The Increasing Importance of Credit Unions in Small Business Lending

by

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Executive Summary

Credit unions as a source of small business loans have not previously been studied in depth. More attention is warranted, because small business loans (SBLs) under $1 million at credit unions have risen substantially over the last decade by a variety of measures: (1) relative to total loans and assets at credit unions, (2) relative to SBLs at community banks, and (3) relative to small business loans at all banks.

This report focuses on how much small business loans at credit unions may have offset fluctuations in SBLs at banks. The report analyzes the experiences both of recent decades and of the more-recent financial crisis. We constructed a database of annual, state-level totals for SBLs at credit unions and for all business loans at all banks and at small banks for 1986-2010. We constructed a similar database for SBLs at all banks and at small banks for 1994-2010. The resulting large databases reveal the great variations in business loans, in banks, and in credit unions across time and across regions. The databases permitted us to incorporate the effects on SBLs at banks and at credit unions of interest rates and loan performance. The databases also allowed econometric estimation of the dynamic interactions between loans at banks and at credit unions, interest rates, and loan performance.

We found that SBLs at credit unions tended to partially offset declines in business loans at banks. Credit unions' increasing share of SBLs and the estimated offsets suggest that credit unions are increasingly important sources of SBLs as a longer-run development and in response to fluctuations in SBLs at banks. We estimated that credit unions offset about $0.04 per dollar of fluctuations in SBLs at banks and about $0.07 per dollar of fluctuations in all business loans at banks. The "4-cent solution" and the "7-cent solution" are far from being complete, dollar-for-dollar offsets. Offsets of this size are considerably larger than the percentage of all business loans that are at credit unions, but they are close to the percentages of SBLs and of assets that are at credit unions.

The offsets that we estimated varied across regions, across time, across bank sizes, and across loan sizes. The offsets seemed considerably stronger in the South and the Midwest than they were in the Northeast or West. Because small business loans at credit unions have grown considerably relative to those at banks over the past two decades, the report also looked for evidence that the sizes of credit unions' offsets have grown as well. The evidence was not clear cut. The evidence was more compelling that credit unions offset more of the fluctuations in SBLs at small banks than at larger banks and that they offset more of the fluctuations in SBLs than in larger business loans at banks.

In turn, the estimates also indicate that developments that boost small business loans at credit unions tended to reduce business loans at banks. We present evidence that the offset was about $0.20 per dollar of additional SBLs at credit unions. That reduction in business loans at banks implies that a $1 increase in the supply of SBLs by credit unions would lead to a net increase in business loans of $0.80.

Our results are pertinent to public policy. If credit unions can appreciably and increasingly offset fluctuations in banks' SBLs, potential small business borrowers should be made aware of this alternative source of loans. Similarly, credit unions perhaps should be included as alternative suppliers of business loans when regulators assess the effects on market concentration and competition of bank mergers. In addition, regulators might consider the extent to which credit unions could otherwise offset fluctuations in business loans at banks when setting ceilings on business loans at credit unions. And small businesses might face better loan terms and availability if more credit unions recognized more opportunities for more SBLs.

Credit Unions' Growing Share of Small Business Loans

Credit unions have progressively become more like banks in their product and service offerings over the past two decades.[1] The overviews in Walter (2006) and Wilcox (2006) concluded that many of the traditionally important differences between commercial banks and credit unions have seriously eroded, but that some remain. For example, in addition to holding uncollateralized, short-term consumer loans, credit unions now often devote large shares of their assets to credit cards, auto loans, residential mortgages, and, increasingly, business loans.

One reason for their increasing shares of assets in business loans is that credit unions have taken advantage of loosening regulatory restrictions on their fields of membership, which define the criteria for becoming depositors and borrowers at credit unions (Feinberg and Kelly, 2003). Historically, many credit unions had fields of membership defined, for example, as the employees of single plants of a business. Now many credit unions have fields of membership, for example, that include collections of enumerated companies, the employees of many unenumerated companies in a particular industry (e.g., airlines, health care), the self-employed workers of an industry (e.g., real estate brokers, flower shop owners), or all the residents of geographic areas, such as counties. For some state-chartered credit unions, their fields of membership comprise whole states. With their broader fields of membership, many credit unions now have actual and potential memberships that include not only payroll employees, but also many who own small businesses and thus seek business loans.

As deregulation and more aggressive business strategies led them to offer more products and services to broader swaths of financial markets, credit unions garnered larger shares of deposits and loans, especially smaller ones (Goddard and Wilson, 2005). The share of deposits in credit unions (out of those in credit unions plus those in commercial banks) grew steadily in recent decades, surpassing 1 percent in 1954, 2 percent in 1960, 3 percent in 1969, 4 percent in 1975, 5 percent in 1985, 6 percent in 1986, 7 percent in 1991, 8 percent in 1992, and 9 percent in 2001.

Still, credit unions retain several distinctive characteristics. Credit unions are financial cooperatives, being mutually owned and governed (via one member-one vote rules) by their member-customers.

[1] Throughout this report, we focus on commercial banks and credit unions, and largely exclude data for thrifts, such as savings banks. Thus, we refer to commercial banks simply as "banks." We refer to banks with less than $10 billion in total assets as "community banks."

Credit unions are exempt from federal corporate income taxation. They have capital requirements that are more stringent than those for banks in important ways. And credit unions do not belong to the FDIC, but instead have a separate deposit insurance system and fund. These features of credit unions interact in complex ways. For example, credit unions benefit from tax exemptions, which help them to provide lower-priced products and services, thereby attracting depositors and borrowers and their funds and loans. On the other hand, more stringent capital requirements, especially since 1998, often restrain the growth of credit unions' assets (Wilcox 2011a). In addition, credit unions' cooperative governance structures, including the absence of shares of common stock, may result in fewer managerial incentives for risk taking. Weaker incentives to take risk, in turn, likely contributed to credit unions' historically having had lower failure rates and fewer losses imposed on their deposit insurance fund; they may also contribute to credit unions' historical reluctance to become members of banks' deposit insurance funds (Wilcox 2005 and 2007).

Although some key differences will likely continue in their product and service offerings, and in their loan holdings, credit unions increasingly operate like banks. One important development has been the increasing importance of small business loans at credit unions. One recognition of its relevance for small businesses was the SBA expansion in 2003 of its loan guarantee programs to include loans originated by credit unions (SBA 2003). Because they will continue to consolidate into larger units for decades to come and because very many have yet to fully exploit their broadened fields of membership and their opportunities for making business loans, credit unions are likely to continue to increase the share of their assets that they devote to small business loans.

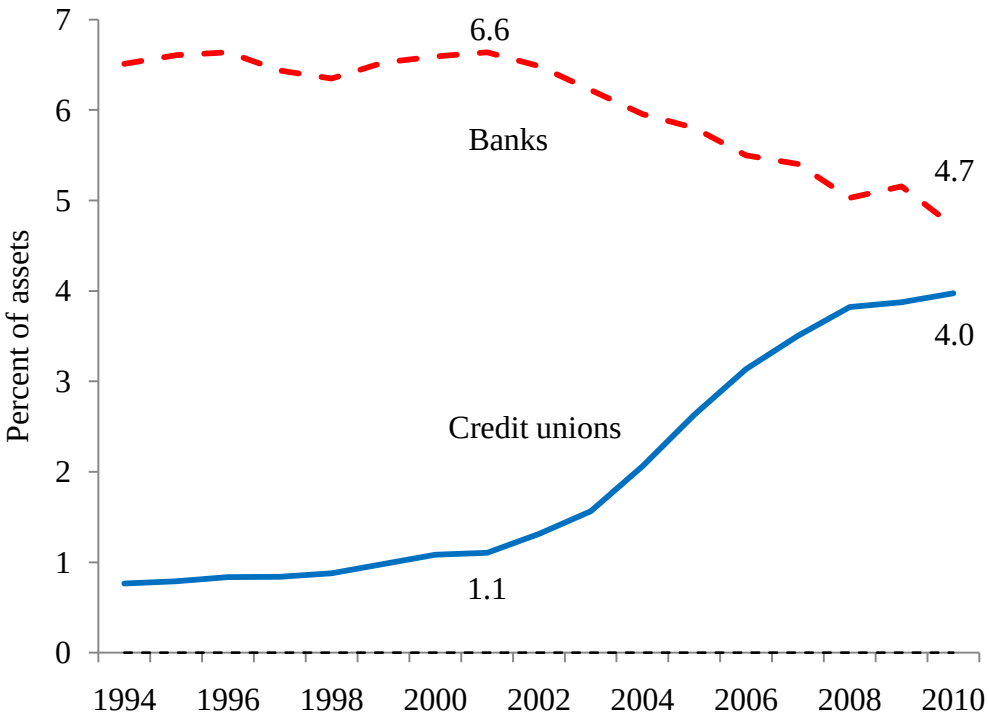
Although credit unions have been permitted to make business loans for a century, since the 1980s, vastly more credit unions have done so. The number of credit unions reporting business loans grew from 789 (or 5 percent of the 15,719 total credit unions) in 1986 to 2,248 (or 30 percent of the 7,491 total credit unions) in 2010. Most of this minority of credit unions still have only small shares of their assets in small business loans. Some, however, are nearing the 12.25 percent ceiling, enacted by Congress in 1998, on the shares of their assets in member business loans. Though few credit unions are very close to the ceiling, some contend that its presence reduces their willingness to make more small business loans. And in 2009, 2010, and 2011, federal legislation was introduced to raise the ceiling.

