.1 2.5 4.5 4.7 2.1 2.8 3.3 3.8 5.6 5.5 5.9 24285.1 198.1 311.4 21.5	Q4 2017	2.3	4.4	2.6	4.7	4.5	2.3	2.2	3.0	3.4	5.3	5.0	5.3	23183.2	192.2	302.1	21.7
Q3 2018 2.3 4.2 2.6 4.5 4.6 2.1 2.7 3.2 3.7 5.6 5.4 5.8 24008.9 196.6 309.0 21.4 Q4 2018 2.3 4.1 2.5 4.5 4.7 2.1 2.8 3.3 3.8 5.6 5.5 5.9 24285.1 198.1 311.4 21.5	Q1 2018	2.6	4.3	2.9	4.7	4.5	2.0	2.4	3.1	3.5	5.4	5.2	5.5	23458.2	193.7	304.4	21.4
Q4 2018 2.3 4.1 2.5 4.5 4.7 2.1 2.8 3.3 3.8 5.6 5.5 5.9 24285.1 198.1 311.4 21.5	Q2 2018	2.4	4.2	2.6	4.6	4.6	2.1	2.6	3.2	3.6	5.5	5.3	5.7	23733.2	195.2	306.7	21.5
	Q3 2018	2.3	4.2	2.6	4.5	4.6	2.1	2.7	3.2	3.7	5.6	5.4	5.8	24008.9	196.6	309.0	21.4
Q1 2019 2.1 4.0 2.4 4.3 4.7 2.1 2.8 3.4 3.8 5.6 5.5 5.9 24555.9 199.6 313.7 21.4	Q4 2018	2.3	4.1	2.5	4.5	4.7	2.1	2.8	3.3	3.8	5.6	5.5	5.9	24285.1	198.1	311.4	21.5
	Q1 2019	2.1	4.0	2.4	4.3	4.7	2.1	2.8	3.4	3.8	5.6	5.5	5.9	24555.9	199.6	313.7	21.4

Appendix 5: Baseline Scenarios – 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)
Q1 2001	3.8	1.1	0.9		1.7				125.5	4.6		
Q2 2001	0.1	4.1	0.8		2.2	106.1		-0.3	124.7	3.1	3.1	1.4
Q3 2001	0.3	1.4	0.9	4.7	1.1	106.4		-1.1	119.2	2.6	1.0	1.5
Q4 2001	0.5	1.7	0.9	8.4	0.2	106.9		-1.4	131.0	1.4	0.0	1.5
Q1 2002	0.9	3.0		7.6	0.4	107.3			132.7	1.6	1.9	1.4
Q2 2002	2.0	2.0		8.1	1.2	104.8		1.7	119.9	3.3	0.9	1.5
Q3 2002	1.6	1.6		7.3	1.3	105.5			121.7	3.9	1.4	1.6
Q4 2002	0.3	2.4	1.0	6.4	0.9	104.5			118.8	3.6	1.9	1.6
Q1 2003	-0.9	3.3	1.1	6.5	3.6				118.1	2.9	1.6	1.6
Q2 2003	0.4	0.3	1.2	2.3	1.2	104.0			119.9	3.7	0.3	1.7
Q3 2003	2.0	2.2	1.2	14.2	0.0	102.6		-0.7	111.4	3.1	1.7	1.7
Q4 2003	3.1	2.2	1.3	12.9	5.6	103.4		-0.6	107.1	3.0	1.7	1.8
Q1 2004	2.0	2.3	1.2	5.5	4.0	101.4			104.2	2.7	1.3	1.8
Q2 2004	2.2	2.4	1.2	7.1	4.1	102.8			109.4	2.2	1.0	1.8
Q3 2004	1.3	2.0		8.2	3.9	102.7			110.2	0.9	1.1	1.8
Q4 2004	1.5	2.4	1.4	6.3	0.9	98.9			102.7	1.9	2.4	1.9
Q1 2005	0.6	1.5	1.3	10.3	2.9	98.6			107.2	2.8	2.6	1.9
Q2 2005	2.8	2.2	1.2	8.9	1.5	98.9		-1.2	110.9	4.4	1.9	1.8
Q3 2005	3.0	3.2	1.2	9.3	2.3	98.6		-1.3	113.3	4.1	2.7	1.8
Q4 2005	2.4	2.5	1.2	11.6	1.7	98.1	0.7	0.7	117.9	5.9	1.4	1.7
Q1 2006		1.7	1.2	10.9	2.4	96.8		1.3	117.5	1.5	1.9	1.7
Q2 2006		2.5	1.3	7.1	3.2	96.7		-0.1	114.5	1.2	3.0	1.8
Q3 2006		2.0		10.3	2.1	96.4		0.5	118.0	0.5	3.3	1.9
Q4 2006		0.9		11.1	3.8	94.6			119.0	2.3	2.6	2.0
Q1 2007	3.2	2.2		13.7	3.6	94.0			117.6	3.9	2.6	2.0
Q2 2007	2.5	2.3	1.4	10.6	4.9	91.9			123.4	2.4	1.7	2.0
Q3 2007	2.0	2.1	1.4	8.6	7.4	90.6			115.0	3.1	0.2	2.0
Q4 2007	2.0	4.9	1.5	12.9	6.1	89.4		2.2	111.7	3.1	4.0	2.0
Q1 2008		4.2	1.6	7.1	8.1	88.0		1.3	99.9	1.0	3.7	2.0
Q2 2008	-1.3	3.2	1.6	6.1	6.4	88.7	-4.6	1.6	106.2	-2.2	5.7	2.0
Q3 2008	-2.2	3.2	1.4	3.1	2.8	91.6	-4.1	3.6	105.9	-6.6	5.8	1.8
Q4 2008	-7.1	-1.4	1.4	0.1	-0.9	92.3	-12.5	-2.2	90.8	-8.7	0.5	1.5
Q1 2009	-11.3	-1.1	1.3	3.8	-1.4	94.2	-15.1	-3.6	99.2	-6.1	-0.1	1.4
Q2 2009	-0.8	0.0	1.4	15.4	2.3	92.3	7.1	-1.7	96.4	-0.8	2.2	1.6
Q3 2009	1.2	1.1	1.5	12.6	3.9	91.3	0.4	-1.2	89.5	0.6	3.5	1.6
Q4 2009	2.0	1.6	1.4	9.0	5.2	90.7	7.1	-1.6	93.1	1.4	3.0	1.6

Appendix 5: Baseline Scenarios - 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>U.K. inflation</u>	U.K. bilateral dollar exchange rate (USD/pound)
Q1 2010		1.8		9.8	4.6		5.8		93.4			
Q2 2010		2.0	1.2	9.8	3.4		4.6		88.5		3.2	
Q3 2010		1.6		8.8	3.9		6.1	-2.1	83.5		2.3	
Q4 2010		2.6	1.3	9.3	7.7		-2.0	1.3	81.7		4.0	
Q1 2011	3.5	3.6	1.4	9.5	6.3		-7.7	-0.4	82.8		6.7	1.6
Q2 2011	0.0	3.2	1.5	7.1	5.4		-2.2	-0.4	80.6		4.7	1.6
Q3 2011	-0.1	1.4	1.3	5.9	5.0		11.2	0.3	77.0		3.7	1.6
Q4 2011	-1.2	3.5	1.3	6.1	3.4		0.9	-0.7	77.0		3.4	1.6
Q1 2012	-0.7	2.7	1.3	7.1	3.2		3.6		82.4		2.1	
Q2 2012	-1.3	2.3	1.3	5.9	4.0		-1.3	-0.7	79.8		2.0	
Q3 2012	-0.6	1.6	1.3	6.5	1.9		-1.9	-2.1	77.9		2.3	1.6
Q4 2012	-1.7	2.4	1.3	7.2	3.7		-0.4	0.0	86.6		4.0	
Q1 2013	-1.0	1.1	1.3	6.3	4.2		4.0	0.4	94.2		2.9	1.5
Q2 2013	1.6	0.5	1.3	7.0	3.1		3.1	0.6	99.2		1.7	1.5
Q3 2013	1.0	1.3	1.4	7.4	3.5		2.0	2.4	98.3		2.1	1.6
Q4 2013	0.8	0.3	1.4	6.5	4.0		-0.7	2.3	105.3		1.5	
Q1 2014	0.9	0.6		5.9	1.5		5.0		103.0		1.8	
Q2 2014	0.2	0.1	1.4	7.0	2.7		-7.2	9.3	101.3	3.2	1.5	1.7
Q3 2014	1.2	0.3	1.3	7.5	2.2		-2.8	1.3	109.7	2.6	0.9	1.6
Q4 2014	1.5	-0.4	1.2	5.6	1.0		1.8	-0.8	119.9		-0.6	1.6
Q1 2015	2.2	-1.2	1.1	5.8	1.0	88.1	4.4	-0.3	120.0	1.5	-1.2	1.5
Q2 2015	1.6	2.2	1.1	6.2	2.9	88.5	-0.5		122.1		0.8	1.6
Q3 2015	1.2	-0.1	1.1	7.0	2.6	91.1	1.0	0.0	119.8	1.8	1.0	1.5
Q4 2015	1.6	-0.1	1.1	6.2	2.3		1.0	-0.3	120.3		-0.3	
Q1 2016		0.9	1.1	6.1	2.3		1.1	0.7	121.1		1.1	
Q2 2016	1.8	1.2	1.1	6.0	2.3		1.1	0.9	122.0	2.1	1.4	1.5
Q3 2016	1.8	1.3	1.1	5.9	2.3		1.1	1.1	122.8		1.6	1.5
Q4 2016		1.4	1.0	5.9	2.4	94.5	1.0	1.4	123.5	2.0	1.8	1.5
Q1 2017	1.8	1.5	1.1	5.9	2.6		0.8	1.7	123.9		1.9	1.5
Q2 2017	1.7	1.5	1.1	6.0	2.7	94.2	0.7	1.8	124.1	2.3	1.9	1.5
Q3 2017	1.7	1.6	1.1	6.0	2.8	94.0	0.6	1.8	124.4	2.3	1.9	1.5
Q4 2017	1.7	1.5	1.1	6.0	2.8	93.8	0.7	1.6	124.5	2.3	1.8	
Q1 2018	1.6	1.5	1.1	6.0	2.8	93.7	0.8	1.4	124.0	2.2	1.8	
Q2 2018	1.6	1.5	1.1	6.0	2.9	93.6	0.9	1.2	123.4	2.1	1.7	1.5
Q3 2018	1.6	1.5	1.1	6.0	2.9	93.6	1.0	1.1	122.7	2.1	1.7	1.5
Q4 2018	1.6	1.6	1.1	6.1	3.0	93.5	1.0	1.2	122.0	2.1	1.7	1.5
Q1 2019	1.6	1.6	1.1	6.2	3.2	93.4	1.0	1.3	121.0	2.1	1.7	1.5

Appendix 6: Adverse Scenarios - Domestic

	Pool CDD	Nominal GDP	Real disposable	Nominal	linomaloum == t	CPI inflation	2 month	Even	10 year	BBB corporate			<u>Dow Jones</u> Total Stock	House Price	Commercial	Market Valatility
<u>Date</u>	growth	growth	income		Unemployment		3-month Treasury rate	5-year Treasury yield		yield	Mortgage rate	Prime rate	Market Index	<u>Index</u>	Real Estate Price Index	Volatility Index
	growth	growth	growth	income growth	<u>rate</u>	<u>rate</u>	rreasury rate	Treasury yielu	Treasury yielu	<u>yieiu</u>			(Level)	(Level)	(Level)	(Level)
Q1 2001	-1.1	1.4			4.2	3.9	4.8	4.9	5.3	7.4	7.0	8.6		113.3	139.0	32.8
Q2 2001	2.1	5.1	-0.3	1.6	4.4	2.8	3.7	4.9	5.5				11407.2	115.2	139.0	34.7
Q3 2001	-1.3	0.0			4.8	1.1	3.2	4.6	5.3	7.3			9563.0	117.5	141.0	43.7
Q4 2001	1.1	2.3	-4.9		5.5		1.9	4.2	5.1	7.2			10707.7	119.8	136.0	35.3
Q1 2002	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	122.1	137.0	26.1
Q2 2002	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	125.4	136.0	28.4
Q3 2002	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	128.6	139.0	45.1
Q4 2002	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	131.3	142.0	42.6
Q1 2003	2.1	4.6	1.1	4.0	5.9	4.2	1.2	2.9	4.2	6.5			8051.9	134.1	148.0	34.7
Q2 2003	3.8	5.1	5.9		6.1	-0.7	1.0	2.6	3.8				9342.4	137.0	149.0	29.1
Q3 2003	6.9	9.3	6.7	9.3	6.1	3.0	0.9	3.1	4.4	6.0			9649.7	141.0	147.0	22.7
Q4 2003	4.8	6.8			5.8	1.5	0.9	3.2	4.4	5.8			10799.6	145.9	146.0	21.1
Q1 2004	2.3	5.9			5.7	3.4	0.9	3.0	4.1	5.5			11039.4	151.6	153.0	21.6
Q2 2004	3.0	6.6		7.0	5.6		1.1	3.7	4.7	6.1			11144.6	157.9	160.0	20.0
Q3 2004	3.7	6.3	2.1	4.5	5.4	2.6	1.5	3.5	4.4	5.8			10893.8	163.2	172.0	19.3
Q4 2004	3.5	6.4	5.1	8.5	5.4	4.4	2.0	3.5	4.3	5.4			11951.5	169.2	176.0	16.6
Q1 2005 Q2 2005	4.3 2.1	8.3 5.1	-3.8 3.2		5.3	2.0	2.5 2.9	3.9 3.9	4.4 4.2	5.4 5.5			11637.3 11856.7	177.1 184.5	176.0	14.6 17.7
Q2 2005 Q3 2005	3.4	7.3	2.1	6.0 6.6	5.1 5.0	2.7 6.2	3.4	4.0	4.2	5.5 5.5			12282.9	190.2	182.0 187.0	17.7
Q4 2005	2.3	7.3 5.4	3.4	6.6	5.0	3.8	3.8	4.4	4.5				12497.2	190.2	195.0	16.5
Q4 2003 Q1 2006	4.9	8.2	9.5		4.7	2.1	4.4	4.6	4.7	6.0			13121.6	198.0	200.0	14.6
Q2 2006	1.2	4.5	0.6		4.6	3.7	4.7	5.0	5.2	6.5			12808.9	197.1	209.0	23.8
Q3 2006	0.4	3.2		4.1	4.6		4.9	4.8	5.0				13322.5	195.8	219.0	18.6
Q4 2006	3.2	4.6		4.6	4.4	-1.6	4.9	4.6	4.7	6.1	6.2		14215.8	195.8	217.0	12.7
Q1 2007	0.2	4.8	2.6	6.5	4.5	4.0	5.0	4.6	4.8	6.1	6.2	8.3	14354.0	193.3	227.0	19.6
Q2 2007	3.1	5.4	0.8	4.0	4.5	4.6	4.7	4.7	4.9	6.3	6.4	8.3	15163.1	188.5	236.0	18.9
Q3 2007	2.7	4.2	1.1	3.4	4.7	2.6	4.3	4.5	4.8	6.5	6.5	8.2	15317.8	183.2	249.0	30.8
Q4 2007	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	177.8	251.0	31.1
Q1 2008	-2.7	-0.5	2.9	6.5	5.0	4.4	2.1	2.8	3.9	6.5	5.9	6.2	13284.1	171.1	240.0	32.2
Q2 2008	2.0	4.0	8.7	13.3	5.3	5.3	1.6	3.2	4.1	6.8	6.1	5.1	13016.4	163.9	224.0	24.1
Q3 2008	-1.9	0.8	-8.9	-5.1	6.0	6.3	1.5	3.1	4.1	7.2	6.3	5.0	11826.0	157.4	233.0	46.7
Q4 2008	-8.2	-7.7	2.6	-3.2	6.9	-8.9	0.3	2.2	3.7	9.4	5.8	4.1	9056.7	149.5	223.0	80.9
Q1 2009	-5.4	-4.5	-0.8	-3.0	8.3	-2.7	0.2	1.9	3.2	9.0	5.0	3.3	8044.2	143.5	209.0	56.7
Q2 2009	-0.5	-1.2	2.9	4.7	9.3	2.1	0.2	2.3	3.7	8.2	5.1	3.3	9342.8	143.2	178.0	42.3
Q3 2009	1.3	1.2	-4.3	-1.9	9.6	3.5	0.2	2.5	3.8	6.8	5.1	3.3	10812.8	144.3	154.0	31.3
Q4 2009	3.9	5.2	-0.5	2.2	9.9	3.2	0.1	2.3	3.7	6.1	4.9	3.3	11385.1	145.2	155.0	30.7

Appendix 6: Adverse Scenarios - Domestic (Cont.)

Date		Nominal GDP	Real disposable	Nominal disposable	Unemployment	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	<u>growth</u>	income	income	<u>rate</u>	<u>rate</u>	Treasury rate	Treasury yield	Treasury yield	<u>yield</u>			Market Index	(Level)	Price Index	Index (Lawer)
Q1 2010	1.7	3.2	growth 0.4	growth 1.8	9.8	0.6	0.1	2.4	3.9	5.8	5.0	3.3	(Level) 12032.5	145.5	(Level) 150.0	(Level) 27.3
Q2 2010		5.8			9.6	-0.1	0.1	2.4	3.6			3.3	10645.8	144.4		45.8
Q3 2010		4.6			9.5	1.2	0.2	1.6			4.4	3.3	11814.0	141.6		32.9
Q4 2010		4.7	2.8		9.5	3.3	0.1	1.5	3.0		4.5	3.3	13131.5	140.3		23.5
Q1 2011	-1.5	0.2	5.0	8.2	9.1	4.3	0.1	2.1	3.5		4.9	3.3	13908.5	138.5		29.4
Q2 2011	2.9	6.0			9.1	4.7	0.0	1.8	3.3		4.6	3.3	13843.5	137.7		22.7
Q3 2011	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	137.7	177.0	48.0
Q4 2011	4.6	5.2	0.2	1.6	8.6	1.7	0.0	1.0	2.1	5.0	4.0	3.3	13019.3	137.6	188.0	45.5
Q1 2012	2.7	4.9	6.7	9.2	8.3	2.2	0.1	0.9	2.1	4.7	3.9	3.3	14627.5	139.6	188.0	23.0
Q2 2012	1.9	3.8	3.1	4.4	8.2	1.0	0.1	0.8	1.8	4.5	3.8	3.3	14100.2	142.8	189.0	26.7
Q3 2012	0.5	2.7	-0.2	1.1	8.0	1.8	0.1	0.7	1.6	4.2	3.5	3.3	14894.7	145.7	197.0	20.5
Q4 2012		1.7	10.9	13.3	7.8	2.6	0.1	0.7	1.7	3.9	3.4	3.3	14834.9	149.3	198.0	22.7
Q1 2013		3.6	-15.9	-14.7	7.7	1.4	0.1	0.8			3.5	3.3	16396.2	153.8	202.0	19.0
Q2 2013	1.1	2.1	2.7	3.1	7.5	-0.1	0.1	0.9	2.0	4.1	3.7	3.3	16771.3	158.8	213.0	20.5
Q3 2013		4.9			7.2	2.3	0.0	1.5			4.4	3.3	17718.3	163.0		17.0
Q4 2013		5.6			7.0	1.4	0.1	1.4	2.8		4.3	3.3	19413.2	166.3		20.3
Q1 2014		0.6			6.7	2.1	0.0	1.6			4.4	3.3	19711.2	169.3		21.4
Q2 2014		6.9			6.2	2.4	0.0	1.7	2.7		4.2	3.3	20568.7	170.7		17.0
Q3 2014		6.0		3.9	6.1	1.2	0.0	1.7	2.5		4.1	3.3	20458.8	172.5		17.0
Q4 2014		2.2		4.2	5.7	-0.9	0.0	1.6			3.9	3.3	21424.6	174.5		26.3
Q1 2015		0.8			5.6	-3.1	0.0	1.5			3.7	3.3	21707.6	177.3		22.4
Q2 2015		6.1	2.6		5.4	3.0	0.0	1.5	2.2		3.8	3.3	21630.9	179.4		18.9
Q3 2015		3.3			5.2	1.6	0.0	1.6			3.9	3.3	19959.3	181.7	270.0	40.7
Q4 2015		1.9			5.0	0.2	0.1	1.6			3.9	3.3	21100.9	183.1		24.4
Q1 2016		-0.1	2.3		5.5	-0.9	0.1	0.5	1.3		3.5	3.3	20899.6	181.2		40.7
Q2 2016		-3.0			6.1	-0.7	0.1	0.7	1.4		3.8	3.3	18454.3	178.7		37.0
Q3 2016		-2.1			6.7	-0.5	0.1	0.8			4.0	3.3	16692.8	175.9		38.4
Q4 2016		-1.1			7.1	-0.1	0.1	1.0			4.2	3.2	15536.2	172.8		36.0
Q1 2017	0.0	0.2			7.4	0.3	0.1	1.2	1.8		4.3	3.2	15745.4	169.8		32.0
Q2 2017	1.3	1.8		1.9	7.5	0.7	0.1	1.3			4.3	3.2	16052.6	167.0		29.1
Q3 2017	1.7	2.6			7.5	1.0	0.1	1.5			4.5	3.2	16396.9	164.5		26.8
Q4 2017	2.6	3.4	2.1		7.5	1.2	0.1	1.6			4.6	3.2	17115.4	162.9		24.7
Q1 2018		3.4	2.3		7.4	1.3	0.1	1.8			4.7	3.2	17806.7	161.7		23.1
Q2 2018		3.9			7.3	1.4	0.1	1.9			4.8	3.2	18645.6	161.1		21.7
Q3 2018		4.0			7.2	1.5	0.1	2.1	2.8		4.9	3.2	19184.9	161.0		21.0
Q4 2018		4.1			7.1	1.6	0.1	2.3	2.9		5.0	3.2	19756.4	161.2		20.3
Q1 2019	3.0	4.2	2.4	3.9	7.0	1.7	0.1	2.4	3.0	5.6	5.1	3.2	20341.0	161.6	249.4	19.8

Appendix 7: Adverse Scenarios - 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)
Q1 2001	3.8	1.1	0.9	5.0	1.7		2.6		125.5			1.4
Q2 2001	0.1	4.1	0.8	5.5	2.2		-0.7	-0.3	124.7	3.1		1.4
Q3 2001	0.3	1.4	0.9	4.7	1.1		-4.4	-1.1	119.2	2.6		1.5
Q4 2001	0.5	1.7	0.9	8.4	0.2		-0.5	-1.4	131.0	1.4		1.5
Q1 2002	0.9	3.0	0.9	7.6	0.4	107.3	-0.9	-2.7	132.7	1.6		1.4
Q2 2002	2.0	2.0	1.0	8.1	1.2		4.3	1.7	119.9	3.3		1.5
Q3 2002	1.6	1.6	1.0	7.3	1.3		2.6	-0.7	121.7	3.9		1.6
Q4 2002	0.3	2.4	1.0	6.4	0.9		1.5	-0.4	118.8	3.6		1.6
Q1 2003	-0.9	3.3	1.1	6.5	3.6		-2.2	-1.6	118.1	2.9		1.6
Q2 2003	0.4	0.3	1.2	2.3	1.2		5.2	1.7	119.9	3.7		1.7
Q3 2003	2.0	2.2	1.2	14.2	0.0	102.6	1.7	-0.7	111.4	3.1	1.7	1.7
Q4 2003	3.1	2.2	1.3	12.9	5.6		4.2	-0.6	107.1	3.0		1.8
Q1 2004	2.0	2.3	1.2	5.5	4.0		3.8	-0.9	104.2	2.7		1.8
Q2 2004	2.2	2.4	1.2	7.1	4.1	102.8	0.3	1.1	109.4	2.2		1.8
Q3 2004	1.3	2.0	1.2	8.2	3.9		0.6	0.1	110.2	0.9		1.8
Q4 2004	1.5	2.4	1.4	6.3	0.9		-1.0	1.7	102.7	1.9		1.9
Q1 2005	0.6	1.5	1.3	10.3	2.9		0.8	-2.7	107.2	2.8		1.9
Q2 2005	2.8	2.2	1.2	8.9	1.5		5.4	-1.2	110.9	4.4		1.8
Q3 2005	3.0	3.2	1.2	9.3	2.3		1.4	-1.3	113.3	4.1	2.7	1.8
Q4 2005	2.4	2.5	1.2	11.6	1.7		0.7	0.7	117.9	5.9		1.7
Q1 2006	3.7	1.7	1.2	10.9	2.4	96.8	1.7	1.3	117.5	1.5		1.7
Q2 2006	4.4	2.5	1.3	7.1	3.2		1.7	-0.1	114.5	1.2		1.8
Q3 2006	2.6	2.0	1.3	10.3	2.1	96.4	-0.3	0.5	118.0	0.5		1.9
Q4 2006	4.4	0.9	1.3	11.1	3.8		5.2	-0.4	119.0	2.3		2.0
Q1 2007	3.2	2.2	1.3	13.7	3.6		4.0	-0.2	117.6	3.9		2.0
Q2 2007	2.5	2.3	1.4	10.6	4.9		0.6	0.0	123.4	2.4		2.0
Q3 2007	2.0	2.1	1.4	8.6	7.4	90.6	-1.5	0.1	115.0	3.1		2.0
Q4 2007	2.0	4.9	1.5	12.9	6.1	89.4	3.4	2.2	111.7	3.1		2.0
Q1 2008	2.3	4.2	1.6	7.1	8.1	88.0	2.7	1.3	99.9	1.0	3.7	2.0
Q2 2008	-1.3	3.2	1.6	6.1	6.4	88.7	-4.6	1.6	106.2	-2.2	5.7	2.0
Q3 2008	-2.2	3.2	1.4	3.1	2.8	91.6	-4.1	3.6	105.9	-6.6	5.8	1.8
Q4 2008	-7.1	-1.4	1.4	0.1	-0.9	92.3	-12.5	-2.2	90.8	-8.7	0.5	1.5
Q1 2009	-11.3	-1.1	1.3	3.8	-1.4	94.2	-15.1	-3.6	99.2	-6.1	-0.1	1.4
Q2 2009	-0.8	0.0	1.4	15.4	2.3	92.3	7.1	-1.7	96.4	-0.8	2.2	1.6
Q3 2009	1.2	1.1	1.5	12.6	3.9		0.4	-1.2	89.5	0.6		1.6
Q4 2009	2.0	1.6		9.0	5.2		7.1	-1.6		1.4		1.6

Appendix 7: Adverse Scenarios - 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)
Q1 2010	1.7	1.8	1.4	9.8	4.6	89.8	5.8	0.9	93.4	1.5	4.0	1.5
Q2 2010	3.9	2.0	1.2	9.8	3.4	91.1	4.6	-1.2	88.5	3.3	3.2	1.5
Q3 2010	1.9	1.6	1.4	8.8	3.9	88.4	6.1	-2.1	83.5	2.0	2.3	1.6
Q4 2010	2.1	2.6	1.3	9.3	7.7		-2.0					
Q1 2011	3.5	3.6	1.4	9.5	6.3	86.5	-7.7	-0.4	82.8	3.0	6.7	1.6
Q2 2011	0.0	3.2	1.5	7.1	5.4	85.3	-2.2					
Q3 2011	-0.1	1.4	1.3	5.9	5.0	87.4	11.2	0.3	77.0	3.3	3.7	1.6
Q4 2011	-1.2	3.5	1.3	6.1	3.4	87.4	0.9	-0.7	77.0	0.6	3.4	1.6
Q1 2012	-0.7	2.7	1.3	7.1	3.2	86.4	3.6	1.9	82.4	0.9	2.1	1.6
Q2 2012	-1.3	2.3	1.3	5.9	4.0	88.1	-1.3	-0.7	79.8	-0.7	2.0	1.6
Q3 2012	-0.6	1.6	1.3	6.5	1.9	86.3	-1.9	-2.1	77.9	4.1	2.3	1.6
Q4 2012	-1.7	2.4	1.3	7.2	3.7	86.0	-0.4					
Q1 2013	-1.0	1.1	1.3	6.3	4.2	86.3	4.0					
Q2 2013	1.6	0.5	1.3	7.0	3.1	87.3	3.1					1.5
Q3 2013	1.0	1.3	1.4	7.4	3.5	86.8	2.0			3.8		
Q4 2013	0.8	0.3	1.4	6.5	4.0		-0.7	2.3				
Q1 2014	0.9	0.6	1.4	5.9	1.5		5.0					
Q2 2014	0.2	0.1	1.4	7.0	2.7	86.8	-7.2			3.2		
Q3 2014	1.2	0.3	1.3	7.5	2.2	87.2	-2.8			2.6		
Q4 2014	1.5	-0.4	1.2	5.6	1.0	88.2	1.8	-0.8	119.9			
Q1 2015	2.2	-1.2	1.1	5.8	1.0		4.4	-0.3				
Q2 2015	1.6	2.2	1.1	6.2	2.9		-0.5	1.7		2.2		
Q3 2015	1.2	-0.1	1.1	7.0	2.6		1.0					
Q4 2015	1.6	-0.1	1.1	6.2	2.3		1.0					1.5
Q1 2016	-3.4	-0.5	1.0	-1.1	0.2		-4.0			-2.1		
Q2 2016	-3.2	-0.8	1.0	0.4	-0.3	104.6	-5.7	-2.4		-2.6		
Q3 2016	-1.8	-0.6	1.0	3.8	-0.8	104.4	-5.0		122.1	-1.9		
Q4 2016	-0.7	-0.3	1.0	5.5	-0.7	104.1	-3.8					
Q1 2017	0.2	0.1	1.0	6.2	-0.4	103.0	-2.8					
Q2 2017	0.9	0.4	1.0	6.3	-0.1	101.8	-1.9	-0.7				
Q3 2017	1.5	0.6	1.0	6.3	0.3	100.6	-1.1					
Q4 2017	1.8	0.8	1.0	6.3	0.6		-0.3					
Q1 2018	2.0	0.9	1.0	6.3	0.8		0.4	-0.2		2.4		
Q2 2018	2.1	1.0	1.0	6.4	1.1	97.8	0.9	-0.1		2.6		
Q3 2018	2.1	1.1	1.0	6.5	1.4	97.1	1.2					
Q4 2018	2.1	1.2	1.0	6.6	1.7	96.5	1.5	0.3		2.7		1.5
Q1 2019	2.0	1.3	1.1	6.7	2.0	96.1	1.6	0.6	119.4	2.7	1.5	1.5

Appendix 8: Severely Adverse Scenarios - Domestic

	Real GDP	Nominal GDP	<u>Real</u> 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	yield	Mortgage rate	Prime rate	Market Index	<u>Index</u>	Price Index	Index
			growth	growth									(Level)	(Level)	(Level)	(Level)
Q1 2001	-1.1	1.4	3.5	6.3	4.2	3.9	4.8	4.9	5.3	7.4	7.0	8.6	10645.9	113.3	139.0	32.8
Q2 2001	2.1	5.1	-0.3	1.6	4.4	2.8	3.7	4.9	5.5	7.5	7.1	7.3	11407.2	115.2	139.0	34.7
Q3 2001	-1.3	0.0	9.8	10.1	4.8	1.1	3.2	4.6	5.3	7.3	6.9	6.6	9563.0	117.5	141.0	43.7
Q4 2001	1.1	2.3	-4.9	-4.6	5.5	-0.3	1.9	4.2	5.1	7.2	6.8	5.2	10707.7	119.8	136.0	35.3
Q1 2002	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	122.1	137.0	26.1
Q2 2002	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	125.4	136.0	28.4
Q3 2002		3.8	-0.5		5.7	2.2	1.6	3.4	4.5	7.3		4.8	7773.6	128.6	139.0	45.1
Q4 2002		2.4	1.9		5.9	2.4	1.3	3.1	4.3	7.0		4.5	8343.2	131.3	142.0	42.6
Q1 2003		4.6	1.1		5.9	4.2	1.2	2.9		6.5			8051.9	134.1	148.0	34.7
Q2 2003		5.1	5.9		6.1	-0.7	1.0	2.6		5.7			9342.4	137.0	149.0	29.1
Q3 2003		9.3	6.7		6.1	3.0	0.9	3.1	4.4	6.0		4.0	9649.7	141.0	147.0	22.7
Q4 2003		6.8	1.6		5.8	1.5	0.9	3.2		5.8		4.0	10799.6	145.9	146.0	21.1
Q1 2004		5.9	2.9		5.7	3.4	0.9	3.0		5.5			11039.4	151.6	153.0	21.6
Q2 2004		6.6	4.0		5.6	3.2	1.1	3.7	4.7	6.1		4.0	11144.6	157.9	160.0	20.0
Q3 2004		6.3	2.1		5.4	2.6	1.5	3.5	4.4	5.8		4.4	10893.8	163.2	172.0	19.3
Q4 2004		6.4	5.1		5.4	4.4	2.0	3.5	4.3	5.4		4.9	11951.5	169.2	176.0	16.6
Q1 2005		8.3	-3.8		5.3	2.0	2.5	3.9		5.4		5.4	11637.3	177.1	176.0	14.6
Q2 2005		5.1	3.2		5.1	2.7	2.9	3.9		5.5		5.9	11856.7	184.5	182.0	17.7
Q3 2005		7.3	2.1		5.0	6.2	3.4	4.0		5.5		6.4	12282.9	190.2	187.0	14.2
Q4 2005		5.4	3.4		5.0	3.8	3.8	4.4	4.6	5.9		7.0	12497.2	194.8	195.0	16.5
Q1 2006		8.2	9.5		4.7	2.1	4.4	4.6		6.0		7.4	13121.6	198.0	200.0	14.6
Q2 2006		4.5	0.6		4.6	3.7	4.7	5.0		6.5			12808.9	197.1	209.0	23.8
Q3 2006		3.2	1.2		4.6	3.8	4.9	4.8		6.4			13322.5	195.8	219.0	18.6
Q4 2006		4.6	5.3		4.4	-1.6	4.9	4.6		6.1		8.3	14215.8	195.8	217.0	12.7
Q1 2007	0.2	4.8	2.6		4.5	4.0	5.0	4.6		6.1		8.3	14354.0	193.3	227.0	19.6
Q2 2007	3.1	5.4	0.8		4.5	4.6	4.7	4.7	4.9	6.3		8.3	15163.1	188.5	236.0	18.9
Q3 2007	2.7	4.2	1.1		4.7	2.6	4.3	4.5	4.8	6.5			15317.8	183.2	249.0	30.8
Q4 2007	1.4	3.2	0.3		4.8	5.0	3.4	3.8		6.4			14753.6	177.8	251.0	31.1
Q1 2008		-0.5	2.9	6.5	5.0	4.4	2.1	2.8		6.5	5.9	6.2	13284.1	171.1	240.0	32.2
Q2 2008		4.0	8.7	13.3	5.3	5.3	1.6	3.2	4.1	6.8		5.1	13016.4	163.9	224.0	24.1
Q3 2008	-1.9	0.8	-8.9	-5.1	6.0	6.3	1.5	3.1	4.1	7.2	6.3	5.0	11826.0	157.4	233.0	46.7
Q4 2008	-8.2	-7.7	2.6	-3.2	6.9	-8.9	0.3	2.2	3.7	9.4	5.8	4.1	9056.7	149.5	223.0	80.9
Q1 2009	-5.4	-4.5	-0.8	-3.0	8.3	-2.7	0.2	1.9	3.2	9.0	5.0	3.3	8044.2	143.5	209.0	56.7
Q2 2009	-0.5	-1.2	2.9	4.7	9.3	2.1	0.2	2.3	3.7	8.2	5.1	3.3	9342.8	143.2	178.0	42.3
Q3 2009	1.3	1.2	-4.3	-1.9	9.6	3.5	0.2	2.5	3.8	6.8	5.1	3.3	10812.8	144.3	154.0	31.3
Q4 2009	3.9	5.2	-0.5	2.2	9.9	3.2	0.1	2.3	3.7	6.1	4.9	3.3	11385.1	145.2	155.0	30.7

