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ABSTRACT

Community banks have long played an important role in the U.S. economy, providing loans and other financial services to households and small businesses within their local markets. In recent years, technological and legal developments, as well as changes in the business strategies of larger banks and non-bank financial service providers, have purportedly made it more difficult for community banks to attract and retain customers, and hence to survive. Indeed, the number of community banks and the shares of bank branches, deposits, banking assets, and small business loans held by community banks in the U.S. have all declined substantially over the past two decades. Nonetheless, many community banks have successfully adapted to their changing environment and have continued to thrive. This paper uses data from 1992 through 2011 to examine the relationships between community bank profitability and various characteristics of the banks and the local markets in which they operate. Bank characteristics examined include size, age, ownership structure, management quality, and portfolio composition; market characteristics include population, per capita income, unemployment rate, and banking market structure. We find that community bank profitability is strongly positively related to bank size; that local economic conditions have significant effects on bank profitability; that the quality of bank management matters a great deal to profitability, especially during times of economic stress; and that small banks that make major shifts to their lending portfolios tend to be less profitable than other small banks. Variables within managers' control account for between 70 percent and 96 percent of the total explanatory power of equations explaining variations in performance across community banks.

Keywords: banking; community banks; bank profitability; management quality

JEL Codes: G00, G11, G21, G32

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Introduction

Community banks have long played an important role in the U.S. economy, providing loans and other financial services to households and small businesses within their local markets. In recent years, technological and legal developments, as well as changes in the business strategies of larger banks and non-bank financial service providers, have purportedly made it more difficult for community banks to attract and retain customers, and hence to survive. Indeed, the number of community banks and the shares of bank branches, deposits, banking assets, and small business loans held by community banks in the United States have all declined substantially over the past two decades. Nonetheless, many community banks have successfully adapted to their changing environment and have continued to thrive. As of year-end 2012, there were still nearly 6,000 banks with less than $1 billion in assets (a standard criterion for defining the term "community bank") operating in the United States.

The recent U.S. financial crisis took a heavy toll on community banks. Since the beginning of 2008, nearly 500 depository institutions have failed, with the vast majority of them being community banks; and as of June 30, 2013, several hundred community banks remained on the Federal Deposit Insurance Corporation's (FDIC's) problem institution watch list.[1] The costs of even a small bank failure extend beyond the scope of the bank's owners and the FDIC insurance fund. Most notably, a bank's failure disrupts its customers' banking relationships. Banking relationships are particularly important to small business customers, who generally do not have access to the broader capital markets, and for whom credit extension is often based on private information acquired through repeated interactions over time. Furthermore, because small businesses typically obtain many of their financial services from local banks, they may have few alternatives available if their existing bank disappears. Households also tend to obtain some types of financial services (e.g., checking accounts, savings accounts, and some types of consumer loans) from local banks. As such, they too may face limited options in the event that their existing bank fails. Finally, bank failures can have significant and long-lasting effects on market structure, and hence the competitive environment, in local banking markets.

The purpose of this research is to explore the factors associated with differences in performance among small banks. Potential causes of differences in small bank performance can

[1] The FDIC defines problem institutions as "those institutions with financial, operational, or managerial weaknesses that threaten their continued financial viability." FDIC Quarterly Banking Profile, 2010, Volume 4, No. 1, p. 26.

be divided into two broad categories: those that are exogenous to the control of bank managers and those that reflect the decisions or actions of bank management. Because small banks tend to have portfolios concentrated in a small geographic area, a substantial downturn in the local economy can have a serious adverse effect on bank performance, regardless of the ability of bank management to make good loans and run an efficient organization; conversely, a booming economy may allow even poorly run banks to prosper. Nonetheless, bank managers clearly have the potential to influence the performance of the organizations they manage through their decisions regarding the composition and size of the bank's balance sheet and the quality of their oversight of the bank's operations. Past research has little to say about the extent to which small bank performance is affected by economic factors beyond banks' control versus the actions of bank management.[2] In an attempt to begin to fill this gap in the literature, this paper examines the determinants of differences in small bank performance over the period from 1992 to 2011.

We find that community bank profitability is strongly positively related to bank size; that local economic conditions have significant effects on bank profitability; that the quality of bank management matters a great deal to profitability, especially during times of economic stress; and that small banks that make major shifts to their lending portfolios tend to be less profitable than other small banks. Variables within managers' control account for between 70 percent and 96 percent of the total explanatory power of equations explaining variations in performance across community banks.

The remainder of the paper is organized as follows: Section 1 reviews the previous literature examining differences in performance among small banks and between small and large banks. Section 2 presents the empirical model to be estimated and section 3 describes the data used in our analysis. Section 4 discusses results and section 5 briefly describes our conclusions.

1. **Previous Research**

Much more research has examined the differences in performance between small banks and large banks than has examined the differences among small banks. This literature defines "small banks" or "community banks" in a variety of ways, but most commonly it uses total

[2] Kupiec and Lee (2012) provide some evidence on this point.

assets to measure size, and the most common asset size cutoff for small banks is $1 billion.[3] This cutoff counts the great majority (91 percent, as of year-end 2012) of all banks in the United States as small banks, but these banks collectively hold only about 11 percent of domestic banking assets.

Performance Differences among Small Banks

One result found in multiple studies is that the very smallest banks underperform other community banks, where performance is measured by return on assets, return on equity, risk-adjusted profits or an efficiency ratio. (See, for example, Barrett and Brady, 2001; DeYoung, Hunter and Udell, 2004; FDIC, 2012; Hein, Koch and MacDonald, 2005; Kupiec and Lee, 2012; Stiroh, 2004; Whalen, 2007.) Some of these studies restrict their samples to banks that have been in existence for at least a decade, so this result cannot be attributed to the typically low profitability of new banks. Rather, the poorer profitability of the smallest community banks (defined as those under $100 million in assets) is generally attributed to operation at less-than-efficient scale.

Another result found in more than one previous study is that an institution's geographic concentration in one local market does not seem to adversely affect bank performance. Yeager (2004) finds that small banks located solely in markets that have suffered major adverse economic shocks in the 1990s perform nearly as well as small banks in other markets, where a major economic shock is defined as an increase in the local unemployment rate of at least 4 percentage points in one year. Although this result may hold on average in more normal times, the recent economic crisis resulted in numerous bank failures in markets that suffered major declines in real estate values. Emmons, Gilbert and Yeager (2004) simulate bank mergers and find substantial potential for risk-reduction benefits from an increase in bank scale, but not from an increase in geographic scope. Zimmerman (1996) finds that small banks with more branches have a larger proportion of problem loans and lower return on assets than more geographically restricted small banks. Stiroh (2004) finds few diversification benefits for small banks across

[3] Some research uses $500 million in assets as the cutoff between small (or community) and large banks, and a few papers use even smaller levels, such as $300 million or $400 million, but these lower cut-offs usually refer to assets from the 1990s or earlier. Two papers by Barrett and Brady (2001 and 2002) use definitions that are not based on a specific size, defining community banks as all commercial banks other than the 1000 largest; this translated into banks under about $330 million in assets at the time of these studies.

broad activity classes, but some within lending and noninterest activities. He concludes that small banks should diversify within their areas of expertise, because that could lead to economies of scale.

Among small banks, loan charge-off rates increase with size, despite the presumed greater diversification in the portfolios of larger community banks, according to both DeYoung, Hunter and Udell (2004) and Hein, Koch and MacDonald (2005). Whalen (2007) classifies small banks into different strategic groups based on the composition of their loan portfolios and finds that changes in lending strategies tend to lower bank profitability relative to small banks that maintain a consistent lending focus over time. He finds that banks specializing in business real estate have the highest rates of return, but that other banks have higher risk-adjusted returns; the first result might change if the recent recession were included in the sample period. Kupiec and Lee (2012) find that specializing lending in any one area reduces return on assets, as does increased use of brokered deposits and other high-cost sources of funds. They find that a high loans-to-assets ratio increases profitability, but that a rapid increase in loans lowers profitability. DeYoung (1999) finds that bank age influences the risk of small bank failure, with banks most likely to fail when three to five years old, after their initial capital is depleted and before profits have grown to sustainable levels.

Hannan and Prager (2009) consider the relationship between the profitability of community banks that operate primarily within a single geographic banking market and the geographic scope of their rivals. Small single-market banks that operate in rural markets where a greater share of market branches are owned by competitors who conduct most of their banking business outside of that local banking market are found to be more profitable, on average, than other small banks. In addition, an increased presence of competitors who conduct most of their banking business in other geographic markets leads to an attenuation of the positive relationship between market concentration and profitability. The latter result is attributed to the likelihood that the pricing policies of multi-market banks are not as tied to local conditions as are the pricing policies of single-market banks. No similar results are found in urban markets, which generally have a much larger number of competitors than rural markets.

In a unique study comparing community banks that thrived through the recent recession to community banks that suffered downgrades in their supervisory ratings, Gilbert, Meyer and

Fuchs (2013) find that maintenance of conservative lending principles is one common factor among thriving banks. Beyond this commonality, however, successful community banks follow a variety of business plans tailored to their local communities. The benefits of basic, conservative banking are also noted in FDIC (2012), which finds that many community banks that switched lending strategies – often in search of growth opportunities – subsequently suffered financial setbacks.