With larger SBL programs, credit unions may provide more credit to small businesses generally and may increasingly offset any shorter-run fluctuations in the amounts of SBLs supplied by banks and other business lenders. By increasing the competition for SBLs, a longer-term increase in the supply of SBLs would be expected to raise the availability and lower the cost of SBLs generally. Over the shorter run, being better positioned to supply more SBLs, in the face of reduced supplies of SBLs at banks,

would be likely to reduce the volatility of both the availability and the cost of SBLs. Reduced SBL availability, then, where credit unions made offsetting loans, would likely lead to reduced volatility in the local economies. Estimating the extent, and the changes in the extent, of such offsets by credit unions are among the principal goals of this research report.

Figure 1 shows that credit unions devoted increasingly important shares of their assets to small business loans since the 1980s. Strikingly, over the same period, banks did the opposite. SBLs as a share of credit union assets rose gently during the 1990s and increased much more rapidly through 2010. In contrast, banks devoted a fairly steady share of their assets to SBLs until the 2000s, when the share fell rather substantially.

Figure 1: Small Business Loans per Assets at Credit Unions and at Banks, 1994-2010



Sources: Federal Reserve Bank of Chicago, NCUA.

Following standard practice, this report uses the label "small business loans" for bank loans under $1 million made to businesses, as recorded since 1994 in June Call Reports. (There are no comprehensive data available for loans made explicitly to small businesses.) Unlike banks, credit unions do not disaggregate their business loans by size. However, we classified all business loans made by credit unions as small business loans for two reasons: first, credit unions largely lend to natural person-members, who, in some cases, own noncorporate businesses; second, there is little evidence that credit unions made any appreciable volume of loans to large businesses.

Small business loans include both loans not collateralized by real estate (commonly referred to as commercial and industrial, C&I, loans) and loans collateralized by real estate (commonly referred to as commercial real estate, CRE, loans). Data on small business loans excludes loans secured by residences for one to four families, home equity loans, and home equity lines of credit. Wilcox (2011b) discusses the prevalence of credit card and residential loans as sources of loans, in effect, to small businesses. Throughout this report, we have not included farm loans or loans secured by farmland within small business loans at either banks or credit unions. Table 1 presents the breakdown in 2010 of small business loans into C&I and CRE loans across credit unions, community banks, and large banks. The table highlights that small businesses rely heavily on real estate for collateral in their borrowing, and that smaller financial institutions rely more on real estate as collateral for their business lending.

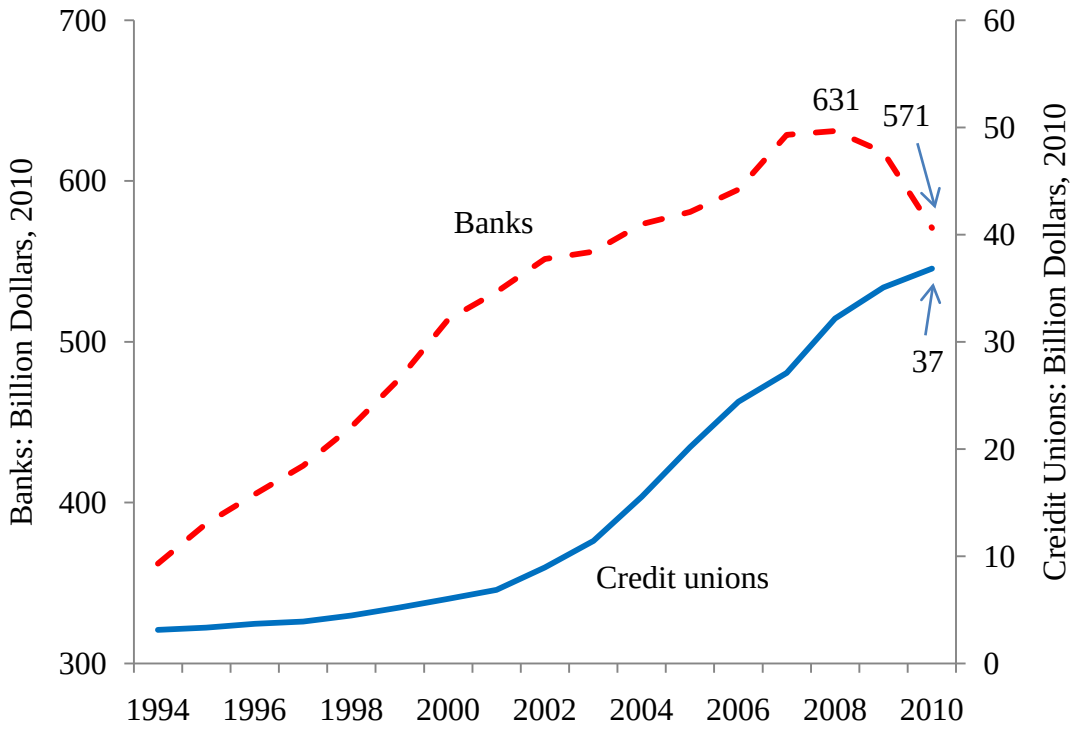
Table 1: Small Business Loans at Credit Unions, at Community Banks, and at Large Banks: Commercial & Industrial Loans and Commercial Real Estate Loans, billions of dollars, 2010

	Small Commercial & Industrial (C&I) Loans (1)	Small Commercial Real Estate (CRE) Loans (2)	Small Business Loans (3)
Credit unions	7	30	37
Community banks	115	185	300
Large banks	152	118	270
Total	274	333	607

Sources: Federal Reserve Bank of Chicago, NCUA.

Based on their balance sheets as reported to their federal regulators on Call Reports (for commercial banks) and on Forms 5300 (for credit unions), Figure 2 shows small business loans at credit unions (as of December of each year) and at banks (as of June of each year) for each year from 1994 through 2010. Over this period, in real terms, small business loans at credit unions rose from negligible amounts in the middle of the 1990s to $37 billion in 2010. Small business loans at banks were of a vastly larger magnitude, rising from about $400 billion in 1994 to over $600 billion by the latter 2000s. Noteworthy in Figure 2 are two episodes. The first is the period following the 2001 recession, when SBLs at banks slowed, while SBLs at credit unions accelerated. The second is the era of the financial crisis, which began in 2007: SBLs at banks declined by about 10 percent, while they continued to grow at credit unions.

Figure 2: Small Business Loans at Credit Unions and Banks, 1994-2010



Sources: Federal Reserve Bank of Chicago, NCUA.

Figure 3 presents the same data in a different format, displaying the annual inflation-adjusted growth rates of small business loans at credit unions and banks. SBLs at banks slowed somewhat during and after the 2001 recession. Moreover, during much of the 2000s, SBLs at banks grew at lackluster rates, especially compared with the 1990s. During and after the recession of 2007-2009, SBLs at banks actually shrank, and considerably so in 2010.

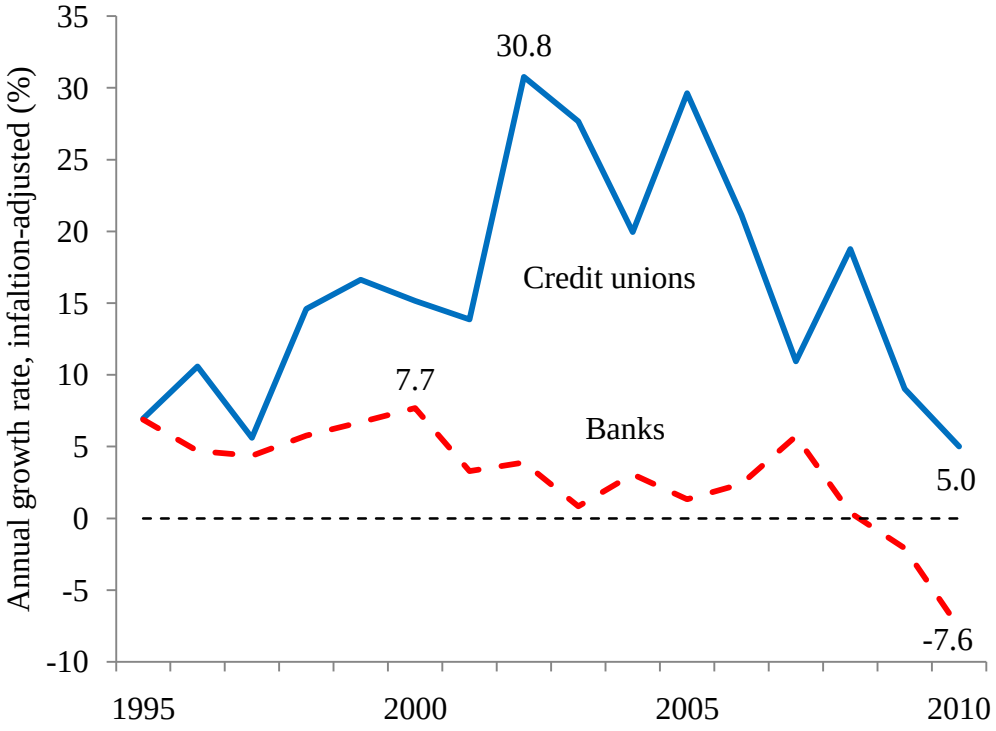
In contrast, SBLs at credit unions grew faster than at banks from 1995 to 2010,[2] with an average annual growth rate of 16 percent compared with 3 percent at banks. Furthermore, the growth of SBLs at credit unions during and after the 2001 recession continued its double-digit pace, exceeding 20 percent annually for several years into the 2000s.

