

Wells Fargo & Company

2017 Mid-Cycle Stress Test Results

Under the Company's Assumed Severely Adverse Scenario

October 30, 2017



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In this Report, when we refer to “Wells Fargo,” “the Company,” “we,” “our” or “us”, we mean Wells Fargo & Company and Subsidiaries (consolidated).

This Report contains forward-looking statements, including projections of our financial results and condition under a hypothetical scenario that incorporates a set of assumed economic and financial conditions defined by us. The projections are not intended to be our forecast of expected future economic or financial conditions or our forecast of the Company’s expected future financial results or condition, but rather reflect possible results under the Company defined hypothetical scenario. Our future financial results and condition will be influenced by actual economic and financial conditions and various other factors as described in our reports filed with the Securities and Exchange Commission (SEC) and available at www.sec.gov.

Overview

Wells Fargo & Company is a diversified, community-based financial services company with \$1.9 trillion in assets. Founded in 1852 and headquartered in San Francisco, we provide banking, insurance, investments, mortgage, and consumer and commercial finance through more than 8,400 locations, 13,000 ATMs, digital (online, mobile and social), and contact centers (phone, email and correspondence), and we have offices in 42 countries and territories to support customers who conduct business in the global economy. With approximately 268,000 active, full-time equivalent team members, we serve one in three households in the United States. Wells Fargo & Company was ranked No. 25 on *Fortune’s* 2017 rankings of America’s largest corporations.

As a large bank holding company, Wells Fargo is subject to the *Supervisory and Company-Run Stress Test Requirements for Covered Companies* rule issued by the Board of Governors of the Federal Reserve System (Federal Reserve) to implement the stress testing and disclosure requirements of the Dodd-Frank Wall Street Reform and Consumer Protection Act (Dodd-Frank Act stress tests). A stress test is defined in the rule as “a process to assess the potential impact of scenarios on the consolidated earnings, losses, and capital of a company over the planning horizon, taking into account its current condition, risks, exposures, strategies, and activities.”

Since the 2008 financial crisis, stress testing has evolved as an important analytical tool for evaluating capital adequacy under adverse conditions. Wells Fargo regularly uses such exercises in its capital planning to measure our exposure to material risks and evaluate the adequacy of capital resources available to absorb potential losses arising from those risks and to continue to support lending and other key operations during adverse economic conditions. We conduct multiple stress tests each year under a range of adverse scenarios.

In this Report, we present the results of our 2017 Mid-Cycle Dodd-Frank Act stress test. This test evaluates the potential impact of a Company-defined severely adverse scenario, inclusive of the Company-defined global market shock and the counterparty default components (the Scenario), on the Company’s consolidated financial position. It is important to note that the Scenario is not a forecast but rather a

hypothetical scenario with assumed economic and financial conditions designed by us to assess our strength and resilience to severely adverse economic environments and market conditions.

Our stress testing results in pro forma capital ratios that include specific assumptions regarding capital actions that are prescribed by the Dodd-Frank Act stress test rule¹ (Dodd-Frank capital actions). The Dodd-Frank capital actions assume common stock dividend payments are maintained at the quarterly average dollar amount the Company operated in for the period Q4 2016 through Q3 2017 plus common stock dividends attributable to issuances related to expended employee compensation or in connection with a planned merger or acquisition. In practice, if this Scenario were to occur, the Company would take capital conservation actions mandated by internal policy, which include changes in common stock dividend payments.

We performed our stress test by projecting losses and related provision, revenue, expense and capital ratios under the Scenario using models and methodologies developed or selected by the Company, except where the assumptions, practices or methodologies were specifically prescribed by rules or instructions published by the Federal Reserve². The stress test results summarized in this Report are not comparable to the results of other stress tests performed by the Company or with the Comprehensive Capital Analysis and Review (CCAR) results published by the Federal Reserve due to a number of factors including the uniqueness of the scenarios used to prepare each stress test, differences in market conditions and the Company's financial and balance sheet positions at the time each stress test is performed, differences in the Federal Reserve's RWA assumptions compared to the Company's assumptions, differences in capital actions assumptions, and the evolving risk quantification methodologies and regulatory capital frameworks that may be applicable to each stress test.

The stress test results summarized in this Report should not be interpreted as expected or likely outcomes for the Company, but rather as a possible result under hypothetical, highly adverse economic conditions that do not take into account capital conservation actions mandated under internal policy if the Scenario were to actually occur.

The results of our 2017 Mid-Cycle stress test suggest that the Company's performance would decline under the assumptions of the Scenario in response to increased provision expenses, reduced new business volumes, lower net interest income, and higher market-related losses. As shown in Table 4, for the nine quarter test horizon from July 1, 2017 to September 30, 2019, we project a cumulative total net loss before tax of \$25.8 billion. This cumulative net loss before tax reflects projected losses of \$57.6 billion from provision for loan losses, trading and counterparty credit losses, and losses on investment securities. These losses are substantially offset by projected cumulative pre-provision net revenue (PPNR) of \$31.8 billion, which represents projected net interest income plus noninterest income less noninterest expense.

¹ The prescribed Dodd-Frank Act capital actions include estimated Q3 2017 capital actions taken by the Company, and for quarters two through nine of the test horizon, no issuance of regulatory capital other than assumed issuance of common stock for employee compensation or in connection with a planned merger or acquisition; payments of common stock dividends equal to the quarterly average dollar amount paid by the Company from Q4 2016 through Q3 2017; payments on all other regulatory capital instruments equal to the stated dividend, interest, or principal due during the quarter; and no capital redemptions or repurchases.

² See Board of Governors of the Federal Reserve System, "Comprehensive Capital Analysis and Review 2017 Summary Instructions for LISCC and Large and Complex Firms," January, 2017 for the CCAR and Dodd-Frank Act stress test instructions.

Our pro forma Common Equity Tier 1 ratio, with transition requirements³, decreases from 11.9% at June 30, 2017 to 9.8% at September 30, 2019 (see Table 2). Despite projected declines in revenue and significant losses and the mandated assumption that capital conservation actions would not be taken, the projected minimum Common Equity Tier 1 ratio during the nine quarter test horizon was 9.8%, which exceeds the 4.5%⁴ regulatory minimum. The Common Equity Tier 1 ratio results are calculated under the standardized approach with transition requirements, estimated under the Scenario assumptions designed by us, and reflect the required Dodd-Frank capital actions.

