CONFERENCE OF STATE BANK SUPERVISORS

The Case for Stress Testing at Community Banks

Enhancing the risk management framework to ensure economic viability

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About this Paper

The following paper is intended to provoke a policy discussion on the value of stress testing for community banks. The paper is issued based on the following policy statement approved by the CSBS Regulatory Committee:

> While banks with assets greater than 10 billion are required to conduct stress testing under the Dodd-Frank Act, community banks should also consider utilizing stress testing as a part of their risk management framework.
>
> Stress testing implementation should:
> 1. Be an industry driven solution;
> 2. Be designed to meet the risk management needs of the bank; and
> 3. Not be a regulatory exercise.

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Introduction
Why did the community banking system that was so "well capitalized" heading into the recession suffer so badly? The events over the last few years are a reminder that "well capitalized" banks do not really have that much capital in terms of hard dollars and capital can disappear very quickly in tough economic times. Community banks have the added risk of concentrated loan portfolios. While this is a natural phenomenon for community banks, management will need to find more effective strategies for managing capital and funding beyond the levels in the current period. Looking at capital ratios is too static to be helpful in a rapidly changing financial environment.

Risk Management
Banks and regulators need to place greater emphasis on the risk management framework and overall corporate governance. This should include the use of stress testing to evaluate the impact of key risk factors as well as asset and funding concentrations. Banks should evaluate a variety of "what-if" scenarios to understand the potential impact from increased credit losses, declines in collateral values, illiquid markets, and strains on liquidity if the bank falls below "well capitalized."

Industry Role
Stress testing should be an industry driven solution. The model should be integrated into the risk management framework of the bank to better understand the institution's risk profile and vulnerabilities. The industry should work to develop the standards and best practices, working to define reasonable parameters and the limitations.

Technology and the existing availability of data should not make stress testing an excessive burden or cost to the industry. Simplistic stress tests can be conducted based on public data for banks with well defined risks and core deposit funding. Banks with more concentrated or high risk asset structures will require more specialized stress testing which has the ability to incorporate loan and security level data. Banks which utilize significant amounts of wholesale or brokered deposits to fund assets or meet contingency funding needs will need to stress funding based on a variety of events which incorporate economic uncertainty, declining asset quality, or a lack of confidence in the bank.

Regulator Role
Stress testing should not be a regulatory model. The regulators should review the assumptions to ensure the bank is taking a realistic view of its potential risks. Regulators should evaluate the results of the stress test and review bank management's plans for mitigating identified risks. A bank should not be subject to criticism for identifying its vulnerability. Bank management should be evaluated on its mitigation efforts.

The Evolution and Need for Stress Testing

Supervisory Capital Assessment Program (SCAP)

The SCAP was launched in March 2009 to stress the capital of the 19 largest banks. This was a supervisory exercise to determine the capital buffers sufficient to withstand losses and sustain lending in institutions the U.S. Government deemed "systemically significant," or "too big to fail." While it was unlikely the rest of the banking industry would tolerate a system-wide stress test, Federal policy was essentially leaving the rest of the industry to market forces and the normal FDIC resolution process.

The stress test focused on the level and composition of capital for two years into the future. The test was conducted under two macroeconomic scenarios for two years forward:

- Baseline scenario based on consensus expectations as of February 2009; and
- More adverse scenario assuming a deeper and longer-term downturn *(Ironically, this "more adverse" scenario was very close to what the U.S. experienced).*

The overarching goal was to increase market confidence by affirming the health of some institutions and publicly quantifying the capital needs of others. The institutions which were required to participate were guaranteed capital from the Troubled Asset Relief Program (TARP) if they could not raise it from other sources. The stress tests results required ten firms to raise $185 billion in common equity. GMAC was the only firm to need additional capital from TARP.

