Challenges and Opportunities for Community Banks in Rural Pennsylvania

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EXECUTIVE SUMMARY

Typically defined as locally owned and operated institutions with assets of less than $1 billion, community banks have a unique perspective on their local economies because of their heavy involvement in community development projects and local businesses. Today's community banks face multiple challenges related to industry consolidation, competition from other bank and nonbank service providers, and funding pressures.

Among the most important trends in the banking industry is consolidation, dating back to the early 1990s, which has resulted in a significant decline in the number of banks, especially small community banks.

This research examined the impact of mergers and acquisitions on the structure of local banking markets in Pennsylvania, where structure refers to both the number of banks in local markets and the share of deposits in that market.

In addition, the research related the changes in the market structure to measures of local economic health and examined the performance of banks operating in rural communities.

The research used financial statements (Call reports) provided by banks to their respective regulatory agencies, deposit data from the Summary of Deposits collected by the Federal Deposit Insurance Corporation, and county-level economic data obtained from the Bureau of Economic Analysis Regional Economic Information System.

The findings document the significant role of community banks in the economic growth of local communities in the commonwealth. The association is stronger in rural counties than in urban counties, confirming that rural community banks play a critical role in their area's local economic prosperity.

In general, the trends in the Pennsylvania banking scene mirror those in the nation, with the total number of bank holding companies decreasing and the total number of branches/offices increasing. The decrease in the number of banks was more pronounced in rural markets than in urban markets. The rural banking markets in Pennsylvania are considered concentrated, but the level of concentration remained virtually unchanged since 1995, similar to the national experience. The most notable changes in the rural markets are the loss of in-market institutions (banks whose headquarters are located in the same market as their branches) and a decline in the number of local community banks.

This research also found a negative association between market concentration and economic development in rural markets. The change in market structure is less important for economic prosperity in urban markets. Community banks play a positive role in the economic growth of both rural and urban markets, lending support to a widely-held belief that community banks continue to perform an important function in the U.S. banking business.

The study also documented the lack of diversification in the loan portfolio of the rural, single-county community banks that derive most of their funding from local markets. The reliance of rural community banks on local markets for deposits and loans makes them potentially more susceptible to local fluctuations in the economy and the entry of larger, diversified out-of-market rivals.

From these and other findings, the research offers policy considerations, which focus on catalysts that can support rural lending by community banks. These include a proposed pilot program with the Federal Home Loan Bank of Pittsburgh to leverage its existing community development and small business programs for rural lending by community banks.

TABLE OF CONTENTS

INTRODUCTION

Community banks play an essential role in the growth of local economies. While there are many definitions of what constitutes community banks, they are generally defined as locally-owned with concentrated share ownership and limited branch networks, and having assets under $1 billion.[1]

Despite the dramatic consolidation within the U.S. banking industry since the early 1990s, where the number of banking organizations fell by over 40 percent, there were still more than 7,000 community banking organizations as of 2008 [Federal Deposit Insurance Corporation, (FDIC), Historical Statistics on Banking]. Moreover, new charters continued to be awarded by the FDIC – almost 1,700 between 1995 and 2005 - which suggests that investors believe in the future of community banks.

The importance of community banks lies in their special role of providing relationship finance to small firms, as discussed by Federal Reserve Governor Randall S. Kroszner in his speech to the America's Community Bankers Government Affairs Conference in March 2007. According to Kroszner, about one-third of small businesses use a community bank, with an even higher percentage in non-metropolitan areas. Studies indicate that unlike larger banks, small community banks have a comparative advantage in so-called "relationship lending," which is characterized by making loans based on a borrower's non-quantifiable risk characteristics that cannot be captured by the standard credit-scoring techniques used by larger banking institutions. Community banks, which tend to have flatter organizational structures and less investment in credit underwriting technologies, tend to place a greater weight on local market information about the borrower and his/her business to supplement widely available consumer credit scores. And small firms, in turn, generally prefer to deal with community banks because they can be more flexible in dealing with the firms' funding needs.[2]

As noted earlier, one of the most important trends in the banking industry is the recent rapid consolidation that resulted in a significant decline in the number of banks, especially community banks. In Pennsylvania, the total number of banking institutions headquartered in the state shrunk from 355 in 1980 to 154 in 2007. Although 35 new charters were granted in the state between 1995 and 2005, only three of these were in non-metropolitan areas.[3] This trend raises concerns that changing market shares between community and large banks may adversely affect credit availability, especially for small businesses and farms.

While a number of researchers have examined the effect of mergers and acquisitions (MA) on small firm credit availability, the results are mixed. Analyses of post-merger bank size generally found that the proportion of small loans in the combined bank portfolio declined (Keeton, 1996; Strahan and Weston, 1996; Berger, Saunders, Scalise, and Udell, 1998; and Peek and Rosengren, 1998). Analyses of mergers by bank size, however, have provided a different perspective. For example, Strahan and Weston (1998) found that mergers of small banking firms resulted in increased bank lending to small firms. Yet Avery and Samolyk (2000) found that mergers in rural markets result in persistently slower loan growth, except when small banks merged in rural markets, which resulted in higher loan growth.[4] Collendar and Shaffer (2003), however, concluded that out-of-market bank mergers and acquisitions (MA) do not necessarily impair local economic growth and could have beneficial effects in rural markets, except for farm-dependent communities.

This research examined how MA has affected the structure of banking markets in rural Pennsylvania counties and its impact on economic growth. The study examined the impact of MA on the performance of banks headquartered in rural Pennsylvania counties. The results have important policy implications regarding growth strategies for rural areas by isolating one potential obstacle. If small firm and farm lending has suffered from consolidation after controlling for the overall economy, then it suggests that the commonwealth should be more actively involved in commenting upon potential bank mergers in rural communities. If, on the other hand, consolidation has had little effect on economic growth, then policy efforts can be focused on other catalysts related to banking support of local economic growth, such as facilitating partnerships with the Federal Home Loan Bank of Pittsburgh and commonwealth-based Small Business Development Centers, and funding forums for information coordination and dissemination.

According to the 2003 Survey of Small Business Finances (SSBF), the banking sector is the most important institutional supplier of credit to small firms in the U.S. (Mach and Wolken, 2006).[5] This is particularly true in rural areas, where the majority of small firms use traditional bank credit to fund the ongoing operation and expansion of their businesses.

