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Dean F. Amel, Arthur B. Kennickell, and Kevin B. Moore

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Dean F. Amel, Arthur B. Kennickell and Kevin B. Moore[*]

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Abstract

This paper uses data from the triennial waves of the Survey of Consumer Finances from 1992 to 2004 toexamine changes in the use of financial services with implications for the definition of banking markets. Despite powerful technological and regulatory shifts over this period, households' banking markets overall remained largely local--the median distance to a provider of financial services remained under four miles.However, there has been rapid growth in the use of non-depository financial institutions over the period, particularly non-local ones. This increase occurred across a wide variety of demographic and other household classifications. The evidence on the clustering of financial services is mixed. Households showed a slightly greater tendency to buy multiple banking services from their primary provider of such services in 2004 thanin 1992, while they also became much more likely to procure services from firms that were not their primary provider.

[*] Division of Research and Statistics, Board of Governors of the Federal Reserve System, Washington, D.C. 20551. The views expressed here are those of the authors and do not necessarily reflect those of the Board of Governors or its staff. We thank Bob Adams, Lamont Black, Ken Brevoort, Beth Kiser, and Robin Prager for helpful comments. Any remaining errors are the responsibility of the authors.

1. Introduction

Any analysis of competition under U.S. antitrust statutes begins with the definition of the relevant market in both geographic and product space. The established legal standard for analysis of competition in the U.S. banking industry in recent decades has been that banking markets are geographically local – encompassing an area roughly equivalent to a metropolitan area or one or two rural counties – and that the sole product market is the cluster of financial products and services typically supplied by commercial banks. This paper examines recent evidence from the Survey of Consumer Finances on these two aspects of banking market definition in the context of earlier results, taking into account measurement issues introduced by changes in market structure over time.

The use of local geographic banking markets has generated some controversy in recent years. The expansion of bank branch networks (due partly to relaxation of legal constraints on the geographic expansion of banks), the increased centralization of deposit and loan rate setting by some banking organizations, the emergence of nationwide networks of automated teller machines, and the growth of Internet banking have led some to argue that banking markets are now statewide or larger in scope. Geographic expansion by financial institutions also blurs the precision of measures of the distinction between local and non-local institutions; for example, if a customer had an account at a non-local institution that subsequently opened a branch in the customer's local market, the account could be inferred to be a local one simply as a result of a change in market structure independent of the account owner. Similarly, if someone mainly accesses the services of an institution remotely via mail, telephone, fax or the Internet, but the institution has a local physical presence that is used periodically, the institution might reasonably be classified as either local or non-local; even if nearly all use were remote, the possibility of using a local office for problem resolution might still argue for treating the institution as a local one.

The use of the cluster of banking services as a product market has generated less commentary, despite evidence that bank customers increasingly utilize multiple providers of financial services, including non-bank firms, for many of their financial needs. The use of the cluster is convenient both for bank regulators and potential bank acquirers,

because it simplifies antitrust analyses that could become quite costly and lengthy if every bank product and service were considered to be in a separate market.

Since the passage of the Gramm-Leach-Bliley Act (or Financial Services Modernization Act) of 1999, however, the appropriate definition and measurement of the cluster have become somewhat more complicated. In response to this law, many financial institutions moved to provide a broader array of services to consumers, thus enlarging the possibility of clustering of services. At the same time, it has become more common for large financial services companies to consist of many sub-units that may separately provide traditional deposit services; specialized loan services, such as mortgages, lines of credit, credit cards, vehicle-related and other installment loans, higher-risk short term loans, etc.; brokerage and trust services; and a variety of other types of investment services. Some such sub-units may have their own common brand names distinct from that of the parent company. As a result, it is not clear that customers always recognize the extent to which they may be buying services from different arms of one company. To capture clustering in the presence of such differentiation requires a broader definition of the financial entity examined.[1]

This paper reviews trends in the use of financial services by U.S. households, using data from the triennial waves of the Survey of Consumer Finances (SCF) from 1992 to 2004. The core of the work presented here follows analysis by Amel and Starr-McCluer (2002) and Kwast, Starr-McCluer and Wolken (1997), utilizing data from two surveys not available when the previous papers were written. In addition, the paper analyzes differences among households with different demographic and financial characteristics in the geographic patterns of their procurement of financial services. Finally, the paper relates geographic patterns to the structure of local banking markets to determine if household behavior is influenced by the local competitive environment in the banking industry.

The following section reviews the legal basis for current banking market definitions as well as previous research on such definitions. Section 3 describes the relevant portions of the SCF. Section 4 reviews evidence on the geographic dispersion of

[1] As an illustration of the extent to which large financial institutions with many sub-units have expanded in recent years, the percentage of the banks and thrift institutions operating a branch in a market but headquartered in a different state has increased from 1 percent in 1994 to 18 percent in 2004.

suppliers of household financial services. Section 5 examines at the extent to which purchases are clustered at financial institutions. Section 6 analyzes the effects of demographic variables and market structure on the geographic characteristics of the demand for banking services. The paper concludes with a summary and discussion of policy implications.