Severely Adverse Scenario

The Scenario depicts a severe recession in the United States precipitated by domestic and international events. Domestically, government sponsored enterprise (GSE) reform results in hastily privatizing Fannie Mae and Freddie Mac under a “cap and release” program, but they are undercapitalized and their catastrophic insurance backstop is poorly received by investors, causing severe dislocations in the housing market. Guarantee fees rise sharply and credit availability is reduced, causing house prices to fall. Internationally, undercapitalized European banks and counterparty risk aversion leads to reduced lending and a system-wide credit crunch.

As confidence slumps, a vicious cycle ensues: businesses reduce payrolls and back away from deferrable expenditures and loan losses in the banking sector lead to balance sheet downsizing. As events unfold, the Federal Reserve reduces the federal funds rate to 5 basis points (bps) for the first half of the scenario.

Overall, real gross domestic product (GDP) declines 6.2%, hitting bottom in Q4 2018 with severe damage inflicted on property and equity markets. Unemployment rises to 10.2% and the S&P 500 Index declines by 51%. Home prices fall 27% by year-end 2018 with declines generally being greater in geographic areas with high Wells Fargo concentration. Commercial real estate prices also suffer, as job losses cause vacancy rates to soar, lease rates to decline, and operating income to fall. Overall, commercial property prices decline 32% peak to trough. Table 1 summarizes key macroeconomic metrics from the hypothetical Scenario.

³ Per Basel III rules, certain numerator deductions are transitioned and certain assets are risk-weighted at a lower risk-weight until fully phased-in at January 1, 2018.

⁴ Under CCAR stress testing rules, the required minimum regulatory ratios do not include the capital surcharge for global systemically important banks (GSIBs), the capital conservation buffer or the countercyclical buffer.

Table 1: Select Company-Defined Severely Adverse Scenario Macroeconomic Variables (1)

Quarter	Unemployment rate	Real GDP growth	3-month USD Libor	10-year Treasury yield	Mortgage rate	CoreLogic HPI	CoStar CRE Index	S&P 500 Stock Price Index
Q1 2017	4.7%	1.2%	1.07%	2.44%	4.17%	185.6	198.8	2,324
Q2 2017	4.3%	3.0%	1.31%	2.31%	4.11%	188.8	202.2	2,392
Q3 2017	4.4%	-0.3%	1.41%	1.20%	3.50%	179.7	194.1	2,079
Q4 2017	4.9%	-3.1%	1.24%	0.80%	3.44%	175.3	189.6	1,640
Q1 2018	5.8%	-5.4%	1.30%	0.82%	3.53%	163.8	177.3	1,328
Q2 2018	6.8%	-6.4%	1.07%	0.85%	3.80%	153.5	164.9	1,178
Q3 2018	8.0%	-5.7%	0.63%	1.07%	3.58%	141.8	150.3	1,244
Q4 2018	9.2%	-3.8%	0.44%	1.27%	3.49%	137.0	141.8	1,391
Q1 2019	9.9%	-0.4%	0.37%	1.39%	3.40%	139.4	140.1	1,538
Q2 2019	10.2%	1.6%	0.43%	1.51%	3.37%	141.6	138.8	1,653
Q3 2019	10.1%	3.0%	0.46%	2.07%	3.89%	143.1	138.2	1,716
Q4 2019	9.8%	2.8%	0.48%	2.22%	3.91%	143.8	138.2	1,749
Q1 2020	9.3%	3.1%	0.49%	2.44%	4.11%	145.1	139.7	1,762
Q2 2020	8.8%	3.0%	0.48%	2.44%	4.11%	147.0	142.4	1,786
Q3 2020	8.6%	3.1%	0.46%	2.21%	3.93%	147.5	144.3	1,832

(1) All economic variables listed in Table 1 are quarterly averages except GDP which is presented at an annual rate of change. HPI stands for House Price Index with January 2000 = 100 and CRE stands for Commercial Real Estate Price Index with January 2001 = 100. The forward looking test horizon includes Q3 2017 to Q3 2019.

As designed, the Scenario deliberately stresses key balance sheet positions, including loan and securities portfolios and mortgage servicing rights (MSR) assets. In addition, the Scenario is designed to significantly and immediately curtail meaningful sources of revenue and capital for Wells Fargo, such as mortgage banking and trust and investment fees.

Our economics team uses a robust, top-down approach to develop the projected variables in the Scenario. The Scenario is based upon outputs from a credible, widely-used econometric macro-simulation model that shows an internally consistent evolution of the economy under severely adverse macroeconomic conditions. The variable paths are projected to be consistent and plausible, even in approximating situations that have not occurred previously. The initial set of key variables is selected to help ensure the Scenario reflects a severe economic downturn which encompasses our idiosyncratic risks, internal policy guidelines for severity and other unique characteristics. Once the macroeconomic forecast summary and the paths of key economic variables are created and internally approved, we use additional models to develop regional level economic projections to better address risks on a geographically granular basis. Specifically, U.S.-level metrics serve as key drivers of the regional and global economic models, whose output includes projections for all 50 states, the District of Columbia, 401 metropolitan statistical areas (MSAs), and key foreign countries, culminating in over 4,500 detailed forecasted variables. In all instances, our methodology to create the detailed variables is performed in a theoretically sound and empirically rigorous way to help ensure internal consistency and coherence.

The Scenario also incorporates a global market shock component, which is a one-time hypothetical shock to the market risk exposure of our trading and private equity portfolios. Generally, these shocks involve large and sudden changes in interest rates, credit spreads, foreign exchange rates, equity and commodity prices, as well as mortgage rates and market liquidity dynamics, reflecting general market dislocation and heightened uncertainty. We crafted a global market shock that stressed the idiosyncratic aspects of our market risk exposure. The hypothetical global market shock was applied to the June 30, 2017 trading

portfolio by fully revaluing each position for the entire portfolio. The difference between the original market value and the post-shock market value is the amount of gain/loss for the stress Scenario. After applying the market shock, we assume an instantaneous and unexpected default of our largest counterparty, which was selected by identifying the counterparty that represents the largest total net stress losses as of the measurement date.

