



2024 REPORT CYCLE
DODD-FRANK ACT STRESS TESTS
SUMMARY INSTRUCTIONS AND GUIDANCE

March 13, 2024

Accompanying Order Nos.
2024-OR-FNMA-1 AND 2024-OR-FHLMC-1



Federal Housing Finance Agency

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Introduction

Section 165(i)(2) of the Dodd-Frank Act, as amended by section 401 of the Economic Growth, Regulatory Relief, and Consumer Protection Act (“EGRRCPA”) requires certain financial companies with total consolidated assets of more than \$250 billion, and which are regulated by a primary federal financial regulatory agency, to conduct periodic stress tests to determine whether the companies have the capital necessary to absorb losses as a result of severely adverse economic conditions. These statutory changes became effective on November 24, 2019. The Federal Housing Finance Agency (FHFA) is the primary federal financial regulator of Fannie Mae and Freddie Mac (the Enterprises), and the 11 Federal Home Loan Banks (Banks). These entities are collectively referred to as the regulated entities.

FHFA’s rule on Stress Testing of Regulated Entities (12 CFR 1238), along with these instructions and guidance, apply to the Enterprises because each Enterprise has total consolidated assets of more than \$250 billion. Due to their total consolidated asset amounts, function in the mortgage market, size of their retained portfolios, and their share of the mortgage securitization market, FHFA requires each Enterprise to conduct the stress test on an annual basis.

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.

FHFA’s stress testing rule establishes the basic requirements for each Enterprise to conduct Dodd-Frank Act Stress Tests (DFAST) and report the results. This summary instructions and guidance document supplements the rule. FHFA expects each Enterprise to follow the instructions and guidance in conducting stress tests and reporting and publishing results under the rule.

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 results
- Correspondence related to stress tests

Stress Test Scenarios

The stress tests are based on portfolios as of December 31, 2023. The planning horizon for the stress test is nine quarters, starting with the first quarter of 2024 and extending through the first quarter of 2026. The Enterprises are required to submit the results of stress tests based on two scenarios: Baseline and Severely Adverse. Assumptions for the variables in each scenario are contained in Appendices 2 through 6.

FHFA expects each Enterprise to use those variables that are relevant to the Enterprise’s lines of business and that are consumed by the Enterprise’s models. However, FHFA expects

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

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

Global Market Shock Assumptions

The global market assumptions provided by FHFA are to be applied to the Enterprises' trading securities, available-for-sale securities, and other fair value assets as of December 31, 2023, for the Severely Adverse scenario.

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

Counterparty Default Scenario Component

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

- an Enterprise's largest counterparty across the Enterprise's secured and unsecured lending, securities lending, repurchase/reverse repurchase agreements (collectively Securities Financing Transactions or SFTs), unsecured overnight deposits, and derivative exposures, as well as the potential losses and effects on capital associated with such a default;
- an Enterprise's largest counterparty across the Enterprise's single-family mortgage insurance providers and the potential losses and effects on capital associated with such a default;
- an Enterprise's largest counterparty across the Enterprise's providers of multifamily credit enhancements and the potential losses and effects on capital associated with such a default;

- an Enterprise's largest counterparty across the Enterprise's CRT reinsurance counterparties and the potential losses and effects on capital associated with such a default; or
- an Enterprise's largest counterparty across the Enterprise's non-bank servicers and the potential losses and effects on capital associated with such a default;

The Enterprise should identify its largest counterparty as 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, 2023 – 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.

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

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 Enterprise should extrapolate the national house price path beyond the projection date as needed.

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

Missing Variables

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

Balance Sheet Evolution

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

Capital Actions

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 Enterprises should estimate operational risk losses for each scenario and submit the results to FHFA.

Changes in Accounting Standards

The Financial Accounting Standards Board (FASB) periodically makes revisions to U.S. Generally Accepted Accounting Principles (U.S. GAAP). These changes affect an entity's financial reporting upon adoption by the entity. The Enterprise should reflect the impact of these changes in accounting standards that have been adopted for financial reporting purposes.

An Enterprise should not reflect the adoption of new accounting standards in its projections unless the entity has already adopted the accounting standard for financial reporting purposes.

With regard to Accounting Standards Update No. 2016-13, Financial Instruments – Credit Losses (Topic 326): Measurement of Credit Losses on Financial Instruments (CECL), the Enterprises should include the effect of CECL.

Reporting Format and Timing

The Enterprises must submit results of the Baseline and Severely Adverse scenarios to FHFA and the Board on or before May 20, 2024, and must publicly disclose a summary of the results of only the Severely Adverse scenario between August 1 and August 15.

The results of an Enterprise's analysis for each scenario should encompass all potential losses and other impacts to net income and capital that the Enterprise might experience under the scenarios. In all cases, each Enterprise should substantiate that its results are consistent with the specified macroeconomic and financial environment and that the components of its results are internally consistent within each scenario.

The Enterprises are required to report the results using the DFAST templates provided in Appendix 1.

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

Each Enterprise must submit its results and any supporting information to FHFA through a secure site. The Enterprises must use the secure server.

Stress Test Governance

The board of directors of each Enterprise or a designated committee thereof is responsible for reviewing and approving policies and procedures established to comply with the rule. Each board of directors should also receive and review the results of the stress tests for compliance with the rule and established policies and procedures. Senior management of each Enterprise 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 Enterprise take the results of the annual stress test into account in making changes as appropriate to its capital structure (including the level and composition of capital), exposures, concentrations, risk positions, plans for recovery and resolution, or plans to improve overall risk management. Consultation with FHFA staff is expected in making any such changes. As the Enterprises are under FHFA conservatorship, any post-assessment actions would require FHFA's prior approval.

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

- Aggregate losses, pre-provision net revenues, and capital positions over the planning horizon.
- Capital levels and capital ratios (including regulatory capital and net worth) and any other capital ratios, as specified by FHFA.

Incomplete Data

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

Evaluation of Stress Test Results

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

Appendix 1: FHFA DFAST Reporting Templates - Enterprises

Scenario Templates Cover Sheet

Each regulated entity is expected to provide input data for all the tabs in this spreadsheet.

Institution Name:

Date of Data Submission:

Institution Contact Name:

Institution Contact Phone Number:

Institution Contact Email Address:

Supplied Scenario Variables

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

Domestic Variables

- Real GDP Growth
- Nominal GDP Growth
- Real Disposable Income Growth
- Nominal Disposable Income Growth
- Unemployment Rate
- CPI Inflation Rate
- 3-month Treasury Yield
- 5-year Treasury Yield
- 10-year Treasury Yield
- BBB Corporate Yield
- Mortgage Rate
- Prime Rate
- 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

International Variables

- Euro Area Real GDP Growth
- Euro Area Inflation
- Euro Area Bilateral Dollar Exchange Rate (\$/euro)
- Developing Asia Real GDP Growth
- Developing Asia Inflation
- Developing Asia Bilateral Dollar Exchange Rate (F/USD, index, base = 2000, Q1)
- 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)

For variables not used, please provide a brief explanation below as to why it was not used:

Variable Name	Explanation
---------------	-------------

- 1
- 2
- 3
- 4
- 5

Scenario Variables Beyond Those Supplied

Baseline Scenario (additional variables used beyond those supplied)

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		
4		
5		

Baseline

Spread Assumptions

Category	Benchmark	Spread to Benchmark									
		Actual			Projected						
		4Q 2023	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	Actual			Projected						
	4Q 2023	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9

Forward Curve

Maturity	Actual			Projected								
	4Q 2023	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9		
3-Month Treasury	5.3	5.3	5.0	4.6	4.2	3.9	3.6	3.4	3.2	3.2		
6-Month												
1 year												
2 year												
5 year Treasury	4.5	4.2	4.0	3.9	3.8	3.6	3.6	3.5	3.4	3.3		
10 year Treasury	4.5	4.1	4.0	3.9	3.8	3.7	3.7	3.6	3.6	3.6		
15 year												
30 year												

House Price Index

(NOTE: For printing purposes dates only goes to Oct-24. However, the underlying excel spreadsheet collects 30 years of data.)

Region	Actual			Projected								
	4Q 2023	Jan-24	Feb-24	Mar-24	Apr-24	May-24	Jun-24	Jul-24	Aug-24	Sep-24	Oct-24	
Region 1												
Region 2												
.												
.												
.												
.												
.												

Severely Adverse

Spread Assumptions

Category	Benchmark	Spread to Benchmark									
		Actual				Projected					
		4Q 2023	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	Actual				Projected					
	4Q 2023	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9

Forward Curve

Maturity	Actual				Projected						
	4Q 2023	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	
3-Month Treasury	5.3	2.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	
6-Month											
1 year											
2 year											
5 year Treasury	4.5	0.4	0.3	0.4	0.5	0.5	0.6	0.7	0.7	0.8	
10 year Treasury	4.5	1.1	0.8	0.8	0.8	0.9	1.0	1.1	1.2	1.3	
15 year											
30 year											

House Price Index

(NOTE: For printing purposes dates only go to Oct-24. However, the underlying excel spreadsheet collects 30 years of data.)

Region	Actual				Projected						
	4Q 2023	Jan-24	Feb-24	Mar-24	Apr-24	May-24	Jun-24	Jul-24	Aug-24	Sep-24	Oct-24
Region 1											
Region 2											
.											
.											
.											
.											
.											

Stress Test Template Instructions

1. All numbers should be reported in millions.
2. Reported numbers should reflect the 12/31/2023 start date.

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

(\$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)											
2 Management and guaranty fee income ¹											
3 Total net interest income											
4 Other income ²											
5 Total revenue											
6 REO (foreclosed property expense)											
7 Operational risk losses											
8 Administrative expenses											
9 Other expenses											
10 Pre-provision net revenue											
11 (Provision) benefit for credit losses											
12 Derivatives gains (losses)											
13 Trading gains (losses)											
14 Other gains (losses) ³											
15 Global market shock impact on trading securities and held-for-sale loans											
16 Counterparty default losses											
17 Pre-Tax income (loss)											
18 (Provision) benefit for federal income taxes											
19 Extraordinary gains (losses), net of tax effect											
20 Net income (loss)											
21 Global market shock impact on available-for-sale securities											
22 Other comprehensive income											
23 Comprehensive income (loss)											

¹ Includes guaranty fees received for managing credit risk on mortgage loans of consolidated trusts/PCs, amortization income, and TCCA fees.

² If applicable includes SOP 03-3 gains/losses, net.

³ If applicable includes Security Impairments.

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

(\$s in millions)

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

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

(\$s in millions)

Capital Summary (BASELINE)	Most Recent Quarter	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9
BALANCE SHEET ITEMS										
1 Senior preferred stock										
2 Junior preferred stock										
3 Common equity										
4 Retained earnings										
5 Accumulated other comprehensive income										
6 Treasury stock										
7 Net worth										
8 Loan loss reserves										
STATUTORY CAPITAL										
9 Core capital (statutory)										
10 Total capital (statutory) = (9 + 8)										
ASSETS										
11 On-balance sheet exposures (Line 6 from ATA Detail tab)										
12 Off-balance sheet exposures (Line 10 from ATA Detail tab)										
13 Adjusted total assets (ATA) (Line 11 from ATA Detail tab)										
14 Risk-weighted assets (RWAs)										
15 Risk density (RWAs/ATA)										
16 3-percent of ATA (Jan 2021 PSPA Exit Requirement)										
ERCF RISK-BASED CAPITAL REQUIREMENTS										
17 Common equity Tier 1 (CET1)										
18 Additional Tier 1 capital (AT1)										
19 Tier 1 capital										
20 Tier 2 capital										
21 RBC Minimum Requirement = (19 + 20)										
22 Stress capital buffer										
23 Stability capital buffer										
24 Countercyclical buffer										
25 Prescribed capital conservation buffer amount (PCCBA) = (22 + 23 + 24)										
26 Total Capital Requirement (RBC Minimum Requirement + PCCBA = 21 + 25)										
LEVERAGE CAPITAL REQUIREMENTS										
27 Leverage capital requirement										
28 Prescribed leverage buffer amount (PLBA)										
29 Total Leverage Requirement and PLBA = (27 + 28)										
30 BINDING CAPITAL REQUIREMENT										
AVAILABLE CAPITAL										
31 CET1 capital										
32 Additional Tier 1 capital										
33 Tier 2 capital										
34 Total capital = (31 + 32 + 33)										

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

(\$s in millions)

Adjusted Total Assets Detail (BASELINE)	Most Recent Quarter	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9
ON-BALANCE SHEET EXPOSURES										
1	On-balance sheet assets									
2	Less: on-balance sheet assets for derivatives and repo-style transactions									
3	Plus: Allowance for Credit Losses									
4	Adjusted on-balance sheet assets									
5	Less: Amounts deducted from CET1 and additional Tier 1 Capital									
6	Total on-balance sheet exposures									
OFF-BALANCE SHEET EXPOSURES										
7	Total derivatives exposures									
8	Total exposures for repo-style transactions									
9	Other-off balance sheet exposures									
10	Total off-balance sheet exposures (7 + 8 + 9)									
11	Adjusted Total Assets (6 + 10)									

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

(\$s in millions)

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

¹ Other includes mortgage revenue bonds and other.

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

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

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

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

Single-Family Credit Overview - Quarterly (BASELINE)	Most Recent Quarter	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Nine Quarter Cumulative Total
TOTAL PORTFOLIO											
CREDIT EXPENSES (\$s in millions)											
1											
2											
3											
4											
5 Credit Expenses											
LOAN LOSS RESERVE (\$s in millions)											
6											
7											
8											
9											
10 Ending Loan Loss Reserve											
11											
CURRENT BOOK (as of 12/31/23)											
CREDIT EXPENSES (\$s in millions)											
12											
13											
14											
15											
16 Credit Expenses											
LOAN LOSS RESERVE (\$s in millions)											
17											
18											
19											
20											
21 Ending Loan Loss Reserve - Current Book											
22											
NEW BUSINESS											
CREDIT EXPENSES (\$s in millions)											
23											
24											
25											
26											
27 Credit Expenses											
LOAN LOSS RESERVE (\$s in millions)											
28											
29											
30											
31											
32 Ending Loan Loss Reserve - New Business											
33											

¹Amount depicts the summation of foreclosed property expense, provision for credit losses, and SOP 03-3 losses.

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

Single-Family Credit Overview - Quarterly (BASELINE)	Most Recent										
	Quarter	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	
SERIOUSLY DELINQUENT LOAN ACTIVITY (count in '000s)											
1	Beginning seriously delinquent loans										
2	Seriously delinquent inflows - new SDQ										
3	Seriously delinquent inflows - cured										
4	Seriously delinquent cured by modification										
5	Seriously delinquent - cured										
6	Seriously delinquent to default										
7	Seriously delinquent to payoff										
8	Ending Seriously Delinquent Loans										
9	Ending seriously delinquent rate (%)										
10	Aggregate UPB of seriously delinquent loans (\$s in millions)										
<hr/>											
11	Loan modifications (count in 000s)										
	(\$s in millions)										
PRIVATE MORTGAGE INSURERS - OVERVIEW (Nine Quarter Cumulative Totals)											
		Arch Mortgage Insurance Company	Essent Guaranty, Inc.	Genworth Mortgage Insurance Corporation	Mortgage Guaranty Insurance Corporation	PMI Mortgage Insurance Co.	Radian Guaranty Inc.	Republic Mortgage Insurance Company	Triad Guaranty Insurance Corporation	United Guaranty Residential Insurance Co.	Other
12	Expected Gross Claims to MI Companies ¹										
13	Less: Reinsurance Proceeds										
14	Subtotal (net of reinsurance)										
15	Less: Haircut Amount										
16	Expected Net Claims from MI Companies¹										
17	Gross MI Benefit included in ending Loan Loss Reserves ²										
18	Less: Haircut Amount ³										
19	Net MI Benefit included in ending Loan Loss Reserves ²										
20	Total Net MI Benefit										

¹ Represents amount related to loans that default during the nine-quarter projection period.
² Represents amount of MI benefit included in loan loss reserves at the end of the nine-quarter projection period.
³ Represents amount of Gross MI benefit included in loan loss reserves at the end of the nine-quarter projection period is reduced due to MI Haircut.

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

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

Single-Family Credit Summary (BASELINE)

Delinquency Status - CURRENT BOOK

(\$s in millions)

Delinquency Status as of 12/31/23	LLR		UPB		Nine Quarter Cumulative Totals	
	Beginning	Ending	Beginning	Ending	Charge-Offs	Provision (Benefit) for Credit Losses
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						
9 TOTAL						

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

Single-Family Credit Summary (BASELINE)

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

(\$s in millions)		LLR		UPB		Nine Quarter Cumulative Totals	
		Beginning	Ending	Beginning	Ending	Charge-Offs	Provision (Benefit) for Credit Losses
	LTV as of 12/31/23						
1	<60%						
2	60% - 80%						
3	>80% - 100%						
4	>100%						
5	Total						

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

Single-Family Credit Summary (BASELINE)

Vintage Status

(\$s in millions)		LLR		UPB		Nine Quarter Cumulative Totals	
Loan Origination Year	Beginning	Ending	Beginning	Ending	Charge-Offs	Provision (Benefit) for Credit Losses	
1	2004 and prior						
2	2005						
3	2006						
4	2007						
5	2008						
6	2009						
7	2010						
8	2011						
9	2012						
10	2013						
11	2014						
12	2015						
13	2016						
14	2017						
15	2018						
16	2019						
17	2020						
18	2021						
19	2022						
20	2023						
21	2024						
22	2025						
23	2026 1Q						
24	TOTAL						

Note: For loan origination years 2024, 2025 and 2026 Q1, beginning UPB should be forecasted acquisitions during the year.

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

Single-Family Credit Summary (BASELINE)

Credit Score - CURRENT BOOK

(\$s in millions)		LLR		UPB		Nine Quarter Cumulative Totals	
Credit Score as of 12/31/23		Beginning	Ending	Beginning	Ending	Charge-Offs	Provision (Benefit) for Credit Losses
1	<620						
2	620 - 680						
3	>680 - 740						
4	>740						
5	Total						

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

(\$s in millions)

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

CURRENT BOOK

		Loan-To-Value											
		<30	30 - 60	61 - 70	71 - 75	76 - 80	81 - 85	86 - 90	91 - 95	96 - 100	101 - 110	111 - 120	>120
Credit Score	<620												
	620 - 640												
	641 - 660												
	661 - 680												
	681 - 700												
	701 - 720												
	721 - 740												
	741 - 760												
	761 - 780												
	>780												

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

Use LTV and credit score as of December 31, 2023.

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

(\$s in millions)

Single-Family - Loan Loss Reserves (BASELINE)

CURRENT BOOK

Loan Loss Reserves as of 12/31/23

		Loan-To-Value											
		<30	30 - 60	61 - 70	71 - 75	76 - 80	81 - 85	86 - 90	91 - 95	96 - 100	101 - 110	111 - 120	>120
Credit Score	<620												
	620 - 640												
	641 - 660												
	661 - 680												
	681 - 700												
	701 - 720												
	721 - 740												
	741 - 760												
	761 - 780												
	>780												

Use LTV and credit score as of December 31, 2023.

Loan Loss Reserves at 3/31/26 (end of nine quarters)

		Loan-To-Value											
		<30	30 - 60	61 - 70	71 - 75	76 - 80	81 - 85	86 - 90	91 - 95	96 - 100	101 - 110	111 - 120	>120
Credit Score	<620												
	620 - 640												
	641 - 660												
	661 - 680												
	681 - 700												
	701 - 720												
	721 - 740												
	741 - 760												
	761 - 780												
	>780												

Use LTV and credit score as of December 31, 2023.

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

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

(\$s in millions)

Loan Status at 12/31/23		Loan Loss Reserves				
		Beginning	Cumulative (Charge-offs) Recoveries	Provision (Benefit) for Credit Losses	Other	Ending
2004 and prior	<=80%					
	80% - 100%					
	>100%					
2005 - 2008	<=80%					
	80% - 100%					
	>100%					
2009 and Later	<=80%					
	80% - 100%					
	>100%					

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

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

(\$s in millions)

Loan Loss Reserves

	Loan Status at 12/31/23		Beginning	Cumulative (Charge-offs) Recoveries	Provision (Benefit) for Credit Losses	Other	Ending
2004 and prior	Modified	Current <90 Days SDQ					
	Non-Modified	Current <90 Days SDQ					
2005 - 2008	Modified	Current <90 Days SDQ					
	Non-Modified	Current <90 Days SDQ					
2009 and Later	Modified	Current <90 Days SDQ					
	Non-Modified	Current <90 Days SDQ					

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

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

(\$s in millions)

Loan Status at 12/31/23			Loan Loss Reserves			
			Beginning	Cumulative (Charge-offs) Recoveries	Provision (Benefit) for Credit Losses	Other
<=80%	Modified	Current <90 Days SDQ				
	Non-Modified	Current <90 Days SDQ				
80% - 100%	Modified	Current <90 Days SDQ				
	Non-Modified	Current <90 Days SDQ				
>100%	Modified	Current <90 Days SDQ				
	Non-Modified	Current <90 Days SDQ				

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

(\$s in millions)

Multifamily - Income Statement (BASELINE)	Most Recent Quarter	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Nine Quarter Cumulative Total
1 Net interest income ¹											
2 Management and guaranty fee income											
3 Other non-interest income											
4 Total revenue											
5 REO (foreclosed property exp.)											
6 Other expenses ²											
7 Pre-provision net revenue											
8 (Provision) benefit for credit losses											
9 Derivatives gains (losses)											
10 Gains (losses) on loans											
11 Other fair value gains (losses)											
12 Global market shock impact on trading securities and held-for-sale loans ³											
13 Pre-Tax income (loss)											
14 (Provision) benefit for federal income taxes											
15 Extraordinary gains (losses), net of tax effect											
16 Net income (loss)											
17 Global market shock impact on available-for-sale securities											
18 Other comprehensive income											
19 Comprehensive income (loss)											

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

² Includes operational risk losses, administrative expenses, and gains from partnership investments.

³ Includes counterparty default risk losses.

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

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

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

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

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

¹ Includes property sales and other run-off/prepayments.

² Guaranty fee income divided by weighted average portfolio balance.