2. Legal and Economic Bases for Banking Market Definitions

The legal standard for defining a market for purposes of antitrust analysis has developed over the decades since passage of the Sherman Act in 1890. According to the current Horizontal Merger Guidelines of the Department of Justice and Federal Trade Commission, a market is a "product or group of products and a geographic area such that a hypothetical profit-maximizing firm, not subject to price regulation, that was the only present and future producer or seller of those products in that area likely would impose at least a 'small but significant and nontransitory' increase in price, assuming the terms of sale of all other products are held constant."[2]

The applicability of antitrust standards to banking was not clear until 1963, when the Supreme Court held that the antitrust laws, and in particular section 7 of the Clayton Act (1914), applied to banking.[3] The Court's opinion regarding the applicability of the Clayton Act to banking was reaffirmed by the Congress in 1966, when it amended both the Bank Merger Act (1960) and the Bank Holding Company Act (1956), and in 1978, when it passed the Change in Bank Control Act.

In addition to clarifying the applicability of the antitrust laws to banking, the *Philadelphia National Bank* case laid the basis for the geographic and product market definitions still used in banking today. The Court ruled that, because important classes of bank customers are locally limited, the local geographic area is the relevant geographic market for an analysis of competition in banking.[4] In addition, the Court found "that the cluster of products (various kinds of credit) and services (such as checking accounts and trust administration) denoted by the term 'commercial banking' composes a distinct line

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[2] U.S. Department of Justice and the Federal Trade Commission, *Horizontal Merger Guidelines*, www.usdoj.gov/atr/public/guidelines/horiz_book/hmg1.html. The current guidelines were first published in 1997.

[3] *United States v. Philadelphia National Bank*, 374 U.S. 321, 372 (1963).

of commerce."[5] The rationale given for the cluster was that some commercial banking products or services are so distinctive that they are entirely free of effective competition from products or services of other financial institutions, while others enjoy either cost advantages or settled consumer preferences that insulate them within a broad range from substitutes furnished by other institutions.

In the years since *Philadelphia National Bank*, the courts have indicated a willingness to consider the argument that, as a result of changes in the financial sector, commercial banking services as a whole are not a single product line and that competition may extend beyond local markets. However, the courts have consistently held that arguments for changing the basic market definition in banking must be based on persuasive economic evidence.

Empirical evidence on the product cluster of financial services comes from previous research on the SCF and from the Surveys of Small Business Finances (SSBF) conducted in 1993, 1998, and 2003. Data from the SSBF indicate that small businesses in the United States obtain, on average, two financial services from their primary financial institution and from local depository institutions in general, most of which are commercial banks.[6] In contrast, small businesses typically obtain only one financial service from non-depository and non-local suppliers. Analysis using the waves of the SCF from 1989 to 1998 found some weakening over time in the extent to which households cluster their purchases of financial services.[7] While the average number of financial services purchased from a household's primary institution had increased over time, the percentage of a household's total services obtained from the primary institution had declined.

Empirical evidence on the geographic scope of banking markets suggests that banking markets are still local for most households and small businesses. The SSBFs

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[4] Ibid., p. 360.

[5] Ibid., p. 356.

[6] Previous research on the SSBF can be found in Myron L. Kwast, Martha Starr-McCluer and John D. Wolken, "Market Definition and the Analysis of Antitrust in Banking," *The Antitrust Bulletin*, 44 (1997), pp. 973-995, and Marianne P. Bitler, Alicia M. Robb and John D. Wolken, "Financial Services Used by Small Businesses: Evidence from the 1998 Survey of Small Business Finances," *Federal Reserve Bulletin* 87 (2001), pp 183-205. Unpublished results from the 2003 survey are consistent with those from previous surveys.

[7] See Dean F. Amel and Martha Starr-McCluer, "Market Definition in Banking: Recent Evidence," *The Antitrust Bulletin* 47 (2002), pp. 63-89.

from 1993 to 2003 indicate that the majority of small businesses obtain most of their financing from local financial institutions, primarily commercial banks. For example, as of year-end 1998, 82 percent of all financial services, 94 percent of checking and savings services, and more than 75 percent of financial management services used by small businesses were obtained from local sources.[8] In addition, a survey conducted for the National Federation of Independent Businesses finds that small businesses perceive their banking markets to be very locally limited.[9]

Past research on the SCF has found that households rely almost exclusively on local financial institutions for products and services such as transactions accounts, certificates of deposit and lines of credit, but look increasingly to non-local providers for other services. Other empirical studies that find differences in deposit and loan rates across metropolitan areas and rural counties also suggest that banking markets are local. Research conducted in the early 1990s, confirmed by more recent empirical work, finds significantly higher loan interest rates and significantly lower deposit interest rates in more concentrated local banking markets.[10]

3. The Survey of Consumer Finances

This paper uses data from the 1992, 1995, 1998, 2001, and 2004 SCFs. The survey gathers a great deal of information on the financial services used by households. This paper focuses on services typically supplied by commercial banks, including checking accounts, savings accounts, money market deposit accounts, money market mutual funds, certificates of deposit, IRA and Keogh accounts, brokerage accounts, trust and other managed assets, home mortgages, motor vehicle loans, home equity and other lines of credit, and other consumer loans.