Reflections on SCAP

The SCAP program was an act of near desperation to stabilize the financial system. The extensive efforts by the Federal Government up to this point had not sufficiently stabilized the system, with the largest financial institutions remaining under enormous market stress. The SCAP was a very large undertaking with no existing model or framework to follow. The Federal Government needed to develop the model and extract data from the institutions in a very short period of time. There was no guarantee of the accuracy of the model or the ability of the banks to raise the required capital. In addition, there was certainly no guarantee the stress test would provide the much needed assurance to the market that the size of the risks in these firms was known and could be mitigated.

Following the release of the results on May 7, 2009, the regulators expressed relief that the test had been completed. While the required capital to be raised was significant, it was not insurmountable. The market seemed to accept the results as the institutions went about raising the necessary capital. Regulators conceded it was valuable, but hoped it would never have to be done again.

One year later, on May 6, 2010, Federal Reserve Chairman, Ben Bernanke, reflected on the SCAP program at the Federal Reserve Bank of Chicago's Bank Structure Conference. The Chairman touted that following the release of the results nearly all of the firms judged to need additional capital were able to raise it in the public markets. Additionally, release of detailed public information enhanced the credibility of the exercise. Bernanke's most prophetic statement was "bankers need to conduct their own stress tests…they force bankers to think through the implications of scenarios that may seem relatively unlikely but could pose serious risks if those scenarios materialized. Stress tests must be an integral part of firms' processes for ensuring their capital is adequate." This marked a turning point on the thinking and attitude of the SCAP and the role stress testing could play in the banking industry.

Dodd-Frank Act

The value of stress testing was cemented as Congress crafted regulatory reform. To ensure stress testing became part of the fabric of bank supervision, Congress memorialized it in the following ways:

1. Federal Reserve to provide at least three different sets of conditions for firms to stress test against;
2. Federal Reserve to do annual stress tests on bank holding companies over 50 billion in assets and non-bank financial firms under Federal Reserve supervision;
3. Above firms required to do their own semi-annual stress test; and
4. All other banks with assets greater than 10 billion required to do annual stress test.

While the legislation establishes bright lines for the size of institutions which are required to perform stress testing, the entire financial services industry should be prepared for increased expectations as financial regulators become accustomed to seeing stress testing as part of the risk management framework and an important part of the supervisory process. Increasingly, bank management will find it difficult to demonstrate sufficient risk management processes without incorporating an element of stress testing.

Community Bank Performance - Fall of 2008 to the Time of the SCAP

As the financial crisis was unfolding in the fall of 2008, community banks were awash in liquidity given the general uncertainty with the largest institutions. Failures of community banks were increasing, but the greatest attention was being paid to banks like Citi Group, Bank of America, Goldman Sachs, Morgan Stanley, Washington Mutual, and Wachovia.

While industry observers were concerned about the spillover effects of the crisis and the rapidly developing recession, the industry and the regulators touted the large amounts of capital held by the industry in contrast to previous economic downturns. On December 31, 2007, the industry's median leverage capital ratio was 9.74%, with 82% of the industry above 8%. Banks were performing at relatively high levels with a median return on assets of 0.89% and non-performing assets at 0.54% of assets. Agricultural portfolios were strong due to high crop prices, increasing land values, and an overall reduction in leverage. Banks which served the oil and gas industry were also very strong due to the recent period of high oil and gas prices.

There were significant areas to raise concern. The industry had significantly increased its exposure to construction and land development and commercial real estate loans. On December 31, 2007, the median concentration of construction and land development (ADC) was 41% of Tier 1 capital with over 2,000 banks, or 24% of the industry, above 100% of Tier 1 capital. The median concentration of commercial real estate loans (excluding ADC loans) was 129% with 10% of the industry above 300% of Tier 1 capital. These portfolios materialized into significant risks for the banking industry as economic activity slowed significantly and construction activity came to a halt.

