Exploratory Analysis of Risks to the Banking System

Summary of Analysis Parameters

February 2024

As a companion to the 2024 supervisory stress test, the Federal Reserve is conducting an exploratory analysis.[1] The analysis is distinct from the stress test and will complement it by providing aggregate banking system results against different economic and financial conditions. Taken together, the stress test and exploratory analysis will provide insight into the resiliency of the U.S. banking system. The conditions for the exploratory analysis are not Federal Reserve forecasts. The exploratory analysis will not impact large bank capital requirements.

This document summarizes four elements of exploratory analysis:

1. Funding stress that causes a rapid repricing of a large proportion of deposits at large banks, under a moderate global recession, combined with increasing inflationary pressures and rising interest rates;
2. The same funding stress under a severe global recession combined with high and persistent inflation and rising interest rates;
3. A market shock featuring a sudden dislocation to financial markets stemming from expectations of reduced global economic activity; and
4. A market shock featuring a sudden dislocation to financial markets stemming from expectations of severe recessions in the United States and other countries.

The exploratory analysis can inform supervisory analysis and deepen our understanding of the resilience of the banking system. The projected paths of the variables used in this analysis are available on the Board's public website.[2] Aggregate results of the exploratory analysis will be published in June 2024.

Funding Stress

The first two elements of exploratory analysis look at adverse conditions that banks may experience under various types of funding stress. Funding stress can occur under a variety of economic conditions, and the exploratory analysis will cover two sets of hypothetical economic conditions.

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[1] The supervisory stress test is designed to ensure that the banks are able to lend to households and businesses even in a severe recession.

[2] See https://www.federalreserve.gov/supervisionreg/dfa-stress-tests-2024.htm. For the funding stress economic conditions, there are two files for domestic variables but only one file for international variables since the international variables are the same across both sets of conditions.

These elements of the exploratory analysis assume banks will face a difficult funding environment in which they must respond to higher interest rates to maintain their deposit levels. This could occur as higher interest rates cause depositors to seek higher-yielding investments. Banks would then be required to raise rates paid on deposits or substitute the deposits with more expensive sources of funding. As part of the analysis, 20 percent of noninterest-bearing deposits shift into time deposits, resulting in banks increasing their reliance on wholesale funding and paying market rates on a larger share of their liabilities.[3] In addition, higher interest rates cause mortgage originations and refinancings to decline more sharply than historical experience would suggest. This decline limits banks' ability to increase income on mortgage-backed securities and mortgage loans because new originations fall to low levels and mortgage borrowers are less inclined to prepay.

The first set of macroeconomic conditions considers a moderate global recession combined with increasing inflationary pressures, rising interest rates, and an increase in banks' cost of funding. Supply disruptions cause inflation expectations to rise, pushing short- and long-term interest rates higher through 2024. These conditions also feature persistently elevated inflation and acute stress in advanced economies. Additionally, the U.S. dollar appreciates against all countries and country blocs' currencies, except for the Japanese yen.

The second set of macroeconomic conditions features a severe global recession combined with high and persistent inflation and rising interest rates. The conditions also include elevated inflation and U.S. dollar appreciation against currencies, except for the Japanese yen, as in the first set of conditions.

Exploratory Market Shocks

The next two elements of the exploratory analysis are aimed at understanding the vulnerability of the largest banks to two exploratory market shocks.[4] Exposures to market risks at the largest banks are dynamic in terms of direction and can vary across firms. Using multiple market shocks helps us understand the implications of a wider range of vulnerabilities.

The first exploratory market shock is characterized by a sudden dislocation to financial markets stemming from expectations of reduced global economic activity and tighter financial conditions. Elevated expectations for a U.S. recession weaken the U.S. dollar. Long-term Treasury securities rates increase sharply because of the adverse outlook for inflation over time, while short-term

[3] The share of deposits shifting in the exploratory analysis is similar to the share of deposits that shifted during the banking stress in March 2023.

[4] The exploratory market shocks are only applicable to the eight U.S. globally systemically important banks and are applied to positions held by the banks on October 13, 2023.

rates increase mildly. An increase in anticipated defaults leads to a widening in credit spreads. The expected fall in economic activity leads to equity price declines, while volatility rises from heightened market uncertainty. The increase in market volatility leads to higher margin requirements. Hedge funds unable to meet the higher margin requirements are forced to unwind their positions at a loss; as a result, the five hedge funds with the largest counterparty exposures for each firm subject to the exploratory market shocks fail.

The second exploratory market shock is characterized by a sudden dislocation to financial markets stemming from expectations of severe recessions in the United States and other countries. The effects on equity and credit markets are similar to those experienced in the first market shock, while the effects on other markets differ. In particular, Treasury securities rates fall in the second market shock as inflation expectations decline, while the U.S. dollar appreciates against most currencies, reflecting flight-to-safety considerations. Consistent with expectations for a severe recession, most commodity prices fall. Precious metals prices increase as investors seek to diversify their investments, such as through the purchase of gold and silver. As in the first market shock, market volatility leads to the default of the five hedge funds with the largest counterparty exposures for each firm subject to the exploratory market shocks.