

# Impacts of Mergers on Credit Union Costs: 1984–2009

**Luis G. Dopico, PhD**

*Macrometrix*

**James A. Wilcox, PhD**

*Lowrey Professor of Financial Institutions*

*Haas School of Business*

*University of California, Berkeley*

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*Progress is the constant  
replacing of the best there  
is with something still better!*

— ***Edward A. Filene***

Deeply embedded in the credit union tradition is an ongoing search for better ways to understand and serve credit union members. Open inquiry, the free flow of ideas, and debate are essential parts of the true democratic process.

The Filene Research Institute is a 501(c)(3) not-for-profit research organization dedicated to scientific and thoughtful analysis about issues affecting the future of consumer finance. Through independent research and innovation programs the Institute examines issues vital to the future of credit unions.

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The Institute is governed by an Administrative Board made up of the credit union industry's top leaders. Research topics and priorities are set by the Research Council, a select group of credit union CEOs, and the Filene Research Fellows, a blue ribbon panel of academic experts. Innovation programs are developed in part by Filene i<sup>3</sup>, an assembly of credit union executives screened for entrepreneurial competencies.

The name of the Institute honors Edward A. Filene, the “father of the U.S. credit union movement.” Filene was an innovative leader who relied on insightful research and analysis when encouraging credit union development.

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by Ben Rogers,  
*Research Director*

Mergers are like marriages. Two parties enter into each with the expectation, sometimes poorly defined, that life will be better as a result. The partners, ideally, strive to make the union work. Some sacrifices are made, some gains expected. And, almost always, neither party gets exactly what was planned. According to Sidney Poitier's character in *To Sir, with Love*, "Marriage is no way of life for the weak, the selfish, or the insecure." Neither are mergers.

Conventional wisdom about mergers is that they reduce operational costs. And why wouldn't they? After all, they assume advances like reductions in staff, consolidation of systems and vendors, more talented overall leadership, streamlined product structures, improved supplier pricing, and so on. Bigger is better, or at least marginally less expensive, right? But the answer, at least for credit unions, is merely "sometimes."

### What Is the Research About?

James Wilcox, PhD, and Luis Dopico, PhD, parse in-depth credit union merger data from 1984 to 2009 to find what actual operating gains, expressed as noninterest expense per assets (NIEXP) over five years, came out of mergers. The operational efficiency gains have been real and substantial for the smaller partners and hard-won for the larger partners.

- In the average credit union merger, members of the smaller merger partner (i.e., the target) experience large reductions in NIEXP (−0.79%) and in loan rates (interest income falls by 0.51%) and increases in rates paid on deposits (interest expense rises by 0.08%). In contrast, these impacts are very small (0.00%, −0.04%, and −0.01%, respectively) for members of the larger merger partner (i.e., the acquirer).<sup>1</sup>
- Since acquirers on average are over 20 times larger than their targets, impacts for the combined memberships of acquirers plus targets are small but measurable (−0.03%, −0.06%, and 0.00%). These small but consistently beneficial impacts explain why the ongoing merger process has been slow but inexorable. Only 3% of credit unions, with 0.4% of assets, were targets each year, but mergers are the main mechanism through which the number of U.S. credit unions has fallen by over 16,000 since 1969.
- However, the size and direction of impacts on combined memberships can vary widely. In about half of mergers (45%), the impact on combined NIEXP is relatively small (under 0.20%). While large decreases in combined NIEXP are common (34%

of mergers), large increases are sufficiently common (21% of mergers) that they cannot be considered mere outliers.

- Impacts are larger for the smaller partner. Reductions in NIEXP range from  $-1.38\%$  for targets with less than 10% of the assets in their acquirers (i.e., absorptions) to  $-0.70\%$  for targets with between 10% and 50% of the assets in their acquirers (i.e., acquisitions),  $-0.20\%$  for mergers of equals (in which the target has at least 50% as many assets as the acquirer),  $-0.01\%$  for acquirers in acquisitions, and  $0.00\%$  for acquirers in absorptions.
- Combined impacts are largest in mergers of equals (where NIEXP falls by  $-0.20\%$ ), in between for acquisitions ( $-0.13\%$ ), and smallest for absorptions ( $-0.02\%$ ). However, mergers of equals are relatively rare, accounting for only 6% of targets (and 22% of assets in targets).
- The recent growth in mergers of equals among larger credit unions has yet to deliver substantial cost reductions. While NIEXP fell by  $-0.29\%$  in mergers of equals among credit unions with less than \$100 million (M) in assets, NIEXP rose by  $0.15\%$  among their counterparts with more than \$100M.
- While targets continue to experience far larger impacts than acquirers, the distribution of impacts has been shifting somewhat in favor of acquirers. For instance, targets' reductions in NIEXP have fallen from  $-1.11\%$  in the 1980s to  $-0.71\%$  in the 2000s. In contrast, while mergers involved modest increases in acquirers' NIEXP ( $+0.03\%$ ) during the 1980s, mergers involved modest reductions ( $-0.02\%$ ) during the 2000s.
- While mergers of equals experience the largest short-term combined reductions in NIEXP ( $-0.20\%$  in the first year), those reductions have, thus far, not been durable, turning to cost increases of  $+0.01\%$  in the fifth year. In contrast, acquisitions experience far more durable cost reductions, ranging from  $-0.13\%$  to  $-0.07\%$  in the first through fifth years.

## What Are the Credit Union Implications?

This report serves as a dual warning to boards and CEOs of larger credit unions: First, cost reductions do not spring magically from the merger process, and second, members may not reap noticeable advantages, even in the long term. On the other hand, these findings speak loudly to smaller credit unions that, absent a compelling independent value proposition, larger credit unions usually provide better economic value to members. This may not be surprising, but it continues to round an important circle.

The researchers did not seek specifically to isolate causes for NIEXP improvements. But some possibilities emerge from the research:

- Larger merging partners have to work particularly hard to find NIEXP improvements. This may be because credit unions are unusually loath to lay off staff (the largest NIEXP item), opting instead for reductions by attrition or no reductions at all.
- Credit unions may lack a good sense of what constitutes reasonable NIEXP improvement, making it harder to plan for post-merger improvements. This report serves as a good baseline for credit unions that seek to match their own merger and its expected benefits against historical averages.
- Mergers of equals in which both credit unions are larger than \$100M do not on average improve NIEXP or net income. As managers increasingly consider strategic mergers, they should also realize that they will have to work doubly hard to improve their financial returns.

Merging credit unions, especially the larger partners, struggle to push down NIEXP after a merger. That's mostly because the majority of mergers are absorptions of tiny credit unions by larger credit unions. But even among the relatively rare "mergers of equals," impressive economies of scale are like great marriages—hard to pin down.

Cooperative structure does not give credit unions license to ignore high costs. If anything, it should force leaders to make hard cost-cutting decisions with an eye toward more affordable service, better overall rates, and improved member value. Significant operational efficiencies may be hard to come by, but they are still the right goal.







### **Luis G. Dopico, PhD**

Luis G. Dopico is a consultant for Macrometrix of Alamo, California, and a frequent researcher with the Filene Research Institute. He earned a BA in economics and mathematics from the University of Southern Mississippi and a PhD in economics from Auburn University in Alabama.

His ongoing research focuses on capital regulation, deposit insurance, charter conversions, economies of scale, and mergers and acquisitions in cooperative and stock-owned depository institutions, as well as macroeconomic conditions, housing, and consumer finance markets. His past research has addressed bank stock prices, interstate banking, bank regulation across countries, and securitization markets.

He has performed research for the Credit Union National Association, the National Association for Business Economics, Moody's, Mellon Capital Management, the Small Business Administration, PricewaterhouseCoopers of Argentina, the Federal Reserve, and many individual credit unions and credit union organizations. His research has been published in the *Journal of International Financial Markets, Institutions and Money*; *International Review of Finance*; *Corporate Finance Review*; and *Essays in Economic and Business History*.



### **James A. Wilcox, PhD**

James A. Wilcox is the Lowrey Professor of Financial Institutions, Haas School of Business, University of California, Berkeley. Professor Wilcox is a member of the inaugural group of Filene Research Fellows and a frequent researcher with the Filene Research Institute. From 1999 to 2001 he served as chief economist at the Office of the Comptroller of the Currency. He has also served as senior economist for the President's Council of Economic Advisors, as an economist for the Board of Governors of the Federal Reserve System, and as chair of the Finance Group at the Haas School. He received his PhD in economics from Northwestern University.

At the Haas School, Professor Wilcox teaches courses on risk management at financial institutions, financial markets and institutions, and business conditions analysis. He has written widely on bank lending, credit markets, real estate markets, monetary policy, and business conditions. His research has addressed reform of deposit insurance, the causes and consequences of the Gramm-Leach-Bliley Act, the effects of mergers on bank executives, the ability of banks to reduce costs following mergers, the differences in bank supervision and regulation around the world, the effects of bank loan losses and capital pressure on lending and small businesses, demographic effects

on residential real estate prices, and the efficiencies and credit effects of electronic payments. His articles have been published in leading academic journals, including the *American Economic Review*; the *Journal of Finance and Accounting*; the *Journal of Economic Perspectives*; the *Journal of Money, Credit and Banking*; the *Journal of Banking and Finance*; the *Journal of Housing Economics*; and the *Review of Economics and Statistics*.