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

<u>Date</u>	Real GDP growth	Nominal GDP growth	Real disposable income growth	Nominal disposable income growth	Unemployment rate	CPI inflation rate	3-month Treasury rate	<u>5-year</u> Treasury yield	<u>10-year</u> Treasury yield	BBB corporate yield	Mortgage rate	Prime rate	Dow Jones Total Stock Market Index (Level)	House Price Index (Level)	Commercial Real Estate Price Index (Level)	Market Volatility Index (Level)
Q1 2010	1.7	3.2	0.4		9.8	0.6	0.1	2.4	3.9	5.8	5.0	3.3	12032.5	145.5	150.0	27.3
Q2 2010		5.8	5.3		9.6	-0.1	0.1	2.3	3.6				10645.8	144.4	165.0	45.8
Q3 2010	2.7	4.6	2.0	3.2	9.5	1.2	0.2	1.6	2.9	5.1	4.4	3.3	11814.0	141.6	167.0	32.9
Q4 2010		4.7	2.8		9.5	3.3	0.1	1.5	3.0		4.5	3.3	13131.5	140.3	173.0	23.5
Q1 2011	-1.5	0.2	5.0	8.2	9.1	4.3	0.1	2.1	3.5	5.4	4.9	3.3	13908.5	138.5	180.0	29.4
Q2 2011	2.9	6.0	-0.6	3.5	9.1	4.7	0.0	1.8	3.3	5.1	4.6	3.3	13843.5	137.7	177.0	22.7
Q3 2011	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	137.7	177.0	48.0
Q4 2011	4.6	5.2	0.2	1.6	8.6	1.7	0.0	1.0	2.1	5.0	4.0	3.3	13019.3	137.6	188.0	45.5
Q1 2012	2.7	4.9	6.7	9.2	8.3	2.2	0.1	0.9	2.1	4.7	3.9	3.3	14627.5	139.6	188.0	23.0
Q2 2012	1.9	3.8	3.1	4.4	8.2	1.0	0.1	0.8	1.8	4.5	3.8	3.3	14100.2	142.8	189.0	26.7
Q3 2012	0.5	2.7	-0.2	1.1	8.0	1.8	0.1	0.7	1.6	4.2	3.5	3.3	14894.7	145.7	197.0	20.5
Q4 2012	0.1	1.7	10.9	13.3	7.8	2.6	0.1	0.7	1.7	3.9	3.4	3.3	14834.9	149.3	198.0	22.7
Q1 2013	1.9	3.6	-15.9	-14.7	7.7	1.4	0.1	0.8	1.9	4.0	3.5	3.3	16396.2	153.8	202.0	19.0
Q2 2013	1.1	2.1	2.7	3.1	7.5	-0.1	0.1	0.9	2.0	4.1	3.7	3.3	16771.3	158.8	213.0	20.5
Q3 2013	3.0	4.9	2.2	3.9	7.2	2.3	0.0	1.5	2.7	4.9	4.4	3.3	17718.3	163.0	224.0	17.0
Q4 2013	3.8	5.6	0.6	2.0	7.0	1.4	0.1	1.4	2.8	4.8	4.3	3.3	19413.2	166.3	229.0	20.3
Q1 2014	-0.9	0.6	4.0		6.7	2.1	0.0	1.6	2.8			3.3	19711.2	169.3	230.0	21.4
Q2 2014		6.9	3.0		6.2	2.4	0.0		2.7	4.3	4.2		20568.7	170.7	239.0	17.0
Q3 2014		6.0	2.7		6.1	1.2	0.0	1.7	2.5	4.2	4.1	3.3	20458.8	172.5	245.0	17.0
Q4 2014		2.2	4.7		5.7	-0.9	0.0	1.6	2.3	4.2	3.9		21424.6	174.5	252.0	26.3
Q1 2015		0.8	3.9		5.6	-3.1	0.0	1.5	2.0	4.0		3.3	21707.6	177.3	260.0	22.4
Q2 2015		6.1	2.6		5.4	3.0	0.0	1.5	2.2	4.2	3.8		21630.9	179.4	264.0	18.9
Q3 2015		3.3	3.8		5.2	1.6	0.0	1.6	2.3	4.5	3.9		19959.3	181.7	270.0	40.7
Q4 2015		1.9	3.5		5.0	0.2	0.1	1.6	2.2	4.6			21100.9	183.1	273.4	24.4
Q1 2016		-2.6	-0.5		6.0	0.2	0.0	0.0	0.2	4.8			16831.9	178.8	264.9	73.3
Q2 2016		-6.1	-4.1		7.2	0.9	-0.2	0.0	0.4	5.6		2.9	13254.9	173.5	251.0	61.1
Q3 2016		-4.5	-4.5		8.3	1.1	-0.5	0.0	0.4	6.0			11469.2	167.4	236.5	67.1
Q4 2016		-2.9	-3.6		9.1	1.3	-0.5	0.0	0.6		4.1	2.6	10395.5	160.8	223.2	59.1
Q1 2017	-2.2	-0.9	-2.0		9.7	1.4	-0.5	0.0	0.7	6.1	4.1	2.6	11183.3	154.7	210.4	45.5
Q2 2017	0.4	1.9	-0.7		9.9	1.8	-0.5	0.0	0.8	5.8		2.6	12131.9	148.9	201.3	37.4
Q3 2017	1.3	2.9	-0.3		10.0	1.9	-0.5	0.1	1.0		4.1	2.6	13178.9	144.0	193.4	31.1
Q4 2017	3.0	4.4	1.4		9.9	1.9	-0.5	0.2	1.1	5.5	4.1	2.6	14671.1	140.8	191.2	26.2
Q1 2018		4.0	2.3		9.8	1.6	-0.5	0.3	1.2	5.3	4.1	2.6	16180.1	138.5	190.1	22.8
Q2 2018		5.0	2.6		9.6	1.7	-0.5	0.4	1.4	5.1	4.0		17996.1	137.5	190.5	20.0
Q3 2018		4.9	2.9 3.1		9.4	1.7	-0.5	0.5	1.5			2.6	19271.6	137.3	192.6	18.9
Q4 2018		4.9			9.1	1.6	-0.5	0.6	1.6		4.1	2.6	20640.9	137.7	195.4	17.6
Q1 2019	3.9	4.8	3.0	4.2	8.9	1.5	-0.5	0.7	1.7	4.7	4.1	2.6	22068.1	138.5	198.5	16.8

Appendix 9: Severely Adverse Scenarios - 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)
Q1 2001	3.8	1.1			1.7		2.6		125.5			1.4
Q2 2001	0.1	4.1		5.5	2.2		-0.7	-0.3	124.7	3.1		
Q3 2001	0.3	1.4		4.7	1.1		-4.4	-1.1	119.2	2.6		
Q4 2001	0.5	1.7		8.4	0.2		-0.5	-1.4	131.0	1.4		
Q1 2002		3.0		7.6	0.4		-0.9	-2.7	132.7	1.6		
Q2 2002		2.0		8.1	1.2		4.3	1.7	119.9	3.3		1.5
Q3 2002		1.6		7.3	1.3		2.6		121.7	3.9		1.6
Q4 2002		2.4		6.4	0.9		1.5		118.8	3.6		1.6
Q1 2003		3.3		6.5	3.6		-2.2		118.1	2.9		
Q2 2003		0.3		2.3	1.2		5.2		119.9	3.7		
Q3 2003		2.2		14.2	0.0		1.7	-0.7	111.4	3.1		1.7
Q4 2003		2.2		12.9	5.6		4.2		107.1	3.0		1.8
Q1 2004		2.3		5.5	4.0		3.8		104.2	2.7		1.8
Q2 2004		2.4		7.1	4.1	102.8	0.3	1.1	109.4	2.2		
Q3 2004	1.3	2.0		8.2	3.9		0.6		110.2	0.9		1.8
Q4 2004		2.4		6.3	0.9		-1.0	1.7	102.7	1.9		
Q1 2005		1.5		10.3	2.9		0.8		107.2	2.8		
Q2 2005		2.2		8.9	1.5		5.4	-1.2	110.9	4.4		1.8
Q3 2005	3.0	3.2		9.3	2.3		1.4	-1.3	113.3	4.1		1.8
Q4 2005		2.5		11.6	1.7		0.7	0.7	117.9	5.9		1.7
Q1 2006		1.7		10.9	2.4		1.7	1.3	117.5	1.5		1.7
Q2 2006		2.5		7.1	3.2		1.7	-0.1	114.5	1.2		
Q3 2006		2.0		10.3	2.1	96.4	-0.3	0.5	118.0	0.5		1.9
Q4 2006		0.9		11.1	3.8		5.2		119.0	2.3		
Q1 2007	3.2	2.2		13.7	3.6		4.0	-0.2	117.6	3.9		
Q2 2007		2.3		10.6	4.9		0.6		123.4	2.4		2.0
Q3 2007	2.0	2.1	1.4	8.6	7.4	90.6	-1.5	0.1	115.0	3.1		
Q4 2007	2.0	4.9		12.9	6.1	89.4	3.4	2.2	111.7	3.1		2.0
Q1 2008		4.2		7.1	8.1	88.0	2.7	1.3	99.9	1.0		2.0
Q2 2008	-1.3	3.2	1.6	6.1	6.4	88.7	-4.6	1.6	106.2	-2.2	5.7	2.0
Q3 2008	-2.2	3.2	1.4	3.1	2.8	91.6	-4.1	3.6	105.9	-6.6	5.8	1.8
Q4 2008	-7.1	-1.4	1.4	0.1	-0.9	92.3	-12.5	-2.2	90.8	-8.7	0.5	1.5
Q1 2009	-11.3	-1.1	1.3	3.8	-1.4	94.2	-15.1	-3.6	99.2	-6.1	-0.1	1.4
Q2 2009	-0.8	0.0	1.4	15.4	2.3	92.3	7.1	-1.7	96.4	-0.8	2.2	1.6
Q3 2009	1.2	1.1	1.5	12.6	3.9	91.3	0.4	-1.2	89.5	0.6	3.5	1.6
Q4 2009		1.6	1.4	9.0	5.2	90.7	7.1	-1.6	93.1	1.4	3.0	1.6

Appendix 9: Severely Adverse Scenarios - 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>U.K. inflation</u>	U.K. bilateral dollar exchange rate (USD/pound)
Q1 2010		1.8		9.8	4.6		5.8		93.4	1.5	4.0	
Q2 2010	3.9	2.0	1.2	9.8	3.4		4.6		88.5	3.3	3.2	
Q3 2010		1.6		8.8	3.9		6.1		83.5	2.0	2.3	1.6
Q4 2010	2.1	2.6		9.3	7.7		-2.0		81.7	0.4	4.0	
Q1 2011	3.5	3.6		9.5	6.3		-7.7		82.8	3.0	6.7	1.6
Q2 2011	0.0	3.2	1.5	7.1	5.4		-2.2		80.6	1.4	4.7	1.6
Q3 2011	-0.1	1.4	1.3	5.9	5.0		11.2		77.0	3.3	3.7	1.6
Q4 2011	-1.2	3.5	1.3	6.1	3.4		0.9		77.0	0.6	3.4	1.6
Q1 2012		2.7	1.3	7.1	3.2		3.6		82.4	0.9	2.1	
Q2 2012	-1.3	2.3	1.3	5.9	4.0		-1.3		79.8	-0.7	2.0	
Q3 2012	-0.6	1.6		6.5	1.9		-1.9		77.9	4.1	2.3	1.6
Q4 2012	-1.7	2.4	1.3	7.2	3.7		-0.4		86.6	-0.2	4.0	
Q1 2013	-1.0	1.1	1.3	6.3	4.2		4.0		94.2	2.7	2.9	1.5
Q2 2013	1.6	0.5	1.3	7.0	3.1		3.1		99.2	2.4	1.7	1.5
Q3 2013	1.0	1.3	1.4	7.4	3.5		2.0		98.3	3.8	2.1	1.6
Q4 2013	0.8	0.3	1.4	6.5	4.0		-0.7		105.3	2.6	1.5	
Q1 2014	0.9	0.6		5.9	1.5		5.0		103.0	2.6	1.8	
Q2 2014	0.2	0.1	1.4	7.0	2.7	86.8	-7.2		101.3	3.2	1.5	
Q3 2014	1.2	0.3	1.3	7.5	2.2		-2.8		109.7	2.6	0.9	1.6
Q4 2014	1.5	-0.4	1.2	5.6	1.0		1.8		119.9	2.7	-0.6	
Q1 2015	2.2	-1.2	1.1	5.8	1.0		4.4		120.0	1.5	-1.2	
Q2 2015	1.6	2.2		6.2	2.9		-0.5		122.1	2.2	0.8	
Q3 2015	1.2	-0.1	1.1	7.0	2.6		1.0		119.8	1.8	1.0	1.5
Q4 2015	1.6	-0.1	1.1	6.2	2.3		1.0		120.3	2.4	-0.3	
Q1 2016	-4.4	-0.4	1.0	-1.4	0.1	100.9	-4.1		117.0	-2.6	-0.8	
Q2 2016	-5.4	-1.0	1.0	-0.8	-1.1	105.0	-7.5		115.5	-4.4	-1.3	1.4
Q3 2016	-4.4	-1.3	1.0	1.5	-1.9		-9.0		114.9	-4.1	-1.4	1.4
Q4 2016	-3.4	-1.2	0.9	2.9	-2.4		-9.6		114.2	-3.4	-1.3	1.4
Q1 2017	-1.6	-0.9	0.9	5.0	-2.2		-8.1		114.2	-1.9	-0.9	1.4
Q2 2017	-0.2	-0.5	1.0	6.1	-1.9		-6.0		114.2	-0.4	-0.4	1.4
Q3 2017	0.9	-0.1	1.0	6.4	-1.4		-4.1		114.3	0.8	0.0	
Q4 2017	1.6	0.2	1.0	6.5	-1.0		-2.4		114.3	1.7	0.3	
Q1 2018		0.4	1.0	6.5	-0.5		-1.0		113.8	2.3	0.6	
Q2 2018	2.3	0.6	1.0	6.6	-0.1	99.2	0.1		113.4	2.7	0.8	1.5
Q3 2018	2.4	0.7	1.0	6.7	0.3		0.9		113.1	3.0	1.0	1.5
Q4 2018	2.4	0.9	1.0	6.8	0.8		1.4		112.7	3.1	1.1	1.5
Q1 2019	2.3	1.0	1.0	7.0	1.2	96.5	1.7	-0.2	112.1	3.1	1.3	1.5

Appendix 10: Global Market Shock - Adverse

Securitized Products

Trading, PE & Other Fair Value Assets Schedule Securitized Products

								RMBS							
	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
Relative MV Shock Bas		•	Option Akivis	Other ArtA	riiile	HELOC	KIVID3 CDO	KIVIDS CD3	Cledit basket	Filliex	ADA / TADA	Loans	Wildle Loans	KIVIDS	Onspecified
AAA Total	ea on current	Kating (%)													
Pre 2006	-6.4%	-6.4%	-6.4%	-6.4%	-6.4%	-6.4%	-6.4%	-6.4%	-6.4%	-6.4%	-6.4%	-6.4%	-6.4%	-6.4%	-6.4%
2006	-17.2%	-17.2%	-17.2%	-17.2%	-17.2%	-17.2%	-17.2%	-17.2%	-17.2%	-17.2%	-17.2%	-17.2%	-17.2%	-17.2%	-17.2%
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%	-17.2%	-15.7%	-15.7%
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	-17.2%	-17.2%	-17.2%	-17.2%	-17.2%	-17.2%	-17.2%	-17.2%	-17.2%	-17.2%	-17.2%	-17.2%	-17.2%	-17.2%	-17.2%
	17.270	17.270	17.270	17.1270	17.1270	17.270	17.270	17.1270	17.270	17.1270	17.1270	17.270	17.1270	17.270	17.270
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	-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%
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	-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%
			,	<u> </u>											•
BBB Total			1 1						T T						
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	-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%
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%	-20.2%	-45.8%	-45.8%	-45.8%	-20.2%	-20.2%	-45.8%	-45.8%	-45.8%	-45.8%	-20.2%	-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	15.570	15.670	13.070	13.070	15.670	13.070	13.070	13.070	15.670	13.070	15.670	15.670	13.070
<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%

Securitized Products

Trading, PE & Other Fair Value Assets Schedule Securitized Products

				ABS							CMBS				Corporate	e CDO / CLO	Ware	house	Ī
			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								
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%	-5.8%	-6.6%	-6.6%	-6.6%	-6.6%	-11.7%	-7.0%	-11.7%	-7.0%	-7.0%	-11.7%	-11.7%	-8.9%	-8.9%	-9.2%	9.2%	-1.4%
Unspecified Vintage	-2.1%	-6.6%	-7.2%	-7.2%	-7.2%	-7.2%	-7.2%	-11.7%	-7.0%	-11.7%	-7.0%	-7.0%	-11.7%	-11.7%	-8.9%	-8.9%	-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%	-29.2%	-17.5%	-29.2%	-17.5%	-17.5%	-29.2%	-29.2%	-28.0%	-28.0%	-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%	-37.2%	-22.3%	-37.2%	-22.3%	-22.3%	-37.2%	-37.2%	-41.2%	-41.2%	-11.1%	11.1%	-1.4%
																•			
BBB Total	7.20/	10.00/	47.70/	40.00/	40.00/	40.00/	40.00/	0.40/	F 60/	0.40/	F 604	F 60/	0.40/	0.40/	22.20/	22.20/	0.20/	0.20/	22.00/
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 2007	-7.3% -7.3%	-19.0% -19.0%	-19.7% -23.5%	-19.7% -23.5%	-19.7% -23.5%	-19.7% -23.5%	-19.7% -23.5%	-5.0% -10.0%	-3.0%	-5.0% -10.0%	-3.0%	-3.0%	-5.0% -10.0%	-5.0% -10.0%	-22.3%	-22.3% -22.3%	-11.1%	11.1% 11.1%	-22.0%
	-7.3% -7.3%	-19.0%		-23.5%	-23.5% -19.0%	-23.5% -19.0%	-23.5% -19.0%	-10.0%	-6.0% -25.8%		-6.0% -25.8%	-6.0%	-10.0%	-10.0%	-22.3% -43.0%		-11.1% -9.2%	9.2%	-22.0%
Post 2007 Unspecified Vintage	-7.3%	-19.0%	-19.0% -23.5%	-19.0%	-19.0%	-19.0%	-19.0%	-43.1% -43.1%	-25.8%	-43.1% -43.1%	-25.8%	-25.8% -25.8%	-43.1%	-43.1% -43.1%	-43.0%	-43.0% -43.0%	-9.2%	11.1%	-22.0% -22.0%
onspecified vintage	-7.5%	-19.0%	-23.370	-23.370	-23.370	-23.370	-23.370	-43.170	-23.6%	-43.170	-23.670	-23.6%	-45.170	-43.170	-43.0%	-45.0%	-11.170	11.1%	-22.0%
BB Total																			
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%	-43.1%	-25.8%	-43.1%	-25.8%	-25.8%	-43.1%	-43.1%	-43.7%	-43.7%	-11.1%	11.1%	-22.0%
B Total																			
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%	-43.1%	-25.8%	-43.1%	-25.8%	-25.8%	-43.1%	-43.1%	-43.7%	-43.7%	-11.1%	11.1%	-22.0%
dD Tabal																			
<b 2006<="" pre="" td="" total=""><td>-9.4%</td><td>-19.0%</td><td>-17.7%</td><td>-19.0%</td><td>-19.0%</td><td>-19.0%</td><td>-19.0%</td><td>-9.4%</td><td>-5.6%</td><td>-9.4%</td><td>-5.6%</td><td>-5.6%</td><td>-9.4%</td><td>-9.4%</td><td>-23.8%</td><td>-23.8%</td><td>-9.2%</td><td>9.2%</td><td>-22.0%</td>	-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%	-17.7%	-19.0%	-19.0%	-19.0%	-19.0%	-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%	-19.7%	-13.7%	-19.7%	-19.7%	-13.7%	-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%	-43.1%	-25.8%	-43.1%	-25.8%	-25.8%	-43.1%	-43.1%	-43.7%	-43.7%	-11.1%	11.1%	-22.0%
	3.170	15.070	25.570	25.573	23.370	25.575	23.370	.5.270	25.070	.5.1,0	25.070	25.070	13.170	13.170	.5.7,0	13.773	11.1/3	11.175	22.078
NR Total								ļ			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%	-43.1%	-25.8%	-43.1%	-25.8%	-25.8%	-43.1%	-43.1%	-43.7%	-43.7%	-11.1%	11.1%	-22.0%

Municipals

Trading, PE & Other Fair Value Assets Schedule Munis

	Spread Widening (bps)
Bonds	
AAA	14.0
AA	21.0
Α	58.0
BBB	140.0
BB	250.6
В	359.1
<b< td=""><td>538.5</td></b<>	538.5
NR	538.5
Loans	
AAA	14.0
AA	21.0
Α	58.0
BBB	140.0
BB	250.6
В	359.1
<b< td=""><td>538.5</td></b<>	538.5
NR	538.5
CDS	
AAA	6.0
AA	8.5
Α	16.9
BBB	59.6
ВВ	137.8
В	197.5
<b< td=""><td>296.1</td></b<>	296.1
NR	296.1
Indices	
AAA	6.0
AA	8.5
A	16.9
BBB	59.6
BB	137.8
В	197.5
<b< td=""><td>296.1</td></b<>	296.1
NR	296.1
Other / Unspecified Munis	
AAA	14.0
AA	21.0
Α	58.0
BBB	140.0
ВВ	250.6
В	359.1
_	520.5
<b< td=""><td>538.5</td></b<>	538.5

Agencies

Trading, PE & Other Fair Value Assets Schedule

Agencies

OAS Widening (bps)

US Residential Agency Products

03 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	

155.0
17.5
30.5
20.5
11.5
155.0
17.5
20.5
11.5
20.5
30.5
20.5

US Commercial Agency Products

1	Cash Agency CMBS
١.	Agency CMBS Derivatives
	Commercial Other / Unspecified

100.0
100.0
100.0

Non-US Agency Products

AAA
AA
A
BBB
ВВ
В
<b< td=""></b<>
NR

25.7
33.4
43.5
56.5
73.4
95.5
124.1
124.1

Rates DV01

DFAST 2016 Market Shocks: Adverse Scenario

Rates DV01

Other Basis

							MATURIT	Y					
Rates Shocks (bps)	1M	3M	6M	9M	1Y	2Y	3Y	5Y	7Y	10Y	15Y	20Y	30Y
AUD Directional Risks		•	•			•	•	•	•	•	•	•	
Governments	97.9	97.9	83.9	68.5	53.0	(14.8)	(42.8)	(71.2)	(107.5)	(129.0)	(144.4)	(143.2)	(139.8)
Agencies	97.9	97.9	83.9	68.5	53.0	(14.8)	(42.8)	(71.2)	(107.5)	(129.0)	(144.4)	(143.2)	(139.8)
Municipals	97.9	97.9	83.9	68.5	53.0	(14.8)	(42.8)	(71.2)	(107.5)	(129.0)	(144.4)	(143.2)	(139.8)
Swaps / Discounting Curve	68.6	68.6	60.1	51.0	41.9	(10.3)	(37.8)	(64.6)	(89.4)	(110.9)	(117.7)	(119.5)	(123.9)
Instruments shocked by MV**													
Other	68.6	68.6	60.1	51.0	41.9	(10.3)	(37.8)	(64.6)	(89.4)	(110.9)	(117.7)	(119.5)	(123.9)
AUD Basis Risks (Do not include the swa	p/discounting	curve specific	ed above)										
OIS Basis													
1m Basis													
3m Basis													
6m Basis													
12m Basis													
Other Basis													
CAD Directional Risks													
Governments	52.2	52.2	52.9	47.9	43.0	14.0	(8.5)	(46.4)	(67.5)	(83.1)	(79.8)	(80.7)	(78.9
Agencies	52.2	52.2	52.9	47.9	43.0	14.0	(8.5)	(46.4)	(67.5)	(83.1)	(79.8)	(80.7)	(78.9
Municipals	52.2	52.2	52.9	47.9	43.0	14.0	(8.5)	(46.4)	(67.5)	(83.1)	(79.8)	(80.7)	(78.9
Swaps / Discounting Curve	26.0	26.0	34.3	32.5	30.7	1.7	(22.7)	(64.4)	(83.1)	(103.3)	(113.7)	(114.5)	(112.8
Instruments shocked by MV**													
Other	26.0	26.0	34.3	32.5	30.7	1.7	(22.7)	(64.4)	(83.1)	(103.3)	(113.7)	(114.5)	(112.8
CAD Basis Risks (Do not include the swa	p/discounting	curve specifie	d above)		,		1					1	
OIS Basis	p/discounting	curve specifie	d above)										
OIS Basis 1m Basis	p/discounting	curve specifie	ed above)										
OIS Basis 1m Basis 3m Basis	p/discounting	curve specifie	ed above)										
OIS Basis 1m Basis 3m Basis 6m Basis	p/discounting	curve specifie	ed above)										
OIS Basis 1m Basis 3m Basis 6m Basis 12m Basis	p/discounting	curve specifie	ed above)										
OIS Basis 1m Basis 3m Basis 6m Basis	p/discounting	curve specifie	ed above)										
OIS Basis 1m Basis 3m Basis 6m Basis 12m Basis	p/discounting	curve specifie	d above)										
OIS Basis 1m Basis 3m Basis 6m Basis 12m Basis Other Basis	p/discounting	curve specifie	d above)										
OIS Basis 1m Basis 3m Basis 6m Basis 12m Basis Other Basis	p/discounting	84.4	80.0	81.1	82.2	82.5	78.8	58.9	37.2	9.2	(21.0)	(39.0)	(58.1
OIS Basis 1m Basis 3m Basis 6m Basis 12m Basis Other Basis				81.1	82.2 82.2	82.5 82.5	78.8 78.8	58.9 58.9	37.2 37.2	9.2	(21.0)	(39.0)	(58.1)
OIS Basis 1m Basis 3m Basis 6m Basis 12m Basis Other Basis CHF Directional Risks Governments	84.4	84.4	80.0										
OIS Basis 1m Basis 3m Basis 6m Basis 12m Basis Other Basis CHF Directional Risks Governments Agencies	84.4 84.4	84.4 84.4	80.0	81.1	82.2	82.5	78.8	58.9	37.2	9.2	(21.0)	(39.0)	(58.1 (58.1
OIS Basis 1m Basis 3m Basis 6m Basis 12m Basis Other Basis Other Basis CHF Directional Risks Governments Agencies Municipals	84.4 84.4 84.4	84.4 84.4 84.4	80.0 80.0 80.0	81.1 81.1	82.2 82.2	82.5 82.5	78.8 78.8	58.9 58.9	37.2 37.2	9.2 9.2	(21.0) (21.0)	(39.0) (39.0)	(58.1 (58.1
OIS Basis 1m Basis 3m Basis 6m Basis 12m Basis Other Basis CHF Directional Risks Governments Agencies Municipals Swaps / Discounting Curve	84.4 84.4 84.4	84.4 84.4 84.4	80.0 80.0 80.0	81.1 81.1	82.2 82.2	82.5 82.5	78.8 78.8	58.9 58.9	37.2 37.2	9.2 9.2	(21.0) (21.0)	(39.0) (39.0)	(58.1 (58.1 (81.0
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	84.4 84.4 84.4 5.1 5.1	84.4 84.4 84.4 5.1 5.1	80.0 80.0 80.0 80.0 6.7	81.1 81.1 2.8	82.2 82.2 0.0	82.5 82.5 0.0	78.8 78.8 0.0	58.9 58.9 0.0	37.2 37.2 0.0	9.2 9.2 (19.0)	(21.0) (21.0) (53.0)	(39.0) (39.0) (71.0)	(58.1 (58.1 (81.0
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**	84.4 84.4 84.4 5.1 5.1	84.4 84.4 84.4 5.1 5.1	80.0 80.0 80.0 80.0 6.7	81.1 81.1 2.8	82.2 82.2 0.0	82.5 82.5 0.0	78.8 78.8 0.0	58.9 58.9 0.0	37.2 37.2 0.0	9.2 9.2 (19.0)	(21.0) (21.0) (53.0)	(39.0) (39.0) (71.0)	(58.1 (58.1 (81.0
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	84.4 84.4 84.4 5.1 5.1	84.4 84.4 84.4 5.1 5.1	80.0 80.0 80.0 80.0 6.7	81.1 81.1 2.8	82.2 82.2 0.0	82.5 82.5 0.0	78.8 78.8 0.0	58.9 58.9 0.0	37.2 37.2 0.0	9.2 9.2 (19.0)	(21.0) (21.0) (53.0)	(39.0) (39.0) (71.0)	(58.1
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	84.4 84.4 84.4 5.1 5.1	84.4 84.4 84.4 5.1 5.1	80.0 80.0 80.0 80.0 6.7	81.1 81.1 2.8	82.2 82.2 0.0	82.5 82.5 0.0	78.8 78.8 0.0	58.9 58.9 0.0	37.2 37.2 0.0	9.2 9.2 (19.0)	(21.0) (21.0) (53.0)	(39.0) (39.0) (71.0)	(58.1 (58.1 (81.0
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	84.4 84.4 84.4 5.1 5.1	84.4 84.4 84.4 5.1 5.1	80.0 80.0 80.0 80.0 6.7	81.1 81.1 2.8	82.2 82.2 0.0	82.5 82.5 0.0	78.8 78.8 0.0	58.9 58.9 0.0	37.2 37.2 0.0	9.2 9.2 (19.0)	(21.0) (21.0) (53.0)	(39.0) (39.0) (71.0)	(58.1 (58.1 (81.0

Rates DV01 (Continued)

	,												
DKK Directional Risks			1	1	1	1	ı					1	
Governments	82.9	82.9	81.1	75.7	70.2	51.0	27.0	(6.0)	(36.0)	(71.0)	(106.0)	(112.7)	(107.6)
Agencies	82.9	82.9	81.1	75.7	70.2	51.0	27.0	(6.0)	(36.0)	(71.0)	(106.0)	(112.7)	(107.6)
Municipals	82.9	82.9	81.1	75.7	70.2	51.0	27.0	(6.0)	(36.0)	(71.0)	(106.0)	(112.7)	(107.6)
Swaps / Discounting Curve	31.0	31.0	27.5	28.4	29.4	10.0	(4.0)	(45.0)	(76.9)	(89.2)	(100.2)	(105.0)	(110.5)
Instruments shocked by MV**													
Other	31.0	31.0	27.5	28.4	29.4	10.0	(4.0)	(45.0)	(76.9)	(89.2)	(100.2)	(105.0)	(110.5)
		•	•		•								
DKK Basis Risks (Do not include the swa	ap/discounting	curve specifie	d above)										
OIS Basis													
1m Basis													
3m Basis													
6m Basis													
12m Basis		1											
Other Basis													
Other basis		1		<u> </u>		I.	I.	I.	1		1	I.	l
EUR Directional Risks													
	38.1	44.7	51.3	51.1	51.0	41.0	30.0	(1.0)	(35.0)	(75.6)	(116.3)	(125.2)	(131.0)
Governments: Austria													
Governments: Belgium	38.1	46.0	51.3	51.1	51.0	41.0	29.0	(4.0)	(40.0)	(78.1)	(116.3)	(125.2)	(131.0)
Governments: Finland	38.1	44.7	51.3	51.1	51.0	42.0	30.0	(1.0)	(36.0)	(78.0)	(116.3)	(125.2)	(131.0)
Governments: France	64.5	64.5	56.9	56.3	55.8	42.0	29.0	(3.0)	(37.0)	(78.0)	(117.4)	(127.7)	(134.1)
Governments: Germany	38.1	44.7	51.3	51.1	51.0	44.0	35.0	10.0	(16.0)	(53.0)	(96.0)	(120.0)	(131.0)
Governments: Greece	760.3	901.7	1,113.9	1,326.0	1,538.2	2,386.8	2,295.6	1,555.7	1,245.0	1,017.3	845.5	759.5	673.1
Governments: Ireland	38.1	38.1	51.3	51.1	51.0	34.0	19.0	(18.0)	(58.0)	(97.9)	(116.3)	(125.2)	(131.0)
Governments: Italy	101.3	101.3	93.9	78.1	62.4	26.0	0.0	(52.0)	(94.7)	(131.5)	(146.8)	(151.2)	(158.4)
Governments: Netherlands	62.5	62.5	69.4	63.3	58.0	45.0	33.0	4.0	(27.0)	(69.0)	(110.0)	(123.4)	(129.1)
Governments: Portugal	38.1	38.1	51.3	51.1	51.0	24.0	(0.5)	(45.2)	(73.2)	(97.9)	(116.3)	(125.2)	(131.0)
Governments: Spain	66.0	66.0	57.0	47.5	38.0	10.0	(15.0)	(66.0)	(110.0)	(148.7)	(173.7)	(184.3)	(187.4)
Governments: Other	62.5	62.5	69.4	63.3	58.0	45.0	33.0	4.0	(27.0)	(69.0)	(110.0)	(123.4)	(129.1)
Agencies	62.5	62.5	69.4	63.3	58.0	45.0	33.0	4.0	(27.0)	(69.0)	(110.0)	(123.4)	(129.1)
Municipals	62.5	62.5	69.4	63.3	58.0	45.0	33.0	4.0	(27.0)	(69.0)	(110.0)	(123.4)	(129.1)
Swaps / Discounting Curve	15.4	15.4	19.3	28.2	37.2	27.6	12.0	(21.0)	(50.5)	(87.2)	(99.4)	(109.4)	(114.0)
Instruments shocked by MV**	13.4	13.4	19.3	28.2	37.2	27.0	12.0	(21.0)	(30.3)	(87.2)	(33.4)	(109.4)	(114.0)
-	15.4	15.4	19.3	28.2	37.2	27.6	12.0	(21.0)	(50.5)	(87.2)	(99.4)	(109.4)	(114.0)
Other	15.4	15.4	19.3	28.2	37.2	27.6	12.0	(21.0)	(50.5)	(87.2)	(99.4)	(109.4)	(114.0)
EUR Basis Risks (Do not include the swa	/-li		ا مدامه ام										
OIS Basis	1.5	0.8	0.2	0.5	0.4	0.2	(0.1)	(0.5)	(0.8)	(0.9)	(1.0)	(1.0)	(0.8)
										_ ` '		· · · ·	_ ` _
1m Basis	(0.1)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.2	0.2
3m Basis													
6m Basis	(1.8)	(1.0)	(0.3)	(0.6)	(0.4)	(0.2)	0.1	0.5	0.6	0.7	0.7	0.5	0.3
12m Basis	(5.6)	(3.1)	(0.9)	(2.0)	(1.3)	(0.6)	0.3	1.4	1.8	2.1	2.0	1.7	1.0
Other Basis													
GBP Directional Risks							,	,			-		
Governments	101.7	101.7	91.5	73.1	54.8	16.1	(17.6)	(54.8)	(84.9)	(94.6)	(102.2)	(107.4)	(104.2)
Agencies	101.7	101.7	91.5	73.1	54.8	16.1	(17.6)	(54.8)	(84.9)	(94.6)	(102.2)	(107.4)	(104.2)
Municipals	101.7	101.7	91.5	73.1	54.8	16.1	(17.6)	(54.8)	(84.9)	(94.6)	(102.2)	(107.4)	(104.2)
Swaps / Discounting Curve	22.5	22.5	44.5	43.2	41.9	9.9	(15.3)	(51.8)	(73.6)	(90.7)	(97.5)	(94.6)	(88.4)
Instruments shocked by MV**													
Other	22.5	22.5	44.5	43.2	41.9	9.9	(15.3)	(51.8)	(73.6)	(90.7)	(97.5)	(94.6)	(88.4)
	•	•	•	•	•	•							
GBP Basis Risks (Do not include the sw	ap/discounting	curve specifie	d above)										
OIS Basis	(1.4)	(1.5)	(1.6)	(1.6)	(2.0)	(2.4)	(2.4)	(2.9)	(3.2)	(3.6)	(3.8)	(3.9)	(4.0)
1m Basis	(1.9)	(2.0)	(2.1)	(2.2)	(2.7)	(1.5)	(1.1)	(0.9)	(0.9)	(1.1)	(1.2)	(1.4)	(1.4)
3m Basis	(=/	(=/	\ <i>-</i> /	(=/		(/	\/	(/	(/	(/	(/	(=/	(=: -/
6m Basis	5.3	5.7	5.8	6.1	7.6	5.0	4.0	3.2	2.8	2.5	2.2	2.0	1.7
12m Basis	16.3	17.5	18.0	18.8	23.3	18.0	15.3	12.5	11.2	9.9	8.7	7.9	6.9
14111 100313	10.5	17.5	10.0	10.0	23.3	16.0	15.5	12.5	11.4	5.5	0.7	7.9	0.9
Other Basis													