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

	Most Recent Quarter	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Nine Quarter Cumulative Total
Credit Risk Transfers - Quarterly (BASELINE)											
(\$s in millions)											
Single-Family											
CAS/STACR (Non-REMIC/Non-Trust)											
1	Interest Expense										
2	Fair Value Gain (Loss)										
3	Other Expenses										
4	Benefits										
CAS/STACR (REMIC/Trust)											
5	Interest Expense										
6	Other Expenses										
7	Benefits										
CIRT/ACIS											
8	Premium Expense										
9	Other Expenses										
10	Benefits										
OTHER											
11	Fair Value Gain (Loss)										
12	Other Expenses										
13	Benefits										
14	Total Single-Family Income (Loss)										
Multifamily											
MCAS/MSCR ¹											
15	Interest Expense										
16	Other Expenses										
17	Benefits										
MCIRT/MCIP											
18	Premium Expense										
19	Other Expenses										
20	Benefits										
Other ²											
21	Credit Expense										
22	Other Expenses										
23	Benefits										
24	Total Multifamily Income (Loss)										
25	Total Income (Loss)										
NEW CRT ISSUANCES - Single-Family											
26	New SF Reinsurance Transactions (Risk-In-Force)										
27	New SF Capital Markets Transactions (Risk-In-Force)										
28	SF Other New Transactions (Risk-In Force)										
29	Reference Pool Related to New SF CRT Issuances (Quarter)										
30	Total Outstanding SF Reference Pool at End of Quarter										
NEW CRT ISSUANCES - Multifamily											
31	New MF Reinsurance Transactions (Risk-In-Force)										
32	New MF Capital Markets Transactions (Risk-In-Force)										
33	MF Other New Transactions (Risk-In Force)										
34	Reference Pool Related to New MF CRT Issuances (Quarter)										
35	Total Outstanding MF Reference Pool at End of Quarter										

1. Multifamily Capital Markets transactions exclude K-Deals and similar transactions.
2. Includes DUS, K-Deals, SB, and other similar multifamily transactions.

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

<u>CRT Benefits - Quarterly (BASELINE)</u>	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Nine Quarter Cumulative Total
---	----	----	----	----	----	----	----	----	----	--

(\$s in millions)

Single-Family

CAS/STACR

- 1 2024 and future (prospective) transactions
- 2 2023 transactions
- 3 2022 transactions
- 4 2021 transactions
- 5 2020 and prior transactions

CIRT/ACIS

- 6 2024 and future (prospective) transactions
- 7 2023 transactions
- 8 2022 transactions
- 9 2021 transactions
- 10 2020 and prior transactions

OTHER (Lender Risk Share/Senior Sub)

- 11 All transactions

12 Total Single-Family Benefits*

** These figures should tie to the sum of lines 4, 7, 10, and 13 on the existing "CRT Summary" template.*

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

(\$s in millions)

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

¹ Includes guaranty fees received for managing credit risk on mortgage loans of consolidated trusts/PCs, amortization income, and TCCA fees.

² If applicable includes SOP 03-3 gains/losses, net.

³ If applicable includes Security Impairments.

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

(\$s in millions)

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

¹ Includes guaranty fees received for managing credit risk on mortgage loans of consolidated trusts/PCs, amortization income, and TCCA fees.

² If applicable includes SOP 03-3 gains/losses, net.

³ If applicable includes Security Impairments.

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

(\$s in millions)

<u>Capital Roll Forward (SEVERELY ADVERSE)</u> <u>(without establishing DTA VA)</u>	Most Recent Quarter	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Nine Quarter Cumulative Total
CAPITAL											
1 Beginning capital											
2 Senior preferred Treasury draw (prior period)											
3 Net income (loss)											
4 Less: Dividends											
5 Change in AOCI											
6 Change in non-controlling/minority interest											
7 Other											
8 Ending capital (deficit)											
9 Beginning PSPA funding commitment available											
10 Treasury draw required											
11 Remaining PSPA funding commitment available											
OTHER											
12 Deferred tax assets, net of allowance											
13 Total Assets											

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

(\$s in millions)

Capital Roll Forward (SEVERELY ADVERSE)
(with establishing DTA VA)

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

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

(\$s in millions)

**Capital Summary (SEVERELY ADVERSE)
(without establishing DTA VA)**

	Most Recent Quarter	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9
BALANCE SHEET ITEMS										
1	Senior preferred stock									
2	Junior preferred stock									
3	Common equity									
4	Retained earnings									
5	Accumulated other comprehensive income									
6	Treasury stock									
7	Net worth									
8	Loan loss reserves									
STATUTORY CAPITAL										
9	Core capital (statutory)									
10	Total capital (statutory) = (9 + 8)									
ASSETS										
11	On-balance sheet exposures (Line 6 from ATA Detail tab)									
12	Off-balance sheet exposures (Line 10 from ATA Detail tab)									
13	Adjusted total assets (ATA) (Line 11 from ATA Detail tab)									
14	Risk-weighted assets (RWAs)									
15	Risk density (RWAs/ATA)									
16	3-percent of ATA (Jan 2021 PSPA Exit Requirement)									
ERCFC RISK-BASED CAPITAL REQUIREMENTS										
17	Common equity Tier 1 (CET1)									
18	Additional Tier 1 capital (AT1)									
19	Tier 1 capital									
20	Tier 2 capital									
21	RBC Minimum Requirement = (19 + 20)									
22	Stress capital buffer									
23	Stability capital buffer									
24	Countercyclical buffer									
25	Prescribed capital conservation buffer amount (PCCBA) = (22 + 23 + 24)									
26	Total Capital Requirement (RBC Minimum Requirement + PCCBA = 21 + 25)									
LEVERAGE CAPITAL REQUIREMENTS										
27	Leverage capital requirement									
28	Prescribed leverage buffer amount (PLBA)									
29	Total Leverage Requirement and PLBA = (27 + 28)									
30 BINDING CAPITAL REQUIREMENT										
AVAILABLE CAPITAL										
31	CET1 capital									
32	Additional Tier 1 capital									
33	Tier 2 capital									
34	Total capital = (31 + 32 + 33)									

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

(\$s in millions)

**Capital Summary (SEVERELY ADVERSE)
(with establishing DTA VA)**

	Most Recent Quarter	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9
BALANCE SHEET ITEMS										
1	Senior preferred stock									
2	Junior preferred stock									
3	Common equity									
4	Retained earnings									
5	Accumulated other comprehensive income									
6	Treasury stock									
7	Net worth									
8	Loan loss reserves									
STATUTORY CAPITAL										
9	Core capital (statutory)									
10	Total capital (statutory) = (9 + 8)									
ASSETS										
11	On-balance sheet exposures (Line 6 from ATA Detail tab)									
12	Off-balance sheet exposures (Line 10 from ATA Detail tab)									
13	Adjusted total assets (ATA) (Line 11 from ATA Detail tab)									
14	Risk-weighted assets (RWAs)									
15	Risk density (RWAs/ATA)									
16	3-percent of ATA (Jan 2021 PSPA Exit Requirement)									
ERCFC RISK-BASED CAPITAL REQUIREMENTS										
17	Common equity Tier 1 (CET1)									
18	Additional Tier 1 capital (AT1)									
19	Tier 1 capital									
20	Tier 2 capital									
21	RBC Minimum Requirement = (19 + 20)									
22	Stress capital buffer									
23	Stability capital buffer									
24	Countercyclical buffer									
25	Prescribed capital conservation buffer amount (PCCBA) = (22 + 23 + 24)									
26	Total Capital Requirement (RBC Minimum Requirement + PCCBA = 21 + 25)									
LEVERAGE CAPITAL REQUIREMENTS										
27	Leverage capital requirement									
28	Prescribed leverage buffer amount (PLBA)									
29	Total Leverage Requirement and PLBA = (27 + 28)									
30 BINDING CAPITAL REQUIREMENT										
AVAILABLE CAPITAL										
31	CET1 capital									
32	Additional Tier 1 capital									
33	Tier 2 capital									
34	Total capital = (31 + 32 + 33)									

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

(\$s in millions)

Adjusted Total Assets Detail (SEVERELY ADVERSE)
(without establishing DTA VA)

	Most Recent Quarter	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9
ON-BALANCE SHEET EXPOSURES										
1	On-balance sheet assets									
2	Less: on-balance sheet assets for derivatives and repo-style transactions									
3	Plus: Allowance for Credit Losses									
4	Adjusted on-balance sheet assets									
5	Less: Amounts deducted from CET1 and additional Tier 1 Capital									
6	Total on-balance sheet exposures									
OFF-BALANCE SHEET EXPOSURES										
7	Total derivatives exposures									
8	Total exposures for repo-style transactions									
9	Other-off balance sheet exposures									
10	Total off-balance sheet exposures (7 + 8 + 9)									
11	Adjusted Total Assets (6 + 10)									

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

(\$s in millions)

Adjusted Total Assets Detail (SEVERELY ADVERSE)
(with establishing DTA VA)

	Most Recent Quarter	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9
ON-BALANCE SHEET EXPOSURES										
1	On-balance sheet assets									
2	Less: on-balance sheet assets for derivatives and repo-style transactions									
3	Plus: Allowance for Credit Losses									
4	Adjusted on-balance sheet assets									
5	Less: Amounts deducted from CET1 and additional Tier 1 Capital									
6	Total on-balance sheet exposures									
OFF-BALANCE SHEET EXPOSURES										
7	Total derivatives exposures									
8	Total exposures for repo-style transactions									
9	Other-off balance sheet exposures									
10	Total off-balance sheet exposures (7 + 8 + 9)									
11	Adjusted Total Assets (6 + 10)									

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

(\$s in millions)

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

¹ Other includes mortgage revenue bonds and other.

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

(\$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 Single-Family Agency Securities
- 5 Multifamily Agency Securities
- 6 Municipal Securities
- 7 Single-Family Loans
- 8 Multifamily Loans
- 9 Counterparty Default Risk*

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

Counterparty Name	Counterparty Type	Total Potential Income Statement Impact
	Derivatives	
	Repo	
	Single-Family Mortgage Insurance Provider	
	Multifamily Credit Enhancement Provider	
	Non-Bank Servicer	
	CRT – Reinsurer	
	Unsecured Overnight Deposits	
	Other	
	Total	

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

(\$s in millions)

Global Market Shock (SEVERELY ADVERSE)

Applicable
UPB

Q1 Loss

TRADING SECURITIES

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

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

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

HELD-FOR-SALE LOANS

- 14 Single Family Loans
- 15 Multifamily Loans

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

Trading & Other Fair Value Assets Template
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 Products				
IOs				
POs				
Other CMOs				
Pass-Throughs				
Agency Debt/Debentures				
IOS Index				
POS Index				
MBX Index				
Other Agency Derivatives				
TBA's				
Reverse Mortgages				
Residential Other / Unspecified				
Total	\$0	\$0	\$0	\$0
US Commercial Agency Products				
Cash Agency CMBS				
Agency CMBS Derivatives				
Commercial Other / Unspecified				
Total	\$0	\$0	\$0	\$0
Non-US Agency Products				
AAA				
AA				
A				
BBB				
BB				
B				
<B				
NR				
Total	\$0	\$0	\$0	\$0

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

<u>Credit Overview - Quarterly (SEVERELY ADVERSE)</u> <u>(includes single-family and multifamily)</u>	Most Recent Quarter	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Nine Quarter Cumulative	
											Total	
TOTAL PORTFOLIO												
CREDIT EXPENSES (\$s in millions)												
1												
2												
3												
4												
5 Credit Expenses ¹												
LOAN LOSS RESERVE (\$s in millions)												
6												
7												
8												
9												
10 Ending Loan Loss Reserve												
11												
11 Unpaid Principal Balance (\$s in millions)												

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

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

Single-Family Credit Overview - Quarterly (SEVERELY ADVERSE)	Most Recent Quarter	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Nine Quarter Cumulative Total
	TOTAL PORTFOLIO										
CREDIT EXPENSES (\$s in millions)											
1	Foreclosed property expense (REO)										
2	Net charge-offs										
3	Credit losses										
4	(Provision) benefit for credit losses										
5	Credit Expenses¹										
LOAN LOSS RESERVE (\$s in millions)											
6	Beginning loan loss reserve										
7	Net charge-offs										
8	Provision (benefit) for loan losses/guaranty losses										
9	Other										
10	Ending Loan Loss Reserve										
11	Unpaid Principal Balance (\$s in millions)										
CURRENT BOOK (as of 12/31/23)											
CREDIT EXPENSES (\$s in millions)											
12	Foreclosed property expense (REO)										
13	Net charge-offs										
14	Credit losses										
15	(Provision) benefit for credit losses										
16	Credit Expenses¹										
LOAN LOSS RESERVE (\$s in millions)											
17	Beginning loan loss reserve										
18	Net charge-offs										
19	Provision (benefit) for loan losses/guaranty losses										
20	Other										
21	Ending Loan Loss Reserve - Current Book										
22	Unpaid Principal Balance (\$s in millions)										
NEW BUSINESS											
CREDIT EXPENSES (\$s in millions)											
23	Foreclosed property expense (REO)										
24	Net charge-offs										
25	Credit losses										
26	(Provision) benefit for credit losses										
27	Credit Expenses¹										
LOAN LOSS RESERVE (\$s in millions)											
28	Beginning loan loss reserve										
29	Net charge-offs										
30	Provision (benefit) for loan losses/guaranty losses										
31	Other										
32	Ending Loan Loss Reserve - New Business										
33	Unpaid Principal Balance (\$s in millions)										

¹ Amount depicts the summation of foreclosed property expense, provision for credit losses, and SOP 03-3 losses.

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

Single-Family Credit Overview - Quarterly (SEVERELY ADVERSE)	Most Recent Quarter	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	
	SERIOUSLY DELINQUENT LOAN ACTIVITY (count in '000s)										
1	Beginning seriously delinquent loans										
2	Seriously delinquent inflows - new SDQ										
3	Seriously delinquent inflows - cured										
4	Seriously delinquent cured by modification										
5	Seriously delinquent - cured										
6	Seriously delinquent to default										
7	Seriously delinquent to payoff										
8	Ending Seriously Delinquent Loans										
9	Ending seriously delinquent rate (%)										
10	Aggregate UPB of seriously delinquent loans (\$s in millions)										
11	Loan modifications (count in 000s)										
	(\$s in millions)										
PRIVATE MORTGAGE INSURERS - OVERVIEW (Nine Quarter Cumulative Totals)											
		Arch Mortgage Insurance Company	Essent Guaranty, Inc.	Genworth Mortgage Insurance Corporation	Mortgage Guaranty Insurance Corporation	PMI Mortgage Insurance Co.	Radian Guaranty Inc.	Republic Mortgage Insurance Company	Triad Guaranty Insurance Corporation	United Guaranty Residential Insurance Co.	Other
12	Expected Gross Claims to MI Companies ¹										
13	Less: Reinsurance Proceeds										
14	Subtotal (net of reinsurance)										
15	Less: Haircut Amount										
16	Expected Net Claims from MI Companies⁴										
17	Gross MI Benefit included in ending Loan Loss Reserves ²										
18	Less: Haircut Amount ³										
19	Net MI Benefit included in ending Loan Loss Reserves ²										
20	Total Net MI Benefit										

¹ Represents amount related to loans that default during the nine-quarter projection period.
² Represents amount of MI benefit included in loan loss reserves at the end of the nine-quarter projection period.
³ Represents amount of Gross MI benefit included in loan loss reserves at the end of the nine-quarter projection period is reduced due to MI Haircut.

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

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

Single-Family Credit Summary (SEVERELY ADVERSE)

Delinquency Status - CURRENT BOOK

(\$s in millions)

Delinquency Status as of 12/31/23	LLR		UPB		Nine Quarter Cumulative Totals	
	Beginning	Ending	Beginning	Ending	Charge-Offs	Provision (Benefit) for Credit Losses
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						
9 TOTAL						

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

Single-Family Credit Summary (SEVERELY ADVERSE)

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

(\$s in millions)		LLR		UPB		Nine Quarter Cumulative Totals	
LTV as of 12/31/23		Beginning	Ending	Beginning	Ending	Charge-Offs	Provision (Benefit) for Credit Losses
1	<60%						
2	60% - 80%						
3	>80% - 100%						
4	>100%						
5	Total						

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

Single-Family Credit Summary (SEVERELY ADVERSE)

Vintage Status

(\$s in millions)		LLR		UPB		Nine Quarter Cumulative Totals	
Loan Origination Year	Beginning	Ending	Beginning	Ending	Charge-Offs	Provision (Benefit) for Credit Losses	
1	2004 and prior						
2	2005						
3	2006						
4	2007						
5	2008						
6	2009						
7	2010						
8	2011						
9	2012						
10	2013						
11	2014						
12	2015						
13	2016						
14	2017						
15	2018						
16	2019						
17	2020						
18	2021						
19	2022						
20	2023						
21	2024						
22	2025						
23	2026 1Q						
24	TOTAL						

Note: For loan origination years 2024, 2025 and 2026 Q1, beginning UPB should be forecasted acquisitions during the year.

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

Single-Family Credit Summary (SEVERELY ADVERSE)

Credit Score - CURRENT BOOK

(\$s in millions)		LLR		UPB		Nine Quarter Cumulative Totals	
	Credit Score as of 12/31/23	Beginning	Ending	Beginning	Ending	Charge-Offs	Provision (Benefit) for Credit Losses
1	<620						
2	620 - 680						
3	>680 - 740						
4	>740						
5	Total						

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

(\$s in millions)

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

CURRENT BOOK

		Loan-To-Value											
		<30	30 - 60	61 - 70	71 - 75	76 - 80	81 - 85	86 - 90	91 - 95	96 - 100	101 - 110	111 - 120	>120
Credit Score	<620												
	620 - 640												
	641 - 660												
	661 - 680												
	681 - 700												
	701 - 720												
	721 - 740												
	741 - 760												
	761 - 780												
	>780												

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

Use LTV and credit score as of December 31, 2023.

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

(\$s in millions)

Single-Family - Loan Loss Reserves (SEVERELY ADVERSE)

CURRENT BOOK

Loan Loss Reserves as of 12/31/23

		Loan-To-Value											
		<30	30 - 60	61 - 70	71 - 75	76 - 80	81 - 85	86 - 90	91 - 95	96 - 100	101 - 110	111 - 120	>120
Credit Score	<620												
	620 - 640												
	641 - 660												
	661 - 680												
	681 - 700												
	701 - 720												
	721 - 740												
	741 - 760												
	761 - 780												
	>780												

Use LTV and credit score as of December 31, 2023.

Loan Loss Reserves at 3/31/26 (end of nine quarters)

		Loan-To-Value											
		<30	30 - 60	61 - 70	71 - 75	76 - 80	81 - 85	86 - 90	91 - 95	96 - 100	101 - 110	111 - 120	>120
Credit Score	<620												
	620 - 640												
	641 - 660												
	661 - 680												
	681 - 700												
	701 - 720												
	721 - 740												
	741 - 760												
	761 - 780												
	>780												

Use LTV and credit score as of December 31, 2023.

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

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

(\$s in millions)

Loan Status at 12/31/23		Loan Loss Reserves				
		Beginning	Cumulative (Charge-offs) Recoveries	Provision (Benefit) for Credit Losses	Other	Ending
2004 and prior	<=80%					
	80% - 100%					
	>100%					
2005 - 2008	<=80%					
	80% - 100%					
	>100%					
2009 and Later	<=80%					
	80% - 100%					
	>100%					

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

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

(\$s in millions)

Loan Status at 12/31/23			Loan Loss Reserves			
			Beginning	Cumulative (Charge-offs) Recoveries	Provision (Benefit) for Credit Losses	Other
2004 and prior	Modified	Current <90 Days SDQ				
	Non-Modified	Current <90 Days SDQ				
2005 - 2008	Modified	Current <90 Days SDQ				
	Non-Modified	Current <90 Days SDQ				
2009 and Later	Modified	Current <90 Days SDQ				
	Non-Modified	Current <90 Days SDQ				

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

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

(\$s in millions)

Loan Status at 12/31/23			Loan Loss Reserves			
			Beginning	Cumulative (Charge-offs) Recoveries	Provision (Benefit) for Credit Losses	Other
<=80%	Modified	Current <90 Days SDQ				
	Non-Modified	Current <90 Days SDQ				
80% - 100%	Modified	Current <90 Days SDQ				
	Non-Modified	Current <90 Days SDQ				
>100%	Modified	Current <90 Days SDQ				
	Non-Modified	Current <90 Days SDQ				

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

Single-Family New Book Credit Summary (SEVERELY ADVERSE)

From 1Q2024 - 1Q2026 (9 Quarters)

	Acquisitions UPB								
	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9
Original LTV									
<60%									
60% - 80%									
>80% - 100%									
>100%									
Total									

	Acquisitions UPB								
	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9
Original FICO									
<620									
620 - 680									
>680 - 740									
>740									
Total									

Provision for Credit Losses	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9
Q1 Acquisitions									
Q2 Acquisitions									
Q3 Acquisitions									
Q4 Acquisitions									
Q5 Acquisitions									
Q6 Acquisitions									
Q7 Acquisitions									
Q8 Acquisitions									
Q9 Acquisitions									

Ending Loan Loss Reserves	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9
Q1 Acquisitions									
Q2 Acquisitions									
Q3 Acquisitions									
Q4 Acquisitions									
Q5 Acquisitions									
Q6 Acquisitions									
Q7 Acquisitions									
Q8 Acquisitions									
Q9 Acquisitions									

Net Charge-offs	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9
Q1 Acquisitions									
Q2 Acquisitions									
Q3 Acquisitions									
Q4 Acquisitions									
Q5 Acquisitions									
Q6 Acquisitions									
Q7 Acquisitions									
Q8 Acquisitions									
Q9 Acquisitions									

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

(\$s in millions)

Multifamily - Income Statement (SEVERELY ADVERSE)	Most Recent Quarter	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Nine Quarter Cumulative Total
1 Net interest income ¹											
2 Management and guaranty fee income											
3 Other non-interest income											
4 Total revenue											
5 REO (foreclosed property exp.)											
6 Other expenses ²											
7 Pre-provision net revenue											
8 (Provision) benefit for credit losses											
9 Derivatives gains (losses)											
10 Gains (losses) on loans											
11 Other fair value gains (losses)											
12 Global market shock impact on trading securities and held-for-sale loans ³											
13 Pre-Tax income (loss)											
14 (Provision) benefit for federal income taxes											
15 Extraordinary gains (losses), net of tax effect											
16 Net income (loss)											
17 Global market shock impact on available-for-sale securities											
18 Other comprehensive income											
19 Comprehensive income (loss)											

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

² Includes operational risk losses, administrative expenses, gains from partnership investments.

³ Includes counterparty default risk losses.

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

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

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

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

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

¹ Includes property sales and other run-off/prepayments.

² Guaranty fee income divided by weighted average portfolio balance.

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

Credit Risk Transfers - Quarterly (SEVERELY ADVERSE)		Most Recent Quarter	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Nine Quarter Cumulative Total
(\$s in millions)												
Single-Family												
CAS/STACR (Non-REMIC/Non-Trust)												
1	Interest Expense											
2	Fair Value Gain (Loss)											
3	Other Expenses											
4	Benefits											
CAS/STACR (REMIC/Trust)												
5	Interest Expense											
6	Other Expenses											
7	Benefits											
CIRT/ACIS												
8	Premium Expense											
9	Other Expenses											
10	Benefits											
OTHER												
11	Fair Value Gain (Loss)											
12	Other Expenses											
13	Benefits											
14 Total Single-Family Income (Loss)												
Multifamily												
MCAS/MSCR ¹												
15	Interest Expense											
16	Other Expenses											
17	Benefits											
MCIRT/MCIP												
18	Premium Expense											
19	Other Expenses											
20	Benefits											
Other ²												
21	Credit Expense											
22	Other Expenses											
23	Benefits											
24 Total Multifamily Income (Loss)												
25 Total Income (Loss)												
NEW CRT ISSUANCES - Single-Family												
26	New SF Reinsurance Transactions (Risk-In-Force)											
27	New SF Capital Markets Transactions (Risk-In-Force)											
28	SF Other New Transactions (Risk-In-Force)											
29	Reference Pool Related to New SF CRT Issuances (Quarter)											
30 Total Outstanding SF Reference Pool at End of Quarter												
NEW CRT ISSUANCES - Multifamily												
31	New MF Reinsurance Transactions (Risk-In-Force)											
32	New MF Capital Markets Transactions (Risk-In-Force)											
33	MF Other New Transactions (Risk-In-Force)											
34	Reference Pool Related to New MF CRT Issuances (Quarter)											
35 Total Outstanding MF Reference Pool at End of Quarter												

1. Multifamily Capital Markets transactions exclude K-Deals and similar transactions.
2. Includes DUS, K-Deals, SB, and other similar multifamily transactions.