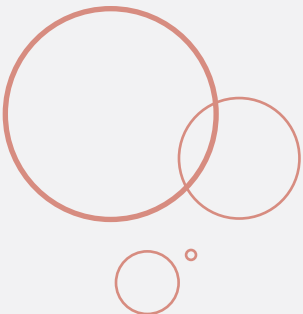


## CHAPTER 1

### Introduction



*Reducing noninterest expenses is one of the fundamental aims of credit union mergers. This report examines the historical data to see how well credit union mergers have accomplished that task over short- and long-term periods from 1984 to 2009.*





This report is the third in a series providing in-depth, long-term examinations of economies of scale and mergers in credit unions. In Wilcox (2008), we showed that differences in noninterest expense per assets (NIEXP)<sup>2</sup> across asset sizes are large and long-running and increased during 1980–2006. We also examined the short-term impacts of mergers in 2006. In Dopico and Wilcox (2009), we compared in detail the characteristics of credit unions entering into mergers (both acquirers and targets) during 1984–2008. Compared with their targets, acquirers were much larger, had lower NIEXP, and passed those lower costs to their members as lower loan interest rates and higher rates on deposits. In those reports, we also provided reviews of the academic and professional literature on commercial bank and credit union economies of scale and mergers. This literature (1) presents the mechanisms through which larger asset sizes and mergers may affect costs, (2) quantifies the size, direction, and reliability of these impacts (see, for instance, Fried, Lowell, and Yaisawarng 1999 and Rick 1998), and (3) describes the mechanisms and consulting firms through which credit unions interested in mergers may seek one another out.<sup>3</sup>

In this report, we explore not just the short-term impacts of mergers on the performance and condition of participating credit unions for one year (e.g., 2006), but both short-term and long-term impacts (i.e., up to five years later) for 1984–2009, the longest period for which historically consistent data are readily available.<sup>4</sup> In Chapter 2, we present the short-term impacts of mergers. To do so, we compare several measures of performance and condition for each merged institution on the December 31 after the merger against the same measures for its target(s) and acquirer and for their weighted average (i.e., the “combined” credit union), on the December 31 before the merger. Typical credit union mergers bring together a much smaller, higher-cost institution and a far larger, lower-cost one. Thus, mergers provide the members of smaller, higher-cost institutions with access to far lower-cost ones, and to lower loan rates and higher rates on deposits. In contrast, mergers on average barely affect the members of the larger, lower-cost institutions. Combining the large gains for

members of the smaller credit unions and the negligible effects for members of the larger credit unions, typical mergers yield small but measurable gains for their combined membership. However, the size and direction of impacts on combined memberships can vary widely across individual mergers. Almost half of mergers (45%) yield small impacts (i.e., under 0.20%) on NIEXP. While large decreases in combined NIEXP are common (34% of mergers), large increases are also sufficiently common (21% of mergers) that they cannot be considered mere outliers.

In Chapter 3, we present impacts across several types of mergers classified by the relative size of the target(s) and the acquirer in each merger. Impacts are larger for merger partners that are smaller relative to the post-merger institution. Thus, impacts are largest for targets that are small relative to their acquirer and smallest for acquirers that are large relative to their target. Further, impacts on the combined membership are far larger for mergers of equals than for mergers where one partner's size far exceeds the other's. While mergers of equals have the potential to yield the largest benefits to their members, they remain relatively rare. Mergers of equals are likely hampered by the complexities in combining managerial teams, corporate cultures, and computer and information systems. Moreover, the recently growing number of mergers of equals among larger credit unions have not delivered the reductions in costs that are common in mergers of equals among smaller credit unions.

In Chapter 4, we explore how the impacts of mergers have changed in recent decades. While mergers continue to impact targets far more than acquirers, the distribution of those impacts has shifted somewhat in favor of acquirers. For instance, targets are experiencing increasingly smaller reductions in NIEXP, falling from  $-1.11\%$  in the 1980s to  $-0.71\%$  in the 2000s. In contrast, while mergers involved modest increases in acquirers' NIEXP ( $+0.03\%$ ) during the 1980s, acquirers' NIEXP experienced modest reductions ( $-0.02\%$ ) during the 2000s.

In Chapter 5, we contrast the short-term and long-term impacts of mergers on credit unions. While short-term and long-term impacts appear relatively small averaged across all mergers, the sizes of those impacts vary substantially across our three key types of mergers. For instance, while mergers of equals experience the largest short-term reductions in costs ( $-0.20\%$  in the first year), those reductions have thus far not been durable, turning to cost increases of  $+0.01\%$  in the fifth year. In contrast, credit unions in acquisitions experience far more durable cost reductions, ranging from  $-0.13\%$  to  $-0.07\%$  in the first through fifth years. While credit unions in absorptions experience the smallest reductions in costs in the short term ( $-0.02\%$

in the first year), the full extent of their reductions in costs appears with a lag, reaching  $-0.05\%$  in the fifth year.

In Chapter 6, we briefly summarize the report and present some implications. As we show in Wilcox (2008), larger credit unions on average bear substantially lower NIEXP. Across 1984–2009, for instance, NIEXP averaged  $4.31\%$  for tiny credit unions (those with under \$1 million [M] in assets),  $3.78\%$  for very small ones (\$1M–\$10M),  $3.55\%$  for smallish ones (\$10M–\$100M),  $3.10\%$  for

medium-sized ones (\$100M–\$1 billion [B]), and  $2.32\%$  for large ones (over \$1B).<sup>5</sup> While these large cost differences invite mergers, in this report we show that mergers are far from certain

Mergers are far from certain routes to reducing costs and are relatively slow routes to that end.

routes to reducing costs and are relatively slow routes to that end. Reaping the large difference in costs, for instance, between typical medium-sized and large credit unions ( $-0.78\% = 2.32\% - 3.10\%$ ) would involve growing in size by a factor of 10. A typical medium-sized credit union with NIEXP of  $3.10\%$  that used a merger of equals to grow would only double its size. Such aggressive growth policy by itself could thus not reduce the credit union's NIEXP by  $-0.78\%$ , but by perhaps  $-0.08\%$  to  $-0.20\%$ .

While the tide of mergers and the associated reductions in costs may be slow, it is also inexorable. Thus, average credit union sizes are likely to continue to grow and to continue to help contain costs. These efficiencies will continue to fund better interest rates on loans and deposits for members as well as fund accumulations of capital at individual credit unions and help defray expenses attributable to credit union failures during the ongoing economic crisis. Regardless of how the efficiency gains are allocated, mergers will likely continue to contribute to the overall health of the credit union system.



## CHAPTER 2

### Impacts on Targets, Acquirers, and the Combined Credit Unions

*Credit union mergers on average benefit targets' members substantially, while barely affecting acquirers' members. Much of the distribution of the impacts can be explained simply by their combining much larger, lower-cost acquirers and much smaller, higher-cost targets. Thus, the typical merger yields small but measurable gains for the overall membership.*



A credit union merger brings together two (or more) institutions and combines not only their assets and liabilities, but also their product and service offerings and their rate and fee structures. In this chapter, we explore (1) some of the differences in performance and condition across the credit unions involved in each merger—i.e., acquirer vs. target(s), (2) the separate impacts of mergers on the members of acquirers and targets, and (3) the impacts on their combined memberships.

Typical credit union mergers bring together a much smaller, higher-cost institution and a far larger, lower-cost one. Thus, mergers provide the members of smaller, higher-cost institutions with access to far lower-cost ones, and to lower loan rates and higher rates on deposits. In contrast, mergers on average barely affect the members of larger, lower-cost institutions. Combining the large gains for the members of the smaller credit union and the negligible effects for the members of the larger credit union, the typical merger yields small but measurable gains for the combined membership.

Figure 1 explores several key measures of performance and condition for credit unions in mergers during 1984–2009. The measures are interest income (column 1), interest expense (2), noninterest income (3), noninterest expense (4), net income (5), net worth (6), and merger-adjusted asset growth<sup>6</sup> (7), each expressed per assets. We obtained our data from National Credit Union Administration (NCUA) Year-End Call Reports and from its database on credit union mergers. The rationales for including these measures follow largely from credit unions’ goals as cooperative associations.<sup>7</sup> The key purpose of commercial banks is to maximize their stockholders’ well-being through sustainably higher levels of bank net income. In contrast, the key purpose of credit unions is to maximize their members’ well-being through sustainably lower loan rates (i.e., lower interest income) and sustainably higher rates on deposits (i.e., higher interest expense).<sup>8</sup> We focus particularly on NIEXP because, as we show in Wilcox (2008), credit unions with lower NIEXP (compensating



*Figure 1: Difference in Performance and Condition between Targets and Acquirers before Mergers, and Impacts of Mergers (i.e., Net Changes from before to after Mergers), Averages for 1984–2009*

	Interest income (%) (1)	Interest expense (%) (2)	Noninterest income (%) (3)	Noninterest expense (%) (4)	Net income (%) (5)	Net worth (%) (6)	Merger-adjusted growth (%) (7)
<i>Panel A: Difference between acquirers and targets, both before mergers</i>							
<b>1. Acquirer minus target, both pre-merger</b>	-0.34	0.16	0.07	-0.72	0.68	-0.30	6.09
<i>Panel B: Impacts of mergers (both unassisted and assisted mergers)</i>							
<b>2. Post-merger credit union minus pre-merger target</b>	-0.51	0.08	0.10	-0.79	0.72	-0.26	3.54
<b>3. Post-merger credit union minus pre-merger acquirer</b>	-0.04	-0.01	0.00	0.00	-0.02	-0.05	-0.55
<b>4. Post-merger credit union minus combined pre-merger credit union</b>	-0.06	0.00	0.00	-0.03	0.01	-0.06	-0.26
<i>Panel C: Impacts of assisted and unassisted mergers* (post-merger credit union minus combined pre-merger credit union)</i>							
<b>5. Assisted mergers</b>	-0.14	0.02	0.09	-0.08	0.21	-0.05	-1.18
<b>6. Unassisted mergers</b>	-0.05	-0.01	0.00	-0.03	0.00	-0.06	-0.18

\* While net changes differ considerably across assisted and unassisted mergers, we include Panel C largely to show that including assisted mergers within all mergers does not affect overall results very much. Rows 4 and 6 show that the averages for all mergers and for unassisted mergers are very similar. In this report, we treat assisted mergers as mergers, but not closely-related purchase and assumptions (P&As). Unlike in mergers, in P&As the assets and liabilities of the credit union whose independent operation is being discontinued may not be assigned as a single block to a single credit union. Assets and liabilities may be transferred to more than one credit union, and some assets and liabilities may be retained by the deposit insurer (CUNA 2010c).

