Assessing Bank Capital Adequacy Through Stress Testing

August 15, 2014

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Agenda

- *Bank Capital – Why Do We Care?*
- *What is Capital Adequacy, Anyway?*
- *How <u>Did</u> We Determine if a Bank is Adequately Capitalized?*
- *That Financial Crisis – What Did We Learn?*
- *How <u>Do</u> We Determine if a Bank is Adequately Capitalized?*
- *CCAR – Not Your Father's Supervisory Exercise!*

Bank Capital

Banks are important

Banks are risky

Capital represents "skin in the game" for bank owners

Balance Sheet (Dollars in Millions)	Current Period
Assets	
Federal Funds sold and securities purchased under agreements to resell	$176,922
Residential mortgage	$178,359
Credit card	$98,022
Direct/Indirect consumer	$119,920
Commercial	$110,163
Total loans and leases	$683,386
Other earning assets	$39,112
Total earning assets	$722,498
Cash and cash equivalents	$32,575
Allowance for loan and lease losses	$79,854
Total assets	**$834,927**
Liabilities	
Domestic interest-bearing deposits	
Savings	$39,056
Now and money market deposit accounts	$236,564
CDs and time deposits	$134,799
Total interest-bearing deposits	$410,420
Federal funds purchased, securities sold under agreements to repurchase and other short-term borrowings	$128,171
Long-term debt	$76,037
Total interest-bearing liabilities	$614,628
Non-interest-bearing liabilities	$148,101
Shareholder's equity	$72,198
Total liabilities and shareholders equity	**$834,927**

So What's Adequate Capital?

Bank Risks	Risk Management
credit risk	*loan surveillance*
market risk	*loan workout*
interest rate risk	*quantification*
operational risk	*internal audit*
compliance risk	*risk limits*

Higher "Solvency Standard" For:
large & interconnected banks
banks with certain funding reliance
banks with vital core operations

1) *How risky are the bank's investments and activities?*
2) *How effective are the bank's risk management capabilities?*
3) *How significant a 'risk event' should the bank be able to withstand?*

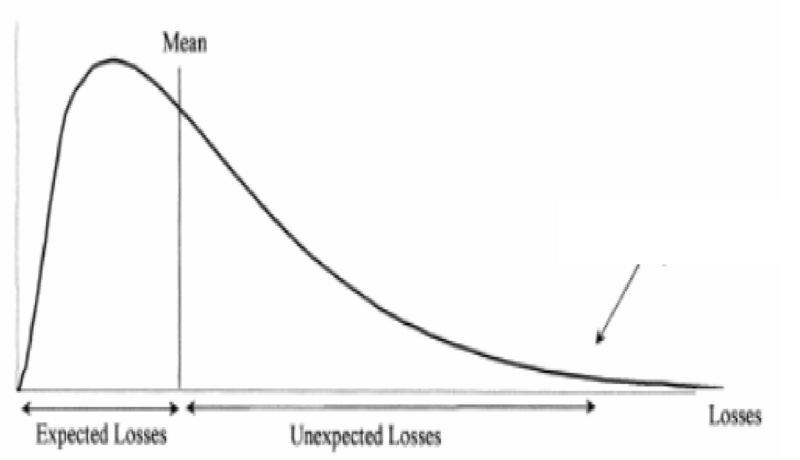
Capital Adequacy – The Way it Was

Regulatory Capital Approach

PCA CAPITAL CATEGORY Designation Abbreviation	Total Risk-Based Ratio	Tier 1 Risk-Based Ratio	Tier 1 Leverage Ratio
Well Capitalized (WCB)	≥ 10.0%	≥ 6.0%	≥ 5.0%
Adequately Capitalized (ACB)	≥ 8.0%	≥ 4.0%	≥ 4.0%*
Undercapitalized (UB)	< 8.0%	< 4.0%	< 4.0%*
Significantly Under (SUB)	< 6.0%	< 3.0%	< 3.0%

Risk charges difficult to "calibrate"

Bank's Internal Measures



Creating measures requires lots of assumptions

A True Test of Capital Adequacy

THE WALL STREET JOURNAL.

Mounting Fears Shake World Markets As Banking Giants Rush to Raise Capital

Morgan Stanley in Talks With Wachovia, Others

What's News

Bad Bets and Cash Crunch Pushed Ailing AIG to Brink

Worst Crisis Since '30s, With No End

The financial crises had its roots in excessive risk taking.

Risk/Regulatory measures failed to capture the scale of the losses.

As capital erodes, funding implodes!

Lessons From the Crisis

Severe stress to the banking sector and financial markets can spill over into the “real economy”.

Risk measures are often overly reliant on observed results from prior periods; often do not capture risks related to new products or activities.

Capital adequacy evaluations need to be more forward looking and directly linked to the financial performance of the bank.

2009 – A Turning Point

“Supervisory Capital Assessment Process” (SCAP)