As the figure shows, the growth rates of SBLs at credit unions tended to be highest when the growth rates at banks were at historically low levels. Of course, during the crisis that enveloped the U.S. credit markets after 2007, growth rates of SBLs declined at both credit unions and banks. While growth rates of SBLs at credit unions slowed during the financial crisis and ensuing slow recovery, those growth rates remained markedly positive, far above those of banks, and were actually higher than those

[2] One factor that likely contributed to the increasing market share of credit unions in small business loans is that all credit unions became eligible to participate in SBA programs starting in 2003. However, SBA loans remain a small fraction of business loans at credit unions, accounting for only $0.7 billion of their $37 billion of business loans.

of banks at almost all points during this extended period. Part of the differential growth is likely due to credit unions' continuing expansion into the relatively new (to them) SBL market. Nonetheless, even during the financial crisis, the gap between the annual growth rates of SBLs at credit unions and at banks continued at well over 10 percent.

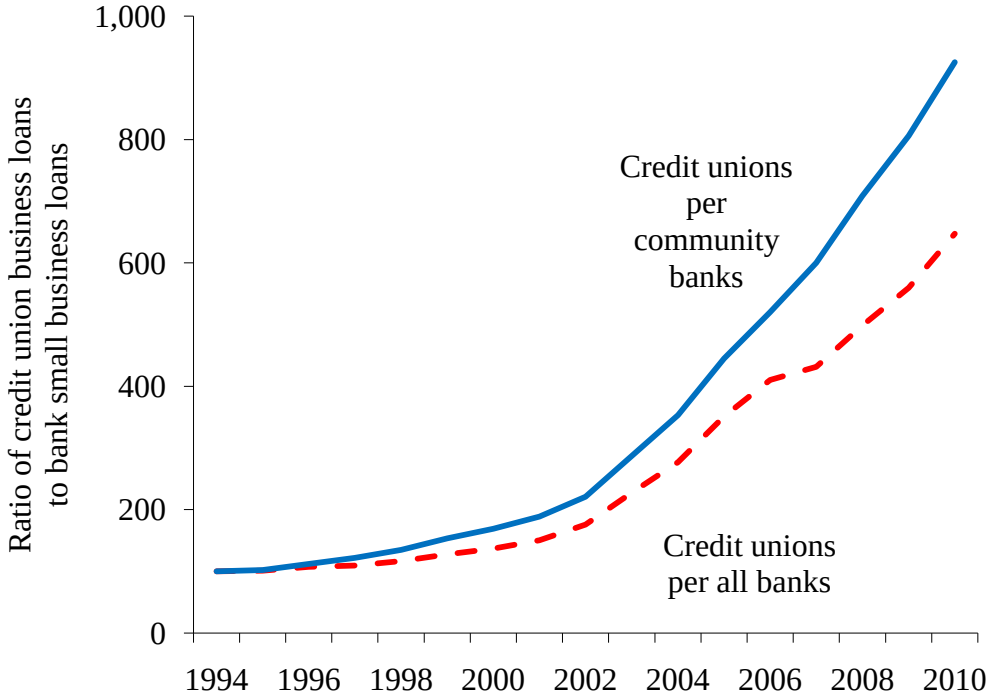
Figure 3: Growth Rates of Small Business Loans at Credit Unions and at Banks, 1995-2010



Sources: Federal Reserve Bank of Chicago, NCUA

The faster growth of SBLs at credit unions than at banks necessarily translated into rising shares of SBLs being accounted for by credit unions. Figure 4 compares the ratios (indexed = 100 in 1994) of SBLs at credit unions to SBLs at all banks and at community banks. As the figure shows, the ratio of SBLs at credit unions to SBLs at all banks grew fivefold over the past decade, while the ratio to SBLs at community banks rose ninefold from 1994 through 2010. One reason for the latter result is the ongoing restructuring of the banking sector, which particularly affected community banks and led to reclassifying many SBLs as being held by "large banks" instead of by "community banks." Specifically, some community banks grew enough to cross the $10 billion threshold of total assets, some community banks were acquired by large banks, some community banks that had long belonged to large bank holding companies (BHCs) merged with large banks within their BHCs, and some mergers of community banks resulted in banks that crossed the $10 billion threshold.

Figure 4: Small Business Loans at Credit Unions per Small Business Loans at All Banks and at Community Banks, 1994-2010, (Indexed = 100 in 1994, annual)

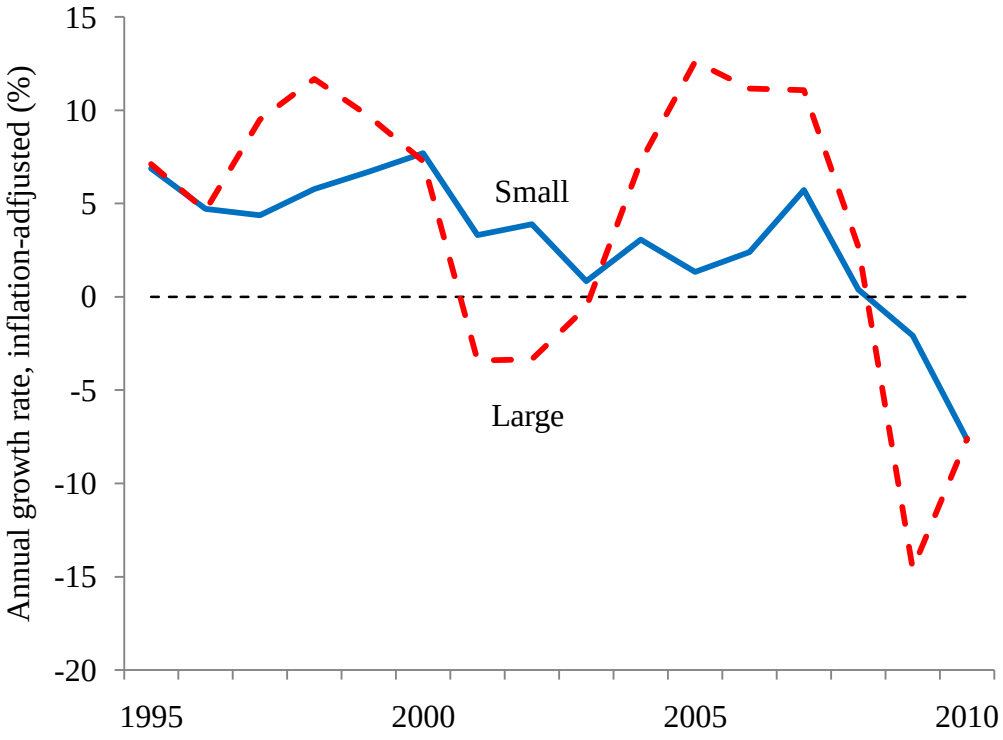


Sources: Federal Reserve Bank of Chicago, NCUA

Figure 5 shows how small business loans at all banks (i.e., small plus large) compared with loans to large businesses at all banks. Growth rates of SBLs at banks were below 5 percent during most years in the 2000s. And SBLs contracted severely during and after the recent financial crisis and recession. However, growth rates of SBLs at banks were far less pro-cyclical than were growth rates of loans to large businesses. Large businesses are commonly viewed as far less bank-dependent than small businesses: Some of the largest businesses may issue commercial paper or bonds when banks are less willing to lend to them (see Wilcox, 2011b).[3] Thus, larger businesses may have more alternatives and therefore larger elasticities (with respect to price and other terms and conditions) of bank loan demand than do smaller businesses. Smaller businesses typically are regarded as having had fewer and slower ways to substitute nonbank for bank loans. Access to the broader credit markets is typically more difficult and expensive for smaller firms, if feasible at all. As a consequence, shifts in the supply of bank loans would be expected to translate into larger swings in the growth rates of bank loans to large businesses than to small businesses. That is the pattern that is so clearly visible in Figure 5.

[3] Since we are interested in exploring the extent to which business loans at credit unions increase in response to declines in business loans at banks, in this report we estimate the interactions between credit union business loans and bank loans to businesses of all sizes.