Note: In this figure, unassisted mergers are those with one or more targets where none of the parties was classified as failed; assisted mergers are those with one or more targets where at least one of the parties was classified as failed.

Data source: NCUA (1984–2010).

employees, buying and maintaining buildings and equipment, etc.) may pass on that advantage as lower loan rates and higher rates on deposits.

Throughout the report, we include, but focus less on, several other measures of performance and condition. For instance, interpreting noninterest income is complex because higher noninterest income may result either from charging higher fees for the same range of products and services or from offering a broader range that members value and choose to pay for. The interpretation of net income, net worth, and growth are often tightly linked. None of them are, per se, ultimate goals for credit union members. However, to provide sustainably attractive loan rates and rates on insured deposits, both regulators and members demand that credit unions maintain precautionary levels of capital (e.g., net worth or reserves) to withstand periodic short-term difficulties (such as the recent and ongoing

housing, financial, and economic crises). Similarly, credit unions that offer attractive loan and deposit rates are likely to attract more business from both new and existing members and, thus, experience higher growth rates. To prevent their capital ratios from falling, higher-growth credit unions also need to maintain higher net income levels.

Throughout this report, we refer to the smaller credit union(s) in a merger (by asset size) as the target(s) and to the larger credit union as the acquirer, independently of which of the parties was formally designated as the continuing institution.<sup>9</sup> In panel A (row 1) of Figure 1, we present differences between acquirers and targets on the December 31 before each merger. As we show in further detail in Dopico and Wilcox (2009), acquirers are typically much larger than their targets, having held on average more than 20 times as many assets during 1984–2009. While asset size is not the only determinant of NIEXP, larger credit unions on average bear far lower NIEXP. Thus, acquirers bear substantially lower NIEXP than their targets (by –0.72%; see row 1) and pass on that advantage to their members as lower loan rates (interest income was lower by –0.34%) and as higher rates on deposits (interest expense was higher by +0.16%). Offering more attractive rates, acquirers experience substantially faster growth (by +6.09%),<sup>10</sup> maintain lower capital ratios (by –0.30%), and accumulate more earnings (by +0.68%) to prevent their capital ratios from falling.

Panel B presents short-term impacts on (or net changes in) performance and condition comparing the target (row 2), the acquirer (row 3), or their weighted average (henceforth, the combined credit union, row 4) each on the December 31 before the merger, with the resulting post-merger credit union on the following December 31. In measuring the impacts of mergers, we want

Credit union mergers on average benefit targets' members substantially, while barely affecting acquirers' members.

to abstract from the broader forces that, at the time of each merger, were affecting credit unions more generally, such as economywide changes in macroeconomic, regulatory, or financial conditions. Therefore, here we report the sizes of any changes in post-merger performance relative to (or net of) changes at the same time at other similarly-sized credit unions. Thus, if NIEXP fell by –0.70% following a merger and it fell by –0.20% on average at peer credit unions, we report the merger lowered costs by –0.50%. The values we present in Figure 1 are averages for 1984–2009 weighted by the inflation-adjusted assets of the targets (rows 1 and 2), acquirers (row 3), and combined credit unions (rows 4–6).

Credit union mergers on average benefit targets' members substantially, while barely affecting acquirers' members. Of course, much of the distribution of the impacts can be explained simply by their combining much larger, lower-cost acquirers and much smaller, higher-cost targets. In typical mergers, the resulting institutions are largely replicas of the acquirers that come to also offer their often broader range of products and their more attractive rates to the members of the target. Thus, comparing their pre-merger and post-merger institutions, members of targets find the changes in their credit unions to be broadly similar, but not identical, to the pre-merger differences between target and acquirer. In particular, members of targets see NIEXP fall by  $-0.79\%$ , interest income fall by  $-0.51\%$ , and interest expense increase by  $+0.08\%$  (see row 2). By comparison, acquiring credit unions experience on average virtually no change in NIEXP ( $0.00\%$ ; see row 3). With negligible decreases in costs, members of acquirers then also experience almost negligible changes in loan rates ( $-0.04\%$ ) and deposit rates ( $-0.01\%$ ).

Combining the large gains for the members of smaller targets and the negligible effects for the members of larger acquirers, mergers yield small but measurable gains for their overall memberships. Compar-

ing the pre-merger combined credit union and the post-merger institution, combined memberships experience small changes in NIEXP ( $-0.03\%$ ), interest income ( $-0.06\%$ ), and interest expense ( $0.00\%$ ). The

The consistent but small beneficial impacts from mergers likely help to explain the inexorability of credit union mergers over the last three decades as well as their relatively slow pace.

consistent but small beneficial impacts from mergers likely help to explain the inexorability of credit union mergers over the last three decades as well as their relatively slow pace. While mergers account for about nine-tenths of the reduction in the number of credit union charters since 1984, the pace is relatively slow, with targets representing only about 3% of charters and 0.4% of credit union assets per year (Dopico and Wilcox 2009).

While mergers on average have large beneficial impacts on targets, negligible impacts on acquirers, and small beneficial impacts on combined credit unions, the size and direction of those impacts vary considerably across individual mergers. To begin to explore this issue, in Figure 2 we focus on the percentages of individual credit unions that experience various net changes in NIEXP following a merger. Panel A shows that following mergers, NIEXP falls for 70% of targets, 52% of acquirers, and 57% of combined credit unions (see column 1). Thus, while NIEXP falls following mergers for most credit unions, the fraction of cases in which they rise is rather large: 30% for targets, 48% for acquirers, and 43% for combined credit unions.

*Figure 2: Percentages of Credit Unions Experiencing Various Net Changes in NIEXP Following a Merger, Percentages for 1984–2009*

<i>Panel A: Percentage of pre-merger credit union type experiencing various net changes in NIEXP</i>				
	Decreases in NIEXP (. . . – 0.00%) (1)	Large decreases in NIEXP (. . . – –0.20%) (2)	Small net changes in NIEXP (–0.20% – +0.20%) (3)	Large increases in NIEXP (+0.20% – . . .) (4)
<b>1. Pre-merger target vs. post-merger credit union</b>	70	66	8	26
<b>2. Pre-merger acquirer vs. post-merger credit union</b>	52	30	44	26
<b>3. Pre-merger combined credit union vs. post-merger credit union</b>	57	34	45	21
<i>Panel B: Percentage of mergers with various differences between the target's and the acquirer's NIEXP</i>				
	Target's NIEXP higher than acquirer's (0.00% – . . .)	Target's NIEXP much higher than acquirer's (+0.20% – . . .)	Target's NIEXP similar to acquirer's (–0.20% – +0.20%)	Target's NIEXP much lower than acquirer's (. . . – –0.20%)
<b>4. Pre-merger target vs. pre-merger acquirer</b>	69	65	7	27
<i>Panel C: Percentage of pre-merger credit union type experiencing various net changes in NIEXP</i>				
	Decreases in NIEXP (. . . – 0.00%)	Large decreases in NIEXP (. . . – –0.20%)	Small net changes in NIEXP (–0.20% – +0.20%)	Large increases in NIEXP (+0.20% – . . .)
<b>5. Pre-merger high-cost credit union vs. post-merger credit union</b>	86	77	21	2
<b>6. Pre-merger low-cost credit union vs. post-merger credit union</b>	36	19	36	45

Data source: NCUA (1984–2010).

These overall results, however, must be interpreted with some caution for several reasons. First, while targets are typically much smaller and have much higher costs than their acquirers, this pattern does not hold in all individual mergers. In some cases, the gap in size or costs is small (e.g., mergers of equals). In others, the target's NIEXP was actually much lower than the acquirer's. Second, if the overall direction of impacts from mergers were not consistent, then measured impacts would be roughly random, with about 50% of post-merger institutions experiencing cost decreases and about 50% experiencing cost increases. Third, mergers may bring together disparate institutions and simply yield a new institution of intermediate, or combined, characteristics. For instance, the merger of a high-cost and a low-cost institution could yield an intermediate-cost institution, such that there is little or no change between the NIEXP of the pre-merger combined credit union and that of the post-merger credit union. Even in this case, the members of the high-cost institution would experience cost reductions and the members of the low-cost institution would experience cost increases.

For these reasons, in Figure 2 we also include columns 2–4 and panels B and C. Columns 2–4 disaggregate impacts on NIEXP

into large decreases (of more than  $-0.20\%$ ), small net changes (of between  $-0.20\%$  and  $+0.20\%$ ), and large increases (of more than  $+0.20\%$ ).<sup>11</sup> Holding small fractions of the assets in the post-merger credit unions, targets often experience large impacts on NIEXP (only 8% experience small net changes). Since acquirers contribute very large fractions of the assets in mergers, large impacts are rarer both for acquirers and for combined credit unions (44% and 45%, respectively, experience small impacts).