Rates DV01 (Continued)

JPY Directional Risks	,												
Governments	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Agencies	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Municipals	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Swaps / Discounting Curve	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Instruments shocked by MV**	0.0	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
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
JPY Basis Risks (Do not include the swap	/discounting c	urve specifie	d above)										
OIS Basis	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1m TIBOR Basis	0.3	0.3	0.4	0.3	0.4	0.2	0.1	0.3	0.3	0.3	1.1	1.3	1.5
3m TIBOR Basis													
6m TIBOR Basis	0.5	0.7	0.9	0.7	0.8	0.2	0.1	0.2	(0.1)	(0.1)	(0.1)	(0.1)	(0.2)
12m TIBOR Basis									(=:=)	(0.2)	(0.2)	(0.12)	(0.2)
1m LIBOR Basis	0.3	0.3	0.4	0.3	0.4	0.2	0.1	0.3	0.3	0.3	1.1	1.3	1.5
3m LIBOR Basis													
6m LIBOR Basis	0.5	0.7	0.9	0.7	0.8	0.2	0.1	0.2	(0.1)	(0.1)	(0.1)	(0.1)	(0.2)
12m LIBOR Basis									(=:=)	(0.2)	(0.2)	(0.17)	(5.2)
Other Basis													
	- I		·		I				I	I	I		
NOK Directional Risks													
Governments	84.3	84.3	80.4	66.3	52.1	19.0	(14.0)	(46.3)	(78.5)	(81.7)	(80.8)	(80.9)	(80.3)
Agencies	84.3	84.3	80.4	66.3	52.1	19.0	(14.0)	(46.3)	(78.5)	(81.7)	(80.8)	(80.9)	(80.3)
Municipals	84.3	84.3	80.4	66.3	52.1	19.0	(14.0)	(46.3)	(78.5)	(81.7)	(80.8)	(80.9)	(80.3)
Swaps / Discounting Curve	90.2	90.2	83.6	67.1	50.6	7.1	(16.3)	(51.3)	(70.6)	(82.5)	(84.8)	(90.9)	(89.0)
Instruments shocked by MV**													
Other	90.2	90.2	83.6	67.1	50.6	7.1	(16.3)	(51.3)	(70.6)	(82.5)	(84.8)	(90.9)	(89.0)
NOK Basis Risks (Do not include the swa	p/discounting	curve specifie	ed above)		,				,	,	,		
OIS Basis													
1m Basis													
3m Basis													
6m Basis													
12m Basis													
Other Basis													
NZD Directional Risks													
Governments	59.7	59.7	48.5	41.4	34.2	(1.7)	(29.8)	(75.1)	(100.1)	(123.1)	(126.6)	(135.2)	(135.2)
Agencies	59.7	59.7	48.5	41.4	34.2	(1.7)	(29.8)	(75.1)	(100.1)	(123.1)	(126.6)	(135.2)	(135.2)
Municipals	59.7	59.7	48.5	41.4	34.2	(1.7)	(29.8)	(75.1)	(100.1)	(123.1)	(126.6)	(135.2)	(135.2)
Swaps / Discounting Curve	59.7	59.7	48.5	41.4	34.2	(1.7)	(29.8)	(75.1)	(100.1)	(123.1)	(126.6)	(135.2)	(135.2)
Instruments shocked by MV**						()	()	(== .)	((()	(()
Other	59.7	59.7	48.5	41.4	34.2	(1.7)	(29.8)	(75.1)	(100.1)	(123.1)	(126.6)	(135.2)	(135.2)
NZD Davis Distra (Davis et la structural et la service	/-!!		-t -t\										
NZD Basis Risks (Do not include the swa	p/aiscounting	curve specifie	a above)		1				1				1
OIS Basis 1m Basis													
3m Basis													
6m Basis													
12m Basis													
Other Basis													
Other Basis United States Control of the Control of													
SEK Directional Risks	•												
SEK Directional Risks Governments	82.6	82.6	75.8	69 O	66 D	54 N	38 N	(1.0)	(40.0)	(80.0)	(107.6)	(108.6)	(109.9)
Governments	82.6 82.6	82.6 82.6	75.8 75.8	69.0 69.0	66.0 66.0	54.0 54.0	38.0 38.0	(1.0)	(40.0) (40.0)	(80.0)	(107.6) (107.6)	(108.6) (108.6)	(109.9)
Governments Agencies	82.6	82.6	75.8	69.0	66.0	54.0	38.0	(1.0)	(40.0)	(80.0)	(107.6)	(108.6)	(109.9)
Governments Agencies Municipals	82.6 82.6	82.6 82.6	75.8 75.8	69.0 69.0	66.0 66.0	54.0 54.0	38.0 38.0	(1.0) (1.0)	(40.0) (40.0)	(80.0) (80.0)	(107.6) (107.6)	(108.6) (108.6)	(109.9) (109.9)
Governments Agencies Municipals Swaps / Discounting Curve	82.6	82.6	75.8	69.0	66.0	54.0	38.0	(1.0)	(40.0)	(80.0)	(107.6)	(108.6)	(109.9)
Governments Agencies Municipals Swaps / Discounting Curve Instruments shocked by MV**	82.6 82.6 72.3	82.6 82.6 72.3	75.8 75.8 71.3	69.0 69.0 61.0	66.0 66.0 59.5	54.0 54.0 27.0	38.0 38.0 (1.2)	(1.0) (1.0) (59.2)	(40.0) (40.0) (75.1)	(80.0) (80.0) (84.3)	(107.6) (107.6) (89.1)	(108.6) (108.6) (92.4)	(109.9) (109.9) (92.5)
Governments Agencies Municipals Swaps / Discounting Curve	82.6 82.6	82.6 82.6	75.8 75.8	69.0 69.0	66.0 66.0	54.0 54.0	38.0 38.0	(1.0) (1.0)	(40.0) (40.0)	(80.0) (80.0)	(107.6) (107.6)	(108.6) (108.6)	(109.9) (109.9)
Governments Agencies Municipals Swaps / Discounting Curve Instruments shocked by MV** Other	82.6 82.6 72.3	82.6 82.6 72.3	75.8 75.8 71.3 71.3	69.0 69.0 61.0	66.0 66.0 59.5	54.0 54.0 27.0	38.0 38.0 (1.2)	(1.0) (1.0) (59.2)	(40.0) (40.0) (75.1)	(80.0) (80.0) (84.3)	(107.6) (107.6) (89.1)	(108.6) (108.6) (92.4)	(109.9) (109.9) (92.5)
Governments Agencies Municipals Swaps / Discounting Curve Instruments shocked by MV** Other	82.6 82.6 72.3	82.6 82.6 72.3	75.8 75.8 71.3 71.3	69.0 69.0 61.0	66.0 66.0 59.5	54.0 54.0 27.0	38.0 38.0 (1.2)	(1.0) (1.0) (59.2)	(40.0) (40.0) (75.1)	(80.0) (80.0) (84.3)	(107.6) (107.6) (89.1)	(108.6) (108.6) (92.4)	(109.9) (109.9) (92.5)
Governments Agencies Municipals Swaps / Discounting Curve Instruments shocked by MV** Other SEK Basis Risks (Do not include the swap	82.6 82.6 72.3	82.6 82.6 72.3	75.8 75.8 71.3 71.3	69.0 69.0 61.0	66.0 66.0 59.5	54.0 54.0 27.0	38.0 38.0 (1.2)	(1.0) (1.0) (59.2)	(40.0) (40.0) (75.1)	(80.0) (80.0) (84.3)	(107.6) (107.6) (89.1)	(108.6) (108.6) (92.4)	(109.9) (109.9) (92.5)
Governments Agencies Municipals Swaps / Discounting Curve Instruments shocked by MV** Other SEK Basis Risks (Do not include the swap OIS Basis Im Basis	82.6 82.6 72.3	82.6 82.6 72.3	75.8 75.8 71.3 71.3	69.0 69.0 61.0	66.0 66.0 59.5	54.0 54.0 27.0	38.0 38.0 (1.2)	(1.0) (1.0) (59.2)	(40.0) (40.0) (75.1)	(80.0) (80.0) (84.3)	(107.6) (107.6) (89.1)	(108.6) (108.6) (92.4)	(109.9) (109.9) (92.5)
Governments Agencies Municipals Swaps / Discounting Curve Instruments shocked by MV** Other SEK Basis Risks (Do not include the swap	82.6 82.6 72.3	82.6 82.6 72.3	75.8 75.8 71.3 71.3	69.0 69.0 61.0	66.0 66.0 59.5	54.0 54.0 27.0	38.0 38.0 (1.2)	(1.0) (1.0) (59.2)	(40.0) (40.0) (75.1)	(80.0) (80.0) (84.3)	(107.6) (107.6) (89.1)	(108.6) (108.6) (92.4)	(109.9) (109.9) (92.5)
Governments Agencies Municipals Swaps / Discounting Curve Instruments shocked by MV** Other SEK Basis Risks (Do not include the swap OIS Basis Im Basis 3m Basis	82.6 82.6 72.3	82.6 82.6 72.3	75.8 75.8 71.3 71.3	69.0 69.0 61.0	66.0 66.0 59.5	54.0 54.0 27.0	38.0 38.0 (1.2)	(1.0) (1.0) (59.2)	(40.0) (40.0) (75.1)	(80.0) (80.0) (84.3)	(107.6) (107.6) (89.1)	(108.6) (108.6) (92.4)	(109.9) (109.9) (92.5)

Rates DV01 (Continued	1)												
USD Directional Risks													
Governments	(16.0)	(47.6)	(57.1)	(64.2)	(69.5)	(94.0)	(112.3)	(138.2)	(152.5)	(152.1)	(152.2)	(143.5)	(141.4)
Agencies	(16.0)	(47.6)	(57.1)	(64.2)	(69.5)	(94.0)	(112.3)	(138.2)	(152.5)	(152.1)	(152.2)	(143.5)	(141.4)
Municipals	(16.0)	(47.6)	(57.1)	(64.2)	(69.5)	(94.0)	(112.3)	(138.2)	(152.5)	(152.1)	(152.2)	(143.5)	(141.4)
Swaps / Discounting Curve	(43.6)	(43.6)	(49.2)	(59.7)	(70.3)	(97.5)	(117.8)	(143.1)	(153.7)	(156.9)	(156.2)	(153.5)	(155.5)
Instruments shocked by MV**													
Other	(43.6)	(43.6)	(49.2)	(59.7)	(70.3)	(97.5)	(117.8)	(143.1)	(153.7)	(156.9)	(156.2)	(153.5)	(155.5)
USD Basis Risks (Do not include the swap)	discounting o	curve specifie	d above)										
Prime Basis	(16.0)	(20.5)	(22.4)	(23.9)	(25.5)	(17.4)	(12.5)	(8.8)	(8.2)	(7.9)	(8.4)	(8.7)	(8.9)
CP Basis	(16.9)	(21.8)	(23.7)	(25.3)	(27.0)	(11.5)	(16.0)	(6.4)	(6.0)	(6.0)	(6.4)	(6.6)	(6.8)
OIS Basis	(50.2)	(64.5)	(42.8)	(33.0)	(23.7)	(16.5)	(12.7)	(7.4)	(6.8)	(5.1)	(5.4)	(5.6)	(5.8)
1m Basis	(6.4)	(8.2)	(6.3)	(3.8)	(2.7)	(0.8)	(0.2)	0.4	0.7	1.1	1.2	1.6	1.7
3m Basis	(6)	(0.2)	(0.5)	(3.5)	(=:/)	(6.5)	(0.2)	0	0.7			2.0	
6m Basis	2.7	3.4	3.7	4.0	4.2	2.4	1.5	0.5	(0.1)	(0.5)	(0.5)	(0.5)	(0.5)
12m Basis	9.2	11.8	12.9	13.7	14.7	13.0	12.0	10.2	9.5	10.3	8.1	7.3	5.6
Other Basis	5.2	11.0	12.5	13.7	14.7	15.0	12.0	10.2	3.3	10.5	0.1	7.5	5.0
Other basis			1	I			1	1	<u>I</u>	1	I	I	
	(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 (Pts)	(31.4)	0.0	(2.3)	0.3	15.2	19.5	20.1	21.5	21.2	20.1	13.1	12.1	0.5
Other Advanced Economies Directional Ri	isks												
Governments	(16.0)	(47.6)	(57.1)	(64.2)	(69.5)	(94.0)	(112.3)	(138.2)	(152.5)	(152.1)	(152.2)	(143.5)	(141.4)
Agencies	(16.0)	(47.6)	(57.1)	(64.2)	(69.5)	(94.0)	(112.3)	(138.2)	(152.5)	(152.1)	(152.2)	(143.5)	(141.4)
Municipals	(16.0)	(47.6)	(57.1)	(64.2)	(69.5)	(94.0)	(112.3)	(138.2)	(152.5)	(152.1)	(152.2)	(143.5)	(141.4)
Swaps / Discounting Curve	(43.6)	(43.6)	(49.2)	(59.7)	(70.3)	(97.5)	(117.8)	(143.1)	(153.7)	(156.9)	(156.2)	(153.5)	(155.5)
Instruments shocked by MV**	, ,	()	,	(/	()	(==-/	, ,	,	,	(,	,	(
Other	(43.6)	(43.6)	(49.2)	(59.7)	(70.3)	(97.5)	(117.8)	(143.1)	(153.7)	(156.9)	(156.2)	(153.5)	(155.5)
	(1010)	(1010)	(1012)	(0011)	(1010)	(0110)	(==::0)	(= :0:=)	(=====	(2000)	(===;=)	(2000)	(====)
Directional Risks: Emerging Europe													
BGN	38.1	38.1	51.3	51.1	51.0	24.0	(0.5)	(45.2)	(73.2)	(97.9)	(116.3)	(125.2)	(131.0)
СZК	38.1	38.1	51.3	51.1	51.0	24.0	(0.5)	(34.0)	(57.0)	(84.0)	(116.3)	(125.2)	(131.0)
HRK	38.1	38.1	51.3	51.1	51.0	24.0	(0.5)	(45.2)	(73.2)	(97.9)	(116.3)	(125.2)	(131.0)
HUF	38.1	38.1	51.3	51.1	51.0	24.0	(0.5)	(45.2)	(73.2)	(97.9)	(116.3)	(125.2)	(131.0)
PLN	38.1	38.1	51.3	51.1	51.0	24.0	(0.5)	(45.2)	(73.2)	(97.9)	(116.3)	(125.2)	(131.0)
RON	38.1	38.1	51.3	51.1	51.0	24.0	(0.5)	(45.2)	(73.2)	(97.9)	(116.3)	(125.2)	(131.0)
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	38.1	38.1	51.3	51.1	51.0	24.0	(0.5)	(45.2)	(73.2)	(97.9)	(116.3)	(125.2)	(131.0)
Directional Risks: Latin America & Caribbe	ean												
ARS	100.0	91.3	78.3	65.2	52.2	0.0	(3.6)	(10.7)	(17.9)	(28.6)	(46.4)	(64.3)	(100.0)
BRL	100.0	91.3	78.3	65.2	52.2	0.0	(3.6)	(10.7)	(17.9)	(28.6)	(46.4)	(64.3)	(100.0)
CLP	100.0	91.3	78.3	65.2	52.2	0.0	(3.6)	(10.7)	(17.9)	(28.6)	(46.4)	(64.3)	(100.0)
COP	100.0	91.3	78.3	65.2	52.2	0.0	(3.6)	(10.7)	(17.9)	(28.6)	(46.4)	(64.3)	(100.0)
MXN	100.0	91.3	78.3	65.2	52.2	0.0	(3.6)	(10.7)	(17.9)	(28.6)	(46.4)	(64.3)	(100.0)
PEN	100.0	91.3	78.3	65.2	52.2	0.0	(3.6)	(10.7)	(17.9)	(28.6)	(46.4)	(64.3)	(100.0)
VEF	100.0	91.3	78.3	65.2	52.2	0.0	(3.6)	(10.7)	(17.9)	(28.6)	(46.4)	(64.3)	(100.0)
Other Latam & Caribbean	100.0	91.3	78.3	65.2	52.2	0.0	(3.6)	(10.7)	(17.9)	(28.6)	(46.4)	(64.3)	(100.0)
Other Latain & Caribbean	100.0	21.3	70.5	03.2	J£. £	0.0	(3.0)	(10.7)	(17.3)	(20.0)	(+0.4)	(04.3)	(100.0)

Rates DV01 (Continued)

CNY	100.0	91.3	78.3	65.2	52.2	0.0	(3.6)	(10.7)	(17.9)	(28.6)	(46.4)	(64.3)	(100.0)
HKD	100.0	91.3	78.3	65.2	52.2	0.0	(3.6)	(10.7)	(17.9)	(28.6)	(46.4)	(64.3)	(100.0)
IDR	100.0	91.3	78.3	65.2	52.2	0.0	(3.6)	(10.7)	(17.9)	(28.6)	(46.4)	(64.3)	(100.0)
INR	100.0	91.3	78.3	65.2	52.2	0.0	(3.6)	(10.7)	(17.9)	(28.6)	(46.4)	(64.3)	(100.0)
KRW	50.0	45.7	39.1	32.6	26.1	0.0	(1.8)	(5.4)	(8.9)	(14.3)	(23.2)	(32.1)	(50.0)
MYR	100.0	91.3	78.3	65.2	52.2	0.0	(3.6)	(10.7)	(17.9)	(28.6)	(46.4)	(64.3)	(100.0)
PHP	100.0	91.3	78.3	65.2	52.2	0.0	(3.6)	(10.7)	(17.9)	(28.6)	(46.4)	(64.3)	(100.0)
SGD	50.0	45.7	39.1	32.6	26.1	0.0	(1.8)	(5.4)	(8.9)	(14.3)	(23.2)	(32.1)	(50.0)
THB	50.0	45.7	39.1	32.6	26.1	0.0	(1.8)	(5.4)	(8.9)	(14.3)	(23.2)	(32.1)	(50.0)
TWD	50.0	45.7	39.1	32.6	26.1	0.0	(1.8)	(5.4)	(8.9)	(14.3)	(23.2)	(32.1)	(50.0)
Other Asia Ex-Japan	100.0	91.3	78.3	65.2	52.2	0.0	(3.6)	(10.7)	(17.9)	(28.6)	(46.4)	(64.3)	(100.0)

Directional Risks: Middle East/North Africa

ILS	(9.0)	(9.0)	(9.0)	(11.0)	(13.0)	(32.0)	(56.0)	(103.0)	(146.0)	(152.1)	(152.2)	(143.5)	(141.4)
TRY	(62.0)	(87.0)	(99.0)	(103.0)	(96.0)	(158.0)	(190.0)	(225.0)	(238.0)	(237.0)	(245.0)	(219.0)	(219.0)
Other Middle East/Africa	106.7	106.7	141.6	97.2	52.9	(51.4)	(69.3)	(92.8)	(113.4)	(125.6)	(132.2)	(150.1)	(167.7)

Directional Risks: Sub-Saharan Africa

Directional Risks: Sub-Sanaran Africa													
ZAR	106.7	106.7	141.6	97.2	52.9	(51.4)	(69.3)	(92.8)	(113.4)	(125.6)	(132.2)	(150.1)	(167.7)
Other Sub-Saharan Africa	106.7	106.7	141.6	97.2	52.9	(51.4)	(69.3)	(92.8)	(113.4)	(125.6)	(132.2)	(150.1)	(167.7)

Relative Normal Interest Rate Shocks

Rates Vega

Relative Normal Interest Rate Shocks (%)

Relative Normal Interest Rate Shocks (%) MATURITY															
		1M	20.4	CD.4	00.4	1Y	21/			77/	10Y	4574	20Y	257	30Y
	ALID	1M	3M	6M	9M	14	2Y	3Y	5Y	7Y	104	15Y	20Y	25Y	30Y
	AUD	67.00/	67.00/	CE 20/	62.00/	60.20/	24.207	24.70/	47.00/	14.20/	44.00/	44.70/	10.20/	0.6%	0.40/
	1M 3M	-67.8% -49.3%	-67.8% -49.3%	-65.3% -47.5%	-62.8% -45.7%	-60.3% -43.9%	-24.2% -22.7%	-21.7% -19.3%	-17.8% -16.2%	-14.3% -14.2%	-11.8% -11.7%	-11.7% -11.6%	-10.3% -10.3%	-9.6% -9.5%	-9.1% -9.1%
	6M	-49.5%	-39.1%	-47.5%	-36.3%	-34.8%	-22.5%	-19.5%	-16.2%	-14.2%	-11.7%	-11.6%	-10.3%	-9.5%	-9.1%
	9M	-34.8%	-34.8%	-33.5%	-32.2%	-34.8%	-22.3%	-18.5%	-15.5%	-13.7%	-11.7%	-11.5%	-10.3%	-9.5%	-9.1%
	1Y	-31.3%	-34.8%	-30.2%	-32.2%	-31.0%	-22.0%	-17.1%	-15.0%	-13.5%	-11.3%	-11.4%	-10.2%	-9.4%	-9.0%
-	2Y	-27.4%	-27.4%	-25.3%	-23.2%	-21.1%	-17.9%	-15.7%	-13.1%	-12.9%	-11.7%	-11.4%	-9.7%	-9.9%	-10.4%
≅	3Y	-26.8%	-26.8%	-25.2%	-23.6%	-21.1%	-20.0%	-18.5%	-15.7%	-15.4%	-14.8%	-14.3%	-13.5%	-11.9%	-10.4%
EXPIRY	5Y	-26.1%	-26.1%	-23.8%	-21.5%	-19.2%	-17.6%	-15.7%	-12.5%	-22.0%	-12.5%	-19.6%	-11.0%	-11.0%	-11.3%
1 "	7Y	-26.1%	-26.1%	-23.7%	-21.4%	-19.0%	-16.9%	-15.3%	-13.6%	-19.6%	-12.0%	-16.6%	-11.3%	-11.4%	-11.6%
	10Y	-22.1%	-22.1%	-20.0%	-17.9%	-15.8%	-17.0%	-15.8%	-14.5%	-13.5%	-16.5%	-17.6%	-16.9%	-17.3%	-17.4%
	15Y	-23.4%	-23.4%	-20.9%	-18.4%	-15.9%	-17.0%	-15.9%	-15.0%	-13.5%	-18.7%	-17.6%	-18.2%	-19.3%	-20.2%
	20Y	-23.8%	-23.8%	-21.2%	-18.7%	-16.1%	-17.3%	-16.4%	-15.6%	-14.8%	-20.2%	-21.1%	-21.6%	-22.0%	-22.2%
	30Y	-52.7%	-52.7%	-45.8%	-38.9%	-32.1%	-34.3%	-32.3%	-30.3%	-28.5%	-38.4%	-35.0%	-35.6%	-33.9%	-32.0%
	EUR														
	1M	-76.2%	-76.2%	-67.8%	-59.4%	-51.0%	-70.6%	-77.2%	-63.4%	-57.4%	-44.8%	-29.6%	-13.1%	-2.2%	8.1%
	3M	-79.4%	-79.4%	-70.6%	-61.9%	-53.1%	-70.1%	-79.1%	-64.8%	-56.3%	-44.3%	-29.3%	-13.1%	-2.2%	8.3%
	6M	-80.1%	-80.1%	-71.3%	-62.4%	-53.6%	-71.2%	-80.5%	-65.6%	-55.0%	-43.0%	-28.7%	-12.9%	-2.2%	8.2%
	9M	-76.3%	-76.3%	-67.9%	-59.5%	-51.1%	-63.4%	-72.6%	-63.4%	-53.4%	-41.6%	-28.3%	-12.8%	-2.2%	8.2%
	1Y	-74.1%	-74.1%	-65.9%	-57.8%	-49.6%	-59.5%	-68.6%	-62.1%	-52.0%	-40.4%	-27.9%	-12.7%	-2.2%	8.2%
EXPIRY	2Y	-42.2%	-42.2%	-43.6%	-45.0%	-46.3%	-48.6%	-49.8%	-52.7%	-47.1%	-38.7%	-48.4%	-9.1%	-4.0%	1.0%
	3Y	-24.8%	-24.8%	-28.6%	-32.5%	-36.3%	-39.5%	-41.2%	-44.8%	-40.6%	-35.9%	-26.7%	-14.0%	-10.6%	-7.4%
<u> </u>	5Y	-25.5%	-25.5%	-28.5%	-31.5%	-34.6%	-37.7%	-38.9%	-39.3%	-38.3%	-33.7%	-28.1%	-21.5%	-17.3%	-13.0%
	7Y	-25.7%	-25.7%	-28.0%	-30.3%	-32.6%	-33.6%	-33.4%	-36.4%	-36.6%	-34.5%	-31.1%	-25.7%	-21.4%	-16.9%
	10Y	-28.7%	-28.7%	-30.2%	-31.8%	-33.4%	-31.7%	-31.1%	-33.8%	-35.2%	-35.0%	-35.4%	-32.1%	-27.8%	-22.7%
	15Y	-33.1%	-33.1%	-35.1%	-37.1%	-39.1%	-36.6%	-35.0%	-35.8%	-37.0%	-37.7%	-32.7%	-29.5%	-26.5%	-23.9%
	20Y	-35.4%	-35.4%	-37.2%	-39.0%	-40.8%	-38.1%	-37.1%	-39.4%	-39.2%	-38.1%	-33.5%	-29.0%	-27.4%	-24.1%
	30Y	-40.0%	-40.0%	-38.8%	-37.6%	-36.5%	-42.9%	-45.3%	-47.6%	-43.6%	-43.1%	-38.4%	-31.5%	-23.0%	-13.8%
	GBP						1			1		1	1	1	
	1M	-88.3%	-88.3%	-85.1%	-81.8%	-78.6%	-38.7%	-27.1%	-17.2%	-15.6%	-12.9%	-14.0%	-12.9%	-12.2%	-11.5%
	3M	-54.2%	-54.2%	-52.2%	-50.2%	-48.2%	-29.6%	-21.6%	-16.1%	-14.8%	-12.6%	-13.6%	-12.4%	-11.9%	-11.3%
	6M	-40.0%	-40.0%	-38.6%	-37.1%	-35.6%	-24.9%	-19.5%	-15.5%	-14.2%	-12.0%	-13.2%	-12.2%	-11.7%	-11.2%
	9M	-34.7%	-34.7%	-33.5%	-32.2%	-30.9%	-22.7%	-18.2%	-14.7%	-13.6%	-11.7%	-12.9%	-12.0%	-11.5%	-10.9%
_	1Y 2Y	-30.2% -24.8%	-30.2% -24.8%	-29.1% -22.9%	-28.0% -21.0%	-26.9% -19.1%	-20.8% -16.3%	-17.1% -14.5%	-14.0% -11.9%	-13.2% -11.8%	-11.4% -11.2%	-12.6% -12.5%	-11.7% -10.7%	-11.2% -11.2%	-10.7% -11.7%
EXPIRY			-24.8%												
≥ .	3Y	-23.4%		-22.0%	-20.7%	-19.3%	-17.9%	-16.4%	-14.4%	-14.2%	-13.7%	-14.4%	-14.1%	-12.7%	-11.1%
ш	5Y 7Y	-21.4% -21.4%	-21.4% -21.4%	-19.5% -19.4%	-17.6% -17.5%	-15.8%	-14.7%	-13.3% -13.6%	-11.8% -12.3%	-20.2%	-11.5%	-19.3% -17.3%	-11.4%	-11.4%	-11.4%
	10Y	-21.4%	-21.4%	-19.4%	-17.5%	-15.5% -16.6%	-14.5% -15.4%	-13.6%	-12.3%	-18.0% -14.0%	-11.9% -12.4%	-14.1%	-12.2% -13.7%	-12.2% -13.5%	-12.0% -13.2%
	15Y	-30.5%	-30.5%	-27.3%	-24.0%	-20.7%	-18.9%	-17.4%	-16.1%	-15.8%	-16.4%	-15.4%	-15.2%	-15.7%	-16.2%
	20Y	-34.1%	-34.1%	-30.5%	-26.8%	-23.2%	-21.7%	-20.3%	-19.2%	-13.8%	-18.3%	-17.6%	-17.3%	-17.2%	-17.1%
	30Y	-45.5%	-45.5%	-39.6%	-33.7%	-27.7%	-25.3%	-23.2%	-21.8%	-18.7%	-21.5%	-20.1%	-21.0%	-21.6%	-21.7%
	301	43.570	43.370	33.070	33.770	27.770	23.370	25.270	21.070	21.770	21.570	20.170	21.070	21.070	21.770
	JPY														
	1M	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	3M	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	6M	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	9M	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	1Y	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
~	2Y	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
EXPIRY	3Y	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
E	5Y	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	7Y	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	10Y	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	15Y	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	20Y	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	30Y	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	·		·	·	·	·		·	·	· ·	· ·	· ·			