Behavior and Performance Differences between Small and Large Banks

In contrast to the rather limited research on differences among small banks, there is a substantial literature on differences in behavior and performance between small and large banks. Compared to large banks, small banks, on average, grow faster; rely more heavily on core deposits; have higher capital ratios; have lower return on equity but not necessarily lower return on assets; and have fewer credit card loans and fewer securitized loans, but more small business and agricultural loans. (See, for example, Barrett and Brady, 2001; Barrett and Brady, 2002; and DeYoung, Hunter and Udell, 2004.) Berger, Miller, Petersen, Rajan and Stein (2005) find that large banks tend to lend at larger distances and for shorter terms than small banks, while small banks are more likely to lend to credit-constrained firms and to be the exclusive lenders to small borrowers. Ely and Robinson (2001) show that, over time, large banks have competed increasingly with small banks for the smallest business loans, probably due to the increased use of credit scoring. An extensive FDIC (2012) report finds that community banks are more dependent on net interest margin than larger banks; larger banks have both higher non-interest income and non-interest expenses than community banks, but the former difference tends to be larger, as reflected in lower expense ratios for larger banks.

Despite all of these differences in behavior, Clark and Siems (2002) find little difference in measured average efficiency between small and large banks after accounting for the effect of off-balance-sheet items.[4] This paper, like some other research, finds that differences in efficiency among banks of a given size far exceed differences in either costs or profits due to variation in firm size or scope; Berger, Hunter and Timme (1993) review this literature. A

[4] Note that most of the literature measures efficiency for traditional commercial banking products and does not consider economies of scale in, e.g., securitizations or investment banking activities. Clark and Siems (2002) attempt to account for such activities by including direct or indirect measures of noninterest income that arises from off-balance-sheet activity.

Group of Ten (2001) report reviews a number of studies from several countries that find that economies of scale in banking are significant, but are exhausted at a very small firm size, in the range of $100 million to $300 million in assets. Other research reviewed by Berger, Dick, Goldberg and White (2007), however, finds that significant economies of scale in banking persist well beyond this point, with the minimum point of the average cost curve estimated to be in the vicinity of $10 billion in assets, or even as high as $25 billion. The dramatic variation in findings across studies is attributable to several factors, including differences in the time periods and geographic areas covered, differences in sampling approaches, and differences in methodologies. Papers using data from the 1990s typically find greater scale economies than those using data from the 1980s. Some studies under-sample small banks in order to focus on differences among the largest banking organizations; these studies may fail to discern cost differences – or the lack of such differences – among community banks. Studies also differ in their methodology, with some research estimating complex functional forms and other work using distribution-free estimation methods.

A considerable body of research focuses on the different roles that community banks and larger banks play in the provision of credit to small businesses. One strand of this research focuses on the consolidation that has occurred in the U.S. banking industry over the past 25 years and its implications for small business credit availability. A number of studies examining the effects of bank size on the supply of small business credit, including Berger, Kashyap and Scalise (1995), Strahan and Weston (1996) and Keeton (1995), find that larger banks tend to allocate a smaller portion of their assets to small business lending than do smaller banks. Berger, Saunders, Scalise and Udell (1998) and Strahan and Weston (1998) focus specifically on bank consolidation and find that the ratio of small business loans to assets declines following mergers and acquisitions. Berger, Saunders, Scalise and Udell (1998), Avery and Samolyk (2004) and Berger, Bonime, Goldberg and White (2004) have found evidence that the potential reduction in small business lending following mergers is mitigated in local markets by other banks expanding their supply of small business credit and by the creation of *de novo* banks in the affected markets.

Another strand of research focuses on identifying differences between the production technologies used in small business loan underwriting by community banks and those used by larger banks and empirically measuring the importance of firm-lender relationships for the

provision of credit to small businesses. The hypothesis underlying this research is that relationships are more important to community banks than to larger banks. Relationship lending is defined as a technology dependent on the process of acquiring "soft" (qualitative) information that is gathered by the loan officer through interactions with the firm, its owner, and the community. Stein (2002) and Berger and Udell (2002) argue that large, hierarchical organizations are better able to deal with "hard" (quantitative) information than soft information because hard information can more easily be transmitted up through the various levels of hierarchy than can soft information. A number of empirical studies, including Petersen and Rajan (1994, 1995), Berger and Udell (1995), Cole (1998), Berger, Miller, Petersen, Rajan and Stein (2005) and Cole, Goldberg and White (2004), find that relationships are important determinants of credit availability for small businesses. Most of this research uses data from the Federal Reserve Board's Survey of Small Business Finances, which was last conducted in 2003.

A final group of relevant studies attempts to determine whether large banks face a disadvantage in lending to small businesses in general or to opaque small businesses in particular. Berger, Rosen and Udell (2007) find that the probability of a small business borrowing from a bank in a particular size class does not decline with bank size, but is roughly proportional to the market share of that size class. Several studies, including Berger, Rosen and Udell (2007), Jayaratne and Wolken (1999) and Prager and Wolken (2008) find that the most opaque small businesses (i.e., very young firms, very small firms, or firms with poor credit histories) are no less likely to obtain credit products from large banks than are more transparent small businesses. These results suggest that small banks do not hold a comparative advantage in lending to small businesses or to opaque small businesses.

2. Empirical Model

We begin by examining the relationship between community bank profitability and various bank and market characteristics, over the period from 1992 through 2011. Because of the very different character of urban and rural markets, we estimate our model separately for the two types of markets. We estimate separate equations for each of four five-year time periods – 1992-1996, 1997-2001, 2002-2006 and 2007-2011– in order to allow for changes over time in the model parameters while keeping the number of equations manageable. Within each period, we pool annual observations for each bank. These groupings divide the 20 years covered into

four distinct periods with regard to community bank earnings: a period of stability from 1992 to 1996; a period of moderate decline from 1997 to 2001; a return to stability from 2002 to 2006; and a period of dramatic decline followed by partial recovery from 2007 to 2011. We also estimate a separate cross-sectional equation for each year during 2007-2011 so that we can more closely examine the factors affecting community bank profitability during and after the recent financial crisis.

Our basic model is of the form:

$$\begin{aligned}\pi_i = {} & \beta_0 + \beta_1 \ln POP_i + \beta_2 PCI_i + \beta_3 UNEMP_i + \beta_4 HHI_i + \beta_5 MS\_COMM_i \\ & + \beta_6 YRS\_DEREG_i + \beta_7 AGE_i + \beta_8 \ln ASSETS_i + \beta_9 MGT\_RATING_i \\ & + \beta_{10} SCORP_i + \beta_{11} RE\_LOANS_i + \beta_{12} CONSTR\_LOANS_i + \beta_{13} C\&I\_LOANS_i \\ & + \beta_{14} CNSMR\_LOANS_i + \beta_{15} BROKERED\_DEP_i + \beta_{16} BIG\_SHIFT_i + \varepsilon_i .\end{aligned} \quad (1)$$

The model is estimated using OLS with robust standard errors, allowing correlation among the error terms for an individual bank. π_i is a measure of bank *i*'s profitability in the year under consideration. We employ two different measures of profitability – return on equity (ROE) and return on assets (ROA). The two sets of results are generally quite similar, so we report only the former in our tables and highlight those occasions when the two profitability measures yield different results.

Right-hand-side variables can be grouped into two categories: those that are outside the control of bank management and those that are affected by managerial decisions and behavior. Exogenous factors include market characteristics (demographics, banking market structure, and regulatory history) and firm age. Demographic variables included in our model are the natural logarithm of market population (*ln POP*), per capita income for the market (*PCI*), and the annual average of the monthly unemployment rate for the market (*UNEMP*). Banking market structure is captured by two variables: the deposit-based Herfindahl-Hirschman Index (*HHI*)[5] and the share of market deposits held by community banks, excluding the deposits of the observed bank (*MS_COMM*). *YRS_DEREG* indicates the number of years since the state in which the bank is

[5] The HHI is the sum of squared deposit market shares, divided by 10,000 to yield a value between zero and one.

located removed restrictions on intrastate branching.[6] *AGE* is the number of years since the bank opened.

Factors that may be affected by bank managers' decisions and actions include firm size, management quality, organizational form, and portfolio composition. Bank size is measured by the natural logarithm of total banking assets (*ln ASSETS*); management quality is measured by the management component of the bank's most recent CAMELS rating (*MGT_RATING*);[7] and organizational form is accounted for with *SCORP*, a dummy variable equal to one if the firm is an S-corporation.[8] The portfolio composition variables reflect the shares of the bank's total loans that are (i) secured by real estate (*RE_LOANS*), (ii) used to fund construction projects (*CONSTR_LOANS*), (iii) commercial and industrial loans (*C&I_LOANS*) and (iv) consumer loans (*CNSMR_LOANS*); and the share of the bank's total liabilities accounted for by brokered deposits (*BROKERED_DEP*). We also include a variable (*BIG_SHIFT*) that indicates whether at least one of the four loan shares included in the estimated equation has changed by more than 10 percentage points over the previous three-year period.

We have no prior expectations regarding the signs of the coefficients on *ln POP* or *PCI*. The unemployment rate is expected to have a negative correlation with bank profitability. We expect banks in more concentrated markets to be more profitable and banks in markets in which they face more small-bank competitors and fewer large bank competitors (i.e., markets with higher values of *MS_COMM*) to have lower profits than banks that face less competition from firms that are similar to themselves.[9] Other research has found surprisingly strong lingering effects on bank profitability from state restrictions on geographic expansion of banks. These restrictions limited the amount of competition faced by banks within their local markets. We expect a negative coefficient on *YRS_DEREG* because a higher value of this variable would

[6] For small banks, intrastate branching restrictions are more relevant than interstate banking laws, because most interstate acquisitions are by large banking organizations targeting other large banking organizations.
[7] Bank supervisors employ a five-point system known as CAMELS to rate the safety and soundness of their banks, with 1 being the best rating and 5 being the worst. Ratings are assigned for each of six components (Capital, Assets, Management, Earnings, Liquidity, and Sensitivity to market risk), and the six components are then combined to generate a composite rating for the bank.
[8] An S corporation generally does not pay corporate income taxes on its profits; rather, the shareholders pay income taxes on their proportionate shares of the corporation's profits. As a result, S-corporation status is related to firm profitability. Banks were first permitted to become S corporations in 1997.
[9] The latter expectation is supported by the work of Adams, Brevoort and Kiser (2007), Cohen and Mazzeo (2007), Hannan and Prager (2004) and Kiser (2004), among others.

indicate that banks in that state have had more time to adjust to the removal of legal restrictions on competition. We expect that older firms that remain under $1 billion in assets are likely to be poorly run firms or located in markets where growth (and profit) opportunities are limited. This censoring of our sample, in which successful firms grow out of the sample, should result in a negative coefficient on bank age.