Summary Results for the Severely Adverse Scenario

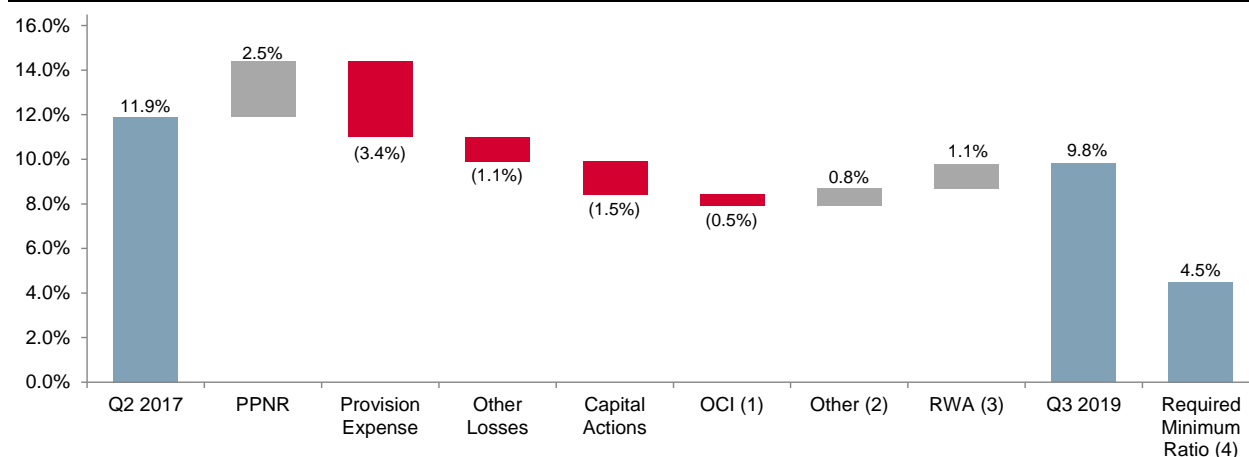
Under the Scenario, the Company's pro forma Common Equity Tier 1 ratio, with transition requirements, was projected to decrease from 11.9% at June 30, 2017 to 9.8% at September 30, 2019, the end of the nine quarter test horizon. The projected minimum Common Equity Tier 1 ratio over the nine quarter test horizon was 9.8%, which exceeds the 4.5% regulatory minimum. The risk-based capital ratios are calculated under the standardized approach with transition requirements and reflect the Dodd-Frank capital actions. As shown in Table 2, all capital ratios remain above the regulatory minimum ratios throughout the nine quarter test horizon.

Table 2: Projected Capital Ratios

	<u>Actual</u>	<u>Stressed pro forma ratios</u>		<u>Regulatory</u>
	<u>Jun. 30, 2017</u>	<u>Sep. 30, 2019</u>	<u>Minimum</u>	<u>Minimum (1)</u>
Common Equity Tier 1	11.9 %	9.8 %	9.8 %	4.5 %
Tier 1 risk-based capital	13.7	11.8	11.8	6.0
Total risk-based capital	17.0	15.3	15.3	8.0
Tier 1 leverage	9.3	7.9	7.9	4.0
Supplementary leverage ratio	7.9	6.9	6.9	3.0
Memo items - risk-weighted assets (2)				
(in billions)				
Standardized approach	\$ 1,287	1,179		

(1) As defined by the regulations issued by the Federal Reserve, OCC and FDIC. Under CCAR stress testing rules, the required minimum regulatory ratios do not include the GSIB capital surcharge, the capital conservation buffer or the countercyclical buffer.

(2) Risk-weighted assets are calculated under the standardized risk-based capital approach with transition requirements through 2017 and fully phased-in by Q1 2018.

Table 3: Common Equity Tier 1 Ratio Attribution Analysis

(1) Other comprehensive income.

(2) Other incorporates all other adjustments, including mortgage servicing rights, goodwill and other intangibles, income tax and net income attributable to minority interests.

(3) Risk-weighted assets.

(4) Under CCAR stress testing rules, the required minimum regulatory ratio does not include the GSIB capital surcharge, the capital conservation buffer or the countercyclical buffer.

As shown in Table 2, the pro forma Tier 1 and Total risk-based capital ratios were projected to decline 190 bps and 170 bps, respectively, by the end of the nine quarter test horizon due to changes in the level of Common Equity Tier 1 and the amortization of regulatory capital instruments. All three of the risk-based capital ratios were affected by a decrease in risk-weighted assets mainly driven by the decline in loan balances. The 140 bps decrease in the projected pro forma Tier 1 leverage ratio was due to lower ending Tier 1 capital.

As shown in Table 3, the material drivers of changes in the projected pro forma Common Equity Tier 1 ratio include projected positive pre-provision net revenue offset by provision expense, other losses which include the market shock and counterparty default, the mandated Dodd-Frank capital actions and a decline in other comprehensive income. Risk-weighted assets decline over the nine quarter test horizon due primarily to a decline in loan balances as a result of charge-offs and weakened loan demand.

As shown in Table 4, for the nine quarter test horizon we estimated a cumulative pro forma net loss before taxes of \$25.8 billion.

Table 4: Projected Net Revenue, Losses and Net Income Before Taxes Nine Quarter Cumulative

(in billions)	Nine quarter cumulative, ending Sep. 30, 2019	Percent of average assets (1)
Pre-provision net revenue (2)	\$ 31.8	1.8%
Less		
Provision for loan and lease losses (3)	43.7	
Realized losses on investment securities	1.4	
Trading and counterparty losses (4)	12.5	
Subtotal of losses	57.6	
Net income before taxes	\$ (25.8)	(1.4%)
Memo items		
Other comprehensive income (5)	\$ (6.3)	
<i>Other effects on capital</i>	Q2 2017	Q3 2019
Accumulated other comprehensive income included in capital (6)	\$ (1.7)	\$ (8.4)

- (1) Average assets are the nine-quarter average of total assets (from Q3 2017 through Q3 2019).
- (2) Pre-provision net revenue represents net interest income plus noninterest income less noninterest expense. It includes losses from operational risk events, expenses associated with the change in the allowance for unfunded commitments, and costs associated with other real estate owned assets.
- (3) Provision for loan and lease losses is reported in accordance with the reporting criteria required in the FR Y-14A.
- (4) Trading and counterparty losses include mark-to-market losses, changes in credit valuation adjustments (CVA), single largest counterparty default, incremental default losses, and losses on non-trading related private equity positions that were subject to the global market shock stress.
- (5) Projected other comprehensive income is reported in after-tax dollars and includes incremental unrealized losses/gains on available for sale securities and held to maturity securities that have experienced other than temporary impairment and includes unrecognized losses/gains on pension plan obligations and pension assets.
- (6) Reflects projected accumulated other comprehensive income, excluding amounts deducted from regulatory capital under final Basel III capital rules, and reflects the required 80% transition provisions for Q2 2017 and fully phased-in by Q1 2018.

