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Adequate's not Good Enough

The response of banks to new capital regulations shows that banks are not satisfied merely with maintaining adequate capital positions. Not surprisingly, undercapitalized banks took steps to improve their capital positions. However, even banks that were adequately capitalized according to objective regulatory standards scrambled to increase their capital ratios in recent years. The response of the "adequately" capitalized banks suggests that pressures to build up bank capital were fairly widespread, even though most banks more than met the minimum capital standards.

This *Weekly Letter* looks at how banks went about adjusting capital positions in recent years. It turns out that much of the adjustment was accomplished through increases in bank capital itself. At the same time, though, banks also improved their capital positions by reducing their riskier assets, which suggests that capital constraints could have contributed to slow bank loan growth. Today, however, a large portion of the banking industry is well-capitalized, so capital constraints should not be a major impediment to the growth of bank credit.

Risk-based capital

Risk-based capital standards for banks, introduced in 1990, were phased in fully at the end of 1992. In contrast to the uniform capital standards in place before 1990, the new rules base the amount of capital a bank must hold against an asset on the asset's default risk. Another new twist is that banks are explicitly required to hold capital against their off-balance sheet activities, which include loan commitments, standby letters of credit, and derivatives. The regulations specify formulas for transforming the notional values of different off-balance sheet items to "on-balance sheet equivalent" values.

The regulations assign risk weights to varieties of on-balance sheet assets and off-balance items; those deemed to have higher default risk have higher weights. For example, Treasury securities are given a zero weight, federally sponsored agencies securities are given a 20 percent weight, home mortgages get a 50 percent weight, and consumer loans, business loans, and commercial real estate loans get a 100 percent weight. The various on-balance sheet assets and the on-balance sheet equivalent values of off-balance items are multiplied by the appropriate weights and then summed to get total risk-weighted assets.

The risk-weighted capital requirements are stated in terms of ratios of capital to risk-weighted assets. The regulations specify two ratios, a Tier 1 ratio, in which capital consists mainly of equity, and a Total Capital ratio, in which capital consists of equity as well as certain liabilities, including subordinated debt.

Even though some assets, like Treasury securities, get a zero risk-weight, effectively banks still face capital requirements on such assets because banks also are subject to the so-called leverage ratio. This is basically the ratio of equity capital to total on-balance sheet assets. The reason for having this ratio is that the risk-based standards do not fully account for differences in risk relating to changes in interest rates or other types of market risk. With the leverage ratio, then, capital requirements against assets like Treasury securities are not zero.

Under, adequately, or well-capitalized

Regulations currently stipulate minimum risk-based capital ratios of 4 percent for the Tier 1 ratio and 8 percent for the Total Capital ratio. Banks with ratios above these minimums generally would be considered adequately capitalized, provided they are otherwise in healthy condition. (The minimum required leverage ratio for a bank also depends on its general financial condition. For healthy banks the minimum likely would be 3 or 4 percent.)

To be considered well-capitalized, however, a healthy bank has to have a Tier 1 ratio of 6 percent or higher and a total capital ratio of 10 percent or higher. (To be considered well-capitalized, a healthy bank also would have to have a leverage ratio of 5 percent or more.)

To give some idea of how banks stacked up against the risk-based standards, we can look at

some data from a sample of large banks (assets greater than $300 million) that report information relating to risk-based capital standards. At year-end 1990, this sample included about 720 banks, accounting for about 75 percent of total bank assets. Using only the 4 percent Tier 1 ratio and 8 percent Total Capital ratio cutoffs, undercapitalized banks accounted for about 30 percent of the assets of the sample of banks at the end of 1990. Adequately capitalized banks, those with risk-based capital ratios above the minimums but not meeting the 6 percent and 10 percent cutoffs, accounted for about half of the assets. That leaves about 20 percent of the assets in sample banks that could be considered well-capitalized. (If the leverage ratio also is considered, the percent of assets held by well-capitalized banks would be only slightly lower.) Once again, even some of those banks would not be viewed as well-capitalized by regulators, unless they were otherwise healthy institutions.

Capital constraints

If banks were satisfied with adequate capital, these figures would suggest that most of the assets in the banking industry were held at banks that were not facing serious capital constraints in 1990. However, when we see which banks have adjusted to the new capital standards over the past couple of years, it appears that pressures to build up capital were fairly widespread in the banking industry.

