

Morgan Stanley

Dodd-Frank Act 2013 Mid-Cycle Stress Test

Submitted to the Federal Reserve Bank on July 5, 2013

TABLE OF CONTENTS

SECTION	PAGE
1 Background to Mid-Cycle Company-Run Stress Test	1
2 Description of the Company's Severely Adverse Scenario	1 - 2
3 Forecast Methodologies Reflected in Company-Run Stress Test	2 - 4
4 Company-Run Stress Test – Holding Company	4 - 6

1. Background to Mid-Cycle Company-Run Stress Test

Dodd-Frank Stress Test Requirements

In October 2012, the Board of Governors of the Federal Reserve System (the “Federal Reserve”) issued a final rule on Supervisory and Company-run Stress Test Requirements for Bank Holding Companies (“BHCs”) with total consolidated assets of \$50 billion or more (“Covered Company”), including the Company, and requires the Company to conduct mid-cycle company-run stress tests under baseline, adverse and severely adverse economic scenarios. The rule requires Covered Companies to disclose publicly the results of their stress tests under their own internally developed severely adverse stress scenario. Each Covered Company is further required to employ the following assumptions (the “Dodd Frank Act Stress Testing Capital Actions”) regarding its projected capital actions over the forecast horizon (nine quarters, beginning March 31, 2013 and ending June 30, 2015):

- Payment of common stock dividends equal to the quarterly average dollar amount of common stock dividends paid in the previous year;
- Payments on any other instrument eligible for inclusion in the numerator of a regulatory capital ratio equal to the stated dividend, interest or principal due on such instrument; and
- No redemption or repurchase of any capital instrument eligible for inclusion in the numerator of a regulatory capital ratio.

2. Description of the Company’s Severely Adverse Scenario

The Company’s internally developed severely adverse stress scenario, assuming the Dodd Frank Act Stress Testing Capital Actions (the “Company Severely Adverse Scenario”), reflects macroeconomic and market conditions equivalent to or worse than recessions of the greatest severity over the past 40 years (mid-1970s and 2008-2009). In determining the Company Severely Adverse Scenario, the Company considered several key macroeconomic and market variables including but not limited to those discussed below. In addition, the Company Severely Adverse Scenario also reflected the Company’s purchase of the remaining 35% interest in the Wealth Management joint venture from Citi, which was completed in June 2013.

The Company Severely Adverse Scenario reflects a significant contraction in the global macro economy and associated trading markets as described below:

- Global GDP: Both US and euro zone real GDP growth rates are projected to be negative 5% in the first year of stress compared with historical annual growth rates of 1-3%. In the second year, real GDP in both regions is projected to grow modestly to approximately 2-2.5% by June 30, 2015. Emerging markets real GDP experiences essentially zero growth throughout 2013, well below the historical average of 5%, but begins to return to more normalized growth levels during 2014.
- Global Equity and Commodity Price and Volatility: Equity market indices experience a sharp decline during the first year of the forecast horizon. The S&P 500 decreases 41%, while the MSCI World declines 37% during the first year of stress. At the same time, US equity market volatility, as measured by the VIX index, peaks at 81, a level consistent with that experienced during the 2008 – 2009 financial crisis. Similarly, commodity prices decrease by 70% and price volatility increases nearly threefold from 5.9 to 15.9 during 2013. Both equity and commodity prices begin to recover during the later quarters of the forecast horizon. However, by the end of the second quarter of 2015 this recovery results in pricing levels that remain approximately 20% below their starting point at the beginning of the forecast horizon.
- US Interest Rates: 3-Month Treasury and Fed Funds rates decline during the second quarter of 2013 and remain close to zero throughout the forecast horizon. Similarly, the yield on the 10-Year Treasury note immediately

declines by 50% during the first quarter of the forecast horizon and recovers only modestly throughout the remainder of the forecast horizon. In the second quarter of 2013, spreads on corporate bonds widen by more than 300 basis points and begin to contract over the remainder of the forecast horizon. By the second quarter of 2015, these spreads contract by approximately 40% relative to their peak forecast levels.

The results of the Company's company-run stress test, under the Company Severely Adverse Scenario are presented under "Company-Run Stress Test – Holding Company" included herein.

3. Forecast Methodologies Reflected in Company-Run Stress Test

The Company's capital ratios under the Company Severely Adverse Scenario reflect the effect of the Company's forecast macroeconomic and market environment on the revenues and the resources (e.g. assets, expenses and headcount) available to the major products or businesses within each of the Company's business segments. Under the Company Severely Adverse Scenario, the Company employed various forecast methodologies, including but not limited to those discussed below, to quantify the impact of the hypothetical assumptions over the forecast horizon. Several of these forecast methodologies were based on models, which like all models, have certain limitations. The models were based on various assumptions such as the historical relationships between Company performance and relevant macroeconomic and market variables as well as expectations of customer behavior. Changes to these assumptions can materially affect forecast results.