Bank performance declined rapidly. By December 31, 2008, the median return on assets had declined to 0.60% and non-performing assets had doubled to 1.07%. Nearly 25% of the industry reported net operating losses. The median Tier 1 capital ratio fell modestly to 9.40%, with deteriorating asset quality and earnings performance raising questions about the adequacy of capital in many institutions. Unfortunately, the freezing of the securitization market and overall concerns about the health of the financial sector essentially eliminated Trust Preferred Securities as a source of capital. TARP's Capital Purchase Program was the most readily available source of capital, but the process had grown more burdensome and protracted as the program developed. Community banks were held to a strict viability standard, which the original banks were not. The standard applied to community banks required them to prove their viability without TARP funds. Institutions which could demonstrate viability following a TARP investment were generally not considered eligible. By the time the program closed in December 2009, 746 banks, less than 10% of the industry, had received $205 billion in TARP funds. This includes the original eight institutions which received $115 billion of the funds.

Community Bank Performance - 2009 & 2010

The pace of bank failures increased significantly in 2009, with 140 institutions being closed. As of October 1, 2010, 129 banks have closed in 2010.

The severe economic recession created significant stress for many community banks, especially those with concentrated balance sheets. Capital positions eroded quickly with mounting losses from defaults, investment impairments and uncertain property valuations. The community bank failures of 2008 and 2009 were largely the result of losses in acquisition, development and construction (ADC) lending. In 2010, commercial real estate (CRE) became more of a driver. However, CRE is not proving to be as catastrophic as ADC as banks have more opportunities to restructure loans to be performing with a manageable loss.

Funding, while diversified, proved unreliable in a stressed environment. Institutions dropping below "well capitalized" were shut-off from the brokered deposit market and faced liquidity challenges and intensive regulatory scrutiny. The FDIC's strict interpretation of Prompt Corrective Action and unwillingness to exercise its authority to more generously grant waivers caused more banks to experience liquidity strains than was necessary. Given the uncertainty of loan quality and the future of the economy, the Federal Home Loan Banks sought to increase their collateral protection by increasing hair-cuts. This further strained bank liquidity.

The median level of leverage capital for the banking industry as of June 2010 was 9.45%. This is roughly equivalent to the median capital ratios of the banks which failed from 2008 to 2009, 10 quarters before they failed. Banks have continued to face significant challenges in raising new capital, although some improvement has been noted in 2010.

As strains in capital emerged, many bank holding companies were not in a position to serve as a "source of strength" and provide more capital to the bank. The "source of strength" doctrine was a long-held supervisory standard to judge the relationship between the bank and its parent company. A poor economic environment and uncertainty over the condition of the industry, fueled in part by Federal policy which essentially certified the capital needs of the "too big to fail" firms, were major impediments to bank holding companies being able to attract capital. In addition, the capital structures in the companies also served as an inhibitor. Trust Preferred Securities (TruPS) had become a popular source of non-dilutive capital for bank holding companies. TruPS were a hybrid of debt and capital. The Federal Reserve permitted TruPS to be counted as Tier 1 capital, subject to limitations. As the financial crisis unfolded, these investors had little incentive to convert to common equity and served as a deterrent to new common equity investors. The "source of strength" doctrine and the quality of capital issues were both addressed in the Dodd-Frank Act, granting greater authority to the FDIC to intervene with a bank holding company, restricting Tier 1 capital components for bank holding companies, and requiring the Federal Reserve to write rules defining "source of strength."

The banking industry's need for capital drew the attention of certain investors seeking an entry into the industry, due to the low cost of funding of core deposits and potentially enormous returns due to depressed prices. The source of some of these funds raised significant public policy issues. Desiring long-term, patient capital, Federal regulators scrutinized these sources of capital and offered specific guidance related to private equity funds. Despite the industry's need for capital, Federal regulators essentially determined not all sources were suitable for banking given its access to cheap funding and the high level of public trust associated with being an insured depository institution. This policy approach made it even more difficult to restore a bank to health with a private market solution.

A reasonable case can be made that capital was so hard to come by for community banks due to a lack of a government assessment of the actual need. The SCAP program was not applied, nor made available, to the whole industry. While at the time the industry would likely have balked at the burden and intrusion of a stress test, in hindsight, the Federal government's lack of interest in providing this type of support may have assured the path towards resolution for hundreds of banks.