Most research on scale economies in banking finds such economies for small banks up to a level of assets ranging from $100 million to $25 billion, so that at least some of the smaller banks in our sample should be below minimum efficient scale; as a result, we expect a positive correlation between firm size and firm performance. We expect the coefficient on *MGT_RATING* to be negative, as higher values of this variable indicate lower management quality. S-corporations should be more profitable than other banks purely for accounting reasons, as S-corporations shift taxes from the bank to the individual owners of the bank.

We have no prior expectations regarding the signs of the coefficients on the loan portfolio share variables (*RE_LOANS*, *CONSTR_LOANS*, *C&I_LOANS* and *CNSMR_LOANS*), and expect that they might vary over time. With regard to *BIG_SHIFT*, the indicator that the bank has made a substantial change in the composition of its loan portfolio over the past 3 years, we expect a negative coefficient based on the view that community banks tend to be most profitable when they stick to familiar activities. Finally, we expect the measure of brokered deposits to have a negative coefficient, because such deposits tend to be more expensive than core deposits.

3. Data

Our sample covers the period from 1992 through 2011 and is restricted to community banks. We define a community bank as a bank or thrift that (i) belongs to a banking organization with less than $1 billion in total banking assets (measured in constant 2005 dollars), and (ii) derives at least 70 percent of its deposits from a single local banking market. The latter condition allows us to tie the bank to a particular local market, and to assume that conditions in that market are likely to affect the bank's performance. Markets are defined as Metropolitan Statistical Areas or rural counties, using the 1999 definition for Metropolitan Statistical Areas. Banks less than two years old are dropped from the sample because *de novo* banks generally have atypical levels of profits, capital and other characteristics.

Bank size and balance sheet data and information regarding S-corporation status come from the financial reports that banks and thrifts file with federal regulators. Bank age comes from the Federal Reserve System's National Information Center. Demographic data come from the US Census Bureau and unemployment data come from the Bureau of Labor Statistics. The HHI and the percentage of market deposits held by community banks other than the observed bank are calculated from the Federal Deposit Insurance Corporation's Summary of Deposits and the Office of Thrift Supervision's Branch Office Survey; the HHI includes thrift deposits at 50 percent weight.[10] Time since deregulation (*YRS_DEREG*) is from Amel (1995). Confidential ratings of the quality of bank management (*MGT_RATING*) come from reports filed by bank examiners. To mitigate concerns about the potential endogeneity of the management rating, we use the most recent rating as of the start of each observation year.

Table 1 presents the mean values for each variable used in the analysis, for both urban and rural markets, for each time period covered by our analysis. A few patterns in these data are worth noting: (i) community banks operating in rural markets consistently earn higher average rates of return on assets than do community banks operating in urban markets, but do not necessarily earn higher rates of return on equity; (ii) both urban and rural banks experienced sharp declines in profitability in 2007-11; however, the profit declines were more severe for urban banks than for rural banks; (iii) the average community bank operating in an urban market is considerably larger, in terms of assets, than the average community bank operating in a rural market; (iv) community banks operating in rural markets are, on average, 20 to 30 years older than their urban counterparts; (v) rural markets are, on average, highly concentrated, while concentration levels in the average urban market are below the level that would generally raise concern among antitrust authorities; (vi) a larger percentage of deposits in rural markets are controlled by community banks than in urban markets, but the percentage of deposits controlled by community banks has been declining in both types of market ; (vii) a larger percentage of community banks are S Corporations in rural markets than in urban markets; (viii) on average, real estate loans almost always make up one-half or more of bank loan portfolios, in both rural and urban markets; (ix) throughout the sample period, urban community banks' average portfolio shares of real estate-backed loans and construction loans were higher than those of rural

[10] This is the standard approach taken by the Federal Reserve System when screening bank merger applications for competitive effects.

community banks, and both types of banks saw these shares rise over time; (x) throughout the sample period, urban community banks' average portfolio shares of consumer loans were lower than those of rural community banks, and both types of banks saw these shares decline over time; and (xi) urban community banks were more reliant on brokered deposits throughout the period than were rural community banks, and both types were more reliant on brokered deposits toward the end of the sample period than they had been at the beginning.

4. Results

Tables 2 through 5 present the results from estimating equation 1, for rural and urban markets, using ROE as the dependent variable. Tables 2 and 3 show the pooled results for each of the five-year periods; tables 4 and 5 show the individual-year results for 2007 to 2011. We first examine the results for the variables that are outside the control of bank management, and then turn to the variables that reflect managerial decisions and actions.

The estimated coefficient on *ln POP* varies in sign and significance across the four time periods, but is negative and statistically significant in both urban and rural markets during the period encompassing the financial crisis and its aftermath. The estimated coefficient on *PCI* is negative and significant in every time period, with the exception of the last 5-year period in urban markets; within that period, the negative relationship holds in all markets for 2007-08, but not for 2010-11 in urban markets or for 2009 or 2011 in rural markets. It is unclear why community bank profitability would be negatively correlated with this measure of local economic conditions, but one possibility is that wealthier individuals have more alternatives to community banks from which they can receive financial services, and the financial crisis might have sent wealthier individuals back to community banks and the safety of insured deposits. Consistent with expectations, the coefficient on the unemployment rate is always negative and often significant. Interestingly, in rural markets, the absolute value and significance of the coefficient on the unemployment rate increase sharply in the most recent 2 periods, while in urban markets they decrease.[11]

[11] When ROA is used as the dependent variable, the coefficient on the unemployment rate for banks operating in rural markets is positive and insignificant in the first two periods and negative and significant in the last two periods.

The estimated coefficient on *HHI* is positive and marginally significant for rural markets during the third period, and is otherwise statistically insignificant in the pooled year regressions.[12] However, when ROA is used as the dependent variable, the estimated coefficient on *HHI* is positive and significant in the first three periods for rural markets and the first two periods for urban markets; this result may indicate that banks in less competitive markets (those with higher HHI values) earn higher profits, but reinvest those profits into equity, thereby reducing their ROE. The estimated coefficient on *MS_COMM*, the share of market deposits held by other community banks, is generally negative (as expected), but often statistically insignificant; this finding is consistent with Hannan and Prager (2009).

The estimated coefficient on *YRS_DEREG*, the number of years since intrastate branching deregulation, is negative and significant in rural markets in every period, though its absolute value appears to have declined in recent years. In urban markets, the coefficient is negative in the first three periods, but statistically significant only for the first two. This suggests that the lingering effects of previous state branching restrictions in limiting bank competition may have disappeared in urban markets by the mid-2000s, but not in rural markets. The estimated coefficient on *AGE* is negative and significant in all four multiyear periods in the rural equations; in urban markets, it is negative and significant in the second and third periods but positive and significant in the last period.[13] This suggests that older community banks are generally less profitable than younger community banks, consistent with expectations. However, in urban markets, older community banks fared better in the period including the financial crisis, suggesting that age may provide an advantage during particularly challenging times.

Turning now to the variables that may be influenced by bank managers' behavior, bank size is significantly positively related to profitability in both rural and urban markets, in every time period; as noted in the literature review, this result is consistent with a large number of previous papers. Our measure of management quality is strongly related to profitability in every period, for both urban and rural banks, with the expected negative sign.[14] Although it is possible

[12] It is also positive and significant at the .05 level in rural markets in 2007 in the individual year regressions.
[13] In rural markets, *AGE* has negative but insignificant coefficients in 2009 and 2010. When the dependent variable is ROA, the coefficient on AGE is still negative in each period for rural markets, but not significant except in the first period. In urban markets, the coefficient is always positive, with statistical significance in three of the four periods.
[14] Recall that higher values of this variable indicate poorer management quality.

that the causality runs in the opposite direction, with poor profit performance leading to lower management quality ratings, we do not believe that this is the case since the management quality is measured prior to the start of the period for which performance is measured. The relationship between management quality and profitability is noticeably stronger in 2007-11 than in earlier periods, suggesting that the importance of management quality in influencing bank performance was magnified during the financial crisis. As expected, S-corporations earn significantly higher profits in every period than do other banks.[15]

The estimated coefficients on the portfolio share variables show different patterns in the urban and rural regressions. In rural markets, the estimated coefficient on the portfolio share of real estate loans is positive during the first three five-year periods, but turns negative in 2007-11. Looking at the individual-year estimates, we see that there is a strong negative relationship between the real estate loan share and profitability in 2010 and 2011.[16,17] In urban markets, the estimated coefficient on *RE_LOANS* turns negative after the first five-year period and becomes very large in magnitude and highly significant in 2007-11.[18,19] In both rural and urban markets, higher portfolio shares of construction loans are associated with higher profitability during the first three time periods and in 2007, but this relationship changes dramatically in 2008. The estimated coefficient on the construction loan share variable is strongly negative in each year from 2008 through 2011, though it diminishes somewhat in magnitude in urban markets in 2011. In rural markets, we see a strong positive relationship between the portfolio share of C&I loans and *ROE* at the beginning of the study period, which diminishes over time and reverses sign in

[15] *SCORP* is excluded from the equations estimated for the first period because banks were not allowed to become S-corporations until 1997.