Figure 5: Growth Rates of Small and of Large Business Loans at All Banks, 1995-2010



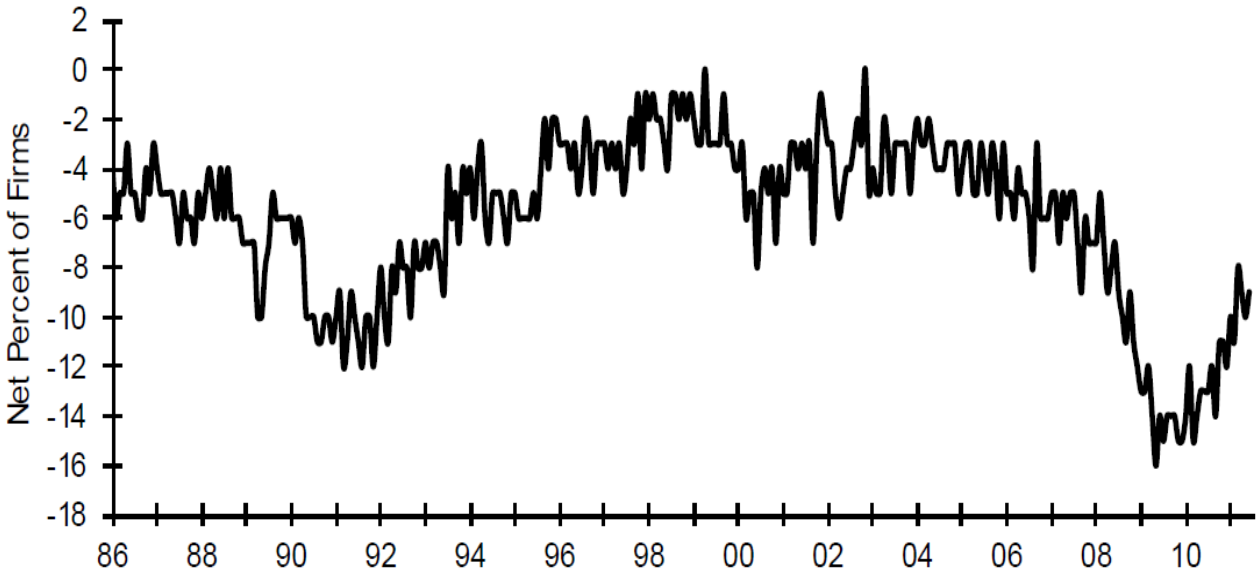
Sources: Federal Reserve Bank of Chicago, NCUA

Over shorter periods, if the supply of SBLs at banks were disrupted, the availability of SBLs at credit unions might well be of importance to small businesses. Indeed, because credit unions in the aggregate are relatively new to SBLs, the importance of credit unions as an alternative to bank SBLs may be greater than the amounts of SBLs at credit unions relative to those at banks might suggest. Rather, it may well be that, as an empirical matter, availability of SBLs from credit unions to offset changes in SBLs at banks is better measured by the total size of the credit union sector relative to that of the bank sector. It is the extent of such offsets by credit unions to reductions in SBLs at banks for which this report provides evidence.

To provide further perspective about the availability of small business loans at banks, we present another source of evidence. Figure 6 plots the National Federation of Independent Business's (NFIB's) measure of loan availability for small businesses. In particular, the measure reports the net percentage of small firms reporting that loans were more readily available, i.e., the measure subtracts the percentage of firms reporting that loans were less readily available from the percentage of firms reporting that loans were more readily available. During the housing boom of the latter 1980s, (perceived) availability dropped and then plunged during the credit crunch of 1990. Notable also was how little availability rose

following the 2001 recession. After 2001, the economy grew solidly if not rapidly, business profits were high, and lending terms for residential real estate and for non-small business eased dramatically. Nonetheless, small businesses reported little improvement in loan availability after 2001; indeed, they reported modest tightening of credit conditions from about 2003 onward, even as credit conditions elsewhere, e.g., for residential mortgages, eased considerably. Beginning with the financial crisis in 2007, small businesses then reported drastic reductions in credit availability. The NFIB survey data in Figure 6 show that loan availability in 2008 and 2009 for small businesses fell to its lowest readings since at least the middle of the 1980s and remained well below its longer-term average through 2010.

Figure 6: Small Business Loan Availability Compared to Three Months Ago, January 1986 – June 2011



Source: NFIB survey data from Dunkelberg and Wade (2011).

Literature Review

The supply of small business loans at credit unions has rarely been subject to systematic empirical investigation partly because of researchers' lack of familiarity with credit unions and partly because credit unions have historically devoted few of their assets to business loans. Most studies of business loans at credit unions have involved little statistical analysis, rarely including more than a tabulation of the outstanding stock of loans. Sayles (2002) uses a case study approach to profile several individual credit unions with established business loan programs. Howell-Best (2003) provides a legal and historical analysis of business loans at credit unions. Ely and Robinson (2009) provide the most sophisticated foray into statistical analysis of business loans at credit unions. They explored the reaction of business loans at credit unions to bank consolidation; more specifically, they estimated whether credit unions reported any business loans and not their amount of business loans. They concluded that credit unions showed some modest tendency to initiate business loan programs more in local markets where banks had consolidated more. Thus, their results suggested that credit unions supplied more business loans when banks reduced their supplies, in this case due to banks' consolidating.

In contrast, a voluminous empirical literature shows that small businesses are very dependent upon banks for credit (Berger and Udell, 2002; Hancock, Peek, and Wilcox, 2005; Hancock and Wilcox, 1998). Small banks traditionally accounted for an outsized share of loans to small businesses. As banks have both grown and merged, the number of small banks has declined inexorably. However, evidence about the impact of bank market structure on small businesses is often mixed and ambiguous (Laderman, 2006; Vera and Onji, 2010). For instance, Francis et al. (2008) found mergers among small banks had a positive impact on local small business formation. While they found that acquisitions of small banks by large banks had a negative impact on small business formation in the short term, they found a positive impact in the longer term (i.e., two years after the acquisition). Also while Carter et al. (2005) reported that small banks performed better in small business loans than larger ones, Berger et al. (2007) found that neither set of banks had an advantage or a disadvantage. Further, Keeton (2009) found that large multi-market banks reduced loans to small business less than small single-market banks during recessions and their aftermath.

Beyond market structure effects, technological advances have also transformed relationships between individual savers, financial institutions, and small business borrowers. Using credit scores helped banks, both large and small, to streamline approvals of small business loans (Akhavein et al., 2005; Berger et al., 2009; Misiora, 2008). The growing formalization and standardization of loan approval decisions also helped banks to repackage (i.e., securitize) SBLs as asset-backed securities (ABS) that outside investors such as pension funds or mutual funds may buy (DeYoung et al., 2008; Jobst, 2006). Thus, technological advances such as credit scoring and securitization may simultaneously (1) increase the amount of SBLs originated by depository institutions, (2) decrease the amount of SBLs held within depository institutions, and (3) increase the total amount of SBLs outstanding.

The evolution of the SBL market has typically mimicked developments that were earlier well under way in other loan markets (e.g., mortgages, credit cards, auto loans). Technological advances in information processing increasingly have meant that a shrinking fraction of loans reaches borrowers through indirect finance (i.e., where individual savers deposit funds in depository institutions, which in turn lend the funds to borrowers). Instead, as information about individual companies and borrowers has been shared more effectively, a growing fraction of loans has reached borrowers through more direct forms of finance. In the extreme, individual savers buy individual bonds directly from well-known borrowers such as governments or large companies, removing nearly all intermediaries from the borrower-lender relationship. In a slightly less direct form of finance, individual savers place funds in mutual funds that buy bonds from diversified groups of issuers such as companies or municipalities. In the case where individual savers place funds in mutual funds that buy ABS backed by individual borrowers, "lenders" act merely, and briefly, as loan originators who provide one-time assessments of credit risk on behalf of, ultimately, the individual saver. That business model of course came to be known as “originate and distribute.” In another twist, groups of credit unions have often pooled their efforts through mechanisms such as credit union service organizations (CUSOs) to carry out activities (such as business loans) that individual institutions might have regarded as too costly, too risky, or prohibited by regulations (CU Journal, 2010).

The recent financial crisis nearly shut down many securitization markets, ranging from markets that experienced massive losses (i.e., those for subprime mortgages that were at the center of the crisis) to others with far smaller losses (e.g., credit card, auto, equipment, and student loans) (SIFMA, 2011). As investors drew lessons from the financial crisis and as balance sheets were rebalanced, issuance levels for many types of ABS have recovered to varying degrees. Institutional investors may likely demand stricter mechanisms to validate and enforce credit risk decisions made by loan originators. Such mechanisms may range from formally requiring loan originators to bear some losses (e.g., making some

fees contingent on subsequent performance or perhaps requiring "risk retention" by holding some of the loans they originated) to less formulaic but maybe more dramatic approaches, such as shunning originators with battered histories who are unwilling to accept substantially lower originating fees. While the crisis will likely provide many valuable lessons, loan origination will inevitably continue to involve risks and occasional losses for credit suppliers, such as those who are depositors and those who buy ABS from depositories.