The SCF is conducted every three years under the sponsorship of the Federal Reserve Board and in cooperation with the Statistics of Income Division of the Internal

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[8] For 1993 small business results, see Kwast, Starr-McCluer and Wolken, op. cit. The statistics for 1998 and 2003 are based on unpublished tabulations from the relevant business surveys provided by John Wolken.

[9] Dean F. Amel and Kenneth P. Brevoort, "The Perceived Size of Small Business Banking Markets," *Journal of Competition Law and Economics* 1 (2005), pp. 771-784.

[10] See Erik A. Heitfield, "What Do Interest Rates Say about the Geography of Retail Banking Markets?" *The Antitrust Bulletin* 44 (1999), pp. 333-47; and Erik Heitfield and Robin A. Prager, "The Geographic Scope of Retail Banking Markets," *Journal of Financial Services Research* 25 (2004), pp. 37-55.

Revenue Service. The survey collects detailed information on households' assets, liabilities, use of financial services and other financial characteristics. Since 1989, the survey has included questions about the types of financial institutions used and their distance from the home or office of the household member who uses them most often.

Information is collected on up to six (seven in 2004) different financial institutions used by the household, along with information linking the financial services used by households to those institutions.[11] However, the type of an institution may be difficult for some respondents to identify, despite provision of definitions by interviewers. Some respondents may be unable to distinguish commercial banks and savings banks, for example, and, as discussed earlier in this paper, the proliferation of entities within broad financial services companies inherently complicates even the conceptual problem of identifying the type of an institution where a household uses services that cut across such entities.[12] Interviewers are instructed to ask respondents for the approximate distance of each institution (or its ATM, if that is more commonly used than an office) from the home or office of the person who uses it most frequently, but in some cases the distance may be unclear. The household may use a variety of offices, and some of those may be local offices while others may be more remote; in such cases, the respondent would be asked for the distance associated with the office used most frequently. Distance may be particularly unclear when the institution is used only by telephone or over the Internet; when the respondent can only say that the institution is used by either of these means or by mail to a remote location, the distance is assumed in this analysis to be more than 50 miles. Because the SCF offers interviewers a code "more than 50 miles" to use in cases where the respondent is uncertain of just how far away an institution at least this distant might be, the data provide comparably useful

[11] The institutions are ones reported by the survey respondent as institutions where they have deposits or other such accounts or where they have loans. In the case of mortgages, the institution may not be the originating lender, but rather the current servicer of the loan. For first-lien mortgages on a primary residence, the SCF contains an indication of whether the current servicer is the same as the originating institution, and from 2001 forward it contains information on the distance to the originating institution.
[12] It is also open to question whether a household that only uses services of one subsidiary of a large financial services company will be more likely to report the type of the subsidiary or the parent firm. In some cases, respondents may identify the type of the firm with the historical code of the institution—for example, as might be the case for an insurance company that expanded to provide banking services through subsidiaries.

information only up to this limit. For consistency in analysis in this paper, all distances reported as a value greater than 50 miles are truncated at 50 miles.

For purposes of this paper, we divide financial institutions into depository and non-depository institutions, with the former subdivided into commercial banks, thrift institutions (including savings and loans and savings banks) and credit unions.[13] Non-depository institutions are divided into finance companies, brokerage firms, mortgage finance companies, other nontrivial institutions, and entities described as an individual or small set of individuals.[14] All financial institutions are also divided into local and non-local firms, with the boundary between the two set somewhat arbitrarily at 30 miles from the home or office of the household member most involved in managing the account.[15] In addition, financial firms are divided between those identified by the survey respondent as the household's primary financial institution and all other providers of financial services.

4. Geographic Banking Markets

Data from the 2004 SCF show that the distances between households and the financial institutions at which they get their financial services remain quite short. Table 1 gives a summary of the distributions of distance from a household to its provider for a number of different financial services for both 1992 and 2004. As noted earlier, the distance data used in this paper have been truncated above at 50 miles.

The median distance to a provider has increased for all financial products except checking, savings, and money market accounts and certificates of deposit; because these are common types of accounts, the median distance for all accounts stayed constant over the twelve-year period. Among the instances where the 90th percentile of the distance to a provider was already at 50 miles in 1992, the distribution of distance can be seen to have shifted further outward for all products except money market accounts.

[13] The classification of financial institutions as depository or non-depository suffers from the same problems as the classification of the overall institution type. A given household may use both depository and non-depository subsidiaries of an institution. Here institutions classified in the SCF as broad financial services companies are treated as commercial banks.
[14] See the notes to table 4 for a definition of the institution classification used in this paper.
[15] Using a 40-mile cut-off to define the local market does not yield any substantive differences.