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

CRT Benefits - Quarterly (SEVERELY ADVERSE)	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Nine Quarter Cumulative Total
--	----	----	----	----	----	----	----	----	----	--

(\$s in millions)

Single-Family

CAS/STACR

- 1 2024 and future (prospective) transactions
- 2 2023 transactions
- 3 2022 transactions
- 4 2021 transactions
- 5 2020 and prior transactions

CIRT/ACIS

- 6 2024 and future (prospective) transactions
- 7 2023 transactions
- 8 2022 transactions
- 9 2021 transactions
- 10 2020 and prior transactions

OTHER (Lender Risk Share/Senior Sub)

- 11 All transactions

12 Total Single-Family Benefits*

** These figures should tie to the sum of lines 4, 7, 10, and 13 on the existing "CRT Summary" template.*

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

Cumulative Projected Financial Metrics (Q1 2024 - Q1 2026)

Results without establishing valuation allowance on deferred tax assets		Impact of establishing valuation allowance on deferred tax assets	Results with establishing valuation allowance on deferred tax assets	
Billions of dollars	Percent of average assets ⁶		Billions of dollars	Percent of average assets ⁶

- 1 Pre-provision net revenue¹
- 2 (Provision) benefit for credit losses
- 3 Mark-to-market gains (losses)²
- 4 Global market shock impact on trading securities
and counterparty
- 5 Net income before taxes
- 6 (Provision) benefit for taxes
- 7 Other comprehensive income (loss)³
- 8 Total comprehensive income (loss)

- 9 Net Worth as of March 31, 2026
- 10 CET1 Capital as of March 31, 2026

- 11 Credit losses⁴
- 12 Credit losses (% of average portfolio balance)⁵

¹ Includes net interest income, 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.

⁵ Average portfolio balance over the nine-quarter planning horizon.

⁶ Average total assets over the nine-quarter planning horizon.

Appendix 2: Baseline Scenario - Domestic

Date	Real GDP growth	Nominal GDP growth	Real disposable income growth	Nominal disposable income growth	Unemployment rate	CPI inflation rate	3-month Treasury rate	5-year Treasury yield	10-year 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)
2009 Q1	-4.5	-4.8	-0.3	-3.0	8.3	-2.7	0.2	1.9	3.2	9.1	5.1	3.3	8,044	139	207	56.7
2009 Q2	-0.7	-1.4	2.7	4.3	9.3	2.1	0.2	2.3	3.7	8.1	5.0	3.3	9,343	139	170	42.3
2009 Q3	1.4	1.9	-4.8	-2.1	9.6	3.5	0.2	2.5	3.8	6.5	5.2	3.3	10,813	140	165	31.3
2009 Q4	4.4	5.7	0.6	3.7	9.9	3.2	0.1	2.3	3.7	5.8	4.9	3.3	11,385	141	154	30.7
2010 Q1	2.0	3.1	2.4	4.0	9.8	0.6	0.1	2.4	3.9	5.6	5.0	3.3	12,033	139	159	27.3
2010 Q2	3.9	6.0	6.8	7.5	9.6	-0.1	0.1	2.3	3.6	5.4	4.9	3.3	10,646	140	171	45.8
2010 Q3	3.1	4.4	2.2	3.0	9.5	1.2	0.2	1.6	2.9	4.8	4.4	3.3	11,814	137	170	32.9
2010 Q4	2.1	4.5	1.5	4.2	9.5	3.3	0.1	1.5	3.0	4.7	4.4	3.3	13,132	136	172	23.5
2011 Q1	-0.9	1.1	4.1	7.6	9.0	4.3	0.1	2.1	3.5	5.0	4.8	3.3	13,909	133	178	29.4
2011 Q2	2.7	5.5	-0.8	3.2	9.1	4.6	0.0	1.8	3.3	4.8	4.7	3.3	13,844	134	175	22.7
2011 Q3	-0.1	2.3	2.1	4.1	9.0	2.6	0.0	1.1	2.5	4.5	4.3	3.3	11,677	134	172	48.0
2011 Q4	4.6	5.1	0.9	2.2	8.6	1.8	0.0	1.0	2.1	4.8	4.0	3.3	13,019	134	183	45.5
2012 Q1	3.4	5.8	6.3	9.1	8.3	2.3	0.1	0.9	2.1	4.4	3.9	3.3	14,628	135	183	23.0
2012 Q2	1.8	3.5	2.7	3.7	8.2	0.8	0.1	0.8	1.8	4.3	3.8	3.3	14,100	139	182	26.7
2012 Q3	0.6	2.8	-3.1	-2.0	8.0	1.8	0.1	0.7	1.6	3.9	3.6	3.3	14,895	142	185	20.5
2012 Q4	0.5	2.5	11.6	14.1	7.8	2.7	0.1	0.7	1.7	3.6	3.4	3.3	14,835	145	188	22.7
2013 Q1	4.0	5.7	-14.9	-13.7	7.7	1.6	0.1	0.8	1.9	3.7	3.5	3.3	16,396	149	190	19.0
2013 Q2	1.1	1.9	3.1	3.3	7.5	-0.4	0.1	0.9	2.0	3.8	3.7	3.3	16,771	152	201	20.5
2013 Q3	3.4	5.5	1.4	3.1	7.2	2.2	0.0	1.5	2.7	4.7	4.4	3.3	17,718	156	213	17.0
2013 Q4	3.5	5.7	0.6	2.0	6.9	1.5	0.1	1.4	2.8	4.5	4.3	3.3	19,413	159	212	20.3
2014 Q1	-1.4	0.1	4.7	6.7	6.7	2.5	0.0	1.6	2.8	4.4	4.4	3.3	19,711	161	209	21.4
2014 Q2	5.3	7.7	5.1	7.0	6.2	2.1	0.0	1.7	2.7	4.0	4.2	3.3	20,569	162	219	17.0
2014 Q3	5.0	6.7	3.8	5.0	6.1	1.0	0.0	1.7	2.5	3.9	4.1	3.3	20,459	165	223	17.0
2014 Q4	2.0	2.4	5.8	5.3	5.7	-1.0	0.0	1.6	2.3	4.0	4.0	3.3	21,425	167	230	26.3
2015 Q1	3.7	3.4	5.6	3.7	5.5	-2.6	0.0	1.5	2.0	3.9	3.7	3.3	21,708	169	241	22.4
2015 Q2	2.5	4.9	1.2	3.2	5.4	2.8	0.0	1.5	2.2	3.9	3.8	3.3	21,631	171	246	18.9
2015 Q3	1.6	2.7	2.2	3.3	5.1	1.5	0.0	1.6	2.3	4.3	4.0	3.3	19,959	174	246	40.7
2015 Q4	0.7	0.7	2.3	2.0	5.0	0.0	0.1	1.6	2.2	4.4	3.9	3.3	21,101	176	244	24.4
2016 Q1	2.3	2.0	3.3	3.5	4.9	-0.2	0.3	1.4	2.0	4.5	3.7	3.5	21,179	178	239	28.1
2016 Q2	1.3	4.1	-0.8	1.7	4.9	3.2	0.3	1.3	1.8	3.9	3.6	3.5	21,622	180	248	25.8
2016 Q3	2.9	3.9	2.3	3.7	4.9	1.7	0.3	1.2	1.6	3.5	3.4	3.5	22,469	183	256	18.1
2016 Q4	2.2	4.2	2.6	4.5	4.8	2.6	0.4	1.7	2.2	3.9	3.8	3.5	23,277	186	257	22.5
2017 Q1	2.0	4.1	4.2	6.7	4.6	2.8	0.6	2.0	2.5	4.0	4.2	3.8	24,508	188	252	13.1
2017 Q2	2.3	3.3	4.4	5.3	4.4	0.5	0.9	1.8	2.3	3.8	4.0	4.0	25,125	191	272	16.0
2017 Q3	3.2	5.3	2.8	4.3	4.3	1.9	1.0	1.8	2.3	3.7	3.9	4.3	26,149	194	267	16.0
2017 Q4	4.6	7.2	2.5	5.0	4.2	3.2	1.2	2.1	2.4	3.7	3.9	4.3	27,673	197	271	13.1

Appendix 2: Baseline Scenario - Domestic (Cont.)

Date	Real GDP growth	Nominal GDP growth	Real disposable income growth	Nominal disposable income growth	Unemployment rate	CPI inflation rate	3-month Treasury rate	5-year Treasury yield	10-year 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)
2018 Q1	3.3	5.9	4.3	7.2	4.0	3.4	1.6	2.5	2.8	4.1	4.3	4.5	27,383	200	274	37.3
2018 Q2	2.1	5.1	3.6	5.8	3.9	2.2	1.8	2.8	2.9	4.5	4.5	4.8	28,314	202	275	23.6
2018 Q3	2.5	4.3	4.3	5.7	3.8	1.6	2.0	2.8	2.9	4.5	4.6	5.0	30,190	204	275	16.1
2018 Q4	0.6	2.3	3.9	5.5	3.8	1.6	2.3	2.9	3.0	4.8	4.8	5.3	25,725	206	272	36.1
2019 Q1	2.2	3.6	4.7	5.6	3.9	1.1	2.4	2.5	2.7	4.5	4.4	5.5	29,194	207	284	25.5
2019 Q2	3.4	5.4	-0.3	1.8	3.6	2.9	2.3	2.1	2.4	4.0	4.0	5.5	30,244	209	297	20.6
2019 Q3	4.6	5.9	2.8	3.8	3.6	1.4	2.0	1.7	1.8	3.4	3.7	5.3	30,442	212	294	24.6
2019 Q4	2.6	3.9	2.3	3.9	3.6	2.8	1.6	1.6	1.8	3.3	3.7	4.8	33,035	215	291	20.6
2020 Q1	-5.3	-3.5	2.4	3.7	3.8	1.4	1.1	1.2	1.4	3.4	3.5	4.4	25,985	218	296	82.7
2020 Q2	-28.0	-29.2	45.7	43.2	13.0	-3.8	0.1	0.4	0.7	3.4	3.2	3.3	31,577	220	289	57.1
2020 Q3	34.8	39.7	-13.3	-10.4	8.8	4.6	0.1	0.3	0.6	2.4	3.0	3.3	34,306	227	295	33.6
2020 Q4	4.2	7.1	-7.7	-5.8	6.7	2.8	0.1	0.4	0.9	2.3	2.8	3.3	39,220	236	305	40.3
2021 Q1	5.2	10.9	56.0	63.5	6.2	4.2	0.1	0.6	1.4	2.4	2.9	3.3	41,603	243	309	37.2
2021 Q2	6.2	12.8	-27.6	-23.1	5.9	7.5	0.0	0.8	1.6	2.6	3.0	3.3	44,904	255	317	27.6
2021 Q3	3.3	9.5	-5.2	0.1	5.1	6.6	0.0	0.8	1.4	2.4	2.9	3.3	44,706	266	341	25.7
2021 Q4	7.0	14.6	-5.6	0.7	4.2	8.8	0.1	1.2	1.6	2.7	3.1	3.3	48,634	276	354	31.1
2022 Q1	-2.0	6.2	-9.8	-2.9	3.8	9.2	0.3	1.9	2.0	3.5	3.8	3.3	45,847	290	346	36.5
2022 Q2	-0.6	8.5	-1.4	5.7	3.6	9.7	1.1	3.0	3.0	4.9	5.3	3.9	37,977	298	345	34.8
2022 Q3	2.7	7.2	3.6	8.5	3.5	5.5	2.7	3.3	3.2	5.3	5.6	5.4	36,098	296	351	32.6
2022 Q4	2.6	6.5	2.2	6.4	3.6	4.2	4.0	4.1	3.9	6.1	6.7	6.8	38,521	296	350	33.6
2023 Q1	2.2	6.3	10.8	15.5	3.5	3.8	4.6	3.8	3.7	5.6	6.4	7.7	41,137	299	347	26.5
2023 Q2	2.1	3.8	3.3	5.8	3.6	2.7	5.1	3.7	3.7	5.7	6.5	8.2	44,412	303	354	20.1
2023 Q3	4.9	8.3	0.3	2.9	3.7	3.6	5.3	4.3	4.2	6.0	7.0	8.4	42,789	309	349	18.9
2023 Q4	1.5	3.6	2.2	4.4	3.7	2.8	5.3	4.5	4.5	6.2	7.3	8.5	47,788	311	349	21.7
2024 Q1	1.0	3.2	2.5	4.6	3.9	2.4	5.3	4.2	4.1	5.8	6.5	8.4	47,788	312	350	24.6
2024 Q2	0.7	2.9	1.8	4.0	4.1	2.3	5.0	4.0	4.0	5.7	6.1	8.1	47,788	313	352	26.0
2024 Q3	0.9	3.1	1.8	4.0	4.2	2.4	4.6	3.9	3.9	5.7	5.8	7.7	47,788	314	353	26.8
2024 Q4	1.5	3.6	2.0	4.1	4.3	2.3	4.2	3.8	3.8	5.6	5.6	7.3	47,788	315	354	27.2
2025 Q1	1.8	4.1	2.4	4.5	4.3	2.2	3.9	3.6	3.7	5.5	5.4	7.0	47,788	316	356	27.5
2025 Q2	2.0	4.2	2.3	4.3	4.2	2.2	3.6	3.6	3.7	5.5	5.3	6.7	47,788	318	357	27.7
2025 Q3	2.1	4.3	2.2	4.3	4.2	2.3	3.4	3.5	3.6	5.5	5.3	6.4	47,788	319	358	27.9
2025 Q4	2.1	4.3	2.2	4.2	4.1	2.3	3.2	3.4	3.6	5.5	5.2	6.3	47,788	320	360	28.0
2026 Q1	2.1	4.3	2.2	4.3	4.1	2.2	3.2	3.3	3.6	5.5	5.2	6.2	47,788	321	361	28.1
2026 Q2	2.0	3.9	2.0	4.2	4.1	2.2	3.2	3.3	3.6	5.5	5.2	6.2	47,788	322	362	28.2
2026 Q3	2.0	3.9	1.9	4.1	4.1	2.2	3.2	3.2	3.6	5.5	5.2	6.2	47,788	323	364	28.2
2026 Q4	1.9	3.9	1.9	4.1	4.1	2.2	3.2	3.2	3.6	5.5	5.1	6.2	47,788	325	365	28.3
2027 Q1	1.9	3.9	2.0	4.1	4.1	2.2	3.1	3.1	3.6	5.5	5.1	6.2	47,788	326	366	28.3

Appendix 3: Baseline Scenario - International

Date	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)
2009 Q1	-11.9	-1.0	1.326	4.2	-1.4	94.3	-18.0	-3.4	99.2	-7.9	-0.2	1.430
2009 Q2	-0.2	0.0	1.402	15.0	2.3	92.3	8.1	-1.7	96.4	-1.3	2.3	1.645
2009 Q3	1.6	1.1	1.463	12.6	4.1	91.3	-0.1	-1.5	89.5	0.2	3.6	1.600
2009 Q4	1.9	1.6	1.433	9.7	5.0	90.7	5.0	-1.4	93.1	1.2	2.8	1.617
2010 Q1	1.5	1.8	1.353	9.6	4.4	89.8	4.2	1.0	93.4	3.8	4.2	1.519
2010 Q2	3.9	1.9	1.229	9.5	3.4	91.1	5.0	-1.4	88.5	4.4	3.3	1.495
2010 Q3	1.8	1.6	1.360	8.8	4.2	88.4	7.4	-2.0	83.5	2.2	2.2	1.573
2010 Q4	2.4	2.6	1.327	9.6	7.5	87.4	-3.2	1.3	81.7	0.4	3.9	1.539
2011 Q1	3.5	3.7	1.418	9.6	6.2	86.5	-4.2	-0.1	82.8	1.0	7.0	1.605
2011 Q2	0.0	3.1	1.452	6.8	5.4	85.3	-3.4	-0.8	80.6	0.5	4.6	1.607
2011 Q3	0.5	1.3	1.345	5.6	5.3	87.4	10.1	0.4	77.0	1.2	3.5	1.562
2011 Q4	-1.6	3.5	1.297	6.5	3.0	87.3	-0.5	-0.6	77.0	0.6	3.4	1.554
2012 Q1	-1.0	2.9	1.333	7.6	3.2	86.3	5.6	2.3	82.4	3.5	2.3	1.599
2012 Q2	-0.9	2.2	1.267	5.8	3.9	88.1	-3.6	-1.4	79.8	-0.5	1.9	1.569
2012 Q3	-0.4	1.5	1.286	6.6	2.2	86.3	-1.5	-2.0	77.9	3.9	2.1	1.613
2012 Q4	-1.8	2.5	1.319	7.2	3.5	86.0	-0.2	0.1	86.6	-0.4	4.2	1.626
2013 Q1	-1.4	1.3	1.282	6.7	4.5	86.3	5.6	0.6	94.2	1.1	3.0	1.519
2013 Q2	2.2	0.2	1.301	6.2	2.8	87.2	3.7	0.0	99.2	2.9	1.5	1.521
2013 Q3	1.2	1.1	1.354	7.7	3.7	86.6	3.9	2.7	98.3	3.4	2.1	1.618
2013 Q4	1.2	0.5	1.378	6.8	3.8	85.8	-0.4	2.4	105.3	2.8	1.7	1.657
2014 Q1	1.6	0.9	1.378	6.1	1.4	86.9	3.2	1.1	103.0	3.3	1.8	1.668
2014 Q2	0.9	-0.4	1.369	7.4	2.6	86.7	-7.0	8.2	101.3	3.6	1.4	1.711
2014 Q3	1.9	0.1	1.263	6.6	2.5	87.0	0.4	1.9	109.7	3.0	0.8	1.622
2014 Q4	1.4	0.0	1.210	5.8	0.9	88.1	1.9	-0.8	119.9	2.9	-0.3	1.558
2015 Q1	2.6	-0.8	1.074	6.3	0.9	88.1	6.2	0.1	120.0	1.2	-1.3	1.485
2015 Q2	1.9	2.4	1.115	6.9	2.8	88.5	0.6	1.2	122.1	2.4	0.8	1.573
2015 Q3	1.6	-0.2	1.116	6.5	2.8	91.1	0.4	0.1	119.8	1.6	0.7	1.512
2015 Q4	1.8	-0.4	1.086	5.7	1.1	92.3	-0.7	-0.8	120.3	2.3	0.0	1.475
2016 Q1	2.4	-1.4	1.139	6.9	3.1	91.8	2.9	-0.5	112.4	1.5	0.0	1.438
2016 Q2	0.9	1.5	1.103	7.0	2.9	94.2	-0.5	0.0	102.8	2.3	0.7	1.324
2016 Q3	1.9	1.3	1.124	6.6	1.2	93.7	0.8	-0.4	101.2	1.5	2.0	1.302
2016 Q4	3.2	1.7	1.055	5.8	1.7	97.6	0.6	2.2	116.8	2.6	2.1	1.234
2017 Q1	2.8	2.6	1.070	6.2	1.3	95.2	3.2	-0.7	111.4	3.4	3.8	1.254
2017 Q2	3.2	0.5	1.141	6.7	2.2	94.7	1.6	0.7	112.4	2.6	3.1	1.300
2017 Q3	3.0	1.1	1.181	5.8	2.3	93.7	3.3	0.4	112.6	2.6	2.2	1.340
2017 Q4	3.2	1.6	1.202	6.0	2.5	91.1	0.5	1.8	112.7	2.9	3.0	1.353

Appendix 3: Baseline Scenario – International (Cont.)