Short-term and long-term changes in the market for small business loans may provide an opening for credit unions. In the short term, anecdotal evidence suggests that, due to banks' lending stringency during the financial crisis, small businesses increasingly turned to credit unions for credit. The *Wall St. Journal* (March 3, 2009), in a story titled "Small Businesses Find a New Source for Lending," led with this: "Unable to get loans at banks, more small-business owners are turning to credit unions." The article noted that credit unions had avoided many of the losses that afflicted banks and that allowed them to increase their SBLs, which rose 18 percent in 2008. And Rolland (2009) started his analysis by noting, "During the current recession, credit unions are making inroads in SBLs, while banks are tightening underwriting criteria for such loans."[4]

Over the longer term, a shift in SBLs from depository institutions to institutional investors would likely assist credit unions' continued growth in SBL originations. Institutional investors who buy ABS that are backed by SBLs are likely to place less importance on the type of charter or asset size of the loan originator, and more importance on each institution's track record of delinquencies and defaults and the credit characteristics (credit scores, loan to value ratios, etc.) of the individual loans in the loan pools they are purchasing. Favoring credit unions in this regard are that delinquencies and charge offs for business loans at credit unions have been consistently lower than those at banks, whether before, during, or since the financial crisis. For example, charge offs of business loans at credit unions increased from 0.05 percent in 2005 to 0.59 percent in 2009, while those for banks increased from 0.27 percent to 2.36 percent (CUNA, 2010c).

Adding to the potential import of business loans at credit unions has been a concerted effort by credit unions, their trade associations (e.g., Credit Union National Association, CUNA and National Association of Federal Credit Unions, NAFCU), and the federal credit union regulator (National Credit Union Administration, NCUA) to substantially raise the ceilings on credit union business loans that were introduced in 1998 (see below). Credit union efforts have included grassroots letters to Congress, letters to President Obama and to congressional leaders signed by credit unions and many other trade

[4] The Credit Union National Association (CUNA) provides links to multiple press articles about business loans at credit unions at www.cuna.org/initiatives/mbr_business_lending.html.

associations ranging from small business associations to the National Association of Realtors and the National Association of Manufacturers, and the introduction of several bills in Congress (CUNA, 2010b and 2010a; NAFCU, 2010).

Hypotheses, Methods, and Data

A. Hypotheses

This research report considers hypotheses about whether and how much credit unions might offset reductions in SBLs at banks. The first hypothesis is that credit unions, taken together, have tended to make more small business loans when banks have reduced their business loans. The first corollary is that credit unions tended to only partially offset reductions (negative shocks) in business loans at banks. A second corollary, in turn, is that additions (positive shocks) to SBLs at credit unions tended to reduce business loans at banks. Again, we expect these offsets to be only partial. When the reverberations only partially offset the increase in SBLs at credit unions, then the net effect of an increase in SBLs at credit unions would be to increase total business loans. A third corollary of this hypothesis is that the larger the credit union industry (or the business loans portion of it), the larger would be the additions to business credit by credit unions. We hypothesize that one manifestation of the increased credit union participation in SBLs is that the response itself of the amount of SBLs at credit unions, for example per dollar of reduced business loans at banks, rose as credit unions became increasingly oriented toward SBLs.

We further hypothesize that SBLs at credit unions will be more tightly connected to the SBLs of smaller, community banks than to those of larger banks. We also analyze the evidence for a corollary of this second hypothesis: whether SBLs at credit unions are connected to both SBLs and to larger loans at small banks.

Thus, we seek empirical evidence about whether SBLs at credit unions increased over time and across states when business loans at banks decreased. And we seek evidence about whether credit unions' (partial) offsets to reductions of SBLs at banks were larger when credit unions participated relatively more in SBLs.

B. Methods

We chose estimation methods, regions, time periods, and variables to help provide econometric evidence about each of the hypotheses discussed above. We used a panel of state-by-state, annual data to estimate the relations between small business loans at credit unions and banks. The panel database permitted us to more powerfully examine our hypotheses and corollaries than would be possible with only national (aggregate) data. The extra variation and the vastly greater sample size that were provided by the annual data for each of the 50 individual states (plus the District of Columbia) over many years improve the precision of our estimates.

The larger panel database allowed us not only to obtain estimates for separate regions, but also to obtain estimates for shorter time periods, such the few years since the onset of the recent financial crisis. The panel database also allowed us to estimate whether and how much the responses of credit unions and banks changed over time, due perhaps to SBLs at credit unions having grown in relative importance in recent years.

To estimate the relations between SBLs at credit unions and banks, while controlling for other factors, we specified panel vector auto-regressions (VARs).[5] VARs account for the movements in each of their variables with the past movements of all of the variables, plus any otherwise unaccounted-for movements. The unaccounted-for movements in each variable are referred to as "shocks" to those variables. The VARs we report here include four variables, each of which is determined endogenously. Thus, our VARs control for the effects of each of these variables, while not including any exogenously determined control variables. Because VARs impose virtually no empirical restrictions on how each of the variables interacted with their own and each other's past values, an advantage of VARs is that they "allow the data to speak for themselves." One of the benefits of VAR estimates is that they show how much and when each of the variables responds to a shock to any other included variable.[6] Because here we have few reasons, whether theoretical or regulatory or empirical, to rule out any of the possible paths of influence on any of the variables, the VARs' lack of any such restrictions on how and when these variables respond to each other is an advantage here, relative to other methods, which typically require that some paths be ruled out. We then used the estimated VARs to calculate the responses of each variable to shocks to the other variables. By construction, these responses take into account all of the reverberations through all of the paths by which the variables influence each other.

We included in the VARs the two variables that measure small business loans at credit unions and banks, plus additional variables. Apart from the two measures of loans, which are the focus of our attention, we also included a measure of loan performance and a measure of loan interest rates. The loan performance variable would not only directly measure distress in loan portfolios but also would reflect economic distress more generally. As a loan performance variable, we used the delinquency rate on all bank loans. As a measure of interest rates, we used the ratio of interest income to assets at credit unions. One advantage of this measure of interest rates is that, rather than being an indicator of the current level of (nominal) interest rates, it reflects the rates that prevailed when the loans outstanding were made. Before settling on the loan delinquency rate as a control for various other factors that might influence loans, we experimented with a variety of other, potential control variables for our panel VARs, includ-

[5] We thank Inessa Love and Stanley Longhofer for having developed and provided the panel VAR programs that we used.
[6] The sequences of these responses over ensuing years are usually referred to as "impulse response functions." For simplicity, we will refer to "responses."

ing state-level measures of banking and credit union delinquency rates, capital ratios, returns on assets (ROAs), ratios of interest income and expense to assets, unemployment rates, inflation-adjusted gross state product growth rates, and so on. For each VAR, we included two annual lags of each included variable.

To help control for the effects of any other relevant variables that our VARs did not include, we took first-differences of the levels of the variables. (We expressed bank and economic variables, apart from interest rates, in real terms throughout.) First-differencing removed "fixed-effect" differences across states in their average levels of banking and economic conditions and performance.

To help control for remaining differences in the means of the resulting differenced data, which would arise for example from differences across states in the average growth rates of their banks, credit unions, and other variables, we used the Helmert procedure for removing the means of each of the variables. Thus, we attempted to control both for otherwise unmeasured differences in levels of banking and economic conditions across states (fixed effects), as well as for differences across states in the average growth rates of any of the variables that we used. We applied first-differencing and Helmert "demeaning" for economic reasons. But they also had statistical benefits. By removing any linear trend in data, first-differencing tends to make the data "stationary," which is a statistically attractive feature for data that are used to estimate VARs. Similarly, for both economic and statistical reasons, we expressed all of the loan and delinquency variables relative to bank assets for each state for each year. Scaling by bank assets meant that we can interpret the estimated responses as dollars of response per dollar of shock. Any nonstationarity that remained after first-differencing was likely to be removed by having scaled the first-differences by bank assets.

C. Data

We used annual state-level data from 1986 through 2010 for banks and for credit unions. The nomenclature, definitions, and starting periods for data for small business loans and for total business loans at banks and credit unions vary somewhat. Requisite data for individual banks since 1976 are readily available quarterly from the Federal Reserve Bank of Chicago. The amount of detail in that Call Report data increased greatly beginning in 1984. Then, beginning in 1994, each year's June (second quarter) Call Reports collected loan data by various (small) loan sizes of small business-related loans. Loan-size-based data were collected separately for commercial and industrial loans, for loans backed by nonresidential real estate, and for agricultural loans. Thus, in analyses of small businesses loans at banks, the availability of bank data restricts the sample period to cover 1994-2010.

While credit unions have long offered business-related loans, credit union regulators did not actively collect data on or regulate business loans until relatively recently. Coinciding with large numbers of commercial bank, thrift, and credit union failures during the late 1980s and early 1990s, the NCUA promulgated regulations that specifically targeted business loans at credit unions in 1987 and 1991 (U.S. Treasury, 2001; Wilcox, 2005 and 2007). Many of these NCUA regulations were later codified by Congress in the Credit Union Membership Access Act (CUMAA) of 1998 (see Appendix A).

Thus, the terminology and definitions of what is counted as credit union business loans have changed somewhat over time. The NCUA's analog to banks' Call Reports, the "5300," first collected data on "commercial loans" in 1986. As a result, in analyses of SBLs at credit unions, availability of credit union data restricts the sample period to cover 1986-2010. The differencing, lagged values, and Helmert algorithm that we used to estimate the panel VAR and the implied responses shrank the effective sample period to 1989-2009 for SBLs at credit unions and to 1997-2009 for SBLs at banks.