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[1] The Housing and Economic Recovery Act of 2008 increased the asset cap for community financial institution status to $1 billion, subject to ongoing annual adjustments for inflation.
[2] Scott et al. (2003) report that small firms surveyed in 2001 rated small banks uniformly higher on almost all bank attributes (e.g. knowledge of owner and business, speed of decisions, loan officer availability) important to the owner's banking relationship.
[3] One of these banks failed during the period.
[4] Unlike the other studies mentioned, this one used deposit data, not loan data, and implicitly assumed that loans in local markets move proportionally with deposits.
[5] The 2003 Survey of Small Business Finances (SSBF) is the last survey to be conducted. The SSBF provides the most comprehensive information on the patterns of credit use by small businesses and their providers for 1987, 1993, 1998, and 2003.

GOALS AND OBJECTIVES

The first goal of this study, which was conducted in 2008, was to examine the changes in various aspects of the Pennsylvania local bank market structure between 1995 and 2005. The market structure variables examined were the number of banking institutions and their branches, the share of in-market and out-of-market banks, the number of community banks in the market, changes in the funding sources and, most importantly, the measures of market concentration based on deposit shares.

The second goal was to determine whether the change in local bank market structure had any effect on local economic development.

The third goal was to determine if changes in market structure have affected the performance of rural community banks between 1995 and 2005.

The final goal was to provide policy considerations for the Pennsylvania General Assembly that would promote the strength of community banks in rural counties.

METHODS AND DATA DEFINITIONS

This study examined the structure of banking markets in Pennsylvania, and assessed the association between bank consolidation activity, economic growth, and financial performance of community banks in local banking markets during the 1995-2005 period.

The primary measure of bank market structure used was the Herfindahl-Hirschman Index (HHI) of deposit concentration. HHI is a summary measure of market concentration and is routinely used by federal banking agencies (Federal Reserve, Office of the Comptroller of the Currency, Office of Thrift Supervision, and FDIC) to conduct the review of proposed mergers or restructuring. The review assessed the effects of a proposed merger or restructuring on banking market concentration and whether or not the transaction was consistent with the merger guidelines established by the Department of Justice (DOJ). DOJ's primary concern is market concentration and changes in market concentration because the agency believes that the market structure environment affects competitive behavior and performance.[6] The more concentrated the market, the easier it is to restrict output, charge higher prices, and extract higher rents.

For this study, HHI is computed for each county in Pennsylvania by summing the square of each competitor's deposit market share derived from the Summary of Deposits (SOD) data, collected by the FDIC. SOD contains the annual information on the total deposits in each bank office (headquarters and branches). HHI reflects both the number of institutions in the market and the concentration of deposits in the largest institutions because it effectively assigns heavier weight to institutions with the biggest market shares (by squaring each firm's market share). For example, in the Allegheny County market, 20 institutions operated a total of 375 offices in June 2008, with the largest institution, the PNC Financial Services Group, Inc., accounting for about 46 percent of all deposits. This translated into a squared market share of approximately 2,120 points. The total HHI for the market was approximately 2,579. A market with an HHI below 1,000 is considered unconcentrated. A market with an HHI between 1,000 and 1,800 is considered to be moderately concentrated. And a market with an HHI above 1,800 is considered to be concentrated. Thus, the Allegheny County market is considered concentrated for the purposes of market definitions and structure changes analysis. Under the DOJ guidelines, any merger that would (1) result in a post-merger HHI of less than 1,800 or (2) change the value of the HHI in the relevant market by less than 200 points would not likely be challenged. However, when a proposed merger occurs in a concentrated market and the change in HHI exceeds 200 points, the DOJ is likely to challenge such a merger because it may potentially negatively affect public welfare by reductions in services and increases in prices.

This study designated each county as a local banking market and defined counties as either rural or urban, according to the population-based definition of the Center for Rural Pennsylvania[7]. According to this definition, there are 48 rural counties in Pennsylvania and 19 urban counties.

It is important to distinguish between banks and banking institutions [organizations or bank holding companies, (BHCs)]. For the purpose of market share calculations in this research, several banks owned by the same bank holding company were considered a single banking organization. For example, in the same Allegheny County market discussed above, the PNC Financial Services Group operates two banking subsidiaries – PNC Bank National Association and PNC Bank Delaware – that were combined for this analysis. Similarly, the Royal Bank of Scotland Group operates two of its banking subsidiaries (Citizens Bank of PA and RBS Citizens National Bank) in the same market, while the rest of the competitors operate only one of such subsidiaries in this market.

Various measures of bank performance, lending mix, and other market characteristics of the health and growth of small, rural banks were computed for community banks that derive all of their business from a single market. This was done to isolate the impact of changes in the market

[6] This is the so-called "Structure-Conduct-Performance" paradigm described in the banking literature.

[7] The Center for Rural Pennsylvania defines rural counties as those in which the number of persons per square mile within the county is less than 274 (the statewide population average).

Table 1: Variable Definition and Data Sources

Variable	Description and Source
Number of BHCs	Number of bank holding companies operating in a county. Source: FDIC Summary of Deposits (1995, 2000, 2005).
Number of Branches	Number of bank offices/branches operating in a county. Source: FDIC Summary of Deposits.
HHI	County-level Herfindahl-Hirschman Index (HHI) is computed as the sum of squared deposit market shares of each institution operating in a county. Source: Derived from the FDIC Summary of Deposits.
Share of In-Market Institutions	A share of in-market institutions is defined as the ratio of institutions whose headquarters are located in the same market as their branches to the total number of banking institutions in a county. Source: Derived from the FDIC Summary of Deposits data.
Share of Out-of Market Institutions	A share of out-of-market institutions is a complement to the share of in-market institutions. Source: Derived from the FDIC Summary of Deposits.
Share of Community Banks	A share of community banks in a market is derived by dividing the number of community banks by the total number of banks in a county. Community banks are banks whose total assets do not exceed $1 billion. Source: FDIC Summary of Deposits.
Total Deposits	Total deposits of banking institutions found by summing deposits of all bank subsidiaries operating in the same market. Source: FDIC Summary of Deposits.
Deposit Depth	Deposit depth is found by dividing total county bank deposits by the county population and then by per capita income. This ratio is compared to the average ratio of one, which means that deposits are equal to the county's average annual income. Source: Derived from FDIC Summary of Deposits
Deposit Evolution	Deposit evolution measures the change in banking deposit depth over time. Source: Computed from the Summary of Deposits data (between 1995 and 2005).
Log of PCI	Log of per capita personal income by county. Logarithmic transformations are used to "normalize" a distribution, i.e., to make it more symmetrical and centered. In the case of county per capita income, log transformations diminish the influence of large counties on the coefficient estimates. Source: Bureau of Economic Analysis Regional Economic Information System (BEA REIS).
Log of Population	Log of market population (see the explanation for using natural logs under log of PCI). Source: BEA REIS.
Rural	A binary variable equal to one if a county is considered rural and zero when a county is urban. According to the definition by the Center for Rural Pennsylvania, a county is rural when the number of persons per square mile within the county is less than 274.

structure on the performance of these banks. The study computed the share of community banks by dividing the number of community banks by the total number of banks in a county. Community banks are banks whose total assets do not exceed $1 billion. Similarly, the study analyzed the share of in-market and out-of-market institutions as other indicators of the market structure. In-market institutions are BHCs whose headquarters are located in the same banking market as their branches, while out-of-market institutions operate their branches outside of their home market.