[16] When the dependent variable is ROA, the coefficient on real estate loans is negative in all four multi-year periods and significant in 1997-2001 and 2007-2011. The coefficient is negative and significant in all five of the single-year regressions.

[17] If real estate loans are split into commercial real estate loans and other real estate loans and these two portfolio measures are included in the rural market regression, the estimated coefficient on the commercial real estate variable is significant and positive before the crisis; it is insignificant and negative during and after the crisis. The coefficient on the other real estate variable has varying signs and is generally insignificant. This change to the model has little effect on coefficients for other variables, including the coefficients on other portfolio components.

[18] In urban markets, the model change described in the previous footnote yields positive significant coefficients on commercial real estate lending in the pre-crisis periods and a negative significant coefficient in the 2007-2011 period. The coefficients on other real estate lending are positive in the first five-year period and negative and generally significant in the other periods. As in rural markets, this change to the model has little effect on the coefficients of other variables.

[19] When the dependent variable is ROA, the coefficient on real estate loans is negative in all four time periods and significant after 1992-96.

2008.[20] In urban markets, the coefficient on *C&I_LOANS* is also positive at the beginning of the study period, but it turns negative by the early 2000s. The relationship between the consumer loan share and bank profitability is quite different in rural and urban markets. In rural markets, there is no significant relationship between these variables in the early years, but the relationship becomes strongly positive during the financial crisis. In urban markets, there is a strong positive relationship at the beginning of the time period, which becomes negative in the later years.

In urban markets, the relationship between the share of liabilities comprised of brokered deposits and profitability is generally negative, as expected, with varying coefficient magnitudes and significance; the relationship is strongest in the 2007-2011 period. Kupiec and Lee (2012) find a similar result. In rural markets, the estimated coefficient on *BROKERED_DEP* is positive over the first three periods; it becomes negative and significant in the last period, driven by large, negative coefficients in 2008 and 2009. This may suggest that rural banks are more likely to use brokered deposits when they face good lending opportunities that exceed local sources of deposits, while the use of brokered deposits by small urban banks may reflect an inability to compete with other local banks for customer relationships.

In both urban and rural markets, and in every time period, a large shift in portfolio shares (*BIG_SHIFT*=1) is associated with significantly lower profitability; this result parallels the finding of Gilbert, Meyer and Fuchs (2013) that switching lending strategies often leads to financial setbacks. We explore this relationship further by considering the exact nature of the portfolio shift and by allowing the effect of a portfolio shift to vary with management quality. First, we re-estimate equation (1), replacing *BIG_SHIFT* with a set of eight dummy variables indicating whether the bank experienced an increase or decrease of at least 10 percentage points in the portfolio share for each of four loan types (real estate, construction, C&I, and consumer loans).[21] Interestingly, the coefficients on the indicator variables are almost always negative and often significant. The only significant positive effects are associated with an increase in the share of construction loans during the 2007-2011 period in both urban and rural markets, and a decrease in C&I loans during the first period in rural markets. Thus, large shifts tend to

[20] When ROA is the dependent variable, the coefficient on C&I lending becomes negative in 1997-2001 and becomes more significant over time.
[21] Results of these estimations are not reported here, but are available from the authors upon request.

adversely affect community bank profitability, regardless of which portfolio shares are increasing or decreasing.

Given that an increase in the portfolio share of one loan type is, necessarily, accompanied by a decrease in the portfolio share of at least one other loan type, we next consider the correlations among the various large shift indicators. As shown in table 6, the strongest correlations are found between (i) a large increase in the real estate share and a large decrease in the C&I share; (ii) a large increase in the real estate share and a large decrease in the consumer share; (iii) a large decrease in the real estate share and a large increase in the C&I share; and (iv) a large decrease in the real estate share and a large increase in the consumer share. In other words, large portfolio shifts often seem to involve movements between real estate lending and either C&I lending or consumer lending, which may represent commonly used strategies designed to improve bank performance. We investigate the profitability implications of these particular patterns of portfolio adjustment by re-estimating equation (1), replacing *BIG_SHIFT* with a set of four dummy variables indicating the presence of each of these combinations.[22] Once again, the estimated coefficients on the portfolio shift variables are almost always negative, and often significant.

Our final investigation of the effect of large changes in portfolio composition considers whether the effects of such changes vary with management quality. We thus re-estimate equation (1), adding an interaction term between *BIG_SHIFT* and a dummy variable equal to 1 if the management component of the bank's CAMELS rating is 3 or higher (an indicator of poor management quality). Results from this estimation are reported in tables 7 through 10. In every multi-year period, for both urban and rural markets, the estimated coefficients on both *BIG_SHIFT* and its interaction with the "poor management quality" indicator are negative and statistically significant. In individual year regressions for 2007-11, coefficients are always negative but are often insignificant.[23] Thus, large changes in portfolio composition are associated with significantly lower profitability, and this effect is exacerbated for banks with less-than-stellar management quality ratings.

[22] Results are not reported here, but are available from the authors upon request.
[23] Addition of this interaction term has little effect on the coefficients of other variables.

In summary, we find that numerous factors, both within and outside the control of bank management, explain variations in performance across community banks. Thus far, we have not considered the relative importance of these two sets of factors in explaining community bank performance. To accomplish this, we undertake a Shapley R-squared decomposition.[24] This approach allows us to estimate the portion of the R-squared that is attributable to each of two sets of factors – those that are within bank managers' control and those that are not. Tables 11 and 12 present the results of this analysis for the multiyear periods and the individual years, respectively. The Shapley values indicate that variables within the managers' control account for between 70 percent and 96 percent of the total explanatory power of the equations. Thus, management decisions and management quality appear to play a very important role in determining community bank performance.

5. Conclusion

The number of small banks operating in the United States and small banks' share of the banking market have declined in recent years, but a large number of small banks continue to compete profitably with their larger brethren. Although much attention has focused on the plight of very large financial institutions during the recent financial crisis, community banks have not escaped unharmed. This paper has examined the relationship between community bank performance and a number of bank and market characteristics over 1992-2011.

We find that community bank profitability is affected by a number of factors outside the control of bank management, including such market characteristics as per capita income, the unemployment rate, and the share of market deposits controlled by other community banks. However, managerial decisions regarding portfolio composition and management quality, as measured by the "M" component of a bank's CAMELS rating, play a more important role in influencing community bank performance. Management quality is particularly important during times of extreme economic stress. The correlations between major portfolio components – including real estate loans, construction loans, commercial and industrial loans, and consumer loans – and profitability vary over time, but we find that large shifts in portfolio composition are consistently associated with reductions in profitability, confirming a widely-held view that

[24] See Shorrocks (2013) for an explanation of this method.

community bankers should be cautious about moving into product markets with which they are unfamiliar.

References

Adams, R., Brevoort, K., and Kiser, E. (2007) "Who Competes with Whom? The Case of Depository Institutions," *Journal of Industrial Economics* 55:141-67.

Amel, Dean F. (1995) "State Laws Affecting the Geographic Expansion of Commercial Banks," unpublished paper.

Avery, Robert B. and Katherine A. Samolyk (2004) "Bank Consolidation and Small Business Lending: The Role of Community Banks," *Journal of Financial Services Research* 25:291-325.

Barrett, William F., and Thomas F. Brady (2001) "The Economic Performance of Small Banks, 1985-2000," *Federal Reserve Bulletin* 87:719-28.

Barrett, William F., and Thomas F. Brady (2002) "What Drives the Persistent Competitiveness of Small Banks?" Finance and Economics Discussion Paper 2002-28, Board of Governors of the Federal Reserve System.

Berger, Allen N., S.D. Bonime, L.G. Goldberg and L.G. White (2004) "The Dynamics of Market Entry: The Effects of Mergers and Acquisitions on Entry in the Banking Industry," *Journal of Business* 77:797-834.

Berger, Allen N., Astrid A. Dick, Lawrence G. Goldberg and Lawrence J. White (2007) "Competition from Large, Multimarket Firms and the Performance of Small, Single-Market Firms: Evidence from the Banking Industry," *Journal of Money, Credit and Banking* 39:331-68.

Berger, Allen N., William C. Hunter and Stephen G. Timme (1993) "The Efficiency of Financial Institutions: A Review and Preview of Research Past, Present, and Future," *Journal of Banking and Finance* 17:221-49.

Berger, Allen N., A. K. Kashyap and J. M. Scalise (1995) "The Transformation of the U.S. Banking Industry: What a Long Strange Trip It's Been." *Brookings Papers on Economic Activity* 2:55-218.

Berger, Allen N., Nathan H. Miller, Mitchell A. Petersen, Raghuram G. Rajan and Jeremy C. Stein (2005) "Does Function Follow Organizational Form? Evidence from the Lending Practices of Large and Small Banks," *Journal of Financial Economics* 76:237-69.

Berger, Allen N., Richard J. Rosen and Gregory F. Udell (2001) "The Effect of Market Size Structure on Competition: The Case of Small Business Lending," Finance and Economics Discussion Paper 2001-63, Board of Governors of the Federal Reserve System.

Berger, Allen N., A. Saunders, J.M. Scalise and G.F. Udell (1998) "The Effects of Bank Mergers and Acquisitions on Small Business Lending," *Journal of Financial Economics* 50:187-229.