Nonetheless, the median distance remains quite short—under 4 miles—in 2004 for the deposit accounts and for lines of credit.

Given that nearly half of households in 2004 households used the Internet for financial services, tools or information (see Bucks et al. [2006]), it might be expected that this means of access was a driver in increasing the use of non-local institutions. For households with relationships with non-local financial institutions in 2004, 19 percent of accounts or loan services were accessed via the Internet, while the comparable figure for local institutions was 18 percent. Both estimates increased from a level in 1992 that was so slight or indistinct as to be undetectable in the SCF. Thus, the Internet has become an important means of accessing financial services regardless of the location of the institution; at the same time, it may also have facilitated the discovery of non-local institutions or the opening of non-local accounts.

Although the shares of services used at local institutions remained high in 2004, the surveys from 1992 to 2004 show a steady decline in the shares of accounts and loans at local institutions (table 2). Although trends within the period are mixed for individual types of service, the share of services at local institutions was lower in 2004 than in 1992 in all cases except money market accounts. While the great majority of checking and savings accounts, certificates of deposit, and money market accounts remain at a local institution, the shares of vehicle loans and other loans fell below half and other types also declined substantially.

If the focus is restricted to local *depository* institutions, the patterns are similar, but some of the declines from 1992 to 2004 are much sharper—particularly for loans. In 2004, the majority of loans other than lines of credit were obtained from an institution other than a local depository. For deposits, there were also large declines in the shares of IRAs and Keogh accounts and trust accounts at local depositories, while brokerage accounts declined further from a level that was already very low in 1992.

Examination of the dollar shares of holdings of accounts or loan balances provides an alternative picture of the market share of local institutions. Comparing table 2 to table 3, the overall dollar share of accounts held with local institutions was lower than the share of accounts held with local institutions in all the years shown. The difference was most notable for checking, savings, and money market accounts; results

for local depositories alone are similar. The dollar share of accounts declined over 1992 to 2004, but the shift was already apparent in 1995; IRA/Keogh accounts, brokerage accounts, and trusts experienced the largest declines. For loans, shares of accounts and dollar shares were similar in all years and both measures declined over the period.

Table 4 approaches the local/non-local breakdown from another perspective. For households that actively use at least one institution for deposit or loan services, the table shows the share of such households that procure at least one financial product or service from local or non-local financial institutions of various types. Looking first at all financial institutions, the table shows that there has been little change in the use of local institutions, while the use of non-local institutions has increased more than 50 percent: In 2004, 57 percent of households used at least one non-local provider of financial services, up from 35 percent in 1992.

These overall figures mask substantial differences over time in the use of depository institutions and non-depositories. Almost all households continue to use a local depository institution, but the composition shifted from 1992 to 2004. The share of households using local credit unions rose slightly, but the share using local commercial banks and thrifts declined more---much more in the case of thrifts, reflecting the decline in the numbers of thrifts through failure or acquisition by commercial banks. Taken with the overall steady level of use, these shifts show that fewer households are using multiple types of depository. At the same time, use of non-local depositories rose overall, while the use of non-local commercial banks and credit unions rose and use of non-local thrifts declined as in local markets.

In 1992, local and non-local non-depositories overall were used at virtually the same rate. By 2004, there had been a 50 percent increase in the use of local non-depository financial institutions overall, while the use of non-local non-depositories had more than doubled. For all four categories of non-depository financial institution, it was more common for households to use a non-local firm than to use a local firm in 2004; in 1992, this was true only for mortgage finance companies. The growth in the use of non-local finance companies was particularly pronounced over the twelve years analyzed.

5. Banking Product Markets

One indication that the tendency of households to cluster the purchases of financial services at one provider may have weakened over time is the increasing percentage of households that utilize non-depository institutions. Table 5 shows that from 1992 to 2004 almost all households continued to have a relationship with at least one depository institution. The decline in the use of thrift institutions over time indicates either that households are reducing the number of depository institutions with which they have accounts, or they have switched their thrift institution relationships to relationships with multiple commercial banks or multiple credit unions.

Over the same period, there was a near doubling in the percent of households with accounts at one or more non-depository institutions, and there were substantial increases for all four categories of such firms. The percentage of households with an account at a finance company tripled from 1992 to 2004, the percentage with some sort of account with a brokerage increased by three-quarters, the percentage with a relationship with a mortgage finance firm almost doubled, and the use of other non-depository institutions more than tripled. This suggests an increased willingness to look beyond depository institutions for at least some financial products and services.

Clustering of the use of financial services might most readily be examined by looking at the services selected at the institution deemed by the respondents to be the one where the household does the most business.[16] In 2004, 87 percent of households with any accounts reported that the "primary" institution was one where they had their main checking account; the figure in 1992 was 84 percent. About a third of those not reporting such a connection in 2004 did not have a checking account.