Banking deposits play a key role in funding loans of community banks and therefore serve as an important source of capital for local economies. Following definitions of the Federal Reserve Bank of Kansas City (Low, 2005), the researchers used two deposit indicators to examine the supply of banking deposits in a market and to gauge whether this supply has changed over time. The first measure, banking deposit depth, is computed by dividing the total county bank deposits by county population and then by per capita income. This ratio is compared to the average ratio of one, which means that deposits are equal to the county's average annual income. Deposit evolution measures the change in banking deposit depth over time to assess the changes in a pool of local bank capital available for lending.

Financial variables are derived from the Federal Financial Institutions Examination Counsel (FFIEC) Reports of Condition and Income (Call reports) for 1995, 2000, and 2005. Call reports provide balance sheet and income statement variables that are used in a standard empirical model to relate financial performance of small, rural banks with market structure variables and economic control variables. Data for the county-level economic control variables, which include employment, population, and personal income, were obtained from the Bureau of Economic Analysis Regional Economic Information System (REIS) for 1995-2005. Table 1 summarizes the definitions and sources of data used in this research.

RESULTS

Local Consolidation Activity and Economic Growth

Market Structure Changes in Pennsylvania

Table 2 presents a profile of the structure of statistics for all banking markets in Pennsylvania. The table shows the number of bank holding companies and their branches, market concentration, the share of in-market institutions and community banks, and the change in deposits.

Overall, the trends in Pennsylvania mirror those observed in the nation. Namely, the number of BHCs decreased over time (from 369 in 1995 to 283 in 2005), but the total number of branches/offices increased (from 4,439 in 1995 to 4,643 in 2005). HHI remained flat,

Table 2: Summary of Banking Markets Information for Pennsylvania

Year	Number of BHCs	Number of branches	HHI	Share of in-market banks	Number of community banks	Share of community banks	Total deposits ($000)	Deposit depth	Deposit evolution (1995-05)
1995	369	4,439	2,181	0.37	336	0.62	159,242,208	0.55	
2000	332	4,530	2,206	0.31	285	0.58	177,019,798	0.49	
2005	283	4,643	2,178	0.27	230	0.48	225,238,000	0.49	-0.11

Source: FDIC Summary of Deposits.

suggesting that market structure conditions have not changed in an average banking market in Pennsylvania.

Banking deposit depth declined from 0.55 in 1995 to 0.49 in 2005. This ratio is compared to the average ratio of one, which means that deposits are equal to the county's average annual income. Hence, the depth ratio of 0.49 means that an average county's deposits are slightly less than half of its average income. Deposit evolution measures the change in banking deposit depth over time. It shows the difference between deposit depth in 2005 and 1995, divided by the 1995 deposit depth. Between 1995 and 2005, average bank deposits shrank 11 percent. According to the evolution indicator, the pool of local bank resources available for local businesses shrunk during the period, most likely due to greater availability of nonbank financial products, such as mutual funds and money market instruments that compete with traditional banking products, such as deposits.

Researchers have examined empirical associations between market structure and bank ownership structure (Collender and Shaffer, 2003). Out-of-market banks may be less inclined to use relationship lending when dealing with small local firms because loan approval is often centralized at their headquarters (Berger and Udell, 2002). The average share of in-market institutions in Pennsylvania markets (defined as a ratio of institutions whose headquarters are located in the same market as their branches to the total number of banking institutions in a county) has declined from 37 percent in 1995 to 27 percent in 2005. This trend shows that more out-of-market institutions operate in local markets today compared to two decades ago and this is likely due to the effect of the relaxation of geographic branching restrictions allowed by the Riegle-Neal Interstate Banking and Branching Efficiency Act of 1994. Anecdotal evidence suggests that rural small businesses tend to dislike non-locally controlled banks and expect that current bank restructuring will harm their communities.[8] A similar situation was observed in the declining presence of community banks in local markets. The number of community banks declined from 336 banks in 1995 to 230 banks in 2005. This trend was mostly the result of local market consolidation and internal growth.

Table 3 on Page 8 presents market structure conditions broken down by rural and urban counties. In 2005, 101 BHCs operated 1,427 branches in rural counties in Pennsylvania and collected $46.4 billion in deposits. In urban counties, there were 182 BHCs with 3,216 offices responsible for the total of $178.9 billion in deposits.

The decline in the number of banks was more pronounced in rural counties than in urban counties. Between 1995 and 2005, the number of branches increased in both areas, but only by 51 in rural markets and 151 in urban markets. In general, rural markets tend to be more concentrated, with an HHI of more than 2,500 in rural counties and 1,342 in urban counties. Although the average rural market is considered concentrated, the concentration metric remained virtually unchanged over this period. This is most likely the result of mergers between banks with smaller deposit shares in a market. Unlike the mergers between larger institutions, which can change the market concentration dramatically, the mergers between smaller organizations are not likely to have a measurable impact on market concentration and competition. Usually, these mergers are done to allow smaller banks to grow to a more efficient size to be able to compete with larger banks in the area. Several other interesting aspects of the structure of Pennsylvania rural banking markets include a relatively low and decreasing share of in-market institutions and a growing presence of large banking organizations.

The average share of in-market institutions (banks that are headquartered and operate their offices in the same market) fell from 36 percent in 1995 to 25 percent in 2005 in rural markets. This is most likely the effect of the banking industry's deregulation that allowed banks to branch out geographically. During the study period, the number of community banks, defined as banks with total assets of less than $1 billion, declined from 141 to 90 in rural markets and from 195 to 140 in urban markets, indicating that community banks face a larger competitor, most likely from the out-of-market area. Previous research suggests that the presence of large competitors may provide market constraints in terms of pricing and service output on local competitors (Harvey and Myers, 2008). This possibility is discussed in the next section. The depth metric exhibited a greater decline in rural areas

[8] Scott et al. (2003). For example, 44 percent of the owners gave community banks the top rating for "knows you/your business" compared to 17 percent for large banks (assets greater than $20 billion in 2001). Two other attributes worth mentioning are 1) "reliable source of credit" where 42 percent of owners gave small banks the top rating compared to 24 percent for very large banks; and 2) "easy access to loan officer" where 41 percent of owners gave the top rating to small banks compared to 19 percent for very large banks.