Date	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)
2018 Q1	0.0	1.8	1.232	8.4	2.5	89.1	0.3	1.9	106.2	0.2	2.5	1.403
2018 Q2	2.3	2.3	1.168	6.4	1.8	93.5	1.4	-1.1	110.7	0.7	1.9	1.320
2018 Q3	-0.1	2.8	1.162	2.9	3.0	97.2	-2.2	1.9	113.5	1.3	2.6	1.305
2018 Q4	2.7	0.9	1.146	5.3	1.2	96.3	-0.5	0.7	109.7	0.5	2.1	1.276
2019 Q1	2.5	-0.4	1.123	8.2	1.1	94.5	0.9	-0.4	110.7	2.9	1.0	1.303
2019 Q2	1.4	2.3	1.137	6.4	4.9	96.4	1.5	1.1	107.8	1.3	2.5	1.270
2019 Q3	0.7	1.1	1.091	0.6	3.5	99.8	0.6	0.0	108.1	2.9	1.8	1.231
2019 Q4	0.2	1.1	1.123	3.9	6.7	98.0	-10.6	1.5	108.7	-0.1	0.4	1.327
2020 Q1	-12.9	-0.3	1.102	-23.5	3.8	101.7	2.1	0.0	107.5	-10.4	2.2	1.245
2020 Q2	-38.0	-1.1	1.124	35.8	-2.1	97.5	-27.6	-0.9	107.8	-59.7	-2.0	1.237
2020 Q3	57.5	0.2	1.172	20.5	2.0	95.7	24.0	-0.5	105.6	86.0	1.9	1.292
2020 Q4	-0.1	0.1	1.223	12.8	0.2	92.9	7.6	-2.2	103.2	5.5	0.1	1.366
2021 Q1	1.9	4.9	1.174	5.6	3.2	93.6	1.1	1.6	110.6	-4.0	2.7	1.380
2021 Q2	8.6	2.2	1.185	5.6	1.9	91.6	1.5	-1.7	111.1	32.7	3.3	1.381
2021 Q3	8.6	4.3	1.158	0.7	0.9	92.9	-1.7	1.8	111.5	7.0	5.0	1.347
2021 Q4	2.0	7.2	1.132	7.2	3.6	92.4	4.6	0.4	115.2	6.2	8.6	1.350
2022 Q1	2.7	10.9	1.109	4.2	2.0	92.9	-2.4	3.1	121.4	2.1	8.1	1.315
2022 Q2	3.3	9.9	1.047	-1.1	6.1	98.3	4.4	4.3	135.7	0.3	14.9	1.216
2022 Q3	1.8	9.3	0.978	6.7	2.2	103.9	-0.4	3.7	144.7	-0.3	8.6	1.113
2022 Q4	-0.4	9.7	1.070	1.9	0.7	101.5	1.0	4.5	131.8	0.4	11.4	1.208
2023 Q1	0.4	3.2	1.087	9.3	0.3	100.9	5.0	2.1	132.8	1.0	6.0	1.237
2023 Q2	0.5	2.8	1.092	6.6	1.0	104.7	3.6	3.2	144.5	0.2	7.6	1.271
2023 Q3	-0.5	4.4	1.058	2.5	2.8	106.7	-2.9	2.8	149.4	-0.5	2.0	1.221
2023 Q4	0.0	0.6	1.106	4.6	2.0	104.4	-0.8	2.6	140.9	1.1	3.3	1.274
2024 Q1	0.4	2.3	1.106	4.7	2.0	104.4	0.7	2.4	140.9	0.2	2.7	1.274
2024 Q2	0.8	2.2	1.106	4.7	2.0	104.4	1.8	2.2	140.9	-0.4	2.4	1.274
2024 Q3	1.0	2.1	1.106	4.7	2.1	104.4	2.2	2.0	140.9	-0.5	2.2	1.274
2024 Q4	1.2	1.9	1.106	4.6	2.2	104.4	1.8	1.8	140.9	0.1	2.1	1.274
2025 Q1	1.5	1.8	1.106	4.5	2.3	104.4	0.9	1.6	140.9	1.3	2.0	1.274
2025 Q2	1.7	1.6	1.106	4.3	2.4	104.4	0.3	1.4	140.9	2.0	1.9	1.274
2025 Q3	1.7	1.5	1.106	4.3	2.5	104.4	0.1	1.3	140.9	2.2	1.8	1.274
2025 Q4	1.5	1.4	1.106	4.3	2.4	104.4	0.2	1.3	140.9	2.0	1.7	1.274
2026 Q1	1.2	1.3	1.106	4.3	2.4	104.4	0.4	1.3	140.9	1.6	1.6	1.274
2026 Q2	1.0	1.3	1.106	4.3	2.3	104.4	0.5	1.4	140.9	1.4	1.6	1.274
2026 Q3	1.0	1.3	1.106	4.3	2.2	104.4	0.6	1.4	140.9	1.3	1.6	1.274
2026 Q4	1.0	1.3	1.106	4.2	2.2	104.4	0.5	1.4	140.9	1.3	1.6	1.274
2027 Q1	1.1	1.3	1.106	4.1	2.3	104.4	0.3	1.4	140.9	1.4	1.6	1.274

Appendix 4: Severely Adverse Scenario - Domestic

Date	Real GDP growth	Nominal GDP growth	Real disposable income growth	Nominal disposable income growth	Unemployment rate	CPI inflation rate	3-month Treasury rate	5-year Treasury yield	10-year 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)
2009 Q1	-4.5	-4.8	-0.3	-3.0	8.3	-2.7	0.2	1.9	3.2	9.1	5.1	3.3	8,044	139	207	56.7
2009 Q2	-0.7	-1.4	2.7	4.3	9.3	2.1	0.2	2.3	3.7	8.1	5.0	3.3	9,343	139	170	42.3
2009 Q3	1.4	1.9	-4.8	-2.1	9.6	3.5	0.2	2.5	3.8	6.5	5.2	3.3	10,813	140	165	31.3
2009 Q4	4.4	5.7	0.6	3.7	9.9	3.2	0.1	2.3	3.7	5.8	4.9	3.3	11,385	141	154	30.7
2010 Q1	2.0	3.1	2.4	4.0	9.8	0.6	0.1	2.4	3.9	5.6	5.0	3.3	12,033	139	159	27.3
2010 Q2	3.9	6.0	6.8	7.5	9.6	-0.1	0.1	2.3	3.6	5.4	4.9	3.3	10,646	140	171	45.8
2010 Q3	3.1	4.4	2.2	3.0	9.5	1.2	0.2	1.6	2.9	4.8	4.4	3.3	11,814	137	170	32.9
2010 Q4	2.1	4.5	1.5	4.2	9.5	3.3	0.1	1.5	3.0	4.7	4.4	3.3	13,132	136	172	23.5
2011 Q1	-0.9	1.1	4.1	7.6	9.0	4.3	0.1	2.1	3.5	5.0	4.8	3.3	13,909	133	178	29.4
2011 Q2	2.7	5.5	-0.8	3.2	9.1	4.6	0.0	1.8	3.3	4.8	4.7	3.3	13,844	134	175	22.7
2011 Q3	-0.1	2.3	2.1	4.1	9.0	2.6	0.0	1.1	2.5	4.5	4.3	3.3	11,677	134	172	48.0
2011 Q4	4.6	5.1	0.9	2.2	8.6	1.8	0.0	1.0	2.1	4.8	4.0	3.3	13,019	134	183	45.5
2012 Q1	3.4	5.8	6.3	9.1	8.3	2.3	0.1	0.9	2.1	4.4	3.9	3.3	14,628	135	183	23.0
2012 Q2	1.8	3.5	2.7	3.7	8.2	0.8	0.1	0.8	1.8	4.3	3.8	3.3	14,100	139	182	26.7
2012 Q3	0.6	2.8	-3.1	-2.0	8.0	1.8	0.1	0.7	1.6	3.9	3.6	3.3	14,895	142	185	20.5
2012 Q4	0.5	2.5	11.6	14.1	7.8	2.7	0.1	0.7	1.7	3.6	3.4	3.3	14,835	145	188	22.7
2013 Q1	4.0	5.7	-14.9	-13.7	7.7	1.6	0.1	0.8	1.9	3.7	3.5	3.3	16,396	149	190	19.0
2013 Q2	1.1	1.9	3.1	3.3	7.5	-0.4	0.1	0.9	2.0	3.8	3.7	3.3	16,771	152	201	20.5
2013 Q3	3.4	5.5	1.4	3.1	7.2	2.2	0.0	1.5	2.7	4.7	4.4	3.3	17,718	156	213	17.0
2013 Q4	3.5	5.7	0.6	2.0	6.9	1.5	0.1	1.4	2.8	4.5	4.3	3.3	19,413	159	212	20.3
2014 Q1	-1.4	0.1	4.7	6.7	6.7	2.5	0.0	1.6	2.8	4.4	4.4	3.3	19,711	161	209	21.4
2014 Q2	5.3	7.7	5.1	7.0	6.2	2.1	0.0	1.7	2.7	4.0	4.2	3.3	20,569	162	219	17.0
2014 Q3	5.0	6.7	3.8	5.0	6.1	1.0	0.0	1.7	2.5	3.9	4.1	3.3	20,459	165	223	17.0
2014 Q4	2.0	2.4	5.8	5.3	5.7	-1.0	0.0	1.6	2.3	4.0	4.0	3.3	21,425	167	230	26.3
2015 Q1	3.7	3.4	5.6	3.7	5.5	-2.6	0.0	1.5	2.0	3.9	3.7	3.3	21,708	169	241	22.4
2015 Q2	2.5	4.9	1.2	3.2	5.4	2.8	0.0	1.5	2.2	3.9	3.8	3.3	21,631	171	246	18.9
2015 Q3	1.6	2.7	2.2	3.3	5.1	1.5	0.0	1.6	2.3	4.3	4.0	3.3	19,959	174	246	40.7
2015 Q4	0.7	0.7	2.3	2.0	5.0	0.0	0.1	1.6	2.2	4.4	3.9	3.3	21,101	176	244	24.4
2016 Q1	2.3	2.0	3.3	3.5	4.9	-0.2	0.3	1.4	2.0	4.5	3.7	3.5	21,179	178	239	28.1
2016 Q2	1.3	4.1	-0.8	1.7	4.9	3.2	0.3	1.3	1.8	3.9	3.6	3.5	21,622	180	248	25.8
2016 Q3	2.9	3.9	2.3	3.7	4.9	1.7	0.3	1.2	1.6	3.5	3.4	3.5	22,469	183	256	18.1
2016 Q4	2.2	4.2	2.6	4.5	4.8	2.6	0.4	1.7	2.2	3.9	3.8	3.5	23,277	186	257	22.5
2017 Q1	2.0	4.1	4.2	6.7	4.6	2.8	0.6	2.0	2.5	4.0	4.2	3.8	24,508	188	252	13.1
2017 Q2	2.3	3.3	4.4	5.3	4.4	0.5	0.9	1.8	2.3	3.8	4.0	4.0	25,125	191	272	16.0
2017 Q3	3.2	5.3	2.8	4.3	4.3	1.9	1.0	1.8	2.3	3.7	3.9	4.3	26,149	194	267	16.0
2017 Q4	4.6	7.2	2.5	5.0	4.2	3.2	1.2	2.1	2.4	3.7	3.9	4.3	27,673	197	271	13.1

Appendix 4: Severely Adverse Scenario - Domestic (Cont.)

Date	Real GDP growth	Nominal GDP growth	Real disposable income growth	Nominal disposable income growth	Unemployment rate	CPI inflation rate	3-month Treasury rate	5-year Treasury yield	10-year 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)
2018 Q1	3.3	5.9	4.3	7.2	4.0	3.4	1.6	2.5	2.8	4.1	4.3	4.5	27,383	200	274	37.3
2018 Q2	2.1	5.1	3.6	5.8	3.9	2.2	1.8	2.8	2.9	4.5	4.5	4.8	28,314	202	275	23.6
2018 Q3	2.5	4.3	4.3	5.7	3.8	1.6	2.0	2.8	2.9	4.5	4.6	5.0	30,190	204	275	16.1
2018 Q4	0.6	2.3	3.9	5.5	3.8	1.6	2.3	2.9	3.0	4.8	4.8	5.3	25,725	206	272	36.1
2019 Q1	2.2	3.6	4.7	5.6	3.9	1.1	2.4	2.5	2.7	4.5	4.4	5.5	29,194	207	284	25.5
2019 Q2	3.4	5.4	-0.3	1.8	3.6	2.9	2.3	2.1	2.4	4.0	4.0	5.5	30,244	209	297	20.6
2019 Q3	4.6	5.9	2.8	3.8	3.6	1.4	2.0	1.7	1.8	3.4	3.7	5.3	30,442	212	294	24.6
2019 Q4	2.6	3.9	2.3	3.9	3.6	2.8	1.6	1.6	1.8	3.3	3.7	4.8	33,035	215	291	20.6
2020 Q1	-5.3	-3.5	2.4	3.7	3.8	1.4	1.1	1.2	1.4	3.4	3.5	4.4	25,985	218	296	82.7
2020 Q2	-28.0	-29.2	45.7	43.2	13.0	-3.8	0.1	0.4	0.7	3.4	3.2	3.3	31,577	220	289	57.1
2020 Q3	34.8	39.7	-13.3	-10.4	8.8	4.6	0.1	0.3	0.6	2.4	3.0	3.3	34,306	227	295	33.6
2020 Q4	4.2	7.1	-7.7	-5.8	6.7	2.8	0.1	0.4	0.9	2.3	2.8	3.3	39,220	236	305	40.3
2021 Q1	5.2	10.9	56.0	63.5	6.2	4.2	0.1	0.6	1.4	2.4	2.9	3.3	41,603	243	309	37.2
2021 Q2	6.2	12.8	-27.6	-23.1	5.9	7.5	0.0	0.8	1.6	2.6	3.0	3.3	44,904	255	317	27.6
2021 Q3	3.3	9.5	-5.2	0.1	5.1	6.6	0.0	0.8	1.4	2.4	2.9	3.3	44,706	266	341	25.7
2021 Q4	7.0	14.6	-5.6	0.7	4.2	8.8	0.1	1.2	1.6	2.7	3.1	3.3	48,634	276	354	31.1
2022 Q1	-2.0	6.2	-9.8	-2.9	3.8	9.2	0.3	1.9	2.0	3.5	3.8	3.3	45,847	290	346	36.5
2022 Q2	-0.6	8.5	-1.4	5.7	3.6	9.7	1.1	3.0	3.0	4.9	5.3	3.9	37,977	298	345	34.8
2022 Q3	2.7	7.2	3.6	8.5	3.5	5.5	2.7	3.3	3.2	5.3	5.6	5.4	36,098	296	351	32.6
2022 Q4	2.6	6.5	2.2	6.4	3.6	4.2	4.0	4.1	3.9	6.1	6.7	6.8	38,521	296	350	33.6
2023 Q1	2.2	6.3	10.8	15.5	3.5	3.8	4.6	3.8	3.7	5.6	6.4	7.7	41,137	299	347	26.5
2023 Q2	2.1	3.8	3.3	5.8	3.6	2.7	5.1	3.7	3.7	5.7	6.5	8.2	44,412	303	354	20.1
2023 Q3	4.9	8.3	0.3	2.9	3.7	3.6	5.3	4.3	4.2	6.0	7.0	8.4	42,789	309	349	18.9
2023 Q4	1.5	3.6	2.2	4.4	3.7	2.8	5.3	4.5	4.5	6.2	7.3	8.5	47,788	311	349	21.7
2024 Q1	-11.6	-9.9	-7.8	-6.0	5.6	2.3	2.1	0.4	1.1	5.8	4.0	5.1	26,131	261	339	65.0
2024 Q2	-6.7	-5.7	-4.0	-2.8	6.8	1.5	0.2	0.3	0.8	6.3	3.7	3.2	22,762	241	328	70.0
2024 Q3	-8.0	-7.1	-4.2	-3.2	8.1	1.3	0.1	0.4	0.8	6.5	3.8	3.1	21,799	225	314	61.4
2024 Q4	-5.9	-5.1	-2.9	-1.8	9.2	1.3	0.1	0.5	0.8	6.6	3.8	3.1	21,318	214	293	54.5
2025 Q1	-1.8	-0.7	-0.1	1.1	9.7	1.4	0.1	0.5	0.9	6.4	3.8	3.1	22,281	207	269	49.1
2025 Q2	0.6	1.9	1.2	2.4	9.9	1.4	0.1	0.6	1.0	6.1	3.7	3.1	23,724	202	248	44.8
2025 Q3	0.9	2.1	1.7	2.9	10.0	1.4	0.1	0.7	1.1	5.8	3.5	3.1	25,649	199	228	41.5
2025 Q4	6.5	7.6	5.3	6.6	9.5	1.5	0.1	0.7	1.2	5.5	3.4	3.1	28,056	204	209	38.8
2026 Q1	6.1	7.5	5.6	7.1	9.0	1.5	0.1	0.8	1.3	5.1	3.3	3.1	30,943	210	211	36.6
2026 Q2	5.7	6.6	5.3	6.9	8.5	1.5	0.1	0.9	1.3	4.8	3.2	3.1	33,831	216	213	34.9
2026 Q3	5.4	6.5	5.0	6.6	8.1	1.6	0.1	1.0	1.4	4.5	3.1	3.1	38,162	221	215	33.6
2026 Q4	5.1	6.3	4.8	6.4	7.8	1.6	0.1	1.1	1.5	4.1	3.1	3.1	42,975	227	217	32.5
2027 Q1	4.8	6.2	4.5	6.1	7.4	1.6	0.1	1.2	1.5	3.8	3.1	3.1	47,788	232	219	31.7

Appendix 5: Severely Adverse Scenario – International

Date	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)
2009 Q1	-11.9	-1.0	1.326	4.2	-1.4	94.3	-18.0	-3.4	99.2	-7.9	-0.2	1.430
2009 Q2	-0.2	0.0	1.402	15.0	2.3	92.3	8.1	-1.7	96.4	-1.3	2.3	1.645
2009 Q3	1.6	1.1	1.463	12.6	4.1	91.3	-0.1	-1.5	89.5	0.2	3.6	1.600
2009 Q4	1.9	1.6	1.433	9.7	5.0	90.7	5.0	-1.4	93.1	1.2	2.8	1.617
2010 Q1	1.5	1.8	1.353	9.6	4.4	89.8	4.2	1.0	93.4	3.8	4.2	1.519
2010 Q2	3.9	1.9	1.229	9.5	3.4	91.1	5.0	-1.4	88.5	4.4	3.3	1.495
2010 Q3	1.8	1.6	1.360	8.8	4.2	88.4	7.4	-2.0	83.5	2.2	2.2	1.573
2010 Q4	2.4	2.6	1.327	9.6	7.5	87.4	-3.2	1.3	81.7	0.4	3.9	1.539
2011 Q1	3.5	3.7	1.418	9.6	6.2	86.5	-4.2	-0.1	82.8	1.0	7.0	1.605
2011 Q2	0.0	3.1	1.452	6.8	5.4	85.3	-3.4	-0.8	80.6	0.5	4.6	1.607
2011 Q3	0.5	1.3	1.345	5.6	5.3	87.4	10.1	0.4	77.0	1.2	3.5	1.562
2011 Q4	-1.6	3.5	1.297	6.5	3.0	87.3	-0.5	-0.6	77.0	0.6	3.4	1.554
2012 Q1	-1.0	2.9	1.333	7.6	3.2	86.3	5.6	2.3	82.4	3.5	2.3	1.599
2012 Q2	-0.9	2.2	1.267	5.8	3.9	88.1	-3.6	-1.4	79.8	-0.5	1.9	1.569
2012 Q3	-0.4	1.5	1.286	6.6	2.2	86.3	-1.5	-2.0	77.9	3.9	2.1	1.613
2012 Q4	-1.8	2.5	1.319	7.2	3.5	86.0	-0.2	0.1	86.6	-0.4	4.2	1.626
2013 Q1	-1.4	1.3	1.282	6.7	4.5	86.3	5.6	0.6	94.2	1.1	3.0	1.519
2013 Q2	2.2	0.2	1.301	6.2	2.8	87.2	3.7	0.0	99.2	2.9	1.5	1.521
2013 Q3	1.2	1.1	1.354	7.7	3.7	86.6	3.9	2.7	98.3	3.4	2.1	1.618
2013 Q4	1.2	0.5	1.378	6.8	3.8	85.8	-0.4	2.4	105.3	2.8	1.7	1.657
2014 Q1	1.6	0.9	1.378	6.1	1.4	86.9	3.2	1.1	103.0	3.3	1.8	1.668
2014 Q2	0.9	-0.4	1.369	7.4	2.6	86.7	-7.0	8.2	101.3	3.6	1.4	1.711
2014 Q3	1.9	0.1	1.263	6.6	2.5	87.0	0.4	1.9	109.7	3.0	0.8	1.622
2014 Q4	1.4	0.0	1.210	5.8	0.9	88.1	1.9	-0.8	119.9	2.9	-0.3	1.558
2015 Q1	2.6	-0.8	1.074	6.3	0.9	88.1	6.2	0.1	120.0	1.2	-1.3	1.485
2015 Q2	1.9	2.4	1.115	6.9	2.8	88.5	0.6	1.2	122.1	2.4	0.8	1.573
2015 Q3	1.6	-0.2	1.116	6.5	2.8	91.1	0.4	0.1	119.8	1.6	0.7	1.512
2015 Q4	1.8	-0.4	1.086	5.7	1.1	92.3	-0.7	-0.8	120.3	2.3	0.0	1.475
2016 Q1	2.4	-1.4	1.139	6.9	3.1	91.8	2.9	-0.5	112.4	1.5	0.0	1.438
2016 Q2	0.9	1.5	1.103	7.0	2.9	94.2	-0.5	0.0	102.8	2.3	0.7	1.324
2016 Q3	1.9	1.3	1.124	6.6	1.2	93.7	0.8	-0.4	101.2	1.5	2.0	1.302
2016 Q4	3.2	1.7	1.055	5.8	1.7	97.6	0.6	2.2	116.8	2.6	2.1	1.234
2017 Q1	2.8	2.6	1.070	6.2	1.3	95.2	3.2	-0.7	111.4	3.4	3.8	1.254
2017 Q2	3.2	0.5	1.141	6.7	2.2	94.7	1.6	0.7	112.4	2.6	3.1	1.300
2017 Q3	3.0	1.1	1.181	5.8	2.3	93.7	3.3	0.4	112.6	2.6	2.2	1.340
2017 Q4	3.2	1.6	1.202	6.0	2.5	91.1	0.5	1.8	112.7	2.9	3.0	1.353

Appendix 5: Severely Adverse Scenario - International (Cont.)