Panel B shows that while pre-merger targets usually have higher NIEXP than their acquirer (69% of cases), quite often they do not, with 27% of targets having substantially lower NIEXP than their acquirers (see row 4). Comparing rows 1 and 4, we find that for targets, decreases (and increases) in NIEXP follow largely from approaching their acquirer's NIEXP levels. For instance, 65% of targets have substantially higher NIEXP than their acquirers, and 66% of targets experience large reductions after the merger. Another 27% of targets have substantially lower NIEXP than their acquirers, and 26% experience large increases after the merger.

Panel C explores impacts on NIEXP classifying merger partners not as larger (the acquirer) vs. smaller (the target), but as the higher-cost vs. the lower-cost credit union in each merger. If mergers simply involved averaging the characteristics of both partners, then following a merger, nearly 100% of high-cost institutions would experience cost reductions and nearly 100% of low-cost institutions would experience cost increases. Our results imply that while net changes

following mergers do involve such averaging to some extent, the impacts of mergers are more complex. As row 5 shows, the overwhelming majority of higher-cost credit unions (77%) experience large reductions in NIEXP following a merger, with very few experiencing large increases (2%). However, row 6

The size and direction of impacts on the combined membership can vary widely across individual mergers. Almost half of mergers (45%) yield small impacts. While large decreases in combined NIEXP are common (34% of mergers) and outnumber large increases (21% of mergers), large increases are sufficiently common that they cannot be considered mere outliers.

shows far more mixed results for lower-cost credit unions. Many lower-cost credit unions experience large increases in NIEXP following a merger (45%), as might be expected from simple averaging of disparate merger partners. However, the fraction of lower-cost credit unions that experience large decreases is rather large (19%), implying that mergers often benefit both parties. The high percentage of lower-cost credit unions that experience small impacts (36%) mostly reflects mergers in which the larger acquirer accounts for very a large fraction of the post-merger institution.

In sum, mergers typically bring together much smaller, higher-cost targets and much larger, lower-cost acquirers, yielding (1) institutions that are near replicas of the acquirers with barely any impact on the acquirers, (2) substantial gains for the members of the targets (of over 0.20% in 66% of mergers), and (3) small but measurable gains for the combined membership. However, examining the data closely shows that many individual mergers deviate from the overall patterns. For instance, in 31% of mergers, the target has lower NIEXP than the acquirer, and in 14% of mergers the higher-cost party does not experience any cost reductions. Moreover, the size and direction of impacts on the combined membership can vary widely across individual mergers. Almost half of mergers (45%) yield small impacts. While large decreases in combined NIEXP are common (34% of mergers) and outnumber large increases (21% of mergers), large increases are sufficiently common that they cannot be considered mere outliers. In Chapter 3, we disaggregate mergers further by the relative and absolute sizes of targets and acquirers to determine what types of mergers might be more or less likely to reliably yield smaller or larger benefits to their members.

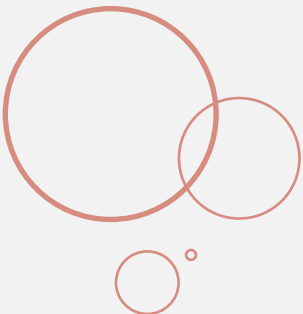


## CHAPTER 3

### Impacts in Mergers of Equals, Acquisitions, and Absorptions



*All mergers are not created equal. This chapter classifies mergers into three key types: absorptions, in which small credit unions merge with significantly larger ones; acquisitions, in which targets account for a significant portion of the new entity; and mergers of equals, in which the smaller credit union is almost as large as its partner. Unique trends emerge for each type of merger.*





Averages can hide important differences. Thus, in this chapter, we explore the impacts of mergers for cases where the sizes of acquirers and targets range from roughly similar to vastly different, and across credit unions with various asset sizes. Impacts are larger for merger partners that are smaller relative to the post-merger institution. Thus, impacts are largest for targets that are small relative to their acquirer and smallest for acquirers that are large relative to their target. Further, impacts on the combined membership are far larger in mergers of equals than in mergers where one partner's size far outweighs the other's. While mergers of equals have the potential to yield the largest benefits to members, they remain relatively rare. Moreover, the recently growing number of mergers of equals among larger credit unions has not delivered the reductions in costs that are common in mergers of equals among smaller credit unions.

We begin by classifying mergers into three broad categories (henceforth, “key types of mergers”): absorptions, where the assets of the targets were less than 10% of those of the acquirers; acquisitions, where the assets of the targets were 10%–50% of those of their acquirers; and mergers of equals, where the assets of the targets were more than half the size of their acquirers' assets. During 1984–2009, absorptions were the most common key type of merger, totaling 6,466 (or 69% of) targets with \$19.1B (or 33%) of targets' assets. Acquisitions totaled 2,386 (or 25% of) targets with \$23.1B (or 40%) of targets' assets. Mergers of equals were relatively rare, totaling 569 (or 6% of) targets with \$12.8B (or, a substantial, 22%) of target assets.<sup>12</sup>

Figure 3 presents impacts of mergers on targets (panel A), acquirers (panel B), and combined credit unions (panel C) across mergers of equals (rows 1, 4, and 7), acquisitions (rows 2, 5, and 8), and absorptions (rows 3, 6, and 9) during 1984–2009. Naturally enough, the differences that mergers make to cost efficiencies, and thereby to interest rates charged on loans and paid on deposits, depend on the relative sizes of targets and acquirers. Members of targets become members of resulting credit unions whose NIEXP is far lower in



*Figure 3: Impacts in Mergers of Equals, Acquisitions, and Absorptions, Averages for 1984–2009*

	Interest income (%) (1)	Interest expense (%) (2)	Noninterest income (%) (3)	Noninterest expense (%) (4)	Net income (%) (5)	Net worth (%) (6)	Merger-adjusted growth (%) (7)
<i>Panel A: Impacts on targets (i.e., post-merger credit union minus pre-merger target)</i>							
<b>1. Mergers of equals</b>	-0.40	-0.08	-0.04	-0.19	-0.13	-0.79	-3.54
<b>2. Acquisitions</b>	-0.52	0.00	0.09	-0.70	0.69	0.08	2.89
<b>3. Absorptions</b>	-0.68	0.30	0.22	-1.38	1.36	-0.29	9.75
<i>Panel B: Impacts on acquirers (i.e., post-merger credit union minus pre-merger acquirer)</i>							
<b>4. Mergers of equals</b>	-0.33	-0.22	-0.05	-0.22	0.41	0.04	-4.12
<b>5. Acquisitions</b>	-0.21	-0.07	-0.02	-0.01	-0.19	-0.20	-2.88
<b>6. Absorptions</b>	-0.01	0.00	0.00	0.00	-0.01	-0.04	-0.28
<i>Panel C: Combined impacts (i.e., post-merger credit union minus pre-merger combined credit union)</i>							
<b>7. Mergers of equals</b>	-0.36	-0.16	-0.08	-0.20	0.17	-0.32	-3.37
<b>8. Acquisitions</b>	-0.26	-0.06	-0.01	-0.13	-0.04	-0.15	-1.45
<b>9. Absorptions</b>	-0.02	0.01	0.01	-0.02	0.01	-0.04	-0.05

Data source: NCUA (1984–2010).

absorptions (by -1.38%), substantially lower in acquisitions (by -0.70%), and somewhat lower in mergers of equals (by -0.19%)—in other words, the smaller the target is relative to the post-merger institution, the larger the reduction in costs it experiences. Being larger than targets, acquirers experience far smaller impacts. Members of acquirers become members of credit unions whose NIEXP is somewhat lower in mergers of equals (by -0.22%), barely lower in acquisitions (by -0.01%), and virtually unchanged in absorptions (0.00%)—again, the smaller the acquirer is relative to the post-merger institution, the larger the reduction in costs it experiences.

These reductions in NIEXP are passed on to members as reductions in interest income for both targets and acquirers across all three key types of mergers, but as increases in interest expense only for targets of absorptions. The sizes of these impacts, however, largely mirror those of reductions in NIEXP. Thus, impacts on interest income are largest for targets of absorptions (-0.68%) and increasingly smaller for targets of acquisitions (-0.52%) and of mergers of equals (-0.40%) and for acquirers in mergers of equals (-0.33%), in acquisitions (-0.21%), and in absorptions (-0.01%). While impacts on interest expense following mergers are far from universally beneficial, they also involve larger benefits for targets of absorptions (+0.30%) than for those of acquisitions (0.00%) and of mergers of equals (-0.08%), and larger impacts (although not beneficial ones) for acquirers in mergers of equals (-0.22%) than in acquisitions (-0.07%) and in absorptions (0.00%). In sum, impacts are largest for targets of absorptions whose members gain access to the rates

and fees offered by far larger, more efficient institutions. Impacts are smallest, if not negligible, for acquirers in absorptions since adding the target barely affects their overall size or costs. In mergers of equals, where acquirer and target each contribute a similar amount of assets, the distribution of impacts is unsurprisingly more equal.

Column 7 in panel C presents impacts on merger-adjusted (or organic) asset growth. While mergers may yield some benefits for credit union members, they also may take a toll on managers' and employees' time and priorities. Thus, credit unions in mergers exhibit slower organic growth rates.<sup>13</sup> While a merger adds to the assets under management for the managerial team of an individual credit union, mergers per se do not change the number of members or amount of assets in credit unions in general, or in particular across the institutions in each merger. Further, the more equal (or complex) a merger is, the more it detracts from organic growth, with negative combined impacts ranging from substantial for mergers of equals (-3.37%) to small for acquisitions (-1.45%) and negligible for absorptions (-0.05%).<sup>14</sup>

Beyond the distribution of impacts across acquirers vs. targets, we also quantify the impacts of credit union mergers on their combined memberships.