The 5300 forms first used the term "member business loans" (MBLs) in 1991, but MBLs simply used the same numerical code that earlier had been assigned to commercial loans. Having been reported as a separate category until then, in 1992 agricultural loans began to be reported as a subset of MBLs. Further, as we discuss in Appendix A, credit unions are currently not required to report data on business loans made to members if those loans do not qualify as MBLs. For instance, business purpose loans under $50,000 are not reported as MBLs.

In 2004, the NCUA began to collect data on business loans that individual credit unions had purchased from other credit unions. Credit unions classify as MBLs those loans owed by their own members. Business loans purchased from other credit unions are, thus, often referred to as nonmember business loans. The legislative cap on business loans at credit unions applies to MBLs, but not to nonmember business loans. As of 2010, MBLs (excluding agricultural loans) totaled $29.8 billion, nonmember business loans totaled $7.0 billion, and agricultural loans totaled $1.7 billion.

In our statistical analyses, we excluded data for three states (Alaska, Delaware, and Wyoming). For some years, credit unions in some of those states reported no business loans. Further, bank data for Delaware were inordinately influenced by the heavy concentration and volatility of credit card bank balance sheets there. In the end, our panel database included 48 geographical areas: 47 states plus the District of Columbia. For simplicity, henceforth we refer to the 48 areas as 48 states.

Considerable care and effort were required to construct the state-level credit union and bank data.[7] Rarely, if ever, have data been available for the state where loans were issued or for the states over

[7] Appendix B presents credit union business loans and banks' small business loans and total business loans (i.e., small plus large) across states in 1994 and 2010. In the appendix, business loans include both loans not collateralized and collateralized

which the proceeds for loans were deployed. For example, a business might borrow in one city and use the proceeds from that loan in any number of states. Even if loan disbursement or deployment could be determined precisely, other bank variables (e.g., delinquencies, ROA, etc.) cannot be allocated across states when a bank has interstate operations.

We dealt with these data challenges as follows. We allocated bank variables to the state of each bank's headquarters. As banks grew and were less regulated in their interstate operations, our allocation became less and less accurate. Our allocation procedure was, likely, far more accurate the smaller the bank or credit union and the smaller their interstate operations. Credit unions, in large part due to their smaller average sizes, were less subject to such inaccuracies. Particular challenges arose when there were changes in the state of headquarters for individual institutions and when there were mergers of institutions across state lines.

Consider, for instance, the effects of comparing the amounts of SBLs in two years (e.g., 2009 and 2010) when one bank that accounted for half of SBLs in one state merged into an out-of-state bank. In that case, the raw data would indicate, incorrectly, that SBLs in the first state had plummeted that year. To reduce such problems, we computed SBL growth rates for each state and year that were adjusted for mergers and for changes of state of headquarters. For each individual bank, we collected its SBLs for each year (e.g., 2010) and the sum of (1) its SBLs in the previous year (e.g., 2009) regardless of whether it changed its state of headquarters and (2) the SBLs (in 2009) in the banks that that bank acquired throughout the year (i.e., its targets) and that, thus, no longer reported data separately (in 2010), again regardless of the state of headquarters of each acquired bank. Then, for each year, we summed the SBLs in banks headquartered in each state (e.g., 2010) and the loans in those same banks and in their targets in the previous year (e.g., 2009), and computed, now merger-adjusted, growth rates.

Following this approach, we prevent our state-level time series from jumping upward solely as a result of banks' acquiring out-of-state banks, and from falling downward solely as a result of banks' being acquired by out-of-state banks. Armed with a time series of merger-adjusted growth rates for each state and year in 1987-2010, we worked backward from state-level SBLs in 2010 and constructed merger-adjusted amounts of SBLs at credit unions and banks for each state for each year during 1986-2010.

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by real estate, and excludes farm-related loans. The data presented in the appendix is not adjusted for interstate mergers or changes in the state of headquarters for banks between 1994 and 1986.

Results

In this section we report estimates of how much small business loans at credit unions tended to respond to changes in (i.e., additions or shocks to) business loans at banks. The estimated responses were based on the VARs that we described above. Each of the VARs included two loan variables: SBLs at credit unions and business loans at banks (both merger-adjusted), as well as a measure of bank conditions, and a measure of interest rates on loans. Although the VARs produced estimated responses of and to those last two variables, because they are of secondary interest here, we do not present them here. Since the loan variables were each scaled by the same variable (total bank assets), negative values of the responses indicate by how many dollars the SBLs at credit unions rose when loans at banks fell by one dollar. Thus, negative responses might be regarded as the extent to which SBLs at credit unions offset changes in business loans at banks over the ensuing years. In tables 2-6, each row presents estimated responses in years zero (i.e., immediately) through five, and the sum across all five years.[8]

Table 2 presents a baseline specification of the estimated responses of SBLs at credit unions to changes in business loans at banks, computed across 48 states and for our full 1989-2009 sample period. We used total business loans at banks instead of SBLs at banks in our baseline specification to be able to estimate responses over a longer sample (using credit union data since 1986) and to include one more recession than if we used SBL data at banks (available since 1994). Table 2 also presents the estimated responses of business loans at banks to changes in SBLs at credit unions. Table 3 compares the baseline specification across 48 states with estimated responses across four regions. Table 4 compares the baseline specification for 1989-2009 with estimated responses for several shorter time periods when the economy was stronger or weaker. Table 5 presents the estimated responses of SBLs at credit unions to changes in SBLs at small and all banks. Table 6 presents the estimated responses of SBLs at credit unions to changes in small, large, and all business loans at small banks.

[8] In tables 2-6, we display the sums across years of the actual unrounded responses. Due to rounding, those sums are not always equal to the sums of the rounded annual responses that we display in these tables.

A. Small Business Loans at Credit Unions: Responses to and Effects on Banks

Column 1 of Table 2 shows that credit unions tended to offset changes in business loans at banks somewhat. The estimated responses to a decline in bank business loans sum to -0.068 over the subsequent 5 years (see bottom row). Given the specification of the variables in our VARs, these estimates suggest that over this period, credit unions offered a "7-cent solution," i.e., SBLs at credit unions rose 7 cents per dollar of decline in business loans at banks. Of course, that offset is nowhere near being a complete, dollar-for-dollar offset. But, it seems plausible, given that SBLs at credit unions were only about 1 percent as large as business loans at banks and that total credit union assets were in the range of 5 to 10 percent of total bank assets during the 2000s.

Table 2: Responses of Business Loans at Credit Unions and at Banks, 1989-2009

Year	Responses of small business loans at credit unions to increases in business loans at banks (1)	Responses of business loans at banks to increases in small business loans at credit unions (2)
0	0.000	0.225
1	-0.020	0.106
2	-0.009	-0.191
3	-0.015	-0.145
4	-0.015	-0.123
5	-0.011	-0.063
Sum	-0.068	-0.190

Column 2 of Table 2 shows, in turn, how much business loans at banks declined after credit unions added SBLs. To the extent that the shocks to their business loans represent increased supply of SBLs at credit unions, the resulting increased competition would be expected to draw some borrowers from banks. These responses were considerably larger than those in column 1, summing to -0.190 after five years. These estimates suggest, for example, that an extra $100 million of SBLs at credit unions tended to reduce business loans at banks by $19 million. The net effect on business loans in that case would be an increase of $81 million.

B. Regions

Table 3 presents the estimated responses from the 48-state panel VAR (repeated from column 1 of Table 2) and those for each of four regions (South, Midwest, Northeast, and West). We used the regional classification for each state from the U.S. Bureau of Labor Statistics.[9] The responses show considerable differences across regions in the amounts that small business loans at credit unions offset the shocks to business loans at banks. The South had the largest offsets (-0.139), with cumulative responses that were about twice as large as the national average responses (-0.068). The Midwest had modest offsets. On the other hand, the Northeast and West had positive, but quite small, estimated responses, which might suggest that, rather than offsetting bank loans, SBLs at credit unions may have accentuated shocks to business loans at banks. Whether differences across these regions in the sectoral or size composition of their businesses were large enough to account for the differences in estimated responses shown in Table 3 remains an open question.

Table 3: Responses of Small Business Loans at Credit Unions to Increases in Business Loans at Banks: 48 States and Four Regions, 1989-2009

Years	48 States (1)	South (16 states) (2)	Midwest (12 states) (3)	Northeast (9 states) (4)	West (11 states) (5)
0	0.000	0.000	0.000	0.000	0.000
1	-0.020	-0.010	-0.010	-0.012	-0.011
2	-0.009	-0.024	-0.008	0.006	-0.003
3	-0.015	-0.043	-0.007	0.008	0.008
4	-0.015	-0.036	-0.005	0.014	0.013
5	-0.011	-0.027	-0.005	0.008	0.012
Sum	-0.068	-0.139	-0.035	0.023	0.019

[9] The South includes Alabama, Arkansas, Delaware, District Of Columbia, Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, Virginia, and West Virginia.
The Midwest includes Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, North Dakota, Ohio, South Dakota, and Wisconsin.
The Northeast includes Connecticut, Maine, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, and Vermont.
The West includes Alaska, Arizona, California, Colorado, Hawaii, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington, and Wyoming.
As we state above, we exclude Alaska, Delaware, and Wyoming from all our specifications.