State of the Financial System

The financial system has largely been stabilized, but has numerous financial risks to resolve, risk management processes to improve, and governance practices to strengthen. The largest banks have been stabilized and are beginning to generate profits. This is due in large part to SCAP and other government intervention to prevent their failure and support their business model. TARP is becoming a small bank problem with 91 institutions not paying the required dividends. While the funds were distributed freely to the largest institutions, community banks had to fight for access. The applications were scrutinized by the primary Federal regulator, with the questionable cases being referred to a council of regulators. Community banks were asked for more information and subject to additional examinations as a test of their viability. Given the nature of the economic cycle and the implicit guaranty of being "too big to fail," the banks which had to fight the most for their share of extraordinary government support stand to be unfairly painted as the poster children of a "government bailout" and the program people love to hate: TARP.

Concentrations

Greater regulatory scrutiny is being placed on concentrations, including both assets and funding. While regulatory resources are focused on direct supervision, policy is likely to explore regulatory solutions in the future. In 2006, the Federal banking agencies issued guidance on commercial real estate loans. The document famously established concentration thresholds – 100% of capital for ADC loans and 300% of capital for non-owner-occupied CRE loans, which included ADC loans. Since most of the credit risk was already in the balance sheets, the effectiveness of the guidance is difficult to measure. Regulators will undoubtedly evaluate if the thresholds should be limits or if additional capital is required to mitigate concentration risk.

To fund the increasing concentrations in CRE loans, many banks turned to the brokered deposit market. While this can prove to be a reliable source of funding, banks which fall below "well capitalized" can face significant liquidity problems due to regulatory requirements. Unfortunately, brokered deposits are developing the stigma similar to the 1980's. Other deposit product sources, like internet listing services, may have similar characteristics as brokered deposits and may develop their own stigma.

De Novo Banks

From 2000 through 2008, over 1,300 new banks were chartered. The strong economy was attracting significant amounts of capital to the banking sector. The system's ability to attract capital and charter new institutions is a key benefit of the U.S. banking system. Banks are a critical intermediary and provide fuel for economic development. As most new banks are chartered to address local economic needs, de novo institutions are a critical component to ensure economic development and access to credit. Generally, these are issues beyond the scope and capability of the largest banks.

In the current cycle, 26% of bank failures have been banks which were chartered since 2000. This represents 5% of the banks chartered over this time period. While new businesses fail at significantly higher rates, it is reasonable to expect greater success from depository institutions which hold the public trust and benefit from federal insurance.

Resolutions

Despite the number of failures, it is important to note that the system is working. The Deposit Insurance Fund exists to protect depositors and facilitate orderly resolutions of failing banks. While a handful of institutions were deemed "too big to fail" and received extraordinary government support to restore them to health, the rest of the industry was left to the intended design of the system. The system contemplates a public-private solution with the banker funded insurance program protecting depositors and healthy institutions acquiring the failing bank's franchise. This part of the financial system works.

The community banking system is healing itself. Contrary to popular belief, the largest banks have not been significant players in the failed bank acquisition business. Out of the failed banks in this cycle, 92% have been acquired by institutions with assets less than $100 billion. The median acquirer is 4.7 times the size of the failed bank. While this is a very difficult part of the business, policy makers must recognize it is working. For a large portion of the industry, the system can allow for failure with minimal harm to consumers and local economies.

Lessons Learned & Moving Forward

Public policy is driving towards a more conservative banking industry. Consumer protection expectations will combine with heightened underwriting standards to create an "old school" model of mortgage finance. Other consumer loan products are also going through fundamental changes which will impact access and the cost of credit. The regulatory response to the significant losses from construction and commercial real estate lending has yet to be formulated. Given the number of bank failures resulting from these exposures, the regulators will feel the need to address underwriting, concentrations, and capital. New banks are being approved sparingly. The business plans and management of new institutions are under greater scrutiny. New standards for de novo banks and expectations for risk management are likely to be developed.