Following mergers, combined NIEXP falls by -0.02% for absorptions, -0.13% for acquisitions, and -0.20% for mergers of equals. By definition, mergers of equals add relatively more members

Following mergers, combined NIEXP falls by -0.02% for absorptions, -0.13% for acquisitions, and -0.20% for mergers of equals.

and assets to their institutions. The resulting larger growth enables them to reap more of the cost efficiencies of size, or economies of scale.<sup>15</sup>

If the aggregate benefits of mergers of equals are large, why are such mergers so rare? There are many possible explanations. Some credit union absorptions likely reflect benevolence. Larger, more cost-efficient credit unions may willingly participate in absorptions primarily to improve loan and deposit rates and services provided to members of other, tiny credit unions, despite the minimal or non-existent benefits to the incumbent members of the acquiring credit union. Historically, credit unions have had an ethos to cooperate with each other. Such cooperation was fostered in part by (today weaker) membership restrictions in charters that once effectively precluded competing for members. In addition, sometimes regulators prompted better-performing credit unions to merge with underperformers, whose disappearance improved the health of the credit union system.

Further, observers of credit union mergers sometimes report that mergers of equals tend to be more difficult to execute because, in the absence of shares that can be bought or sold, the credit unions need to reach agreements about how to combine managements and boards of directors, how to rationalize computer systems and branch operations, and how to eliminate duplication and reduce costs (e.g., determining potential layoffs) (Filson et al. 2008, Rubenstein 2008).

Figure 4 presents impacts of mergers during 1984–2009 across credit unions of various asset sizes. As in earlier figures, we have organized the data into panels comparing targets (panel A), acquirers (panel B), or combined credit unions (panel C). Following earlier studies, we classify credit unions as tiny, very small, smallish, medium-sized, and large, with the boundaries adjusted for inflation, always expressed in 2009 dollars. The results in Figure 4 are broadly linked to those in Figure 3. Smaller targets are more likely to be targets in absorptions and, thus, to experience larger impacts. (Having larger average NIEXP, smaller credit unions also generally have the potential for larger reductions in NIEXP.) As panel A shows, impacts on NIEXP

range from  $-1.29\%$  for tiny targets to  $-0.48\%$  for medium-sized ones. Those reductions in costs are passed on to members who benefit from reductions in interest income and increases in

Having larger average NIEXP, smaller credit unions also generally have the potential for larger reductions in NIEXP.

interest expense that are inversely related to their credit union's asset size. Thus, reductions in interest income range from  $-0.74\%$  for tiny targets to  $-0.27\%$  for medium-sized ones, and increases in interest expense range from  $+0.66\%$  for tiny targets to  $+0.10\%$  for medium-sized ones. In panel A, we also report separately the results for the megamerger in 2006 of 12 medium-sized credit unions sponsored by State Farm, as well as the first-ever merger with a large target, in 2009.<sup>16</sup> The high number of tiny (3,293), very small (4,196), smallish (1,259), and medium-sized (90) credit unions that have been targets (see column 1) implies that the related averages in columns 2–8 are roughly indicative of what future mergers might yield. In contrast, thus far there have been too few mergers with large targets to draw any reliable conclusions from them.

In contrast, smaller acquirers are more likely to be acquirers in mergers of equals and, thus, to experience larger impacts following mergers. As panel B shows, impacts on NIEXP are rather large for tiny acquirers ( $-0.76\%$ ), are much smaller for very small acquirers ( $-0.09\%$ ), and are basically negligible for smallish ( $+0.01\%$ ), medium-sized ( $0.00\%$ ), and large ( $0.00\%$ ) acquirers. Panel C presents impacts for the combined memberships. As shown earlier, combining the large benefits for targets and the often negligible

*Figure 4: Impacts of Mergers across Asset Sizes, Averages for 1984–2009*

	Number of institutions (1)	Interest income (%) (2)	Interest expense (%) (3)	Noninterest income (%) (4)	Noninterest expense (%) (5)	Net income (%) (6)	Net worth (%) (7)	Merger-adjusted growth (%) (8)
<i>Panel A: Impacts on the target (i.e., post-merger credit union minus pre-merger target)</i>								
1. Tiny (<\$1M)	3,293	-0.74	0.66	0.42	-1.29	1.17	-4.07	11.28
2. Very small (\$1M–\$10M)	4,196	-0.71	0.10	0.31	-0.96	1.13	-0.85	7.39
3. Smallish (\$10M–\$100M)	1,259	-0.54	0.06	0.09	-0.93	0.95	0.46	3.88
4. Medium-sized (\$100M–\$1B)	90	-0.27	0.10	-0.16	-0.48	0.00	0.06	-0.11
5. State Farm megamerger	11	0.25	-0.20	-0.14	-0.14	0.54	-0.45	-1.48
6. Large (>\$1B)	1	-1.11	-0.24	0.85	0.05	-0.30	-5.97	-4.39
<i>Panel B: Impacts on the acquirer (i.e., post-merger credit union minus pre-merger acquirer)</i>								
7. Tiny (<\$1M)	89	-0.82	-0.04	-0.13	-0.76	-0.04	-0.83	-2.11
8. Very small (\$1M–\$10M)	1,303	-0.23	-0.09	-0.02	-0.09	-0.06	0.10	-2.07
9. Smallish (\$10M–\$100M)	4,007	-0.09	-0.03	0.01	0.01	-0.07	-0.13	-1.46
10. Medium-sized (\$100M–\$1B)	2,162	-0.03	-0.01	0.00	0.00	-0.04	-0.05	-0.80
11. Large (>\$1B)	204	-0.02	-0.01	0.00	0.00	0.03	-0.02	0.17
<i>Panel C: Combined impacts (i.e., post-merger credit union minus pre-merger combined credit union, classified by the size of their acquirer)</i>								
12. Tiny (<\$1M)	89	-0.73	0.02	-0.07	-0.85	0.25	-0.97	0.77
13. Very small (\$1M–\$10M)	1,303	-0.30	-0.08	0.01	-0.20	0.09	-0.12	-0.39
14. Smallish (\$10M–\$100M)	4,007	-0.13	-0.03	0.02	-0.04	0.00	-0.17	-0.95
15. Medium-sized (\$100M–\$1B)	2,162	-0.05	0.00	0.00	-0.03	-0.01	-0.05	-0.49
16. Large (>\$1B)	204	-0.03	0.00	0.00	-0.02	0.05	-0.02	0.31

Data source: NCUA (1984–2010).

impacts for acquirers yields small but measurable average benefits. For instance, reductions in combined NIEXP (and interest income) range from -0.85% (and -0.73%) for mergers with tiny acquirers to -0.02% (and -0.03%) for those with large acquirers.

Figure 3 above breaks down impacts across mergers by the relative size of the credit unions (from mergers of equals to absorptions), and Figure 4 breaks them down by the absolute size of the credit unions (from tiny to large). While the impacts shown in the two figures are broadly linked, not all absorbed credit unions are tiny or very

small, not all large or medium-sized acquirers engage in absorptions or acquisitions, and there have been mergers of equals with merger partners of many sizes. Comparing each possible combination of

relative and absolute sizes adds little value to our understanding of mergers. For instance, we are unlikely to learn much from the differences between absorptions of smallish targets by medium-sized acquirers and acquisitions of medium-sized

Mergers of equals among smaller credit unions have delivered sizable reductions in NIEXP (−0.29%). However, thus far, mergers of equals among larger credit unions have not delivered such results.

targets by large acquirers. However, a few of these combinations may be of particular interest to many credit unions. Thus, in Figure 5 we explore the growing, but still rare, phenomenon of mergers of equals among increasingly larger institutions. In particular, we compare the 444 mergers of equals during 1984–2009 where neither party held \$100M in assets with the 32 mergers of equals where at least one party held over \$100M in assets (all figures are inflation-adjusted).

Figure 5 shows that mergers of equals among smaller credit unions have delivered sizable reductions in NIEXP (−0.29%) and interest income (−0.57%). However, thus far, mergers of equals among larger credit unions have not delivered such results, delivering instead substantial increases in NIEXP and interest income (+0.15% and +0.10%). While past average performance does not necessarily determine future performance, larger credit unions considering a merger of equals would be well advised to consider that, thus far, such mergers have struggled to deliver reductions in costs.

*Figure 5: Impacts of Mergers of Equals among Credit Unions with Under and Over \$100M in Assets, Averages for 1984–2009*

	Number of mergers (1)	Interest income (%) (2)	Interest expense (%) (3)	Noninterest income (%) (4)	Noninterest expense (%) (5)	Net income (%) (6)	Net worth (%) (7)	Merger-adjusted growth (%) (8)
<b>1. Mergers of equals—both credit unions under \$100M</b>	444	−0.57	−0.22	−0.03	−0.29	0.08	−0.25	−5.88
<b>2. Mergers of equals—at least one credit union over \$100M</b>	32	0.10	0.00	−0.21	0.15	−0.48	−0.30	−2.68

Note 1: We do not include here the megamerger of 12 credit unions sponsored by State Farm in 2006 or the merger of Eastern Financial Florida CU (then in conservatorship) and Space Coast CU in 2009. This latter merger was the only one throughout 1984–2009 with a target larger than \$1B.

Note 2: Column 1 does not provide the number of targets in mergers of equals, but rather the number of mergers; i.e., under our methodology, we also classified as mergers of equals those cases involving one acquirer and several targets, if the targets in total held at least 50% as many assets as the acquirer.

Data source: NCUA (1984–2010).