Date	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)
2018 Q1	0.0	1.8	1.232	8.4	2.5	89.1	0.3	1.9	106.2	0.2	2.5	1.403
2018 Q2	2.3	2.3	1.168	6.4	1.8	93.5	1.4	-1.1	110.7	0.7	1.9	1.320
2018 Q3	-0.1	2.8	1.162	2.9	3.0	97.2	-2.2	1.9	113.5	1.3	2.6	1.305
2018 Q4	2.7	0.9	1.146	5.3	1.2	96.3	-0.5	0.7	109.7	0.5	2.1	1.276
2019 Q1	2.5	-0.4	1.123	8.2	1.1	94.5	0.9	-0.4	110.7	2.9	1.0	1.303
2019 Q2	1.4	2.3	1.137	6.4	4.9	96.4	1.5	1.1	107.8	1.3	2.5	1.270
2019 Q3	0.7	1.1	1.091	0.6	3.5	99.8	0.6	0.0	108.1	2.9	1.8	1.231
2019 Q4	0.2	1.1	1.123	3.9	6.7	98.0	-10.6	1.5	108.7	-0.1	0.4	1.327
2020 Q1	-12.9	-0.3	1.102	-23.5	3.8	101.7	2.1	0.0	107.5	-10.4	2.2	1.245
2020 Q2	-38.0	-1.1	1.124	35.8	-2.1	97.5	-27.6	-0.9	107.8	-59.7	-2.0	1.237
2020 Q3	57.5	0.2	1.172	20.5	2.0	95.7	24.0	-0.5	105.6	86.0	1.9	1.292
2020 Q4	-0.1	0.1	1.223	12.8	0.2	92.9	7.6	-2.2	103.2	5.5	0.1	1.366
2021 Q1	1.9	4.9	1.174	5.6	3.2	93.6	1.1	1.6	110.6	-4.0	2.7	1.380
2021 Q2	8.6	2.2	1.185	5.6	1.9	91.6	1.5	-1.7	111.1	32.7	3.3	1.381
2021 Q3	8.6	4.3	1.158	0.7	0.9	92.9	-1.7	1.8	111.5	7.0	5.0	1.347
2021 Q4	2.0	7.2	1.132	7.2	3.6	92.4	4.6	0.4	115.2	6.2	8.6	1.350
2022 Q1	2.7	10.9	1.109	4.2	2.0	92.9	-2.4	3.1	121.4	2.1	8.1	1.315
2022 Q2	3.3	9.9	1.047	-1.1	6.1	98.3	4.4	4.3	135.7	0.3	14.9	1.216
2022 Q3	1.8	9.3	0.978	6.7	2.2	103.9	-0.4	3.7	144.7	-0.3	8.6	1.113
2022 Q4	-0.4	9.7	1.070	1.9	0.7	101.5	1.0	4.5	131.8	0.4	11.4	1.208
2023 Q1	0.4	3.2	1.087	9.3	0.3	100.9	5.0	2.1	132.8	1.0	6.0	1.237
2023 Q2	0.5	2.8	1.092	6.6	1.0	104.7	3.6	3.2	144.5	0.2	7.6	1.271
2023 Q3	-0.5	4.4	1.058	2.5	2.8	106.7	-2.9	2.8	149.4	-0.5	2.0	1.221
2023 Q4	0.0	0.6	1.106	4.6	2.0	104.4	-0.8	2.6	140.9	1.1	3.3	1.274
2024 Q1	-4.7	1.5	1.092	-2.4	-0.1	105.8	-9.2	0.9	139.1	-3.8	2.0	1.257
2024 Q2	-4.1	0.7	1.077	-1.6	-1.8	107.3	-6.8	-0.1	138.6	-4.2	1.2	1.241
2024 Q3	-3.2	0.8	1.042	-0.2	-1.4	110.9	-5.0	-0.8	138.4	-3.4	1.1	1.200
2024 Q4	-3.0	0.3	1.014	0.1	-2.1	113.9	-4.6	-1.6	138.1	-3.2	0.7	1.169
2025 Q1	-2.8	-0.3	1.008	1.3	-2.7	114.6	-4.1	-1.9	137.8	-3.0	0.2	1.161
2025 Q2	-2.6	-0.7	1.001	1.9	-2.8	115.4	-3.7	-2.1	137.7	-2.8	-0.2	1.153
2025 Q3	1.0	-0.5	1.004	4.3	-1.9	115.0	1.0	-1.5	137.8	1.0	0.0	1.157
2025 Q4	3.6	-0.4	1.008	5.6	-1.3	114.6	4.5	-0.9	137.9	3.5	0.2	1.161
2026 Q1	4.5	-0.1	1.021	6.0	-0.7	113.1	5.5	-0.1	138.1	4.4	0.5	1.176
2026 Q2	5.4	0.1	1.049	6.3	-0.4	110.1	6.5	0.7	138.2	5.3	0.7	1.208
2026 Q3	6.3	0.5	1.063	6.7	0.6	108.7	7.0	1.3	138.4	6.2	1.2	1.224
2026 Q4	7.2	1.0	1.077	6.9	1.4	107.3	7.5	1.8	138.5	7.0	1.7	1.241
2027 Q1	8.1	1.6	1.092	6.8	2.3	105.8	8.5	2.4	138.7	7.9	2.2	1.257

Appendix 6: Global Market Shock - Severely Adverse

Securitized Products

Trading, PE & Other Fair Value Assets
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 Based on Current Rating (%)															
AAA Total															
> 9Y	-25.2%	-25.2%	-25.2%	-25.2%	-25.2%	-25.2%	-31.5%	-21.4%	-21.4%	-21.4%	-21.4%	-40.8%	-52.6%	-27.7%	-31.5%
> 6Y and <= 9Y	-26.6%	-26.6%	-26.6%	-26.6%	-26.6%	-26.6%	-33.2%	-22.6%	-22.6%	-22.6%	-22.6%	-33.9%	-45.4%	-29.2%	-33.2%
> 3Y and <= 6Y	-26.9%	-26.9%	-26.9%	-26.9%	-26.9%	-26.9%	-33.6%	-22.8%	-22.8%	-22.8%	-22.8%	-34.2%	-45.6%	-29.5%	-33.6%
<= 3Y	-29.3%	-29.3%	-29.3%	-29.3%	-29.3%	-29.3%	-36.6%	-24.9%	-24.9%	-24.9%	-24.9%	-36.3%	-47.7%	-32.2%	-36.6%
Unspecified Vintage	-29.3%	-29.3%	-29.3%	-29.3%	-29.3%	-29.3%	-36.6%	-24.9%	-24.9%	-24.9%	-24.9%	-40.8%	-52.6%	-32.2%	-36.6%
AA Total															
> 9Y	-29.5%	-29.5%	-29.5%	-29.5%	-29.5%	-29.5%	-36.8%	-25.1%	-25.1%	-25.1%	-25.1%	-40.8%	-52.6%	-32.4%	-36.8%
> 6Y and <= 9Y	-31.5%	-31.5%	-31.5%	-31.5%	-31.5%	-31.5%	-39.4%	-26.8%	-26.8%	-26.8%	-26.8%	-33.9%	-45.4%	-34.7%	-39.4%
> 3Y and <= 6Y	-36.2%	-36.2%	-36.2%	-36.2%	-36.2%	-36.2%	-45.3%	-30.8%	-30.8%	-30.8%	-30.8%	-34.2%	-45.6%	-39.8%	-45.3%
<= 3Y	-29.3%	-29.3%	-29.3%	-29.3%	-29.3%	-29.3%	-36.6%	-24.9%	-24.9%	-24.9%	-24.9%	-36.3%	-47.7%	-32.2%	-36.6%
Unspecified Vintage	-36.2%	-36.2%	-36.2%	-36.2%	-36.2%	-36.2%	-45.3%	-30.8%	-30.8%	-30.8%	-30.8%	-40.8%	-52.6%	-39.8%	-45.3%
A Total															
> 9Y	-36.2%	-36.2%	-36.2%	-36.2%	-36.2%	-36.2%	-45.3%	-30.8%	-30.8%	-30.8%	-30.8%	-40.8%	-52.6%	-39.8%	-45.3%
> 6Y and <= 9Y	-41.0%	-41.0%	-41.0%	-41.0%	-41.0%	-41.0%	-51.3%	-34.9%	-34.9%	-34.9%	-34.9%	-39.9%	-45.4%	-45.1%	-51.3%
> 3Y and <= 6Y	-49.6%	-49.6%	-49.6%	-49.6%	-49.6%	-49.6%	-62.0%	-42.1%	-42.1%	-42.1%	-42.1%	-34.2%	-45.6%	-54.5%	-62.0%
<= 3Y	-39.1%	-39.1%	-39.1%	-39.1%	-39.1%	-39.1%	-48.9%	-33.2%	-33.2%	-33.2%	-33.2%	-36.3%	-47.7%	-43.0%	-48.9%
Unspecified Vintage	-49.6%	-49.6%	-49.6%	-49.6%	-49.6%	-49.6%	-62.0%	-42.1%	-42.1%	-42.1%	-42.1%	-40.8%	-52.6%	-54.5%	-62.0%
BBB Total															
> 9Y	-49.6%	-49.6%	-49.6%	-49.6%	-49.6%	-49.6%	-62.0%	-42.1%	-42.1%	-42.1%	-42.1%	-40.8%	-52.6%	-54.5%	-62.0%
> 6Y and <= 9Y	-49.6%	-49.6%	-49.6%	-49.6%	-49.6%	-49.6%	-62.0%	-42.1%	-42.1%	-42.1%	-42.1%	-33.9%	-45.4%	-54.5%	-62.0%
> 3Y and <= 6Y	-57.2%	-57.2%	-57.2%	-57.2%	-57.2%	-57.2%	-71.5%	-48.6%	-48.6%	-48.6%	-48.6%	-34.2%	-45.6%	-62.9%	-71.5%
<= 3Y	-58.5%	-58.5%	-58.5%	-58.5%	-58.5%	-58.5%	-73.1%	-49.7%	-49.7%	-49.7%	-49.7%	-36.3%	-47.7%	-64.3%	-73.1%
Unspecified Vintage	-58.5%	-58.5%	-58.5%	-58.5%	-58.5%	-58.5%	-73.1%	-49.7%	-49.7%	-49.7%	-49.7%	-40.8%	-52.6%	-64.3%	-73.1%
BB Total															
> 9Y	-58.5%	-58.5%	-58.5%	-58.5%	-58.5%	-58.5%	-73.1%	-49.7%	-49.7%	-49.7%	-49.7%	-40.8%	-52.6%	-64.3%	-73.1%
> 6Y and <= 9Y	-61.9%	-61.9%	-61.9%	-61.9%	-61.9%	-61.9%	-77.4%	-52.6%	-52.6%	-52.6%	-52.6%	-33.9%	-45.4%	-68.1%	-77.4%
> 3Y and <= 6Y	-59.7%	-59.7%	-59.7%	-59.7%	-59.7%	-59.7%	-74.6%	-50.7%	-50.7%	-50.7%	-50.7%	-34.2%	-45.6%	-65.6%	-74.6%
<= 3Y	-58.5%	-58.5%	-58.5%	-58.5%	-58.5%	-58.5%	-73.1%	-49.7%	-49.7%	-49.7%	-49.7%	-36.3%	-47.7%	-64.3%	-73.1%
Unspecified Vintage	-61.9%	-61.9%	-61.9%	-61.9%	-61.9%	-61.9%	-77.4%	-52.6%	-52.6%	-52.6%	-52.6%	-40.8%	-52.6%	-68.1%	-77.4%
B Total															
> 9Y	-61.9%	-61.9%	-61.9%	-61.9%	-61.9%	-61.9%	-77.4%	-52.6%	-52.6%	-52.6%	-52.6%	-40.8%	-52.6%	-68.1%	-77.4%
> 6Y and <= 9Y	-65.2%	-65.2%	-65.2%	-65.2%	-65.2%	-65.2%	-81.6%	-55.5%	-55.5%	-55.5%	-55.5%	-33.9%	-45.4%	-71.8%	-81.6%
> 3Y and <= 6Y	-65.2%	-65.2%	-65.2%	-65.2%	-65.2%	-65.2%	-81.6%	-55.5%	-55.5%	-55.5%	-55.5%	-34.2%	-45.6%	-71.8%	-81.6%
<= 3Y	-84.1%	-84.1%	-84.1%	-84.1%	-84.1%	-84.1%	-85.0%	-71.5%	-71.5%	-71.5%	-71.5%	-36.3%	-47.7%	-85.0%	-85.0%
Unspecified Vintage	-84.1%	-84.1%	-84.1%	-84.1%	-84.1%	-84.1%	-85.0%	-71.5%	-71.5%	-71.5%	-71.5%	-40.8%	-52.6%	-85.0%	-85.0%
<B Total															
> 9Y	-84.1%	-84.1%	-84.1%	-84.1%	-84.1%	-84.1%	-85.0%	-71.5%	-71.5%	-71.5%	-71.5%	-40.8%	-52.6%	-85.0%	-85.0%
> 6Y and <= 9Y	-84.1%	-84.1%	-84.1%	-84.1%	-84.1%	-84.1%	-85.0%	-71.5%	-71.5%	-71.5%	-71.5%	-33.9%	-45.4%	-85.0%	-85.0%
> 3Y and <= 6Y	-84.1%	-84.1%	-84.1%	-84.1%	-84.1%	-84.1%	-85.0%	-71.5%	-71.5%	-71.5%	-71.5%	-34.2%	-45.6%	-85.0%	-85.0%
<= 3Y	-84.1%	-84.1%	-84.1%	-84.1%	-84.1%	-84.1%	-85.0%	-71.5%	-71.5%	-71.5%	-71.5%	-36.3%	-47.7%	-85.0%	-85.0%
Unspecified Vintage	-84.1%	-84.1%	-84.1%	-84.1%	-84.1%	-84.1%	-85.0%	-71.5%	-71.5%	-71.5%	-71.5%	-40.8%	-52.6%	-85.0%	-85.0%
NR Total															
> 9Y	-84.1%	-84.1%	-84.1%	-84.1%	-84.1%	-84.1%	-85.0%	-71.5%	-71.5%	-71.5%	-71.5%	-40.8%	-52.6%	-85.0%	-85.0%
> 6Y and <= 9Y	-84.1%	-84.1%	-84.1%	-84.1%	-84.1%	-84.1%	-85.0%	-71.5%	-71.5%	-71.5%	-71.5%	-33.9%	-45.4%	-85.0%	-85.0%
> 3Y and <= 6Y	-84.1%	-84.1%	-84.1%	-84.1%	-84.1%	-84.1%	-85.0%	-71.5%	-71.5%	-71.5%	-71.5%	-34.2%	-45.6%	-85.0%	-85.0%
<= 3Y	-84.1%	-84.1%	-84.1%	-84.1%	-84.1%	-84.1%	-85.0%	-71.5%	-71.5%	-71.5%	-71.5%	-36.3%	-47.7%	-85.0%	-85.0%
Unspecified Vintage	-84.1%	-84.1%	-84.1%	-84.1%	-84.1%	-84.1%	-85.0%	-71.5%	-71.5%	-71.5%	-71.5%	-40.8%	-52.6%	-85.0%	-85.0%

Securitized Products

Trading, PE & Other Fair Value Assets
Securitized Products

	ABS							CMBS							Corporate CDO / CLO		Warehouse		Other / Unspecified
	Autos	Credit Cards	Student Loans	ABS CDS	Credit Basket	Index Tranches	Other / Unspecified	Cash Non-Agency CMBS	CMBS CDS	CMBS CDO	Credit Basket	Index Tranches	Whole Loans	Other / Unspecified	CLO	Other / Unspecified	Total Size	Total Protection	
Relative MV Shock Based on Current Rating (%)																			
AAA Total																			
> 9Y	-3.8%	-5.8%	-16.1%	-16.1%	-16.1%	-16.1%	-16.1%	-15.8%	-13.4%	-19.7%	-13.4%	-13.4%	-32.6%	-19.7%	-11.7%	-11.7%	-52.6%	52.6%	-31.5%
> 6Y and <= 9Y	-3.8%	-5.8%	-10.3%	-10.3%	-10.3%	-10.3%	-10.3%	-19.1%	-16.2%	-23.9%	-16.2%	-16.2%	-35.3%	-23.9%	-14.5%	-14.5%	-45.4%	45.4%	-33.2%
> 3Y and <= 6Y	-3.8%	-5.8%	-10.3%	-10.3%	-10.3%	-10.3%	-10.3%	-29.8%	-25.3%	-37.2%	-25.3%	-25.3%	-43.8%	-37.2%	-13.6%	-13.6%	-45.6%	45.6%	-37.2%
<= 3Y	-11.4%	-5.8%	-10.3%	-11.4%	-11.4%	-11.4%	-11.4%	-36.0%	-30.6%	-45.0%	-30.6%	-30.6%	-48.8%	-45.0%	-17.6%	-17.6%	-48.8%	48.8%	-45.0%
Unspecified Vintage	-11.4%	-5.8%	-16.1%	-16.1%	-16.1%	-16.1%	-16.1%	-36.0%	-30.6%	-45.0%	-30.6%	-30.6%	-48.8%	-45.0%	-17.6%	-17.6%	-52.6%	52.6%	-45.0%
AA Total																			
> 9Y	-11.4%	-5.8%	-16.1%	-16.1%	-16.1%	-16.1%	-16.1%	-38.2%	-32.5%	-47.7%	-32.5%	-32.5%	-32.6%	-47.7%	-25.7%	-25.7%	-52.6%	52.6%	-47.7%
> 6Y and <= 9Y	-11.4%	-5.8%	-16.1%	-16.1%	-16.1%	-16.1%	-16.1%	-40.7%	-34.6%	-50.8%	-34.6%	-34.6%	-35.3%	-50.8%	-29.2%	-29.2%	-45.4%	45.4%	-50.8%
> 3Y and <= 6Y	-11.4%	-5.8%	-16.1%	-16.1%	-16.1%	-16.1%	-16.1%	-49.3%	-41.9%	-61.7%	-41.9%	-41.9%	-43.8%	-61.7%	-31.6%	-31.6%	-45.6%	45.6%	-61.7%
<= 3Y	-11.4%	-5.8%	-16.1%	-16.1%	-16.1%	-16.1%	-16.1%	-52.3%	-44.4%	-65.3%	-44.4%	-44.4%	-48.8%	-65.3%	-35.2%	-35.2%	-48.8%	48.8%	-65.3%
Unspecified Vintage	-11.4%	-5.8%	-16.1%	-16.1%	-16.1%	-16.1%	-16.1%	-52.3%	-44.4%	-65.3%	-44.4%	-44.4%	-48.8%	-65.3%	-35.2%	-35.2%	-52.6%	52.6%	-65.3%
A Total																			
> 9Y	-11.4%	-7.7%	-17.8%	-17.8%	-17.8%	-17.8%	-17.8%	-55.3%	-47.0%	-69.2%	-47.0%	-47.0%	-32.6%	-69.2%	-35.2%	-35.2%	-52.6%	52.6%	-69.2%
> 6Y and <= 9Y	-11.4%	-7.7%	-16.1%	-16.1%	-16.1%	-16.1%	-16.1%	-53.1%	-45.1%	-66.3%	-45.1%	-45.1%	-35.3%	-66.3%	-35.8%	-35.8%	-45.4%	45.4%	-66.3%
> 3Y and <= 6Y	-11.4%	-7.7%	-16.1%	-16.1%	-16.1%	-16.1%	-16.1%	-64.4%	-54.8%	-80.6%	-54.8%	-54.8%	-43.8%	-80.6%	-35.2%	-35.2%	-45.6%	45.6%	-80.6%
<= 3Y	-12.7%	-7.2%	-16.1%	-16.1%	-16.1%	-16.1%	-16.1%	-79.0%	-67.2%	-85.0%	-67.2%	-67.2%	-48.8%	-85.0%	-41.3%	-41.3%	-48.8%	48.8%	-85.0%
Unspecified Vintage	-12.7%	-7.2%	-17.8%	-17.8%	-17.8%	-17.8%	-17.8%	-79.0%	-67.2%	-85.0%	-67.2%	-67.2%	-48.8%	-85.0%	-41.3%	-41.3%	-52.6%	52.6%	-85.0%
BBB Total																			
> 9Y	-12.7%	-7.7%	-17.8%	-17.8%	-17.8%	-17.8%	-17.8%	-79.0%	-67.2%	-85.0%	-67.2%	-67.2%	-32.6%	-85.0%	-41.3%	-41.3%	-52.6%	52.6%	-85.0%
> 6Y and <= 9Y	-12.7%	-7.7%	-17.8%	-17.8%	-17.8%	-17.8%	-17.8%	-79.0%	-67.2%	-85.0%	-67.2%	-67.2%	-35.3%	-85.0%	-41.3%	-41.3%	-45.4%	45.4%	-85.0%
> 3Y and <= 6Y	-12.7%	-7.7%	-17.8%	-17.8%	-17.8%	-17.8%	-17.8%	-79.0%	-67.2%	-85.0%	-67.2%	-67.2%	-43.8%	-85.0%	-41.3%	-41.3%	-45.6%	45.6%	-85.0%
<= 3Y	-18.8%	-13.8%	-19.0%	-19.0%	-19.0%	-19.0%	-19.0%	-80.9%	-68.8%	-85.0%	-68.8%	-68.8%	-48.8%	-85.0%	-46.4%	-46.4%	-48.8%	48.8%	-85.0%
Unspecified Vintage	-18.8%	-13.8%	-19.0%	-19.0%	-19.0%	-19.0%	-19.0%	-80.9%	-68.8%	-85.0%	-68.8%	-68.8%	-48.8%	-85.0%	-46.4%	-46.4%	-52.6%	52.6%	-85.0%
BB Total																			
> 9Y	-18.8%	-13.8%	-19.2%	-19.2%	-19.2%	-19.2%	-19.2%	-80.9%	-68.8%	-85.0%	-68.8%	-68.8%	-32.6%	-85.0%	-49.9%	-49.9%	-52.6%	52.6%	-85.0%
> 6Y and <= 9Y	-18.8%	-13.8%	-19.0%	-19.0%	-19.0%	-19.0%	-19.0%	-80.9%	-68.8%	-85.0%	-68.8%	-68.8%	-35.3%	-85.0%	-52.8%	-52.8%	-45.4%	45.4%	-85.0%
> 3Y and <= 6Y	-18.8%	-13.8%	-19.0%	-19.0%	-19.0%	-19.0%	-19.0%	-81.4%	-69.2%	-85.0%	-69.2%	-69.2%	-43.8%	-85.0%	-54.1%	-54.1%	-45.6%	45.6%	-85.0%
<= 3Y	-40.6%	-36.9%	-40.7%	-40.7%	-40.7%	-40.7%	-40.7%	-81.4%	-69.2%	-85.0%	-69.2%	-69.2%	-48.8%	-85.0%	-60.5%	-60.5%	-48.8%	48.8%	-85.0%
Unspecified Vintage	-40.6%	-36.9%	-40.7%	-40.7%	-40.7%	-40.7%	-40.7%	-81.4%	-69.2%	-85.0%	-69.2%	-69.2%	-48.8%	-85.0%	-60.5%	-60.5%	-52.6%	52.6%	-85.0%
B Total																			
> 9Y	-40.6%	-36.9%	-40.7%	-40.7%	-40.7%	-40.7%	-40.7%	-81.4%	-69.2%	-85.0%	-69.2%	-69.2%	-32.6%	-85.0%	-60.5%	-60.5%	-52.6%	52.6%	-85.0%
> 6Y and <= 9Y	-40.6%	-36.9%	-40.7%	-40.7%	-40.7%	-40.7%	-40.7%	-85.0%	-80.0%	-85.0%	-80.0%	-80.0%	-35.3%	-85.0%	-60.5%	-60.5%	-45.4%	45.4%	-85.0%
> 3Y and <= 6Y	-40.6%	-36.9%	-40.7%	-40.7%	-40.7%	-40.7%	-40.7%	-85.0%	-77.2%	-85.0%	-77.2%	-77.2%	-43.8%	-85.0%	-60.5%	-60.5%	-45.6%	45.6%	-85.0%
<= 3Y	-40.6%	-36.9%	-40.7%	-40.7%	-40.7%	-40.7%	-40.7%	-85.0%	-77.2%	-85.0%	-77.2%	-77.2%	-48.8%	-85.0%	-68.4%	-68.4%	-48.8%	48.8%	-85.0%
Unspecified Vintage	-40.6%	-36.9%	-40.7%	-40.7%	-40.7%	-40.7%	-40.7%	-85.0%	-80.0%	-85.0%	-80.0%	-80.0%	-48.8%	-85.0%	-68.4%	-68.4%	-52.6%	52.6%	-85.0%
<B Total																			
> 9Y	-40.6%	-36.9%	-40.7%	-40.7%	-40.7%	-40.7%	-40.7%	-85.0%	-80.0%	-85.0%	-80.0%	-80.0%	-32.6%	-85.0%	-68.4%	-68.4%	-52.6%	52.6%	-85.0%
> 6Y and <= 9Y	-40.6%	-36.9%	-40.7%	-40.7%	-40.7%	-40.7%	-40.7%	-85.0%	-81.1%	-85.0%	-81.1%	-81.1%	-35.3%	-85.0%	-72.9%	-72.9%	-45.4%	45.4%	-85.0%
> 3Y and <= 6Y	-40.6%	-36.9%	-40.7%	-40.7%	-40.7%	-40.7%	-40.7%	-85.0%	-81.1%	-85.0%	-81.1%	-81.1%	-43.8%	-85.0%	-75.3%	-75.3%	-45.6%	45.6%	-85.0%
<= 3Y	-40.6%	-36.9%	-40.7%	-40.7%	-40.7%	-40.7%	-40.7%	-85.0%	-81.1%	-85.0%	-81.1%	-81.1%	-48.8%	-85.0%	-75.3%	-75.3%	-48.8%	48.8%	-85.0%
Unspecified Vintage	-40.6%	-36.9%	-40.7%	-40.7%	-40.7%	-40.7%	-40.7%	-85.0%	-81.1%	-85.0%	-81.1%	-81.1%	-48.8%	-85.0%	-75.3%	-75.3%	-52.6%	52.6%	-85.0%
NR Total																			
> 9Y	-40.6%	-36.9%	-40.7%	-40.7%	-40.7%	-40.7%	-40.7%	-85.0%	-80.0%	-85.0%	-80.0%	-80.0%	-32.6%	-85.0%	-68.4%	-68.4%	-52.6%	52.6%	-85.0%
> 6Y and <= 9Y	-40.6%	-36.9%	-40.7%	-40.7%	-40.7%	-40.7%	-40.7%	-85.0%	-81.1%	-85.0%	-81.1%	-81.1%	-35.3%	-85.0%	-72.9%	-72.9%	-45.4%	45.4%	-85.0%
> 3Y and <= 6Y	-40.6%	-36.9%	-40.7%	-40.7%	-40.7%	-40.7%	-40.7%	-85.0%	-81.1%	-85.0%	-81.1%	-81.1%	-43.8%	-85.0%	-75.3%	-75.3%	-45.6%	45.6%	-85.0%
<= 3Y	-40.6%	-36.9%	-40.7%	-40.7%	-40.7%	-40.7%	-40.7%	-85.0%	-81.1%	-85.0%	-81.1%	-81.1%	-48.8%	-85.0%	-75.3%	-75.3%	-48.8%	48.8%	-85.0%
Unspecified Vintage	-40.6%	-36.9%	-40.7%	-40.7%	-40.7%	-40.7%	-40.7%	-85.0%	-81.1%	-85.0%	-81.1%	-81.1%	-48.8%	-85.0%	-75.3%	-75.3%	-52.6%	52.6%	-85.0%