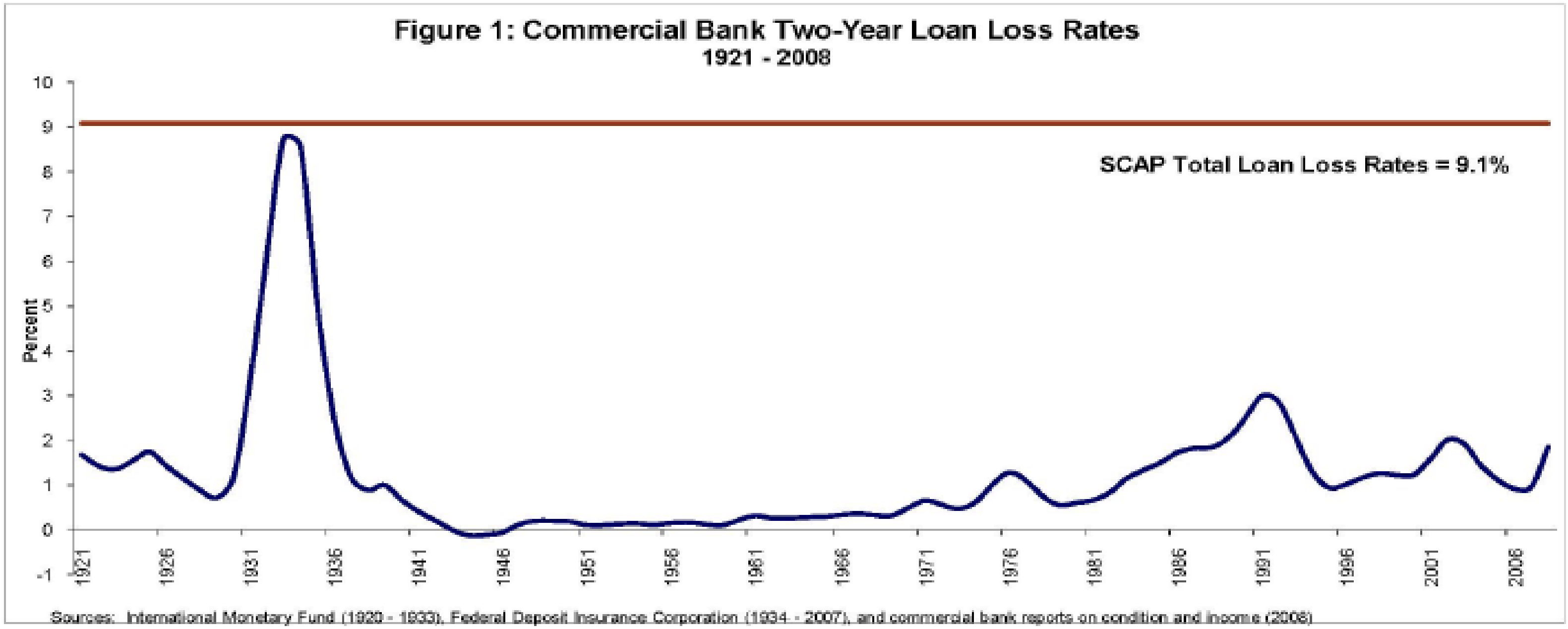


Figure 1: Commercial Bank Two-Year Loan Loss Rates
1921 - 2008

Sources: International Monetary Fund (1920 - 1933), Federal Deposit Insurance Corporation (1934 - 2007), and commercial bank reports on condition and income (2008)

Capital Adequacy – The Here and Now

2011 - 2014 "Comprehensive Capital Analysis and Review" (CCAR) Program.

Two part test (quantitative and qualitative), the consequences of which are significant for the banks that participate in the program.

The program involves an assessment of bank financial performance under a pre-defined set of macro-economic scenarios.

The program also involves a *significant* amount of examination work; banks have developed new models and supervisors are applying new expectations.

A Seven Step Program to Sound Capital Planning

Figure 1. Seven principles of an effective capital adequacy process

Principle 1: Sound foundational risk management

The BHC has a sound risk-measurement and risk-management infrastructure that supports the identification, measurement, assessment, and control of all material risks arising from its exposures and business activities.

Principle 2: Effective loss-estimation methodologies

The BHC has effective processes for translating risk measures into estimates of potential losses over a range of stressful scenarios and environments and for aggregating those estimated losses across the BHC.

Principle 3: Solid resource-estimation methodologies

The BHC has a clear definition of available capital resources and an effective process for estimating available capital resources (including any projected revenues) over the same range of stressful scenarios and environments used for estimating losses.

Principle 4: Sufficient capital adequacy impact assessment

The BHC has processes for bringing together estimates of losses and capital resources to assess the combined impact on capital adequacy in relation to the BHC's stated goals for the level and composition of capital.

Principle 5: Comprehensive capital policy and capital planning

The BHC has a comprehensive capital policy and robust capital planning practices for establishing capital goals, determining appropriate capital levels and composition of capital, making decisions about capital actions, and maintaining capital contingency plans.

Principle 6: Robust internal controls

The BHC has robust internal controls governing capital adequacy process components, including policies and procedures; change control; model validation and independent review; comprehensive documentation; and review by internal audit.

Principle 7: Effective governance

The BHC has effective board and senior management oversight of the CAP, including periodic review of the BHC's risk infrastructure and loss- and resource-estimation methodologies; evaluation of capital goals; assessment of the appropriateness of stressful scenarios considered; regular review of any limitations and uncertainties in all aspects of the CAP; and approval of capital decisions.

....And the Results are In

Large bank capital levels have roughly doubled since 2009.

Whether this level of capital it truly "adequate" depends on whether we're running the right test.

Having too little or too much capital at banks has negative consequences.

Bank holding company
Ally Financial Inc.
American Express Company
Bank of America Corporation
The Bank of New York Mellon Corporation
BB&T Corporation
BBVA Compass Bancshares, Inc.
BMO Financial Corp.
Capital One Financial Corporation
Citigroup Inc.
Comerica Incorporated
Discover Financial Services
Fifth Third Bancorp
The Goldman Sachs Group, Inc.
HSBC North America Holdings Inc.
Huntington Bancshares Incorporated
JPMorgan Chase & Co.
KeyCorp
M&T Bank Corporation
Morgan Stanley
Northern Trust Corporation
The PNC Financial Services Group, Inc.
RBS Citizens Financial Group, Inc.
Regions Financial Corporation
Santander Holdings USA, Inc.
State Street Corporation
SunTrust Banks, Inc.
U.S. Bancorp
UnionBanCal Corporation
Wells Fargo & Company
Zions Bancorporation

Questions

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