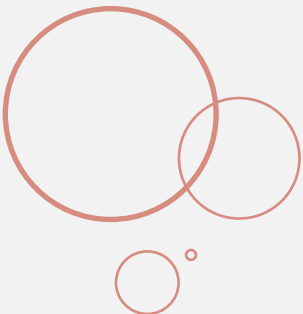


## CHAPTER 4

### Changes in Impacts over Time: The 1980s, 1990s, and 2000s



*Time is changing the merger equation. While smaller partners still reap the largest noninterest expense improvements, those gains have been declining since the 1980s. And while mergers used to mean modest increases in noninterest expense for larger partners, the last decade has seen those trends reverse, resulting in small decreases.*





In this chapter, we explore how the impacts of mergers on credit unions have changed in recent decades. While the direction and size of average impacts continue to vary substantially from year to year, some long-term patterns have arisen. While mergers continue to impact targets far more than acquirers, the distribution of those impacts has shifted somewhat in favor of acquirers. For instance, members of targets have experienced increasingly smaller reductions in NIEXP of  $-1.11\%$ ,  $-0.85\%$ , and  $-0.71\%$ , respectively, during the 1980s, 1990s, and 2000s. In contrast, while mergers once involved modest increases in acquirers' NIEXP ( $+0.03\%$  and  $+0.02\%$  in the 1980s and 1990s), more recent mergers have involved modest reductions in acquirers' NIEXP ( $-0.02\%$  in the 2000s).

There are many reasons why the size and distribution of the impacts of mergers may change over time. These reasons may include, among many others, the economic conditions under which potential merger partners operate, the regulatory environment (e.g., are regulations and regulators impeding, facilitating, or promoting some types of mergers?), market structure (e.g., how large are the disparities in NIEXP and size across the credit unions that remain after each additional year in the ongoing wave of mergers?), and changes in credit unions' ethos and corporate governance practices.

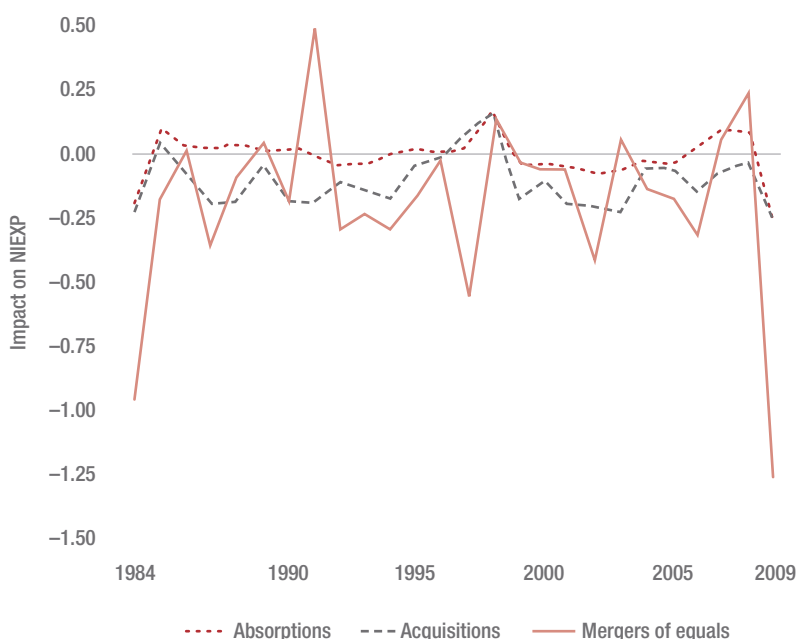
As thousands of credit unions have merged in recent decades, their numbers have shrunk, and their average size has grown. More and more credit unions are managed by professionals rather than by volunteers. Coupled with advances in technology and easing of regulatory restrictions, credit unions now offer more and more services, ranging well beyond checking accounts, credit cards, and auto loans, with many offering, for instance, retirement accounts, health savings accounts, and access to the services of insurance and brokerage affiliates. The growing sizes, professionalization, and sophistication of credit unions prompt the question of whether recent mergers involve impacts whose size and distribution across merger partners differ from those in earlier decades.



Further, the ongoing shift from volunteer-operated to professionally run credit unions could refocus managerial attention from the interests of members alone to also considering the interests of other stakeholders, such as paid credit union employees. The advantages and disadvantages of mutual (or cooperative) ownership are well known (Rasmusen 1988, Wilcox 2006). Credit union members each have one vote in matters of governance, regardless of their loan and deposit balances. Members may impose less business discipline on credit unions than, say, stockholders in commercial banks. While poor performance and lower stock prices for commercial banks may prompt changes in executives and directors, poor performance in credit unions rarely elicits much greater voter participation or rival slates in board elections. Indeed, in contrast to commercial banks that may tout merger-related cost-cutting, merging credit unions may be more likely to emphasize that they intend to avoid firing employees, which would reduce costs (Anderson 2008). Figures 6 and 7 seek to address these issues.

Figure 6 presents impacts of mergers on combined NIEXP in mergers of equals, acquisitions, and absorptions, annually during 1984–2009. To a large extent, this figure reinforces the findings in Figure 3: i.e., that impacts on the combined membership are smaller in absorptions and larger in mergers of equals. However, Figure 6 also highlights that the impacts of mergers may vary substantially

**Figure 6: Impacts on NIEXP in Mergers of Equals, Acquisitions, and Absorptions, Annual Data for 1984–2009**



over time. Also, having fewer occurrences per year, annual average impacts are far more variable (and thus more difficult to forecast) for mergers of equals than for acquisitions and absorptions.

Figure 6 also highlights how macroeconomic or regulatory developments may affect the size and direction of merger impacts. For instance, during the mid to late 1990s, litigation in federal courts (NCUA 1999) generated a large degree of legal uncertainty about credit union fields of membership and the regulation of mergers. During that period, far fewer credit union mergers took place (see Dopico and Wilcox 2009, 6) and, as

Data source: NCUA (1984–2010).

Figure 6 shows, the mergers that took place, somewhat atypically, predominantly yielded increases in costs. In particular, NIEXP actually increased for acquisitions and absorptions in 1997, and for all three key types of mergers in 1998. Also, while many credit unions did not extract cost reductions from mergers during 2007–2008, the ongoing economic crisis appears, since then, to have focused managerial efforts on reducing costs. Thus, in 2009, all three key types of mergers yielded reductions in costs that were substantially larger than their historical averages.

Figure 7 presents the impacts of mergers across four extended time periods: 1984–2009 (replicating in part Figure 1), 1984–1989

(referred to here as the 1980s), 1990–1999, and 2000–2009.

As before, we present results separately for targets (panel A), acquirers (panel B), and combined credit unions (panel C).

Consistently, mergers affect targets more than acquirers, with,

for instance, reductions in interest income of –0.51% for targets and –0.04% for acquirers for 1984–2009. However, the distribution of impacts has shifted somewhat in favor of acquirers. Formerly, cost

Formerly, cost reductions rebounded particularly to the benefit of target members. More recently, however, the benefits appear to have become more evenly shared between members of targets and acquirers.

*Figure 7: Impacts of Mergers, Averages for 1984–2009, 1984–1989, 1990–1999, and 2000–2009*

	Interest income (%) (1)	Interest expense (%) (2)	Noninterest income (%) (3)	Noninterest expense (%) (4)	Net income (%) (5)	Net worth (%) (6)	Merger-adjusted growth (%) (7)
<i>Panel A: Impacts on the target (i.e., post-merger credit union minus pre-merger target)</i>							
1. 1984–2009	–0.51	0.08	0.10	–0.79	0.72	–0.26	3.54
2. 1984–1989	–0.87	0.15	0.01	–1.11	0.61	0.28	7.40
3. 1990–1999	–0.72	0.03	0.08	–0.85	0.76	0.17	5.30
4. 2000–2009	–0.37	0.08	0.12	–0.71	0.72	–0.52	2.22
<i>Panel B: Impacts on the acquirer (i.e., post-merger credit union minus pre-merger acquirer)</i>							
5. 1984–2009	–0.04	–0.01	0.00	0.00	–0.02	–0.05	–0.55
6. 1984–1989	–0.05	0.00	0.03	0.03	–0.08	–0.17	–1.44
7. 1990–1999	0.00	–0.01	–0.01	0.02	–0.05	–0.04	–0.77
8. 2000–2009	–0.05	–0.01	0.00	–0.02	0.01	–0.03	–0.24
<i>Panel C: Combined impacts (i.e., post-merger credit union minus pre-merger combined credit union)</i>							
9. 1984–2009	–0.06	0.00	0.00	–0.03	0.01	–0.06	–0.26
10. 1984–1989	–0.08	0.01	0.03	–0.01	–0.05	–0.16	–0.75
11. 1990–1999	–0.03	0.00	0.00	–0.01	–0.02	–0.03	–0.44
12. 2000–2009	–0.06	–0.01	0.00	–0.05	0.04	–0.05	–0.07

Data source: NCUA (1984–2010).

reductions rebounded particularly to the benefit of target members. More recently, however, the benefits appear to have become more evenly shared between members of targets and acquirers.

While targets continue to accrue far larger benefits, the size of those benefits has shrunk considerably from the 1980s to the 2000s, with the reduction in NIEXP falling from  $-1.11\%$  to  $-0.71\%$ , the reduction in interest income (charged largely to borrowers) falling from  $-0.87\%$  to  $-0.37\%$ , and the increase in interest expense (paid largely to depositors) falling from  $+0.15\%$  to  $+0.08\%$ . In contrast, while mergers once involved modest increases in acquirers' NIEXP ( $+0.03\%$  and  $+0.02\%$  in the 1980s and 1990s), recent mergers involved modest reductions in acquirers' NIEXP ( $-0.02\%$  in the 2000s). While mergers have, on average, ceased to increase NIEXP for acquirers, the change has been too small to accrue clearly to their members. Thus, mergers in the 2000s have not reduced interest income or increased interest expense more than they did during the 1980s. For acquirers, the most tangible changes in merger impacts surface in noninterest income, which used to involve increases ( $+0.03\%$  in the 1980s) but recently do not ( $0.00\%$  in the 2000s), and net income, which used to involve decreases ( $-0.08\%$  in the 1980s) but recently do not ( $+0.01\%$ ).