Pre-Provision Net Revenue

The estimated stressed pre-provision net revenue of \$31.8 billion reflects projected declining levels of net interest income over the nine quarter test horizon, reduced noninterest income, and higher noninterest expense.

The decline in net interest income is due primarily to weakened loan demand, consistent with a severe recession, low interest rates, higher levels of non-performing assets, and the incorporation of an assumed liquidity stress event that increases our funding costs. The reduced levels of noninterest income are primarily related to lower mortgage banking fees and a decline in trust and investment fees. Mortgage banking fees decline due to net losses associated with hedging the fair value of mortgage servicing rights (MSRs) and lower servicing income driven by an increase in unreimbursed foreclosure costs. Trust and investment fees are lower as a result of the depressed equity market levels and slower economic growth.

The increase in noninterest expense over the nine quarter test horizon is primarily driven by higher operating losses and foreclosed asset expense, partially offset by lower revenue-based and discretionary incentive compensation.

Provision for Loan and Lease Losses

The nine quarter cumulative provision for loan and lease losses was estimated at \$43.7 billion and consists of projected loan loss charge-offs of \$29.1 billion and a net increase in the allowance for loan and lease losses (ALLL) of \$14.6 billion.

Projected loan losses by type of loan are presented in Table 5.

Table 5: Projected Loan Losses by Type of Loan under the Severely Adverse Scenario ⁽¹⁾

(in billions)	Nine quarters cumulative Sept. 30, 2019	Cumulative portfolio loss rate ⁽²⁾
First lien mortgages, domestic	\$ 3.7	1.5 %
Junior liens and home equity lines of credit, domestic	2.1	3.9
Commercial and industrial ⁽³⁾	5.0	2.6
Commercial real estate, domestic	3.7	2.8
Credit card	7.5	20.6
Other consumer	4.9	6.2
All other loans ⁽⁴⁾	2.2	1.4
Projected loan losses	\$ 29.1	3.2 %

(1) The loan categories presented in Table 5 adhere to FR Y-14A regulatory reporting definitions which differ from loan categories presented in our financial reports filed with the SEC.

(2) The portfolio loss rate is calculated by dividing the nine quarter cumulative net losses by the average loan balances over the same period. Average loan balances used to calculate portfolio loss rates exclude loans held for sale and loans held for investment under the fair-value option.

(3) Commercial and industrial (C&I) loans include C&I graded, small business and business card loans.

(4) All other loans are largely commercial loans, and include foreign real estate loans, loans to purchase or hold securities, loans secured by farmland, agriculture loans, loans to various financial institutions, lease financing receivables, and overdrafts from commercial and consumer accounts.

While charge-offs represent the realization of loan losses that have occurred, an increase in ALLL under the Scenario represents the recognition of loan losses and occurs in advance of the loan loss realization under generally accepted accounting principles (GAAP). The ALLL is management's estimate of incurred credit losses inherent in the loan portfolio at a specified point in time. Changes in the ALLL balance are reflected through the provision to help ensure adequate coverage of losses inherent in the loan portfolio at the specified point in time. Projected provision expense associated with the change in the allowance for unfunded credit commitments is included in pre-provision net revenue.

The commercial loan portfolio consists of CRE loans, which include CRE construction loans, and commercial non-real estate loans, which include C&I loans and all other commercial loans. Estimated losses over the nine quarter horizon on the commercial loan portfolio totaled \$10.9 billion or 37% of the total loan losses in the Scenario. The estimated commercial loan losses were influenced by changes in the projected economic variables, particularly GDP, the unemployment rate, and commercial real estate prices.

The consumer loan portfolio consists of residential real estate loans (first lien, junior lien and home equity lines of credit), credit cards, and other consumer loans (primarily student loans and auto loans). Estimated losses over the nine quarter horizon on the consumer portfolio totaled \$18.2 billion or 63% of the total loan losses in the Scenario. The estimated consumer loan losses were influenced by changes in the projected economic variables, notably the unemployment rate and HPI.

Realized and Unrealized Losses on Investment Securities

Realized losses on investment securities, commonly referred to as other-than-temporary impairment (OTTI) write-downs, included in the pro forma income statement for the nine quarter test horizon totaled \$1.4 billion. The investment losses were mainly driven by widening credit spreads, declining housing prices, and estimated deterioration in credit quality. Projected changes in unrealized losses on investment securities are included in OCI.

Trading and Counterparty Losses

Trading and counterparty credit losses totaled \$12.5 billion, which includes mark-to-market losses, changes in credit valuation adjustments (CVA), incremental default losses, losses on non-trading related private equity positions projected under the global market shock, and an assumed default of our largest trading counterparty. The global market shock factors generally reflect the price and rate movements representative of an adverse financial environment specifically designed to stress our idiosyncratic market risk profile. The counterparty default component incorporates an instantaneous and unexpected default of the counterparty with the largest net stressed losses within the defined global market shock environment.

Stress Testing Methodologies

The stress test described in this Report provides a forward-looking perspective on the potential risks to the Company's capital resources under the severely adverse conditions described in the Scenario. This section describes key risks considered in the stress test results and the methodologies applied to translate risk measures into estimates of potential losses over the nine quarter test horizon. Among the key risks considered are credit risk, interest rate risk, market risk, liquidity risk, mortgage repurchase risk, reputation risk and operational risk. Our Board of Directors and executive management have overall and ultimate responsibility for management of these risks, which they execute through committees with specific and well-defined risk management functions. Each Board committee receives reports and information regarding risk issues, including emerging risks, directly from management and, in some cases, management committees have been established to inform the development of the risk management framework and provide governance and advice regarding risk management functions⁵. We established the Capital Adequacy Process Committee, a management committee, to provide appropriate oversight for the company-wide stress testing process. This committee is responsible for the review and approval of stress testing methodologies, oversight of our stress test framework development, as well as directing, synthesizing and reviewing the results of stress tests.