Berger, Allen N. and Gregory F. Udell (1995) "Relationship Lending and Lines of Credit in Small Firm Finance," *Journal of Business* 68:351-81.

Berger, Allen N. and Gregory F. Udell (2002) "Small Business Credit Availability and Relationship Lending: The Importance of Bank Organisational Structure," *Economic Journal* 112:F32-53.

Clark, Jeffrey A., and Thomas F. Siems (2002) "X-Efficiency in Banking: Looking beyond the Balance Sheet," *Journal of Money, Credit and Banking* 34:987-1013.

Cohen, A. and Mazzeo, M. (2007) "Market Structure and Competition among Retail Depository Institutions," *Review of Economics and Statistics* 89:60-74.

Cole, Rebel A. (1998) "The Importance of Relationships to the Availability of Credit," *Journal of Banking and Finance*, 22:629-70.

Cole, Rebel, Lawrence G. Goldberg and Lawrence J. White (2004) "Cookie-cutter versus Character: The Micro Structure of Small Business Lending by Large and Small Banks," *Journal of Financial and Quantitative Analysis* 39:227-51.

DeYoung, Robert (1999), "Birth, Growth and Life or Death of Newly Chartered Banks," *Federal Reserve Bank of Chicago Economic Perspectives*, 14-35.

DeYoung, Robert, William C. Hunter and Gregory F. Udell (2004) "The Past, Present and Probable Future for Community Banks," *Journal of Financial Services Research* 25:85-133.

Ely, David P., and Kenneth J. Robinson (2001) "Consolidation, Technology, and the Changing Structure of Banks' Small Business Lending," *Federal Reserve Bank of Dallas Economic and Financial Review*, First Quarter 23-32.

Emmons, William R., R. Alton Gilbert and Timothy J. Yeager (2004), "Reducing the Risk at Small Community Banks: Is It Size or Geographic Diversification That Matters?" *Journal of Financial Services Research* 25:259-81.

Federal Deposit Insurance Corporation (2012) *FDIC Community Banking Study*, December.

Gilbert, R. Alton, Andrew P. Meyer and James W. Fuchs (2013) "The Future of Community Banks: Lessons from Banks that Thrived during the Recent Financial Crisis," *Federal Reserve Bank of St. Louis Review*, March/April 115-43.

Group of Ten (2001) *Consolidation in the Financial Sector* (Bank for International Settlements: Basel).

Hannan, T. and Prager, R. (2004) "The Competitive Implications of Multimarket Bank Branching," *Journal of Banking and Finance* 28:1889-1911.

Hannan, Timothy H. and Robin A. Prager (2009) "The Profitability of Small Single-Market Banks in an Era of Multi-Market Banking," *Journal of Banking and Finance* 33: 263-71.

Hein, Scott E., Timothy W. Koch and S. Scott MacDonald (2005) "On the Uniqueness of Community Banks," *Federal Reserve Bank of Atlanta Economic Review*, First Quarter 15-36.

Jayaratne, Jith, and John Wolken (1999) "How Important Are Small Banks to Small Business Lending? New Evidence from a Survey of Small Firms," *Journal of Banking and Finance* 23:427-58.

Keeton, W.R. (1995) "Multi-office Bank Lending to Small Businesses: Some New Evidence," *Federal Reserve Bank of Kansas City Economic Review* 80:45-57.

Kiser, E. (2004) "Modeling the Whole Firm: The Effect of Multiple Inputs and Financial Intermediation on Bank Deposit Rates," Finance and Economics Discussion Series 2004-07. Washington: Board of Governors of the Federal Reserve System.

Kupiec, Paul, and Yan Lee (2012) "What Factors Explain Differences in Return on Assets among Community Banks?" FDIC working paper, December.

Petersen, M.A., and R.G. Rajan (1994) "The Benefits of Lending Relationships: Evidence from Small Business Data," *Journal of Finance* 49:3-37.

Petersen, M.A., and R.G. Rajan (1995) "The Effect of Credit Market Competition on Lending Relationships," *Quarterly Journal of Economics* 110:407-43.

Prager, R.A. and J.D. Wolken (2008) "The Evolving Relationship between Community Banks and Small Businesses: Evidence from the Surveys of Small Business Finances," Finance and Economics Discussion Paper 2008-60, Board of Governors of the Federal Reserve System.

Shorrocks, Anthony F. (2013) "Decomposition Procedures for Distributional Analysis: A Unified Framework Based on the Shapley Value," *Journal of Economic Inequality* 11:99-126.

Stein, Jeremy C. (2002). "Information Production and Capital Allocation: Decentralized vs. Hierarchical Firms," *Journal of Finance* 57:1891-921.

Stiroh, Kevin J. (2004) "Do Community Banks Benefit from Diversification?" *Journal of Financial Services Research* 25:135-60.

Strahan, P.E., and J.P. Weston (1996) "Small Business Lending and Bank Consolidation: Is There Cause for Concern?" *Current Issues in Economics and Finance* 2:1-6.

Strahan, P.E., and J.P. Weston (1998) "Small Business Lending and the Changing Structure of the Banking Industry," *Journal of Banking and Finance* 22:821-45.

Whalen, Gary (2007) “Community Bank Strategic Lending Choices and Performance,” Economics Working Paper 2007-3, Office of the Comptroller of the Currency.

Yeager, Timothy J. (2004) “The Demise of Community Banks? Local Economic Shocks Are Not to Blame,” *Journal of Banking and Finance* 28:2135-53.

Zimmerman, Gary C. (1996) “Factors Influencing Community Bank Performance in California,” *Federal Reserve Bank of San Francisco Economic Review*, No. 1, 26-42.

Table 1: Mean Values of Variables by Market Type and Time Period

	Rural Markets					Urban Markets			
Variable	**1992-1996 N = 23927**	**1997-2001 N = 18912**	**2002-2006 N = 15366**	**2007-2011 N =12766**		**1992-1996 N = 17137**	**1997-2001 N = 13071**	**2002-2006 N = 11855**	**2007-2011 N = 10649**
ROA (%)	1.596	1.482	1.348	0.955		1.393	1.395	1.247	0.424
ROE (%)	16.256	14.369	12.787	8.662		15.185	14.898	12.956	3.622
ASSETS ($M)	86.365	113.067	131.193	142.341		145.401	189.231	238.908	278.275
AGE (Years)	73.694	78.686	81.456	85.361		50.856	56.987	55.640	56.530
POP (1000s)	26.782	27.835	29.129	30.358		2179.885	2291.189	2306.396	2368.978
PCI ($1000)	17.303	21.645	26.207	32.822		23.049	29.403	35.146	41.383
UNEMP (%)	6.185	4.848	5.375	6.998		5.865	4.094	5.222	9.524
HHI	0.284	0.280	0.272	0.267		0.122	0.134	0.133	0.137
MGT_RATING	2.039	1.720	1.751	1.850		2.193	1.777	1.811	2.035
MS_COMM	0.516	0.438	0.384	0.341		0.368	0.300	0.268	0.241
SCORP	—	0.183	0.351	0.450		—	0.124	0.225	0.274
YRS_DEREG	3.328	6.236	10.333	15.269		6.620	10.787	15.480	20.756
RE_LOANS	0.489	0.531	0.587	0.627		0.625	0.668	0.740	0.778
CONSTR_LOANS	0.016	0.023	0.040	0.048		0.051	0.067	0.114	0.104
C&I_LOANS	0.140	0.142	0.143	0.132		0.181	0.174	0.153	0.141
CNSMR_LOANS	0.171	0.152	0.118	0.093		0.145	0.117	0.074	0.049
BROKERED_DEP	0.002	0.005	0.014	0.012		0.003	0.007	0.025	0.033
BIG_SHIFT	0.333	0.256	0.262	0.228		0.425	0.312	0.364	0.325
RE_SHIFT_U	0.044	0.015	0.024	0.017		0.080	0.020	0.028	0.025
C&I_SHIFT_U	0.008	0.004	0.005	0.004		0.019	0.011	0.008	0.008
CONSTR_SHIFT_U	0.001	0.001	0.004	0.003		0.007	0.005	0.011	0.006
CNSMR_SHIFT_U	0.006	0.002	0.001	0.001		0.014	0.004	0.002	0.001
RE_SHIFT_D	0.008	0.002	0.003	0.005		0.020	0.010	0.006	0.009
C&I_SHIFT_D	0.018	0.004	0.006	0.009		0.050	0.010	0.016	0.017
CONSTR_SHIFT_D	0.001	0.000	0.001	0.014		0.017	0.003	0.004	0.063
CNSMR_SHIFT_D	0.019	0.007	0.009	0.004		0.032	0.007	0.009	0.005

Table 2: Regression Results for Pooled Years, Rural Markets (Dependent Variable: ROE)