Panel C presents impacts for the combined membership. Since acquirers contribute by far the most assets to mergers, the impacts for the combined membership broadly mimic those for acquirers. Again, since acquirers contribute far more assets, the smaller reduction in NIEXP from  $-1.11\%$  to  $-0.71\%$  from the 1980s to the 2000s for far smaller targets combined with the larger reduction in NIEXP from  $+0.03\%$  to  $-0.02\%$  for far larger acquirers yields a larger reduction in NIEXP for the overall membership, from  $-0.01\%$  to  $-0.05\%$ .





## CHAPTER 5

### Short-Term vs. Long-Term Impacts: Mergers up to Five Years Later



*This report seeks not just to measure immediate merger effects but to gauge a merger's impact over five years. The averages across all mergers show that while some reductions in noninterest expense are short-lived, other mergers (notably acquisitions) deliver durable cost reductions. Further, benefits from mergers shift from borrowers to depositors from the first to later years.*





In this chapter, we contrast the short-term and long-term impacts of mergers on credit unions. While short-term and long-term impacts appear relatively small averaged across all mergers, the sizes of impacts vary substantially across our three key types of mergers. For instance, while mergers of equals experience the largest short-term reductions in costs ( $-0.20\%$  in the first year), those reductions are not durable, turning to cost increases of  $+0.01\%$  by the fifth year. In contrast, credit unions in acquisitions experience far more durable cost reductions, ranging from  $-0.13\%$  to  $-0.07\%$  in the first through fifth years. While credit unions in absorptions experience the smallest reductions in costs in the short term ( $-0.02\%$  in the first year), the full extent of their cost reductions appears with a lag (reaching  $-0.05\%$  in the fifth year).

To assess short-term and long-term impacts, we explored cumulative net changes up to several years after each merger.<sup>17</sup> We consider multiple years (e.g., five), since mergers may involve a mix of cost reductions and cost increases, with some surfacing immediately and others with shorter or longer lags. However, we consider a limited number of years (i.e., only five) despite some impacts perhaps being more or less permanent and despite the possibility that other impacts might involve very substantial lags (i.e., more than five years). In practice, determining whether changes result from mergers or from other subsequent decisions or developments becomes more and more difficult the farther removed we are from the merger.

In Figure 8, we present short-term to long-term impacts of mergers—i.e., cumulative net changes from the December 31 before a merger for combined credit unions to the first through fifth December 31s following the merger for post-merger institutions. We present these results for all mergers (panel A), for mergers of equals (panel B), for acquisitions (panel C), and for absorptions (panel D). The averages across all mergers show that while some short-term reductions in NIEXP can prove short-lived (falling from  $-0.03\%$  in the first year to  $0.00\%$  in the second year), some mergers may deliver durable cost

reductions (increasing from  $-0.01\%$  to  $-0.03\%$  and  $-0.05\%$  in the third through fifth years). Similarly, the allocation of benefits from mergers may shift from borrowers to depositors from the first to later years. The reduction in interest income (largely paid by borrowers) falls from  $-0.06\%$  in the first year to  $-0.01\%$  in the second year and  $0.00\%$  in the third and fourth years. In contrast, the increase in interest expense (largely paid to depositors) rises from  $0.00\%$  in the first year to  $+0.02\%$  through  $+0.05\%$  in later years. Merged institutions also appear to increase their noninterest income faster than nonmerged ones in later years, climbing from  $0.00\%$  in the first year to  $+0.01\%$  through  $+0.03\%$  in later years.

*Figure 8: Short-Term and Long-Term Impacts of Mergers (i.e., Cumulative Net Changes One to Five Years after Mergers), Averages for 1984–2009*

Number of December 31s since the merger (1)	Interest income (%) (2)	Interest expense (%) (3)	Noninterest income (%) (4)	Noninterest expense (%) (5)	Net income (%) (6)	Net worth (%) (7)	Merger-adjusted growth (%) (8)
<i>Panel A: All mergers</i>							
1	-0.06	0.00	0.00	-0.03	0.01	-0.06	-0.26
2	-0.01	0.02	0.01	0.00	-0.04	-0.14	-0.15
3	0.00	0.03	0.02	-0.01	-0.05	-0.20	-0.15
4	0.00	0.04	0.02	-0.03	-0.06	-0.24	-0.67
5	-0.03	0.05	0.03	-0.05	-0.04	-0.25	-0.51
<i>Panel B: Mergers of equals (targets larger than 50% of the size of their acquirer)</i>							
1	-0.36	-0.16	-0.08	-0.20	0.17	-0.32	-3.37
2	0.02	-0.04	0.05	0.06	-0.09	-0.21	-2.41
3	-0.01	0.09	0.08	-0.04	0.00	-0.30	-0.33
4	0.03	0.03	0.11	0.03	-0.10	-0.45	-0.69
5	0.00	0.04	0.10	0.01	0.09	-0.61	1.69
<i>Panel C: Acquisitions (targets between 10% and 50% of the size of their acquirer)</i>							
1	-0.26	-0.06	-0.01	-0.13	-0.04	-0.15	-1.45
2	-0.06	0.02	0.02	-0.04	0.01	-0.17	-0.54
3	-0.10	0.00	0.03	-0.08	-0.01	-0.30	0.79
4	-0.11	-0.01	0.02	-0.10	0.07	-0.29	0.18
5	-0.10	-0.01	0.06	-0.07	0.08	-0.28	0.67
<i>Panel D: Absorptions (targets smaller than 10% of the size of their acquirer)</i>							
1	-0.03	0.01	0.01	-0.02	0.01	-0.04	-0.05
2	-0.01	0.02	0.01	0.01	-0.05	-0.14	-0.05
3	0.01	0.04	0.02	-0.01	-0.05	-0.19	-0.30
4	0.01	0.05	0.02	-0.02	-0.08	-0.24	-0.78
5	-0.03	0.06	0.03	-0.05	-0.06	-0.24	-0.67

Note: Results comparing credit unions on the December 31 before a merger with those on the December 31 after the merger use data for 1983-2009. Results for longer time periods—i.e., the second (third, fourth, and fifth) December 31 after the merger—cannot include the longer-term impacts for the most recent mergers and, therefore, include mergers through 2008 (2007, 2006, and 2005).

Data source: NCUA (1984–2010).

While impacts averaged across all mergers are relatively small, we find much larger impacts across our three key types of mergers, even

if in different directions. For instance, the short-term and long-term impacts of mergers of equals differ markedly. As we discuss in Chapter 3, credit unions in mergers of equals experience large short-term

Mergers of equals are often the most complex. While they may provide ample opportunity for cost reductions, managers may find unexpected costs in the transactions or may forgo pursuing painful avenues for reducing costs.

reductions in NIEXP, interest income, and noninterest income, but they also experience large reductions in interest expense ( $-0.20\%$ ,  $-0.36\%$ ,  $-0.08\%$ , and  $-0.16\%$ , respectively, in the first year). However, all of those impacts are short-lived, largely disappearing by the second year (when they become  $+0.06\%$ ,  $+0.02\%$ ,  $+0.05\%$ , and  $-0.04\%$ ). As we discuss in Chapter 3, mergers of equals are often the most complex. While they may provide ample opportunity for cost reductions, managers may find unexpected costs in the transactions or may forgo pursuing painful avenues for reducing costs.

In contrast, credit unions involved in acquisitions (see Figure 8, panel C) maintain far more, if not all, of their reductions in NIEXP from year one ( $-0.13\%$ ) through year five ( $-0.07\%$ ) as well as their reductions in interest income (from  $-0.26\%$  to  $-0.10\%$ ). One possibility is that cost reductions are more persistent in acquisitions because decisions about combining management and boards, about combining and rationalizing computer and information systems, and about strategies are simpler. While credit unions in absorptions experience the smallest cost reductions in the short term ( $-0.02\%$  in the first year), the full extent of their cost reductions appears with a lag (reaching  $-0.05\%$  in the fifth year).<sup>18</sup> In another contrast, while acquisitions benefit their borrowers durably and not their depositors, absorptions have roughly the opposite effect. Depositors of credit unions in absorptions experience climbing interest expense (from  $+0.01\%$  to  $+0.06\%$ ), while impacts for borrowers are not consistent (ranging from  $-0.03\%$  to  $+0.01\%$ ).



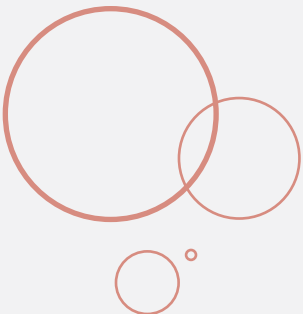


## CHAPTER 6

### Summary and Implications



*Mergers give members of smaller, higher-cost credit unions access to far more efficient institutions, but they barely affect members of larger, lower-cost credit unions. While the tide of mergers and the associated reductions in costs may be slow, it is also inexorable. Thus, average credit union sizes are likely to continue to grow and to continue to help contain costs.*





Mergers provide the members of smaller, higher-cost credit unions with access to far lower-cost institutions, lower loan rates, and higher rates on deposits. In contrast, mergers on average barely affect members of the larger, lower-cost credit unions. However, the size and direction of impacts on the combined membership can vary widely across individual mergers.