Relative Normal Interest Rate Shocks (Continued)

	uco														
	USD	-57.8%	-57.8%	-55.7%	-53.6%	-51.4%	-31.3%	-21.8%	-16.2%	-15.1%	-13.4%	-14.0%	-12.6%	-11.6%	-10.7%
	1M 3M	-57.8% -47.1%	-57.8% -47.1%	-55.7% -45.3%	-43.6%	-51.4% -41.9%	-31.3%	-21.8%	-16.2%	-13.1%	-13.4%	-14.0%	-12.6%	-11.6%	-10.7%
	SIVI 6M	-47.1%	-47.1% -37.1%			-41.9% -33.1%	-26.7% -22.3%	-18.7% -17.2%	-14.8% -14.3%			-12.7% -12.2%	-11.4% -10.9%		
	9M	-37.1%	-37.1%	-35.8%	-34.4%	-33.1%	-22.3%		-14.3%	-12.7%	-11.6%	-12.2%		-10.2% -10.2%	-9.5%
	1Y	-31.9%	-31.9%	-30.8% -27.3%	-29.6% -26.2%	-28.4% -25.2%	-21.2%	-16.8% -16.1%	-13.9%	-12.6% -12.5%	-11.3% -11.2%	-12.0%	-11.4% -11.0%	-10.2%	-9.4% -9.3%
>	2Y	-23.3%	-23.3%	-21.5%	-19.7%	-17.9%	-16.3%	-14.2%	-11.6%	-11.3%	-11.0%	-11.9%	-10.4%	-10.1%	-10.4%
EXPIRY	3Y	-23.3%	-23.3%	-21.3%	-19.8%	-17.5%	-16.5%	-14.2%	-11.6%	-11.5%	-11.0%	-11.5%	-13.4%	-10.2%	-10.4%
×	5Y	-20.3%	-20.3%	-18.5%	-16.8%	-15.0%	-13.7%	-12.3%	-10.8%	-18.5%	-10.5%	-17.7%	-10.4%	-10.3%	-10.5%
ш	7Y	-20.8%	-20.8%	-18.9%	-17.0%	-15.1%	-13.9%	-12.6%	-11.2%	-16.1%	-10.8%	-15.7%	-11.2%	-10.9%	-10.7%
	10Y	-21.4%	-21.4%	-19.4%	-17.3%	-15.3%	-14.4%	-13.6%	-12.4%	-12.8%	-11.1%	-12.8%	-12.4%	-12.0%	-11.6%
	15Y	-27.4%	-27.4%	-24.4%	-21.5%	-18.6%	-17.2%	-15.9%	-15.0%	-14.3%	-14.2%	-13.8%	-13.0%	-13.1%	-13.1%
	20Y	-30.0%	-30.0%	-26.8%	-23.6%	-20.4%	-19.1%	-17.7%	-16.8%	-16.1%	-15.3%	-14.3%	-13.8%	-13.3%	-12.9%
	30Y	-38.4%	-38.4%	-33.4%	-28.4%	-23.4%	-21.5%	-19.5%	-17.6%	-17.5%	-17.3%	-15.4%	-15.4%	-15.1%	-14.6%
US MBS Vega Other Advanced Economies 1M -67.8% -65.8% -65.3% -62.8% -60.3% -24.2% -21.7% -17.8% -14.3% -11.8% -11.7% -10.3% -9.6% -9.1%															
	3M	-49.3%	-49.3%	-65.3%	-62.8% -45.7%	-43.9%	-24.2%	-21.7%	-17.8%	-14.3%	-11.8%	-11.7%	-10.3%	-9.6% -9.5%	-9.1%
	6M	-39.1%	-39.1%	-37.7%	-36.3%	-43.9%	-22.7%	-19.5%	-16.2%	-14.2%	-11.7%	-11.6%	-10.3%	-9.5%	-9.1%
	9M	-34.8%	-34.8%	-33.5%	-32.2%	-31.0%	-22.3%	-17.9%	-15.5%	-13.7%	-11.5%	-11.5%	-10.3%	-9.5%	-9.1%
	1Y	-31.3%	-31.3%	-30.2%	-29.0%	-27.9%	-22.0%	-17.1%	-15.0%	-13.5%	-11.3%	-11.4%	-10.1%	-9.4%	-9.0%
~	2Y	-27.4%	-27.4%	-25.3%	-23.2%	-21.1%	-17.9%	-15.7%	-13.1%	-12.9%	-11.7%	-11.9%	-9.7%	-9.9%	-10.4%
EXPIRY	3Y	-26.8%	-26.8%	-25.2%	-23.6%	-22.1%	-20.0%	-18.5%	-15.7%	-15.4%	-14.8%	-14.3%	-13.5%	-11.9%	-10.6%
EX	5Y	-26.1%	-26.1%	-23.8%	-21.5%	-19.2%	-17.6%	-15.7%	-12.5%	-22.0%	-12.5%	-19.6%	-11.0%	-11.0%	-11.3%
	7Y	-26.1%	-26.1%	-23.7%	-21.4%	-19.0%	-16.9%	-15.3%	-13.6%	-19.6%	-12.0%	-16.6%	-11.3%	-11.4%	-11.6%
	10Y	-22.1%	-22.1%	-20.0%	-17.9%	-15.8%	-17.0%	-15.8%	-14.5%	-13.5%	-16.5%	-17.6%	-16.9%	-17.3%	-17.4%
	15Y	-23.4%	-23.4%	-20.9%	-18.4%	-15.9%	-17.0%	-15.9%	-15.0%	-13.5%	-18.7%	-17.6%	-18.2%	-19.3%	-20.2%
	20Y	-23.8%	-23.8%	-21.2%	-18.7%	-16.1%	-17.3%	-16.4%	-15.6%	-14.8%	-20.2%	-21.1%	-21.6%	-22.0%	-22.2%
	30Y	-52.7%	-52.7%	-45.8%	-38.9%	-32.1%	-34.3%	-32.3%	-30.3%	-28.5%	-38.4%	-35.0%	-35.6%	-33.9%	-32.0%
	Total Emergi	na Eurono													
	1M	-88.3%	-88.3%	-88.3%	-88.3%	-88.3%	-89.5%	-91.1%	-93.5%	-94.9%	-96.0%	-57.6%	-24.5%	-4.2%	15.6%
	3M	-88.3%	-88.3%	-88.3%	-88.3%	-88.3%	-89.9%	-91.5%	-93.7%	-95.1%	-99.7%	-56.9%	-24.3%	-4.2%	15.6%
	6M	-88.5%	-88.5%	-88.5%	-88.5%	-88.5%	-90.5%	-92.1%	-94.1%	-95.3%	-96.4%	-55.8%	-24.1%	-4.1%	15.5%
	9M	-89.3%	-89.3%	-89.3%	-89.3%	-89.3%	-91.1%	-92.6%	-94.4%	-95.5%	-93.2%	-54.8%	-23.8%	-4.1%	15.4%
	1Y	-90.1%	-90.1%	-90.1%	-90.1%	-90.1%	-91.8%	-93.2%	-94.7%	-95.7%	-90.2%	-53.8%	-23.6%	-4.1%	15.3%
EXPIRY	2Y	-92.9%	-92.9%	-92.9%	-92.9%	-92.9%	-94.1%	-94.7%	-95.8%	-96.3%	-81.2%	-88.2%	-16.2%	-7.2%	1.8%
<u>-</u>	3Y	-94.9%	-94.9%	-94.9%	-94.9%	-94.9%	-95.3%	-97.0%	-98.7%	-87.6%	-71.3%	-46.8%	-24.0%	-18.4%	-13.0%
<u> </u>	5Y	-59.2%	-59.2%	-66.2%	-73.3%	-80.3%	-78.2%	-79.6%	-79.1%	-72.5%	-59.4%	-45.1%	-34.6%	-27.8%	-21.3%
	7Y	-53.3%	-53.3%	-58.1%	-63.0%	-67.8%	-65.7%	-64.7%	-64.6%	-60.9%	-55.6%	-47.5%	-39.3%	-33.1%	-26.8%
	10Y	-44.8%	-44.8%	-47.3%	-49.7%	-52.2%	-49.2%	-46.7%	-49.5%	-51.6%	-52.1%	-52.4%	-47.0%	-42.0%	-35.7%
	15Y 20Y	-44.4% -56.8%	-44.4% -56.8%	-47.2% -59.7%	-49.9% -62.6%	-52.6% -65.5%	-50.8% -64.5%	-49.3% -63.8%	-52.4% -69.5%	-56.0% -67.8%	-59.7% -64.1%	-49.2% -54.2%	-44.1% -46.8%	-41.1% -43.7%	-37.2% -39.9%
	30Y	-81.9%	-81.9%	-59.7% -79.4%	-77.0%	-65.5% -74.5%	-64.5% -79.3%	-84.4%	-89.7%	-83.7%	-82.1%	-54.2% -66.1%	-46.8%	-43.7%	-39.9%
	Total Latam	& Caribbean													
	1M	-24.8%	-24.8%	-23.9%	-22.9%	-22.0%	-17.3%	-15.7%	-11.0%	-9.2%	-7.2%	-7.2%	-6.3%	-5.8%	-5.5%
	3M	-22.8%	-22.8%	-22.0%	-21.2%	-20.3%	-16.0%	-14.6%	-10.3%	-8.7%	-6.9%	-6.9%	-6.1%	-5.7%	-5.4%
	6M	-22.4%	-22.4%	-21.6%	-20.8%	-20.0%	-15.8%	-14.3%	-10.4%	-8.2%	-5.8%	-5.9%	-5.3%	-4.9%	-4.6%
	9M	-21.0% -19.2%	-21.0% -19.2%	-20.2% -18.5%	-19.5% -17.8%	-18.7% -17.1%	-15.1% -14.3%	-13.6% -12.8%	-9.6% -8.7%	-7.8% -7.4%	-5. 7 % -5.6%	-5.8% -5.7%	-5.2% -5.1%	-4.9% -4.8%	-4.6% -4.5%
		- 13.2%	-13.2%	-10.5%	-17.8%				-8.7% -6.1%	-7.4% -5.9%	-5.6% -5.3%	-5.7% -5.5%			-4.5% -4.8%
>	1Y 2Y		-13 9%	-12.8%	-11.8%	-10.7%	-9 1%	-11 3%							
ıку	2Y	-13.9%	-13.9% -12.4%	-12.8% -11.7%	-11.8% -11.0%	-10.7% -10.2%	-9.1% -9.3%	-11.3% -12.7%					-4.5% -5.7%	-4.6% -5.0%	
EXPIRY	2Y 3Y	-13.9% -12.4%	-12.4%	-11.7%	-11.0%	-10.2%	-9.3%	-11.3% -12.7% -10.7%	-7.0%	-6.7%	-6.2%	-6.0%	-5.7%	-4.6% -5.0% -4.1%	-4.4%
EXPIRY	2Y	-13.9%						-12.7%						-5.0%	
EXPIRY	2Y 3Y 5Y	-13.9% -12.4% -10.6%	-12.4% -10.6%	-11.7% -9.7%	-11.0% -8.8%	-10.2% -7.8%	-9.3% -6.8%	-12.7% -10.7%	-7.0% -5.2%	-6.7% -8.6%	-6.2% -4.8%	-6.0% -7.5%	-5.7% -4.2%	-5.0% -4.1%	-4.4% -4.2%
EXPIRY	2Y 3Y 5Y 7Y	-13.9% -12.4% -10.6% -10.3%	-12.4% -10.6% -10.3%	-11.7% -9.7% -9.4%	-11.0% -8.8% -8.4%	-10.2% -7.8% -7.5%	-9.3% -6.8% -6.9%	-12.7% -10.7% -8.5%	-7.0% -5.2% -5.0%	-6.7% -8.6% -7.0%	-6.2% -4.8% -4.7%	-6.0% -7.5% -6.4%	-5.7% -4.2% -4.3%	-5.0% -4.1% -4.3%	-4.4% -4.2% -4.4%
EXPIRY	2Y 3Y 5Y 7Y 10Y	-13.9% -12.4% -10.6% -10.3% -8.4%	-12.4% -10.6% -10.3% -8.4%	-11.7% -9.7% -9.4% -7.6%	-11.0% -8.8% -8.4% -6.8%	-10.2% -7.8% -7.5% -6.0%	-9.3% -6.8% -6.9% -5.9%	-12.7% -10.7% -8.5% -5.7%	-7.0% -5.2% -5.0% -4.6%	-6.7% -8.6% -7.0% -4.8%	-6.2% -4.8% -4.7% -4.6%	-6.0% -7.5% -6.4% -4.9%	-5.7% -4.2% -4.3% -4.6%	-5.0% -4.1% -4.3% -4.6%	-4.4% -4.2% -4.4% -4.6%

Relative Normal Interest Rate Shocks (Continued)

	Total Asia Ex	-Japan													
	1M	-47.8%	-47.8%	-46.0%	-44.3%	-42.5%	-35.7%	-29.2%	-24.2%	-23.0%	-19.3%	-20.0%	-18.1%	-17.7%	-17.3%
	3M	-48.5%	-48.5%	-46.7%	-44.9%	-43.1%	-35.8%	-29.2%	-24.1%	-22.9%	-19.2%	-20.0%	-18.1%	-17.7%	-17.3%
	6M	-48.0%	-48.0%	-46.3%	-44.5%	-42.7%	-36.1%	-29.6%	-24.8%	-23.1%	-19.7%	-20.6%	-18.7%	-18.3%	-17.9%
	9M	-47.7%	-47.7%	-46.0%	-44.2%	-42.5%	-36.3%	-30.1%	-25.7%	-23.6%	-19.9%	-20.9%	-19.0%	-18.7%	-18.2%
	1Y	-47.4%	-47.4%	-45.7%	-43.9%	-42.2%	-36.4%	-30.7%	-26.8%	-24.2%	-20.1%	-21.2%	-19.4%	-19.0%	-18.6%
٨	2Y	-46.3%	-46.3%	-42.8%	-39.2%	-35.7%	-31.9%	-28.1%	-23.0%	-22.4%	-21.0%	-22.2%	-18.8%	-20.1%	-21.4%
EXPIRY	3Y	-45.1%	-45.1%	-42.4%	-39.8%	-37.2%	-34.8%	-32.3%	-28.2%	-27.3%	-26.1%	-26.1%	-25.7%	-23.5%	-21.1%
EX	5Y	-41.4%	-41.4%	-37.8%	-34.2%	-30.5%	-28.8%	-25.7%	-22.4%	-38.2%	-21.5%	-34.3%	-20.5%	-21.1%	-21.5%
	7Y	-38.5%	-38.5%	-35.0%	-31.6%	-28.1%	-26.8%	-24.2%	-21.8%	-32.0%	-21.0%	-30.0%	-21.5%	-21.8%	-22.0%
Ì	10Y	-36.0%	-36.0%	-32.5%	-29.1%	-25.7%	-25.0%	-24.0%	-23.1%	-23.5%	-20.7%	-23.9%	-23.5%	-23.5%	-23.2%
	15Y	-42.5%	-42.5%	-38.0%	-33.5%	-28.9%	-27.9%	-25.7%	-24.3%	-25.3%	-26.8%	-25.7%	-25.5%	-26.3%	-26.9%
	20Y	-55.9%	-55.9%	-49.9%	-44.0%	-38.0%	-37.3%	-34.8%	-33.6%	-33.7%	-32.7%	-30.9%	-29.8%	-29.3%	-28.6%
Ī	30Y	-78.4%	-78.4%	-68.1%	-57.9%	-47.7%	-46.3%	-42.6%	-40.0%	-40.4%	-39.3%	-35.5%	-35.7%	-33.7%	-31.5%
	Total ME/N.		24.70/	I 22 40/	1 22 20/	20.00/	22.40/	47.70	42.70/	44.40/	0.50/	I 0.00/	I 0.50/	0.50/	0.404
ŀ	1M	-34.7%	-34.7%	-33.4%	-32.2%	-30.9%	-23.1%	-17.7%	-13.7%	-11.4%	-8.6%	-9.9%	-9.6%	-9.5%	-9.4%
ŀ	3M	-32.6%	-32.6%	-31.4%	-30.2%	-29.0%	-22.0%	-17.1%	-13.4%	-11.2%	-8.5%	-9.8%	-9.5%	-9.5%	-9.4%
-	6M	-29.9%	-29.9%	-28.8%	-27.7%	-26.6% -24.8%	-20.6%	-16.2%	-12.8%	-10.8%	-8.4%	-9.7% -9.7%	-9.5%	-9.5% -9.4%	-9.3%
ŀ	9M	-27.9%	-27.9%	-26.8%	-25.8%		-19.5%	-15.5%	-12.4%	-10.4%	-8.3%		-9.4%		-9.3%
>	1Y	-26.1%	-26.1%	-25.2%	-24.2%	-23.2%	-18.6%	-14.9%	-11.9%	-10.1%	-8.2%	-9.6%	-9.4%	-9.4%	-9.3%
EXPIRY	2Y 3Y	-22.8% -21.2%	-22.8% -21.2%	-21.0% -19.9%	-19.3% -18.7%	-17.5% -17.4%	-14.9% -15.4%	-12.7%	-9.6%	-8.6% -9.6%	-8.2% -10.0%	-9.6% -11.0%	-8.6%	-9.4% -10.6%	-10.1% -9.7%
×								-13.3%	-10.6%				-11.4%		
ш	5Y 7Y	-16.5%	-16.5% -13.7%	-15.1% -12.5%	-13.6% -11.2%	-12.2% -10.0%	-10.6%	-9.0% -7.8%	-7.2% -8.1%	-13.5% -12.6%	-8.3% -9.0%	-14.8% -13.9%	-9.1%	-9.5% -10.5%	-9.8%
-	10Y	-13.7% -22.2%	-13.7%	-12.5%	-11.2%	-10.0%	-8.9% -14.9%	-7.8%	-8.1%	-12.6%	-9.0%	-13.5%	-10.1% -13.2%	-10.5%	-10.7% -13.1%
	15Y	-29.1%	-29.1%	-26.0%	-22.9%	-19.8%	-18.3%	-16.8%	-15.6%	-15.2%	-15.7%	-14.9%	-14.7%	-15.2%	-15.6%
-	20Y 30Y	-34.5% -52.4%	-34.5% -52.4%	-30.8% -45.6%	-27.1% -38.7%	-23.4% -31.9%	-21.8% -29.3%	-20.1% -26.7%	-18.7% -24.1%	-18.4% -23.8%	-18.0% -23.4%	-17.3% -21.3%	-16.9% -21.6%	-16.7% -20.6%	-16.5% -19.4%
		!		-43.0%	-36.776	-31.9%	-29.5%	-20.7%	-24.176	-23.6%	-23.4%	-21.5%	-21.0%	-20.6%	-19.4%
	Total Sub-Sa			1	1								1	T	1
	1M	-9.5%	-9.5%	-9.2%	-8.8%	-8.5%	-6.9%	-5.7%	-5.0%	-4.6%	-3.9%	-4.1%	-3.7%	-3.6%	-3.4%
ŀ	3M	-9.2%	-9.2%	-8.9%	-8.5%	-8.2%	-6.8%	-5.6%	-4.9%	-4.5%	-3.8%	-4.1%	-3.7%	-3.6%	-3.4%
ŀ	6M	-8.8%	-8.8%	-8.5%	-8.2%	-7.8%	-6.6%	-5.5%	-4.8%	-4.5%	-3.8%	-4.0%	-3.7%	-3.5%	-3.4%
-	9M	-8.5%	-8.5%	-8.2%	-7.9%	-7.6%	-6.4%	-5.4%	-4.8%	-4.4%	-3.8%	-4.0%	-3.7%	-3.5%	-3.4%
_	1Y	-8.3%	-8.3%	-8.0%	-7.7%	-7.4%	-6.3%	-5.3%	-4.7%	-4.4%	-3.7%	-4.0%	-3.7%	-3.5%	-3.4%
ΙRΥ	2Y	-8.2%	-8.2%	-7.6%	-7.0%	-6.3%	-5.6%	-5.0%	-4.1%	-4.0%	-3.7%	-4.0%	-3.3%	-3.5%	-3.6%
EXPI	3Y	-8.3%	-8.3%	-7.8%	-7.3%	-6.9%	-6.3%	-5.7%	-4.9%	-4.8%	-4.5%	-4.5%	-4.4%	-3.9%	-3.5%
ш	5Y	-7.8%	-7.8%	-7.1%	-6.4%	-5.8%	-5.2%	-4.6%	-3.9%	-6.6%	-3.7%	-5.9%	-3.4%	-3.4%	-3.5%
	7Y	-7.7%	-7.7%	-7.0%	-6.3%	-5.6%	-5.1%	-4.6%	-3.9%	-5.5%	-3.6%	-5.1%	-3.5%	-3.5%	-3.6%
	10Y	-7.4%	-7.4%	-6.7%	-6.0%	-5.3%	-4.9%	-4.5%	-4.0%	-4.0%	-3.6%	-4.0%	-3.8%	-3.9%	-3.9%
	15Y	-8.4%	-8.4%	-7.5%	-6.6%	-5.7%	-5.3%	-4.9%	-4.6%	-4.4%	-4.5%	-4.2%	-4.4%	-4.7%	-5.0%
	20Y	-9.5%	-9.5%	-8.4%	-7.4%	-6.4%	-6.0%	-5.6%	-5.2%	-5.2%	-5.2%	-5.6%	-5.9%	-6.1%	-6.3%
	30Y	-34.8%	-34.8%	-30.3%	-25.7%	-21.2%	-19.6%	-17.9%	-16.3%	-16.2%	-16.1%	-14.9%	-15.3%	-14.6%	-13.9%

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	M A T U	JRITY 5Y	7Y	10Y	15Y	20Y	25Y	30Y
	AUD	TIVI	SIVI	PIVI	9IVI	TA		31	5 Y	/Y	101	151	201	25Y	301
	1M	(18.1)	(18.1)	(17.5)	(16.8)	(16.1)	(14.2)	(12.2)	(11.1)	(10.5)	(9.1)	(9.8)	(9.0)	(8.5)	(8.0)
	3M	(18.1)	(18.1)	(17.5)	(16.8)	(16.1)	(14.2)	(12.2)	(11.1)	(10.5)	(9.1)	(9.8)	(9.0)	(8.5)	(8.0)
	6M	(18.1)	(18.1)	(17.5)	(16.8)	(16.1)	(14.2)	(12.2)	(11.1)	(10.5)	(9.1)	(9.8)	(9.0)	(8.5)	(8.0)
	9M	(18.1)	(18.1)	(17.5)	(16.8)	(16.1)	(14.2)	(12.2)	(11.1)	(10.5)	(9.1)	(9.8)	(9.0)	(8.5)	(8.0)
	1Y	(18.1)	(18.1)	(17.5)	(16.8)	(16.1)	(14.2)	(12.2)	(11.1)	(10.5)	(9.1)	(9.8)	(9.0)	(8.5)	(8.0)
≿	2Y	(19.0)	(19.0)	(17.5)	(16.1)	(14.6)	(13.2)	(11.9)	(10.0)	(9.8)	(9.2)	(9.9)	(8.2)	(8.5)	(8.7)
1 🖹	3Y	(19.9)	(19.9)	(18.7)	(17.6)	(16.4)	(15.2)	(13.9)	(12.2)	(11.8)	(11.3)	(11.3)	(10.8)	(9.5)	(8.2)
EXPIRY	5Y	(19.3)	(19.3)	(17.6)	(16.0)	(14.3)	(12.9)	(11.4)	(9.8)	(16.5)	(9.2)	(14.7)	(8.3)	(8.2)	(8.0)
	7Y	(19.1)	(19.1)	(17.4)	(15.6)	(13.9)	(12.7)	(11.4)	(9.9)	(13.9)	(9.0)	(12.6)	(8.5)	(8.3)	(8.0)
	10Y	(18.7)	(18.7)	(17.0)	(15.2)	(13.4)	(12.4)	(11.3)	(10.2)	(10.1)	(8.8)	(9.4)	(8.8)	(8.4)	(8.0)
	15Y	(20.7)	(20.7)	(18.5)	(16.3)	(14.0)	(12.8)	(11.6)	(10.5)	(10.0)	(10.0)	(8.9)	(8.4)	(8.4)	(8.3)
	20Y	(21.1)	(21.1)	(18.8)	(16.6)	(14.3)	(13.1)	(12.0)	(10.9)	(10.4)	(9.9)	(9.1)	(8.5)	(8.1)	(7.7)
	30Y	(24.8)	(24.8)	(21.6)	(18.3)	(15.1)	(13.7)	(12.4)	(11.0)	(10.6)	(10.2)	(8.9)	(8.7)	(8.0)	(7.3)
_	EUR			T .											
	1M	(20.1)	(20.1)	(17.9)	(15.7)	(13.4)	(19.1)	(24.7)	(27.0)	(27.4)	(25.4)	(18.9)	(8.9)	(1.6)	5.8
	3M	(20.1)	(20.1)	(17.9)	(15.7)	(13.4) (13.4)	(19.1) (19.1)	(24.7)	(27.0)	(27.4)	(25.4)	(18.9)	(8.9)	(1.6)	5.8
	6M 9M	(20.1)	(20.1)	(17.9) (17.9)	(15.7) (15.7)	(13.4)	(19.1)	(24.7) (24.7)	(27.0) (27.0)	(27.4) (27.4)	(25.4) (25.4)	(18.9) (18.9)	(8.9) (8.9)	(1.6) (1.6)	5.8
	9M 1Y	(20.1)	(20.1)	(17.9)	(15.7)	(13.4)	(19.1)	(24.7)	(27.0)	(27.4)	(25.4)	(18.9)	(8.9)	(1.6)	5.8 5.8
>-	2Y	(16.6)	(16.6)	(17.1)	(17.7)	(13.4)	(21.0)	(24.7)	(27.8)	(27.4)	(25.4)	(33.2)	(6.4)	(2.8)	0.7
EXPIRY	3Y	(13.7)	(13.7)	(15.8)	(17.9)	(20.0)	(21.4)	(22.8)	(27.1)	(26.8)	(25.2)	(18.7)	(9.8)	(7.4)	(5.1)
×	5Y	(16.6)	(16.6)	(18.6)	(20.6)	(22.6)	(23.9)	(25.1)	(27.2)	(27.2)	(24.8)	(19.8)	(14.8)	(11.7)	(8.6)
	7Y	(17.8)	(17.8)	(19.5)	(21.1)	(22.7)	(23.3)	(23.8)	(26.0)	(26.3)	(25.0)	(21.4)	(17.2)	(14.0)	(10.8)
	10Y	(19.6)	(19.6)	(20.7)	(21.8)	(22.8)	(22.3)	(21.8)	(24.3)	(25.0)	(25.3)	(23.9)	(20.7)	(17.4)	(14.1)
	15Y	(20.1)	(20.1)	(21.3)	(22.5)	(23.8)	(23.4)	(22.9)	(24.9)	(25.1)	(25.6)	(20.4)	(17.0)	(15.0)	(13.0)
	20Y	(21.2)	(21.2)	(22.2)	(23.3)	(24.4)	(24.1)	(23.8)	(26.0)	(25.4)	(24.0)	(18.7)	(15.3)	(13.7)	(12.1)
	30Y	(23.0)	(23.0)	(22.3)	(21.6)	(20.9)	(22.2)	(23.4)	(24.6)	(22.7)	(21.9)	(17.2)	(14.1)	(9.9)	(5.7)
	GBP														
	1M	(18.1)	(18.1)	(17.5)	(16.8)	(16.1)	(14.2)	(12.2)	(11.1)	(10.5)	(9.1)	(9.8)	(9.0)	(8.5)	(8.0)
	3M	(18.1)	(18.1) (18.1)	(17.5)	(16.8) (16.8)	(16.1) (16.1)	(14.2)	(12.2)	(11.1) (11.1)	(10.5) (10.5)	(9.1) (9.1)	(9.8) (9.8)	(9.0) (9.0)	(8.5)	(8.0)
	6M 9M	(18.1)	(18.1)	(17.5) (17.5)	(16.8)	(16.1)	(14.2) (14.2)	(12.2) (12.2)	(11.1)	(10.5)	(9.1)	(9.8)	(9.0)	(8.5) (8.5)	(8.0)
	1Y	(18.1)	(18.1)	(17.5)	(16.8)	(16.1)	(14.2)	(12.2)	(11.1)	(10.5)	(9.1)	(9.8)	(9.0)	(8.5)	(8.0)
≥-	2Y	(19.0)	(19.0)	(17.5)	(16.1)	(14.6)	(13.2)	(11.9)	(10.0)	(9.8)	(9.2)	(9.9)	(8.2)	(8.5)	(8.7)
EXPIRY	3Y	(19.9)	(19.9)	(18.7)	(17.6)	(16.4)	(15.2)	(13.9)	(12.2)	(11.8)	(11.3)	(11.3)	(10.8)	(9.5)	(8.2)
 	5Y	(19.3)	(19.3)	(17.6)	(16.0)	(14.3)	(12.9)	(11.4)	(9.8)	(16.5)	(9.2)	(14.7)	(8.3)	(8.2)	(8.0)
	7Y	(19.1)	(19.1)	(17.4)	(15.6)	(13.9)	(12.7)	(11.4)	(9.9)	(13.9)	(9.0)	(12.6)	(8.5)	(8.3)	(8.0)
	10Y	(18.7)	(18.7)	(17.0)	(15.2)	(13.4)	(12.4)	(11.3)	(10.2)	(10.1)	(8.8)	(9.4)	(8.8)	(8.4)	(8.0)
	15Y	(20.7)	(20.7)	(18.5)	(16.3)	(14.0)	(12.8)	(11.6)	(10.5)	(10.0)	(10.0)	(8.9)	(8.4)	(8.4)	(8.3)
	20Y	(21.1)	(21.1)	(18.8)	(16.6)	(14.3)	(13.1)	(12.0)	(10.9)	(10.4)	(9.9)	(9.1)	(8.5)	(8.1)	(7.7)
	30Y	(24.8)	(24.8)	(21.6)	(18.3)	(15.1)	(13.7)	(12.4)	(11.0)	(10.6)	(10.2)	(8.9)	(8.7)	(8.0)	(7.3)
	101/														
	JPY 1M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	3M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	6M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	9M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	1Y	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
~	2Y	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
EXPIRY	3Y	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Ä	5Y	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	7Y	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	10Y	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	15Y	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	20Y 30Y	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	301	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Absolute Normal Interest Rate Shocks (Continued)

	USD				•	· · · · · · · · · · · · · · · · · · ·									
	1M	(18.1)	(18.1)	(17.5)	(16.8)	(16.1)	(14.2)	(12.2)	(11.1)	(10.5)	(9.1)	(9.8)	(9.0)	(8.5)	(8.0)
	3M	(18.1)	(18.1)	(17.5)	(16.8)	(16.1)	(14.2)	(12.2)	(11.1)	(10.5)	(9.1)	(9.8)	(9.0)		(8.0)
		· - /	, , ,	- /	,,	, ,	` '	, ,	` '	, /	\- /	(/	\ /	(8.5)	\ /
	6M	(18.1)	(18.1)	(17.5)	(16.8)	(16.1)	(14.2)	(12.2)	(11.1)	(10.5)	(9.1)	(9.8)	(9.0)	(8.5)	(8.0)
	9M	(18.1)	(18.1)	(17.5)	(16.8)	(16.1)	(14.2)	(12.2)	(11.1)	(10.5)	(9.1)	(9.8)	(9.0)	(8.5)	(8.0)
_	1Y	(18.1)	(18.1)	(17.5)	(16.8)	(16.1)	(14.2)	(12.2)	(11.1)	(10.5)	(9.1)	(9.8)	(9.0)	(8.5)	(8.0)
~	2Y	(19.0)	(19.0)	(17.5)	(16.1)	(14.6)	(13.2)	(11.9)	(10.0)	(9.8)	(9.2)	(9.9)	(8.2)	(8.5)	(8.7)
EXPI	3Y	(19.9)	(19.9)	(18.7)	(17.6)	(16.4)	(15.2)	(13.9)	(12.2)	(11.8)	(11.3)	(11.3)	(10.8)	(9.5)	(8.2)
ä	5Y	(19.3)	(19.3)	(17.6)	(16.0)	(14.3)	(12.9)	(11.4)	(9.8)	(16.5)	(9.2)	(14.7)	(8.3)	(8.2)	(8.0)
	7Y	(19.1)	(19.1)	(17.4)	(15.6)	(13.9)	(12.7)	(11.4)	(9.9)	(13.9)	(9.0)	(12.6)	(8.5)	(8.3)	(8.0)
	10Y	(18.7)	(18.7)	(17.0)	(15.2)	(13.4)	(12.4)	(11.3)	(10.2)	(10.1)	(8.8)	(9.4)	(8.8)	(8.4)	(8.0)
	15Y	(20.7)	(20.7)	(18.5)	(16.3)	(14.0)	(12.8)	(11.6)	(10.5)	(10.0)	(10.0)	(8.9)	(8.4)	(8.4)	(8.3)
	20Y	(21.1)	(21.1)	(18.8)	(16.6)	(14.3)	(13.1)	(12.0)	(10.9)	(10.4)	(9.9)	(9.1)	(8.5)	(8.1)	(7.7)
	30Y	(24.8)	(24.8)	(21.6)	(18.3)	(15.1)	(13.7)	(12.4)	(11.0)	(10.6)	(10.2)	(8.9)	(8.7)	(8.0)	(7.3)
US MBS Vega Other Advanced Economies 1M															
							• •		, ,						
	3M	(18.1)	(18.1)	(17.5)	(16.8)	(16.1)	(14.2)	(12.2)	(11.1)	(10.5)	(9.1)	(9.8)	(9.0)	(8.5)	(8.0)
	6M	(18.1)	(18.1)	(17.5)	(16.8)	(16.1)	(14.2)	(12.2)	(11.1)	(10.5)	(9.1)	(9.8)	(9.0)	(8.5)	(8.0)
	9M	(18.1)	(18.1)	(17.5)	(16.8)	(16.1)	(14.2)	(12.2)	(11.1)	(10.5)	(9.1)	(9.8)	(9.0)	(8.5)	(8.0)
_	1Y	(18.1)	(18.1)	(17.5)	(16.8)	(16.1)	(14.2)	(12.2)	(11.1)	(10.5)	(9.1)	(9.8)	(9.0)	(8.5)	(8.0)
~	2Y	(19.0)	(19.0)	(17.5)	(16.1)	(14.6)	(13.2)	(11.9)	(10.0)	(9.8)	(9.2)	(9.9)	(8.2)	(8.5)	(8.7)
EXPIR	3Y	(19.9)	(19.9)	(18.7)	(17.6)	(16.4)	(15.2)	(13.9)	(12.2)	(11.8)	(11.3)	(11.3)	(10.8)	(9.5)	(8.2)
<u> </u>	5Y	(19.3)	(19.3)	(17.6)	(16.0)	(14.3)	(12.9)	(11.4)	(9.8)	(16.5)	(9.2)	(14.7)	(8.3)	(8.2)	(8.0)
	7Y	(19.1)	(19.1)	(17.4)	(15.6)	(13.9)	(12.7)	(11.4)	(9.9)	(13.9)	(9.0)	(12.6)	(8.5)	(8.3)	(8.0)
	10Y	(18.7)	(18.7)	(17.0)	(15.2)	(13.4)	(12.4)	(11.3)	(10.2)	(10.1)	(8.8)	(9.4)	(8.8)	(8.4)	(8.0)
	15Y	(20.7)	(20.7)	(18.5)	(16.3)	(14.0)	(12.8)	(11.6)	(10.5)	(10.0)	(10.0)	(8.9)	(8.4)	(8.4)	(8.3)
	20Y	(21.1)	(21.1)	(18.8)	(16.6)	(14.3)	(13.1)	(12.0)	(10.9)	(10.4)	(9.9)	(9.1)	(8.5)	(8.1)	(7.7)
	30Y	(24.8)	(24.8)	(21.6)	(18.3)	(15.1)	(13.7)	(12.4)	(11.0)	(10.6)	(10.2)	(8.9)	(8.7)	(8.0)	(7.3)
						, ,	, ,	, ,	, ,	, ,	, ,	` '	` '	• •	, ,
	Total Emergi	ng Europe													
	1M	(7.5)	(7.5)	(7.5)	(7.5)	(7.5)	(8.5)	(10.2)	(14.4)	(18.8)	(23.9)	(18.9)	(8.9)	(1.6)	5.8
	3M	(7.6)	(7.6)	(7.6)	(7.6)	(7.6)	(8.9)	(10.7)	(14.9)	(19.3)	(25.4)	(18.9)	(8.9)	(1.6)	5.8
	6M	(7.7)	(7.7)	(7.7)	(7.7)	(7.7)	(9.5)	(11.6)	(15.9)	(20.2)	(25.4)	(18.9)	(8.9)	(1.6)	5.8
	9M	(8.3)	(8.3)	(8.3)	(8.3)	(8.3)	(10.3)	(12.6)	(16.9)	(21.1)	(25.4)	(18.9)	(8.9)	(1.6)	5.8
	1Y	(9.2)	(9.2)	(9.2)	(9.2)	(9.2)	(11.2)	(13.7)	(18.0)	(22.1)	(25.4)	(18.9)	(8.9)	(1.6)	5.8
>	2Y	(13.2)	(13.2)	(13.2)	(13.2)	(13.2)	(15.9)	(17.8)	(22.5)	(25.9)	(25.9)	(33.2)	(6.4)	(2.8)	0.7
EXPIRY	3Y	(18.6)	(18.6)	(18.6)	(18.6)	(18.6)	(20.1)	(22.8)	(27.1)	(26.8)	(25.2)	(18.7)	(9.8)	(7.4)	(5.1)
≥ .	5Y	(16.6)	(16.6)	(18.6)	(20.6)	(22.6)	(23.9)	(25.1)	(27.1)	(27.2)	(24.8)	(18.7)	(14.8)	(11.7)	(8.6)
ш												•			
	7Y 10Y	(17.8)	(17.8)	(19.5)	(21.1)	(22.7)	(23.3)	(23.8)	(26.0)	(26.3)	(25.0)	(21.4)	(17.2)	(14.0)	(10.8)
		(19.6)	(19.6)	(20.7)	(21.8)	(22.8)	(22.3)	(21.8)	(24.3)	(25.0)	(25.3)	(23.9)	(20.7)	(17.4)	(14.1)
	15Y	(20.1)	(20.1)	(21.3)	(22.5)	(23.8)	(23.4)	(22.9)	(24.9)	(25.1)	(25.6)	(20.4)	(17.0)	(15.0)	(13.0)
	20Y	(21.2)	(21.2)	(22.2)	(23.3)	(24.4)	(24.1)	(23.8)	(26.0)	(25.4)	(24.0)	(18.7)	(15.3)	(13.7)	(12.1)
	30Y	(23.0)	(23.0)	(22.3)	(21.6)	(20.9)	(22.2)	(23.4)	(24.6)	(22.7)	(21.9)	(17.2)	(14.1)	(9.9)	(5.7)
	Total Latam 8	& Caribbean	(18.1)	(17.5)	(16.8)	(16.1)	(14.2)	(12.2)	(11.1)	(10.5)	(9.1)	(9.8)	(9.0)	(8.5)	(8.0)
			, ,			, ,	, ,	, ,	, ,	, ,	, ,	. ,	. ,	. ,	. ,
	3M	(18.1)	(18.1)	(17.5)	(16.8)	(16.1)	(14.2)	(12.2)	(11.1)	(10.5)	(9.1)	(9.8)	(9.0)	(8.5)	(8.0)
	6M	(18.1)	(18.1)	(17.5)	(16.8)	(16.1)	(14.2)	(12.2)	(11.1)	(10.5)	(9.1)	(9.8)	(9.0)	(8.5)	(8.0)
	9M	(18.1)	(18.1)	(17.5)	(16.8)	(16.1)	(14.2)	(12.2)	(11.1)	(10.5)	(9.1)	(9.8)	(9.0)	(8.5)	(8.0)
_	1Y	(18.1)	(18.1)	(17.5)	(16.8)	(16.1)	(14.2)	(12.2)	(11.1)	(10.5)	(9.1)	(9.8)	(9.0)	(8.5)	(8.0)
PIRY	2Y	(19.0)	(19.0)	(17.5)	(16.1)	(14.6)	(13.2)	(11.9)	(10.0)	(9.8)	(9.2)	(9.9)	(8.2)	(8.5)	(8.7)
<u>-</u>	3Y	(19.9)	(19.9)	(18.7)	(17.6)	(16.4)	(15.2)	(13.9)	(12.2)	(11.8)	(11.3)	(11.3)	(10.8)	(9.5)	(8.2)
E	5Y	(19.3)	(19.3)	(17.6)	(16.0)	(14.3)	(12.9)	(11.4)	(9.8)	(16.5)	(9.2)	(14.7)	(8.3)	(8.2)	(8.0)
	7Y	(19.1)	(19.1)	(17.4)	(15.6)	(13.9)	(12.7)	(11.4)	(9.9)	(13.9)	(9.0)	(12.6)	(8.5)	(8.3)	(8.0)
	10Y	(18.7)	(18.7)	(17.0)	(15.2)	(13.4)	(12.4)	(11.3)	(10.2)	(10.1)	(8.8)	(9.4)	(8.8)	(8.4)	(8.0)
	15Y	(20.7)	(20.7)	(18.5)	(16.3)	(14.0)	(12.8)	(11.6)	(10.5)	(10.0)	(10.0)	(8.9)	(8.4)	(8.4)	(8.3)
	20Y	(21.1)	(21.1)	(18.8)	(16.6)	(14.3)	(13.1)	(12.0)	(10.9)	(10.4)	(9.9)	(9.1)	(8.5)	(8.1)	(7.7)