This section also describes the methodologies applied to estimate capital resources over the nine quarter test horizon. Key outputs from these methodologies are pro forma balance sheets and income statements, which are used to produce capital projections, including projections of risk-weighted assets, and all regulatory and other capital ratios. In developing pro forma financial statements, the Company applies

⁵ For additional discussion of risk management at Wells Fargo, please refer to our most recent annual and quarterly reports filed with the SEC, which are available on the Company's website at <https://www.wellsfargo.com/about/investor-relations/filings>.

accounting practices consistent with the Company's significant GAAP accounting policies⁶ and regulatory capital rules, except where supervisory guidance specifies alternative treatments.

Our stress testing methodologies focus on empirically defining the relationship between macroeconomic variables and business volumes, revenues, and losses in order to estimate outcomes that may result from the specified Scenario. We use a series of models and estimation methodologies, coupled with management judgment, to produce a comprehensive estimate of future business performance. Stress testing methodologies are subject to considerable uncertainties and modeling limitations, including uncertainty about the extent to which historical relationships between macroeconomic factors and business outcomes will continue to be relevant in a severely stressed economic environment and the potential for changes to customer behavior in response to changes in the environment. Consideration for these uncertainties and limitations when evaluating stress test results is a core part of our capital adequacy process.

Pre-Provision Net Revenue

Pre-provision net revenue includes projections of net interest income, noninterest income (other than market risk related losses presented separately in Table 4 which are included in the trading and counterparty losses line item) and noninterest expense. Each of these components has distinct processes to consider a variety of risks, including interest rate risk, liquidity risk, market risk, mortgage repurchase risk, and operational risk in the generation of stress projections for the given test horizon.

Net Interest Income

Interest rate risk

Interest rate risk, which may have a significant earnings impact, is an inherent part of being a financial intermediary. We are subject to interest rate risk because:

- Assets and liabilities may mature or reprice at different times (for example, if assets reprice faster than liabilities and interest rates are generally falling, earnings may initially decline);
- Assets and liabilities may reprice at the same time but by different amounts (for example, when the general level of interest rates is falling, we may reduce rates paid on checking and savings deposit accounts by an amount that is less than the general decline in market interest rates);
- Short-term and long-term market interest rates may change by different amounts (for example, the shape of the yield curve may affect new loan yields and funding costs differently);
- The remaining maturity of various assets or liabilities may shorten or lengthen as interest rates change (for example, if long-term mortgage interest rates decline sharply, mortgage backed securities (MBS) held in the investment securities portfolio may prepay significantly earlier than anticipated, which could reduce income); or

⁶ For additional information about Wells Fargo's significant accounting policies, please refer to Note 1 to Consolidated Financial Statements included in our most recent Annual and Quarterly Reports filed with the SEC, which are available on the Company's website at <https://www.wellsfargo.com/about/investor-relations/filings>.

- Interest rates may also have a direct or indirect effect on loan demand, credit losses, collateral values, mortgage origination volume, the fair value of MSR's and other financial instruments, the value of the pension liability and other items affecting earnings.

The primary method of measuring earnings sensitivity from interest rate risk not associated with mortgage banking is through modeling net interest income. Net interest income is the interest earned on debt securities, loans (including yield-related loan fees), and other interest-earning assets minus the interest paid for deposits, short-term borrowings, and long-term debt. Net interest income is significantly influenced by the mix and overall size of our asset portfolio and the cost of funding those assets. Changes to balance sheet mix can be driven by changes in interest rates as well as other risk factors and economic variables. In addition, some sources of interest income, such as loan prepayment fees and collection of interest on nonaccrual loans, can vary from period to period. The estimation process for net interest income is built on two fundamental components. The first component is the projection of expected behavior on existing balance sheet portfolios over the nine quarter test horizon under the Scenario. The second component is the projection of expected growth and pricing behavior for new business originated over the nine quarter test horizon under the Scenario.

To model the first component, which is the expected behavior of the existing balance sheet, instrument details are collected for the Company's investment, loan, deposit, and debt portfolios. This detailed data is used to project the interest income and expense of existing portfolios specific to the Scenario conditions. The second component, which is new business and origination assumptions, incorporates a variety of considerations including historical loan and deposit growth, economic conditions influencing the business environment, observed spreads on new production, and planned strategic actions. The modeling methodology and management judgment applied to behavioral assumptions varies depending on the product being considered. For example, the modeling approach for loan and investment prepayment projections varies by portfolio and is generally based on historical relationships and drivers specific to each individual portfolio. In the case of estimating administered deposit yields, assumptions made for stress test purposes are consistent with management practices and include the consideration of historical experience and current expectations of strategic actions. In all cases, the resulting forecast of product behaviors in each scenario is evaluated relative to the Company's experience in various relevant economic environments and for consistency with business strategy.

Liquidity Risk

Effective liquidity risk management is designed to ensure we can meet customer loan requests, customer deposit maturities/withdrawals and other cash commitments under both normal operating conditions and under periods of stress. Liquidity risk captures the negative impact to capital from actions the Company may take to meet this objective in the Scenario. Accordingly, we perform a comprehensive analysis to determine the specific liquidity events expected to occur under the conditions specified in the Scenario. In our analysis, we quantify the potential outflows of cash and the related impacts to interest income and expense that might arise by considering factors such as the runoff of consumer and commercial deposits, the nonrenewal of maturing wholesale funding sources, the drawdown of committed customer lines of credit, and the need for additional collateral requirements. To gauge the magnitude of these factors, we largely rely on the liquidity experience observed by Wachovia Corporation (Wachovia)

during the second half of 2008, including the aftermath of the Lehman Brothers bankruptcy. The data from Wachovia's crisis period prior to its acquisition by Wells Fargo provided empirical data for our liquidity stress scenario calculations. We also identify the funding sources needed to satisfy the assumed outflows of cash and quantify the related impacts to interest income and expense as well as the impact of increases in our debt issuance costs.