C. Periods of Economic Strength and Weakness

Table 4 presents the responses for the entire 1989-2009 period (as in columns 1 above), along with estimates for five shorter time periods. These shorter time periods were chosen as being largely recessionary or economically weak (1990-1993, 2000-2002, and 2008-2009) or largely expansionary or economically strong (1994-1999 and 2003-2007). Since these time periods are shorter, we also provide a sum of estimated responses not only over the 0-5 year window used in Tables 2-3 (and 5-6), but also over a shorter 0-2 year window. This shorter window is likely more appropriate, especially for the shortest periods, since estimated responses in the fourth or fifth year would often fall outside of the period from which they were estimated.

Table 4: Responses of Small Business Loans at Credit Unions to Increases in Business Loans at Banks: Periods of Economic Strength and Weakness, 1989-2009

Years	1989-2009 (1)	1990-1993 (2)	1994-1999 (3)	2000-2002 (4)	2003-2007 (5)	2008-2009 (6)
0	0.000	0.000	0.000	0.000	0.000	0.000
1	-0.020	0.120	-0.213	0.043	0.013	-0.014
2	-0.009	0.085	-0.141	-0.186	0.006	0.010
3	-0.015	0.002	-0.050	0.167	0.010	0.004
4	-0.015	0.016	-0.046	-0.122	0.009	-0.003
5	-0.011	-0.006	-0.039	-0.784	0.009	-0.007
Sum for Years 0-2	-0.029	0.205	-0.354	-0.143	0.019	-0.004
Sum for Years 0-5	-0.068	0.217	-0.489	-0.882	0.047	-0.010

Credit unions were estimated to have (partially) offset changes in business loans at banks for many of these shorter time periods. During both the relatively prosperous latter 1990s and the recession that followed, the summed estimated responses over the 0- to 2-year windows were quite strongly negative (-0.354 and -0.143). In that regard, credit unions were then estimated to have been somewhat countercyclical to business loans at banks. On the other hand, the responses around the 1990-1991 recession were positive instead of negative.

Columns 5 and 6 of Table 4 present the responses for the periods of the 2000s credit bubble and of the financial crisis. During these periods there was little, if any, offset by credit unions to business loans at banks. Perhaps it is not surprising that we estimated smaller offsets during the 2000s than earlier. The 2000s were dominated by a boom and bust in real estate markets and loans (and in credit generally) that few forecasted or even could account for afterward. To the extent that the 2003-2007 period

was dominated by a large and widespread credit bubble, for which our VARs include no controls, we perhaps should not be surprised to see little evidence of offsetting loan declines at credit unions. Similarly, the disruptions of the financial crisis, again for which we have no controls in our VARs, likely overwhelmed many previously prevailing relations between the variables in our VARs. Thus, although we might not be able to explain either of them, the credit bubble and the financial crisis might each help to explain why the estimated offsets were so small in the latter 2000s.

D. Small Business Loans at Banks

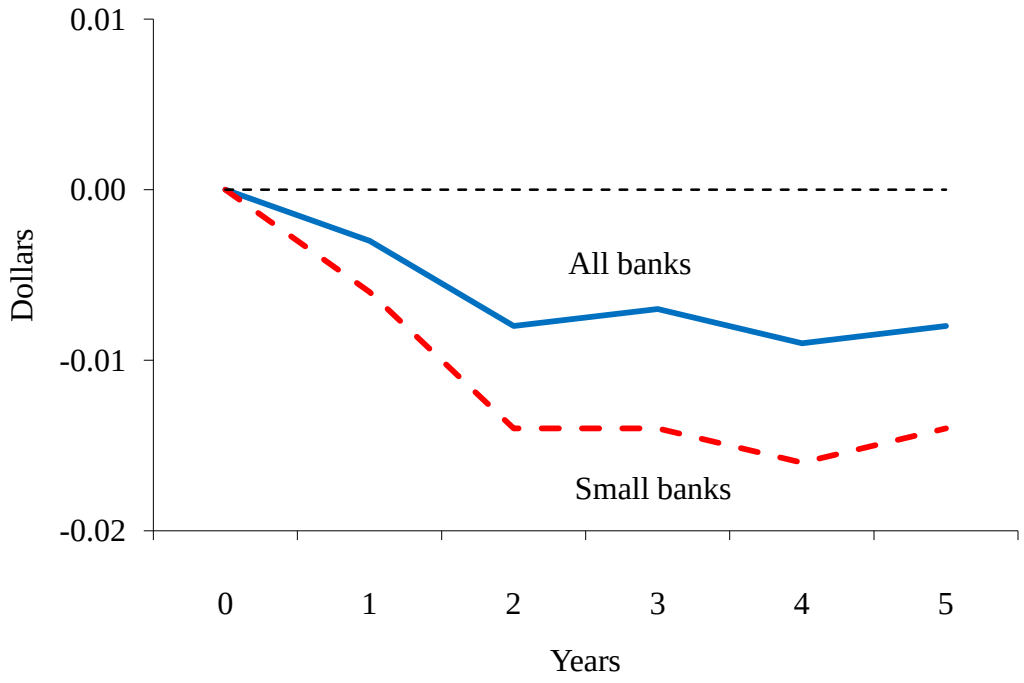
Table 5 focuses on responses of small business loans at credit unions to changes in SBLs at all banks and at small banks. Column 1 suggests that over this period, credit unions offered a "4-cent solution," i.e., SBLs at credit unions rose 4 cents per dollar of decline in small business loans at banks. Column 2 further suggests that, at 6 cents per dollar, the response was noticeably larger for declines in SBLs at small banks. Thus, credit unions tended to offset more of small banks' SBLs than they did of all banks' SBLs, and therefore of large banks' SBLs.

Table 5: Responses of Small Business Loans at Credit Unions to Increases in Small Business Loans at All Banks and at Small Banks, 1997-2009

Years	All banks (1)	Small banks (2)
0	0.000	0.000
1	-0.003	-0.006
2	-0.008	-0.014
3	-0.007	-0.014
4	-0.009	-0.016
5	-0.008	-0.014
Sum	-0.035	-0.063

The responses presented in Table 5 are depicted in Figure 7. Figure 7 shows that the offsets by credit unions fairly gradually accumulated in the years following a shock to SBLs at banks, being largest about four years after a shock.

Figure 7: Responses of Small Business Loans at Credit Unions to Increases in Small Business Loans at All Banks and at Small Banks, 1997-2009



E. Small Banks

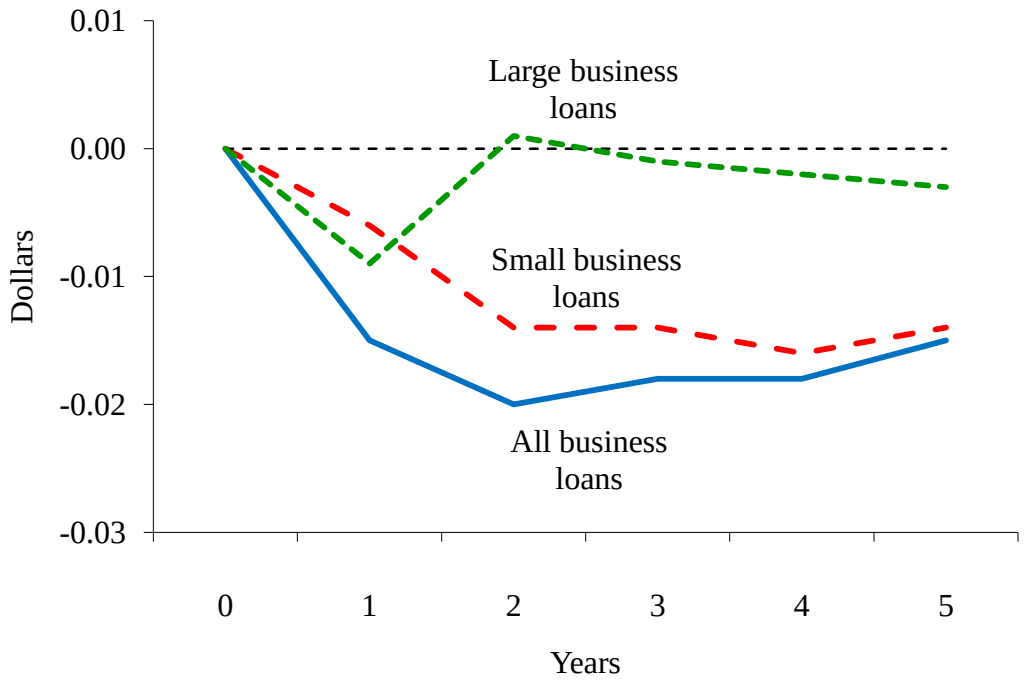
Table 6 provides another perspective on large and small business loans at small banks. (For convenience, column 2 repeats column 2 from Table 5, which showed a sizable offset by credit unions to changes in SBLs at small banks.) As shown in column 3 in Table 6, we barely detected any offset (-0.013) by credit unions to changes in large business loans at small banks. One reason for that result may be that few credit unions were willing to make large loans (i.e., over the $1 million ceiling for bank loans not to be reported as small in Call Reports). Nonetheless, the estimated offset by credit unions to changes in all business loans at small banks was noteworthy. Column 1 shows that the cumulative response over a five-year horizon was -0.085.