Pre-Provision Net Revenue ("PPNR")

The Company's forecast, under the Company Severely Adverse Scenario, reflects a detailed process in which each major business developed a projection over the nine-quarter forecast horizon. The projection considered: (1) the key macroeconomic and market variables that historically demonstrated the highest correlation to the level and growth rate of industry and Company net revenues and (2) the business' expectations of customer behavior and competitive dynamics under this scenario. The Company's PPNR projection over the nine-quarter planning horizon considered the key business risks for each of the Company's business segments. A description of the impact of the Company Severely Adverse Scenario on each of the business segments is provided below.

Revenue

- Institutional Securities: The significant increase in the level of corporate bond spreads and a sharp decline in equity prices projected under the Company Severely Adverse Scenario drove a reduction in asset values and the level of client activity resulting in lower sales and trading revenues. These market factors combined with projected global macroeconomic contraction also led to a decline in the level of investment banking activity.
- Wealth Management: The projected decline in equity markets under the Company Severely Adverse Scenario reduced the balance of client assets under management as well as the level of client activity which resulted in lower revenues over the nine quarter planning horizon. In addition, revenues were also negatively affected by lower levels of loan activity and loan spreads consistent with the macroeconomic assumptions projected under the Company Severely Adverse Scenario.
- Investment Management: In the Traditional Asset Management business, the projected reduction in equity market levels drove a decline in the level of assets under management as net flows decreased across all asset classes and equity fund valuations declined. In Merchant Banking and Real Estate, revenue reductions were driven by a lower level of new capital raises and a lower rate of return on new and existing funds.

Expenses

The Company Severely Adverse Scenario included projections for the level of (1) compensation and (2) non compensation expenses for each business segment that reflected the impact of reduced market activity on operating costs, including projected headcount reductions and lower brokerage and clearing expenses, partially offset by an increase in operational risk related costs. The operational risk related costs are described below under “Losses”.

Balance Sheet

The balance sheet forecast under the Company Severely Adverse Scenario reflected a combination of historical data and forecast models tailored to the specific characteristics of each product line. The Company believes that its use of historical data represented the most appropriate and sufficiently conservative approach to projecting the level of assets available to the business under this scenario. Where appropriate, return on assets calculations were performed to evaluate the reasonability of revenue projections in light of the balance sheet forecast.

Risk-Weighted Assets

The risk-weighted assets (“RWAs”) forecast under the Company Severely Adverse Scenario reflects application of the Federal Reserve’s capital rules in effect for a given quarter, per CCAR Summary Instructions and Guidance. Specifically, the Company calculates credit RWAs under Basel I and market RWAs in accordance with the Final Market Risk Rule that became effective on January 1, 2013. The Company’s methodology aligned projections of standardized market and credit risk calculations to projected movements in the balance sheet and tied projections of model-driven market risk RWAs to the market volatility indicators specified in the Company Severely Adverse Scenario.

Losses

The Company Severely Adverse Scenario measured potential stress losses from market risk, credit default risk, operational risk and other risks utilizing the following methodologies:

Market Risk: Market risk included all mark-to-market positions including credit valuation adjustments (“CVA”), loans carried at fair value, and private equity investments.

Credit Default Risk: Credit default stress losses included losses on: (i) loans held for investment, including commercial and industrial, other consumer and other loans; (ii) secured financing transactions, including repurchase agreements and stock loans; (iii) available for sale securities; as well as (iv) incremental default losses on mark to market and CVA positions.

Market and credit risk estimates were calculated based on the Company’s Stress Value-at-Risk Model (“S-VaR”). S-VaR is a single integrated stress testing framework that estimates the Company’s market and credit risks, capturing the most material risks in the Company’s trading, banking and investment portfolios. S-VaR simulates many market scenarios, based on multi-cycle market data series, and it identifies those scenarios that are most harmful to the Company’s current exposures. The framework covers a broad spectrum of risk exposures including commodities, corporate credit, foreign exchange, emerging markets, interest rates, lending, public and private equity, securitized products and structured credit products. For each risk exposure, S-VaR measures mark-to-market, event and default risks where relevant. In addition, this framework also reflects different liquidity characteristics of the various intervening risks via the assignment of different liquidity horizons to each risk type reflecting the Company’s ability or inability to hedge or unwind the risk exposure in a stressed market environment.