[16] In the initial enumeration of financial institutions in the SCF, the respondent is asked to begin with "the one where you do the most business". The phrase "the most business" is not defined for the respondent, so the basis of this classification may vary across cases; some may consider the intensity of business in a single account, others may consider the number of distinct number of services used, the amount of money deposited or owed, or other distinctions.

Table 6 shows that the use of non-depository institutions as non-primary providers of financial services nearly doubled from 1992 to 2004. By construction, all households in this analysis have a primary institution. While 95 percent of all households had a depository institution as their primary provider in 2004, this was a slight decline from the level in 1992. Somewhat surprisingly, given the drop in use of thrift institutions found in previous tables, commercial banks lost the most primary relationships of any category of firm, while thrifts suffered more modest (though proportionately greater) losses and credit unions increased their share of primary relationships by 50 percent. Among non-depository institutions, brokerages nearly doubled their share of primary relationships from 1992 to 2004, but still held only 2 percent of all primary relationships in 2004.

The percent of households with any non-primary relationships rose overall, but the percent of such households with secondary relationships with a depository institution dropped about 10 percent from 1992 to 2004, with only commercial banks maintaining about the same percentage of households having such non-primary accounts. All categories of non-depository institution saw large increases in the share of households with which they had a non-primary relationship. Finance companies more than tripled their penetration in this category to 23 percent of all households, mortgage finance companies doubled the share of households with which they dealt to 23 percent, and brokerage firms increased their penetration by 80 percent, to 30 percent of all households. The percentage of households with such a relationship with other non-depositories more than tripled to 11 percent.

Table 7 looks at primary financial relationships by type of account rather than by type of institution. While the overall percentage of services acquired from a primary institution first moved up then turned down in a range of 53 to 56 percent over the five SCFs from 1992 to 2004, this relatively small change masks variation in patterns across product lines. Primary institutions gained shares of all savings accounts, money market accounts and lines of credit. The share of all checking accounts held by primary institutions held fairly steady---at about 72 percent---as did the shares of certificates of deposit, brokerage accounts and trust accounts. Primary institutions lost considerable

shares of the markets for IRAs and Keogh accounts, mortgages, vehicle loans and other loans.

The memo lines at the bottom of table 7 show a decline in the plurality of households that get only one service from their primary institution, from 44 percent in 1992 to 39 percent in 2004. About 30 percent of households relied on the primary institution for two services, a 10 percent increase over twelve years, and households using four or more services increased from 13 to 15 percent. In contrast to the implications of table 6, these data suggest a modest increase in the popularity of clustering services in recent years.

6. The Effects of Demographic Factors and Market Structure on Market Size

The data show clearly that over the 1992-2004 period, people in general became more likely to use financial services at institutions outside of their local market area, but are there types of households that are more or less intensive users of such services? Table 8 addresses this question by presenting evidence on the use of non-local institutions for accounts or loans, broken down by demographic, geographic and market characteristics. The most striking finding is the increase across all the groups in the likelihood of using a non-local institution at all or for account or loan services.[17] Moreover, among the groups shown, the shift is small only for the group with less than a high-school education and only in the case of account services. Overall, proportional increases were greatest among two groups with relatively low levels of use in 1992 and 2004: account-holding households headed by persons 65 or older and those in the lowest 40 percent of the income distribution.

The use of non-local providers for both deposit accounts and loans is substantially higher among age groups younger than 65 years than for the two older cohorts. This suggests that, over time, the use of non-local institutions will continue to grow relative to the use of local firms. In time, this could weaken the case for local geographic markets in banking.

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[17] The increase in the use of non-local institutions is largely driven by an increase in the use of non-local non-depositories. Changes in the use of non-local depositories over 1992-2004 were minimal for all groups.

Substantial differences remained in the levels of use across other groups as well. Households in higher net worth or education groups, white non-Hispanics and homeowners had higher rates of use than their complements in both 1992 and 2004. Such households tend to use more services, and thus have more chances to choose a non-local institution.

The last factor in the table, the Herfindahl index for commercial banks, thrifts and credit unions in the MSA or other geographic area where a household is located, is a key factor in defining the competitiveness of local banking markets. Markets with a value of the index of greater than 1800 are generally considered to be highly concentrated markets. In 1992, there was little difference between households in highly concentrated markets and households in less concentrated markets in the use of non-local institutions overall and separately for accounts and loans. However, between 1992 and 2004 growth in this use was much stronger among households in the more competitively structured markets. Thus, both types of market became effectively more competitive, but the most competitive ones became relatively more competitive. These results give no indication that households in more concentrated markets look outside the local market for services. Future research will address the degree to which this differential change reflects differences in the penetration of electronic banking.

To get an indication of the degree of independence of the factors in the table in explaining the use of non-local services, probit models were run to estimate the propensity to have a non-local provider overall and for either account or loan services. These models also controlled for key aspects of the survey sample design and for the number of services used. The regression results are similar to the findings in table 8 and are not reported for the sake of brevity.