Absolute Normal Interest Rate Shocks (Continued)

	ute Nor		erest K	ate ono	CKS (CO	iitiiiue	u)								
	1M	(18.1)	(18.1)	(17.5)	(16.8)	(16.1)	(14.2)	(12.2)	(11.1)	(10.5)	(9.1)	(9.8)	(9.0)	(8.5)	(8.0)
	3M	(18.1)	(18.1)	(17.5)	(16.8)	(16.1)	(14.2)	(12.2)	(11.1)	(10.5)	(9.1)	(9.8)	(9.0)	(8.5)	(8.0)
	6M	(18.1)	(18.1)	(17.5)	(16.8)	(16.1)	(14.2)	(12.2)	(11.1)	(10.5)	(9.1)	(9.8)	(9.0)	(8.5)	(8.0)
	9M	(18.1)	(18.1)	(17.5)	(16.8)	(16.1)	(14.2)	(12.2)	(11.1)	(10.5)	(9.1)	(9.8)	(9.0)	(8.5)	(8.0)
	1Y	(18.1)	(18.1)	(17.5)	(16.8)	(16.1)	(14.2)	(12.2)	(11.1)	(10.5)	(9.1)	(9.8)	(9.0)	(8.5)	(8.0)
≿	2Y	(19.0)	(19.0)	(17.5)	(16.1)	(14.6)	(13.2)	(11.9)	(10.0)	(9.8)	(9.2)	(9.9)	(8.2)	(8.5)	(8.7)
=	3Y	(19.9)	(19.9)	(18.7)	(17.6)	(16.4)	(15.2)	(13.9)	(12.2)	(11.8)	(11.3)	(11.3)	(10.8)	(9.5)	(8.2)
EXPIRY	5Y	(19.3)	(19.3)	(17.6)	(16.0)	(14.3)	(12.9)	(11.4)	(9.8)	(16.5)	(9.2)	(14.7)	(8.3)	(8.2)	(8.0)
	7Y	(19.1)	(19.1)	(17.4)	(15.6)	(13.9)	(12.7)	(11.4)	(9.9)	(13.9)	(9.0)	(12.6)	(8.5)	(8.3)	(8.0)
	10Y	(18.7)	(18.7)	(17.0)	(15.2)	(13.4)	(12.4)	(11.3)	(10.2)	(10.1)	(8.8)	(9.4)	(8.8)	(8.4)	(8.0)
	15Y	(20.7)	(20.7)	(18.5)	(16.3)	(14.0)	(12.8)	(11.6)	(10.5)	(10.0)	(10.0)	(8.9)	(8.4)	(8.4)	(8.3)
	20Y	(21.1)	(21.1)	(18.8)	(16.6)	(14.3)	(13.1)	(12.0)	(10.9)	(10.4)	(9.9)	(9.1)	(8.5)	(8.1)	(7.7)
	30Y	(24.8)	(24.8)	(21.6)	(18.3)	(15.1)	(13.7)	(12.4)	(11.0)	(10.6)	(10.2)	(8.9)	(8.7)	(8.0)	(7.3)
	Total ME/N.			1	·				·						
	1M	(18.1)	(18.1)	(17.5)	(16.8)	(16.1)	(14.2)	(12.2)	(11.1)	(10.5)	(9.1)	(9.8)	(9.0)	(8.5)	(8.0)
	3M	(18.1)	(18.1)	(17.5)	(16.8)	(16.1)	(14.2)	(12.2)	(11.1)	(10.5)	(9.1)	(9.8)	(9.0)	(8.5)	(8.0)
	6M	(18.1)	(18.1)	(17.5)	(16.8)	(16.1)	(14.2)	(12.2)	(11.1)	(10.5)	(9.1)	(9.8)	(9.0)	(8.5)	(8.0)
	9M	(18.1)	(18.1)	(17.5)	(16.8)	(16.1)	(14.2)	(12.2)	(11.1)	(10.5)	(9.1)	(9.8)	(9.0)	(8.5)	(8.0)
>	1Y	(18.1)	(18.1)	(17.5)	(16.8)	(16.1)	(14.2)	(12.2)	(11.1)	(10.5)	(9.1)	(9.8)	(9.0)	(8.5)	(8.0)
~	2Y	(19.0)	(19.0)	(17.5)	(16.1)	(14.6)	(13.2)	(11.9)	(10.0)	(9.8)	(9.2)	(9.9)	(8.2)	(8.5)	(8.7)
EXPIRY	3Y	(19.9)	(19.9)	(18.7)	(17.6)	(16.4)	(15.2)	(13.9)	(12.2)	(11.8)	(11.3)	(11.3)	(10.8)	(9.5)	(8.2)
ш	5Y 7Y	(19.3)	(19.3)	(17.6)	(16.0)	(14.3)	(12.9)	(11.4)	(9.8)	(16.5)	(9.2)	(14.7)	(8.3)	(8.2)	(8.0)
	10Y	(19.1)	(19.1)	(17.4)	(15.6)	(13.9)	(12.7)	(11.4)	(9.9)	(13.9)	(9.0)	(12.6)	(8.5)	(8.3)	(8.0)
	15Y	(18.7) (20.7)	(18.7) (20.7)	(17.0) (18.5)	(15.2) (16.3)	(13.4) (14.0)	(12.4) (12.8)	(11.3) (11.6)	(10.2) (10.5)	(10.1)	(8.8)	(9.4) (8.9)	(8.8)	(8.4)	(8.0)
	20Y	(21.1)	(21.1)	(18.8)	(16.5)	(14.0)	(13.1)	(12.0)	(10.5)	(10.4)	(9.9)	(9.1)	(8.5)	(8.1)	(7.7)
	30Y	(24.8)	(24.8)	(21.6)	(18.3)	(15.1)	(13.1)	(12.4)	(10.9)	(10.4)	(10.2)	(8.9)	(8.7)	(8.1)	(7.7)
	Total Sub-Sa	haran Africa				, ,	, ,	,		, ,		, ,		, ,	, ,
	1M	(18.1)	(18.1)	(17.5)	(16.8)	(16.1)	(14.2)	(12.2)	(11.1)	(10.5)	(9.1)	(9.8)	(9.0)	(8.5)	(8.0)
	3M	(18.1)	(18.1)	(17.5)	(16.8)	(16.1)	(14.2)	(12.2)	(11.1)	(10.5)	(9.1)	(9.8)	(9.0)	(8.5)	(8.0)
	6M	(18.1)	(18.1)	(17.5)	(16.8)	(16.1)	(14.2)	(12.2)	(11.1)	(10.5)	(9.1)	(9.8)	(9.0)	(8.5)	(8.0)
	9M	(18.1)	(18.1)	(17.5)	(16.8)	(16.1)	(14.2)	(12.2)	(11.1)	(10.5)	(9.1)	(9.8)	(9.0)	(8.5)	(8.0)
>	1Y	(18.1)	(18.1)	(17.5)	(16.8)	(16.1)	(14.2)	(12.2)	(11.1)	(10.5)	(9.1)	(9.8)	(9.0)	(8.5)	(8.0)
EXPIRY	2Y	(19.0)	(19.0)	(17.5)	(16.1)	(14.6)	(13.2)	(11.9)	(10.0)	(9.8)	(9.2)	(9.9)	(8.2)	(8.5)	(8.7)
ΧP	3Y	(19.9)	(19.9)	(18.7)	(17.6)	(16.4)	(15.2)	(13.9)	(12.2)	(11.8)	(11.3)	(11.3)	(10.8)	(9.5)	(8.2)
ш	5Y	(19.3)	(19.3)	(17.6)	(16.0)	(14.3)	(12.9)	(11.4)	(9.8)	(16.5)	(9.2)	(14.7)	(8.3)	(8.2)	(8.0)
	7Y	(19.1)	(19.1)	(17.4)	(15.6)	(13.9)	(12.7)	(11.4)	(9.9)	(13.9)	(9.0)	(12.6)	(8.5)	(8.3)	(8.0)
	10Y	(18.7)	(18.7)	(17.0) (18.5)	(15.2)	(13.4) (14.0)	(12.4)	(11.3)	(10.2)	(10.1)	(8.8)	(9.4)	(8.8)	(8.4)	(8.0)
	15Y	(20.7)	(20.7)	· , ,	(16.3)	, ,	(12.8)	(11.6)	(10.5)	(10.0)	(10.0)	(8.9)	(8.4)	, ,	(8.3)
	20Y	(21.1)	(21.1)	(18.8)	(16.6)	(14.3)	(13.1)	(12.0)	(10.9)	(10.4)	(9.9)	(9.1)	(8.5)	(8.1)	(7.7)

(18.3)

(7.3)

(8.7)

Other Rates

Absolute Change in Inflation (bps)

		MATURITY											
Currency	1M	3M	6M	9M	1Y	2Y	3Y	5Y	7Y	10Y	15Y	20Y	30Y
AUD	(2.1)	(2.1)	(2.1)	(2.1)	(2.1)	(19.3)	(27.7)	(43.8)	(45.7)	(54.6)	(66.4)	(65.8)	(72.9)
EUR	(26.1)	(26.1)	(26.1)	(26.1)	(26.1)	(33.6)	(41.2)	(60.3)	(57.2)	(74.0)	(77.9)	(65.4)	(100.3)
GBP	(9.7)	(9.7)	(9.7)	(9.7)	(9.7)	(40.0)	(48.3)	(63.9)	(69.0)	(68.8)	(69.0)	(71.6)	(70.4)
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
USD	(2.0)	(2.0)	(2.0)	(2.0)	(2.0)	(4.8)	(59.3)	(89.6)	(101.6)	(112.8)	(115.1)	(120.8)	(106.6)
Other	(26.1)	(26.1)	(26.1)	(26.1)	(26.1)	(40.0)	(59.3)	(89.6)	(101.6)	(112.8)	(115.1)	(120.8)	(106.6)

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	11.8	11.8	11.8	11.8	11.8	10.6	5.6	(2.0)	(13.8)	(35.9)	(64.4)	(81.5)	(116.5)
EUR	(7.5)	(7.5)	(15.5)	(23.8)	(20.3)	(24.0)	(22.8)	(20.1)	(15.3)	(9.7)	(5.7)	(5.4)	(5.7)
GBP	(30.3)	(30.3)	(30.3)	(30.3)	(30.3)	(36.0)	(33.8)	(25.2)	(15.5)	(8.7)	(3.5)	0.5	6.8
JPY	(22.8)	(22.8)	(22.8)	(22.8)	(22.8)	(23.9)	(23.8)	(24.3)	(21.4)	(18.5)	(13.0)	(11.0)	(9.3)
Other	(7.5)	(7.5)	(15.5)	(23.8)	(20.3)	(24.0)	(22.8)	(20.1)	(15.3)	(9.7)	(5.7)	(5.4)	(5.7)

Appendix 11: Global Market Shock - Severely Adverse

Securitized Products

Trading, PE & Other Fair Value Assets Schedule

Securitized Products

Relative MV Shock Base	Non-Agency Prime														
	Prime				Unspec Non-							Prime Whole		European	Other /
		Sub-prime	Option ARMS	Other AltA	Prime	HELOC	RMBS CDO	RMBS CDS	Credit Basket	PrimeX	ABX / TABX	Loans	Whole Loans	RMBS	Unspecified
AAA Total	ed on Current	Rating (%)													
							1		T		1				T
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					•			•	•			•	•		_
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%	-84.6%	-84.6%	-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%
,	54.070	04.070	04.070	04.070	04.070	04.070	04.070	04.070	04.070	04.070	04.070	84.070	04.070	04.070	04.070
BB Total							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	-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 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 Schedule Securitized Products

				ABS							CMBS				Corporate	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	ed on Curren	t Rating (%)															•		•
AAA Total																			
Pre 2006	-4.3%	-13.2%	-10.8%	-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%	-18.4%	18.4%	-2.7%
2006	-4.3%	-13.2%	-12.1%	-13.2%	-13.2%	-13.2%	-13.2%	-2.7%	-1.6%	-2.7%	-1.6%	-1.6%	-2.7%	-2.7%	-6.1%	-6.1%	-22.1%	22.1%	-2.7%
2007	-4.3%	-13.2%	-14.4%	-14.4%	-14.4%	-14.4%	-14.4%	-5.5%	-3.3%	-5.5%	-3.3%	-3.3%	-5.5%	-5.5%	-6.1%	-6.1%	-22.1%	22.1%	-2.7%
Post 2007	-4.3%	-13.2%	-11.7%	-13.2%	-13.2%	-13.2%	-13.2%	-23.4%	-14.1%	-23.4%	-14.1%	-14.1%	-23.4%	-23.4%	-17.7%	-17.7%	-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%
AA Total																			
Pre 2006	-7.7%	-20.1%	-26.1%	-26.1%	-26.1%	-26.1%	-26.1%	-12.7%	-7.6%	-12.7%	-7.6%	-7.6%	-12.7%	-12.7%	-26.2%	-26.2%	-18.4%	18.4%	-2.7%
2006	-7.7%	-20.1%	-29.0%	-29.0%	-29.0%	-29.0%	-29.0%	-6.8%	-4.1%	-6.8%	-4.1%	-4.1%	-6.8%	-6.8%	-26.2%	-26.2%	-22.1%	22.1%	-2.7%
2007	-7.7%	-20.1%	-34.7%	-34.7%	-34.7%	-34.7%	-34.7%	-13.6%	-8.2%	-13.6%	-8.2%	-8.2%	-13.6%	-13.6%	-26.2%	-26.2%	-22.1%	22.1%	-2.7%
Post 2007	-7.7%	-20.1%	-28.1%	-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																			
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%	-18.4%	22.1%	-2.7%
2007	-14.5%	-20.1%	-39.2%	-32.8%	-32.8%	-32.8%	-32.8%	-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%
1																			
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% -37.9%	-38.1% -47.0%	-38.1% -47.0%	-38.1% -47.0%	-38.1% -47.0%	-38.1% -47.0%	-86.2%	-51.7% -51.7%	-86.2% -86.2%	-51.7% -51.7%	-51.7% -51.7%	-86.2% -86.2%	-86.2% -86.2%	-85.9%	-85.9%	-18.4% -22.1%	18.4% 22.1%	-43.9% -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%	-80.2%	-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%
ND T-4-I		•			•		-				•		-						
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%	-35.4%	-37.9%	-37.9%	-37.9%	-37.9%	-18.7%	-6.0%	-18.7%	-11.2%	-6.0%	-18.7%	-18.7%	-47.7%	-47.7%	-18.4%	22.1%	-43.9%
2007	-18.8%	-37.9%	-39.4%	-39.4%	-39.4%	-39.4%	-39.4%	-10.0%	-6.0%	-10.0%	-6.0%	-12.0%	-10.0%	-10.0%	-47.7%	-47.7%	-22.1%	22.1%	-43.9%
Post 2007	-18.8%	-37.9%	-38.1%	-47.0%	-38.1%	-38.1%	-47.0%	-86.2%	-12.0%	-86.2%	-12.0%	-51.7%	-86.2%	-86.2%	-47.7%	-47.7%	-18.4%	18.4%	-43.9%
Unspecified Vintage	-18.8%	-37.9%	-47.0%	-38.1%	-47.0%	-36.1%	-36.1%	-86.2%	-51.7%	-86.2%	-51.7%	-51.7%	-86.2%	-86.2%	-87.4%	-87.4%	-18.4%	22.1%	-43.9%
ospecifica vilitage	10.076	37.370	47.070	47.070	47.070	47.070	47.070	00.2/0	31.770	00.270	51.770	31.770	00.2/0	00.270	07.470	07.470	22.1/0	22.1/0	43.570

Munis

Trading, PE & Other Fair Value Assets Schedule Munis

	Spread Widening (bps)
Bonds	Spread tridering (Sps)
AAA	56.0
AA	73.0
l _A	176.0
ВВВ	419.0
BB	750.0
B	1,074.9
- <b< td=""><td>1,611.6</td></b<>	1,611.6
NR	1,611.6
Loans	
AAA	56.0
AA	73.0
IA I	176.0
ввв	419.0
ВВ	750.0
В	1,074.9
<b< td=""><td>1,611.6</td></b<>	1,611.6
NR	1,611.6
CDS	
AAA	23.8
AA	29.5
A	51.2
ввв	178.4
ВВ	412.4
В	591.0
<b< td=""><td>886.1</td></b<>	886.1
NR	886.1
Indices	
AAA	23.8
AA	29.5
A	51.2
BBB	178.4
ВВ	412.4
В	591.0
<b< td=""><td>886.1</td></b<>	886.1
NR	886.1
Other / Unspecified Munis	
AAA	56.0
AA	73.0
A	176.0
ввв	419.0
ВВ	750.0
В	1,074.9
<b< td=""><td>1,611.6</td></b<>	1,611.6
NR	1,611.6

Agencies

Trading, PE & Other Fair Value Assets Schedule

Agencies

OAS Widening (bps)

US Residential Agency Products

OS 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	

600.0
85.0
200.0
170.0
170.0
600.0
85.0
170.0
200.0
120.0
300.0
170.0

US Commercial Agency Products

Cash Agency CMBS
Agency CMBS Derivatives
Commercial Other / Unspecified

200.0	
200.0	
200.0	

Non-US Agency Products

AAA AA
AA
A
BBB
BB
В
<b< th=""></b<>
NR

240.0
312.0
405.6
527.3
685.5
891.1
1,158.4
1,158.4

Rates DV01

DFAST 2016 Market Shocks: Severely Adverse Scenario

Rates DV01

							MATURIT	Υ					
Rates Shocks (bps)	1M	3M	6M	9M	1Y	2Y	3Y	5Y	7Y	10Y	15Y	20Y	30Y
AUD Directional Risks													
Governments	97.9	97.9	83.9	68.5	53.0	(14.8)	(42.8)	(71.2)	(107.5)	(129.0)	(144.4)	(143.2)	(139.8
Agencies	97.9	97.9	83.9	68.5	53.0	(14.8)	(42.8)	(71.2)	(107.5)	(129.0)	(144.4)	(143.2)	(139.8
Municipals	97.9	97.9	83.9	68.5	53.0	(14.8)	(42.8)	(71.2)	(107.5)	(129.0)	(144.4)	(143.2)	(139.8
Swaps / Discounting Curve	68.6	68.6	60.1	51.0	41.9	(10.3)	(37.8)	(64.6)	(89.4)	(110.9)	(117.7)	(119.5)	(123.9
Instruments shocked by MV**		-	-	02.0	12.0	(20.0)	(01.0)	(5.1.5)	(001.1)	(====)	(==:::)	(22010)	(
Other	68.6	68.6	60.1	51.0	41.9	(10.3)	(37.8)	(64.6)	(89.4)	(110.9)	(117.7)	(119.5)	(123.9
	1					(====)	(0110)	(=)	(001.1)	(====)	(==:::)	(====)	
AUD Basis Risks (Do not include the sw	ap/discounting	curve specific	ed above)										
OIS Basis													
1m Basis													
3m Basis													
6m Basis													
12m Basis													
Other Basis													
	ı			1	II.	· L		1		· L			
CAD Directional Risks													
Governments	52.2	52.2	52.9	47.9	43.0	14.0	(8.5)	(46.4)	(67.5)	(83.1)	(79.8)	(80.7)	(78.9)
Agencies	52.2	52.2	52.9	47.9	43.0	14.0	(8.5)	(46.4)	(67.5)	(83.1)	(79.8)	(80.7)	(78.9)
Municipals	52.2	52.2	52.9	47.9	43.0	14.0	(8.5)	(46.4)	(67.5)	(83.1)	(79.8)	(80.7)	(78.9)
Swaps / Discounting Curve	26.0	26.0	34.3	32.5	30.7	1.7	(22.7)	(64.4)	(83.1)	(103.3)	(113.7)	(114.5)	(112.8
Instruments shocked by MV**													
Other	26.0	26.0	34.3	32.5	30.7	1.7	(22.7)	(64.4)	(83.1)	(103.3)	(113.7)	(114.5)	(112.8
	•	•	•	•	•					•			
CAD Basis Risks (Do not include the swa	ap/discounting	curve specifie	d above)										
OIS Basis													
1m Basis													
3m Basis													
6m Basis													
12m Basis													
Other Basis													
		•	•				•		•	•	•		
CHF Directional Risks													
Governments	84.4	84.4	80.0	81.1	82.2	82.5	78.8	58.9	37.2	9.2	(21.0)	(39.0)	(58.1)
Agencies	84.4	84.4	80.0	81.1	82.2	82.5	78.8	58.9	37.2	9.2	(21.0)	(39.0)	(58.1)
Municipals	84.4	84.4	80.0	81.1	82.2	82.5	78.8	58.9	37.2	9.2	(21.0)	(39.0)	(58.1)
Swaps / Discounting Curve	5.1	5.1	6.7	2.8	0.0	0.0	0.0	0.0	0.0	(19.0)	(53.0)	(71.0)	(81.0)
Instruments shocked by MV**													
Other	5.1	5.1	6.7	2.8	0.0	0.0	0.0	0.0	0.0	(19.0)	(53.0)	(71.0)	(81.0)
CHF Basis Risks (Do not include the swa	p/discounting	curve specifie	d above)										
OIS Basis													
1m Basis													
3m Basis													
6m Basis													
12m Basis													
Other Basis		1	1	1	i e	1		1		1	1	1	t

,													
DKK Directional Risks													
Governments	82.9	82.9	81.1	75.7	70.2	51.0	27.0	(6.0)	(36.0)	(71.0)	(106.0)	(112.7)	(107.6)
Agencies	82.9	82.9	81.1	75.7	70.2	51.0	27.0	(6.0)	(36.0)	(71.0)	(106.0)	(112.7)	(107.6)
Municipals	82.9	82.9	81.1	75.7	70.2	51.0	27.0	(6.0)	(36.0)	(71.0)	(106.0)	(112.7)	(107.6)
Swaps / Discounting Curve	31.0	31.0	27.5	28.4	29.4	10.0	(4.0)	(45.0)	(76.9)	(89.2)	(100.2)	(105.0)	(110.5)
Instruments shocked by MV**													
Other	31.0	31.0	27.5	28.4	29.4	10.0	(4.0)	(45.0)	(76.9)	(89.2)	(100.2)	(105.0)	(110.5)
							()	()	(10.0)	(33.2)	(====/	(200.0)	
DKK Basis Risks (Do not include the swa	n/discounting	curve specifie	d above)										
OIS Basis	,												
1m Basis													
3m Basis													
6m Basis													+
12m Basis													+
							1						
Other Basis							1						<u> </u>
EUR Directional Risks	1 20.4	16.7	F4.3	F4 -	E4.0	44.0	20.0	(6.0)	(25.0)	(75.5)	(445.5)	(42= 2)	(421.5)
Governments: Austria	38.1	44.7	51.3	51.1	51.0	41.0	30.0	(1.0)	(35.0)	(75.6)	(116.3)	(125.2)	(131.0)
Governments: Belgium	38.1	46.0	51.3	51.1	51.0	41.0	29.0	(4.0)	(40.0)	(78.1)	(116.3)	(125.2)	(131.0)
Governments: Finland	38.1	44.7	51.3	51.1	51.0	42.0	30.0	(1.0)	(36.0)	(78.0)	(116.3)	(125.2)	(131.0)
Governments: France	64.5	64.5	56.9	56.3	55.8	42.0	29.0	(3.0)	(37.0)	(78.0)	(117.4)	(127.7)	(134.1)
Governments: Germany	38.1	44.7	51.3	51.1	51.0	44.0	35.0	10.0	(16.0)	(53.0)	(96.0)	(120.0)	(131.0)
Governments: Greece	760.3	901.7	1,113.9	1,326.0	1,538.2	2,386.8	2,295.6	1,555.7	1,245.0	1,017.3	845.5	759.5	673.1
Governments: Ireland	38.1	38.1	51.3	51.1	51.0	34.0	19.0	(18.0)	(58.0)	(97.9)	(116.3)	(125.2)	(131.0)
Governments: Italy	101.3	101.3	93.9	78.1	62.4	26.0	0.0	(52.0)	(94.7)	(131.5)	(146.8)	(151.2)	(158.4)
Governments: Netherlands	62.5	62.5	69.4	63.3	58.0	45.0	33.0	4.0	(27.0)	(69.0)	(110.0)	(123.4)	(129.1)
Governments: Portugal	38.1	38.1	51.3	51.1	51.0	24.0	(0.5)	(45.2)	(73.2)	(97.9)	(116.3)	(125.2)	(131.0)
Governments: Spain	66.0	66.0	57.0	47.5	38.0	10.0	(15.0)	(66.0)	(110.0)	(148.7)	(173.7)	(184.3)	(187.4)
Governments: Other	62.5	62.5	69.4	63.3	58.0	45.0	33.0	4.0	(27.0)	(69.0)	(110.0)	(123.4)	(129.1)
Agencies	62.5	62.5	69.4	63.3	58.0	45.0	33.0	4.0	(27.0)	(69.0)	(110.0)	(123.4)	(129.1)
Municipals	62.5	62.5	69.4	63.3	58.0	45.0	33.0	4.0	(27.0)	(69.0)	(110.0)	(123.4)	(129.1)
Swaps / Discounting Curve	15.4	15.4	19.3	28.2	37.2	27.6	12.0	(21.0)	(50.5)	(87.2)	(99.4)	(109.4)	(114.0)
Instruments shocked by MV**	13. 1	15. 1	13.5	20.2	37.2	27.0	12.0	(22.0)	(30.3)	(07.2)	(33.1)	(103.1)	(11)
Other	15.4	15.4	19.3	28.2	37.2	27.6	12.0	(21.0)	(50.5)	(87.2)	(99.4)	(109.4)	(114.0)
Other	13.4	13.4	19.3	20.2	37.2	27.0	12.0	(21.0)	(30.3)	(87.2)	(33.4)	(103.4)	(114.0)
EUR Basis Risks (Do not include the swa	n/discounting	cuna specific	d above)										
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)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.2	0.2
	(0.1)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.2	0.2
3m Basis	4	/ = -\		/= -\	4	4= -1							
6m Basis	(1.0)	(0.6)	(0.2)	(0.4)	(0.2)	(0.1)	0.1	0.5	0.7	0.8	0.9	0.8	0.6
12m Basis	(2.8)	(1.6)	(0.5)	(1.0)	(0.7)	(0.3)	0.2	1.0	1.5	1.8	1.9	1.7	1.2
Other Basis													
GBP Directional Risks					,					,			
Governments	101.7	101.7	91.5	73.1	54.8	16.1	(17.6)	(54.8)	(84.9)	(94.6)	(102.2)	(107.4)	(104.2)
Agencies	101.7	101.7	91.5	73.1	54.8	16.1	(17.6)	(54.8)	(84.9)	(94.6)	(102.2)	(107.4)	(104.2)
Municipals	101.7	101.7	91.5	73.1	54.8	16.1	(17.6)	(54.8)	(84.9)	(94.6)	(102.2)	(107.4)	(104.2)
Swaps / Discounting Curve	22.5	22.5	44.5	43.2	41.9	9.9	(15.3)	(51.8)	(73.6)	(90.7)	(97.5)	(94.6)	(88.4)
Instruments shocked by MV**													
Other	22.5	22.5	44.5	43.2	41.9	9.9	(15.3)	(51.8)	(73.6)	(90.7)	(97.5)	(94.6)	(88.4)
GBP Basis Risks (Do not include the swa	ap/discounting	curve specifie	d above)										
	(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)
OIS Basis	(15.5)			/			(5.0)	(4.7)	(4.4)	(4.2)	(3.8)	(3.6)	(3.2)
		(4.3)	(4.5)	(4.7)	(5.8)	(5.2)							. , , , , , , ,
1m Basis	(4.1)	(4.3)	(4.5)	(4.7)	(5.8)	(5.2)	(5.0)	(4.7)	()	(2)	(3.0)	(3.0)	
1m Basis 3m Basis	(4.1)			` ′		, ,		ì	ì			, ,	3.1
1m Basis 3m Basis 6m Basis	(4.1)	3.8	3.9	4.1	5.1	3.9	3.5	3.2	3.1	3.0	3.0	3.0	3.1
1m Basis 3m Basis	(4.1)			` ′		, ,		ì	ì			, ,	3.1 6.3

