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The effect of mergers on credit union performance

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ABSTRACT

The motivation for mergers in the credit union industry differs from the commercial bank industry due to the lack of residual claimants to benefit from wealth gains. In the cooperative ownership environment of credit unions, the owners/members gain utility via the rates offered for loans and deposits. Credit union regulators also gain utility when mergers remove risky credit unions from the industry. We measure these utility gains using the event study method of Bauer [Bauer, K., 2008. Detecting abnormal credit union performance. Journal of Banking and Finance 32, 573–586] employing quadrant tests based on a multivariate test of equality of centroids. We find gains to the owners/members of the target credit union and to the regulators but not to the acquiring firm. We posit that the acquiring credit unions may encounter regulatory pressure to merge. In addition, the owners/members of the acquiring firm may avoid potential disutility in the cooperative insurance environment were the target firm allowed to fail.

1. Introduction

Cooperative lending institutions are important components of modern financial markets. Data from the World Council of Credit Unions for 2007 shows 18.5% of the global working age population are members of credit unions.[1] The European Association of Co-operative Banks estimates that co-operative banks held a 39% share of the Dutch deposit market, 35% of the Austrian deposit market, 37% of the Finnish deposit market, and 16% of the German deposit market in 2006. Prior researchers have documented the importance of credit unions in various countries.[2]

The World Council of Credit Unions data indicates that in 2007 credit unions in the United States served 43.4% of the working age population. While US credit unions account for only 10% of deposits, they boasted 86 million members in 2006, representing 29% of all Americans as owners/customers.[3] And even this figure may underestimate the penetration of credit unions in the American financial services industry. Using data from the 2001 Survey of Consumer Finance, 35% of all American households utilized credit unions.[4]

The biggest difference between co-operative lending institutions and commercial banks is the contractual relationship with investors. Although members of credit unions are technically the residual claimants, they demand no return on equity capital. Their return is a function of how their deposit rates and lending rates differ from those offered by competing institutions in the market. The absence of highly leveraged equity investors could offer a stark contrast to the way investment projects are evaluated among depository institutions.

Like most depository institutions, credit unions have experienced consolidation in recent years. At the end of 1994, there were 11,992 federally insured credit unions. Ten years later there were 9012. The trend has continued; on January 1, 2007 there were 8362 credit unions. During the 10-year period from January 1, 1995 to December 31, 2004, 3101 federally insured credit unions merged with other institutions, representing more than one quarter of the credit unions at the beginning of that period.

In this paper, we are interested in the motivations for such high merger activity. Among banks, the existence of leveraged equity owners is central to merger decisions. Ultimately, when managers are acting in owners' best interests, they attempt to maximize

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[1] Our thanks to an anonymous referee for the World Council of Credit Unions data.

[2] See, for example, McKillop (2005) and Westley and Shaffer (1999). The importance of cooperative credit institutions to European economies is further explained by Goddard et al. (2007).

[3] According to Credit Union Report Year-End, 2006, Credit Union National Association, p. 11.

[4] Calculated by the authors using the SCF data from 2001 and the revised consistent weights in the SCF.

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shareholder wealth. However, potential agency problems might provide an incentive for managers to undertake mergers at costs to shareholders if the interests between managers and shareholders are not properly aligned. As such, researchers have categorized general motivations behind merger decisions in any industry into synergy, hubris and agency.[5] But in a cooperative environment, the motivations to merge still are not fully established. Studies continue to attempt to understand mergers in the credit union industry in the United States. Earlier researchers explored factors leading to merger, and efficiency gains experienced by merging. Many used Australian data, which includes far fewer observations than are available using US data.

In this study, we explore three groups with the potential to benefit from the merger. First, the members of the target institution could benefit from the merger as evidenced by improved savings and lending rates. Second, the members of the acquiring institution might benefit also as evidenced by improved savings and lending rates. Finally, the insurance fund (and hence the regulators) might benefit from folding a risky institution into a larger healthier institution as evidenced by improved CAMEL ratios. Unlike the FDIC, the National Credit Union Share Insurance Fund manages a co-insurance fund for credit unions (discussed further at Section 2.2). Therefore, this insurance setting for credit unions creates an inherent benefit to save failing members through mergers. We employ an event study methodology and one quadrant tests as proposed by Bauer (2008) based on a multivariate test of equality of centroids.