Noninterest Income

Projected noninterest income largely consists of revenue generated from service charges on deposits, trust and investment fees, card fees, mortgage banking fees, and all other fees. Loss projections for trading and investment securities portfolios are presented separately and discussed in the subsequent Market Risk Related Losses section. Trust and investment fees are largely derived from providing services to our brokerage customers, managing and administering assets, and investment banking activities. Mortgage banking fees primarily include fees and income associated with originating and servicing loans including unreimbursed foreclosure costs, net gains/losses on hedging the fair value of MSR's, and changes to the mortgage repurchase reserve. Our all other fees category includes charges and fees on loans, insurance, trading and equity gains, life insurance income, and operating lease income. The estimation process for noninterest income is based on macroeconomic and financial market variable assumptions, as well as key business performance metrics. Methodologies to estimate noninterest income vary across the major noninterest income categories and are tailored to the specific underlying business activity being considered. In addition to models, the approaches include consideration of historical experience, expectations around new business, impact of regulatory changes, and management judgment. In some cases, specific financial market and macroeconomic variables that have been previously identified as key drivers of revenue, such as the Dow Jones U.S. Total Market Index and GDP, are incorporated into the projections based on their assumed levels in the Scenario.

Mortgage Banking Interest Rate and Market Risk

Interest rate and market risk can be substantial in the mortgage business. Changes in interest rates may impact total origination and servicing fees, the fair value of residential MSR's, the fair value of mortgages held-for-sale (MHFS) and the associated income and loss reflected in mortgage banking noninterest income, the fair value of derivative loan commitments (interest rate "locks") extended to mortgage applicants, and the income and expense associated with instruments used to hedge changes in the fair value of MSR's, MHFS, and interest rate locks.

Interest rates affect the amount and timing of origination income and net mortgage servicing fees because consumer demand for new mortgages and the level of refinancing activity are sensitive to changes in mortgage interest rates. The earnings sensitivity to interest rates is greater when prevailing mortgage rates are below the average rate on the total mortgage debt outstanding. Conversely, interest rate risk will be reduced as mortgage rates rise to levels above the average rate of the servicing portfolio. Typically, a decline in mortgage interest rates will lead to an increase in mortgage originations and fees, and a decrease in net mortgage servicing fees. The Scenario interest rates drive assumptions around changes in the origination market size and loan prepayments. These assumptions are used to project the potential net impact on the Company's balance sheet and income statement.

Mortgage Repurchase Risk

Wells Fargo sells mortgage loans to investors under contractual provisions that may include certain representations and warranties. Repurchase risk arises from the potential that a contractual representation or warranty has been breached and the breach is not remedied within a specified period (usually 90 days or less) after receiving notice of the breach. Wells Fargo establishes a repurchase reserve that reflects management's estimate of losses for loans we have sold for which we could have a repurchase obligation, whether or not we currently service those loans, based on a combination of factors.

The repurchase risk typically diminishes over time as customers meet their contractual obligations, gain equity in their home, or both. Our estimates of repurchase risk are projections of repurchase losses by exposure type based on default expectations, estimated levels of origination defects, reimbursement by correspondent and other third party originators, and projected loss severity.

In addition, beginning in 2013, the GSEs that we sell mortgage loans to introduced a new representations and warranties framework which includes a sunset period for underwriting defect exposures after three years (one year for Home Affordable Refinance Program loans) if the borrower has a satisfactory payment history. The framework also expands audits conducted by the GSEs on new originations. These changes in GSE practices, repurchase settlements we entered into with certain GSEs, and reduced exposure due to statute of limitations, help mitigate many of the uncertainties in modeling mortgage repurchase risk.

Noninterest Expense

Estimates of noninterest expense, primarily personnel-related expenses, are closely associated with the projected level of business activity, the overall strength or weakness of the assumed economic environment, or otherwise based on standard, defined calculations. In addition to routine business driven expenses, consideration is also given to expenses that may materialize from other risks in the stress environment such as operational losses or foreclosed asset related expenses. Where noninterest expense relationships are indeterminate with economic drivers or financial market variable assumptions, historical experience and management judgment is employed.

Operational Risk

Operational risk is the risk of loss resulting from inadequate or failed internal controls and processes, people and systems, or resulting from external events. These losses may be caused by events such as fraud, breaches of customer privacy, business disruptions, inappropriate employee behavior, vendors that do not perform their responsibilities and regulatory fines and penalties. As such, operational risk is broadly defined for inclusion in our stress tests.

The scope of operational risk includes loss events that range from highly frequent, but low-impact losses to those that are much less frequent, but which have significant financial impacts. It is not uncommon for a few events to generate the majority of financial impact.

While the drivers of operational risk can vary by business, the most significant financial impacts in our stress tests often relate to alleged improper business activities, resulting in litigation and/or regulatory actions. Certain risks, such as transaction processing errors and external fraud events can occur more frequently and can be significant in the aggregate, but generally have less financial impact per event than

loss events involving litigation. Material losses can also arise from a range of external events, such as cyber threats, as well as those that are less frequent, such as earthquakes or terrorist attacks. These events are considered in our capital stress tests.

Operational loss projection methods continue to evolve in the financial services industry. Our operational risk loss forecasting process uses multiple approaches to assess the reasonableness of loss projections. A key component of our process is the use of a scenario-based loss estimation approach, leveraging day-to-day risk management expertise from group business and risk leaders and the law department to identify risks and estimate potential loss exposure under a variety of scenarios. We use scenario analysis, internal and external reference data, and informed judgment in estimating losses for operational risks that are generally not closely tied to macroeconomic factors. Given the difficulty in applying statistical techniques to a small population of loss events and the application of a qualitative, scenario-based approach which relies on informed judgment, we benchmark the projections using multiple approaches to assess reasonableness of the loss projections.

Reputation Risk

Reputation risk, or the risk to our business, earnings and capital from negative public opinion, is inherent in our business and has increased substantially because of the financial crisis, our size and profile in the financial services industry, and sales practices related matters. When determining the impacts in our stress tests from such breakdowns, we use management judgment and subject matter expertise in our assessment of the level of reputation risk generated by negative public perceptions of the Company in recognition of the fact that reputation risk can generate outcomes which are difficult to quantify and/or not easily predicted.