The adjustment of capital ratios among banks is shown in the table. The sample of banks used includes institutions that had over $300 million in assets at the end of 1990 or 1992 and were not involved in any acquisitions or mergers in 1991 or 1992. The banks are classified as undercapitalized, adequately capitalized, or well-capitalized according to their risk-based capital ratios at the end of 1990. For example, well-capitalized banks are those with Tier 1 capital ratios greater than or equal to 6 percent and Total Capital ratios greater than or equal to 10 percent. For each of the three groups, the table shows the average percent changes in Total Capital ratios, total capital, and risk-adjusted assets for the two-year period 1991–1992.

Adjusting to Risk-Based Capital Standards

Bank Capitalization	Average Percent Change:* 1990:Q4 to 1992:Q4		
	Total Capital Ratio	Total Capital	Risk-Adjusted Assets
Under	40.2	29.4	–10.8
Adequate	22.3	16.0	–6.3
Well	5.8	8.6	2.8

*Measured as the log difference times 100.

As might be expected, the data in the first column show that the undercapitalized banks on average increased their capital ratios more than other banks. However, even the adequately capitalized banks as a group showed a very large improvement in their capital positions. The percent change in the Total Capital ratios is around four times larger for the adequately capitalized banks than for the well-capitalized banks. This is compelling evidence that banks were not satisfied with merely maintaining adequate capital positions.

The adjustment mix

A bank that feels constrained by its risk-based capital ratio has two options: It can increase its capital, and it can reduce its risk-adjusted assets. In reducing total risk-adjusted assets, a bank can merely shrink assets and it can shift assets from higher to lower risk-weight categories.

The second and third columns in the table show that banks used both options in adjusting to risk-based capital standards. The data suggest that this group of banks achieved much of the adjustment by increasing total capital itself. However, they also sharply contracted their risk-adjusted assets; and this held true both for the under-capitalized banks and the adequately capitalized banks. Separate statistical analysis supports these findings even when controlling for differences in economic conditions across banking markets. That analysis also indicates that the higher-risk assets were affected more by the capital constraints than the lower-risk assets. In fact, differences in risk-based capital ratios among banks were not related to the growth of zero risk-weight assets.

This evidence that the growth in higher risk assets was weaker among the lower-capitalized banks than among the well-capitalized ones and that

capital constraints were fairly widespread is consistent with recent studies that find capital constraints having contributed to the weakness in bank lending in recent years. It should be mentioned, though, that several of these studies find that most of the unusual weakness in bank credit has been due to factors other than capital regulation.

Eased constraints

The bank capitalization picture today, however, has changed considerably, as banks' efforts to build up their risk-based capital ratios have been very effective. For example, at the end of 1992, among the large banks reporting data relating to risk-adjusted capital, about 85 percent of the assets were held by institutions at or above the 6 percent and 10 percent cutoffs for Tier 1 and Total Capital ratios, respectively. With such a large portion of bank assets in well-capitalized banks, capital positions should not be a constraint on bank lending.

Conclusion

Banks clearly are not satisfied with merely having adequate capital. Over the past few years, even banks satisfying minimum regulatory capital standards made concerted efforts to push their capital ratios higher. In doing so, banks substantially increased capital itself, but they also reduced their higher risk assets, such as business, consumer, and commercial real estate loans.

The efforts to build up capital have been successful, and today a large portion of the banking industry is well-capitalized. Therefore, although capital constraints may have accounted for some of the slow loan growth in recent years, at this point, banks' capital positions in and of themselves should not deter lending. In fact, recently, we have seen some pickup, with bank loans registering relatively healthy increases from May to July. While it still may be too soon to declare a permanent turnaround in bank credit, as long as the other supply and demand factors are in place, banks have the capital to respond.

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MONETARY POLICY OBJECTIVES FOR 1993

On July 20, Federal Reserve Board Chairman Alan Greenspan presented a mid-year report to the Congress on the Federal Reserve's monetary policy objectives for the remainder of 1993. The report reviews economic and financial developments in 1993 and presents the economic outlook heading into 1994. For single or multiple copies of the report, write to the Public Information Department, Federal Reserve Bank of San Francisco, P.O. Box 7702, San Francisco, CA 94120, phone (415) 974-2246 or fax (415) 974-3341.

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The *FRBSF Weekly Letter* appears on an abbreviated schedule in June, July, August, and December.