Table 6: Responses of Small Business Loans at Credit Unions to Increases in All, Small, and Large Business Loans at Small Banks, 1989-2009

Years	All business loans at small banks (1)	Small business loans at small banks (2)	Large business loans at small banks (3)
0	0.000	0.000	0.000
1	-0.015	-0.006	-0.009
2	-0.020	-0.014	0.001
3	-0.018	-0.014	-0.001
4	-0.018	-0.016	-0.002
5	-0.015	-0.014	-0.003
Sum	-0.085	-0.063	-0.013

Figure 8 plots the three response paths that are shown in Table 6. Figure 8 shows again that the effects on business loans tend to be rather long-lasting. By these estimates, even in the fifth year, the offsets continued at about the same strength as in the early years. Nonetheless, even then the sum of the offsets for all business loans was less than $0.10 per dollar.

Figure 8: Responses of Small Business Loans at Credit Unions to Increases in All, Small, and Large Business Loans at Small Banks, 1989-2009



Conclusion

This report estimated whether and how much small business loans at credit unions have offset shorter-run fluctuations in business loans at banks. We estimated that credit unions offset about $0.04 per dollar of fluctuations in SBLs at banks and about $0.07 per dollar of fluctuations in all business loans at banks. The "4-cent solution" and the "7-cent solution" are far from being complete, dollar-for-dollar offsets. Offsets of this size are quite large relative to the percentage of all business loans that are at credit unions. They are close, however, to the percentages of SBLs and of assets that are at credit unions.

In turn, the estimates indicate that developments that boost SBLs at credit unions tended to reduce business loans at banks. We present evidence that, on average, an additional dollar of SBLs at credit unions was associated with an ensuing reduction of about $0.20 in business loans at banks. A partial offset of that size to a $1 increase in the supply of SBLs by credit unions implies that business loans would increase by a net $0.80.

The estimated offsets varied in size across regions, across time, across bank sizes, and across loan sizes. The offsets by credit unions seemed considerably stronger in the South and the Midwest than they were in the Northeast or West. Because SBLs at credit unions have grown considerably relative to those at banks over the past two decades, the report also looked for evidence that credit unions' offsets have grown as well. The evidence was not clear cut. The evidence was more compelling that credit unions offset more of the fluctuations in business loans at small banks than at larger banks and that they offset more of the fluctuations in SBLs at banks than in larger business loans at banks.

Our results are pertinent to public policy. If credit unions can appreciably and increasingly offset fluctuations in banks' SBLs, potential small business borrowers should be made aware of this alternative source of loans. Similarly, credit unions perhaps should be included as alternative suppliers of SBLs when regulators assess the effects on market concentration and competition of bank mergers. In addition, regulators might consider the extent to which credit unions could otherwise offset fluctuations in business loans at banks when setting ceilings on business loans at credit unions. And small businesses might face better loan terms and availability if more credit unions recognized more opportunities for more SBLs.

From a policy perspective, the virtues of institutional, or at least performance, diversification are apparent. In the recent financial crisis, many lenders were deeply troubled. Their troubles apparently reduced their ability and willingness to make business loans, large or small. To the extent that increased credit union supply of SBLs offsets fluctuations in bank supplies of business loans, credit unions can help small businesses and reduce the cyclicality of their local economies.

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Appendix A: Regulation and Classification of Credit Unions' Member Business Loans

Regulation and legislation have drawn and redrawn the boundaries of what counts as credit union member business loans (MBLs) and what volume of MBLs credit unions may hold. In 1986, the directions for the 5300 form simply asked credit unions to identify the volume of commercial loans. From 1987 through 1991, the directions asked for commercial loans with face values (or their total per borrower) in excess of $25,000. In September 1991, NCUA regulations further increased the floor to $50,000 (effective 1992). By codifying in CUMAA the NCUA's earlier definition of MBLs, the Congress removed from the NCUA the ability to periodically adjust the $50,000 limit. By not adjusting it for inflation, the real value of the floor has fallen over time. Adjusting for inflation, the purchasing power of the $50,000 limit in 2010 is equivalent to that for a limit of about $34,000 in 1992.

Under section 107A(c) of the Federal Credit Union Act (as amended in 1998 by CUMAA), the term "member business loan"–

(A) means any loan, line of credit, or letter of credit, the proceeds of which will be used for a commercial, corporate or other business investment property or venture, or agricultural purpose; and

(B) does not include an extension of credit–

(i) that is fully secured by a lien on a 1- to 4- family dwelling that is the primary residence of a member;

(ii) that is fully secured by shares in the credit union making the extension of credit or deposits in other financial institutions;

(iii) … if it was made to a borrower or an associated member that has a total of such extensions of credit in an amount equal to less than $50,000;

(iv) the repayment of which is fully insured or fully guaranteed by, or where there is an advance commitment to purchase in full by, any agency of the Federal government or of a State, or any political subdivision thereof; or

(v) that is granted by a corporate credit union … to another credit union.

CUMAA also capped the amount of MBLs that credit unions could hold at the lower of 1.75 times a credit union's net worth (or capital) and 12.25 percent of total assets (12.25 percent equals 1.75

times the 7 percent lower bound net worth requirement for credit unions to qualify as well capitalized). Under CUMAA (and related NCUA regulations), the following credit unions are exempt from the MBL cap: (1) low-income credit unions, (2) credit unions formally set up for the purpose of making member business loans, and (3) credit unions that had large holdings of MBLs (e.g., in excess of 25 percent of loans) in 1995-1998.

Appendix B: Business Loans: Credit Unions and Banks, 1994 and 2010 ($ millions)

	1994			2010		
	Credit unions	Commercial banks		Credit unions	Commercial banks	
		Small business loans	All business loans		Small business loans	All business loans
United States	1,956	258,694	988,273	36,797	565,932	2,553,695
Alabama	7	5,265	14,644	438	17,419	78,423
Alaska	13	855	1,518	369	609	1,859
Arizona	19	1,812	6,302	588	2,140	6,967
Arkansas	1	2,452	5,717	4	6,393	20,084
California	187	22,811	107,349	8,089	29,079	147,751
Colorado	15	3,176	7,330	475	4,944	16,027
Connecticut	6	2,861	8,387	90	2,527	7,931
Delaware	0	1,245	5,558	3	30,858	125,969
District Of Columbia	16	438	1,548	10	187	639
Florida	13	13,206	39,270	1,171	11,874	42,165
Georgia	23	7,966	30,041	741	23,422	89,033
Hawaii	24	1,341	7,568	407	1,158	7,737
Idaho	3	1,349	2,844	72	1,260	2,497
Illinois	42	15,987	58,692	889	23,825	89,526
Indiana	54	6,651	15,368	1,078	8,066	19,229
Iowa	26	2,915	6,599	619	7,263	17,058
Kansas	12	2,756	6,406	109	5,121	15,720
Kentucky	1	4,268	11,457	127	6,827	16,756
Louisiana	7	3,374	8,326	107	6,964	22,286
Maine	19	1,421	2,714	157	846	1,823
Maryland	6	4,353	22,148	318	3,712	10,681
Massachusetts	115	5,328	31,904	1,157	2,324	8,128
Michigan	33	11,330	38,142	1,010	9,968	19,717
Minnesota	25	6,310	15,115	537	10,420	20,719
Mississippi	0	2,003	5,708	36	7,050	20,998
Missouri	10	6,295	18,915	268	12,786	39,207
Montana	11	524	1,602	424	3,409	7,411
Nebraska	4	1,932	4,325	99	4,460	12,796
Nevada	40	984	2,660	284	5,225	162,903
New Hampshire	36	870	1,421	163	609	1,510
New Jersey	19	9,700	24,395	358	6,566	23,315
New Mexico	3	1,518	2,986	244	2,421	7,008
New York	586	15,129	193,201	4,013	15,499	81,767
North Carolina	72	8,509	33,925	848	49,816	313,269
North Dakota	15	780	1,648	178	3,259	8,002
Ohio	18	11,543	36,270	597	54,207	327,965
Oklahoma	8	3,013	7,505	277	7,096	24,437
Oregon	40	2,584	9,290	906	4,021	11,717
Pennsylvania	28	14,312	49,237	679	14,399	44,092
Rhode Island	56	1,025	4,629	236	3,826	25,049
South Carolina	36	3,865	9,031	60	7,364	11,449
South Dakota	4	1,457	2,991	101	45,292	264,256
Tennessee	26	5,873	14,733	650	9,531	29,806
Texas	45	12,913	45,680	2,021	28,105	119,130
Utah	54	1,406	3,819	1,248	21,761	58,271
Vermont	1	1,141	1,893	137	570	1,118
Virginia	25	5,862	17,995	748	15,434	83,366
Washington	56	5,760	16,917	1,371	6,549	20,045
West Virginia	9	2,059	4,048	75	3,097	8,328
Wisconsin	87	7,697	17,403	2,159	15,424	55,759
Wyoming	0	469	1,100	55	951	1,997

Sources: Federal Reserve Bank of Chicago, NCUA.

Note: Values in this table are for institutions headquartered in each state. The changes between 1994 and 2010 in this table are not adjusted for interstate mergers between those dates.