Table 3: Banking Markets Information by Rural vs. Urban Areas

Rural									
Year	Number of BHCs	Number of branches	HHI	Share of in-market banks	Number of community banks	Share of community banks	Total deposits ($000)	Deposit depth	Deposit evolution (1995-05)
1995	149	1,376	2,508	0.36	141	0.63	35,604,859	0.56	
2000	119	1,405	2,511	0.28	110	0.60	39,437,110	0.51	
2005	101	1,427	2,508	0.25	90	0.48	46,356,839	0.49	-0.13
Urban									
Year	Number of BHCs	Number of branches	HHI	Share of in-market banks	Number of community banks	Share of community banks	Total deposits ($000)	Deposit depth	Deposit evolution (1995-05)
1995	220	3,063	1,356	0.41	195	0.58	123,637,349	0.53	
2000	213	3,125	1,435	0.38	172	0.52	137,582,688	0.46	
2005	182	3,216	1,342	0.33	140	0.45	178,880,917	0.48	-0.10

Source: FDIC Summary of Deposits and BEA Regional Economic Information System

than in urban areas, and the evolution indicator suggests that the supply of core deposits is shrinking by a greater fraction in rural markets.

In sum, rural Pennsylvania banking markets are highly concentrated, with the number of banks, especially community banks, shrinking. These markets have shown little structural change since 1995, but have lost many in-market and community banking institutions primarily due to less restrictive branching laws that allowed banks to expand their operations outside of local markets.

Local Market Structure and Economic Growth

Because community banks lend proportionately more assets to small businesses (Berger et al., 1995, 1996; Peek and Rosengren, 1996; the Survey of Small Business Financing, 2003), and rural businesses rely more on rural banks for their borrowing needs, increased bank consolidation can potentially reduce the credit available to small businesses and have negative consequences on the overall economic growth of local economies. Table 4 presents the correlations between various characteristics of market structure and economic growth as measured by per capita income (PCI) growth for rural and urban counties. County HHI, change in HHI, the share of community banks, and the share of in-market institutions are used as indicators of market structure. Table 4 shows the strength of the statistical link between variables for 1995, 2000, and 2005. Asterisks specify the level of statistical significance of each estimate, with "***" indicating the strongest level of significance.

Table 4: Correlation Between Per Capita Income Growth (1995-2005) and Market Structure

Pennsylvania rural markets			
Market structure indicators:	1995	2000	2005
County HHI	-0.25*	-0.30**	-0.31**
Change in HHI (1995-2005)			-0.18
Share of Community Banks	0.50***	0.47***	0.52***
Share of In-Market Institutions	0.31**	0.43***	0.44***
Pennsylvania urban markets			
Market structure indicators:	1995	2000	2005
County HHI	-0.39*	-0.24	-0.05
Change in HHI (1995-2005)			0.44*
Share of Community Banks	0.50**	0.54**	0.64***
Share of In-Market Institutions	0.22	0.43*	0.35

*Superscripts *, **, *** indicate significance levels at 10%, 5%, and 1%, respectively. A 1% significance level indicates a stronger statistical association than 10%. Source: FDIC Summary of Deposits data.*

One key finding in Table 4 is the significant negative relationship between market structure, as measured by the level of HHI, and economic growth in rural economies. This result may suggest that more concentrated markets may stifle competition and result in slower economic growth of local economies. However, an alternative explanation for the negative association between market concentration and economic growth is that rural markets may not be very attractive to new banks. Harvey and Myers (2008) found that, on average, rural markets in the nation are slow growing in terms of population and deposits, with little possibility of generating excessive profits for banks servicing these markets. Thus, potential outside competitors may not view these markets favorably, which results in rural areas being serviced by fewer banks and having higher market concentrations.

The presence of community banks in a market, as described by the "share of community banks" variable, has a strong positive association with economic growth in both rural and urban markets. This further confirms results found in earlier studies showing that community banks play an important role in local communities; but it is also interesting that these banks' role in urban markets in Pennsylvania is as significant as in rural markets.

Another intriguing result in Table 4 shows that a higher share of in-market institutions is positively associated with economic growth and the relationship is stronger in rural markets. Consequently, a higher share of out-of-market institutions is negatively associated with economic growth in rural communities.

In summary, the relationship between bank market structure and growth in rural Pennsylvania economies is strong and significant: market concentration is negatively associated with economic growth as measured by the change in per capita incomes, while the share of community banks and in-market banks bear a positive association with the levels of county per capita income. Rural markets in Pennsylvania have shown little structural change since 1995, and the change in HHI is not significant for the growth in per capita income of local economies. Also, concentration seems to be less important in urban economies. The presence of community banks is associated with higher income growth in both rural and urban markets. This evidence supports the view of the vital role played by community banks in the U.S. economy (Kroszner, 2008).

The changes in the market structure can have an impact on small business lending, which is the lifeblood of most community banks. If the consolidation experienced by Pennsylvania rural banks had an effect on credit availability, then it should have been felt by small firm owners. The Appendix "Rural Pennsylvania Credit Access" examines this issue from the firm owners' perspective using surveys of credit, banks and small business sponsored by the National Federation of Independent Business (NFIB). The survey participants responded to questions about credit conditions and credit access, and report whether these conditions have changed over time.

These data suggest that small rural Pennsylvania firms have experienced the same level of MA activity with their primary bank as those small firms in urban counties before 2001, but the incidence of MA declined afterwards. Consequently, small rural Pennsylvania firms also have been less likely to change their primary bank. These small rural firms also reported no difference in credit availability compared to their urban counterparts but, at the same time, reported less increase in the competition for their banking business by 2006. This change may be due to the reduced number of bank headquarters in Pennsylvania rural markets.

Local Consolidation Activity and Performance of Rural Banks

Characteristics of Rural Banks

As mentioned, community banks play an important role in the U.S. economy, especially in rural markets. They perform special functions that may be different from those performed by larger banking institutions. Community banks provide small businesses with access to credit, and, most often, such lending is based on what is known as "relationship lending." Relationship lending generally refers to a primary reliance on non-quantifiable characteristics of a borrower, such as previous lending relationship, character, family history, or a borrower's reputation in a community, in the credit underwriting. These close ties to the communities, however, may represent challenges to community banks.