PY Directional Risks Governments	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Agencies	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Municipals	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Swaps / Discounting Curve	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
• •	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Instruments shocked by MV**	0.0	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
PY Basis Risks (Do not include the swa	ap/discounting c	urve specifie	d above)										
OIS Basis	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1m TIBOR Basis	0.6	0.8	1.0	0.8	1.0	0.8	0.6	0.6	0.6	0.7	1.1	1.3	1.5
3m TIBOR Basis													
6m TIBOR Basis	0.7	0.8	1.1	0.9	1.0	0.5	0.3	0.5	0.4	0.5	0.5	0.4	0.3
12m TIBOR Basis													
1m LIBOR Basis	0.6	0.8	1.0	0.8	1.0	0.8	0.6	0.6	0.6	0.7	1.1	1.3	1.5
3m LIBOR Basis	0.0	1	1	0.0	2.0	- 5.5	5.0	1 0.0	5.0	<u> </u>		2.5	1.5
6m LIBOR Basis	0.7	0.8	1.1	0.9	1.0	0.5	0.3	0.5	0.4	0.5	0.5	0.4	0.3
12m LIBOR Basis	0.7	0.8	1.1	0.9	1.0	0.5	0.5	0.5	0.4	0.5	0.5	0.4	0.3
	<u> </u>	-	-	+	-	-	+	 	-	-	-		
Other Basis													
NOK Directional Risks													
Governments	84.3	84.3	80.4	66.3	52.1	18.0	(16.0)	(47.3)	(78.5)	(81.7)	(80.8)	(80.9)	(80.3
Agencies	84.3	84.3	80.4	66.3	52.1	18.0	(16.0)	(47.3)	(78.5)	(81.7)	(80.8)	(80.9)	(80.3)
Municipals	84.3	84.3	80.4	66.3	52.1	18.0	(16.0)	(47.3)	(78.5)	(81.7)	(80.8)	(80.9)	(80.3
Swaps / Discounting Curve	90.2	90.2	83.6	67.1	50.6	7.1	(16.3)	(51.3)	(70.6)	(82.5)	(84.8)	(90.9)	(89.0
• •							(-0.0)	((1010)	(00)	(0)	(00.0)	(00.0
Instruments shocked by MV**													
Instruments shocked by MV** Other	90.2	90.2	83.6	67.1	50.6	7.1	(16.3)	(51.3)	(70.6)	(82.5)	(84.8)	(90.9)	(89.0)
Instruments shocked by MV** Other	90.2	90.2	83.6	67.1	50.6	7.1	(16.3)	(51.3)	(70.6)	(82.5)	(84.8)	(90.9)	(89.0)
•	•		-11	67.1	50.6	7.1	(16.3)	(51.3)	(70.6)	(82.5)	(84.8)	(90.9)	(89.0)
Other	•		-11	67.1	50.6	7.1	(16.3)	(51.3)	(70.6)	(82.5)	(84.8)	(90.9)	(89.0)
Other NOK Basis Risks (Do not include the sw	•		-11	67.1	50.6	7.1	(16.3)	(51.3)	(70.6)	(82.5)	(84.8)	(90.9)	(89.0)
Other NOK Basis Risks (Do not include the sw OIS Basis 1m Basis	•		-11	67.1	50.6	7.1	(16.3)	(51.3)	(70.6)	(82.5)	(84.8)	(90.9)	(89.0)
Other NOK Basis Risks (Do not include the sw OIS Basis 1m Basis 3m Basis	•		-11	67.1	50.6	7.1	(16.3)	(51.3)	(70.6)	(82.5)	(84.8)	(90.9)	(89.0)
Other NOK Basis Risks (Do not include the sw OIS Basis 1m Basis 3m Basis 6m Basis	•		-11	67.1	50.6	7.1	(16.3)	(51.3)	(70.6)	(82.5)	(84.8)	(90.9)	(89.0)
Other NOK Basis Risks (Do not include the sw OIS Basis Im Basis 3m Basis 6m Basis 12m Basis	•		-11	67.1	50.6	7.1	(16.3)	(51.3)	(70.6)	(82.5)	(84.8)	(90.9)	(89.0)
Other NOK Basis Risks (Do not include the sw OIS Basis 1m Basis 3m Basis 6m Basis	•		-11	67.1	50.6	7.1	(16.3)	(51.3)	(70.6)	(82.5)	(84.8)	(90.9)	(89.0)
Other NOK Basis Risks (Do not include the sw OIS Basis 1m Basis 3m Basis 6m Basis 12m Basis Other Basis	•		-11	67.1	50.6	7.1	(16.3)	(51.3)	(70.6)	(82.5)	(84.8)	(90.9)	(89.0)
Other NOK Basis Risks (Do not include the sw OIS Basis 1m Basis 3m Basis 6m Basis 12m Basis Other Basis	vap/discounting	curve specific	ed above)	41.4	34.2	7.1	(29.8)	(75.1)	(100.1)	(123.1)	(126.6)	(135.2)	(135.2
Other NOK Basis Risks (Do not include the swood of the s	vap/discounting	curve specific	ed above)										(135.2
Other NOK Basis Risks (Do not include the sw OIS Basis 1m Basis 3m Basis 6m Basis 12m Basis Other Basis NZD Directional Risks Governments	vap/discounting	curve specific	ed above)	41.4	34.2	(1.7)	(29.8)	(75.1)	(100.1)	(123.1)	(126.6)	(135.2)	
Other NOK Basis Risks (Do not include the sw OIS Basis 1m Basis 3m Basis 6m Basis 12m Basis Other Basis VZD Directional Risks Governments Agencies	59.7	59.7 59.7	48.5 48.5	41.4 41.4	34.2 34.2	(1.7)	(29.8)	(75.1) (75.1)	(100.1)	(123.1) (123.1)	(126.6) (126.6)	(135.2) (135.2)	(135.2 (135.2
Other NOK Basis Risks (Do not include the sw OIS Basis 1m Basis 3m Basis 6m Basis 12m Basis Other Basis VZD Directional Risks Governments Agencies Municipals Swaps / Discounting Curve	59.7 59.7 59.7	59.7 59.7 59.7	48.5 48.5 48.5	41.4 41.4 41.4 41.4	34.2 34.2 34.2 34.2	(1.7) (1.7) (1.7)	(29.8) (29.8) (29.8) (29.8)	(75.1) (75.1) (75.1) (75.1)	(100.1) (100.1) (100.1)	(123.1) (123.1) (123.1) (123.1)	(126.6) (126.6) (126.6)	(135.2) (135.2) (135.2) (135.2)	(135.2 (135.2 (135.2
Other NOK Basis Risks (Do not include the sw OIS Basis 1m Basis 3m Basis 6m Basis 12m Basis Other Basis VZD Directional Risks Governments Agencies Municipals Swaps / Discounting Curve Instruments shocked by MV**	59.7 59.7 59.7 59.7 59.7	59.7 59.7 59.7 59.7	48.5 48.5 48.5 48.5	41.4 41.4 41.4 41.4	34.2 34.2 34.2 34.2 34.2	(1.7) (1.7) (1.7) (1.7)	(29.8) (29.8) (29.8) (29.8)	(75.1) (75.1) (75.1) (75.1)	(100.1) (100.1) (100.1) (100.1)	(123.1) (123.1) (123.1) (123.1)	(126.6) (126.6) (126.6) (126.6)	(135.2) (135.2) (135.2) (135.2)	(135.2 (135.2 (135.2
Other NOK Basis Risks (Do not include the sw OIS Basis 1m Basis 3m Basis 6m Basis 12m Basis Other Basis VZD Directional Risks Governments Agencies Municipals Swaps / Discounting Curve	59.7 59.7 59.7	59.7 59.7 59.7	48.5 48.5 48.5	41.4 41.4 41.4 41.4	34.2 34.2 34.2 34.2	(1.7) (1.7) (1.7)	(29.8) (29.8) (29.8) (29.8)	(75.1) (75.1) (75.1) (75.1)	(100.1) (100.1) (100.1)	(123.1) (123.1) (123.1) (123.1)	(126.6) (126.6) (126.6)	(135.2) (135.2) (135.2) (135.2)	(135.2 (135.2 (135.2
Other NOK Basis Risks (Do not include the swoods assisted the swoods assisted to the swoods as a swood to the swoods as a swood to the swoods as a swood to the swoods as a swood to the swood	59.7 59.7 59.7 59.7 59.7	59.7 59.7 59.7 59.7 59.7	48.5 48.5 48.5 48.5 48.5	41.4 41.4 41.4 41.4	34.2 34.2 34.2 34.2 34.2	(1.7) (1.7) (1.7) (1.7)	(29.8) (29.8) (29.8) (29.8)	(75.1) (75.1) (75.1) (75.1)	(100.1) (100.1) (100.1) (100.1)	(123.1) (123.1) (123.1) (123.1)	(126.6) (126.6) (126.6) (126.6)	(135.2) (135.2) (135.2) (135.2)	(135.2 (135.2 (135.2)
Other NOK Basis Risks (Do not include the sw 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	59.7 59.7 59.7 59.7 59.7	59.7 59.7 59.7 59.7 59.7	48.5 48.5 48.5 48.5 48.5	41.4 41.4 41.4 41.4	34.2 34.2 34.2 34.2 34.2	(1.7) (1.7) (1.7) (1.7)	(29.8) (29.8) (29.8) (29.8)	(75.1) (75.1) (75.1) (75.1)	(100.1) (100.1) (100.1) (100.1)	(123.1) (123.1) (123.1) (123.1)	(126.6) (126.6) (126.6) (126.6)	(135.2) (135.2) (135.2) (135.2)	(135.) (135.) (135.)
Other NOK Basis Risks (Do not include the swoods assisted the swoods assisted to the swoods as a swood to the swoods as a swood to the swoods as a swood to the swoods as a swood to the swood	59.7 59.7 59.7 59.7 59.7	59.7 59.7 59.7 59.7 59.7	48.5 48.5 48.5 48.5 48.5	41.4 41.4 41.4 41.4	34.2 34.2 34.2 34.2 34.2	(1.7) (1.7) (1.7) (1.7)	(29.8) (29.8) (29.8) (29.8)	(75.1) (75.1) (75.1) (75.1)	(100.1) (100.1) (100.1) (100.1)	(123.1) (123.1) (123.1) (123.1)	(126.6) (126.6) (126.6) (126.6)	(135.2) (135.2) (135.2) (135.2)	(135.: (135.: (135.:
Other JOK Basis Risks (Do not include the sw OIS Basis Im Basis Im Basis Im Basis In Basis I	59.7 59.7 59.7 59.7 59.7	59.7 59.7 59.7 59.7 59.7	48.5 48.5 48.5 48.5 48.5	41.4 41.4 41.4 41.4	34.2 34.2 34.2 34.2 34.2	(1.7) (1.7) (1.7) (1.7)	(29.8) (29.8) (29.8) (29.8)	(75.1) (75.1) (75.1) (75.1)	(100.1) (100.1) (100.1) (100.1)	(123.1) (123.1) (123.1) (123.1)	(126.6) (126.6) (126.6) (126.6)	(135.2) (135.2) (135.2) (135.2)	(135.: (135.: (135.:
Other NOK Basis Risks (Do not include the sw OIS Basis Im Basis 3m Basis 6m Basis 12m Basis Other Basis VZD Directional Risks Governments Agencies Municipals Swaps / Discounting Curve Instruments shocked by MV** Other NZD Basis Risks (Do not include the sw OIS Basis Im Basis	59.7 59.7 59.7 59.7 59.7	59.7 59.7 59.7 59.7 59.7	48.5 48.5 48.5 48.5 48.5	41.4 41.4 41.4 41.4	34.2 34.2 34.2 34.2 34.2	(1.7) (1.7) (1.7) (1.7)	(29.8) (29.8) (29.8) (29.8)	(75.1) (75.1) (75.1) (75.1)	(100.1) (100.1) (100.1) (100.1)	(123.1) (123.1) (123.1) (123.1)	(126.6) (126.6) (126.6) (126.6)	(135.2) (135.2) (135.2) (135.2)	(135.: (135.: (135.:
Other OIS Basis Risks (Do not include the sw OIS Basis 1m Basis 3m Basis 6m Basis 12m Basis Other Basis Other Basis IZD Directional Risks Governments Agencies Municipals Swaps / Discounting Curve Instruments shocked by MV** Other IZD Basis Risks (Do not include the sw OIS Basis 1m Basis 3m Basis	59.7 59.7 59.7 59.7 59.7	59.7 59.7 59.7 59.7 59.7	48.5 48.5 48.5 48.5 48.5	41.4 41.4 41.4 41.4	34.2 34.2 34.2 34.2 34.2	(1.7) (1.7) (1.7) (1.7)	(29.8) (29.8) (29.8) (29.8)	(75.1) (75.1) (75.1) (75.1)	(100.1) (100.1) (100.1) (100.1)	(123.1) (123.1) (123.1) (123.1)	(126.6) (126.6) (126.6) (126.6)	(135.2) (135.2) (135.2) (135.2)	(135. (135. (135.

82.6

82.6

75.8

69.0

SEK Directional	Risks
Governments	

Agencies	82.6	82.6	75.8	69.0	66.0	48.0	26.0	(23.0)	(62.0)	(99.8)	(107.6)	(108.6)	(109.9)
Municipals	82.6	82.6	75.8	69.0	66.0	48.0	26.0	(23.0)	(62.0)	(99.8)	(107.6)	(108.6)	(109.9)
Swaps / Discounting Curve	72.3	72.3	71.3	61.0	59.5	27.0	(1.2)	(59.2)	(75.1)	(84.3)	(89.1)	(92.4)	(92.5)
Instruments shocked by MV**													
Other	72.3	72.3	71.3	61.0	59.5	27.0	(1.2)	(59.2)	(75.1)	(84.3)	(89.1)	(92.4)	(92.5)
SEK Basis Risks (Do not include the sw	ap/discounting o	curve specifie	d above)										
OIS Basis													
1m Basis													
3m Basis													
6m Basis													
12m Basis													
Other Basis													
USD Directional Risks													
Governments	(75.3)	(67.4)	(61.4)	(61.2)	(60.9)	(85.2)	(109.0)	(141.9)	(160.9)	(164.2)	(171.3)	(166.9)	(166.6)
Agencies	(75.3)	(67.4)	(61.4)	(61.2)	(60.9)	(85.2)	(109.0)	(141.9)	(160.9)	(164.2)	(171.3)	(166.9)	(166.6)
Municipals	(75.3)	(67.4)	(61.4)	(61.2)	(60.9)	(85.2)	(109.0)	(141.9)	(160.9)	(164.2)	(171.3)	(166.9)	(166.6)
Swaps / Discounting Curve	8.1	8.1	(3.2)	(17.9)	(32.6)	(70.2)	(99.9)	(139.2)	(157.6)	(167.6)	(174.1)	(174.9)	(179.9)
Instruments shocked by MV**													
Other	8.1	8.1	(3.2)	(17.9)	(32.6)	(70.2)	(99.9)	(139.2)	(157.6)	(167.6)	(174.1)	(174.9)	(179.9)
		•								•			
JSD Basis Risks (Do not include the sw	ap/discounting	curve specifie	ed above)										
Prime Basis	(5.0)	(6.5)	(7.1)	(7.5)	(8.0)	(6.4)	(4.2)	(3.6)	(1.1)	(0.7)	(0.7)	(0.8)	(0.8)
							1 : :						

66.0

48.0

26.0

(23.0)

(99.8)

(107.6)

Prime Basis	(5.0)	(6.5)	(7.1)	(7.5)	(8.0)	(6.4)	(4.2)	(3.6)	(1.1)	(0.7)	(0.7)	(0.8)	(0.8)
CP Basis	(5.8)	(7.4)	(8.1)	(8.6)	(9.2)	(7.5)	(6.9)	(4.8)	(2.6)	(3.7)	(4.0)	(4.1)	(4.2)
OIS Basis	(48.9)	(48.9)	(32.9)	(24.4)	(23.6)	(15.4)	(8.0)	(6.0)	(3.8)	(3.5)	(3.5)	(3.5)	(3.5)
1m Basis	(11.3)	(14.5)	(9.8)	(7.5)	(7.0)	(4.4)	(3.0)	(1.3)	(0.4)	0.6	0.6	2.0	2.6
3m Basis													
6m Basis	4.4	5.7	6.2	6.6	7.1	6.1	5.7	4.9	4.6	4.8	5.1	5.2	5.4
12m Basis	9.2	11.8	12.9	13.7	14.7	13.0	12.0	10.2	9.5	10.3	8.1	7.3	5.6
Other Basis													
Absolute increase in NAumi CIENAA /Liber	(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 (Pts)

Other Advanced Economies Directional Risks

Governments	(75.3)	(67.4)	(61.4)	(61.2)	(60.9)	(85.2)	(109.0)	(141.9)	(160.9)	(164.2)	(171.3)	(166.9)	(166.6)
Agencies	(75.3)	(67.4)	(61.4)	(61.2)	(60.9)	(85.2)	(109.0)	(141.9)	(160.9)	(164.2)	(171.3)	(166.9)	(166.6)
Municipals	(75.3)	(67.4)	(61.4)	(61.2)	(60.9)	(85.2)	(109.0)	(141.9)	(160.9)	(164.2)	(171.3)	(166.9)	(166.6)
Swaps / Discounting Curve	8.1	8.1	(3.2)	(17.9)	(32.6)	(70.2)	(99.9)	(139.2)	(157.6)	(167.6)	(174.1)	(174.9)	(179.9)
Instruments shocked by MV**													
Other	8.1	8.1	(3.2)	(17.9)	(32.6)	(70.2)	(99.9)	(139.2)	(157.6)	(167.6)	(174.1)	(174.9)	(179.9)

Directional Risks: Emerging Europe													
BGN	38.1	38.1	51.3	51.1	51.0	24.0	(0.5)	(45.2)	(73.2)	(97.9)	(116.3)	(125.2)	(131.0)
СZК	38.1	38.1	51.3	51.1	51.0	24.0	(0.5)	(34.0)	(57.0)	(84.0)	(116.3)	(125.2)	(131.0)
HRK	38.1	38.1	51.3	51.1	51.0	24.0	(0.5)	(45.2)	(73.2)	(97.9)	(116.3)	(125.2)	(131.0)
HUF	38.1	38.1	51.3	51.1	51.0	24.0	(0.5)	(45.2)	(73.2)	(97.9)	(116.3)	(125.2)	(131.0)
PLN	38.1	38.1	51.3	51.1	51.0	24.0	(0.5)	(45.2)	(73.2)	(97.9)	(116.3)	(125.2)	(131.0)
RON	38.1	38.1	51.3	51.1	51.0	24.0	(0.5)	(45.2)	(73.2)	(97.9)	(116.3)	(125.2)	(131.0)
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	38.1	38.1	51.3	51.1	51.0	24.0	(0.5)	(45.2)	(73.2)	(97.9)	(116.3)	(125.2)	(131.0)
Directional Risks: Latin America & Caribbe	ean												
ARS	100.0	91.3	78.3	65.2	52.2	0.0	(3.6)	(10.7)	(17.9)	(28.6)	(46.4)	(64.3)	(100.0)
BRL	100.0	91.3	78.3	65.2	52.2	0.0	(3.6)	(10.7)	(17.9)	(28.6)	(46.4)	(64.3)	(100.0)
CLP	100.0	91.3	78.3	65.2	52.2	0.0	(3.6)	(10.7)	(17.9)	(28.6)	(46.4)	(64.3)	(100.0)
СОР	100.0	91.3	78.3	65.2	52.2	0.0	(3.6)	(10.7)	(17.9)	(28.6)	(46.4)	(64.3)	(100.0)
MXN	100.0	91.3	78.3	65.2	52.2	0.0	(3.6)	(10.7)	(17.9)	(28.6)	(46.4)	(64.3)	(100.0)
PEN	100.0	91.3	78.3	65.2	52.2	0.0	(3.6)	(10.7)	(17.9)	(28.6)	(46.4)	(64.3)	(100.0)
VEF	100.0	91.3	78.3	65.2	52.2	0.0	(3.6)	(10.7)	(17.9)	(28.6)	(46.4)	(64.3)	(100.0)
Other Latam & Caribbean	100.0	91.3	78.3	65.2	52.2	0.0	(3.6)	(10.7)	(17.9)	(28.6)	(46.4)	(64.3)	(100.0)
Directional Risks: Asia Ex-Japan													
CNY	100.0	91.3	78.3	65.2	52.2	0.0	(3.6)	(10.7)	(17.9)	(28.6)	(46.4)	(64.3)	(100.0)
HKD	100.0	91.3	78.3	65.2	52.2	0.0	(3.6)	(10.7)	(17.9)	(28.6)	(46.4)	(64.3)	(100.0)
IDR	100.0	91.3	78.3	65.2	52.2	0.0	(3.6)	(10.7)	(17.9)	(28.6)	(46.4)	(64.3)	(100.0)
INR	100.0	91.3	78.3	65.2	52.2	0.0	(3.6)	(10.7)	(17.9)	(28.6)	(46.4)	(64.3)	(100.0)
KRW	50.0	45.7	39.1	32.6	26.1	0.0	(1.8)	(5.4)	(8.9)	(14.3)	(23.2)	(32.1)	(50.0)
MYR	100.0	91.3	78.3	65.2	52.2	0.0	(3.6)	(10.7)	(17.9)	(28.6)	(46.4)	(64.3)	(100.0)
PHP	100.0	91.3	78.3	65.2	52.2	0.0	(3.6)	(10.7)	(17.9)	(28.6)	(46.4)	(64.3)	(100.0)
SGD	50.0	45.7	39.1	32.6	26.1	0.0	(1.8)	(5.4)	(8.9)	(14.3)	(23.2)	(32.1)	(50.0)
ТНВ	50.0	45.7	39.1	32.6	26.1	0.0	(1.8)	(5.4)	(8.9)	(14.3)	(23.2)	(32.1)	(50.0)
TWD	50.0	45.7	39.1	32.6	26.1	0.0	(1.8)	(5.4)	(8.9)	(14.3)	(23.2)	(32.1)	(50.0)
Other Asia Ex-Japan	100.0	91.3	78.3	65.2	52.2	0.0	(3.6)	(10.7)	(17.9)	(28.6)	(46.4)	(64.3)	(100.0)
Directional Risks: Middle East/North Afric	ca												
ILS	(9.0)	(9.0)	(9.0)	(11.0)	(13.0)	(32.0)	(56.0)	(103.0)	(146.0)	(164.2)	(171.3)	(166.9)	(166.6)
TRY	(62.0)	(87.0)	(99.0)	(103.0)	(96.0)	(158.0)	(190.0)	(225.0)	(238.0)	(237.0)	(245.0)	(219.0)	(219.0)
Other Middle East/Africa	106.7	106.7	141.6	97.2	52.9	(51.4)	(69.3)	(92.8)	(113.4)	(125.6)	(132.2)	(150.1)	(167.7)
Directional Risks: Sub-Saharan Africa													
ZAR	106.7	106.7	141.6	97.2	52.9	(51.4)	(69.3)	(92.8)	(113.4)	(125.6)	(132.2)	(150.1)	(167.7)
Other Sub-Saharan Africa	106.7	106.7	141.6	97.2	52.9	(51.4)	(69.3)	(92.8)	(113.4)	(125.6)	(132.2)	(150.1)	(167.7)
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Relative Normal Interest Rate Shocks

Rates Vega
Relative Normal Interest Rate Shocks (%)

Rela	tive Norm	al Interes	t Rate Sho	ocks (%)											
								MATU	JRITY						
		1M	3M	6M	9M	1Y	2Y	3Y	5Y	7Y	10Y	15Y	20Y	25Y	30Y
	AUD	•													
	1M	147.2%	147.2%	134.1%	121.0%	108.0%	42.4%	37.0%	21.6%	14.9%	10.0%	8.3%	13.9%	15.0%	16.5%
	3M	107.2%	107.2%	97.6%	88.1%	78.6%	39.8%	32.8%	19.7%	14.8%	9.9%	8.3%	13.8%	14.9%	16.5%
	6M	85.0%	85.0%	77.5%	69.9%	62.4%	39.4%	31.6%	19.4%	14.5%	9.9%	8.3%	13.8%	15.0%	16.6%
	9M	75.6%	75.6%	68.8%	62.1%	55.4%	39.1%	30.5%	18.8%	14.3%	9.8%	8.2%	13.7%	14.9%	16.5%
	1Y	68.0%	68.0%	61.9%	55.9%	49.9%	38.5%	29.2%	18.2%	14.1%	9.6%	8.1%	13.6%	14.8%	16.4%
EXPIRY	2Y	63.4%	63.4%	56.3%	49.3%	42.2%	34.6%	29.1%	17.2%	11.4%	8.2%	31.9%	11.2%	15.9%	21.1%
	3Y	62.6%	62.6%	54.7%	46.8%	38.9%	31.2%	24.3%	16.3%	10.4%	6.3%	16.9%	6.6%	11.6%	17.2%
\simeq	5Y	67.7%	67.7%	58.1%	48.5%	38.8%	32.3%	25.2%	14.0%	9.3%	4.2%	4.0%	2.7%	6.2%	10.0%
	7Y	65.0%	65.0%	55.8%	46.7%	37.5%	29.8%	23.0%	14.0%	9.7%	4.5%	4.2%	2.9%	6.2%	9.8%
	10Y	51.7%	51.7%	44.5%	37.3%	30.1%	28.1%	21.4%	13.0%	9.0%	7.0%	6.7%	4.5%	8.9%	13.8%
	15Y	49.6%	49.6%	42.4%	35.3%	28.1%	26.4%	20.6%	14.1%	9.1%	8.2%	5.7%	6.1%	6.8%	7.4%
	20Y	49.7%	49.7%	42.4%	35.1%	27.9%	26.3%	20.7%	14.1%	9.9%	7.7%	5.9%	4.1%	2.2%	0.0%
	30Y	90.4%	90.4%	77.4%	64.4%	51.4%	48.4%	38.1%	24.8%	13.5%	9.6%	9.6%	4.4%	-1.8%	-8.4%
	EUR	1	ı	ı		ı		ı		ı			1		1
	1M	107.1%	107.1%	100.3%	93.5%	86.6%	70.8%	48.2%	29.6%	23.4%	18.5%	16.5%	13.5%	12.6%	11.8%
	3M	111.5%	111.5%	104.4%	97.3%	90.2%	70.3%	49.5%	30.3%	23.0%	18.3%	16.3%	13.5%	12.8%	12.0%
	6M	112.5%	112.5%	105.3%	98.2%	91.0%	71.4%	50.3%	30.7%	22.4%	17.8%	15.9%	13.3%	12.5%	11.8%
	9M	107.2%	107.2%	100.4%	93.6%	86.7%	63.6%	45.4%	29.6%	21.8%	17.2%	15.7%	13.2%	12.5%	11.8%
_	1Y	104.1%	104.1%	97.5%	90.8%	84.2%	59.7%	42.9%	29.0%	21.2%	16.7%	15.5%	13.2%	12.4%	11.8%
_≃	2Y	73.5%	73.5%	66.3%	59.1%	51.9%	40.7%	30.9%	22.8%	18.7%	15.3%	15.1%	11.2%	11.2%	11.3%
EXPIRY	3Y	51.1%	51.1%	44.6%	38.0%	31.5%	26.6%	20.7%	13.0%	10.5%	8.5%	8.5%	6.1%	8.5%	11.1%
<u>⊞</u>	5Y	45.9%	45.9%	41.3%	36.6%	31.9%	28.3%	23.3%	17.5%	-0.3%	13.7%	-1.0%	10.7%	9.6%	8.6%
	7Y	43.2%	43.2%	38.7%	34.2%	29.7%	25.8%	21.1%	17.4%	6.3%	14.1%	5.1%	11.8%	11.0%	10.1%
	10Y	43.9%	43.9%	39.1%	34.4%	29.6%	25.1%	21.4%	18.1%	16.4%	14.3%	14.7%	13.7%	13.2%	12.4%
	15Y	56.8%	56.8%	49.9%	43.1%	36.2%	29.9%	24.6%	19.1%	17.9%	16.1%	15.8%	16.0%	14.7%	13.6%
	20Y	60.7%	60.7%	53.3%	45.8%	38.4%	31.2%	25.8%	21.1%	19.2%	17.7%	17.7%	17.4%	16.8%	15.2%
	30Y	73.9%	73.9%	63.7%	53.4%	43.2%	41.2%	34.5%	28.2%	26.3%	23.2%	22.8%	21.7%	21.0%	20.2%
	GBP														
	1M	191.7%	191.7%	174.7%	157.7%	140.6%	67.8%	46.2%	20.9%	16.3%	11.0%	10.0%	17.3%	19.2%	21.0%
	3M	117.7%	191.7%	107.2%	96.8%	86.3%	51.9%	36.8%	19.6%	15.4%	10.7%	9.7%	16.7%	18.6%	20.5%
	6M	87.0%	87.0%	79.2%	71.5%	63.8%	43.6%	33.2%	18.8%	14.8%	10.7%	9.4%	16.4%	18.4%	20.3%
	9M	75.5%	75.5%	68.8%	62.1%	55.3%	39.8%	31.0%	17.9%	14.2%	10.0%	9.4%	16.0%	18.0%	19.9%
	1Y	65.6%	65.6%	59.7%	53.9%	48.1%	36.4%	29.1%	17.0%	13.7%	9.7%	9.0%	15.7%	17.6%	19.5%
>	2Y	57.3%	57.3%	50.9%	44.5%	38.2%	31.6%	26.8%	15.7%	10.5%	7.8%	33.6%	12.4%	17.9%	23.7%
EXPIRY	3Y	54.8%	54.8%	47.9%	40.9%	34.0%	27.9%	21.6%	15.0%	9.6%	5.9%	16.9%	6.9%	12.4%	18.1%
×	5Y	55.5%	55.5%	47.6%	39.7%	31.9%	27.0%	21.2%	13.2%	8.5%	3.9%	3.9%	2.8%	6.4%	10.1%
	7Y	53.2%	53.2%	45.7%	38.2%	30.7%	25.6%	20.5%	12.6%	8.8%	4.4%	4.4%	3.1%	6.6%	10.2%
	10Y	54.2%	54.2%	46.6%	39.1%	31.5%	25.3%	19.6%	12.2%	9.3%	5.3%	5.4%	3.7%	7.0%	10.5%
	15Y	64.6%	64.6%	55.3%	45.9%	36.6%	29.4%	22.5%	15.2%	10.7%	7.2%	5.0%	5.1%	5.5%	5.9%
	20Y	71.3%	71.3%	60.9%	50.4%	40.0%	32.9%	25.6%	17.4%	12.5%	6.9%	4.9%	3.2%	1.7%	0.0%
	30Y	78.1%	78.1%	66.9%	55.6%	44.4%	35.7%	27.3%	17.9%	10.3%	5.4%	5.5%	2.6%	-1.2%	-5.7%
			,					,							
	JPY														
	1M	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	3M	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	6M	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	9M	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	1Y	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
EXPIRY	2Y	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
_	3Y	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
ä	5Y	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	7Y	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	10Y	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	15Y	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	20Y	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	30Y	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Relative Normal Interest Rate Shocks (Continued)

	USD														
	1M	125.5%	125.5%	114.4%	103.2%	92.0%	54.9%	37.2%	19.6%	15.7%	11.4%	10.0%	16.9%	18.2%	19.4%
	3M	102.2%	102.2%	93.1%	84.1%	75.0%	46.8%	31.8%	17.9%	14.5%	10.3%	9.1%	15.3%	17.1%	17.6%
	6M	80.7%	80.7%	73.5%	66.3%	59.2%	39.1%	29.3%	17.4%	13.2%	9.9%	8.7%	14.7%	16.0%	17.2%
	9M	69.4%	69.4%	63.2%	57.0%	50.9%	37.1%	28.7%	16.9%	13.1%	9.7%	8.5%	15.3%	16.0%	17.1%
	1Y	61.4%	61.4%	56.0%	50.5%	45.1%	34.8%	27.5%	16.7%	13.0%	9.6%	8.8%	14.8%	15.9%	17.0%
~	2Y	53.7%	53.7%	47.8%	41.8%	35.8%	31.4%	26.4%	15.3%	10.0%	7.7%	31.9%	12.0%	16.4%	21.1%
EXPIRY	3Y	52.4%	52.4%	45.8%	39.2%	32.6%	25.8%	20.3%	14.1%	9.3%	5.6%	16.0%	6.6%	11.8%	16.2%
E	5Y	52.7%	52.7%	45.2%	37.8%	30.3%	25.2%	19.7%	12.0%	7.8%	3.5%	3.6%	2.6%	5.8%	9.3%
	7Y	51.8%	51.8%	44.5%	37.2%	29.9%	24.5%	19.0%	11.5%	7.9%	4.0%	4.0%	2.9%	5.9%	9.1%
	10Y	50.0%	50.0%	43.1%	36.1%	29.1%	23.7%	18.4%	11.1%	8.5%	4.7%	4.9%	3.3%	6.2%	9.2%
	15Y	57.9%	57.9%	49.5%	41.1%	32.8%	26.7%	20.6%	14.1%	9.7%	6.3%	4.4%	4.4%	4.6%	4.8%
	20Y	62.7%	62.7%	53.5%	44.3%	35.2%	28.9%	22.4%	15.2%	10.7%	5.8%	4.0%	2.6%	1.3%	0.0%
	30Y	65.9%	65.9%	56.4%	46.9%	37.4%	30.3%	23.0%	14.5%	8.3%	4.3%	4.2%	1.9%	-0.8%	-3.8%
	US MBS Vega Other Advan	ced Econom		T									T		
	1M	147.2%	147.2%	134.1%	121.0%	108.0%	42.4%	37.0%	21.6%	14.9%	10.0%	8.3%	13.9%	15.0%	16.5%
	3M	107.2%	107.2%	97.6%	88.1%	78.6%	39.8%	32.8%	19.7%	14.8%	9.9%	8.3%	13.8%	14.9%	16.5%
	6M 9M	85.0%	85.0%	77.5%	69.9%	62.4%	39.4% 39.1%	31.6%	19.4%	14.5%	9.9% 9.8%	8.3%	13.8% 13.7%	15.0%	16.6%
	9IVI 1Y	75.6% 68.0%	75.6% 68.0%	68.8% 61.9%	62.1% 55.9%	55.4% 49.9%	39.1%	30.5% 29.2%	18.8% 18.2%	14.3% 14.1%	9.8%	8.2% 8.1%	13.7%	14.9% 14.8%	16.5% 16.4%
>	2Y	63.4%	63.4%	56.3%	49.3%	42.2%	34.6%	29.1%	17.2%	11.4%	8.2%	31.9%	11.2%	15.9%	21.1%
EXPIRY	3Y	62.6%	62.6%	54.7%	46.8%	38.9%	31.2%	24.3%	16.3%	10.4%	6.3%	16.9%	6.6%	11.6%	17.2%
×	5Y	67.7%	67.7%	58.1%	48.5%	38.8%	32.3%	25.2%	14.0%	9.3%	4.2%	4.0%	2.7%	6.2%	10.0%
ш	7Y	65.0%	65.0%	55.8%	46.7%	37.5%	29.8%	23.0%	14.0%	9.7%	4.5%	4.2%	2.9%	6.2%	9.8%
	10Y	51.7%	51.7%	44.5%	37.3%	30.1%	28.1%	21.4%	13.0%	9.0%	7.0%	6.7%	4.5%	8.9%	13.8%
	15Y	49.6%	49.6%	42.4%	35.3%	28.1%	26.4%	20.6%	14.1%	9.1%	8.2%	5.7%	6.1%	6.8%	7.4%
	20Y	49.7%	49.7%	42.4%	35.1%	27.9%	26.3%	20.7%	14.1%	9.9%	7.7%	5.9%	4.1%	2.2%	0.0%
	30Y	90.4%	90.4%	77.4%	64.4%	51.4%	48.4%	38.1%	24.8%	13.5%	9.6%	9.6%	4.4%	-1.8%	-8.4%
	Tatal Emanai		•	•	•		•	•		•			•	•	
	Total Emergi 1M	330.2%	330.2%	309.2%	288.2%	267.1%	200.9%	137.5%	82.1%	56.5%	42.1%	32.0%	25.4%	23.9%	22.6%
	3M	329.9%	329.9%	308.9%	287.8%	266.8%	194.0%	131.6%	79.1%	55.0%	41.2%	31.6%	25.2%	23.8%	22.5%
	6M	324.5%	324.5%	303.9%	283.2%	262.5%	181.8%	122.3%	74.6%	52.7%	39.8%	31.0%	24.9%	23.6%	22.4%
	9M	302.9%	302.9%	283.6%	264.3%	245.1%	169.4%	113.7%	70.4%	50.6%	38.5%	30.4%	24.7%	23.4%	22.3%
	1Y	277.9%	277.9%	260.2%	242.5%	224.8%	157.0%	105.3%	66.4%	48.5%	37.3%	29.9%	24.4%	23.2%	22.1%
≿	2Y	203.9%	203.9%	184.0%	164.0%	144.1%	103.8%	78.0%	51.1%	41.3%	32.1%	27.6%	20.0%	20.2%	20.6%
<u> </u>	3Y	144.0%	144.0%	125.6%	107.2%	88.8%	68.2%	48.7%	28.7%	22.7%	16.9%	14.9%	10.4%	14.8%	19.6%
EXPIRY	5Y	106.7%	106.7%	95.9%	85.0%	74.2%	58.8%	47.7%	35.2%	-0.6%	24.2%	-1.6%	17.2%	15.5%	14.1%
	7Y	89.7%	89.7%	80.4%	71.0%	61.6%	50.4%	40.9%	30.9%	10.4%	22.7%	7.8%	18.1%	17.1%	16.1%
	10Y	68.6%	68.6%	61.2%	53.8%	46.3%	38.9%	32.1%	26.5%	24.0%	21.3%	21.8%	20.0%	19.9%	19.5%
	15Y	76.3%	76.3%	67.1%	57.9%	48.6%	41.5%	34.8%	28.0%	27.1%	25.4%	23.7%	23.9%	22.8%	21.2%
	20Y	97.4%	97.4%	85.5%	73.5%	61.5%	52.8%	44.3%	37.2%	33.2%	29.8%	28.6%	28.0%	26.7%	25.1%
	30Y	151.1%	151.1%	130.2%	109.2%	88.3%	76.2%	64.2%	53.2%	50.6%	44.2%	39.2%	38.1%	36.5%	34.7%
	Total Latam														
	1M	53.8%	F2 00/	49.0%	44.30/						C 40/		8.5%	9.1%	9.9%
			53.8%		44.2%	39.4%	30.3%	26.8%	13.3%	9.6%	6.1%	5.1%			
	3M	49.6%	49.6%	45.2%	40.8%	36.4%	28.1%	24.8%	12.5%	9.1%	5.8%	4.9%	8.3%	8.9%	9.8%
	3M 6M	49.6% 48.7%	49.6% 48.7%	45.2% 44.4%	40.8% 40.0%	36.4% 35.7%	28.1% 27.6%	24.8% 24.4%	12.5% 12.6%	9.1% 8.6%	5.8% 5.0%	4.9% 4.2%	8.3% 7.1%	8.9% 7.7%	9.8% 8.4%
	3M 6M 9M	49.6% 48.7% 45.6%	49.6% 48.7% 45.6%	45.2% 44.4% 41.6%	40.8% 40.0% 37.5%	36.4% 35.7% 33.5%	28.1% 27.6% 26.5%	24.8% 24.4% 23.2%	12.5% 12.6% 11.7%	9.1% 8.6% 8.2%	5.8% 5.0% 4.9%	4.9% 4.2% 4.2%	8.3% 7.1% 7.0%	8.9% 7.7% 7.6%	9.8% 8.4% 8.4%
*	3M 6M 9M 1Y	49.6% 48.7% 45.6% 41.6%	49.6% 48.7% 45.6% 41.6%	45.2% 44.4% 41.6% 37.9%	40.8% 40.0% 37.5% 34.2%	36.4% 35.7% 33.5% 30.5%	28.1% 27.6% 26.5% 25.1%	24.8% 24.4% 23.2% 21.8%	12.5% 12.6% 11.7% 10.6%	9.1% 8.6% 8.2% 7.7%	5.8% 5.0% 4.9% 4.8%	4.9% 4.2% 4.2% 4.1%	8.3% 7.1% 7.0% 6.9%	8.9% 7.7% 7.6% 7.5%	9.8% 8.4% 8.4% 8.3%
IRY	3M 6M 9M 1Y 2Y	49.6% 48.7% 45.6% 41.6% 32.1%	49.6% 48.7% 45.6% 41.6% 32.1%	45.2% 44.4% 41.6% 37.9% 28.6%	40.8% 40.0% 37.5% 34.2% 25.0%	36.4% 35.7% 33.5% 30.5% 21.4%	28.1% 27.6% 26.5% 25.1% 17.6%	24.8% 24.4% 23.2% 21.8% 21.0%	12.5% 12.6% 11.7% 10.6% 8.1%	9.1% 8.6% 8.2% 7.7% 5.2%	5.8% 5.0% 4.9% 4.8% 3.7%	4.9% 4.2% 4.2% 4.1% 14.7%	8.3% 7.1% 7.0% 6.9% 5.2%	8.9% 7.7% 7.6% 7.5% 7.3%	9.8% 8.4% 8.4% 8.3% 9.6%
XPIRY	3M 6M 9M 1Y 2Y 3Y	49.6% 48.7% 45.6% 41.6% 32.1% 29.1%	49.6% 48.7% 45.6% 41.6% 32.1% 29.1%	45.2% 44.4% 41.6% 37.9% 28.6% 25.4%	40.8% 40.0% 37.5% 34.2% 25.0% 21.8%	36.4% 35.7% 33.5% 30.5% 21.4% 18.1%	28.1% 27.6% 26.5% 25.1% 17.6% 14.4%	24.8% 24.4% 23.2% 21.8% 21.0% 16.7%	12.5% 12.6% 11.7% 10.6% 8.1% 7.3%	9.1% 8.6% 8.2% 7.7% 5.2% 4.5%	5.8% 5.0% 4.9% 4.8% 3.7% 2.6%	4.9% 4.2% 4.2% 4.1% 14.7% 7.1%	8.3% 7.1% 7.0% 6.9% 5.2% 2.8%	8.9% 7.7% 7.6% 7.5% 7.3% 4.9%	9.8% 8.4% 8.4% 8.3% 9.6% 7.1%
EXPIRY	3M 6M 9M 1Y 2Y 3Y 5Y	49.6% 48.7% 45.6% 41.6% 32.1% 29.1% 27.6%	49.6% 48.7% 45.6% 41.6% 32.1% 29.1% 27.6%	45.2% 44.4% 41.6% 37.9% 28.6% 25.4% 23.7%	40.8% 40.0% 37.5% 34.2% 25.0% 21.8% 19.7%	36.4% 35.7% 33.5% 30.5% 21.4% 18.1% 15.8%	28.1% 27.6% 26.5% 25.1% 17.6% 14.4% 12.5%	24.8% 24.4% 23.2% 21.8% 21.0% 16.7% 17.2%	12.5% 12.6% 11.7% 10.6% 8.1% 7.3% 5.8%	9.1% 8.6% 8.2% 7.7% 5.2% 4.5% 3.6%	5.8% 5.0% 4.9% 4.8% 3.7% 2.6% 1.6%	4.9% 4.2% 4.2% 4.1% 14.7% 7.1%	8.3% 7.1% 7.0% 6.9% 5.2% 2.8% 1.0%	8.9% 7.7% 7.6% 7.5% 7.3% 4.9% 2.3%	9.8% 8.4% 8.4% 8.3% 9.6% 7.1% 3.7%
EXPIRY	3M 6M 9M 1Y 2Y 3Y 5Y	49.6% 48.7% 45.6% 41.6% 32.1% 29.1% 27.6% 25.6%	49.6% 48.7% 45.6% 41.6% 32.1% 29.1% 27.6% 25.6%	45.2% 44.4% 41.6% 37.9% 28.6% 25.4% 23.7% 22.0%	40.8% 40.0% 37.5% 34.2% 25.0% 21.8% 19.7% 18.4%	36.4% 35.7% 33.5% 30.5% 21.4% 18.1% 15.8%	28.1% 27.6% 26.5% 25.1% 17.6% 14.4% 12.5% 12.1%	24.8% 24.4% 23.2% 21.8% 21.0% 16.7% 17.2% 12.8%	12.5% 12.6% 11.7% 10.6% 8.1% 7.3% 5.8% 5.1%	9.1% 8.6% 8.2% 7.7% 5.2% 4.5% 3.6% 3.5%	5.8% 5.0% 4.9% 4.8% 3.7% 2.6% 1.6%	4.9% 4.2% 4.2% 4.1% 14.7% 7.1% 1.5%	8.3% 7.1% 7.0% 6.9% 5.2% 2.8% 1.0%	8.9% 7.7% 7.6% 7.5% 7.3% 4.9% 2.3%	9.8% 8.4% 8.4% 8.3% 9.6% 7.1% 3.7%
EXPIRY	3M 6M 9M 1Y 2Y 3Y 5Y 7Y	49.6% 48.7% 45.6% 41.6% 32.1% 29.1% 27.6% 25.6% 19.6%	49.6% 48.7% 45.6% 41.6% 32.1% 29.1% 27.6% 25.6% 19.6%	45.2% 44.4% 41.6% 37.9% 28.6% 25.4% 23.7% 22.0% 16.8%	40.8% 40.0% 37.5% 34.2% 25.0% 21.8% 19.7% 18.4% 14.1%	36.4% 35.7% 33.5% 30.5% 21.4% 18.1% 15.8% 14.8%	28.1% 27.6% 26.5% 25.1% 17.6% 14.4% 12.5% 12.1% 9.7%	24.8% 24.4% 23.2% 21.8% 21.0% 16.7% 17.2% 12.8% 7.7%	12.5% 12.6% 11.7% 10.6% 8.1% 7.3% 5.8% 5.1% 4.1%	9.1% 8.6% 8.2% 7.7% 5.2% 4.5% 3.6% 3.5% 3.2%	5.8% 5.0% 4.9% 4.8% 3.7% 2.6% 1.6% 1.7%	4.9% 4.2% 4.2% 4.1% 14.7% 7.1% 1.5% 1.6%	8.3% 7.1% 7.0% 6.9% 5.2% 2.8% 1.0% 1.1% 1.2%	8.9% 7.7% 7.6% 7.5% 7.3% 4.9% 2.3% 2.3% 2.4%	9.8% 8.4% 8.4% 8.3% 9.6% 7.1% 3.7% 3.7%
EXPIRY	3M 6M 9M 1Y 2Y 3Y 5Y	49.6% 48.7% 45.6% 41.6% 32.1% 29.1% 27.6% 25.6%	49.6% 48.7% 45.6% 41.6% 32.1% 29.1% 27.6% 25.6%	45.2% 44.4% 41.6% 37.9% 28.6% 25.4% 23.7% 22.0%	40.8% 40.0% 37.5% 34.2% 25.0% 21.8% 19.7% 18.4%	36.4% 35.7% 33.5% 30.5% 21.4% 18.1% 15.8%	28.1% 27.6% 26.5% 25.1% 17.6% 14.4% 12.5% 12.1%	24.8% 24.4% 23.2% 21.8% 21.0% 16.7% 17.2% 12.8%	12.5% 12.6% 11.7% 10.6% 8.1% 7.3% 5.8% 5.1%	9.1% 8.6% 8.2% 7.7% 5.2% 4.5% 3.6% 3.5%	5.8% 5.0% 4.9% 4.8% 3.7% 2.6% 1.6%	4.9% 4.2% 4.2% 4.1% 14.7% 7.1% 1.5%	8.3% 7.1% 7.0% 6.9% 5.2% 2.8% 1.0%	8.9% 7.7% 7.6% 7.5% 7.3% 4.9% 2.3%	9.8% 8.4% 8.4% 8.3% 9.6% 7.1% 3.7%