7. Summary and Policy Implications

In recent years, there have been changes in technology and regulation with the potential to reshape the definitions of geographic and product markets for banking services. The availability of financial services firms via the Internet opens a national market to consumers who are willing to use this medium. Changes in the scope and structure of financial service firms have potentially more complicated effects. Many

firms have taken advantage of the demise of restrictions on interstate banking to open offices across many states or across the country; this factor raises the question of whether branches of such firms are "local" in a meaningful sense. Additionally, with the passage of the Gramm-Leach-Bliley Act in 1999, many banks have moved to the provision of a broader spectrum of financial services, increasing the possibility that consumers might choose to cluster their financial services with a smaller set of institutions. Moreover, this possibility might be reinforced by firms' permitted use of consumers' confidential financial information within the corporate family to tailor the marketing of services. At the same time, the growth of specialized financial institutions could reduce the tendency of households to cluster their purchases of financial products from one provider. In this paper, we use the Survey of Consumer Finances from 1992 to 2004 to examine the net effect of interaction of these supply-side changes with consumers' observed behavior.

Over the 1992 to 2004 period, the median distance to a provider of financial services remained under four miles. This stability largely reflects the continued use of at least nominally local institutions for checking, savings and money market accounts and certificates of deposit. But markets for many other banking services appear to have become notably less local over this time. Additionally, there has been rapid growth in the use of non-depository financial institutions over the period. This shift is true for local non-depositories, but it is especially marked for non-local non-depository institutions.

The evidence on the clustering of financial services is mixed. Households showed a slightly greater tendency to buy multiple banking services from their primary provider of such services in 2004 than in 1992. However, over the same period they became much more likely to procure services from firms that were not their primary provider. Underlying these changes was an increase in the number of products used, which allowed for both increases.

The increase in the use of non-local financial firms occurred across a wide variety of demographic and other household classifications. While, as expected, the young, wealthy and highly educated became relatively more likely to use non-local providers of services than others, all ages, income levels and education levels increased their use of non-local providers over 1992-2004, often by quite dramatic amounts. The general trend toward the use of non-local firms was also visible in both urban and rural markets and in

both highly concentrated and less concentrated banking markets, as traditionally measured. However, the data do not suggest that households in highly concentrated banking markets were relatively more likely to turn to non-local providers of financial services.

The rapid increase in the scale and scope of the use of the Internet and other nontraditional methods of providing services will make continued survey research on banking markets crucial to financial regulators. In addition, the 2007 SCF contains questions designed to determine whether the provider of a financial service is based locally or headquartered in a different state than the household. While allowing a more complete examination of issues surrounding the local presence of providers of financial services, these questions also will allow analysis of the potential segmentation of financial markets between local and multi-state organizations, as suggested by recent work by Adams, Brevoort and Kiser (2007).

Bibliography

Adams, Robert, Kenneth Brevoort and Elizabeth Kiser (2007). "Who Competes with Whom? The Case of Depository Institutions," *Journal of Industrial Economics,* 55, pp. 141-167.

Amel, Dean F. and Kenneth P. Brevoort (2005), "The Perceived Size of Small Business Banking Markets," *Journal of Competition Law and Economics* 1, pp. 771-84.

Amel, Dean F. and Martha Starr-McCluer (2002), "Market Definition in Banking: Recent Evidence," *The Antitrust Bulletin* 47, pp. 63-89.

Bitler, Marianne P., Alicia M. Robb and John D. Wolken (2001), "Financial Services Used by Small Businesses: Evidence from the 1998 Survey of Small Business Finances," *Federal Reserve Bulletin* 87, pp. 183-205.

Bucks, Brian K., Arthur B. Kennickell and Kevin B. Moore (2006), "Recent Changes in U.S. Family Finances: Evidence from the 2001 and 2004 Survey of Consumer Finances," *Federal Reserve Bulletin,* http://www.federalreserve.gov/pubs/bulletin/2006/06index.htm.

Heitfield, Erik A. (1999), "What Do Interest Rates Say about the Geography of Retail Banking Markets?" *The Antitrust Bulletin* 44, pp. 333-47.

Heitfield, Erik A. and Robin A. Prager (2004), "The Geographic Scope of Retail Banking Markets," *Journal of Financial Services Research* 25, pp. 37-55

Kwast, Myron L., Martha Starr-McCluer and John D. Wolken (1997), "Market Definition and Analysis of Antitrust in Banking," *The Antitrust Bulletin* 44, pp. 973-995.

U.S. Department of Justice and the Federal Trade Commission, *Horizontal Merger Guidelines*, www.usdoj.gov/atr/public/guidelines/horiz_book/hmg1.html.

