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## Economies of Scale and Continuing Consolidation of Credit Unions

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# FRBSF ECONOMIC LETTER

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## Economies of Scale and Continuing Consolidation of Credit Unions

Whether depository institutions can achieve economies of scale, that is, lower their average costs by increasing their sizes, has been a subject of great interest and importance to economists, regulators, and depository institutions themselves. Deregulation has allowed banks, thrifts, and credit unions to increase their size—and, thereby, to reap whatever economies of scale have long been available to larger depositories—by easing restrictions on their abilities to acquire other financial institutions and to operate over broader geographic areas. In addition, technological advances in information processing and in financial practices may have further added to depositories' economies of scale. The resulting gains in efficiency can benefit the owners and customers of depositories specifically and the economy generally.

Economies of scale also provide powerful incentives for industry consolidation, as firms grow and merge in order to lower their costs and as smaller firms find it more difficult to continue competing with their growing, increasingly efficient competitors. Indeed, as technologies advanced and deregulation proceeded, the total number of depositories fell from about 40,000 in 1980 to less than 20,000 in 2004. And, over the same period, the average asset size (in 2004 dollars) of banks quadrupled, while that of credit unions grew tenfold.

However, the overall evidence in favor of the practical importance of economies of scale in banking has, at best, been mixed. As Kwan and Wilcox (2002) noted, academic studies rarely find evidence that bank mergers reduced banks' costs. (They also suggested why some genuine, postmerger, cost-cutting was likely "hidden" by accounting conventions.) And, in 2004, the noninterest expenses and net incomes (relative to bank assets) of small banks differed little from those of large banks.

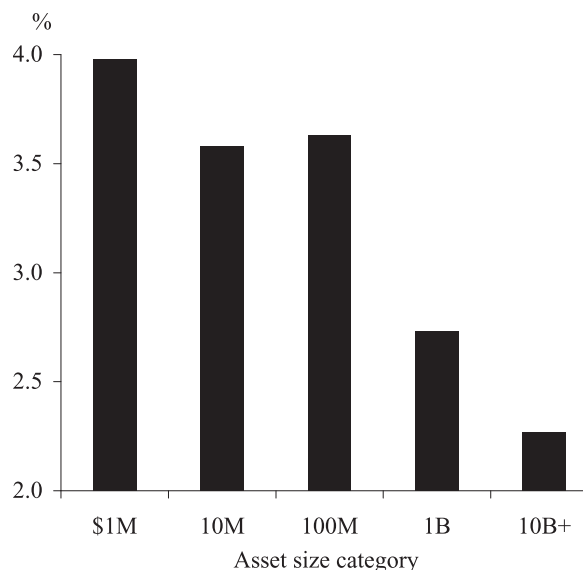
The evidence for credit unions is different. This *Economic Letter* shows that, in contrast to banks, larger credit unions, on average, have decidedly lower average costs and higher net incomes, as we

might expect in the presence of important economies of scale. It further notes that these economies of scale put pressure on the credit union industry to continue consolidating into fewer, larger credit unions. It also describes how some recent legislation may have further added to the pressures on both the banking and credit union industries to consolidate.

### Lower noninterest expenses at larger credit unions

One conventional measure of the cost efficiency of a depository is noninterest expense: Other things equal, lower expenses signal greater efficiency. Figure 1 depicts the noninterest expenses (as a percent of assets) in 2004 for federally insured credit unions in each of five asset-size categories. (The first four categories include all credit unions that had up to 10% more or fewer assets than the specified number; the number of credit unions in each category is: 147 in \$1M; 423 in \$10M; 171 in \$100M; 34 in \$1B. The largest size category includes the two credit unions that had at least \$9B in assets.) These data show that costs for larger credit unions are substantially lower, suggesting very

**Figure 1**  
Noninterest expenses at credit unions, by size



considerable economies of scale in credit unions' noninterest expenses.

A noninterest cost disadvantage of 100 basis points (1 percentage point), and often much more than that, for smaller credit unions puts severe pressure on the interest rates that they charge borrowers and the interest rates that they offer to savers. Further, small credit unions may typically offer fewer products and services as a way to contain their costs. Because these data include any extra expenses for offering more products and services—such as more hours at more branches, more ATMs, more e-banking, and so on—Figure 1 may understate the cost advantages of larger credit unions.

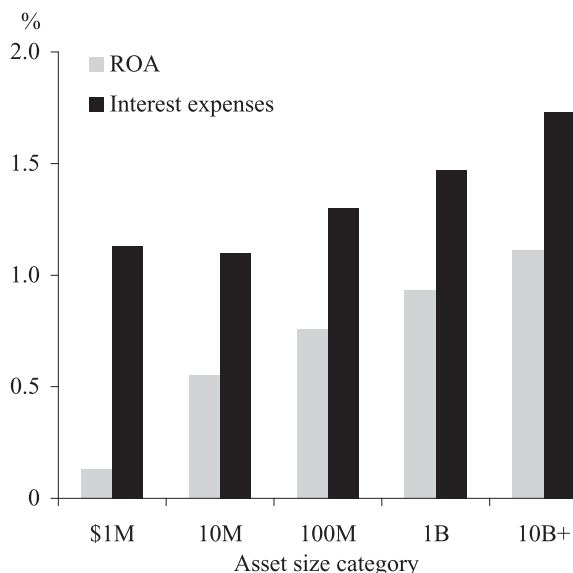
#### Higher net income and interest paid at larger credit unions

Figure 2 depicts interest expense and ROA (return on assets, which is net income as a percent of assets) for the sample of credit unions. One repercussion of higher noninterest costs at smaller credit unions is that they cannot afford to pay the same high interest rates on deposits that larger credit unions can. Figure 2 shows that interest expense at the credit unions in the two largest size categories exceeded that paid by those in the two smallest size categories by about 50 basis points (one-half percentage point).