Rural community banks, in particular, tend to draw deposits and lend in the same local community, resulting in limited economic diversification, lack of geographic diversity in loans, and a resulting increased exposure to risk during economic downturns. In rural Pennsylvania markets, almost 42 percent of all banks in 1995 derived all of their deposits from branches in a single county, and although this number has fallen due to banking geographic deregulation, one third of all rural banks still collected all of their deposits from a single county in 2005. For such banks, local economic fluctuations may lead to credit quality problems for many borrowers simultaneously, unlike the banks that are more geographically diversified.[9] This section examines the performance of single-county banks in Pennsylvania.

Table 5 on Page 10 presents financial information for single-county banks between 1995 and 2005. As in the previous section, the attention is focused on banks over five-year intervals to reduce the possible effect of short-term fluctuations and to attribute any differences in bank performance and portfolio mix to important underlying trends in the industry, most notably industry consolidation.

Similar to the results in Table 3, the data in Table 5 show considerable changes in the number of single-county banks operating in rural markets. This may partially reflect the fact that banks are increasingly expanding outside of their local-market areas. More importantly, this mirrors the overall decline in the number of banks in the nation because of consolidation. The total number of rural Pennsylvania single-county banks has decreased from 63 in 1995 to 33 in 2005. Their average asset size rose from $92 million in 1995 to $128.8 million in 2005, corresponding to a compounded annual growth rate of 3.4 percent, which is roughly consistent with an increase experienced by banks of similar size in the nation. Among other notable features in Table 5 is the lack of diversification in assets. On average, more than 60 percent of all assets of rural community banks consist of loans made predominantly for real estate purposes, which account for 50 percent of all assets in the sample of banks. The corresponding figure for the larger national banks, or those with more than $1 billion in assets, was

[9] Despite rural banks' geographic concentration, some studies find that it does not pose large risks for these institutions (Hall and Yeager, 2002). The authors attribute this effect to relationship lending, where local community banks know their customers better than bankers at larger organizations. Such a relationship may help offset the exposure to local economic downturns. In addition, small banks tend to have less leverage, a greater capital cushion, and more liquidity to absorb some of the risk.

Table 5: Financial Characteristics of Single-County Rural Banks in Pennsylvania

(As of year-end, average values, $ values are in thousands)	1995	2000	2005
Number of banks	63	37	33
Asset size	$92,053	$115,776	$128,832
Net income	$1170.9	$1410.5	$1157.4
Composition of Loan Portfolio (as % of total assets)			
Total Loans	61.4%	64.9%	58.4%
Commercial and Industrial	4.6	4.7	5.4
Real Estate	46.1	51.8	48.1
Consumer	9.5	7.0	3.4
Agricultural	0.4	0.3	0.3
Performance Measures			
Return on Assets, (Net Income to Assets)	1.2%	1.1%	0.7%
Return on Equity, (Net Income to Equity Capital)	9.8	9.5	6.2
Net Interest Margin, (Net Interest Income to Assets)	3.9	3.6	3.1
Overhead Ratio (Noninterest Expense to Assets)	3.7	2.4	2.6
Capital Ratio (Equity Capital to Assets)	13.7	12.5	12.5
Loan to Deposits	69.2	82.3	74.7
Core Funding (Core Deposits-to-Liabilities)	95.4	90.3	91.7
Operating income to Assets	1.2	1.1	0.7
Non Interest Income to Assets	1.6	0.4	0.4
Noninterest Expense to Assets	3.7	2.4	2.6
Salary to Assets	1.8	1.2	1.3
Nonperforming loans	1.1	0.9	1.0

Source: Call reports for rural single- and multi-market banks in Pennsylvania for 1995, 2000, and 2005 (FDIC).

about 27 percent. This implies that community banks' fortunes are tied closely to their local economies. Furthermore, smaller banks tend to rely on core sources of funding – the deposits – and in the case of rural banks, these deposits are derived from the local economies, making these banks potentially more susceptible to economic fluctuations. Even though the average ratio of core deposits to total bank liabilities declined between 1995 and 2005, rural community banks in Pennsylvania continued to post this ratio at above 90 percent, while it is about 70 percent at larger banks in the nation that generally have more diversified funding sources.

How do single-market banks differ from banks that expand their reach outside of their home market in rural Pennsylvania? Table 6 reports averages for selected financial variables as well as the significance of differences between these variables for single- and multimarket rural banks for the 1995-2005 period.

Table 6 illustrates that both geographic diversification (proxied by the number of markets in which a bank operates) and product diversification (proxied by business loans as a percent of total assets) components are significant[10]. Rural multimarket banks exhibit higher profitability in terms of return on equity (ROE) and devote a larger share of their lending portfolio to business loans. Thus, identifying and tapping into opportunities available outside of the usual lending mix and local geographic markets may enhance economic diversity and profitability of rural banks.

Performance of Rural Banks

The results of the previous section showed that rural, multimarket banks are larger than their single-market counterparts, have a higher ROE, and are more concentrated in business loans. Given the importance of rural banks to local economic growth, another relevant question is how changes in market structure have affected financial performance of these two types of rural banks. For example, has the increasing share of out-of-market banks affected their profitability? And, what is the effect of both the size of the market (population) and the level of income (degree of economic activity) on bank performance?

The primary measure of performance used is ROE, which represents the return to the investors in the bank (in the case of rural banks, investors almost always reside in the bank's immediate market area). High profitability is important because strong banks can withstand economic downturns where rural banks are less protected by the diversification of their loan portfolios.

Table 6: Selected Financial Characteristics of Multimarket Rural Banks in Pennsylvania

	Average values for rural multimarket banks (1995-2005)	Statistical significance of differences from rural, single-market banks in Table 5 (t-value)
Return on Assets	1.04 %	-0.27
Return on Equity	10.78	3.38***
Net Interest Margin	3.59	-0.44
Asset size ($, thousand)	$513,260	5.16***
Number of markets in which banks operate	3.72	8.44***
Real estate loans as % of total assets	46.98	-0.53
Business loans as % of total assets	7.03	5.32***

*Superscripts *, **, *** indicate significant difference from zero at 10%, 5%, and 1%, respectively. A 1% significance level indicates a stronger statistical association than 10%.*
Source: Call reports for rural single- and multi-market banks in Pennsylvania as of December 1995, 2000, and 2005 (FDIC).

[10] As previously noted, community banks tend to concentrate disproportionately in real estate lending. Thus, this table uses the percent of commercial and industrial lending as a proxy for diversification in a bank's loan portfolio.