Table 1
Distance from institutions used, by type of service

	1992				2004			
	Distance in miles, by percentile				Distance in miles, by percentile			
	25th	Median	75th	90th	25th	Median	75th	90th
All accounts	0	3	8	50	1	3	15	50
Checking	0	2	5	12	0	2	5	18
Savings	0	3	8	30	0	3	10	50
Money market	0	3	10	50	0	3	10	50
CDs	0	3	6	20	0	2	9	50
IRA/Keogh	2	5	25	50	3	15	50	50
Brokerage	4	10	50	50	5	25	50	50
Trust	3	15	50	50	4	30	50	50
All loans	2	7	50	50	3	22	50	50
Mortgages	3	9	50	50	3	25	50	50
Vehicles	2	7	22	50	4	40	50	50
Lines of credit	0	3	10	50	1	4	18	50
Other loans	2	10	50	50	5	50	50	50

Table 2

Shares of services acquired from local institutions and local depositories, by type of service, 1992-2004

	Share of services acquired from:									
	Local institution					**Local depository institution**				
	1992	**1995**	**1998**	**2001**	**2004**	**1992**	**1995**	**1998**	**2001**	**2004**
All accounts	88.7	86.3	85.3	84.3	82.5	80.4	77.3	75.7	74.0	72.0
Checking	95.1	94.6	94.2	94.3	93.9	94.4	93.8	93.3	93.2	93.1
Savings	90.0	89.2	90.	91.7	86.4	88.5	88.0	89.7	90.9	81.8
Money market	85.1	82.2	79.5	81.4	86.3	72.1	66.4	63.5	65.1	76.5
CDs	91.8	90.1	91.1	91.2	87.6	88.9	87.9	88.0	87.0	85.1
IRA/Keogh	77.2	68.2	65.2	61.8	58.6	53.4	41.8	36.8	31.2	26.8
Brokerage	71.6	64.1	59.8	56.6	53.2	8.7	6.3	6.3	7.0	6.0
Trust	59.0	56.2	56.6	51.4	52.0	30.1	21.2	21.1	23.5	17.3
All loans	71.3	61.3	57.8	56.2	52.7	61.1	51.9	43.2	44.9	39.0
Mortgages	66.7	55.9	53.2	52.2	51.9	56.3	48.0	41.7	41.2	39.7
Vehicles	77.9	64.2	61.5	58.0	48.7	69.5	56.2	49.8	49.0	37.4
Lines of credit	86.4	83.1	82.3	84.5	78.2	79.7	77.7	72.8	798	73.0
Other loans	62.0	57.1	50.1	46.1	44.8	46.8	40.6	23.4	25.6	19.3

Table 3

	Percentages of dollars held in or owed to:									
	Local institution					Local depository institution				
	1992	1995	1998	2001	2004	1992	1995	1998	2001	2004
All accounts	83.0	74.4	70.6	66.6	68.1	63.9	52.9	42.5	36.1	40.0
Checking	92.7	91.4	85.2	90.3	87.6	88.8	87.9	83.7	82.2	82.3
Savings	90.3	87.0	91.9	90.2	82.3	87.6	82.1	88.4	87.6	70.3
Money market	80.8	74.6	73.3	73.0	78.4	53.6	46.7	45.2	41.4	58.6
CDs	94.2	87.9	89.6	91.4	87.7	91.3	84.7	85.3	83.9	82.8
IRA/Keogh	74.5	63.9	63.8	59.0	58.7	40.0	28.6	21.8	18.7	18.3
Brokerage	72.0	64.6	59.7	57.0	52.9	9.1	6.8	6.7	7.5	6.2
Trust	68.3	59.7	57.1	55.4	54.1	42.2	28.1	24.7	22.2	13.4
All loans	65.5	51.6	48.8	50.6	49.0	65.9	44.5	37.7	39.6	37.5
Mortgages	65.0	50.5	48.0	50.4	49.2	55.5	43.5	37.3	39.4	38.0
Vehicles	73.5	61.5	57.3	52.8	45.9	66.1	56.0	47.8	45.0	35.5
Lines of credit	86.4	83.1	82.3	84.5	78.0	79.6	77.7	72.8	79.8	73.0
Other loans	62.4	54.8	46.9	49.8	47.5	44.5	42.9	26.8	30.4	29.2

Table 4
Percentage of households using local and non-local financial institutions, 1992-2004[1]

	Percentage of households using:									
	Local institution					Non-local institution				
	1992	**1995**	**1998**	**2001**	**2004**	**1992**	**1995**	**1998**	**2001**	**2004**
All institutions	98.4	98.4	98.2	98.5	97.9	35.3	44.2	51.3	51.8	56.8
Depositories	97.6	97.7	96.3	97.3	96.5	20.4	23.5	22.2	21.4	23.0
Commercial banks	80.6	80.5	78.0	74.7	76.1	11.5	15.4	13.8	14.4	15.2
Thrift institutions	26.4	19.7	19.2	18.7	17.1	4.3	4.3	4.1	3.2	2.9
Credit unions	26.8	27.4	27.8	30.1	28.3	6.6	6.9	6.7	6.3	7.0
Non-depositories	19.6	22.1	29.6	26.7	30.2	19.9	29.6	39.8	41.3	46.8
Finance companies	4.4	5.0	7.5	5.6	7.5	3.9	9.1	13.3	13.1	17.9
Brokerage firms	11.0	13.2	15.7	16.2	16.3	8.1	10.9	15.8	16.7	18.0
Mortgage finance companies	3.7	3.1	5.5	5.3	6.1	9.2	12.5	16.0	18.5	19.1
Other non-depositories	1.6	2.0	3.9	1.6	4.4	1.6	2.2	4.4	3.4	7.2

1. Includes households that used at least one financial service; 86 percent of households in 1992, 87 percent in 1995, 91 percent in 1995, 91 percent in 1998 and 92 percent in 2004.