Relative Normal Interest Rate Shocks (Continued)

					•	·									
	Total Asia Ex	-Japan													
	1M	103.8%	103.8%	94.6%	85.3%	76.1%	62.5%	49.7%	29.3%	24.0%	16.4%	14.2%	24.3%	27.8%	31.4%
	3M	105.3%	105.3%	95.9%	86.6%	77.2%	62.7%	49.7%	29.2%	23.9%	16.3%	14.2%	24.3%	27.8%	31.4%
	6M	104.3%	104.3%	95.0%	85.8%	76.5%	63.2%	50.5%	30.1%	24.0%	16.8%	14.6%	25.1%	28.7%	32.5%
	9M	103.6%	103.6%	94.4%	85.2%	76.0%	63.6%	51.3%	31.2%	24.6%	16.9%	14.8%	25.5%	29.2%	33.1%
	1Y	103.0%	103.0%	93.8%	84.7%	75.5%	63.8%	52.2%	32.5%	25.2%	17.1%	15.1%	26.0%	29.8%	33.7%
2	2Y	107.0%	107.0%	95.1%	83.2%	71.3%	61.7%	51.9%	30.3%	19.9%	14.7%	59.8%	21.7%	32.2%	43.3%
EXPI	3Y	105.5%	105.5%	92.2%	78.9%	65.6%	54.2%	42.4%	29.4%	18.5%	11.2%	30.8%	12.6%	23.0%	34.2%
Ω .	5Y	107.5%	107.5%	92.2%	76.9%	61.7%	52.8%	41.1%	25.0%	16.1%	7.2%	6.9%	5.1%	11.8%	19.0%
	7Y	96.1%	96.1%	82.5%	69.0%	55.4%	47.1%	36.4%	22.4%	15.8%	7.8%	7.7%	5.5%	11.9%	18.7%
	10Y	83.9%	83.9%	72.2%	60.5%	48.9%	41.2%	32.4%	20.6%	15.6%	8.8%	9.1%	6.3%	12.2%	18.4%
	15Y	90.0%	90.0%	77.0%	64.0%	51.0%	43.3%	33.2%	22.9%	17.2%	11.9%	8.3%	8.6%	9.2%	9.8%
	20Y	116.9%	116.9%	99.8%	82.7%	65.5%	56.4%	43.9%	30.5%	22.4%	12.4%	8.7%	5.6%	2.9%	0.0%
	30Y	134.5%	134.5%	115.2%	95.8%	76.4%	65.3%	50.3%	32.7%	19.2%	9.8%	9.7%	4.4%	-1.8%	-8.3%
	T-+-! 045 (0)	A C													
	Total ME/N. 1M	75.4%	75.4%	68.7%	62.0%	55.3%	40.5%	30.2%	16.7%	11.9%	7.3%	7.0%	12.9%	14.9%	17.1%
	3M	70.7%	70.7%	64.5%	58.2%	51.9%	38.6%	29.1%	16.2%	11.6%	7.3%	7.0%	12.8%	14.9%	17.0%
	6M	64.9%	64.9%	59.1%	53.4%	47.6%	36.1%	27.6%	15.6%	11.2%	7.2%	6.9%	12.7%	14.8%	17.0%
	9M	60.5%	60.5%	55.1%	49.8%	44.4%	34.2%	26.4%	15.0%	10.9%	7.1%	6.9%	12.7%	14.8%	16.9%
	1Y	56.7%	56.7%	51.7%	46.6%	41.6%	32.5%	25.3%	14.5%	10.6%	7.0%	6.8%	12.6%	14.7%	16.9%
R≺	2Y	52.6%	52.6%	46.7%	40.9%	35.0%	28.8%	23.5%	12.6%	7.6%	5.7%	25.8%	9.9%	15.0%	20.5%
=	3Y	49.5%	49.5%	43.3%	37.0%	30.8%	24.0%	17.5%	11.0%	6.5%	4.3%	13.0%	5.6%	10.4%	15.7%
EX	5Y	42.9%	42.9%	36.8%	30.7%	24.6%	19.4%	14.4%	8.1%	5.7%	2.8%	3.0%	2.3%	5.3%	8.7%
	7Y	34.2%	34.2%	29.4%	24.5%	19.7%	15.6%	11.8%	8.3%	6.2%	3.3%	3.6%	2.6%	5.7%	9.1%
	10Y	51.8%	51.8%	44.6%	37.4%	30.2%	24.6%	18.7%	11.5%	8.7%	5.0%	5.2%	3.5%	6.8%	10.4%
	15Y	61.6%	61.6%	52.7%	43.8%	34.9%	28.4%	21.7%	14.7%	10.3%	6.9%	4.8%	5.0%	5.3%	5.7%
	20Y	72.2%	72.2%	61.6%	51.0%	40.4%	33.0%	25.4%	16.9%	12.2%	6.8%	4.8%	3.2%	1.6%	0.0%
	30Y	90.0%	90.0%	77.0%	64.1%	51.1%	41.4%	31.5%	19.7%	11.3%	5.8%	5.8%	2.7%	-1.1%	-5.1%
	Total Sub-Sa	haran Africa													
	1M	20.7%	20.7%	18.9%	17.0%	15.2%	12.1%	9.8%	6.0%	4.8%	3.3%	2.9%	5.0%	5.6%	6.2%
	3M	20.0%	20.0%	18.2%	16.4%	14.6%	11.9%	9.6%	5.9%	4.7%	3.3%	2.9%	5.0%	5.6%	6.2%
	6M	19.1%	19.1%	17.4%	15.7%	14.0%	11.5%	9.4%	5.9%	4.6%	3.2%	2.9%	5.0%	5.5%	6.1%
	9M	18.5%	18.5%	16.8%	15.2%	13.6%	11.3%	9.2%	5.8%	4.6%	3.2%	2.9%	5.0%	5.5%	6.1%
	1Y	18.0%	18.0%	16.4%	14.8%	13.2%	11.1%	9.1%	5.7%	4.6%	3.2%	2.8%	4.9%	5.5%	6.1%
Ϋ́	2Y	19.0%	19.0%	16.9%	14.8%	12.7%	10.9%	9.2%	5.4%	3.6%	2.6%	10.7%	3.9%	5.6%	7.4%
EXPI	3Y	19.5%	19.5%	17.0%	14.6%	12.1%	9.8%	7.5%	5.2%	3.2%	1.9%	5.3%	2.2%	3.8%	5.6%
Ω .	5Y	20.3%	20.3%	17.4%	14.5%	11.6%	9.5%	7.4%	4.4%	2.8%	1.2%	1.2%	0.8%	1.9%	3.1%
	7Y	19.2%	19.2%	16.5%	13.8%	11.0%	8.9%	6.8%	4.1%	2.7%	1.3%	1.3%	0.9%	1.9%	3.0%
	10Y	17.2%	17.2%	14.8%	12.4%	10.0%	8.1%	6.0%	3.6%	2.7%	1.5%	1.5%	1.0%	2.0%	3.1%
	15Y	17.9%	17.9%	15.3%	12.7%	10.1%	8.3%	6.3%	4.3%	3.0%	2.0%	1.4%	1.5%	1.7%	1.8%
	20Y	19.8%	19.8%	16.9%	14.0%	11.1%	9.1%	7.0%	4.7%	3.5%	2.0%	1.6%	1.1%	0.6%	0.0%
	30Y	59.8%	59.8%	51.2%	42.6%	34.0%	27.6%	21.1%	13.3%	7.7%	4.0%	4.1%	1.9%	-0.8%	-3.7%

Absolute Normal Interest Rate Shocks

Rates Vega

ormal Interest Rate Shocks (hoc)

Absc	lute Norm	nal Interes	t Rate Sh	ocks (bps)										
									JRITY						
		1M	3M	6M	9M	1Y	2Y	3Y	5Y	7Y	10Y	15Y	20Y	25Y	30Y
_	AUD			1			1	1	_	1		_			
	1M	39.3	39.3	35.8	32.4	28.9	24.9	20.8	13.5	10.9	7.7	7.0	12.0	13.3	14.6
	3M	39.3	39.3	35.8	32.4	28.9	24.9	20.8	13.5	10.9	7.7	7.0	12.0	13.3	14.6
	6M	39.3	39.3	35.8	32.4	28.9	24.9	20.8	13.5	10.9	7.7	7.0	12.0	13.3	14.6
	9M	39.3	39.3	35.8	32.4	28.9	24.9	20.8	13.5	10.9	7.7	7.0	12.0	13.3	14.6
>	1Y 2Y	39.3	39.3 43.9	35.8	32.4	28.9 29.2	24.9	20.8	13.5	10.9	7.7 6.5	7.0 26.5	12.0	13.3 13.6	14.6 17.6
EXPIRY	3Y	43.9 46.5	46.5	39.0 40.7	34.1 34.8	29.2	25.6 23.6	21.9 18.3	13.2 12.7	8.7	4.8	13.3	9.5	9.3	13.4
≥ .	5Y	50.2	50.2	43.0	34.8	28.9	23.6	18.3	10.9	8.0 7.0	3.1	3.0	5.3 2.1	4.6	7.1
ш	7Y	47.6	47.6	40.9	35.9	28.8	23.6	17.1	10.9		3.3	3.2	2.1	4.5	6.8
	10Y	43.8	43.8	37.7	31.6	25.5	20.4	15.3	9.1	6.9 6.7	3.7	3.6	2.4	4.3	6.3
	15Y	43.8	43.8	37.4	31.1	24.8	19.9	15.0	9.9	6.8	4.4	2.9	2.8	2.9	3.0
	20Y	44.1	44.1	37.6	31.2	24.7	19.9	15.1	9.9	7.0	3.8	2.5	1.6	0.8	0.0
	30Y	42.6	42.6	36.4	30.3	24.2	19.4	14.6	9.0	5.1	2.5	2.4	1.1	(0.4)	(1.9)
	301	42.0	72.0	30.4	30.3	24.2	13.4	14.0	3.0	3.1	2.3	2	1.1	(0.4)	(1.5)
	EUR														
	1M	28.2	28.2	26.4	24.6	22.8	19.1	15.4	12.6	11.2	10.5	10.5	9.2	8.8	8.4
	3M	28.2	28.2	26.4	24.6	22.8	19.1	15.4	12.6	11.2	10.5	10.5	9.2	8.8	8.4
	6M	28.2	28.2	26.4	24.6	22.8	19.1	15.4	12.6	11.2	10.5	10.5	9.2	8.8	8.4
	9M	28.2	28.2	26.4	24.6	22.8	19.1	15.4	12.6	11.2	10.5	10.5	9.2	8.8	8.4
	1Y	28.2	28.2	26.4	24.6	22.8	19.1	15.4	12.6	11.2	10.5	10.5	9.2	8.8	8.4
EXPIRY	2Y	28.9	28.9	26.1	23.3	20.4	17.6	14.7	12.0	11.1	10.2	10.4	7.9	8.0	8.0
_	3Y	28.2	28.2	24.6	21.0	17.4	14.4	11.4	7.9	6.9	6.0	5.9	4.3	6.0	7.8
~	5Y	30.0	30.0	27.0	23.9	20.9	18.0	15.0	12.1	(0.2)	10.1	(0.7)	7.3	6.5	5.7
	7Y	30.0	30.0	26.9	23.8	20.6	17.8	15.0	12.5	4.5	10.2	3.5	7.9	7.2	6.5
	10Y	30.0	30.0	26.8	23.5	20.3	17.6	15.0	13.0	11.6	10.4	9.9	8.8	8.3	7.7
	15Y	34.5	34.5	30.3	26.2	22.0	19.1	16.2	13.3	12.2	10.9	9.8	9.2	8.3	7.4
	20Y	36.3	36.3	31.8	27.4	22.9	19.8	16.6	13.9	12.4	11.2	9.9	9.2	8.4	7.6
	30Y	42.4	42.4	36.5	30.6	24.8	21.3	17.8	14.6	13.7	11.8	10.2	9.7	9.1	8.4
	GBP														
	1M	39.3	39.3	35.8	32.4	28.9	24.9	20.8	13.5	10.9	7.7	7.0	12.0	13.3	14.6
	3M	39.3	39.3	35.8	32.4	28.9	24.9	20.8	13.5	10.9	7.7	7.0	12.0	13.3	14.6
	6M	39.3	39.3	35.8	32.4	28.9	24.9	20.8	13.5	10.9	7.7	7.0	12.0	13.3	14.6
	9M	39.3	39.3	35.8	32.4	28.9	24.9	20.8	13.5	10.9	7.7	7.0	12.0	13.3	14.6
	1Y	39.3	39.3	35.8	32.4	28.9	24.9	20.8	13.5	10.9	7.7	7.0	12.0	13.3	14.6
~	2Y	43.9	43.9	39.0	34.1	29.2	25.6	21.9	13.2	8.7	6.5	26.5	9.5	13.6	17.6
EXPIRY	3Y	46.5	46.5	40.7	34.8	28.9	23.6	18.3	12.7	8.0	4.8	13.3	5.3	9.3	13.4
X	5Y	50.2	50.2	43.0	35.9	28.8	23.6	18.3	10.9	7.0	3.1	3.0	2.1	4.6	7.1
	7Y	47.6	47.6	40.9	34.2	27.5	22.3	17.1	10.2	6.9	3.3	3.2	2.2	4.5	6.8
	10Y	43.8	43.8	37.7	31.6	25.5	20.4	15.3	9.1	6.7	3.7	3.6	2.4	4.3	6.3
	15Y	43.8	43.8	37.4	31.1	24.8	19.9	15.0	9.9	6.8	4.4	2.9	2.8	2.9	3.0
	20Y	44.1	44.1	37.6	31.2	24.7	19.9	15.1	9.9	7.0	3.8	2.5	1.6	0.8	0.0
	30Y	42.6	42.6	36.4	30.3	24.2	19.4	14.6	9.0	5.1	2.5	2.4	1.1	(0.4)	(1.9)
	JPY 1M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	3M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	6M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	9M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	1Y	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
≥	2Y	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
EXPIRY	3Y	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
X	5Y	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	7Y	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	10Y	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	15Y	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	20Y	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	30Y	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		-													

Absolute Normal Interest Rate Shocks (Continued)