Impacts are largest for targets that are small relative to their acquirer and smallest for acquirers that are large relative to their target. Thus, impacts on the combined membership are far larger in mergers of equals than in mergers where one partner's size far exceeds the other's. However, the recently growing number of mergers of equals among larger credit unions have thus far not delivered the reductions in costs that are common in mergers of equals among smaller credit unions.

While mergers continue to impact targets far more than acquirers, the distribution of those impacts has shifted somewhat in favor of acquirers. For instance, members of targets have experienced increasingly smaller reductions in NIEXP, from  $-1.11\%$  in the 1980s to  $-0.71\%$  in the 2000s. In contrast, while mergers involved modest increases in acquirers' NIEXP during the 1980s ( $+0.03\%$ ), mergers involved modest reductions in acquirers' NIEXP during the 2000s ( $-0.02\%$ ).

Also, while mergers of equals experience the largest short-term reductions in costs ( $-0.20\%$  in the first year), those reductions have thus far not been durable, turning into cost increases of  $+0.01\%$  in the fifth year. In contrast, credit unions in acquisitions experience far more durable cost reductions, ranging from  $-0.13\%$  to  $-0.07\%$  in the first through fifth years.

As we show in Wilcox (2008), larger credit unions on average bear substantially lower NIEXP. While large cost differences invite mergers, in this report we show that mergers are by themselves far from certain routes to reducing costs. While mergers provide managers with opportunities to reduce costs, mergers do not reduce

costs automatically. Mergers may also involve up-front or one-time increases in costs in areas such as changing signage, merging

computer and information systems, and legal, regulatory, and consulting costs. Mergers may also distract managerial and employee efforts from key operating activities and from other strategic opportunities.

Following mergers, as in day-to-day operations, managers need

to make and implement decisions to reduce costs. These decisions are often painful and may involve discontinuing established relationships with vendors, closing branches, reassigning some employees, and firing (or at least not replacing) other employees. If managers fail to make and implement such decisions, mergers may fail to yield any sizable or durable reductions in costs.

Moreover, mergers are likely slow routes for reducing costs. Reaping the large difference in costs, for instance, between typical medium-sized and large credit unions ( $-0.78\% = 2.32\% - 3.10\%$ ) would involve growing in size by a factor of 10. A typical medium-sized credit union with NIEXP of 3.10% that used a merger of equals to grow would only double its size. Such aggressive growth policy by itself could thus not reduce the credit union's NIEXP by  $-0.78\%$ , but by perhaps  $-0.08\%$  to  $-0.20\%$ .

While the tide of mergers and the associated reductions in costs may be slow, it is also inexorable. Thus, average credit union sizes are likely to continue to grow and to continue to help contain costs. These efficiencies will continue to fund better interest rates on loans and deposits for members as well as fund accumulations of capital at individual credit unions and help defray expenses attributable to credit union failures during the ongoing economic crisis. Regardless of how the efficiency gains are allocated, mergers will likely continue to contribute to the overall health of the credit union system.

While mergers provide managers with opportunities to reduce costs, mergers do not reduce costs automatically. Managers need to make and implement decisions to reduce costs. If managers fail to make and implement such decisions, mergers may fail to yield any sizable or durable reductions in costs.



**List of Abbreviations**

B	Billion
CU	Credit union
FCU	Federal credit union
Impact	Net change from the December 31 before a merger to the following December 31
M	Million
NCUA	National Credit Union Administration
NIEXP	Noninterest expense per assets (%)
P&A	Purchase and assumption

**Asset Size Groups (boundaries adjusted for inflation, expressed in 2009 dollars)**

Tiny	Under \$1M in assets
Very small	Between \$1M and \$10M in assets
Smallish	Between \$10M and \$100M in assets
Medium-sized	Between \$100M and \$1B in assets
Large	Over \$1B in assets



1. We express all measures of performance and condition (non-interest expense, interest income, interest expense, etc.) per assets. Throughout the report, we use the term “impacts” to refer to short-term impacts, or net changes in performance or condition from the December 31 before a merger to the following December 31. For instance, if a credit union’s NIEXP fell from 3.50% before a merger to 3.00% afterward, and nonmerging peer credit unions did not experience a change in NIEXP, we would report an impact on, or a reduction in, NIEXP of –0.50%. We use the term “long-term impacts” to refer to cumulative net changes up to the second through fifth December 31s after the merger.
2. Throughout this report, we often refer to credit unions’ non-interest expenses simply as their costs. While interest expenses are expenses to the credit union, they are payments to their members.
3. During the ongoing economic crisis, the National Credit Union Administration (NCUA) has used purchase and assumption (P&A) transactions to transfer a large amount of assets and liabilities from failed credit unions to other surviving credit unions. In response to demands from the credit union system, in 2010 the NCUA announced that it would launch a merger registry in which credit unions could announce their interest in participating in mergers and P&A transactions (CUNA 2010d).
4. As we discuss in Dopico and Wilcox (2009), the NCUA database on credit union mergers is incomplete for the early 1980s; thus, the beginning of our sample period is 1984.
5. Throughout this report, we classified credit unions by size as tiny, very small, smallish, medium-sized, and large, with the boundaries adjusted for inflation, always expressed in 2009 dollars.
6. Throughout this report, we often refer to merger-adjusted asset growth simply as growth. In Wilcox (2008), we disaggregated total growth into (1) growth from mergers and (2) organic or merger-adjusted growth. For instance, if credit union B, with \$50M in assets on December 31, 2008, merges into credit union A, also with \$50M in assets on the same date, and the resulting credit union A has \$105M in assets on December 31, 2009 (one year later), we define total growth for credit union A as 110%  $[(105 - 50) / 50]$ , growth from mergers as 100%  $(50 / 50)$ , and merger-adjusted growth as 5%  $\{[105 - (50 + 50)] / (50 + 50)\}$ . Note that under these particular formulae, growth

from mergers plus merger-adjusted growth is not intended to exactly equal total growth.

7. Sections 1751 and 1752 of the Federal Credit Union Act of 1934 (Act of June 26, 1934, 48 Stat. 1216.) as last revised in June 2007 define credit unions as member-owned “cooperative association(s) organized for the purpose of promoting thrift among its members and creating a source of credit” (NCUA 2007).
8. Other goals of credit union members likely include ready access to a broad range of loan and deposit products, as well as ready access to a broad range of other financial products and services at attractive prices and rates and various forms of convenience (e.g., branches, ATMs, internet access), friendly service, etc.
9. In the overwhelming majority of mergers, but not in all cases, the larger credit union is designated as the continuing institution. Most credit union mergers involve one acquirer and one target at a time. During 1984–2009, we identified 7,343 such mergers where the acquirer merged with at most one target within each calendar year and 902 mergers where the acquirer merged with more than one target (for a total of 2,089 targets). Most acquirers, however, engage in multiple mergers over the years. As we report in further detail in Dopico and Wilcox (2009), over the last three decades, four-fifths of credit union acquirers have participated in more than one merger. To ease comparisons before and after mergers, we treat cases where one acquirer merged with multiple targets within one calendar year as single mergers and the sum of each group of those targets as a single target.
10. This difference in merger-adjusted asset growth refers to growth in acquirers and targets each before their merger and, by construction, excludes growth from earlier mergers in either the acquirers or the targets.
11. We selected the boundary of 0.20% between small and large changes based on the standard deviations for the annual series of average NIEXP for all credit unions and for credit unions across various asset size groups during 1984–2009.
12. All amounts are inflation-adjusted and expressed in 2009 dollars. We excluded from all three groups a megamerger of 12 credit unions into a single institution in 2006 (*Credit Union Times* 2006). These credit unions were sponsored by the insurer State Farm, and each held over \$100M in assets. In total, they account for the remaining 4% of assets in targets.
13. Chapter 5 explores impacts one to five years after a merger.
14. A net change in growth of  $-3.37\%$  does not imply that credit unions in mergers of equals shrink by that amount, but that



- their growth rate is 3.37% lower than that of peer institutions. For instance, the average (nominal) annual asset growth rate for medium-sized credit unions in 1984–2009 was 10.10%.
15. The combined impacts on interest rates charged and paid across the three key types of mergers are broadly similar to those across acquirers.
  16. The first merger with a large target took place in 2009 and involved Space Coast CU and Eastern Financial Florida CU (then in conservatorship), each with about \$1.6B in assets on December 31, 2008 (CUNA 2010e). Mergers with large targets announced throughout 2010 include those of Addison Avenue FCU (\$2.5B) with First Tech CU (\$2.2B; CUNA 2010a) and of low-capitalized Kinecta FCU (\$3.5B) and NuVision FCU (\$1.2B; CUNA 2010b). Not all announced mergers are completed, as in the since-abandoned merger of low-capitalized Suncoast Schools FCU (\$5.9B) and GTE FCU (\$1.9B) (CUNA 2009).
  17. For instance, if a credit union's NIEXP fell from 3.15% before a merger to 3.00% five years later, while its peers' NIEXP fell by -0.10%, then the cumulative net change on the fifth year would be -0.05%.
  18. Throughout the report, we describe as "impacts of mergers" the net changes surrounding mergers. Since we present changes net of contemporaneous changes at peer credit unions, we are undoubtedly describing differences between credit unions in mergers and credit unions not in mergers. However, theoretically it may be difficult to determine which differences result from the actual impacts of mergers and which result from being the type of dynamic or aggressive credit union that is likely to acquire others. In the cases of larger net changes, as in mergers of equals, much of the difference is most likely due to actual impacts of mergers. In the cases of smaller net changes, as with acquirers in absorptions, it is more difficult to determine whether the measured net changes are due solely to actual impacts (from, for instance, tiny absorptions) or whether they reflect acquirers with managerial approaches to cost-cutting that are generally more aggressive, independent of the size of their merger partners in each year.



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