Provision for Loan and Lease Losses

Credit Risk

Loans represent the largest component of assets on our balance sheet and their related credit risk is among the most significant risks we manage. We define credit risk as the risk of loss associated with a borrower or counterparty default (failure to meet obligations in accordance with agreed upon terms). Loss projections for counterparty credit risk are presented separately and discussed in the Market Risk Related Losses section. Credit risk associated with a borrower default on a loan in the held for investment portfolio is translated to the pro forma income statement through the provision for loan losses, reflecting projected loan losses that would be realized as charge-offs in accordance with the Scenario and the provision reflecting the change appropriate to help ensure adequacy of the ALLL at the end of each period.

Loan Loss Forecasting

When estimating loan losses, probability of default (PD), loss severity (referred to as loss given default (LGD)), and exposure at default (EAD) components are combined to produce loan loss estimates. Loss estimates take into consideration the unique characteristics of our commercial and consumer loan portfolio segments. For each portfolio segment, losses are estimated collectively for groups of loans with similar risk characteristics.

A variety of models are used to project losses on the loans in the held for investment loan portfolio. While we report our loan portfolio by commercial and consumer portfolio segments in our financial reports filed with the SEC, for the purpose of stress testing we segment our portfolios between individually graded commercial loans (Wholesale) and Retail loans that include both consumer loans and scored small business commercial loans. The methodologies described in this section cover the models developed for the major categories of Wholesale and Retail loans. The loan loss projections take into consideration many factors, including historical performance, the forecasted economic scenarios, current credit characteristics, and for Wholesale loans, loan-level credit quality ratings and related forecasted migrations. Where appropriate, we incorporate state, local, and foreign economic variables to reflect geographical concentrations within a given loan portfolio. Management adjustments are applied to modeled results, as necessary, to address model limitations identified through reviews of model performance, emerging risks, and, to a lesser extent, knowledge of recent trends or other factors not considered adequately captured by the models.

Wholesale Lending: Individually Graded

The Wholesale portfolio consists of two major segments for loss modeling purposes: Investor/ Developer CRE and Corporate loans, which include C&I, Owner/Occupied CRE, farmland, and leasing. Loans in the Wholesale portfolio are subject to individual risk assessments using our internal borrower and collateral quality ratings.

The loss modeling framework relies principally on a PD, LGD and EAD framework. The PD model segments borrowers based on asset type, industry, exposure size and line of business and mostly relies on borrower quality rating migration matrices. Loans migrate between borrower quality ratings, or PD buckets, and eventually to default based on changes in economic variables, such as GDP, unemployment rates and asset prices. For Investor / Developer CRE loans, loan-level attributes such as loan-to-value and net operating income are combined with projected changes in commercial real estate price movements by property type and geographic location. For Foreign Corporate loans, changes in PD are correlated to changes in foreign macroeconomic variables. The LGD model forecasts the loss severity on defaulted loans, which is dependent on the underlying collateral and changes in asset prices. The EAD model forecasts the portion of commitment amount that is funded at the time of default. These three components are combined to calculate the forecasted losses for each quarter in the forecast horizon. Separate models are used to forecast loss on domestic corporate loans, foreign corporate loans, Investor/Developer CRE loans and scored commercial portfolios.

Retail Lending: Residential Real Estate (First Lien Mortgages and Home Equity Loans, Junior Lien Loans, and Home Equity Lines of Credit)

Losses on residential first lien mortgages and home equity loans are forecasted using models which project both PD and LGD. The loss forecast model for first lien portfolios is a loan-level model that predicts the conditional probabilities of reaching loss based on MSA- and state-level economic variables (including unemployment, HPI, mortgage rates, and real GDP) and loan attributes (for example, loan-to-value).

Our junior lien loans and home equity lines of credit loss forecasting process leverages a loan-level model which projects PD, LGD, and EAD based on MSA-level variables, including unemployment and HPI and loan attributes such as loan-to-value and delinquency status.

Retail Lending: Credit Cards

Projected losses on the credit card portfolio are based upon borrower characteristics and the impact of forecasted macroeconomic variables on the PD. An account level model is utilized to project losses on the largest segment of the credit card portfolio. Account activity, credit bureau attributes, and combinations of macroeconomic variables, such as unemployment, bankruptcy filings, and personal income are used to generate PD and EAD. A segment-level model which assigns each current exposure into a risk tier based on delinquency status and credit score is used to project losses on the less significant credit card segments. For recovery recognition, pool-level maturation models estimate recovery rates considering macro-economic, time since default and seasonal factors.

Retail Lending: Other

The other retail lending category includes the auto portfolio, student loan portfolio, personal lines and loans portfolio, the scored small business and business card portfolio, and several other smaller portfolios. A variety of models are used to project losses across this diverse collection of portfolios.

Allowance for Loan and Lease Losses

The Company estimates the ALLL for each quarter of the nine quarter forecast horizon using a methodology consistent with the following accounting standards:

- Accounting Standards Codification (ASC) 450-20 governs allowance attributable to non-impaired loans for losses that are probable and estimable;
- ASC 310-10-35 and 310-40 governs allowance for impaired loans (nonperforming, individually graded commercial loans and loans modified under a troubled debt restructuring); and
- ASC 310-30 governs allowance for Purchased Credit Impaired (PCI) loans.

Our ALLL methodology reflects Wholesale and Retail portfolio segments for stress testing purposes. While we attribute portions of the allowance to our respective Wholesale and Retail portfolio segments, the entire allowance is available to absorb credit losses inherent in the total loan portfolio.

Wholesale Portfolio Allowance

Average PD, LGD and EAD estimates are applied to projected quarterly loan distributions to calculate the Scenario based allowance estimates. Consistent with GAAP, nonperforming loan loss allowance is an estimate of the loss over the life-of-loan.

Retail Portfolio Allowance

The Retail loss forecasting models produce quarterly loss estimates. Loans are pooled generally by product type with similar risk characteristics. The ASC 450 allowance is estimated using forecasted losses to represent our best estimate of inherent loss based on historical experience, using quantitative and other mathematical techniques to translate our stress loss forecast into an appropriate allowance estimate.

Estimated troubled debt restructuring (TDR) volumes and associated life-of-loan losses are stressed throughout the observation period. Cash flow shortfalls from PCI mortgages are estimated by life-of-loan models, and related credit provision expenses are recognized as applicable to establish an appropriate allowance.