Regressor	1992-1996	1997-2001	2002-2006	2007-2011
LN_POP	-0.44 ***	0.11	0.07	-0.45 **
	(-2.91)	(0.73)	(0.37)	(-2.52)
PCI	-0.19 ***	-0.15 ***	-0.06 ***	-0.08 ***
	(-4.52)	(-4.27)	(-2.56)	(-4.60)
UNEMP	-0.07 **	-0.06	-0.28 ***	-0.54 ***
	(-2.09)	(-1.44)	(-4.65)	(-14.52)
HHI	-0.70	0.89	1.75 *	0.69
	(-0.95)	(1.09)	(1.82)	(0.73)
MS_COMM	-1.70 ***	-1.15 ***	-0.40	-0.24
	(-4.66)	(-3.09)	(-0.98)	(-0.53)
YRS_DEREG	-0.13 ***	-0.08 ***	-0.05 ***	-0.03 **
	(-8.02)	(-6.19)	(-3.76)	(-1.99)
AGE	-0.02 ***	-0.02 ***	-0.02 ***	-0.01 ***
	(-7.94)	(-6.61)	(-5.61)	(-2.88)
LN_ASSETS	1.84 ***	1.72 ***	2.06 ***	2.26 ***
	(18.86)	(16.38)	(18.60)	(17.51)
MGT_RATING	-1.04 ***	-1.72 ***	-1.91 ***	-3.26 ***
	(-9.16)	(-12.73)	(-12.71)	(-18.71)
SCORP	—	2.48 ***	2.93 ***	2.64 ***
	—	(11.50)	(14.75)	(11.70)
RE_LOANS	2.32 ***	0.04	1.28	-1.25
	(3.78)	(0.07)	(1.63)	(-1.43)
CONSTR_LOANS	24.54 ***	14.51 ***	7.61 ***	-17.28 ***
	(6.97)	(5.71)	(3.96)	(-7.60)
C&I_LOANS	5.99 ***	3.17 ***	2.05 *	-0.50
	(5.58)	(2.65)	(1.68)	(-0.33)
CNSMR_LOANS	-0.26	-1.84 *	1.79	6.93 ***
	(-0.28)	(-1.73)	(1.42)	(4.51)
BROKERED_DEP	7.52	1.55	0.11 ***	-9.62 **
	(1.61)	(0.45)	(6.81)	(-2.45)
BIG_SHIFT	-0.59 ***	-1.09 ***	-0.93 ***	-1.45 ***
	(-4.54)	(-6.99)	(-5.38)	(-6.55)
CONSTANT	17.20 ***	14.94 ***	9.08 ***	13.74 ***
	(15.58)	(12.39)	(8.26)	(11.28)
N	23927	18912	15363	12766
R^2	0.12	0.14	0.18	0.22

t-statistics in parentheses

*, ** and *** indicate significance at the 0.10, 0.05, and 0.01 levels, respectively

Table 3: Regression Results for Pooled Years, Urban Markets (Dependent Variable: ROE)

Regressor	1992-1996	1997-2001	2002-2006	2007-2011
LN_POP	-0.13	0.28 **	-0.06	-1.16 ***
	(-0.93)	(2.33)	(-0.49)	(-7.44)
PCI	-0.27 ***	-0.17 ***	-0.11 ***	0.04
	(-6.37)	(-5.98)	(-4.21)	(1.34)
UNEMP	-0.28 ***	-0.35 ***	-0.11	-0.02 *
	(-4.17)	(-4.01)	(-0.98)	(-1.73)
HHI	4.04	0.96	-1.31	0.57
	(1.49)	(0.39)	(-0.72)	(0.26)
MS_COMM	-1.28	-1.37	-2.34 ***	0.97
	(-1.64)	(-1.57)	(-2.68)	(0.81)
YRS_DEREG	-0.22 ***	-0.06 ***	-0.01	0.02
	(-11.37)	(-3.60)	(-0.54)	(0.87)
AGE	0.01	-0.01 ***	-0.01 ***	0.02 ***
	(1.54)	(-3.38)	(-3.09)	(4.07)
LN_ASSETS	1.53 ***	2.20 ***	2.33 ***	1.72 ***
	(12.07)	(17.37)	(18.55)	(10.33)
MGT_RATING	-3.36 ***	-2.87 ***	-2.91 ***	-4.84 ***
	(-21.14)	(-15.19)	(-15.81)	(-24.41)
SCORP	—	4.18 ***	3.93 ***	2.87 ***
	—	(10.86)	(12.76)	(7.68)
RE_LOANS	2.46 **	-1.85	-2.45 *	-12.41 ***
	(2.04)	(-1.24)	(-1.65)	(-6.50)
CONSTR_LOANS	17.86 ***	17.70 ***	12.65 ***	-2.72
	(8.18)	(10.54)	(10.48)	(-1.59)
C&I_LOANS	3.62 **	1.97	-2.14	-3.94
	(2.40)	(1.08)	(-1.09)	(-1.59)
CNSMR_LOANS	8.29 ***	0.63	-2.08	-2.55
	(5.92)	(0.34)	(-1.00)	(-0.87)
BROKERED_DEP	-6.72 **	-10.11 ***	-2.27	-13.82 ***
	(-2.12)	(-2.96)	(-1.05)	(-4.60)
BIG_SHIFT	-1.08 ***	-1.72 ***	-1.27 ***	-1.91 ***
	(-5.51)	(-7.80)	(-6.09)	(-6.07)
CONSTANT	21.73 ***	15.18 ***	13.08 ***	20.64 ***
	(13.57)	(8.84)	(7.15)	(9.08)
N	17137	13071	11855	10469
R^2	0.17	0.19	0.22	0.21

t-statistics in parentheses

*, ** and *** indicate significance at the 0.10, 0.05, and 0.01 levels, respectively

Table 4: Regression Results for Individual Year 2007-2011, Rural Markets (Dependent Variable: ROE)

Regressor	2007	2008	2009	2010	2011
LN_POP	-0.44 **	-0.48	-0.62 **	-0.27	-0.66 ***
	(-1.99)	(-1.60)	(-1.96)	(-0.93)	(-2.67)
PCI	-0.10 ***	-0.09 ***	-0.01	-0.12 ***	-0.03
	(-3.39)	(-3.01)	(-0.34)	(-3.29)	(-1.37)
UNEMP	-0.45 ***	-0.44 ***	-0.23 ***	-0.32 ***	-0.36 ***
	(-4.52)	(-4.06)	(-3.06)	(-4.24)	(-5.24)
HHI	2.66 **	1.56	-2.13	0.37	-1.25
	(2.22)	(0.95)	(-1.23)	(0.23)	(-0.94)
MS_COMM	-0.71	-0.70	0.99	-0.04	-0.23
	(-1.24)	(-0.90)	(1.21)	(-0.05)	(-0.37)
YRS_DEREG	0.00	-0.08 ***	-0.01	-0.04 *	-0.05 ***
	(0.17)	(-3.12)	(-0.20)	(-1.71)	(-2.57)
AGE	-0.02 ***	-0.01 **	-0.00	-0.01	-0.01 ***
	(-4.91)	(-2.40)	(-0.76)	(-1.55)	(-3.00)
LN_ASSETS	1.98 ***	2.32 ***	2.39 ***	2.50 ***	2.53 ***
	(12.85)	(11.19)	(10.68)	(11.89)	(12.92)
MGT_RATING	-2.29 ***	-2.22 ***	-4.03 ***	-4.37 ***	-3.20 ***
	(-10.68)	(-7.49)	(-13.54)	(-18.10)	(-17.56)
SCORP	2.74 ***	3.38 ***	3.00 ***	2.38 ***	2.08 ***
	(10.48)	(9.55)	(8.07)	(6.86)	(7.20)
RE_LOANS	-0.03	-1.32	-1.30	-4.14 ***	-4.08 ***
	(-0.03)	(-0.88)	(-0.80)	(-2.72)	(-3.35)
CONSTR_LOANS	3.46 *	-24.00 ***	-43.45 ***	-25.80 ***	-20.16 ***
	(1.71)	(-7.99)	(-11.61)	(-6.42)	(-5.73)
C&I_LOANS	4.37 **	-2.47	-3.75	-6.45 ***	1.38
	(2.43)	(-1.01)	(-1.44)	(-2.64)	(0.67)
CNSMR_LOANS	1.35	7.24 ***	13.51 ***	4.41 *	1.99
	(0.71)	(2.76)	(4.78)	(1.68)	(0.90)
BROKERED_DEP	0.59	-20.90 ***	-12.01 ***	-7.27	10.53 *
	(0.21)	(-6.06)	(-2.62)	(-1.15)	(1.95)
BIG_SHIFT	-1.35 ***	-0.62	-1.52 ***	-1.94 ***	-2.23 ***
	(-4.25)	(-1.48)	(-3.34)	(-4.69)	(-6.28)
CONSTANT	12.28 ***	12.03 ***	9.16 ***	17.20 ***	14.52 ***
	(7.35)	(5.34)	(3.69)	(7.34)	(7.61)
N	2728	2592	2496	2412	2538
R^2	0.19	0.18	0.24	0.28	0.29

t-statistics in parentheses

*, ** and *** indicate significance at the 0.10, 0.05, and 0.01 levels, respectively

Table 5: Regression Results for Individual Year 2007-2011, Urban Markets (Dependent Variable: ROE)