Credit unions are mutually owned by their members rather than by outside shareholders, making their depositors also their owners. Therefore, unless the differences in interest expense are due to differences in the composition of deposits and their interest rates, the extra interest expense incurred by larger credit unions provides a larger benefit to the depositor-owners of larger credit unions than is afforded by smaller credit unions.

Figure 2 also shows that ROA rises steadily with the size of credit unions, with the average ROA at very large credit unions about twice as large as that for medium-sized credit unions and nearly one full percentage point larger than that for very small credit unions. In fact, on average, very small credit unions earned virtually no income in 2004. Thus, larger credit unions tend to have lower noninterest expenses, which enable them both to pay their members higher interest rates on their deposits and to earn higher net income for their member-owners. One might expect this pattern of performance when economies of scale in the industry are both large on average and pervasive, in that

**Figure 2**  
ROA and interest expenses at credit unions, by size



they are available to numerous credit unions over a wide range of sizes.

ROA is important to credit unions in particular because, in effect, those retained earnings are the only source of the additional capital that regulators require in order for a credit union to grow and thereby benefit from economies of scale. By contrast, regulators allow banks to treat as additional capital those funds that banks raise by issuing various kinds of stocks and bonds to outside investors.

Another, typically overlooked, aspect of the greater cost efficiency of larger credit unions is that they tend to operate with lower capital ratios than smaller credit unions. Larger credit unions are likely to be more diversified because they have larger numbers of borrowers and savers. They may also be more diversified by offering more products and services. More diversification would then allow larger credit unions to have both lower capital ratios and lower risks of failure. Wilcox (2005) documented that larger credit unions have indeed had lower failure rates.

One reason that the cost of capital may often be overlooked is that credit unions do not distribute any of their net income—it all accumulates within the credit union as capital. A more complete assessment of costs would impute the opportunity costs to members of the capital that their credit unions have accumulated. Since capital is generally re-

garded as the most expensive source of funding for any depository, that larger credit unions generally use less capital is, in practice, another source of economies of scale.

Somewhat offsetting these indications of economies of scale are the larger noninterest fees that larger credit unions tend to charge their members. This extra noninterest income that larger credit unions earn can be used to fund the higher deposit rates and the extra services, if any, that larger credit unions offer. Without so much fee income, larger credit unions would likely pay lower rates on their members' deposits and charge higher rates on their members' loans.

#### **Economies of scale and industry consolidation**

Perhaps not surprisingly, given larger credit unions' lower noninterest expenses, higher interest rates that they offer to savers, and lower interest rates that they charge their borrowers, the numbers of larger credit unions and the share of total credit union industry assets in larger credit unions have grown from 1980 through 2004. For example, the number of credit unions that had over \$1 billion in assets grew from 2 to nearly 100, and the share of total credit union assets in those credit unions grew from 2% to 33%. Despite the overall growth of the credit union industry, the number of credit unions that had less than \$100 million in assets shrank by one half, from about 17,000 to fewer than 8,000, while their share of assets of the credit union industry plummeted from about 70% to about 20%. (NB: These data are expressed in 2004 dollars.) Given the apparently quite large and pervasive economies of scale, it is perhaps not surprising that smaller credit unions have had higher failure rates than larger credit unions.

#### **Conclusion**

Past and ongoing deregulation and recent legislation have increased the means and the motives for credit unions to consolidate and grow. The combination of the relaxation of regulatory restraints on their products and services and on their ability to reach more members, of substantial cost

advantages for larger credit unions, and of vigorous competition among depositories of all kinds provides powerful incentives for the credit union industry to consolidate into fewer, larger and, therefore, more efficient, operations. Smaller credit unions likely will face continuing pressures to be acquired or otherwise exit the industry. Indeed, credit unions of all sizes likely will face growing pressures to improve efficiency by increasing the scale of their operations, either by internal growth or by acquiring other credit unions.

Government policies may also increase the economies of scale that depositories face. Recent legislation, such as the Gramm-Leach-Bliley Act, the USA Patriot Act, and the Bank Secrecy Act, may well provide some important benefits to the nation. But, quite apart from such benefits, these recent laws may also impose unavoidable and unintended costs on depositories and consequences for the structure of the banking and credit union industries. For example, these laws may have the effect of imposing various sizable costs that are borne disproportionately by the smaller depositories. If they do, they strengthen the incentives for depositories to grow and thereby spread the quasi-fixed components of those costs over larger-sized operations. Such disproportionate, law-induced costs would increase the returns to scale in the banking and credit union industries and thereby strengthen the motives for consolidation.

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