Capital

From a broader perspective, capital standards need to better link to the risks banks assume and face. Capital management must be more forward looking. Bank management needs to ensure the bank is not only "well capitalized" today, but remains "well capitalized" in the future and especially in a stressed environment. Capital is precious and becomes too hard to get when a bank really needs it.

Capital structures at the bank and the holding company impact the ability to raise capital in the future. Policy will set higher standards for the elements of capital at the bank and the holding company. This is critical to ensuring the holding company has the ability to serve as a source of strength for the bank. The Dodd-Frank Act has significantly limited a community bank holding company's ability to obtain capital from the market as institutions will no longer be able to count Trust Preferred Securities as Tier 1 capital. In addition, the papers coming from the Basel Committee on Banking Supervision are calling for higher standards of capital, with greater appreciation for loss-absorbing, common equity.

Bank supervisors coordinating through Basel have also proposed frameworks for preserving capital above the minimums and making capital counter-cyclical. To preserve capital, supervisors would place a "capital preservation buffer" above the minimum capital required. Banks which do not exceed this buffer would be restricted in the percentage of income it can pay in dividends. During periods of high economic expansion, bank supervisors could require a "counter-cyclical buffer." This buffer requires more capital due to a perceived increase in risk in the system. Banks would have two years to meet the new standard.

While these proposals are targeted to the largest, internationally active banks, these types of standards have the effect of flowing down to the rest of industry in some form. This could prove to be very challenging for community banks which have limited sources for new capital. Community banks may be forced to hold even higher levels of capital to ensure they can meet increasing requirements. Higher capital standards make it imperative that bank management fully understand their vulnerabilities and can quantify the potential impact on capital under a variety of economic scenarios.

Concentrations

The policy threat facing the banking industry is that the problems with concentrations are not new. The industry has faced problems with asset concentrations and brokered deposits in the past. This creates an environment for a regulatory reaction to ensure the same problems do not reoccur. Regulatory solutions to these challenges could fundamentally change the structure of the banking industry. The industry must work to strengthen its understanding and management of risk on both sides of the balance sheet. Concentrations are a natural phenomenon in a community banking system, but must be managed with more sophistication.

There are several possible approaches to address concentrations in banks:

1. Hard limits as a percentage of capital on the level of a bank's exposure for the riskiest categories;
2. Capital surcharges for exceeding certain levels; or
3. Enhanced risk management and management's ability to manage the risk.

Hard limits and capital surcharges would be very damaging to the banking industry and the nation's economy. Community banks would be severely limited in their ability to lend and provide credit to the local economy. For larger communities, the largest banks would dominate the market place as community banks are forced to curtail lending. In smaller communities, there could be a significant lack of credit availability, which would drive up the cost of credit.

The more effective approach to address the issues with concentrations is to improve overall risk management. Stress testing could be an effective tool in assisting banks in identifying their vulnerabilities and seeking mitigation strategies. While improvement in risk measurement and monitoring needs to occur, the focus must be squarely on the competence of management. The bank must be able to demonstrate its competence in origination, monitoring and overall governance.

<u>De Novo Chartering</u>
Chartering authorities and the deposit insurer will need to evaluate the standards and practices for granting new bank charters. While capital is critical and an important measure of support, greater scrutiny of the business plan and management's ability manage risk through the economic cycle are necessary. Banks need to be structured and managed to successfully navigate a stressed environment. From the overall financial system perspective, regulators will need to evaluate and judge if too much capital is flowing to the system and effectively elevating risk levels as institutions extend risk profiles to generate returns. To exercise this judgment will take enormous political will but may be necessary to manage the overall risk to the system.

Public Policy Considerations – Industry, Regulators, Congress
As policy makers and the industry continue to work their way through the financial crisis and work to implement the Dodd-Frank Act, there are several issues related to the widespread use of stress testing by banks which deserve careful consideration.