Regressor	2007	2008	2009	2010	2011
LN_POP	-0.62 ***	-0.93 ***	-0.86 ***	-1.05 ***	-0.85 ***
	(-2.99)	(-3.42)	(-2.76)	(-4.07)	(-4.20)
PCI	-0.11 ***	-0.15 ***	-0.13 **	0.05	-0.02
	(-2.90)	(-3.19)	(-2.06)	(1.02)	(-0.50)
UNEMP	-1.00 ***	-1.34 ***	-1.20 ***	-0.01	-0.01
	(-4.35)	(-5.62)	(-6.61)	(-0.90)	(-1.24)
HHI	-2.45	1.77	0.04	1.75	-0.77
	(-0.72)	(0.41)	(0.01)	(0.42)	(-0.31)
MS_COMM	-0.51	-1.51	1.69	4.17 *	1.65
	(-0.31)	(-0.68)	(0.63)	(1.87)	(0.89)
YRS_DEREG	0.12 ***	0.06	0.11 **	-0.02	0.02
	(4.43)	(1.54)	(2.48)	(-0.44)	(0.77)
AGE	0.00	0.01	0.03 ***	0.01 *	0.00
	(0.16)	(1.07)	(3.81)	(1.80)	(0.33)
LN_ASSETS	2.00 ***	1.92 ***	1.86 ***	2.08 ***	1.66 ***
	(9.16)	(6.44)	(5.29)	(7.19)	(7.14)
MGT_RATING	-3.82 ***	-4.46 ***	-5.32 ***	-6.08 ***	-4.28 ***
	(-12.20)	(-10.82)	(-12.11)	(-19.73)	(-19.38)
SCORP	4.24 ***	4.60 ***	2.45 ***	1.82 ***	2.39 ***
	(9.53)	(7.91)	(3.57)	(3.14)	(5.00)
RE_LOANS	-6.48 **	-10.53 ***	-10.91 **	-8.61 **	-16.77 ***
	(-2.23)	(-2.89)	(-2.25)	(-2.46)	(-5.66)
CONSTR_LOANS	9.91 ***	-22.95 ***	-31.44 ***	-22.22 ***	-9.15 **
	(5.59)	(-8.53)	(-7.78)	(-5.50)	(-2.54)
C&I_LOANS	1.79	-10.43 **	-6.99	-0.53	-8.57 **
	(0.52)	(-2.38)	(-1.22)	(-0.13)	(-2.39)
CNSMR_LOANS	-2.04	-7.02	-3.92	2.54	-9.20 **
	(-0.56)	(-1.44)	(-0.64)	(0.54)	(-2.37)
BROKERED_DEP	-7.40 ***	-22.73 ***	-14.38 ***	-2.46	5.74
	(-3.37)	(-8.06)	(-3.12)	(-0.56)	(1.26)
BIG_SHIFT	-1.41 ***	-0.19	-2.79 ***	-2.41 ***	-1.22 ***
	(-3.13)	(-0.32)	(-4.12)	(-4.32)	(-2.75)
CONSTANT	20.06 ***	32.73 ***	30.79 ***	18.13 ***	26.41 ***
	(5.81)	(7.37)	(5.52)	(4.44)	(7.89)
N	2728	2592	2496	2412	2538
R^2	0.19	0.18	0.24	0.28	0.29

t-statistics in parentheses

*, ** and *** indicate significance at the 0.10, 0.05, and 0.01 levels, respectively

Table 6: Correlation Coefficients for Portfolio Shift Variables, by Market Type

	Rural							
	RE_UP	C&I_UP	CONSTR_UP	CNSMR_UP	RE_DOWN	C&I_DOWN	CONSTR_DOWN	CNSMR_DOWN
RE_UP	1							
C&I_UP	-0.052	1						
CONSTR_UP	0.111	0.002	1					
CNSMR_UP	-0.032	-0.008	-0.009	1				
RE_DOWN	-0.081	0.349	-0.013	0.197	1			
C&I_DOWN	0.371	-0.045	0.075	0.083	-0.034	1		
CONSTR_DOWN	-0.009	0.020	-0.013	0.001	0.042	0.003	1	
CNSMR_DOWN	0.253	0.137	0.040	-0.028	-0.015	0.005	-0.005	1
N =70991)								

	Urban							
	RE_UP	C&I_UP	CONSTR_UP	CNSMR_UP	RE_DOWN	C&I_DOWN	CONSTR_DOWN	CNSMR_DOWN
RE_UP	1							
C&I_UP	-0.078	1						
CONSTR_UP	0.142	-0.011	1					
CNSMR_UP	-0.050	-0.013	-0.027	1				
RE_DOWN	-0.113	0.486	-0.036	0.303	1			
C&I_DOWN	0.559	-0.080	0.109	0.080	-0.051	1		
CONSTR_DOWN	-0.038	0.040	-0.055	-0.010	0.065	-0.009	1	
CNSMR_DOWN	0.309	0.121	0.050	-0.039	-0.042	0.002	-0.033	1
N =53013								

Table 7: Regression Results for Pooled Years, Rural Markets (Dependent Variable: ROE)

Regressor	1992-1996	1997-2001	2002-2006	2007-2011
LN_POP	-0.43 ***	0.11	0.07	-0.44 **
	(-2.85)	(0.71)	(0.37)	(-2.47)
PCI	-0.19 ***	-0.15 ***	-0.06 ***	-0.08 ***
	(-4.53)	(-4.30)	(-2.58)	(-4.50)
UNEMP	-0.07 **	-0.06	-0.28 ***	-0.54 ***
	(-2.09)	(-1.42)	(-4.64)	(-14.62)
HHI	-0.68	0.85	1.76 *	0.74
	(-0.93)	(1.05)	(1.84)	(0.78)
MS_COMM	-1.69 ***	-1.15 ***	-0.44	-0.29
	(-4.65)	(-3.12)	(-1.09)	(-0.65)
YRS_DEREG	-0.13 ***	-0.08 ***	-0.05 ***	-0.03 **
	(-7.99)	(-6.21)	(-3.75)	(-2.05)
AGE	-0.02 ***	-0.02 ***	-0.02 ***	-0.01 ***
	(-7.96)	(-6.60)	(-5.61)	(-2.97)
LN_ASSETS	1.84 ***	1.72 ***	2.05 ***	2.26 ***
	(18.82)	(16.36)	(18.61)	(17.51)
MGT_RATING	-0.87 ***	-1.53 ***	-1.63 ***	-2.89 ***
	(-7.43)	(-11.22)	(-10.53)	(-16.49)
SCORP	—	2.48 ***	2.94 ***	2.64 ***
	—	(11.48)	(14.82)	(11.73)
RE_LOANS	2.34 ***	0.08	1.35 *	-1.21
	(3.82)	(0.12)	(1.72)	(-1.39)
CONSTR_LOANS	24.40 ***	14.33 ***	7.46 ***	-17.49 ***
	(6.96)	(5.60)	(3.90)	(-7.62)
C&I_LOANS	6.01 ***	3.14 ***	2.03 *	-0.62
	(5.61)	(2.63)	(1.66)	(-0.40)
CNSMR_LOANS	-0.25	-1.82 *	1.87	7.03 ***
	(-0.28)	(-1.70)	(1.49)	(4.57)
BROKERED_DEP	7.37	1.98	0.11 ***	-9.75 **
	(1.58)	(0.57)	(6.64)	(-2.40)
BIG_SHIFT	-0.38 ***	-0.90 ***	-0.64 ***	-0.96 ***
	(-2.84)	(-5.76)	(-3.74)	(-4.24)
BIG_SHIFT_MGT	-0.99 ***	-2.13 ***	-2.41 ***	-3.18 ***
	(-3.35)	(-3.64)	(-4.63)	(-4.24)
CONSTANT	16.84 ***	14.63 ***	8.58 ***	13.05 ***
	(15.34)	(12.16)	(7.87)	(10.74)
N	23927	18912	15363	12766
R^2	0.12	0.14	0.19	0.22

t-statistics in parentheses

*, ** and *** indicate significance at the 0.10, 0.05, and 0.01 levels, respectively

Table 8: Regression Results for Pooled Years, Urban Markets (Dependent Variable: ROE)

Regressor	1992-1996	1997-2001	2002-2006	2007-2011
LN_POP	-0.13	0.28 **	-0.06	-1.16 ***
	(-0.95)	(2.32)	(-0.46)	(-7.48)
PCI	-0.27 ***	-0.17 ***	-0.11 ***	0.04
	(-6.37)	(-6.05)	(-4.27)	(1.35)
UNEMP	-0.28 ***	-0.35 ***	-0.11	-0.02 *
	(-4.18)	(-4.04)	(-0.94)	(-1.74)
HHI	3.81	0.97	-1.16	0.59
	(1.40)	(0.39)	(-0.63)	(0.27)
MS_COMM	-1.27	-1.44 *	-2.30 ***	1.02
	(-1.64)	(-1.66)	(-2.64)	(0.85)
YRS_DEREG	-0.21 ***	-0.06 ***	-0.01	0.02
	(-11.36)	(-3.57)	(-0.45)	(0.90)
AGE	0.01	-0.01 ***	-0.01 ***	0.02 ***
	(1.55)	(-3.39)	(-3.03)	(4.09)
LN_ASSETS	1.52 ***	2.19 ***	2.33 ***	1.74 ***
	(11.99)	(17.37)	(18.55)	(10.47)
MGT_RATING	-2.87 ***	-2.43 ***	-2.50 ***	-4.56 ***
	(-15.93)	(-12.95)	(-13.28)	(-20.62)
SCORP	—	4.19 ***	3.95 ***	2.90 ***
	—	(10.93)	(12.87)	(7.76)
RE_LOANS	2.48 **	-1.84	-2.49 *	-12.44 ***
	(2.06)	(-1.23)	(-1.68)	(-6.53)
CONSTR_LOANS	17.66 ***	17.49 ***	12.31 ***	-2.86 *
	(8.15)	(10.45)	(10.28)	(-1.68)
C&I_LOANS	3.58 **	1.86	-2.16	-4.09 *
	(2.37)	(1.01)	(-1.10)	(-1.66)
CNSMR_LOANS	8.28 ***	0.62	-2.14	-2.71
	(5.93)	(0.34)	(-1.03)	(-0.93)
BROKERED_DEP	-6.65 **	-9.45 ***	-2.44	-14.05 ***
	(-2.07)	(-2.69)	(-1.13)	(-4.64)
BIG_SHIFT	-0.46 **	-1.35 ***	-0.94 ***	-1.50 ***
	(-2.37)	(-6.09)	(-4.53)	(-4.54)
BIG_SHIFT_MGT	-2.19 ***	-3.50 ***	-2.83 ***	-1.66 **
	(-5.38)	(-4.74)	(-4.57)	(-2.53)
CONSTANT	20.77 ***	14.53 ***	12.35 ***	20.03 ***
	(12.89)	(8.51)	(6.76)	(8.81)
N	17137	13071	11855	10469
R^2	0.17	0.20	0.22	0.21

t-statistics in parentheses

*, ** and *** indicate significance at the 0.10, 0.05, and 0.01 levels, respectively