The researchers used linear regression analysis to test the questions raised in the previous paragraph. This statistical technique is commonly used by researchers to control for different effects on the variable of interest (ROE in this case) and is a more powerful technique than just comparing mean difference of ROE for single versus multimarket banks that is shown in Table 6. For example, the significantly higher ROE for multimarket rural banks could disappear after controlling for size and loan diversification in a linear regression.

There are several important results about rural bank performance identified in this analysis. First, bank size is significant regardless of the bank's footprint (single market or multimarket). Next, market concentration, level of economic activity, and other demographic variables have no impact on multimarket banks – only on single-market banks. The positive association between higher concentration and ROE in single-market banks could be interpreted in two ways. Higher concentration reflects less competition and these banks can charge above normal prices leading to less lending than would otherwise occur in a more competitive market. Alternatively, more highly concentrated markets are associated with less economic diversification and a high ROE reflects the strength of the bank to bear the risk of a local market downturn. Offsetting the effect of higher concentration in single-market banks is the presence of out-of-market banks. An increase in the presence of out-of-market banks results in a lower ROE, most likely because of their competitive effect on single-market banks. When a larger out-of-market competitor enters the local market, smaller local banks are forced to compete by lowering rates on loans, offering higher rates on deposits, lowering various fees, and incurring additional expenses on advertising, which may contribute to a deteriorating bottom line.

There is also a statistically significant negative relationship between performance of single-county banks and the size of the market population, indicating that these banks perform better in smaller rural counties, perhaps because of the greater importance of relationship lending in these markets. The interaction term that captures the effect of changes in market structure and per capita income simultaneously is negatively related to ROE of single-county banks. This means that as HHI increases in a growing-income market, the performance of these banks tend to decline.

In sum, the findings for rural banking markets in Pennsylvania between 1995 and 2005 indicate a negative effect on the performance of smaller, single-market banks when large, multimarket institutions are present. Accordingly, a greater presence of community banks in the market tends to improve the performance of single-market banks.[11] The results also indicate that counties that exhibit good economic performance in the form of higher per capita income tend to attract a higher share of out-of-market larger banks that are eager to take advantage of economic opportunities in these markets. This suggests that it is fairly easy to enter local banking markets in Pennsylvania, at least for large multimarket banks. The potential threat of entry deters smaller banks from charging high interest rates on their services and puts a negative pressure on their profitability. But the threat of entry may encourage smaller community banks to offer more personalized services to their customers, tailor loan terms, and adhere to practices that may not be available from distant, large banks that use standardized statistical methods in their lending decisions.

CONCLUSIONS

Rural community banks play a key role in the economic health and development of rural regions. They provide proportionately more lending to local businesses than larger urban banks and serve as an engine of growth in local economies. This research addressed the issue of significant banking industry consolidation and how it impacted 1) the bank market structure in rural Pennsylvania; 2) economic development of local communities; and 3) the performance of rural community banks. The following summarizes the major findings of this research:

- The trends in the Pennsylvania banking scene between 1995 and 2005 mirror those observed in the nation, where the total number of banking institutions decreased and the number of bank branches increased. The decline in the number of banks is more pronounced in rural Pennsylvania markets, where the total number of institutions decreased by 48 banks compared to 38 in urban markets.
- The rural banking markets in Pennsylvania are considered concentrated, (with the average metric of concentration, HHI, above 2,500), but the level of concentration remained virtually unchanged since 1995.
- The most notable changes in the rural markets are the decline in the number of institutions whose headquarters are located in the same market as their branches (in-market institutions) and a decline in the number of small community banks. The average share of in-market institutions fell from 36 percent in 1995 to 25 percent in 2005, and the number of community banks declined from 141 to 90 during the same period. This change is most likely due to the relaxation of geographic branching restrictions that resulted in much of the banking consolidation and out-of-state bank ownership.

[11] The researchers ran a regression that included the share of community banks instead of the share of out-of-market banks and the coefficient on this ratio was positive and significant, while the rest of the coefficient did not change materially and remained economically and statistically significant.

• Community banks play a significant, positive role in economic growth of *both* rural and urban banks, lending support to a widely-held belief that community banks perform an important function in the U.S. banking industry.

• The total number of rural, single-county banks declined from 63 in 1995 to 33 in 2005, reflecting an ongoing national trend of bank consolidation and geographic expansion. These banks lack diversification in assets (loans account for more than 60 percent of all assets), in the loan portfolio (real estate loans account for half of all assets), and in sources of funds (an average ratio of deposits to total bank liabilities hovering above 90 percent). The reliance of small rural banks on local economies for deposits and loans makes them potentially more susceptible to negative economic fluctuations and an entry of larger, diversified out-of-market rivals.

• The empirical models of bank performance finds that a greater presence of larger, out-of-market banks in rural communities has a negative effect on smaller, single-county bank profitability possibly because these banks are forced to compete with larger rivals by lowering rates, fees, and other sources of revenue and increasing expenses. This is likely the result of large banks using advances in information technology to reduce credit risk and the costs of monitoring and becoming efficient competitors for the community bank business in rural communities.

• One of the most valuable traits of community banks is their unique knowledge of the local economy and expertise in local business prospects, which results in their competitive advantage in making relationship loans. This research finds evidence that single-market banks in rural Pennsylvania have used this advantage to perform better in smaller rural counties. More importantly, in the current credit crisis, community banks are more likely to make the extra effort to work with their small firm customers.[12]

POLICY CONSIDERATIONS

The empirical findings present a conundrum for commonwealth policymakers in regard to stimulating rural growth. Despite the fact that concentrated markets are generally associated with lower economic growth, banking consolidation has not had an economically significant effect on the economic growth in rural Pennsylvania markets. The number of community banks in rural Pennsylvania has declined over the past decade, but, at the time this research was conducted, the remaining banks were in good financial condition and were still critical to funding economic development in rural counties. As such, the policy recommendations from this research focus on other catalysts that can support rural lending by community banks.

The primary policy recommendation is for the General Assembly to consider funding a pilot program with the Federal Home Loan Bank of Pittsburgh to leverage its existing community development and small business programs that provide valuable assistance for rural lending by community banks. Related to programs with the Federal Home Loan Bank of Pittsburgh are policy recommendations to improve networking between existing programs sponsored by the commonwealth, U.S. Department of Agriculture, Small Business Administration, Small Business Development Centers, Community Development Financial Institutions, and other local loan guarantee programs and economic development organizations devoted to rural development within the commonwealth.