Operational Risk: Operational risk loss estimates were calculated based on the Company’s Internal Loss Data (“ILD”) model. The ILD has seven units of measure, each of which corresponds to one of the seven risk types defined by the Basel Committee on Banking Supervision. The Company applied a loss distribution approach where

the loss frequency and loss severity of operational loss events for each of the risk types are separately modeled and then aggregated across the risk types to obtain the Company's stress test result.

The Company Severely Adverse Scenario also included material residual risks deemed insufficiently captured in either S-VaR or ILD models, identified through the Material Risk Identification and Assessment ("MRI&A") process. This process identified and estimated stress losses associated with risks that are specific to the Company.

The stress test methodologies make various assumptions about the probability distributions and liquidity of the market risk factors, the frequency and severity of the loss events, correlations between market risk factors and confidence level. Changes to these assumptions can materially affect results.

Capital Position

The Company's capital position was projected by aggregating revenue and loss estimates as outlined above and deriving their respective impact on the levels of Tier 1 Common, Tier 1 Capital and Total Capital on a quarterly basis over the nine-quarter forecast horizon.

4. Company-Run Stress Test – Holding Company

The results presented below contain forward-looking projections that represent estimates based on the Company Severely Adverse Scenario. The estimates also reflect certain required assumptions regarding the Company's capital actions, which are noted above. The quantitative outputs and qualitative discussion herein should not be viewed as forecasts of expected outcomes or capital ratios or as a measure of the Company's solvency or actual financial performance or condition. Instead, the outputs and discussions are estimates from forward-looking exercises that consider possible outcomes based on a hypothetical, highly adverse economic scenario.

The outputs of the analyses and the discussion contained herein may not align with those produced by the Federal Reserve or by other financial institutions conducting similar exercises, even if a similar hypothetical stress scenario were used, due to differences in methodologies and assumptions used to produce those outputs.

The most significant cause of reduction in capital ratios under the Company Severely Adverse Scenario resulted from trading and counterparty losses that were modeled to occur in the first quarter of the forecast horizon. Ending capital ratios under the Company Severely Adverse Scenario reflected the ongoing accretion of earnings, net of operational risk and credit losses, as well as the level of balance sheet and RWAs projected through the forecast horizon.

**Projected Capital Ratios through June 30, 2015
Under the Company Severely Adverse Scenario**

	Actual As of March 31, 2013	Ratios Under Company Severely Adverse Scenario	
		As of June 30, 2015	Minimum Over Planning Horizon (1)
Tier 1 common capital ratio.....	11.5%	11.5%	9.5%
Tier 1 capital ratio.....	13.9%	13.2%	11.7%
Total risk-based capital ratio.....	14.5%	15.1%	12.9%
Tier 1 leverage ratio.....	7.0%	7.4%	6.3%

(1) The minimum capital ratios do not necessarily occur in the same quarter of the planning horizon.

**Projected Losses, Revenue and Net Income before Taxes
March 31, 2013 through June 30, 2015
Under the Company Severely Adverse Scenario
(dollars in billions)**

	<u>Amount</u>
Pre-provision net revenue (1).....	\$ 11.6
Other losses (2).....	0.0
Less: Provision for loan and lease losses.....	1.5
Less: Realized losses/gains on AFS /HTM securities (3) ..	0.1
Less: Trading and counterparty losses (4)	7.0
Less: Other losses/gains (5)	<u>2.4</u>
Net income before taxes.....	\$ <u>0.6</u>

- (1) Pre-provision net revenue includes losses from operational risk events, mortgage put-back expenses and other real estate owned (OREO) costs.
- (2) Other losses include one-time expenses, and the results of discontinued operations, which are not reflected in pre-provision net revenue.
- (3) Represents available-for-sale (“AFS”) securities.
- (4) Trading and counterparty losses include market-to-market losses, changes in CVA and incremental default losses.
- (5) Other losses/gains include projected stress losses on loans measured at fair value and projected stress losses on the Company’s idiosyncratic risks identified through the MRI&A process.

Projected Loan Losses by Type of Loans (1)
March 31, 2013 through June 30, 2015
Under the Company Severely Adverse Scenario
(dollars in billions)

	<u>Cumulative Amount</u>	<u>Portfolio Loss Rates (2)</u>
Loan Losses	\$ 1.1	1.8%
First lien mortgages, domestic	0.1	1.2%
Junior liens and HELOCs, domestic	*	*
Commercial and industrial	1.0	6.3%
Commercial real estate.....	*	*
Credit cards.....	N/A	N/A
Other consumer.....	*	*
Other loans.....	*	*

N/A – Not Applicable

- (1) Excludes held-for-sale loans and loans measured at fair value.
- (2) Represents cumulative portfolio losses as a percentage of the average loan portfolio balance.
- * Cumulative losses are minimal and loss rates on these portfolios are not statistically meaningful.