Municipals

Trading, PE & Other Fair Value Assets Munis

	Relative MV Shock (%)	Spread Widening (bps)
Bonds		
AAA		276.5
AA		288.4
A		305.5
BBB		365.5
BB		683.4
B		911.6
<B: Defaulted	-27.5%	
<B: Not Defaulted		1,321.4
<B: Default Status Unknown		1,321.4
NR		1,321.4
Loans		
AAA		276.5
AA		288.4
A		305.5
BBB		365.5
BB		683.4
B		911.6
<B: Defaulted	-27.5%	
<B: Not Defaulted		1,321.4
<B: Default Status Unknown		1,321.4
NR		1,321.4
CDS		
AAA		276.5
AA		288.4
A		305.5
BBB		365.5
BB		683.4
B		911.6
<B: Defaulted	-27.5%	
<B: Not Defaulted		1,321.4
<B: Default Status Unknown		1,321.4
NR		1,321.4
Indices		
AAA		276.5
AA		288.4
A		305.5
BBB		365.5
BB		683.4
B		911.6
<B: Defaulted	-27.5%	
<B: Not Defaulted		1,321.4
<B: Default Status Unknown		1,321.4
NR		1,321.4
Other / Unspecified Munis		
AAA		276.5
AA		288.4
A		305.5
BBB		365.5
BB		683.4
B		911.6
<B: Defaulted	-27.5%	
<B: Not Defaulted		1,321.4
<B: Default Status Unknown		1,321.4
NR		1,321.4

Agencies

Trading, PE & Other Fair Value Assets

Agencies

OAS Widening (bps)

US Residential Agency Products

IOs	351.0
POs	48.3
Other CMOs	77.8
Pass-Throughs	77.8
Agency Debt/Debentures	57.0
IOS Index	351.0
POS Index	48.3
MBX Index	57.8
Other Agency Derivatives	57.0
TBA's	57.8
Reverse Mortgages	78.0
Residential Other / Unspecified	57.8

US Commercial Agency Products

Cash Agency CMBS	91.0
Agency CMBS Derivatives	91.0
Commercial Other / Unspecified	91.0

Non-US Agency Products

AAA	208.0
AA	281.0
A	350.5
BBB	420.0
BB	481.0
B	1,055.0
<B	2,954.0

Rates DV01

DFAST 2024 Market Shocks: Severely Adverse Scenario
Rates DV01

Rates Shocks (bps)	MATURITY												
	1M	3M	6M	9M	1Y	2Y	3Y	5Y	7Y	10Y	15Y	20Y	30Y
AUD Directional Risks													
Governments	128.8	125.8	121.8	118.6	115.9	108.8	105.1	101.5	99.9	98.7	97.7	97.2	96.8
Agencies	128.8	125.8	121.8	118.6	115.9	108.8	105.1	101.5	99.9	98.7	97.7	97.2	96.8
Municipals	128.8	125.8	121.8	118.6	115.9	108.8	105.1	101.5	99.9	98.7	97.7	97.2	96.8
Swaps / Discounting Curve	118.9	116.2	112.8	110.1	107.9	102.5	100.2	98.7	98.5	98.7	99.1	99.4	99.6
Instruments shocked by MV**													
Other	118.9	116.2	112.8	110.1	107.9	102.5	100.2	98.7	98.5	98.7	99.1	99.4	99.6

AUD Basis Risks (Do not include the swap/discounting curve specified above)

OIS Basis													
1m Basis													
3m Basis													
6m Basis													
12m Basis													
Other Basis													

CAD Directional Risks

Governments	102.3	100.7	98.6	96.6	94.8	89.0	84.8	79.4	76.3	73.7	71.6	70.5	69.4
Agencies	102.3	100.7	98.6	96.6	94.8	89.0	84.8	79.4	76.3	73.7	71.6	70.5	69.4
Municipals	102.3	100.7	98.6	96.6	94.8	89.0	84.8	79.4	76.3	73.7	71.6	70.5	69.4
Swaps / Discounting Curve	92.6	91.9	90.9	89.9	88.9	85.8	83.3	80.0	77.9	76.1	74.6	73.8	73.1
Instruments shocked by MV**													
Other	92.6	91.9	90.9	89.9	88.9	85.8	83.3	80.0	77.9	76.1	74.6	73.8	73.1

CAD Basis Risks (Do not include the swap/discounting curve specified above)

OIS Basis													
1m Basis													
3m Basis													
6m Basis													
12m Basis													
Other Basis													

CHF Directional Risks

Governments	78.4	77.9	77.1	76.3	75.6	73.1	71.1	68.1	66.2	64.3	62.5	61.6	60.6
Agencies	78.4	77.9	77.1	76.3	75.6	73.1	71.1	68.1	66.2	64.3	62.5	61.6	60.6
Municipals	78.4	77.9	77.1	76.3	75.6	73.1	71.1	68.1	66.2	64.3	62.5	61.6	60.6
Swaps / Discounting Curve	69.0	69.6	70.3	70.8	71.2	71.6	71.2	69.9	68.7	67.3	66.0	65.3	64.5
Instruments shocked by MV**													
Other	69.0	69.6	70.3	70.8	71.2	71.6	71.2	69.9	68.7	67.3	66.0	65.3	64.5

CHF Basis Risks (Do not include the swap/discounting curve specified above)

OIS Basis													
1m Basis													
3m Basis													
6m Basis													
12m Basis													
Other Basis													

Rates DV01 (Continued)

DKK Directional Risks

Governments	113.8	112.9	111.7	110.5	109.4	105.5	102.3	97.7	94.6	91.7	88.9	87.5	86.0
Agencies	113.8	112.9	111.7	110.5	109.4	105.5	102.3	97.7	94.6	91.7	88.9	87.5	86.0
Municipals	113.8	112.9	111.7	110.5	109.4	105.5	102.3	97.7	94.6	91.7	88.9	87.5	86.0
Swaps / Discounting Curve	103.9	103.3	102.5	101.8	101.1	98.7	96.9	94.3	92.6	91.1	89.8	89.2	88.6
Instruments shocked by MV**													
Other	103.9	103.3	102.5	101.8	101.1	98.7	96.9	94.3	92.6	91.1	89.8	89.2	88.6

DKK Basis Risks (Do not include the swap/discounting curve specified above)

OIS Basis													
1m Basis													
3m Basis													
6m Basis													
12m Basis													
Other Basis													

EUR Directional Risks

Governments: Austria	98.0	95.9	93.3	91.2	89.3	84.4	81.6	79.0	77.7	76.8	76.0	75.7	75.3
Governments: Belgium	90.7	89.8	88.4	87.1	85.9	82.0	79.2	75.5	73.3	71.5	69.9	69.1	68.3
Governments: Finland	97.4	96.2	94.6	93.2	92.0	88.8	86.9	84.9	84.0	83.3	82.7	82.4	82.2
Governments: France	92.5	91.5	90.0	88.7	87.5	83.4	80.4	76.2	73.7	71.5	69.6	68.6	67.6
Governments: Germany	117.0	115.9	114.2	112.7	111.3	106.7	103.3	98.7	95.9	93.4	91.4	90.3	89.2
Governments: Greece	372.2	361.7	347.2	334.0	322.1	284.1	257.6	224.6	206.1	190.6	178.1	171.7	165.4
Governments: Ireland	302.7	295.2	284.9	275.5	266.8	238.6	218.2	191.9	176.6	163.5	152.7	147.2	141.8
Governments: Italy	368.0	357.9	343.8	331.1	319.6	283.0	257.5	225.9	208.2	193.5	181.6	175.6	169.6
Governments: Netherlands	106.8	105.7	104.1	102.6	101.3	96.8	93.6	89.4	86.9	84.7	82.9	82.0	81.1
Governments: Portugal	368.0	357.9	343.8	331.1	319.6	283.0	257.5	225.9	208.2	193.5	181.6	175.6	169.6
Governments: Spain	310.2	303.0	293.0	283.7	275.3	247.7	227.7	201.9	186.8	173.8	163.1	157.7	152.3
Governments: Other	105.0	103.7	101.9	100.4	99.0	94.7	91.7	88.1	86.1	84.3	82.8	82.0	81.2
Agencies	105.0	103.7	101.9	100.4	99.0	94.7	91.7	88.1	86.1	84.3	82.8	82.0	81.2
Municipals	105.0	103.7	101.9	100.4	99.0	94.7	91.7	88.1	86.1	84.3	82.8	82.0	81.2
Swaps / Discounting Curve	104.3	103.4	102.1	100.9	99.8	96.3	93.9	91.1	89.7	89.0	88.8	89.1	89.5
Instruments shocked by MV**													
Other	104.3	103.4	102.1	100.9	99.8	96.3	93.9	91.1	89.7	89.0	88.8	89.1	89.5

EUR Basis Risks (Do not include the swap/discounting curve specified above)

OIS Basis													
1m Basis	20.0	20.0	20.0	20.0	15.0	14.0	12.0	10.0	8.0	7.0	6.0	6.0	6.0
3m Basis	25.0	25.0	25.0	25.0	18.0	18.0	15.0	14.0	13.0	11.0	11.0	10.0	9.0
6m Basis	30.0	30.0	30.0	30.0	20.0	19.0	17.0	15.0	13.0	11.0	11.0	11.0	10.0
12m Basis	30.0	30.0	30.0	30.0	20.0	19.0	17.0	15.0	13.0	11.0	11.0	11.0	10.0
Other Basis	30.0	30.0	30.0	30.0	20.0	19.0	17.0	15.0	13.0	11.0	11.0	11.0	10.0

GBP Directional Risks

Governments	149.2	147.6	145.4	143.4	141.7	136.4	132.9	128.9	126.8	125.2	123.9	123.2	122.6
Agencies	149.2	147.6	145.4	143.4	141.7	136.4	132.9	128.9	126.8	125.2	123.9	123.2	122.6
Municipals	149.2	147.6	145.4	143.4	141.7	136.4	132.9	128.9	126.8	125.2	123.9	123.2	122.6
Swaps / Discounting Curve	138.4	137.0	135.1	133.5	132.0	127.7	124.9	121.9	120.4	119.3	118.4	118.0	117.5
Instruments shocked by MV**													
Other	138.4	137.0	135.1	133.5	132.0	127.7	124.9	121.9	120.4	119.3	118.4	118.0	117.5

GBP Basis Risks (Do not include the swap/discounting curve specified above)

OIS Basis													
1m Basis													
3m Basis													
6m Basis													
12m Basis													
Other Basis													

Rates DV01 (Continued)

JPY Directional Risks													
Governments	20.0	19.9	19.6	19.4	19.2	18.4	17.9	17.0	16.4	15.8	15.2	14.9	14.6
Agencies	20.0	19.9	19.6	19.4	19.2	18.4	17.9	17.0	16.4	15.8	15.2	14.9	14.6
Municipals	20.0	19.9	19.6	19.4	19.2	18.4	17.9	17.0	16.4	15.8	15.2	14.9	14.6
Swaps / Discounting Curve	18.2	18.1	17.9	17.7	17.5	16.8	16.3	15.6	15.1	14.7	14.5	14.6	15.0
Instruments shocked by MV**													
Other	18.2	18.1	17.9	17.7	17.5	16.8	16.3	15.6	15.1	14.7	14.5	14.6	15.0

JPY Basis Risks (Do not include the swap/discounting curve specified above)													
OIS Basis													
1m Basis													
3m Basis													
6m Basis													
12m Basis													
Other Basis													

NOK Directional Risks													
Governments	99.6	97.7	95.3	93.2	91.5	86.7	84.1	81.5	80.2	79.3	78.6	78.2	77.9
Agencies	99.6	97.7	95.3	93.2	91.5	86.7	84.1	81.5	80.2	79.3	78.6	78.2	77.9
Municipals	99.6	97.7	95.3	93.2	91.5	86.7	84.1	81.5	80.2	79.3	78.6	78.2	77.9
Swaps / Discounting Curve	91.1	91.7	91.9	91.6	91.0	88.5	86.7	84.8	83.9	83.2	82.6	82.3	82.0
Instruments shocked by MV**													
Other	91.1	91.7	91.9	91.6	91.0	88.5	86.7	84.8	83.9	83.2	82.6	82.3	82.0

NOK Basis Risks (Do not include the swap/discounting curve specified above)													
OIS Basis													
1m Basis													
3m Basis													
6m Basis													
12m Basis													
Other Basis													

NZD Directional Risks													
Governments	99.3	97.0	94.1	91.7	89.8	84.7	82.1	79.6	78.5	77.7	77.1	76.8	76.4
Agencies	99.3	97.0	94.1	91.7	89.8	84.7	82.1	79.6	78.5	77.7	77.1	76.8	76.4
Municipals	99.3	97.0	94.1	91.7	89.8	84.7	82.1	79.6	78.5	77.7	77.1	76.8	76.4
Swaps / Discounting Curve	90.9	91.2	91.0	90.4	89.6	86.7	84.9	83.0	82.2	81.6	81.1	80.9	80.6
Instruments shocked by MV**													
Other	90.9	91.2	91.0	90.4	89.6	86.7	84.9	83.0	82.2	81.6	81.1	80.9	80.6

NZD Basis Risks (Do not include the swap/discounting curve specified above)													
OIS Basis													
1m Basis													
3m Basis													
6m Basis													
12m Basis													
Other Basis													

Rates DV01 (Continued)

SEK Directional Risks													
Governments	111.4	109.6	107.2	105.1	103.2	97.5	93.8	89.5	87.3	85.6	84.2	83.5	82.8
Agencies	111.4	109.6	107.2	105.1	103.2	97.5	93.8	89.5	87.3	85.6	84.2	83.5	82.8
Municipals	111.4	109.6	107.2	105.1	103.2	97.5	93.8	89.5	87.3	85.6	84.2	83.5	82.8
Swaps / Discounting Curve	101.8	100.9	99.8	98.8	97.8	94.9	92.9	90.5	89.3	88.2	87.4	87.0	86.6
Instruments shocked by MV**													
Other	101.8	100.9	99.8	98.8	97.8	94.9	92.9	90.5	89.3	88.2	87.4	87.0	86.6

SEK Basis Risks (Do not include the swap/discounting curve specified above)													
OIS Basis													
1m Basis													
3m Basis													
6m Basis													
12m Basis													
Other Basis													

USD Directional Risks													
Governments	137.3	134.6	130.9	127.5	124.4	114.6	107.7	99.0	94.1	90.0	86.7	85.0	83.3
Agencies	137.3	134.6	130.9	127.5	124.4	114.6	107.7	99.0	94.1	90.0	86.7	85.0	83.3
Municipals	137.3	134.6	130.9	127.5	124.4	114.6	107.7	99.0	94.1	90.0	86.7	85.0	83.3
Swaps / Discounting Curve	122.6	120.2	116.9	114.0	111.3	103.0	97.4	90.9	87.8	85.7	84.6	84.3	84.2
Instruments shocked by MV**													
Other	122.6	120.2	116.9	114.0	111.3	103.0	97.4	90.9	87.8	85.7	84.6	84.3	84.2

USD Basis Risks (Do not include the swap/discounting curve specified above)													
Prime Basis													
CP Basis													
OIS Basis													
1m Basis													
3m Basis													
6m Basis													
12m Basis													
Other Basis													

Absolute increase in Muni SIFMA/Libor Ratio (Pts)	26.4	26.4	26.4	26.4	26.4	26.4	26.4	26.4	26.4	26.4	26.4	26.4	26.4
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Other Advanced Economies Directional Risks													
Governments	137.3	134.6	130.9	127.5	124.4	114.6	107.7	99.0	94.1	90.0	86.7	85.0	83.3
Agencies	137.3	134.6	130.9	127.5	124.4	114.6	107.7	99.0	94.1	90.0	86.7	85.0	83.3
Municipals	137.3	134.6	130.9	127.5	124.4	114.6	107.7	99.0	94.1	90.0	86.7	85.0	83.3
Swaps / Discounting Curve	122.6	120.2	116.9	114.0	111.3	103.0	97.4	90.9	87.8	85.7	84.6	84.3	84.2
Instruments shocked by MV**													
Other	122.6	120.2	116.9	114.0	111.3	103.0	97.4	90.9	87.8	85.7	84.6	84.3	84.2

Rates DV01 (Continued)

Directional Risks: Emerging Europe

BGN	288.7	282.6	274.0	266.0	258.7	234.3	216.1	191.9	177.2	164.2	153.4	147.8	142.3
CZK	288.7	282.6	274.0	266.0	258.7	234.3	216.1	191.9	177.2	164.2	153.4	147.8	142.3
HRK	288.7	282.6	274.0	266.0	258.7	234.3	216.1	191.9	177.2	164.2	153.4	147.8	142.3
HUF	288.7	282.6	274.0	266.0	258.7	234.3	216.1	191.9	177.2	164.2	153.4	147.8	142.3
PLN	207.1	204.1	199.9	196.0	192.4	180.0	170.5	157.1	148.6	140.8	133.9	130.3	126.7
RON	288.7	282.6	274.0	266.0	258.7	234.3	216.1	191.9	177.2	164.2	153.4	147.8	142.3
RUB	399.3	395.1	389.9	385.5	382.0	372.7	367.9	363.4	361.3	359.8	358.6	358.0	357.4
Other Emerging Europe	288.7	282.6	274.0	266.0	258.7	234.3	216.1	191.9	177.2	164.2	153.4	147.8	142.3

Directional Risks: Latin America & Caribbean

ARS	399.3	395.1	389.9	385.5	382.0	372.7	367.9	363.4	361.3	359.8	358.6	358.0	357.4
BRL	399.3	395.1	389.9	385.5	382.0	372.7	367.9	363.4	361.3	359.8	358.6	358.0	357.4
CLP	399.3	395.1	389.9	385.5	382.0	372.7	367.9	363.4	361.3	359.8	358.6	358.0	357.4
COP	399.3	395.1	389.9	385.5	382.0	372.7	367.9	363.4	361.3	359.8	358.6	358.0	357.4
MXN	399.3	395.1	389.9	385.5	382.0	372.7	367.9	363.4	361.3	359.8	358.6	358.0	357.4
PEN	399.3	395.1	389.9	385.5	382.0	372.7	367.9	363.4	361.3	359.8	358.6	358.0	357.4
VEF	399.3	395.1	389.9	385.5	382.0	372.7	367.9	363.4	361.3	359.8	358.6	358.0	357.4
Other Latam & Caribbean	399.3	395.1	389.9	385.5	382.0	372.7	367.9	363.4	361.3	359.8	358.6	358.0	357.4

Directional Risks: Asia Ex-Japan

CNY	39.6	38.9	37.8	36.8	35.9	33.0	30.9	28.2	26.6	25.2	24.1	23.5	22.9
HKD	107.5	104.9	101.5	98.6	96.1	88.9	84.6	80.1	77.9	76.2	74.9	74.3	73.6
IDR	83.0	81.3	79.1	77.2	75.6	71.0	68.2	65.2	63.6	62.4	61.4	60.9	60.4
INR	83.0	81.3	79.1	77.2	75.6	71.0	68.2	65.2	63.6	62.4	61.4	60.9	60.4
KRW	54.9	54.4	53.6	52.9	52.3	50.2	48.6	46.6	45.4	44.3	43.4	42.9	42.5
MYR	83.0	81.3	79.1	77.2	75.6	71.0	68.2	65.2	63.6	62.4	61.4	60.9	60.4
PHP	83.0	81.3	79.1	77.2	75.6	71.0	68.2	65.2	63.6	62.4	61.4	60.9	60.4
SGD	81.6	80.5	78.9	77.5	76.2	72.0	69.1	65.5	63.4	61.7	60.4	59.7	59.0
THB	69.4	67.9	65.9	64.3	62.9	59.0	56.9	54.7	53.7	52.9	52.3	52.0	51.7
TWD	107.5	104.9	101.5	98.6	96.1	88.9	84.6	80.1	77.9	76.2	74.9	74.3	73.6
Other Asia Ex-Japan	83.0	81.3	79.1	77.2	75.6	71.0	68.2	65.2	63.6	62.4	61.4	60.9	60.4

Directional Risks: Middle East/North Africa

ILS	68.6	67.4	65.9	64.5	63.3	59.8	57.6	55.2	54.0	53.1	52.4	52.0	51.6
TRY	122.2	121.9	121.4	121.0	120.6	119.6	119.1	118.5	118.3	118.1	117.9	117.9	117.8
Other Middle East/Africa	122.2	121.9	121.4	121.0	120.6	119.6	119.1	118.5	118.3	118.1	117.9	117.9	117.8

Directional Risks: Sub-Saharan Africa

ZAR	165.5	165.5	165.5	165.6	165.6	165.7	165.8	166.0	166.1	166.4	166.6	166.8	167.1
Other Sub-Saharan Africa	165.5	165.5	165.5	165.6	165.6	165.7	165.8	166.0	166.1	166.4	166.6	166.8	167.1

Relative Normal Interest Rate Shocks

DFAST 2024 Market Shocks: Severely Adverse Scenario
Rates Vega

Relative Normal Interest Rate Shocks (%)