This research has shown that banks play a vital role in the economic prosperity of rural communities in Pennsylvania. This is especially true for community banks, whose headquarters are located in the same market as their branches (in-market banks). Banks need healthy local economies to thrive. Hence banks that attend to the present and future needs of the communities they serve have the best chance to succeed in the dynamically changing rural environment and can effectively compete with larger, out-of-market rivals. To accomplish this, banks need to supplement their extensive knowledge of local communities with information on existing and emerging economic development opportunities, federal and other government agencies' programs, and partnerships with community organizations. The sections below summarize information about rural community development programs and ways to promote and expand their use by community banks in Pennsylvania.

Federal Home Loan Bank of Pittsburgh Small Business Programs

An important source of support for community lending and development is the Federal Home Loan Bank System. Since the passage of the Financial Institutions Reform, Recovery and Enforcement Act of 1989, the Federal Home Loan Bank System has allocated a minimum of $100 million, or 10 percent of its profits, to affordable housing programs. A number of the Federal Home Loan Banks, under the guidance of their former regulator, the Federal Housing Finance Board, developed programs to support small business lending. For example, the Federal Home Loan Bank of Pittsburgh (that covers the common-

[12] Phred Dvorak wrote about the experience of several community bankers in balancing the needs of their customers and regulatory pressure to write down loan balances in the Wall Street Journal's "A Small Bank Juggles Its Roles," on December 24, 2008.

wealth as well as Delaware and West Virginia), has a Banking on Business (BOB) initiative. All community banks, regardless of the amount of real estate assets, are eligible for FHLBank membership and thus have access to these programs. The funds available for these programs fall outside the affordable housing allotments and are discretionary programs approved annually by the FHLBank's Board of Directors.

BOB is a program targeted to small businesses, often startups, which lack sufficient equity or cash flow. This program offers recoverable assistance that is leveraged with funding from the participating member bank. A small business must apply through their member bank where the request is underwritten. The member must lend at least 40 percent of the project value and the BOB funding can comprise up to 50 percent of the lender's commitment. With this program, the borrower effectively has two loans: one from the member (that usually requires collateral) and one from the FHLB Pittsburgh that does not. The small business has no principal or interest repayment during the first year; during the second year principal amortization begins and the member may receive up to 3 percentage points interest from the small firm borrower for the remaining term of the loan; by year three, the small firm borrower pays an additional 3 percentage points interest to the FHLB Pittsburgh.

The goal of the program is to assist communities in creating/retaining jobs, assisting members in providing capital and promoting local economic growth. The program has specific guidelines to qualify for funding, and the FHLB Pittsburgh encourages applicants from their member institutions to use the SBDC in their area. At the time of this research, the BOB program had approximately $31 million in outstanding loans. Each year the FHLB Pittsburgh allocates approximately $6 million in two rounds. Almost 80 percent of the funds go to community banks with approximately 45 percent in rural communities. Still, only 57 Pennsylvania community bank members have made use of the BOB program despite its attractiveness.

This program is ideal for promoting economic development through community banks in rural areas. Community banks that use the program find the program to be an important adjunct to their commercial lending for economic development.

The Pennsylvania General Assembly could consider a pilot program that augments the BOB funds offered by the FHLB of Pittsburgh. Expansion of the BOB is limited by the funds made available by the FHLB Pittsburgh because of the out-of-pocket cost of establishing loan loss reserves for loans made under this program. The ideal structure would use commonwealth authority to set up a "BOB-like" loan loss reserve to leverage existing economic development funds allocated by the General Assembly. The FHLB Pittsburgh would manage the administration of the program, and determine eligibility and need for assistance through its member banks, similar to the BOB program. Like the BOB program, eligible firms would have two loans, one from the bank that is collateralized and one from the commonwealth, with a fee structure similar to the BOB program. Part of the small firm's fee after the first year would go to the FHLB Pittsburgh to cover its operating costs.

There are four advantages associated with this pilot program proposal. First, it uses the ready network of community banks already serving rural areas and an administrative infrastructure – the BOB program – that is well understood by the FHLB Pittsburgh's member banks. Second, like BOB, this program would enable a commonwealth-funded program to reach businesses whose loan requests would not otherwise be approved by a local bank. Third, by modeling this after the BOB program, the commonwealth would expand an already successful program that has low implementation risk. And finally, like the BOB program, this pilot would significantly leverage commonwealth resources because they would be matched with a loan from the community bank. A dollar of assistance can generate approximately $6 of funding by member community banks directed towards creating/retaining jobs, providing capital to underserved areas, and promoting economic growth.

Expand Opportunities in the Area of Rural Development Lending

According to the 2002 special report by the Office of the Comptroller of the Currency (OCC) on the issues of banking and rural economic development, the lack of information and expertise to generate community development loans are the two most commonly cited reasons for low participation of community banks in rural development lending. However, many existing government programs are available to help community banks to participate in these opportunities and improve their profitability while managing risks. Thus, educating borrowers/entrepreneurs and lenders will maximize the benefits of these programs.

The impact of community development projects and loan guarantees programs need to be assessed to determine if these efforts are successful and should continue to be supported by government and private funding. Such accountability is crucial for any organization. The Pennsylvania General Assembly could consider funding impact studies that assess the effectiveness of the programs described above for rural Pennsylvania. There are a number of methods that can be used to evaluate the effectiveness of the programs. For example, the Community Investment Impact System developed by the Department of Treasury's CDFI Fund was first launched in mid-2004 and is considered an "established, comprehensive repository of data on community development finance institutions and activities" (from the remarks by Alan Greenspan on "Empowering Communities, Attracting

Development Capital, and Creating Opportunities," March 2005). The Impact System contains detailed information on institutions and transactions, allowing the CDFI Fund to measure community effects and to associate those effects with financial institutions working in that area. Such results can provide informative performance benchmarks that help to effectively manage scarce societal resources and maximize the impact of these programs.

Post-script on the Credit Crisis and Community Banks

These policy recommendations are of particular relevance given the fallout from the credit crisis that has gripped financial markets since the summer of 2007. Although the origins of the crisis were concentrated in large financial institutions, the consequences of a lack of trust in interbank lending eventually found its way from Wall Street to Main Street. And with the recession, many small firms - in both rural and metropolitan areas - may find it very difficult to survive because of their size and dependence upon bank financing.