	USD														
	1M	39.3	39.3	35.8	32.4	28.9	24.9	20.8	13.5	10.9	7.7	7.0	12.0	13.3	14.6
	3M	39.3	39.3	35.8	32.4	28.9	24.9	20.8	13.5	10.9	7.7	7.0	12.0	13.3	14.6
	6M	39.3	39.3	35.8	32.4	28.9	24.9	20.8	13.5	10.9	7.7	7.0	12.0	13.3	14.6
	9M	39.3	39.3	35.8	32.4	28.9	24.9	20.8	13.5	10.9	7.7	7.0	12.0	13.3	14.6
	1Y	39.3	39.3	35.8	32.4	28.9	24.9	20.8	13.5	10.9	7.7	7.0	12.0	13.3	14.6
≿	2Y	43.9	43.9	39.0	34.1	29.2	25.6	21.9	13.2	8.7	6.5	26.5	9.5	13.6	17.6
EXPIRY	3Y	46.5	46.5	40.7	34.8	28.9	23.6	18.3	12.7	8.0	4.8	13.3	5.3	9.3	13.4
×	5Y	50.2	50.2	43.0	35.9	28.8	23.6	18.3	10.9	7.0	3.1	3.0	2.1	4.6	7.1
	7Y	47.6	47.6	40.9	34.2	27.5	22.3	17.1	10.2	6.9	3.3	3.2	2.2	4.5	6.8
	10Y	43.8	43.8	37.7	31.6	25.5	20.4	15.3	9.1	6.7	3.7	3.6	2.4	4.3	6.3
	15Y	43.8	43.8	37.4	31.1	24.8	19.9	15.0	9.9	6.8	4.4	2.9	2.8	2.9	3.0
	20Y	44.1	44.1	37.6	31.2	24.7	19.9	15.1	9.9	7.0	3.8	2.5	1.6	0.8	0.0
	30Y	42.6	42.6	36.4	30.3	24.2	19.4	14.6	9.0	5.1	2.5	2.4	1.1	(0.4)	(1.9)
	US MBS Vega Other Advan		ies 39.3	35.8	32.4	28.9	24.9	20.8	13.5	10.9	7.7	7.0	12.0	13.3	14.6
	3M	39.3	39.3	35.8	32.4	28.9	24.9	20.8	13.5	10.9	7.7	7.0	12.0	13.3	14.6
		39.3	39.3	35.8	32.4	28.9	24.9	20.8	13.5	10.9	7.7	7.0	12.0	13.3	14.6
	6M														
	9M 1Y	39.3 39.3	39.3 39.3	35.8 35.8	32.4 32.4	28.9 28.9	24.9 24.9	20.8	13.5 13.5	10.9 10.9	7.7 7.7	7.0 7.0	12.0 12.0	13.3 13.3	14.6 14.6
>	2Y	39.3 43.9	39.3 43.9				24.9 25.6	20.8	13.5	10.9 8.7	6.5	7.0 26.5			14.6 17.6
EXPIRY			43.9	39.0 40.7	34.1 34.8	29.2 28.9					4.8		9.5	13.6	13.4
ᇫ	3Y	46.5					23.6	18.3	12.7	8.0		13.3	5.3	9.3	
ш	5Y	50.2	50.2	43.0	35.9	28.8	23.6	18.3	10.9	7.0	3.1	3.0	2.1	4.6	7.1
	7Y	47.6	47.6	40.9	34.2	27.5	22.3	17.1	10.2	6.9	3.3	3.2	2.2	4.5	6.8
	10Y	43.8	43.8	37.7	31.6	25.5	20.4	15.3	9.1	6.7	3.7	3.6	2.4	4.3	6.3
	15Y	43.8	43.8	37.4	31.1	24.8	19.9	15.0	9.9	6.8	4.4	2.9	2.8	2.9	3.0
	20Y	44.1	44.1	37.6	31.2	24.7	19.9	15.1	9.9	7.0	3.8	2.5	1.6	0.8	0.0
	30Y	42.6	42.6	36.4	30.3	24.2	19.4	14.6	9.0	5.1	2.5	2.4	1.1	(0.4)	(1.9)
	Total Emergi	ing Europo													
	1M														
			28.2	26.4	24.6	22.8	19 1	15.4	12.6	11 2	10.5	10.5	9.2	8.8	8.4
	31/1	28.2	28.2	26.4	24.6	22.8	19.1	15.4 15.4	12.6	11.2	10.5	10.5	9.2	8.8	8.4
	3M	28.2	28.2	26.4	24.6	22.8	19.1	15.4	12.6	11.2	10.5	10.5	9.2	8.8	8.4
	6M	28.2 28.2	28.2 28.2	26.4 26.4	24.6 24.6	22.8 22.8	19.1 19.1	15.4 15.4	12.6 12.6	11.2 11.2	10.5 10.5	10.5 10.5	9.2 9.2	8.8 8.8	8.4 8.4
	6M 9M	28.2 28.2 28.2	28.2 28.2 28.2	26.4 26.4 26.4	24.6 24.6 24.6	22.8 22.8 22.8	19.1 19.1 19.1	15.4 15.4 15.4	12.6 12.6 12.6	11.2 11.2 11.2	10.5 10.5 10.5	10.5 10.5 10.5	9.2 9.2 9.2	8.8 8.8 8.8	8.4 8.4 8.4
٨	6M 9M 1Y	28.2 28.2 28.2 28.2	28.2 28.2 28.2 28.2	26.4 26.4 26.4 26.4	24.6 24.6 24.6 24.6	22.8 22.8 22.8 22.8	19.1 19.1 19.1 19.1	15.4 15.4 15.4 15.4	12.6 12.6 12.6 12.6	11.2 11.2 11.2 11.2	10.5 10.5 10.5 10.5	10.5 10.5 10.5 10.5	9.2 9.2 9.2 9.2	8.8 8.8 8.8 8.8	8.4 8.4 8.4 8.4
IRY	6M 9M 1Y 2Y	28.2 28.2 28.2 28.2 28.9	28.2 28.2 28.2 28.2 28.2 28.9	26.4 26.4 26.4 26.4 26.1	24.6 24.6 24.6 24.6 23.3	22.8 22.8 22.8 22.8 20.4	19.1 19.1 19.1 19.1 17.6	15.4 15.4 15.4 15.4 14.7	12.6 12.6 12.6 12.6 12.0	11.2 11.2 11.2 11.2 11.1	10.5 10.5 10.5 10.5 10.2	10.5 10.5 10.5 10.5 10.4	9.2 9.2 9.2 9.2 7.9	8.8 8.8 8.8 8.8	8.4 8.4 8.4 8.4 8.0
XPIRY	6M 9M 1Y 2Y 3Y	28.2 28.2 28.2 28.2 28.9 28.9	28.2 28.2 28.2 28.2 28.9 28.9	26.4 26.4 26.4 26.4 26.1 24.6	24.6 24.6 24.6 24.6 23.3 21.0	22.8 22.8 22.8 22.8 20.4 17.4	19.1 19.1 19.1 19.1 17.6 14.4	15.4 15.4 15.4 15.4 14.7 11.4	12.6 12.6 12.6 12.6 12.0 7.9	11.2 11.2 11.2 11.2 11.1 6.9	10.5 10.5 10.5 10.5 10.2 6.0	10.5 10.5 10.5 10.5 10.4 5.9	9.2 9.2 9.2 9.2 7.9 4.3	8.8 8.8 8.8 8.0 6.0	8.4 8.4 8.4 8.0 7.8
EXPIRY	6M 9M 1Y 2Y 3Y 5Y	28.2 28.2 28.2 28.2 28.2 28.9 28.2 30.0	28.2 28.2 28.2 28.2 28.9 28.2 30.0	26.4 26.4 26.4 26.4 26.1 24.6 27.0	24.6 24.6 24.6 24.6 23.3 21.0 23.9	22.8 22.8 22.8 22.8 20.4 17.4 20.9	19.1 19.1 19.1 19.1 17.6 14.4 18.0	15.4 15.4 15.4 15.4 14.7 11.4 15.0	12.6 12.6 12.6 12.6 12.0 7.9 12.1	11.2 11.2 11.2 11.2 11.1 6.9 (0.2)	10.5 10.5 10.5 10.5 10.2 6.0	10.5 10.5 10.5 10.5 10.4 5.9 (0.7)	9.2 9.2 9.2 9.2 7.9 4.3 7.3	8.8 8.8 8.8 8.0 6.0 6.5	8.4 8.4 8.4 8.0 7.8 5.7
EXPIRY	6M 9M 1Y 2Y 3Y 5Y 7Y	28.2 28.2 28.2 28.2 28.2 28.9 28.2 30.0 30.0	28.2 28.2 28.2 28.2 28.9 28.2 30.0 30.0	26.4 26.4 26.4 26.4 26.1 24.6 27.0 26.9	24.6 24.6 24.6 24.6 23.3 21.0 23.9 23.8	22.8 22.8 22.8 22.8 20.4 17.4 20.9 20.6	19.1 19.1 19.1 19.1 17.6 14.4 18.0	15.4 15.4 15.4 15.4 14.7 11.4 15.0	12.6 12.6 12.6 12.6 12.0 7.9 12.1 12.5	11.2 11.2 11.2 11.2 11.1 6.9 (0.2) 4.5	10.5 10.5 10.5 10.5 10.2 6.0 10.1 10.2	10.5 10.5 10.5 10.5 10.4 5.9 (0.7) 3.5	9.2 9.2 9.2 9.2 7.9 4.3 7.3	8.8 8.8 8.8 8.0 6.0 6.5	8.4 8.4 8.4 8.0 7.8 5.7 6.5
EXPIRY	6M 9M 1Y 2Y 3Y 5Y 7Y	28.2 28.2 28.2 28.2 28.9 28.2 30.0 30.0 30.0	28.2 28.2 28.2 28.2 28.9 28.2 30.0 30.0 30.0	26.4 26.4 26.4 26.4 26.1 24.6 27.0 26.9 26.8	24.6 24.6 24.6 24.6 23.3 21.0 23.9 23.8 23.5	22.8 22.8 22.8 22.8 20.4 17.4 20.9 20.6 20.3	19.1 19.1 19.1 19.1 17.6 14.4 18.0 17.8	15.4 15.4 15.4 15.4 14.7 11.4 15.0 15.0	12.6 12.6 12.6 12.6 12.0 7.9 12.1 12.5 13.0	11.2 11.2 11.2 11.2 11.1 6.9 (0.2) 4.5 11.6	10.5 10.5 10.5 10.5 10.2 6.0 10.1 10.2 10.4	10.5 10.5 10.5 10.5 10.4 5.9 (0.7) 3.5 9.9	9.2 9.2 9.2 9.2 7.9 4.3 7.3 7.9 8.8	8.8 8.8 8.8 8.0 6.0 6.5 7.2 8.3	8.4 8.4 8.4 8.0 7.8 5.7 6.5
EXPIRY	6M 9M 1Y 2Y 3Y 5Y 7Y 10Y	28.2 28.2 28.2 28.2 28.9 28.2 30.0 30.0 30.0 34.5	28.2 28.2 28.2 28.2 28.9 28.2 30.0 30.0 30.0 34.5	26.4 26.4 26.4 26.4 26.1 24.6 27.0 26.9 26.8 30.3	24.6 24.6 24.6 23.3 21.0 23.9 23.8 23.5 26.2	22.8 22.8 22.8 22.8 20.4 17.4 20.9 20.6 20.3 22.0	19.1 19.1 19.1 19.1 17.6 14.4 18.0 17.8 17.6	15.4 15.4 15.4 15.4 14.7 11.4 15.0 15.0 15.0	12.6 12.6 12.6 12.6 12.0 7.9 12.1 12.5 13.0	11.2 11.2 11.2 11.2 11.1 6.9 (0.2) 4.5 11.6	10.5 10.5 10.5 10.5 10.2 6.0 10.1 10.2 10.4	10.5 10.5 10.5 10.5 10.4 5.9 (0.7) 3.5 9.9	9.2 9.2 9.2 9.2 7.9 4.3 7.3 7.9 8.8 9.2	8.8 8.8 8.8 8.0 6.0 6.5 7.2 8.3 8.3	8.4 8.4 8.4 8.0 7.8 5.7 6.5 7.7
EXPIRY	6M 9M 1Y 2Y 3Y 5Y 7Y 10Y 15Y	28.2 28.2 28.2 28.2 28.9 28.2 30.0 30.0 34.5 36.3	28.2 28.2 28.2 28.2 28.9 28.2 30.0 30.0 30.0 34.5 36.3	26.4 26.4 26.4 26.4 26.1 24.6 27.0 26.9 26.8 30.3 31.8	24.6 24.6 24.6 24.6 23.3 21.0 23.9 23.8 23.5 26.2	22.8 22.8 22.8 22.8 20.4 17.4 20.9 20.6 20.3 22.0 22.9	19.1 19.1 19.1 19.1 17.6 14.4 18.0 17.8 17.6 19.1	15.4 15.4 15.4 15.4 14.7 11.4 15.0 15.0 15.0 16.2	12.6 12.6 12.6 12.6 12.0 7.9 12.1 12.5 13.0 13.3	11.2 11.2 11.2 11.2 11.1 6.9 (0.2) 4.5 11.6 12.2	10.5 10.5 10.5 10.5 10.2 6.0 10.1 10.2 10.4 10.9	10.5 10.5 10.5 10.5 10.4 5.9 (0.7) 3.5 9.9 9.8	9.2 9.2 9.2 9.2 7.9 4.3 7.3 7.9 8.8 9.2 9.2	8.8 8.8 8.8 8.0 6.0 6.5 7.2 8.3 8.3	8.4 8.4 8.4 8.0 7.8 5.7 6.5 7.7 7.4 7.6
	6M 9M 1Y 2Y 3Y 5Y 7Y 10Y 15Y 20Y 30Y	28.2 28.2 28.2 28.2 28.9 28.2 30.0 30.0 30.0 34.5 36.3 42.4	28.2 28.2 28.2 28.2 28.9 28.2 30.0 30.0 30.0 34.5 36.3 42.4	26.4 26.4 26.4 26.4 26.1 24.6 27.0 26.9 26.8 30.3 31.8 36.5	24.6 24.6 24.6 24.6 23.3 21.0 23.9 23.8 23.5 26.2 27.4 30.6	22.8 22.8 22.8 22.8 20.4 17.4 20.9 20.6 20.3 22.0 22.9 24.8	19.1 19.1 19.1 19.1 17.6 14.4 18.0 17.8 17.6 19.1 19.8 21.3	15.4 15.4 15.4 15.4 14.7 11.4 15.0 15.0 16.2 16.6 17.8	12.6 12.6 12.6 12.6 12.0 7.9 12.1 12.5 13.0 13.3 13.9	11.2 11.2 11.2 11.2 11.1 6.9 (0.2) 4.5 11.6 12.2 12.4 13.7	10.5 10.5 10.5 10.5 10.2 6.0 10.1 10.2 10.4 10.9 11.2	10.5 10.5 10.5 10.5 10.4 5.9 (0.7) 3.5 9.9 9.8 9.9	9.2 9.2 9.2 9.2 7.9 4.3 7.3 7.9 8.8 9.2 9.2 9.7	8.8 8.8 8.8 8.0 6.0 6.5 7.2 8.3 8.3 8.4 9.1	8.4 8.4 8.4 8.0 7.8 5.7 6.5 7.7 7.4 7.6 8.4
	6M 9M 1Y 2Y 3Y 5Y 7Y 10Y 15Y 20Y 30Y	28.2 28.2 28.2 28.2 28.9 28.2 30.0 30.0 30.0 34.5 36.3 42.4	28.2 28.2 28.2 28.2 28.9 28.2 30.0 30.0 30.0 34.5 36.3 42.4	26.4 26.4 26.4 26.4 26.1 24.6 27.0 26.9 26.8 30.3 31.8 36.5	24.6 24.6 24.6 23.3 21.0 23.9 23.8 23.5 26.2 27.4 30.6	22.8 22.8 22.8 22.8 20.4 17.4 20.9 20.6 20.3 22.0 22.9 24.8	19.1 19.1 19.1 19.1 17.6 14.4 18.0 17.8 17.6 19.1 19.8 21.3	15.4 15.4 15.4 15.4 14.7 11.4 15.0 15.0 16.2 16.6 17.8	12.6 12.6 12.6 12.6 12.0 7.9 12.1 12.5 13.0 13.3 13.9 14.6	11.2 11.2 11.2 11.2 11.1 6.9 (0.2) 4.5 11.6 12.2 12.4 13.7	10.5 10.5 10.5 10.5 10.2 6.0 10.1 10.2 10.4 10.9 11.2 11.8	10.5 10.5 10.5 10.5 10.4 5.9 (0.7) 3.5 9.9 9.8 9.9 10.2	9.2 9.2 9.2 9.2 7.9 4.3 7.3 7.9 8.8 9.2 9.2 9.7	8.8 8.8 8.8 8.0 6.0 6.5 7.2 8.3 8.3 8.4 9.1	8.4 8.4 8.4 8.0 7.8 5.7 6.5 7.7 7.4 7.6 8.4
	6M 9M 1Y 2Y 3Y 5Y 7Y 10Y 15Y 20Y 30Y Total Latam	28.2 28.2 28.2 28.2 28.9 28.2 30.0 30.0 34.5 36.3 42.4 & Caribbean 39.3 39.3	28.2 28.2 28.2 28.2 28.9 28.2 30.0 30.0 30.0 34.5 36.3 42.4	26.4 26.4 26.4 26.4 26.1 24.6 27.0 26.9 26.8 30.3 31.8 36.5	24.6 24.6 24.6 24.6 23.3 21.0 23.9 23.8 23.5 26.2 27.4 30.6	22.8 22.8 22.8 22.8 20.4 17.4 20.9 20.6 20.3 22.0 22.9 24.8	19.1 19.1 19.1 19.1 17.6 14.4 18.0 17.8 17.6 19.1 19.8 21.3	15.4 15.4 15.4 15.4 14.7 11.4 15.0 15.0 16.2 16.6 17.8	12.6 12.6 12.6 12.6 12.0 7.9 12.1 12.5 13.0 13.3 14.6	11.2 11.2 11.2 11.2 11.1 6.9 (0.2) 4.5 11.6 12.2 12.4 13.7	10.5 10.5 10.5 10.5 10.2 6.0 10.1 10.2 10.4 10.9 11.2 11.8	10.5 10.5 10.5 10.5 10.4 5.9 (0.7) 3.5 9.9 9.8 9.9 10.2	9.2 9.2 9.2 9.2 7.9 4.3 7.3 7.9 8.8 9.2 9.2 9.7	8.8 8.8 8.8 8.0 6.0 6.5 7.2 8.3 8.4 9.1	8.4 8.4 8.4 8.0 7.8 5.7 6.5 7.7 7.4 7.6 8.4 14.6 14.6
	6M 9M 1Y 2Y 3Y 5Y 7Y 10Y 15Y 20Y 30Y	28.2 28.2 28.2 28.2 28.9 28.2 30.0 30.0 30.0 34.5 36.3 42.4	28.2 28.2 28.2 28.2 28.9 28.2 30.0 30.0 30.0 34.5 36.3 42.4	26.4 26.4 26.4 26.4 26.1 24.6 27.0 26.9 26.8 30.3 31.8 36.5	24.6 24.6 24.6 23.3 21.0 23.9 23.8 23.5 26.2 27.4 30.6	22.8 22.8 22.8 22.8 20.4 17.4 20.9 20.6 20.3 22.0 22.9 24.8	19.1 19.1 19.1 19.1 17.6 14.4 18.0 17.8 17.6 19.1 19.8 21.3	15.4 15.4 15.4 15.4 14.7 11.4 15.0 15.0 16.2 16.6 17.8	12.6 12.6 12.6 12.6 12.0 7.9 12.1 12.5 13.0 13.3 14.6	11.2 11.2 11.2 11.2 11.1 6.9 (0.2) 4.5 11.6 12.2 12.4 13.7	10.5 10.5 10.5 10.5 10.2 6.0 10.1 10.2 10.4 10.9 11.2 11.8	10.5 10.5 10.5 10.5 10.4 5.9 (0.7) 3.5 9.9 9.8 9.9 10.2	9.2 9.2 9.2 9.2 7.9 4.3 7.3 7.9 8.8 9.2 9.2 9.7	8.8 8.8 8.8 8.0 6.0 6.5 7.2 8.3 8.3 8.4 9.1	8.4 8.4 8.4 8.0 7.8 5.7 6.5 7.7 7.4 7.6 8.4 14.6 14.6
	6M 9M 1Y 2Y 3Y 5Y 7Y 10Y 15Y 20Y 30Y Total Latam 4 1M 3M 6M 9M	28.2 28.2 28.2 28.2 28.9 28.2 30.0 30.0 34.5 36.3 42.4 & Caribbean 39.3 39.3 39.3	28.2 28.2 28.2 28.2 28.9 28.2 30.0 30.0 30.0 30.0 34.5 36.3 42.4	26.4 26.4 26.4 26.4 26.1 24.6 27.0 26.9 26.8 30.3 31.8 36.5	24.6 24.6 24.6 24.6 23.3 21.0 23.9 23.8 23.5 26.2 27.4 30.6	22.8 22.8 22.8 22.8 20.4 17.4 20.9 20.6 20.3 22.0 22.9 24.8	19.1 19.1 19.1 19.1 17.6 14.4 18.0 17.8 17.6 19.1 19.8 21.3	15.4 15.4 15.4 15.4 14.7 11.4 15.0 15.0 15.0 16.2 16.6 17.8	12.6 12.6 12.6 12.6 12.0 7.9 12.1 12.5 13.0 13.3 13.9 14.6	11.2 11.2 11.2 11.1 6.9 (0.2) 4.5 11.6 12.2 12.4 13.7	10.5 10.5 10.5 10.5 10.2 6.0 10.1 10.2 10.4 10.9 11.2 11.8	10.5 10.5 10.5 10.5 10.4 5.9 (0.7) 3.5 9.9 9.8 9.9 10.2	9.2 9.2 9.2 9.2 7.9 4.3 7.3 7.9 8.8 9.2 9.2 9.7 12.0 12.0 12.0	8.8 8.8 8.8 8.0 6.0 6.5 7.2 8.3 8.4 9.1	8.4 8.4 8.4 8.0 7.8 5.7 6.5 7.7 7.6 8.4 14.6 14.6 14.6
	6M 9M 1Y 2Y 3Y 5Y 7Y 10Y 15Y 20Y 30Y Total Latam 4	28.2 28.2 28.2 28.2 28.9 28.2 30.0 30.0 34.5 36.3 42.4 & Caribbean 39.3 39.3	28.2 28.2 28.2 28.2 28.9 28.2 30.0 30.0 34.5 36.3 42.4	26.4 26.4 26.4 26.4 26.1 24.6 27.0 26.9 26.8 30.3 31.8 36.5	24.6 24.6 24.6 24.6 23.3 21.0 23.9 23.8 23.5 26.2 27.4 30.6	22.8 22.8 22.8 22.8 20.4 17.4 20.9 20.6 20.3 22.0 22.9 24.8	19.1 19.1 19.1 19.1 17.6 14.4 18.0 17.8 17.6 19.1 19.8 21.3	15.4 15.4 15.4 15.4 14.7 11.4 15.0 15.0 16.2 16.6 17.8	12.6 12.6 12.6 12.6 12.0 7.9 12.1 12.5 13.0 13.3 14.6	11.2 11.2 11.2 11.2 11.1 6.9 (0.2) 4.5 11.6 12.2 12.4 13.7	10.5 10.5 10.5 10.5 10.2 6.0 10.1 10.2 10.4 10.9 11.2 11.8	10.5 10.5 10.5 10.5 10.4 5.9 (0.7) 3.5 9.9 9.8 9.9 10.2	9.2 9.2 9.2 9.2 7.9 4.3 7.3 7.9 8.8 9.2 9.7 12.0 12.0	8.8 8.8 8.8 8.0 6.0 6.5 7.2 8.3 8.4 9.1 13.3 13.3	8.4 8.4 8.4 8.0 7.8 5.7 6.5 7.7 7.4 7.6 8.4 14.6 14.6
	6M 9M 1Y 2Y 3Y 5Y 7Y 10Y 15Y 20Y 30Y Total Latam 4 1M 3M 6M 9M	28.2 28.2 28.2 28.2 28.9 28.2 30.0 30.0 34.5 36.3 42.4 & Caribbean 39.3 39.3 39.3	28.2 28.2 28.2 28.2 28.9 28.2 30.0 30.0 30.0 30.0 34.5 36.3 42.4	26.4 26.4 26.4 26.4 26.1 24.6 27.0 26.9 26.8 30.3 31.8 36.5	24.6 24.6 24.6 24.6 23.3 21.0 23.9 23.8 23.5 26.2 27.4 30.6	22.8 22.8 22.8 22.8 20.4 17.4 20.9 20.6 20.3 22.0 22.9 24.8	19.1 19.1 19.1 19.1 17.6 14.4 18.0 17.8 17.6 19.1 19.8 21.3	15.4 15.4 15.4 15.4 14.7 11.4 15.0 15.0 15.0 16.2 16.6 17.8	12.6 12.6 12.6 12.6 12.0 7.9 12.1 12.5 13.0 13.3 13.9 14.6	11.2 11.2 11.2 11.1 6.9 (0.2) 4.5 11.6 12.2 12.4 13.7	10.5 10.5 10.5 10.5 10.2 6.0 10.1 10.2 10.4 10.9 11.2 11.8	10.5 10.5 10.5 10.5 10.4 5.9 (0.7) 3.5 9.9 9.8 9.9 10.2	9.2 9.2 9.2 9.2 7.9 4.3 7.3 7.9 8.8 9.2 9.2 9.7 12.0 12.0 12.0	8.8 8.8 8.8 8.0 6.0 6.5 7.2 8.3 8.4 9.1	8.4 8.4 8.4 8.0 7.8 5.7 6.5 7.7 7.6 8.4 14.6 14.6 14.6
	6M 9M 1Y 2Y 3Y 5Y 7Y 10Y 15Y 20Y 30Y Total Latam 3 1M 3M 6M 9M	28.2 28.2 28.2 28.2 28.9 28.9 28.2 30.0 30.0 30.0 34.5 36.3 42.4 & Caribbean 39.3 39.3 39.3 39.3	28.2 28.2 28.2 28.2 28.9 28.2 30.0 30.0 30.0 34.5 36.3 42.4	26.4 26.4 26.4 26.4 26.1 24.6 27.0 26.9 26.8 30.3 31.8 36.5 35.8 35.8 35.8 35.8	24.6 24.6 24.6 24.6 23.3 21.0 23.9 23.8 23.5 26.2 27.4 30.6	22.8 22.8 22.8 22.8 20.4 17.4 20.9 20.6 20.3 22.0 22.9 24.8 28.9 28.9 28.9 28.9 28.9	19.1 19.1 19.1 19.1 17.6 14.4 18.0 17.8 17.6 19.1 19.8 21.3	15.4 15.4 15.4 15.4 14.7 11.4 15.0 15.0 15.0 16.2 16.6 17.8	12.6 12.6 12.6 12.0 7.9 12.1 12.5 13.0 13.3 13.9 14.6	11.2 11.2 11.2 11.2 11.1 6.9 (0.2) 4.5 11.6 12.2 12.4 13.7	10.5 10.5 10.5 10.5 10.2 6.0 10.1 10.2 10.4 10.9 11.2 11.8	10.5 10.5 10.5 10.5 10.4 5.9 (0.7) 3.5 9.9 9.8 9.9 10.2	9.2 9.2 9.2 9.2 7.9 4.3 7.3 7.9 8.8 9.2 9.7 12.0 12.0 12.0 12.0	8.8 8.8 8.8 8.0 6.0 6.5 7.2 8.3 8.3 8.4 9.1 13.3 13.3 13.3 13.3	8.4 8.4 8.4 8.4 8.0 7.8 5.7 6.5 7.7 7.4 7.6 8.4 14.6 14.6 14.6 14.6
	6M 9M 1Y 2Y 3Y 5Y 7Y 10Y 15Y 20Y 30Y Total Latam 6 1M 3M 6M 9M 1Y 2Y	28.2 28.2 28.2 28.9 28.9 28.2 30.0 30.0 30.0 34.5 36.3 42.4 8 Caribbean 39.3 39.3 39.3 39.3 39.3	28.2 28.2 28.2 28.2 28.9 28.2 30.0 30.0 34.5 36.3 42.4 39.3 39.3 39.3 39.3 39.3	26.4 26.4 26.4 26.4 26.1 24.6 27.0 26.9 26.8 30.3 31.8 36.5 35.8 35.8 35.8 35.8 35.8	24.6 24.6 24.6 24.6 23.3 21.0 23.9 23.8 23.5 26.2 27.4 30.6	22.8 22.8 22.8 22.8 20.4 17.4 20.9 20.6 20.3 22.0 24.8 28.9 28.9 28.9 28.9 28.9 28.9 28.9	19.1 19.1 19.1 19.1 17.6 14.4 18.0 17.8 17.6 19.1 19.8 21.3 24.9 24.9 24.9 24.9 24.9 24.9	15.4 15.4 15.4 15.4 14.7 11.4 15.0 15.0 16.2 16.6 17.8 20.8 20.8 20.8 20.8 20.8 20.8	12.6 12.6 12.6 12.0 7.9 12.1 12.5 13.0 13.3 13.9 14.6 13.5 13.5 13.5 13.5	11.2 11.2 11.2 11.2 11.1 6.9 (0.2) 4.5 11.6 12.2 12.4 13.7 10.9 10.9 10.9 10.9 10.9 10.9	10.5 10.5 10.5 10.5 10.2 6.0 10.1 10.2 10.4 10.9 11.2 11.8	10.5 10.5 10.5 10.5 10.4 5.9 (0.7) 3.5 9.9 9.8 9.9 10.2	9.2 9.2 9.2 9.2 7.9 4.3 7.9 8.8 9.2 9.7 12.0 12.0 12.0 12.0 9.5	8.8 8.8 8.8 8.0 6.0 6.5 7.2 8.3 8.4 9.1 13.3 13.3 13.3 13.3 13.3	8.4 8.4 8.4 8.0 7.8 5.7 6.5 7.7 7.4 7.6 8.4 14.6 14.6 14.6 14.6 14.6 17.6
	6M 9M 1Y 2Y 3Y 5Y 7Y 10Y 15Y 20Y 30Y Total Latam 6 1M 9M 1Y 2Y 3Y	28.2 28.2 28.2 28.9 28.2 30.0 30.0 30.0 34.5 36.3 42.4 & Caribbean 39.3 39.3 39.3 39.3 43.9 46.5	28.2 28.2 28.2 28.2 28.9 28.2 30.0 30.0 30.0 34.5 36.3 42.4 39.3 39.3 39.3 39.3 39.3 43.9 46.5	26.4 26.4 26.4 26.4 26.1 24.6 27.0 26.9 26.8 30.3 31.8 36.5 35.8 35.8 35.8 35.8 35.8 39.0 40.7	24.6 24.6 24.6 24.6 23.3 21.0 23.9 23.8 23.5 26.2 27.4 30.6	22.8 22.8 22.8 20.4 17.4 20.9 20.6 20.3 22.0 22.9 24.8 28.9 28.9 28.9 28.9 28.9 28.9 28.9 28.9	19.1 19.1 19.1 19.1 17.6 14.4 18.0 17.8 17.6 19.1 19.8 21.3 24.9 24.9 24.9 24.9 24.9 24.9 25.6 23.6	15.4 15.4 15.4 15.4 14.7 11.4 15.0 15.0 16.2 16.6 17.8 20.8 20.8 20.8 20.8 20.8 21.9 18.3	12.6 12.6 12.6 12.6 12.0 7.9 12.1 12.5 13.0 13.3 13.9 14.6	11.2 11.2 11.2 11.2 11.1 6.9 (0.2) 4.5 11.6 12.2 12.4 13.7 10.9 10.9 10.9 10.9 10.9 8.7	10.5 10.5 10.5 10.5 10.2 6.0 10.1 10.2 10.4 10.9 11.2 11.8	10.5 10.5 10.5 10.5 10.4 5.9 (0.7) 3.5 9.9 9.8 9.9 10.2	9.2 9.2 9.2 9.2 7.9 4.3 7.9 8.8 9.2 9.7 12.0 12.0 12.0 12.0 12.0 12.0 15.0 16.0 17.0 18.0	8.8 8.8 8.8 8.0 6.0 6.5 7.2 8.3 8.4 9.1 13.3 13.3 13.3 13.3 13.3 13.3	8.4 8.4 8.4 8.0 7.8 5.7 6.5 7.7 7.4 7.6 8.4 14.6 14.6 14.6 14.6 14.6 14.6 14.6
	6M 9M 1Y 2Y 3Y 5Y 7Y 10Y 15Y 20Y 30Y Total Latam 4 6M 9M 1Y 2Y 3Y 5Y	28.2 28.2 28.2 28.2 28.9 28.9 30.0 30.0 30.0 34.5 36.3 42.4 8 Caribbean 39.3 39.3 39.3 39.3 43.9 46.5 50.2	28.2 28.2 28.2 28.2 28.9 28.2 30.0 30.0 30.0 34.5 36.3 42.4 39.3 39.3 39.3 39.3 39.3 43.9 46.5 50.2	26.4 26.4 26.4 26.4 26.1 24.6 27.0 26.9 26.8 30.3 31.8 36.5 35.8 35.8 35.8 35.8 35.8 35.8	24.6 24.6 24.6 24.6 23.3 21.0 23.9 23.8 23.5 26.2 27.4 30.6 32.4 32.4 32.4 32.4 34.1 34.8 35.9	22.8 22.8 22.8 22.8 20.4 17.4 20.9 20.6 20.3 22.0 22.9 24.8 28.9 28.9 28.9 28.9 28.9 28.9 28.9 2	19.1 19.1 19.1 19.1 17.6 14.4 18.0 17.8 17.6 19.1 19.8 21.3 24.9 24.9 24.9 24.9 24.9 24.9 24.9 24.9	15.4 15.4 15.4 15.4 14.7 11.4 15.0 15.0 15.0 16.2 16.6 17.8 20.8 20.8 20.8 20.8 20.8 21.9 18.3 18.3	12.6 12.6 12.6 12.6 12.0 7.9 12.1 12.5 13.0 13.3 13.9 14.6	11.2 11.2 11.2 11.1 6.9 (0.2) 4.5 11.6 12.2 12.4 13.7 10.9 10.9 10.9 10.9 10.9 8.7 8.0 7.0	10.5 10.5 10.5 10.5 10.2 6.0 10.1 10.2 10.4 10.9 11.2 11.8	10.5 10.5 10.5 10.5 10.4 5.9 (0.7) 3.5 9.9 9.8 9.9 10.2 7.0 7.0 7.0 7.0 26.5 13.3	9.2 9.2 9.2 9.2 7.9 4.3 7.3 7.9 8.8 9.2 9.7 12.0 12.0 12.0 12.0 12.0 12.0 12.0 12.0	8.8 8.8 8.8 8.0 6.0 6.5 7.2 8.3 8.4 9.1 13.3 13.3 13.3 13.3 13.3 13.3 13.6 9.3	8.4 8.4 8.4 8.0 7.8 5.7 6.5 7.7 7.6 8.4 14.6 14.6 14.6 14.6 17.6 13.4 7.1
	6M 9M 1Y 2Y 3Y 5Y 7Y 10Y 15Y 20Y 30Y Total Latam 6 1M 3M 6M 9M 1Y 2Y 3Y 5Y	28.2 28.2 28.2 28.2 28.9 28.2 30.0 30.0 30.0 34.5 36.3 42.4 8 Caribbean 39.3 39.3 39.3 39.3 43.9 46.5 50.2 47.6	28.2 28.2 28.2 28.2 28.9 28.2 30.0 30.0 30.0 34.5 36.3 42.4 39.3 39.3 39.3 39.3 39.3 43.9 46.5 50.2 47.6	26.4 26.4 26.4 26.4 26.1 24.6 26.9 26.8 30.3 31.8 36.5 35.8 35.8 35.8 35.8 35.8 35.8 35.8	24.6 24.6 24.6 24.6 23.3 21.0 23.9 23.8 23.5 26.2 27.4 30.6	22.8 22.8 22.8 22.8 20.4 17.4 20.9 20.6 20.3 22.0 22.9 24.8 28.9 28.9 28.9 28.9 28.9 28.9 28.9 28	19.1 19.1 19.1 19.1 17.6 14.4 18.0 17.8 17.6 19.1 19.8 21.3 24.9 24.9 24.9 24.9 24.9 24.9 25.6 23.6 23.6	15.4 15.4 15.4 15.4 14.7 11.4 15.0 15.0 15.0 16.2 16.6 17.8 20.8 20.8 20.8 20.8 20.8 20.8 21.9 18.3 17.1	12.6 12.6 12.6 12.6 12.0 7.9 12.1 12.5 13.0 13.3 13.9 14.6	11.2 11.2 11.2 11.2 11.1 6.9 (0.2) 4.5 11.6 12.2 12.4 13.7 10.9 10.9 10.9 10.9 10.9 10.9 10.9 10.9	10.5 10.5 10.5 10.5 10.2 6.0 10.1 10.2 10.4 10.9 11.2 11.8	10.5 10.5 10.5 10.5 10.4 5.9 (0.7) 3.5 9.9 9.8 9.9 10.2 7.0 7.0 7.0 7.0 26.5 13.3 3.0	9.2 9.2 9.2 9.2 7.9 4.3 7.9 8.8 9.2 9.7 12.0 12.0 12.0 12.0 12.0 12.0 12.0 12.0 12.0	8.8 8.8 8.8 8.0 6.0 6.5 7.2 8.3 8.3 8.4 9.1 13.3 13.3 13.3 13.3 13.3 13.6 9.3 4.6	8.4 8.4 8.4 8.0 7.8 8.7 6.5 7.7 7.4 7.6 8.4 14.6 14.6 14.6 14.6 14.6 17.6 13.4 7.1 6.8
	6M 9M 1Y 2Y 3Y 5Y 7Y 10Y 15Y 20Y 30Y Total Latam 6 1M 9M 9M 1Y 2Y 3Y 5Y 7Y	28.2 28.2 28.2 28.2 28.9 28.2 30.0 30.0 30.0 34.5 36.3 42.4 8 Caribbean 39.3 39.3 39.3 39.3 43.9 46.5 50.2 47.6 43.8	28.2 28.2 28.2 28.2 28.9 28.2 30.0 30.0 30.0 34.5 36.3 42.4 39.3 39.3 39.3 39.3 49.3 40.5 50.2 47.6 43.8	26.4 26.4 26.4 26.4 26.1 24.6 27.0 26.9 26.8 30.3 31.8 36.5 35.8 35.8 35.8 35.8 35.8 35.8 37.8 37.8 38.8 39.0 40.7 43.0 40.9 37.7	24.6 24.6 24.6 24.6 23.3 21.0 23.9 23.8 23.5 26.2 27.4 30.6 32.4 32.4 32.4 32.4 32.4 34.1 34.8 35.9 34.2 31.6	22.8 22.8 22.8 22.8 20.4 17.4 20.9 20.6 20.3 22.0 22.9 24.8 28.9 28.9 28.9 28.9 28.9 28.9 28.9 28.9 28.9 29.5 20.6 20.5 20.6 20.5 20.6 20.5 20.6 20.6 20.7 20.9 20.6 20.9 20.6 20.9	19.1 19.1 19.1 19.1 17.6 14.4 18.0 17.8 17.6 19.1 19.8 21.3 24.9 24.9 24.9 24.9 24.9 25.6 23.6 23.6 22.3 20.4	15.4 15.4 15.4 15.4 14.7 11.4 15.0 15.0 16.2 16.6 17.8 20.8 20.8 20.8 20.8 20.8 20.8 21.9 18.3 18.3 17.1 15.3	12.6 12.6 12.6 12.6 12.0 7.9 12.1 12.5 13.0 13.3 13.9 14.6	11.2 11.2 11.2 11.1 6.9 (0.2) 4.5 11.6 12.2 12.4 13.7 10.9 10.9 10.9 10.9 10.9 10.9 10.9 10.9 10.9	10.5 10.5 10.5 10.5 10.2 6.0 10.1 10.2 10.4 10.9 11.2 11.8 7.7 7.7 7.7 7.7 7.7 6.5 4.8 3.1 3.3	10.5 10.5 10.5 10.5 10.4 5.9 (0.7) 3.5 9.9 9.8 9.9 10.2 7.0 7.0 7.0 7.0 26.5 13.3 3.0 3.2	9.2 9.2 9.2 9.2 7.9 4.3 7.3 7.9 8.8 9.2 9.7 12.0 12.0 12.0 12.0 12.0 12.0 12.0 12.0 12.0 12.0	8.8 8.8 8.8 8.0 6.0 6.5 7.2 8.3 8.4 9.1 13.3 13.3 13.3 13.3 13.3 13.6 9.3 4.6	8.4 8.4 8.4 8.0 7.8 5.7 6.5 7.7 7.4 7.6 8.4 14.6 14.6 14.6 14.6 17.6 13.4 7.1 6.8 6.3

Absolute Normal Interest Rate Shocks (Continued)

	Total Asia Ex	-lanan													
	1M	39.3	39.3	35.8	32.4	28.9	24.9	20.8	13.5	10.9	7.7	7.0	12.0	13.3	14.6
	3M	39.3	39.3	35.8	32.4	28.9	24.9	20.8	13.5	10.9	7.7	7.0	12.0	13.3	14.6
•	6M	39.3	39.3	35.8	32.4	28.9	24.9	20.8	13.5	10.9	7.7	7.0	12.0	13.3	14.6
•	9M	39.3	39.3	35.8	32.4	28.9	24.9	20.8	13.5	10.9	7.7	7.0	12.0	13.3	14.6
	1Y	39.3	39.3	35.8	32.4	28.9	24.9	20.8	13.5	10.9	7.7	7.0	12.0	13.3	14.6
RY	2Y	43.9	43.9	39.0	34.1	29.2	25.6	21.9	13.2	8.7	6.5	26.5	9.5	13.6	17.6
=	3Y	46.5	46.5	40.7	34.8	28.9	23.6	18.3	12.7	8.0	4.8	13.3	5.3	9.3	13.4
EXPI	5Y	50.2	50.2	43.0	35.9	28.8	23.6	18.3	10.9	7.0	3.1	3.0	2.1	4.6	7.1
	7Y	47.6	47.6	40.9	34.2	27.5	22.3	17.1	10.2	6.9	3.3	3.2	2.2	4.5	6.8
	10Y	43.8	43.8	37.7	31.6	25.5	20.4	15.3	9.1	6.7	3.7	3.6	2.4	4.3	6.3
	15Y	43.8	43.8	37.4	31.1	24.8	19.9	15.0	9.9	6.8	4.4	2.9	2.8	2.9	3.0
	20Y	44.1	44.1	37.6	31.2	24.7	19.9	15.1	9.9	7.0	3.8	2.5	1.6	0.8	0.0
	30Y	42.6	42.6	36.4	30.3	24.2	19.4	14.6	9.0	5.1	2.5	2.4	1.1	(0.4)	(1.9)
	_	•													
	Total ME/N.		T	1	1	T		T	1 .		1	1		1	1
	1M	39.3	39.3	35.8	32.4	28.9	24.9	20.8	13.5	10.9	7.7	7.0	12.0	13.3	14.6
	3M	39.3	39.3	35.8	32.4	28.9	24.9	20.8	13.5	10.9	7.7	7.0	12.0	13.3	14.6
	6M	39.3	39.3	35.8	32.4	28.9	24.9	20.8	13.5	10.9	7.7	7.0	12.0	13.3	14.6
	9M	39.3	39.3	35.8	32.4	28.9	24.9	20.8	13.5	10.9	7.7	7.0	12.0	13.3	14.6
_	1Y	39.3	39.3	35.8	32.4	28.9	24.9	20.8	13.5	10.9	7.7	7.0	12.0	13.3	14.6
~	2Y	43.9	43.9	39.0	34.1	29.2	25.6	21.9	13.2	8.7	6.5	26.5	9.5	13.6	17.6
EXPI	3Y	46.5	46.5	40.7	34.8	28.9	23.6	18.3	12.7	8.0	4.8	13.3	5.3	9.3	13.4
ω	5Y	50.2	50.2	43.0	35.9	28.8	23.6	18.3	10.9	7.0	3.1	3.0	2.1	4.6	7.1
	7Y	47.6	47.6	40.9	34.2	27.5	22.3	17.1	10.2	6.9	3.3	3.2	2.2	4.5	6.8
	10Y	43.8	43.8	37.7	31.6	25.5	20.4	15.3	9.1	6.7	3.7	3.6	2.4	4.3	6.3
	15Y	43.8	43.8	37.4	31.1	24.8	19.9	15.0	9.9	6.8	4.4	2.9	2.8	2.9	3.0
	20Y	44.1	44.1	37.6	31.2	24.7	19.9	15.1	9.9	7.0	3.8	2.5	1.6	0.8	0.0
	30Y	42.6	42.6	36.4	30.3	24.2	19.4	14.6	9.0	5.1	2.5	2.4	1.1	(0.4)	(1.9)
	Total Sub-Sa	haran Africa	l												
	1M	39.3	39.3	35.8	32.4	28.9	24.9	20.8	13.5	10.9	7.7	7.0	12.0	13.3	14.6
	3M	39.3	39.3	35.8	32.4	28.9	24.9	20.8	13.5	10.9	7.7	7.0	12.0	13.3	14.6
	6M	39.3	39.3	35.8	32.4	28.9	24.9	20.8	13.5	10.9	7.7	7.0	12.0	13.3	14.6
	9M	39.3	39.3	35.8	32.4	28.9	24.9	20.8	13.5	10.9	7.7	7.0	12.0	13.3	14.6
	1Y	39.3	39.3	35.8	32.4	28.9	24.9	20.8	13.5	10.9	7.7	7.0	12.0	13.3	14.6
RΥ	2Y	43.9	43.9	39.0	34.1	29.2	25.6	21.9	13.2	8.7	6.5	26.5	9.5	13.6	17.6
EXPIRY	3Y	46.5	46.5	40.7	34.8	28.9	23.6	18.3	12.7	8.0	4.8	13.3	5.3	9.3	13.4
EX	5Y	50.2	50.2	43.0	35.9	28.8	23.6	18.3	10.9	7.0	3.1	3.0	2.1	4.6	7.1
	7Y	47.6	47.6	40.9	34.2	27.5	22.3	17.1	10.2	6.9	3.3	3.2	2.2	4.5	6.8
	10Y	43.8	43.8	37.7	31.6	25.5	20.4	15.3	9.1	6.7	3.7	3.6	2.4	4.3	6.3
	15Y	43.8	43.8	37.4	31.1	24.8	19.9	15.0	9.9	6.8	4.4	2.9	2.8	2.9	3.0
	20Y	44.1	44.1	37.6	31.2	24.7	19.9	15.1	9.9	7.0	3.8	2.5	1.6	0.8	0.0
	30Y	42.6	42.6	36.4	30.3	24.2	19.4	14.6	9.0	5.1	2.5	2.4	1.1	(0.4)	(1.9)

Other Rates

Absolute Change in Inflation (bps)

	Company (Copy)													
	MATURITY													
Currency	1M	3M	6M	9M	1Y	2Y	3Y	5Y	7Y	10Y	15Y	20Y	30Y	
AUD	(2.1)	(2.1)	(2.1)	(2.1)	(2.1)	(19.3)	(27.7)	(43.8)	(45.7)	(54.6)	(66.4)	(65.8)	(72.9)	
EUR	(26.1)	(26.1)	(26.1)	(26.1)	(26.1)	(33.6)	(41.2)	(60.3)	(57.2)	(74.0)	(77.9)	(65.4)	(100.3)	
GBP	(9.7)	(9.7)	(9.7)	(9.7)	(9.7)	(40.0)	(48.3)	(63.9)	(69.0)	(68.8)	(69.0)	(71.6)	(70.4)	
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	
USD	(2.0)	(2.0)	(2.0)	(2.0)	(2.0)	(4.8)	(59.3)	(89.6)	(101.6)	(112.8)	(115.1)	(120.8)	(106.6)	
Other	(26.1)	(26.1)	(26.1)	(26.1)	(26.1)	(40.0)	(59.3)	(89.6)	(101.6)	(112.8)	(115.1)	(120.8)	(106.6)	

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	11.8	11.8	11.8	11.8	11.8	10.6	5.6	(2.0)	(13.8)	(35.9)	(64.4)	(81.5)	(116.5)
EUR	(7.5)	(7.5)	(15.5)	(23.8)	(20.3)	(24.0)	(22.8)	(20.1)	(15.3)	(9.7)	(5.7)	(5.4)	(5.7)
GBP	(30.3)	(30.3)	(30.3)	(30.3)	(30.3)	(36.0)	(33.8)	(25.2)	(15.5)	(8.7)	(3.5)	0.5	6.8
JPY	(22.8)	(22.8)	(22.8)	(22.8)	(22.8)	(23.9)	(23.8)	(24.3)	(21.4)	(18.5)	(13.0)	(11.0)	(9.3)
Other	(7.5)	(7.5)	(15.5)	(23.8)	(20.3)	(24.0)	(22.8)	(20.1)	(15.3)	(9.7)	(5.7)	(5.4)	(5.7)

Appendix 12: Data Notes

Sources for data through 2015:Q4 (as released through 1/20/2016). The 2015:Q4 values of variables marked with an asterisk (*) are projected.

U.S. real GDP growth*: Percent change in real Gross Domestic Product at an annualized rate, Bureau of Economic Analysis.

U.S. nominal GDP growth*: Percent change in nominal Gross Domestic Product at an annualized rate, Bureau of Economic Analysis.

U.S. real disposable income growth*: Percent change in nominal disposable personal income divided by the price index for personal consumption expenditures at an annualized rate, Bureau of Economic Analysis.

U.S. nominal disposable income growth*: Percent change in nominal disposable personal income at an annualized rate, Bureau of Economic Analysis.

U.S. unemployment rate: Quarterly average of monthly data, Bureau of Labor Statistics.

U.S. CPI inflation: Percent change in the quarterly average of the Consumer Price Index at an annualized rate, Bureau of Labor Statistics.

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 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. 13–26.

U.S. 10-year Treasury yield: Quarterly average of the yield on 10-year U.S. Treasury bonds, constructed for 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. 13-26.

U.S. BBB corporate yield: Quarterly average of the yield on 10-year BBB-rated corporate bonds, constructed for 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.15 Release, 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 Affairs and Communications via Haver.

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