An incremental estimate for imprecision is included in both Wholesale and Retail allowance estimates to reflect inherent uncertainty in the process, judgments and estimates, particularly model risk and unforeseen changes in customer behavior.

Market Risk Related Losses

From a market risk perspective, our net income is exposed to adverse changes in the fair value of our trading portfolios and financial instruments due to changes in factors such as interest rates, credit spreads, foreign exchange rates, equity and commodity prices and their implied volatilities. Market risk related to our investment securities portfolio is reflected in estimates of OTTI and changes in market values. Market risk related to our trading and derivatives portfolios is reflected in estimates of trading and counterparty credit related losses. Counterparty credit risk arises when a trading partner fails to fulfill its obligations on a transaction or portfolio of transactions, and Wells Fargo must terminate the trade or replace the counterparty at a loss. Market risk is also reflected in estimates of losses related to our private equity portfolios.

Investment Securities Portfolio

The investment securities portfolio consists of debt securities and marketable equity securities. Losses on securities held in the investment securities portfolio are projected through OTTI over the stress test horizon. Securities with projected market values below carrying values are evaluated for potential OTTI under the stress scenario. Projected market values are derived using assumptions consistent with the macroeconomic variables.

No future sales of investment securities are assumed to occur over the test horizon in the Scenario. Therefore, in the stress test we recognize OTTI if under scenario conditions we would not expect to recover the entire amortized cost basis of the security. The OTTI write-down is separated into an amount representing the credit loss, which is recognized in earnings, and the amount related to all other factors, which is recognized in OCI.

To project the amount, if any, of the security's amortized cost basis we would not expect to recover in the stressed environment, we perform a credit analysis to estimate the performance of the underlying credit or collateral positions under the projected economic conditions. In general, the methodology we use to estimate the credit-related component of OTTI varies based on the type of security under evaluation.

- Assets assumed not to be at risk for OTTI: We assume projected declines in the market values of U.S. Treasury and federal agency obligations as well as federal agency MBS are not due to credit risk given the implicit or explicit guarantees provided by the U.S. government.
- Asset-backed Securities: For securitized assets, detailed cash flow projections are developed for the underlying collateral. The unique credit characteristics of each transaction are analyzed and security-

level collateral projections are created, factoring in scenario economic conditions. Key assumptions developed for determining the projected cash flows include default rates, loss severities and prepayment rates. The estimated collateral performance is then used to project cash flows to the various tranches in the security structure to create a set of projected bond cash flows. The debt security's cost basis is compared with the present value of the projected bond cash flows discounted at the security's effective yield and the difference is recognized in the pro forma income statement as credit related OTTI.

- Direct obligation assets: For assets where the credit risk is the direct obligation of the issuer (for example, corporate debt and municipal bonds), for each position we develop projections of credit losses considering the issuer's credit quality and migration of the credit quality, the type of security (secured or unsecured), and the projected economic conditions. The expected credit losses are compared with the security's amortized cost to determine OTTI.
- Market priced assets: For some assets where detailed econometric modeling is not viable, or where the security is accounted for at fair value, we measure OTTI as the permanent decline in the projected market price of the security which is derived using assumptions consistent with the macroeconomic variables.

Trading and Counterparty Credit Risk

Our approach to projecting market risk trading stress loss estimates is based upon shocking market risk factors and observing their impact on the firm's trading and private equity portfolio. The market risk trading stress loss estimate is computed using a full revaluation methodology in which the portfolio is fully repriced under the stressed market risk factor assumptions. For the specified scenario, the shifts of one or more risk factors are applied simultaneously to the position and the trade is revalued. The difference between the base trade valuation and the post-shock valuation is the stress loss (or gain) estimate. The results are calculated for each position and aggregated to determine the stress loss estimate for the entire trading portfolio.

We estimate counterparty losses arising from two sources: (1) the increase in the CVA, which is a measure of market implied credit losses and (2) the incremental losses associated with counterparty default, including largest counterparty default losses and correlated counterparty default losses.

The estimation of counterparty credit risk varies across the different portfolios and is multidimensional in nature to capture the stress of exposures, the stress of credit quality and timing. In general, CVA is calculated either directly in the trading systems or through a profile based reserve approach. Stressing of exposures predominantly occurs through the application of market shocks to risk drivers associated with underlying trades. The method for stressing the credit component of CVA is based on market implied PD and depends upon whether the counterparty has observable market instruments which price credit, either liquid credit default swap (CDS) markets or observable bond prices. Counterparty names which have observable market instruments are referred to as the liquid portfolio and the liquid portfolio is stressed by widening spreads based on ratings-based shocks in each scenario. Counterparties which do not have observable market instruments are referred to as the illiquid portfolio, and stressing of the credit quality

for the illiquid portfolio involves stressing the curves by the defined shifts in the Scenario based on the mapping of internal grades to the external ratings.

For calculating the losses attributed to the largest counterparty default scenario component, the net stressed losses are calculated by re-pricing collateral and exposures after applying the market shock, then multiplying the resulting stressed net current exposure by a stressed LGD commensurate with the Scenario, and subtracting corresponding CVA for the counterparty from the resulting net stressed losses. Additional losses are captured through the market risk trading stress loss estimate by applying the default and severity assumptions for that counterparty in the issuer default loss calculation.

Changes in Capital and Capital Ratios

Capital estimates are derived from quarterly pro forma financial statements generated through the stress test projection process. The change in equity capital each quarter reflects the after tax net income (loss) estimate for that quarter adjusted for the Dodd-Frank capital actions required to be assumed during that quarter. The resulting equity capital balance for each quarter is adjusted for certain regulatory deductions defined by U.S. regulatory capital rules with transition requirements, including goodwill, to arrive at estimated regulatory capital. The pro forma balance sheet is risk-weighted from one quarter to the next to account for changes in the overall balance sheet size and mix and for changes in off-balance sheet exposures. Assets are categorized and risk-weighted for each quarter of the nine quarter horizon under the standardized approach. Other risk-weighted components (such as market risk and other adjustments) are also projected and included in the risk-weighted calculation process. The resulting regulatory capital estimate and risk-weighted assets are used to generate pro forma quarterly capital ratios.