Most small banks have not faced the funding pressures felt by larger banks because of their reliance on local market deposits. In addition, small as well as large bank members of the Federal Home Loan Bank System have had access to secured advances to bolster their liquidity. During an economic slowdown, the overall risk profile of a typical bank's loan portfolio increases if its customers experience declining sales and profitability. The federal bank examiners become more aggressive in requiring banks to set aside sufficient reserves for their loan portfolio resulting in tighter lending standards, which gives the appearance of less credit available to local market customers. In this environment, a pilot program that augments the BOB funds offered by the FHLB Pittsburgh and increases their income could become an important countercyclical alternative to provide funding for credit-worthy firms in rural markets.

APPENDIX: RURAL PENNSYLVANIA CREDIT ACCESS: THE SMALL FIRM'S POINT OF VIEW

The National Federation of Independent Business (NFIB) has conducted periodic surveys of its membership (Credit, Banks and Small Business) to ask about credit conditions, credit access and relationships with their banks. The responses to questions from Pennsylvania small businesses about bank mergers, the ability to satisfy borrowing needs, the change in competition for their banking business, and bank changes are relevant to addressing how changes in bank structure have affected this important class of customers for small banks.

The table on Page 15 summarizes the responses from NFIB members located in Pennsylvania from surveys taken in early 1995, late 2001, and early 2006. The first two surveys were mailed to the NFIB membership while the last survey was a telephone poll administered by the Gallup Group using a random sample of small firms taken from the Dunn & Bradstreet files.[13] The latter survey had a much smaller sample with slightly different demographics (larger, older firms). In addition, the small number of respondents in rural areas limits the conclusions that can be drawn from the data. Nonetheless, we can still get a good sense of whether the consolidation of the banking system in rural Pennsylvania has had an adverse effect on rural small business credit availability.

Small rural firms, like those in urban areas, have experienced fewer mergers since 2001, when 34 percent reported that their bank had merged or been acquired in the past 3 years. With the reduction in banking organizations, small firms in rural Pennsylvania have been less likely to change their recent bank: 16 percent reported changing their bank in the past 3 years in 1995 versus only 10 percent in 2006.

Has less choice affected credit availability? The responses to the question "How often have you been able to satisfy the borrowing needs for your business" suggest not. Fifty-two percent of rural owners reported being able to satisfy their borrowing needs all or most of the time in 1995. This percentage increased to 66 percent in 2001 and rose further to 70 percent in 2006. Despite no apparent problem in availability, rural firms – unlike urban firms – report less competition for their business with 48 percent reporting an increase in the competition for their banking business in 1995 versus only 30 percent in 2006. This decline may be due to the reduced number of banking headquarters in local markets.

[13] The mail surveys were sent to approximately 20,000 members in 1995 and 12,000 members in 2001 with a response rate of about 20 percent. The Gallup organization contacted 750 businesses in the 2006 survey.

Pennsylvania Respondents to NFIB's Credit, Banks and Small Business Surveys

	1995		2001		2006	
	Rural*	Urban	Rural	Urban	Rural	Urban
Has your primary bank been acquired or absorbed in the past three years?						
Yes	25	28	34	41	10	20
No	75	72	66	49	70	80
Have you noticed any change in competition for your financial business (last 3 years)?						
More	48	38	37	26	30	48
No change	43	48	46	59	50	40
Less	3	8	14	9	10	12
No answer	6	6	3	6	10	0
Over the last three years, was your firm able to satisfy your borrowing needs?						
All/Most of the time	52	62	66	70	70	52
No	20	13	17	9	0	8
Don't borrow/NA	28	25	17	21	30	40
Have you changed your primary financial institution in the past three years?						
Within last 3 years	16	17	14	36	10	36
More than 3 years	79	82	75	64	90	64
No answer	5	2	11	10	0	0
No. of respondents	61	106	35	69	10	25
Median Employees	10	8	6	5	17	12
Median Years in Business	13	17	11	7	30	15
Bank size						
Under $100 million	20	11	11	20	20	16
$100 million - $1 billion	21	31	25	23	50	16
Greater than $1 billion	49	46	60	41	20	64
No answer	10	12	4	16	10	4

* Rural firms are located in Pennsylvania counties with less than 247 persons/square mile

References

Avery, R., and K. Samolyk. (2000) “Bank Consolidation and the Provision of Banking Services: The Case of Small Commercial Loans.” Mimeo, FDIC.

Berger, A., R. Demsetz, and P. Strahan. (1999) “The Consolidation of the Financial Services Industry: Causes, Consequences, and Implication for the Future.” *Journal of Banking and Finance* 23, 135-194.

Berger, A., A. Saunders, J. Scalise, and G. Udell. (1998) “The Effects of Bank Mergers and Acquisitions on Small Business Lending.” *Journal of Financial Economics* 50, 187-229.

Berger, A. , and G. Udell. (2002) “Small Business Credit Availability and Relationship Lending: The Importance of Bank Organisational Structure.” *Economic Journal* 112, F32-F53.

Collender, R., and S. Shaffer .(2003) “Local Bank Office Ownership, Deposit Control, Market Structure, and Economic Growth.” *Journal of Banking and Finance* 27, 27-57.

Harvey, J., and F. Myers (2008, January). “The Changing Influence of Market Structure on Performance in Rural Banking Markets 1985 Through 2005.” Federal Reserve Bank of Kansas City, Financial Industry Perspectives.

Keeton, W. (1996) “Do Bank Mergers Reduce Lending to Businesses and Farmers? New Evidence from Tenth District States.” *Economic Review,* Federal Reserve Bank of Kansas City (Third Quarter), 63-75.

Low, S. (2005) “Regional Asset Indicators: Bank Deposit Depth and Evolution.” Federal Reserve Bank of Kansas City, Center for the Study of Rural America.

Mach, T., and J. Wolken. (2006, October) “Financial Services Used by Small Businesses: Evidence from the 2003 Survey of Small Business Finances.” Federal Reserve Bulletin.

Peek J., and E. Rosengren. (1996) “Small Business Credit Availability: How Important is Size of Lender? in A. Saunders and I. Walter, eds., *Universal Banking: Financial System Design Reconsidered* (Irwin, Chicago, IL), 628-655.

Peek J., and E. Rosengren. (1998) “Bank Consolidation and Small Business Lending: It’s Not Just Bank Size that Matters.” *Journal of Banking and Finance.*

Strahan, P., and J. Weston. (1996) “Small Business Lending and Bank Consolidation: Is There Cause for Concern?” *Current Issues in Economics and Finance* 2, Federal Reserve Bank of New York.

Strahan, P., and J. Weston. (1998) “Small Business Lending and the Changing Structure of the Banking Industry.” *Journal of Banking and Finance* 22, 821-845.

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