Table 9: Regression Results for Individual Year 2007-2011, Rural Markets (Dependent Variable: ROE)

Regressor	2007	2008	2009	2010	2011
LN_POP	-0.44 **	-0.48	-0.61 *	-0.29	-0.64 ***
	(-1.99)	(-1.58)	(-1.93)	(-1.00)	(-2.62)
PCI	-0.10 ***	-0.09 ***	-0.02	-0.12 ***	-0.03
	(-3.40)	(-2.99)	(-0.39)	(-3.26)	(-1.33)
UNEMP	-0.46 ***	-0.44 ***	-0.24 ***	-0.33 ***	-0.35 ***
	(-4.55)	(-4.08)	(-3.17)	(-4.36)	(-5.11)
HHI	2.63 **	1.60	-2.06	0.41	-1.16
	(2.20)	(0.97)	(-1.19)	(0.26)	(-0.88)
MS_COMM	-0.73	-0.71	0.99	-0.12	-0.25
	(-1.29)	(-0.91)	(1.21)	(-0.16)	(-0.39)
YRS_DEREG	0.00	-0.08 ***	-0.01	-0.04 *	-0.05 ***
	(0.17)	(-3.12)	(-0.25)	(-1.80)	(-2.76)
AGE	-0.02 ***	-0.01 **	-0.00	-0.01 *	-0.01 ***
	(-4.87)	(-2.40)	(-0.70)	(-1.71)	(-3.25)
LN_ASSETS	1.98 ***	2.32 ***	2.39 ***	2.49 ***	2.56 ***
	(12.82)	(11.17)	(10.67)	(11.86)	(13.14)
MGT_RATING	-2.21 ***	-2.14 ***	-3.81 ***	-3.92 ***	-2.67 ***
	(-9.60)	(-6.80)	(-11.89)	(-14.49)	(-13.07)
SCORP	2.74 ***	3.38 ***	3.00 ***	2.34 ***	2.09 ***
	(10.46)	(9.55)	(8.07)	(6.77)	(7.30)
RE_LOANS	-0.03	-1.28	-1.28	-3.97 ***	-4.12 ***
	(-0.03)	(-0.85)	(-0.80)	(-2.61)	(-3.40)
CONSTR_LOANS	3.43 *	-24.11 ***	-43.35 ***	-25.25 ***	-19.96 ***
	(1.69)	(-8.01)	(-11.59)	(-6.29)	(-5.71)
C&I_LOANS	4.36 **	-2.44	-3.76	-6.39 ***	0.71
	(2.42)	(-1.00)	(-1.44)	(-2.62)	(0.35)
CNSMR_LOANS	1.42	7.29 ***	13.57 ***	4.65 *	1.95
	(0.75)	(2.78)	(4.80)	(1.78)	(0.89)
BROKERED_DEP	0.62	-20.86 ***	-11.91 ***	-6.83	10.01 *
	(0.22)	(-6.05)	(-2.60)	(-1.08)	(1.86)
BIG_SHIFT	-1.28 ***	-0.55	-1.25 ***	-1.26 ***	-1.11 ***
	(-3.88)	(-1.26)	(-2.63)	(-2.79)	(-2.74)
BIG_SHIFT_MGT	-0.86	-0.83	-2.22 *	-3.24 ***	-4.03 ***
	(-0.94)	(-0.66)	(-1.85)	(-3.61)	(-5.50)
CONSTANT	12.19 ***	11.87 ***	8.85 ***	16.50 ***	13.40 ***
	(7.28)	(5.24)	(3.56)	(7.03)	(7.02)
N	2728	2592	2496	2412	2538
R^2	0.19	0.18	0.24	0.28	0.30

t-statistics in parentheses

*, ** and *** indicate significance at the 0.10, 0.05, and 0.01 levels, respectively

Table 10: Regression Results for Individual Year 2007-2011, Urban Markets (Dependent Variable: ROE)

Regressor	2007	2008	2009	2010	2011
LN_POP	-0.61 ***	-0.92 ***	-0.86 ***	-1.06 ***	-0.86 ***
	(-2.95)	(-3.37)	(-2.76)	(-4.08)	(-4.21)
PCI	-0.11 ***	-0.15 ***	-0.13 **	0.05	-0.02
	(-2.95)	(-3.20)	(-2.09)	(1.04)	(-0.49)
UNEMP	-1.01 ***	-1.35 ***	-1.20 ***	-0.01	-0.01
	(-4.39)	(-5.65)	(-6.64)	(-1.02)	(-1.22)
HHI	-2.49	1.90	-0.08	1.67	-0.77
	(-0.73)	(0.44)	(-0.02)	(0.40)	(-0.31)
MS_COMM	-0.50	-1.45	1.76	4.24 *	1.73
	(-0.30)	(-0.66)	(0.66)	(1.90)	(0.94)
YRS_DEREG	0.12 ***	0.06	0.11 **	-0.02	0.02
	(4.46)	(1.55)	(2.49)	(-0.44)	(0.85)
AGE	0.00	0.01	0.03 ***	0.01 *	0.00
	(0.21)	(1.07)	(3.79)	(1.84)	(0.39)
LN_ASSETS	2.01 ***	1.92 ***	1.86 ***	2.10 ***	1.66 ***
	(9.20)	(6.46)	(5.31)	(7.28)	(7.16)
MGT_RATING	-3.57 ***	-4.29 ***	-4.91 ***	-5.78 ***	-4.06 ***
	(-10.38)	(-9.64)	(-9.81)	(-15.57)	(-15.81)
SCORP	4.24 ***	4.61 ***	2.49 ***	1.83 ***	2.39 ***
	(9.54)	(7.94)	(3.63)	(3.16)	(5.01)
RE_LOANS	-6.35 **	-10.47 ***	-11.00 **	-8.64 **	-17.00 ***
	(-2.18)	(-2.87)	(-2.27)	(-2.47)	(-5.73)
CONSTR_LOANS	9.78 ***	-23.00 ***	-31.24 ***	-22.05 ***	-9.12 **
	(5.52)	(-8.55)	(-7.73)	(-5.46)	(-2.53)
C&I_LOANS	1.95	-10.31 **	-7.25	-0.75	-8.99 **
	(0.57)	(-2.35)	(-1.27)	(-0.18)	(-2.50)
CNSMR_LOANS	-1.97	-6.97	-4.16	2.43	-9.67 **
	(-0.54)	(-1.42)	(-0.68)	(0.52)	(-2.49)
BROKERED_DEP	-7.34 ***	-22.77 ***	-14.99 ***	-2.65	5.71
	(-3.35)	(-8.07)	(-3.25)	(-0.60)	(1.26)
BIG_SHIFT	-1.20 ***	-0.01	-2.39 ***	-1.92 ***	-0.66
	(-2.56)	(-0.01)	(-3.32)	(-2.94)	(-1.18)
BIG_SHIFT_MGT	-1.98 *	-1.63	-2.43 *	-1.41	-1.32 *
	(-1.74)	(-1.04)	(-1.70)	(-1.44)	(-1.68)
CONSTANT	19.52 ***	32.29 ***	30.22 ***	17.38 ***	26.08 ***
	(5.63)	(7.23)	(5.41)	(4.22)	(7.78)
N	2130	2005	2009	2084	2421
R^2	0.23	0.26	0.26	0.31	0.26

t-statistics in parentheses

*, ** and *** indicate significance at the 0.10, 0.05, and 0.01 levels, respectively

Table 11: Shapley R-Squared Decomposition for Pooled Years (Dependent Variable: ROE)

Rural Markets

	1992-1996	1997-2001	2002-2006	2007-2011
Outside Management Control	0.03	0.02	0.02	0.04
(% of R-Squared)	(22%)	(17%)	(11%)	(19%)
Within Management Control	0.10	0.12	0.17	0.18
(% of R-Squared)	(78%)	(83%)	(89%)	(81%)
Total	0.12	0.14	0.19	0.22

Urban Markets

	1992-1996	1997-2001	2002-2006	2007-2011
Outside Management Control	0.04	0.01	0.01	0.04
(% of R-Squared)	(26%)	(7%)	(4%)	(18%)
Within Management Control	0.13	0.19	0.21	0.17
(% of R-Squared)	(74%)	(93%)	(96%)	(82%)
Total	0.17	0.20	0.22	0.21

Table 12: Shapley R-Squared Decomposition for Single Years (Dependent Variable: ROE)

Rural Markets

	2007	2008	2009	2010	2011
Outside Management Control	0.03	0.02	0.02	0.02	0.04
(% of R-Squared)	(15%)	(14%)	(7%)	(9%)	(13%)
Within Management Control	0.16	0.16	0.23	0.26	0.26
(% of R-Squared)	(85%)	(86%)	(93%)	(91%)	(87%)
Total	0.19	0.18	0.24	0.28	0.30

Urban Markets

	2007	2008	2009	2010	2011
Outside Management Control	0.03	0.07	0.08	0.05	0.03
(% of R-Squared)	(14%)	(26%)	(30%)	(17%)	(13%)
Within Management Control	0.20	0.20	0.18	0.26	0.22
(% of R-Squared)	(86%)	(74%)	(70%)	(83%)	(87%)
Total	0.23	0.26	0.26	0.31	0.26