		MATURITY													
		1M	3M	6M	9M	1Y	2Y	3Y	5Y	7Y	10Y	15Y	20Y	25Y	30Y
AUD	EXPIRY	115.0%	113.2%	110.4%	107.9%	105.6%	82.9%	69.7%	59.1%	56.2%	54.5%	53.0%	52.6%	52.4%	52.3%
	1M	102.2%	100.4%	98.0%	95.7%	93.6%	77.4%	67.5%	58.7%	55.6%	54.4%	52.9%	52.4%	52.3%	52.2%
	3M	90.1%	88.4%	86.1%	84.0%	82.0%	70.4%	61.8%	54.5%	51.2%	49.6%	48.1%	47.7%	47.5%	47.4%
	6M	82.8%	81.2%	78.9%	76.8%	75.0%	64.9%	57.8%	51.0%	47.6%	45.9%	44.4%	43.9%	43.7%	43.6%
	9M	76.3%	74.8%	72.6%	70.7%	68.7%	60.2%	54.1%	47.6%	44.1%	42.7%	41.2%	40.7%	40.6%	40.5%
	1Y	62.6%	61.1%	59.1%	57.1%	55.3%	48.5%	43.5%	38.0%	35.7%	34.5%	32.8%	32.3%	32.1%	32.0%
	2Y	57.3%	55.7%	53.6%	51.6%	49.8%	43.4%	39.7%	33.9%	31.4%	29.6%	27.8%	27.3%	27.0%	26.9%
	3Y	56.2%	54.6%	52.0%	49.6%	47.5%	39.3%	33.7%	27.4%	24.1%	21.6%	19.6%	19.0%	18.8%	18.6%
	5Y	54.0%	52.2%	49.5%	47.0%	44.8%	37.8%	32.3%	25.1%	21.1%	18.2%	16.0%	15.3%	15.1%	14.9%
	7Y	54.2%	52.2%	49.4%	46.7%	44.3%	36.2%	30.1%	22.2%	17.9%	14.6%	12.3%	11.6%	11.3%	11.1%
	10Y	51.4%	49.4%	46.6%	43.9%	41.5%	33.4%	27.2%	19.3%	14.9%	11.6%	9.2%	8.4%	8.1%	7.9%
	15Y	50.1%	48.1%	45.3%	42.6%	40.2%	32.1%	25.9%	18.0%	13.6%	10.2%	7.8%	7.1%	6.8%	6.7%
	20Y	49.0%	47.0%	44.1%	41.5%	39.0%	31.0%	24.8%	16.8%	12.4%	8.9%	6.5%	5.7%	5.4%	5.3%
30Y															
EUR	EXPIRY	156.8%	157.0%	157.5%	158.0%	158.2%	90.1%	81.4%	73.5%	71.6%	69.8%	67.6%	66.8%	70.5%	75.8%
	1M	104.0%	104.2%	104.5%	104.6%	105.0%	75.1%	70.2%	65.7%	65.1%	64.8%	65.1%	65.9%	68.2%	70.6%
	3M	73.3%	73.7%	73.7%	74.0%	74.3%	62.4%	61.1%	59.6%	59.8%	61.1%	62.1%	62.1%	63.9%	65.6%
	6M	61.3%	61.4%	61.7%	61.9%	62.0%	56.0%	56.0%	55.5%	55.7%	56.0%	57.8%	59.2%	60.6%	61.6%
	9M	54.5%	54.6%	54.8%	54.9%	55.1%	51.8%	52.5%	52.6%	53.0%	55.2%	55.2%	56.8%	57.9%	58.4%
	1Y	39.9%	40.0%	40.1%	40.3%	40.5%	40.3%	41.3%	41.9%	42.5%	43.2%	45.4%	46.9%	47.8%	48.0%
	2Y	31.8%	31.9%	32.0%	32.2%	32.3%	32.7%	33.6%	34.7%	35.4%	36.1%	38.2%	39.5%	40.4%	40.8%
	3Y	21.8%	22.0%	22.1%	22.3%	22.3%	23.0%	23.6%	24.6%	25.4%	26.2%	27.9%	29.0%	29.7%	30.2%
	5Y	15.5%	15.6%	15.9%	16.0%	16.2%	16.7%	17.4%	18.4%	19.1%	20.1%	21.4%	22.2%	22.8%	23.2%
	7Y	9.6%	9.7%	10.0%	10.1%	10.3%	10.8%	11.5%	12.5%	13.2%	14.1%	15.2%	15.8%	16.4%	16.5%
	10Y	4.0%	4.1%	4.2%	4.5%	4.7%	5.4%	6.0%	6.9%	7.6%	8.3%	9.1%	9.5%	9.8%	10.1%
	15Y	0.7%	0.8%	1.0%	1.2%	1.4%	2.1%	2.7%	3.5%	4.1%	4.8%	5.4%	5.8%	6.0%	6.1%
	20Y	-3.3%	-3.2%	-2.9%	-2.6%	-2.5%	-1.7%	-1.2%	-0.5%	0.2%	0.5%	0.8%	1.0%	1.1%	1.1%
30Y															
GBP	EXPIRY	123.0%	120.9%	117.9%	115.1%	112.4%	91.5%	80.1%	67.6%	64.5%	64.7%	63.3%	64.3%	64.4%	64.8%
	1M	118.6%	116.5%	113.5%	110.7%	108.1%	87.6%	77.1%	64.1%	60.9%	60.9%	59.3%	60.3%	60.3%	60.7%
	3M	109.5%	107.4%	104.5%	101.8%	99.3%	81.4%	72.8%	62.4%	58.2%	56.7%	55.3%	55.7%	55.9%	56.0%
	6M	96.7%	94.8%	92.1%	89.6%	87.2%	75.1%	68.2%	60.3%	55.4%	52.7%	50.9%	51.4%	51.9%	52.6%
	9M	85.3%	83.5%	81.1%	78.7%	76.5%	69.7%	64.7%	58.2%	52.6%	49.0%	47.0%	47.4%	47.3%	47.5%
	1Y	71.7%	70.0%	67.5%	65.2%	63.1%	56.8%	52.0%	47.2%	42.6%	36.7%	34.1%	33.8%	33.4%	33.2%
	2Y	65.0%	63.2%	60.7%	58.4%	56.2%	49.6%	45.2%	39.7%	33.4%	28.1%	25.5%	24.8%	24.6%	24.6%
	3Y	58.4%	56.5%	53.9%	51.5%	49.2%	41.7%	36.9%	30.2%	24.7%	20.1%	16.8%	15.8%	15.5%	15.5%
	5Y	60.5%	58.4%	55.5%	52.8%	50.2%	41.3%	35.6%	27.4%	21.5%	16.4%	12.7%	11.5%	11.1%	11.0%
	7Y	63.9%	61.6%	58.3%	55.3%	52.4%	43.2%	36.2%	26.7%	20.1%	14.4%	10.3%	8.8%	8.4%	8.3%
	10Y	70.7%	68.1%	64.4%	60.9%	57.6%	46.7%	38.2%	26.2%	18.2%	11.5%	7.1%	5.6%	5.0%	4.8%
	15Y	76.4%	73.5%	69.4%	65.5%	61.9%	49.9%	40.6%	27.3%	18.3%	10.6%	6.1%	4.4%	3.6%	3.4%
	20Y	82.1%	79.0%	74.5%	70.3%	66.3%	53.4%	43.0%	28.3%	18.3%	10.1%	5.0%	3.1%	2.3%	1.8%
30Y															
JPY	EXPIRY	225.6%	220.7%	213.7%	207.4%	201.5%	151.6%	120.8%	82.4%	73.6%	65.7%	58.5%	54.0%	53.0%	52.4%
	1M	165.4%	161.6%	156.3%	151.4%	146.9%	119.8%	97.8%	70.0%	63.0%	56.9%	50.9%	47.3%	46.3%	45.7%
	3M	126.3%	123.4%	119.1%	115.2%	111.4%	95.6%	79.7%	62.1%	55.8%	50.8%	45.0%	42.7%	41.6%	40.9%
	6M	116.2%	113.2%	109.0%	105.2%	101.6%	86.2%	73.0%	62.1%	51.7%	46.2%	41.6%	38.2%	37.2%	36.4%
	9M	108.1%	105.2%	101.1%	97.4%	93.9%	78.8%	67.5%	54.3%	47.9%	42.3%	37.5%	34.2%	33.2%	32.5%
	1Y	83.4%	80.8%	77.1%	73.8%	70.7%	59.6%	51.8%	41.6%	35.3%	30.2%	25.8%	23.2%	22.1%	21.2%
	2Y	74.8%	72.3%	68.9%	65.6%	62.6%	52.0%	44.5%	34.7%	29.0%	24.1%	19.5%	17.3%	16.0%	15.3%
	3Y	66.7%	64.2%	60.7%	57.5%	54.6%	46.5%	39.6%	29.6%	23.9%	18.3%	13.9%	11.7%	10.5%	9.7%
	5Y	67.3%	64.7%	61.0%	57.7%	54.6%	47.7%	37.7%	28.2%	22.2%	16.1%	11.6%	9.2%	7.9%	7.1%
	7Y	65.0%	62.4%	58.7%	55.4%	52.3%	43.3%	36.3%	26.9%	20.8%	14.6%	9.9%	7.5%	5.9%	5.1%
	10Y	67.2%	64.5%	60.6%	57.1%	53.8%	43.3%	36.0%	26.0%	19.7%	13.2%	8.2%	5.7%	4.3%	3.4%
	15Y	70.2%	67.3%	63.2%	59.5%	56.0%	44.3%	36.6%	26.8%	20.0%	13.0%	7.7%	5.1%	3.6%	2.4%
	20Y	69.3%	66.5%	62.4%	58.7%	55.2%	43.5%	35.8%	25.9%	19.1%	12.0%	6.7%	4.1%	2.7%	1.5%
30Y															

Relative Normal Interest Rate Shocks (Continued)

USD															
EXPIRY	1M	125.9%	122.8%	118.4%	114.5%	110.9%	68.6%	60.0%	49.9%	46.6%	45.5%	46.2%	47.6%	49.4%	50.2%
	3M	100.2%	97.7%	94.1%	90.9%	87.9%	63.6%	56.7%	48.1%	45.4%	44.0%	45.2%	47.3%	48.4%	49.4%
	6M	78.8%	76.7%	73.8%	71.0%	68.6%	54.7%	49.3%	43.7%	41.5%	40.7%	42.0%	44.0%	45.3%	46.3%
	9M	69.6%	67.6%	64.9%	62.4%	60.2%	50.1%	45.5%	40.7%	38.5%	37.9%	39.2%	41.2%	42.6%	43.6%
	1Y	61.9%	60.2%	57.7%	55.4%	53.2%	46.0%	42.1%	37.9%	35.8%	35.3%	36.7%	38.8%	40.3%	41.2%
	2Y	54.5%	52.7%	50.1%	47.8%	45.7%	39.1%	34.9%	29.8%	27.8%	27.0%	28.1%	29.9%	31.2%	32.1%
	3Y	51.1%	49.2%	46.6%	44.2%	41.9%	35.1%	30.4%	25.0%	22.6%	21.6%	22.4%	23.9%	25.1%	25.9%
	5Y	49.6%	47.6%	44.7%	42.0%	39.5%	31.7%	26.4%	19.9%	16.8%	15.3%	15.8%	17.1%	18.1%	18.8%
	7Y	52.0%	49.7%	46.5%	43.5%	40.7%	32.0%	25.9%	18.4%	14.7%	12.9%	13.3%	14.5%	15.4%	16.1%
	10Y	56.5%	54.0%	50.4%	47.0%	43.9%	34.3%	27.5%	19.0%	14.7%	12.6%	12.9%	14.1%	15.1%	15.8%
	15Y	66.1%	63.1%	58.7%	54.9%	51.3%	39.8%	31.7%	21.9%	17.0%	14.6%	14.8%	16.0%	17.1%	17.7%
	20Y	74.1%	70.6%	65.9%	61.5%	57.5%	44.8%	36.0%	25.0%	19.7%	17.0%	17.1%	18.2%	19.4%	20.1%
	30Y	81.3%	77.6%	72.4%	67.8%	63.4%	49.6%	39.8%	27.9%	22.1%	19.6%	19.6%	20.8%	21.8%	22.5%

US MBS Vega

Other Advanced Economies

EXPIRY	1M	115.0%	113.2%	110.4%	107.9%	105.6%	82.9%	69.7%	59.1%	56.2%	54.5%	53.0%	52.6%	52.4%	52.3%
	3M	102.2%	100.4%	98.0%	95.7%	93.6%	77.4%	67.5%	58.7%	55.6%	54.4%	52.9%	52.4%	52.3%	52.2%
	6M	90.1%	88.4%	86.1%	84.0%	82.0%	70.4%	61.8%	54.5%	51.2%	49.6%	48.1%	47.7%	47.5%	47.4%
	9M	82.8%	81.2%	78.9%	76.8%	75.0%	64.9%	57.8%	51.0%	47.6%	45.9%	44.4%	43.9%	43.7%	43.6%
	1Y	76.3%	74.8%	72.6%	70.7%	68.7%	60.2%	54.1%	47.6%	44.1%	42.7%	41.2%	40.7%	40.6%	40.5%
	2Y	62.6%	61.1%	59.1%	57.1%	55.3%	48.5%	43.5%	38.0%	35.7%	34.5%	32.8%	32.3%	32.1%	32.0%
	3Y	57.3%	55.7%	53.6%	51.6%	49.8%	43.4%	39.7%	33.9%	31.4%	29.6%	27.8%	27.3%	27.0%	26.9%
	5Y	56.2%	54.6%	52.0%	49.6%	47.5%	39.3%	33.7%	27.4%	24.1%	21.6%	19.6%	19.0%	18.8%	18.6%
	7Y	54.0%	52.2%	49.5%	47.0%	44.8%	37.8%	32.3%	25.1%	21.1%	18.2%	16.0%	15.3%	15.1%	14.9%
	10Y	54.2%	52.2%	49.4%	46.7%	44.3%	36.2%	30.1%	22.2%	17.9%	14.6%	12.3%	11.6%	11.3%	11.1%
	15Y	51.4%	49.4%	46.6%	43.9%	41.5%	33.4%	27.2%	19.3%	14.9%	11.6%	9.2%	8.4%	8.1%	7.9%
	20Y	50.1%	48.1%	45.3%	42.6%	40.2%	32.1%	25.9%	18.0%	13.6%	10.2%	7.8%	7.1%	6.8%	6.7%
	30Y	49.0%	47.0%	44.1%	41.5%	39.0%	31.0%	24.8%	16.8%	12.4%	8.9%	6.5%	5.7%	5.4%	5.3%

Total Emerging Europe

EXPIRY	1M	95.6%	93.6%	90.9%	88.4%	86.1%	93.4%	93.9%	91.5%	88.6%	86.4%	85.8%	91.1%	96.0%	100.7%
	3M	98.3%	96.2%	93.2%	90.5%	88.1%	92.7%	91.7%	87.9%	84.1%	81.6%	80.8%	85.6%	90.3%	94.6%
	6M	107.3%	104.8%	101.3%	98.2%	95.3%	92.9%	89.2%	82.8%	78.2%	74.9%	74.0%	78.4%	82.5%	86.5%
	9M	111.0%	108.3%	104.5%	101.0%	97.9%	91.1%	85.4%	77.3%	72.2%	68.5%	67.6%	71.5%	75.3%	78.8%
	1Y	116.9%	113.9%	109.6%	105.8%	102.2%	89.8%	81.8%	72.2%	66.7%	62.8%	61.8%	65.4%	68.8%	72.0%
	2Y	97.7%	94.6%	90.3%	86.5%	82.9%	70.0%	62.3%	51.9%	47.1%	43.6%	43.4%	45.8%	48.3%	50.5%
	3Y	84.8%	81.8%	77.6%	73.7%	70.2%	58.3%	50.0%	40.1%	35.1%	32.1%	32.2%	34.0%	35.8%	37.5%
	5Y	71.4%	68.4%	64.2%	60.5%	57.0%	43.7%	36.6%	27.5%	23.2%	20.4%	20.9%	22.1%	23.2%	24.3%
	7Y	66.0%	63.0%	58.9%	55.1%	51.6%	39.0%	31.2%	22.5%	18.2%	16.3%	16.3%	17.1%	17.9%	18.7%
	10Y	60.0%	57.2%	53.2%	49.5%	46.2%	35.1%	28.0%	19.4%	16.3%	14.3%	13.9%	14.4%	15.0%	15.6%
	15Y	83.6%	79.4%	73.6%	68.3%	63.5%	48.1%	37.9%	25.6%	19.6%	15.7%	14.2%	14.3%	14.6%	14.8%
	20Y	96.7%	91.7%	84.9%	78.7%	73.5%	54.7%	42.5%	28.0%	20.7%	16.0%	14.1%	13.9%	14.1%	14.4%
	30Y	124.8%	118.3%	109.2%	101.0%	93.5%	69.5%	53.3%	33.8%	24.1%	17.9%	14.9%	14.5%	14.5%	14.7%

Total Latam & Caribbean

EXPIRY	1M	189.3%	185.4%	180.0%	175.0%	170.5%	163.2%	166.8%	177.7%	168.9%	161.1%	156.0%	153.7%	152.8%	154.8%
	3M	175.9%	172.1%	166.9%	162.0%	157.6%	151.0%	153.5%	162.0%	153.2%	146.1%	142.1%	141.0%	141.0%	143.4%
	6M	168.6%	164.7%	159.3%	154.3%	149.8%	142.7%	143.3%	148.2%	139.3%	132.1%	128.2%	127.0%	127.3%	129.6%
	9M	164.7%	160.6%	155.0%	149.8%	145.2%	140.2%	137.0%	134.9%	126.5%	120.3%	116.5%	115.2%	115.6%	117.8%
	1Y	163.7%	159.5%	153.5%	148.1%	143.2%	139.6%	132.1%	123.4%	115.5%	110.0%	106.1%	104.8%	105.4%	107.6%
	2Y	147.8%	143.2%	136.7%	130.9%	125.5%	113.8%	103.7%	90.6%	83.3%	78.7%	75.3%	74.1%	75.0%	76.8%
	3Y	131.0%	126.3%	119.8%	113.9%	108.4%	95.6%	82.8%	69.1%	63.0%	59.1%	56.1%	55.1%	56.0%	57.5%
	5Y	109.3%	104.8%	98.4%	92.6%	87.3%	72.8%	60.7%	47.3%	41.1%	39.2%	36.3%	35.7%	36.5%	37.8%
	7Y	99.7%	95.2%	88.9%	83.2%	77.9%	63.4%	52.3%	37.3%	31.8%	29.1%	26.4%	26.4%	27.3%	28.3%
	10Y	86.9%	82.7%	77.0%	71.7%	66.9%	53.4%	43.2%	31.0%	25.2%	22.4%	20.0%	20.4%	21.5%	23.7%
	15Y	84.5%	80.3%	74.4%	69.1%	64.2%	50.5%	40.1%	27.6%	21.1%	18.5%	17.4%	19.6%	21.4%	23.1%
	20Y	75.1%	71.3%	66.0%	61.1%	56.7%	46.1%	37.7%	27.0%	22.3%	20.1%	21.7%	24.2%	26.4%	28.5%
	30Y	467.7%	443.3%	409.8%	378.7%	350.7%	271.3%	210.6%	137.7%	103.7%	83.9%	71.4%	69.9%	70.5%	71.8%

Relative Normal Interest Rate Shocks (Continued)

Total Asia Ex-Japan

EXPIRY	1M	82.0%	80.3%	78.0%	75.7%	73.8%	71.1%	62.8%	58.4%	58.2%	58.7%	57.0%	57.4%	59.0%	60.8%
	3M	77.4%	75.7%	73.4%	71.2%	69.3%	66.9%	59.0%	54.6%	54.2%	54.6%	53.0%	53.3%	55.0%	56.6%
	6M	75.7%	74.0%	71.6%	69.4%	67.3%	64.0%	53.6%	49.8%	49.2%	49.5%	47.4%	47.7%	49.1%	50.6%
	9M	73.6%	71.8%	69.3%	67.0%	64.9%	59.7%	52.2%	47.6%	46.5%	46.0%	43.6%	43.9%	45.2%	46.6%
	1Y	71.8%	69.9%	67.3%	64.9%	62.8%	55.9%	51.1%	45.5%	44.1%	42.9%	40.2%	40.5%	41.8%	43.1%
	2Y	69.5%	67.3%	64.3%	61.6%	59.1%	50.6%	44.4%	36.3%	36.8%	36.0%	32.6%	32.9%	33.9%	35.0%
	3Y	66.1%	63.7%	60.4%	57.4%	54.6%	44.9%	39.5%	33.8%	30.8%	29.2%	25.8%	26.3%	27.1%	27.9%
	5Y	65.7%	63.0%	59.1%	55.6%	52.4%	43.9%	36.0%	27.2%	23.9%	21.0%	17.9%	18.2%	18.9%	19.5%
	7Y	67.8%	64.6%	60.4%	56.5%	53.0%	42.3%	34.1%	24.5%	20.2%	16.9%	14.1%	14.4%	14.9%	15.4%
	10Y	65.5%	62.3%	58.0%	54.1%	50.4%	39.9%	31.7%	21.3%	16.6%	13.5%	11.6%	11.8%	12.1%	12.5%
	15Y	65.6%	62.4%	57.8%	53.6%	49.9%	39.1%	30.8%	20.1%	15.7%	12.6%	10.5%	10.4%	10.8%	11.1%
	20Y	81.3%	77.2%	71.5%	66.2%	61.3%	47.8%	37.5%	24.1%	17.6%	13.4%	10.7%	10.6%	10.7%	10.9%
	30Y	102.7%	97.4%	90.1%	83.3%	77.2%	59.4%	45.7%	28.4%	20.0%	14.8%	11.4%	11.0%	10.9%	11.0%

Total ME/N. Africa

EXPIRY	1M	58.8%	57.6%	55.9%	54.4%	53.0%	57.5%	57.8%	56.3%	54.5%	53.2%	52.8%	56.0%	59.1%	61.9%
	3M	60.5%	59.2%	57.3%	55.7%	54.2%	57.0%	56.4%	54.0%	51.7%	50.1%	49.7%	52.7%	55.5%	58.2%
	6M	66.0%	64.5%	62.3%	60.4%	58.6%	57.2%	54.9%	50.9%	48.1%	46.1%	45.5%	48.2%	50.7%	53.2%
	9M	68.3%	66.6%	64.3%	62.2%	60.2%	56.1%	52.5%	47.5%	44.4%	42.2%	41.6%	44.0%	46.3%	48.5%
	1Y	71.9%	70.0%	67.5%	65.1%	62.9%	55.2%	50.3%	44.5%	41.0%	38.6%	38.1%	40.2%	42.3%	44.3%
	2Y	60.1%	58.2%	55.5%	53.2%	51.0%	43.1%	38.3%	31.9%	28.9%	26.9%	26.7%	28.3%	29.7%	31.1%
	3Y	52.3%	50.4%	47.7%	45.4%	43.2%	35.8%	30.8%	24.7%	21.6%	19.7%	19.8%	20.9%	22.0%	23.0%
	5Y	43.9%	42.1%	39.5%	37.1%	35.0%	26.9%	22.6%	16.9%	14.3%	12.6%	12.8%	13.6%	14.3%	14.9%
	7Y	40.6%	38.8%	36.3%	33.9%	31.8%	24.0%	19.2%	13.8%	11.2%	10.0%	10.1%	10.5%	11.1%	11.5%
	10Y	36.9%	35.1%	32.7%	30.5%	28.4%	21.6%	17.2%	11.9%	10.0%	8.8%	8.6%	8.8%	9.2%	9.5%
	15Y	51.4%	48.8%	45.3%	42.1%	39.1%	29.6%	23.3%	15.8%	12.1%	9.7%	8.8%	8.7%	9.0%	9.1%
	20Y	59.4%	56.4%	52.2%	48.4%	44.9%	33.7%	26.2%	17.3%	12.8%	9.9%	8.7%	8.5%	8.7%	8.8%
	30Y	76.9%	72.9%	67.2%	62.2%	57.6%	42.6%	32.7%	20.8%	14.8%	10.9%	9.2%	8.9%	8.9%	8.9%