What should be our expectations for the percentage of "well capitalized" banks in a stressed environment?
The health of the industry has the attention and concern of Congress, regulators, the industry, and consumers. The largest banks required government intervention to be stabilized, while community banks have steadily gone through the resolution process. Despite these very real challenges, 96% of the banks have capital ratios which exceed the minimums to be considered "well capitalized." The regulatory framework and policymakers should be ready and willing to accept that banking firms will experience problems, especially during times of economic stress.

Can a bank be stressed to "inadequately capitalized" and still be a 1 or 2?
The standards for stress testing must recognize that any bank can be stressed to failure. Banks should be encouraged to identify its point of failure without fear of a regulatory response which may

unnecessarily require more capital, a ratings downgrade, or a restriction on activities. These actions will only lead to superficial tests with little utility for the bank and the regulators. Banks should be encouraged to identify and quantify their vulnerabilities and either work to mitigate the risk or justify the scenario represents an unlikely event. We must avoid a scenario where one bank faces supervisory action for identifying its vulnerability and is rated a 5, and another bank is criticized for not conducting stress testing and is rated a 3.

How should a bank determine the extent of risks required to be stress tested?
There must be recognition of the limitations of stress testing. For many institutions, there is too much risk to fully account. There needs to be a reasonableness standard on the number of stress test scenarios required. Banks need to fully understand their greatest risks and have a general understanding of their lower probability risks. Bank management should be judged on a "best efforts" basis and not be forced to chase an ever moving target.

Should stress testing results be publically available?
Public disclosure was one of the elements of the SCAP program which proved successful. As Chairman Bernanke noted in his May 6, 2010 speech, public disclosure enhanced the credibility of the stress test. The disclosure provided transparency of the participating companies and the amount of capital required, if any. While the SCAP was very different in purpose and was conducted in an abnormal economic environment than any routine, general purpose stress test, an assessment must be made if and what type of data will be publicly available. While there is a legitimate case to be made that the results should be protected as supervisory information, there will be ongoing pressure to disclose results by analysts and market participants. There was a time when the bank's call report and Uniform Bank Performance Report were considered confidential information.

Conclusion
Risk management and governance practices need to become more comprehensive and forward looking. This is necessary not only to protect the stability of the financial system, but to protect the viability of the community banking model. While the financial crisis was led by the largest banks and Wall Street firms, the resulting recession exposed significant weaknesses in community banks. These weaknesses resulted from a complacency spurred by a long-term economic expansion and ever increasing asset values. Community banks will need to be able to better project their solvency and liquidity through an economic cycle.

Stress testing should be a fundamental part of this new era of risk management. Stress testing can assist bank management in identifying and quantifying its greatest vulnerabilities. This is crucial to demonstrating the ability to manage credit concentrations, which are inherent in community banks.

Pursuing broad based stress testing for the industry raises significant policy questions regarding the scope, application, and disclosure. Industry leadership on the effective utilization of stress testing can and should get ahead of regulatory policy, demonstrating what is possible and realistic for community banks.

Addendum

Stress Points to Consider

Goal: Identify the potential exposure from certain events or conditions which threaten capital adequacy or the ability to meet funding demands. In addition to projected credit losses, including investment losses, the stress factors need to include any related operating and provision expenses.

The following are macro and micro level areas to consider. Stress events do not occur in isolation, often leading to problems in other areas.

1. Increase in non-performing assets
    a. Concentrations by loan type or industry
    b. Securities portfolio (TRUPS, Fannie, Freddie – losses can appear almost anywhere)
    c. Economic slowdown
    d. Collateral depreciation

2. Contagion
    a. Weakness from one loan type spreading to another sector
    b. Downstream impact from the loss of a major employer or industry

3. Widespread deterioration in a portfolio due to a "rogue" or incompetent lender

4. Long-term effect from changes in underwriting practices

5. Change in borrowing terms or collateral requirements

6. Stress in funding from reputational risk – negative press, regulatory enforcement, etc.

7. Funding outflows in a stressed environment

8. Operational risk

9. Impact on the holding company from a stress event at the bank
   Can the holding company serve as a source of strength for the bank or will stress at the bank spread to the holding company?