This paper contributes to the current literature in at least three ways. First, this research focuses on the underlying factors motivating credit union merger activities. We find little or no corroborating evidence to support the improved efficiency hypothesis proposed by prior research. We posit self-interest on the part of three stakeholders and find improved performance to two of the three, and explain why the third stakeholder might participate despite the absence of observable improvement. Second, this study focuses on improved performance to stakeholders, not merely improved efficiency. Third, this study examines merger activity from 1994 through 2004, thus allowing for a large sample size.

Our results are consistent with the unique nature of equity capital in the credit union industry. Without a set of highly leveraged equity investors benefiting from a change in the value of the firm, we hypothesize that healthy firms will not be actively seeking merger activity. We find that the target credit union improved its performance following mergers, while no significant improvement in performance was shown by the acquiring credit union. To support our hypothesis of the regulatory motivations in credit union mergers, we find that the financial stability of the merged credit union significantly improved.

The remainder of the paper is organized as follows: Section 2 reviews the relevant literature. Section 3 describes our procedure for calculating performance changes following mergers and provides the sample generation process. Section 4 provides the empirical results, and Section 5 concludes the paper.

2. Literature review[6]

Credit unions are cooperative credit institutions, borrowing funds from one set of members/owners and lending those funds to others, seeking to benefit both sets of owners by offering below market loan rates and above market deposit rates. As these benefits to owners grow, the credit union tends to attract more members. Regulators established firm reserve (capital) ratios, which act as a constraint to asset growth. The only way for the credit union to grow its reserves is through retained earnings. Reserve constrained institutions are therefore required to widen their margins to increase reserves retained, thereby acting more like profit maximizing depository institutions, and slowing growth until capital is sufficiently large to justify growth.

For most credit unions, growth is desirable, since there appear to be economies of scale. An alternative way for credit unions to grow, and thereby take advantage of economies of scale, is through mergers. In examining whether mergers improve efficiency, the answer seems mixed. For members of the acquired institution, efficiency tends to improve.[7] For the acquiring credit unions, efficiency changes little.[8] Overall, industry efficiency appears to improve post-merger.[9]

2.1. Econometrics of credit unions

To date, most research on how mergers affect credit union performance relied upon data envelopment analysis (DEA), which measures how efficiently the institution converts inputs into outputs. Fried et al. (1993) and Fried and Lovell (1994) present DEA methods tailored to credit unions, and apply these techniques to determine the impact of mergers on efficiency. Glass and McKillop (2006) employ a stochastic frontier analysis as another means of measuring efficiency changes in credit union operations.[10] None of these studies consider the role of the regulator or the possible distressed state of the institutions involved, a shortfall highlighted by Koetter et al. (2007).

A potential caveat of employing DEA methods to test the improved efficiency is that they might not test the theoretical objective function of the credit union members. The members/owners of the credit union gain utility via higher deposit rates and lower lending rates, not simply improved efficiency. Efficiency improvements can either be plowed into reserves or expropriated by management. As an effort to reflect the cooperative nature of the credit union industry, Bauer (2008) shows that measures of deposit yields and loan rates used together in a bivariate event study methodology and/or a non-parametric test are both well specified and powerful. This methodology also directly tests whether the members/owners obtain utility gains.

2.2. Credit union specific control variables

Certain quirks in the credit union industry must be taken into consideration when considering the effect of mergers on the performance of the credit union. Acquiring institutions may merge even if there appears to be little improvement in performance post-merger to avoid a failed credit union. Unlike the FDIC, the National Credit Union Share Insurance Fund (NCUSIF) is a co-insurance fund. As Kane and Hendershott (1996, p. 1312) explain, ‘‘All institutions insured by NCUSIF are jointly and severally responsible without limit for curing any shortage the fund might develop.”[11] With this added responsibility for other institutions, it might appear cheaper to merge with troubled credit unions than to let them fail. In

[5] For further discussion, see Copeland et al. (2005).

[6] For a more complete bibliography of foundational research in credit unions, see Bauer (2008).

[7] Fried et al. (1999).

[8] Fried et al. (1999), Garden and Ralston (1999), and Ralston et al. (2001).

[9] Worthington (2001).

[10] For a more extensive discussion of the application of efficiency testing methodologies see Worthington (2008).

[11] It should be noted that such a shortage developed in 2008. The January 2009 NCUA Letter to Credit Unions No. 09-CU-02 to federally insured credit unions states that expenses will result in ‘‘the average credit union absorbing a total 62 basis point decline in the return on assets and a total 56 basis point reduction in the net worth ratio.”