Total Sub-Saharan Africa

EXPIRY	1M	192.8%	188.8%	183.3%	178.3%	173.6%	139.7%	126.7%	100.5%	94.2%	91.5%	90.1%	89.7%	89.5%	89.4%
	3M	175.0%	171.2%	165.9%	161.1%	156.7%	125.5%	111.4%	84.7%	78.7%	75.9%	74.6%	74.2%	74.1%	74.0%
	6M	150.2%	146.8%	141.9%	137.5%	133.5%	108.5%	95.7%	77.0%	69.8%	65.1%	63.9%	63.5%	63.4%	63.3%
	9M	129.6%	126.5%	122.0%	118.0%	114.3%	98.4%	86.1%	70.2%	64.0%	60.4%	59.1%	58.8%	58.6%	58.5%
	1Y	117.8%	114.8%	110.5%	106.6%	103.1%	89.9%	78.1%	64.3%	58.8%	56.0%	54.7%	54.4%	54.2%	54.1%
	2Y	99.1%	96.0%	91.7%	87.8%	84.2%	71.1%	61.0%	49.0%	43.8%	40.4%	39.1%	38.8%	38.6%	38.5%
	3Y	83.2%	80.2%	76.1%	72.3%	68.8%	57.2%	49.0%	39.3%	34.2%	30.7%	29.4%	29.0%	28.8%	28.7%
	5Y	67.0%	64.2%	60.3%	56.7%	53.5%	43.1%	36.0%	27.7%	23.4%	20.6%	19.1%	18.7%	18.5%	18.5%
	7Y	62.1%	59.3%	55.5%	51.9%	48.6%	38.2%	31.1%	22.7%	18.7%	16.3%	14.9%	14.5%	14.3%	14.1%
	10Y	63.1%	60.1%	55.9%	52.0%	48.6%	37.3%	29.0%	19.3%	14.8%	12.1%	10.7%	10.3%	10.1%	10.0%
	15Y	60.6%	57.5%	53.3%	49.5%	46.0%	34.8%	26.4%	16.8%	12.4%	9.7%	8.2%	7.8%	7.7%	7.6%
	20Y	59.3%	56.3%	52.1%	48.2%	44.7%	33.5%	25.3%	15.7%	11.3%	8.5%	7.1%	6.7%	6.5%	6.4%
	30Y	58.1%	55.1%	50.8%	47.0%	43.5%	32.3%	24.0%	14.5%	10.1%	7.3%	5.9%	5.5%	5.3%	5.2%

Absolute Normal Interest Rate Shocks (Continued)

USD

EXPIRY	1M	103.1	100.6	97.0	93.8	90.8	80.9	73.9	65.4	61.3	59.0	58.7	59.3	59.8	60.2
	3M	99.9	97.4	93.8	90.6	87.6	77.8	70.7	62.2	58.1	55.8	55.5	56.1	56.6	57.0
	6M	95.5	93.0	89.4	86.1	83.1	73.3	66.3	57.8	53.7	51.4	51.1	51.6	52.2	52.6
	9M	91.5	88.9	85.4	82.1	79.1	69.3	62.3	53.8	49.7	47.4	47.1	47.6	48.2	48.6
	1Y	87.8	85.3	81.8	78.5	75.5	65.7	58.7	50.2	46.1	43.7	43.4	44.0	44.6	45.0
	2Y	76.4	73.9	70.3	67.1	64.1	54.3	47.3	38.8	34.6	32.3	32.0	32.6	33.1	33.6
	3Y	68.7	66.2	62.7	59.4	56.4	46.6	39.6	31.1	27.0	24.6	24.3	24.9	25.5	25.9
	5Y	60.2	57.7	54.2	50.9	47.9	38.1	31.1	22.6	18.5	16.1	15.8	16.4	17.0	17.4
	7Y	56.6	54.1	50.6	47.3	44.3	34.5	27.5	19.0	14.8	12.5	12.2	12.8	13.3	13.8
	10Y	54.9	52.4	48.9	45.6	42.6	32.8	25.8	17.3	13.1	10.8	10.5	11.1	11.6	12.1
	15Y	54.9	52.4	48.8	45.6	42.6	32.8	25.7	17.3	13.1	10.8	10.5	11.1	11.6	12.0
	20Y	55.4	52.8	49.3	46.0	43.0	33.2	26.2	17.7	13.6	11.3	11.0	11.5	12.1	12.5
30Y	56.0	53.5	49.9	46.7	43.7	33.9	26.8	18.4	14.2	11.9	11.6	12.2	12.7	13.1	

US MBS Vega

Other Advanced Economies

EXPIRY	1M	96.1	94.6	92.3	90.2	88.3	81.8	77.0	70.6	66.9	64.1	62.4	61.9	61.7	61.6
	3M	92.6	91.0	88.8	86.7	84.8	78.3	73.4	67.0	63.4	60.6	58.9	58.4	58.2	58.1
	6M	87.8	86.2	83.9	81.9	79.9	73.4	68.6	62.2	58.5	55.7	54.0	53.5	53.3	53.2
	9M	83.5	81.9	79.6	77.5	75.6	69.1	64.3	57.9	54.2	51.4	49.7	49.2	49.0	48.9
	1Y	79.6	78.0	75.7	73.7	71.7	65.2	60.4	54.0	50.3	47.5	45.8	45.3	45.1	45.0
	2Y	67.6	66.0	63.8	61.7	59.7	53.3	48.4	42.0	38.4	35.6	33.9	33.3	33.1	33.0
	3Y	59.6	58.0	55.8	53.7	51.8	45.3	40.4	34.0	30.4	27.6	25.9	25.4	25.2	25.1
	5Y	50.4	48.9	46.6	44.5	42.6	36.1	31.2	24.8	21.2	18.4	16.7	16.2	16.0	15.9
	7Y	45.8	44.3	42.0	39.9	38.0	31.5	26.6	20.2	16.6	13.8	12.1	11.6	11.4	11.3
	10Y	42.5	40.9	38.7	36.6	34.7	28.2	23.3	16.9	13.3	10.5	8.8	8.3	8.1	8.0
	15Y	40.3	38.7	36.5	34.4	32.5	26.0	21.1	14.7	11.1	8.3	6.6	6.0	5.8	5.7
	20Y	39.3	37.7	35.5	33.4	31.5	25.0	20.1	13.7	10.1	7.3	5.6	5.1	4.9	4.8
30Y	38.4	36.8	34.6	32.5	30.6	24.1	19.2	12.8	9.2	6.4	4.7	4.1	3.9	3.8	

Total Emerging Europe

EXPIRY	1M	149.4	146.3	142.0	138.1	134.5	123.0	115.0	105.6	100.9	97.8	96.3	95.9	95.7	95.6
	3M	142.6	139.6	135.3	131.3	127.8	116.3	108.3	98.8	94.1	91.1	89.6	89.1	88.9	88.8
	6M	133.6	130.5	126.2	122.3	118.7	107.2	99.2	89.8	85.1	82.0	80.5	80.1	79.9	79.8
	9M	125.7	122.6	118.3	114.4	110.8	99.3	91.3	81.8	77.2	74.1	72.6	72.1	72.0	71.8
	1Y	118.7	115.6	111.3	107.4	103.8	92.4	84.4	74.9	70.2	67.2	65.6	65.2	65.0	64.9
	2Y	98.5	95.4	91.1	87.2	83.6	72.1	64.1	54.6	50.0	46.9	45.4	44.9	44.8	44.6
	3Y	86.2	83.1	78.8	74.9	71.3	59.9	51.9	42.4	37.7	34.7	33.1	32.7	32.5	32.4
	5Y	73.8	70.7	66.4	62.5	58.9	47.4	39.4	30.0	25.3	22.2	20.7	20.3	20.1	20.0
	7Y	68.3	65.2	60.9	57.0	53.4	42.0	34.0	24.5	19.8	16.8	15.2	14.8	14.6	14.5
	10Y	64.6	61.5	57.2	53.3	49.7	38.2	30.3	20.8	16.1	13.0	11.5	11.1	10.9	10.8
	15Y	62.0	58.9	54.6	50.7	47.1	35.6	27.6	18.1	13.5	10.4	8.9	8.5	8.3	8.1
	20Y	60.7	57.6	53.3	49.4	45.8	34.3	26.3	16.9	12.2	9.1	7.6	7.2	7.0	6.9
30Y	59.4	56.3	52.0	48.1	44.5	33.1	25.1	15.6	10.9	7.9	6.3	5.9	5.7	5.6	

Total Latam & Caribbean

EXPIRY	1M	382.0	374.1	363.1	353.1	344.0	314.6	294.2	269.9	258.0	250.2	246.3	245.2	244.7	244.4
	3M	364.7	356.8	345.9	335.8	326.7	297.4	276.9	252.7	240.7	232.9	229.0	227.9	227.4	227.1
	6M	341.6	333.7	322.7	312.7	303.5	274.2	253.8	229.5	217.6	209.8	205.8	204.7	204.3	204.0
	9M	321.3	313.4	302.4	292.4	283.3	253.9	233.5	209.3	197.3	189.5	185.6	184.5	184.0	183.7
	1Y	303.6	295.7	284.7	274.7	265.5	236.2	215.8	191.5	179.6	171.8	167.8	166.7	166.3	166.0
	2Y	251.8	243.9	232.9	222.9	213.7	184.4	164.0	139.7	127.8	120.0	116.0	114.9	114.5	114.2
	3Y	220.5	212.6	201.6	191.6	182.4	153.1	132.7	108.4	96.5	88.7	84.8	83.7	83.2	82.9
	5Y	188.7	180.8	169.8	159.8	150.6	121.3	100.8	76.6	64.6	56.8	52.9	51.8	51.3	51.0
	7Y	174.7	166.8	155.8	145.8	136.6	107.3	86.9	62.6	50.7	42.9	39.0	37.9	37.4	37.1
	10Y	165.2	157.3	146.3	136.3	127.1	97.8	77.4	53.1	41.2	33.4	29.4	28.3	27.9	27.6
	15Y	158.5	150.6	139.6	129.5	120.4	91.1	70.6	46.4	34.4	26.6	22.7	21.6	21.1	20.8
	20Y	155.2	147.3	136.3	126.3	117.1	87.8	67.4	43.1	31.2	23.4	19.4	18.4	17.9	17.6
30Y	151.9	144.0	133.1	123.0	113.9	84.6	64.1	39.9	27.9	20.1	16.2	15.1	14.6	14.3	

Absolute Normal Interest Rate Shocks (Continued)

Total Asia Ex-Japan

EXPIRY	1M	126.3	123.7	120.1	116.7	113.7	104.0	97.3	89.2	85.3	82.7	81.4	81.1	80.9	80.8
	3M	120.6	118.0	114.3	111.0	108.0	98.3	91.6	83.5	79.6	77.0	75.7	75.3	75.2	75.1
	6M	112.9	110.3	106.7	103.4	100.3	90.6	83.9	75.9	71.9	69.3	68.1	67.7	67.5	67.4
	9M	106.2	103.6	100.0	96.7	93.6	84.0	77.2	69.2	65.2	62.6	61.4	61.0	60.8	60.7
	1Y	100.4	97.8	94.1	90.8	87.8	78.1	71.3	63.3	59.4	56.8	55.5	55.1	55.0	54.9
	2Y	83.2	80.6	77.0	73.7	70.7	61.0	54.2	46.2	42.2	39.7	38.4	38.0	37.8	37.7
	3Y	72.9	70.3	66.7	63.3	60.3	50.6	43.9	35.8	31.9	29.3	28.0	27.7	27.5	27.4
	5Y	62.4	59.8	56.1	52.8	49.8	40.1	33.3	25.3	21.4	18.8	17.5	17.1	17.0	16.9
	7Y	57.8	55.1	51.5	48.2	45.2	35.5	28.7	20.7	16.8	14.2	12.9	12.5	12.4	12.3
	10Y	54.6	52.0	48.4	45.1	42.0	32.3	25.6	17.6	13.6	11.0	9.7	9.4	9.2	9.1
	15Y	52.4	49.8	46.1	42.8	39.8	30.1	23.3	15.3	11.4	8.8	7.5	7.1	7.0	6.9
	20Y	51.3	48.7	45.1	41.8	38.7	29.0	22.3	14.3	10.3	7.7	6.4	6.1	5.9	5.8
30Y	50.2	47.6	44.0	40.7	37.7	28.0	21.2	13.2	9.2	6.7	5.4	5.0	4.8	4.7	

Total ME/N. Africa

EXPIRY	1M	91.9	90.0	87.4	85.0	82.8	75.7	70.8	64.9	62.1	60.2	59.3	59.0	58.9	58.8
	3M	87.8	85.9	83.2	80.8	78.6	71.5	66.6	60.8	57.9	56.0	55.1	54.8	54.7	54.6
	6M	82.2	80.3	77.6	75.2	73.0	66.0	61.1	55.2	52.3	50.5	49.5	49.3	49.1	49.1
	9M	77.3	75.4	72.8	70.4	68.2	61.1	56.2	50.3	47.5	45.6	44.7	44.4	44.3	44.2
	1Y	73.0	71.1	68.5	66.1	63.9	56.8	51.9	46.1	43.2	41.3	40.4	40.1	40.0	39.9
	2Y	60.6	58.7	56.0	53.6	51.4	44.4	39.4	33.6	30.7	28.9	27.9	27.7	27.5	27.5
	3Y	53.1	51.2	48.5	46.1	43.9	36.8	31.9	26.1	23.2	21.3	20.4	20.1	20.0	19.9
	5Y	45.4	43.5	40.8	38.4	36.2	29.2	24.3	18.4	15.6	13.7	12.7	12.5	12.4	12.3
	7Y	42.0	40.1	37.5	35.1	32.9	25.8	20.9	15.1	12.2	10.3	9.4	9.1	9.0	8.9
	10Y	39.7	37.8	35.2	32.8	30.6	23.5	18.6	12.8	9.9	8.0	7.1	6.8	6.7	6.6
	15Y	38.1	36.2	33.6	31.2	29.0	21.9	17.0	11.2	8.3	6.4	5.5	5.2	5.1	5.0
	20Y	37.3	35.4	32.8	30.4	28.2	21.1	16.2	10.4	7.5	5.6	4.7	4.4	4.3	4.2
30Y	36.6	34.7	32.0	29.6	27.4	20.3	15.4	9.6	6.7	4.8	3.9	3.6	3.5	3.4	

Total Sub-Saharan Africa

EXPIRY	1M	217.6	213.1	206.9	201.2	195.9	179.2	167.6	153.8	147.0	142.5	140.3	139.7	139.4	139.2
	3M	207.8	203.3	197.0	191.3	186.1	169.4	157.8	143.9	137.1	132.7	130.5	129.8	129.6	129.4
	6M	194.6	190.1	183.8	178.1	172.9	156.2	144.6	130.8	123.9	119.5	117.3	116.6	116.4	116.2
	9M	183.1	178.6	172.3	166.6	161.4	144.7	133.0	119.2	112.4	108.0	105.7	105.1	104.8	104.7
	1Y	172.9	168.5	162.2	156.5	151.3	134.6	122.9	109.1	102.3	97.8	95.6	95.0	94.7	94.6
	2Y	143.4	138.9	132.7	127.0	121.8	105.0	93.4	79.6	72.8	68.3	66.1	65.5	65.2	65.0
	3Y	125.6	121.1	114.9	109.2	103.9	87.2	75.6	61.8	55.0	50.5	48.3	47.7	47.4	47.2
	5Y	107.5	103.0	96.7	91.0	85.8	69.1	57.4	43.6	36.8	32.4	30.1	29.5	29.2	29.1
	7Y	99.5	95.0	88.8	83.1	77.8	61.1	49.5	35.7	28.9	24.4	22.2	21.6	21.3	21.1
	10Y	94.1	89.6	83.3	77.6	72.4	55.7	44.1	30.3	23.4	19.0	16.8	16.1	15.9	15.7
	15Y	90.3	85.8	79.5	73.8	68.6	51.9	40.2	26.4	19.6	15.2	12.9	12.3	12.0	11.9
	20Y	88.4	83.9	77.7	71.9	66.7	50.0	38.4	24.6	17.8	13.3	11.1	10.5	10.2	10.0
30Y	86.6	82.1	75.8	70.1	64.9	48.2	36.5	22.7	15.9	11.5	9.2	8.6	8.3	8.2	

Other Rates

DFAST 2024 Market Shocks: Severely Adverse Scenario

Other Rates

Absolute Change in Inflation (bps)

Currency	MATURITY												
	1M	3M	6M	9M	1Y	2Y	3Y	5Y	7Y	10Y	15Y	20Y	30Y
AUD	115.0	115.0	115.0	115.0	115.0	100.0	85.0	71.2	59.0	53.0	53.0	53.0	53.0
EUR	140.0	140.0	140.0	140.0	140.0	107.0	74.0	51.6	46.0	39.0	39.0	39.0	38.0
GBP	178.0	178.0	178.0	178.0	178.0	139.0	100.0	75.6	70.0	68.0	63.0	60.0	57.0
JPY	24.0	24.0	24.0	24.0	24.0	24.0	23.0	22.4	21.9	21.0	21.0	20.0	20.0
USD	171.0	171.0	171.0	171.0	171.0	140.5	110.0	84.4	68.0	56.0	56.0	56.0	56.0
Other	171.0	171.0	171.0	171.0	171.0	140.5	110.0	84.4	68.0	56.0	56.0	56.0	56.0

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

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

Currency	MATURITY												
	1M	3M	6M	9M	1Y	2Y	3Y	5Y	7Y	10Y	15Y	20Y	30Y
AUD	(18.9)	(18.9)	(17.3)	(15.6)	(14.0)	(13.9)	(13.7)	(13.4)	(13.1)	(12.6)	(11.9)	(11.0)	(9.5)
EUR	(31.6)	(31.6)	(26.6)	(21.6)	(16.6)	(16.3)	(16.1)	(15.7)	(15.3)	(14.6)	(13.5)	(12.5)	(10.3)
GBP	(21.6)	(21.6)	(18.6)	(15.7)	(12.8)	(12.7)	(12.6)	(12.4)	(12.2)	(11.9)	(11.5)	(11.0)	(10.1)
JPY	(31.8)	(31.8)	(28.2)	(24.6)	(20.9)	(20.7)	(20.6)	(20.2)	(19.8)	(19.3)	(18.4)	(17.5)	(15.7)
Other	(31.6)	(31.6)	(26.6)	(21.6)	(16.6)	(16.3)	(16.1)	(15.7)	(15.3)	(14.6)	(13.5)	(12.5)	(10.3)

Appendix 7: Data Notes

The following are descriptions of data through 2023:Q4 (as released through January 12, 2024). The 2023:Q4 values of variables marked with an asterisk (*) are estimates.

U.S. real GDP growth*: Quarterly percent change in real gross domestic product (chained 2017 dollars), expressed at an annualized rate, Bureau of Economic Analysis (NIPA table 1.1.6, line 1).

U.S. nominal GDP growth*: Quarterly percent change in gross domestic product (current dollars), expressed at an annualized rate, Bureau of Economic Analysis (NIPA table 1.1.5, line 1).

U.S. real disposable income growth*: Quarterly percent change in real disposable personal income (current-dollar values divided by the price index for personal consumption expenditures), expressed at an annualized rate, Bureau of Economic Analysis (NIPA table 2.1, line 27, and NIPA table 1.1.4, line 2).

U.S. nominal disposable income growth*: Quarterly percent change in disposable personal income (current dollars), expressed at an annualized rate, Bureau of Economic Analysis (NIPA table 2.1, line 27).

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

U.S. CPI inflation: Percent change in the quarterly average of seasonally adjusted monthly levels of the all-items CPI for all urban consumers (CPI-U), expressed at an annualized rate, Bureau of Labor Statistics (series CUSR0000SA0).

U.S. 3-month Treasury rate: Quarterly average of 3-month Treasury bill secondary market rate on a discount basis, H.15 Release, Selected Interest Rates, Federal Reserve Board (series RIFSGFSM03_N.B).

U.S. 5-year Treasury yield: Quarterly average of the yield on 5-year U.S. Treasury notes, constructed for the FRB/U.S. model by Federal Reserve staff based on the Svensson smoothed term structure model (see Lars E. O. Svensson, 1995, "Estimating Forward Interest Rates with the Extended Nelson–Siegel Method," Quarterly Review, no. 3, Sveriges Riksbank, pp. 13–26).

U.S. 10-year Treasury yield: Quarterly average of the yield on 10-year U.S. Treasury notes, constructed for the FRB/U.S. model by Federal Reserve staff based on the Svensson smoothed term structure model (see Svensson, "Estimating Forward Interest Rates").

U.S. BBB corporate yield: Quarterly average of ICE BofAML U.S. Corporate 7-10 Year Yield-to-Maturity Index, ICE Data Indices, LLC, used with permission (C4A4 series).

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 (series RIFSPBLP_N.M).

U.S. Dow Jones Total Stock Market (Float Cap) Index: End-of-quarter value via Bloomberg Finance L.P.

U.S. House Price Index*: Price Index for Owner-Occupied Real Estate, Z.1 Release (Financial Accounts of the United States), Federal Reserve Board (series FL075035243.Q divided by 1000).

U.S. Commercial Real Estate Price Index*: Commercial Real Estate Price Index, Z.1 Release (Financial Accounts of the United States), Federal Reserve Board (series FL075035503.Q divided by 1000).

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

Euro area real GDP growth*: Quarterly 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*: Quarterly percent change in real gross domestic product at an annualized rate, staff calculations based on data from Bank of Korea via Haver; National Bureau of Statistics of China via Haver; Indian Central Statistics Office via Haver; Census and Statistics Department of Hong Kong via Haver; and Taiwan Directorate-General of Budget, Accounting and Statistics via Haver.

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 data from National Bureau of 2024 Stress Test Scenarios Statistics of China via Haver; Indian Ministry of Statistics and Programme Implementation via Haver; Labour Bureau of India via Haver; Statistics Korea (KOSTAT) via Haver; Census and Statistics Department of Hong Kong via Haver; and Taiwan Directorate-General of Budget, Accounting and Statistics via Haver.

Japan real GDP growth*: Quarterly percent change in real gross domestic product at an annualized rate from 1980 to present and percent change in gross domestic expenditure at an annualized rate prior to 1980, Cabinet Office of Japan via Haver.

Japan inflation*: Percent change in the quarterly average of the consumer price index at an annualized rate, based on data from the Ministry of Internal Affairs and Communications via Haver.

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

U.K. inflation*: Percent change in the quarterly average of the consumer price index at an annualized rate from 1988 to present and percent change in the quarterly average of the retail prices index prior to 1988, staff calculations based on data from the U.K. Office for National Statistics via Haver.

Exchange rates: End-of-quarter exchange rates, H.10 Release (Foreign Exchange Rates), Federal Reserve Board.