Classification of institutions:
Commercial banks: taken here to include institutions described specifically commercial banks, broad financial services companies, various credit card issuers and miscellaneous Internet-based bill-paying services.
Thrift institutions: taken here to include savings and loan institutions and savings banks.
Credit unions: taken here to include only credit unions.
Finance companies: general finance companies, automobile finance companies, other types of store or dealer and collection agencies.
Brokerage firms: taken here to include institutions specifically described as brokerages, insurance companies, money market mutual funds and private bankers.
Mortgage finance companies: taken here to include institutions specifically described as mortgage banks, mortgage brokers or real estate investment company.
Other non-depositories: taken here to include all remaining entities that were reported as holding accounts or loans.

Table 5
Percentage of households using institutions of different types, 1992-2004
(must have asset or loan associated with institution)

	1992	**1995**	**1998**	**2001**	**2004**
All institutions	100.0	100.0	100.0	100.0	100.0
Depositories	99.0	99.3	98.0	99.0	98.6
Commercial banks	83.4	83.9	81.5	78.7	80.4
Thrift institutions	29.4	23.2	22.2	21.2	19.4
Credit unions	31.8	33.0	32.7	34.7	33.3
Non-depositories	34.6	44.4	57.5	56.3	63.0
Finance companies	7.8	13.4	19.7	17.9	23.9
Brokerage firms	17.2	21.7	28.4	28.5	30.6
Mortgage finance companies	12.8	15.4	21.0	23.2	24.7
Other non-depositories	3.1	4.1	8.0	4.8	11.2

Table 6
Percentage of households using primary and non-primary institutions, 1992-2004

	Percentage of households using:									
	Primary institution					Non-primary institutions				
	1992	**1995**	**1998**	**2001**	**2004**	**1992**	**1995**	**1998**	**2001**	**2004**
All institutions	100.0	100.0	100.0	100.0	100.0	71.8	75.1	78.2	76.6	79.7
Depositories	96.5	96.7	94.7	95.8	94.8	63.0	60.7	59.1	57.7	57.7
Commercial banks	71.3	70.8	67.1	65.2	65.9	41.4	43.3	41.3	40.7	41.7
Thrift institutions	13.3	11.3	12.1	12.2	11.2	19.7	14.6	12.7	11.3	10.5
Credit unions	11.8	14.6	15.5	18.3	17.7	22.2	20.8	20.4	19.9	18.6
Non-depositories	3.5	3.3	5.3	4.2	5.2	32.3	42.5	54.6	54.0	60.4
Finance companies	0.8	0.9	1.5	1.0	1.2	7.1	12.7	18.6	17.1	23.0
Brokerage firms	1.0	1.5	2.4	2.4	2.0	16.6	20.8	26.8	27.1	29.5
Mortgage finance companies	1.2	0.8	0.9	0.6	1.5	11.7	14.7	20.2	22.6	23.3
Other non-depositories	0.5	0.2	0.5	0.2	0.5	2.7	3.9	7.5	4.6	10.7

Table 7
Percentages of services acquired from primary institutions, 1992-2004

	1992	1995	1998	2001	2004
All accounts	53.3	55.1	55.5	56.1	53.7
Checking	71.7	73.0	72.9	73.2	72.3
Savings	51.1	54.4	60.4	64.7	57.4
Money market	49.9	49.1	51.6	52.4	60.1
CDs	45.1	48.4	50.7	53.7	46.0
IRA/Keogh	30.4	27.7	25.9	23.8	20.9
Brokerage	11.6	11.8	12.5	13.2	12.6
Trust	15.3	17.7	17.2	19.4	13.6
All loans	33.6	28.2	25.3	27.2	23.6
Mortgages	31.7	24.0	22.7	24.0	23.5
Vehicles	33.0	28.2	26.9	28.9	19.1
Lines of credit	48.8	50.4	52.7	51.2	53.7
Other loans	27.9	25.5	15.5	18.1	12.6
Memo items:					
Only one service used	43.6	43.5	36.3	32.5	38.9
Only two services used	27.4	30.4	30.4	33.5	30.6
Only three services used	16.1	13.6	18.0	16.8	15.8
Four or more services used	13.0	12.5	15.3	17.2	14.7

Table 8

Percent of households using at least one non-local institution, by demographic or market characteristic and type of service, 1992 and 2004.

	Any non-local service		Any account		Any loan	
	1992	**2004**	**1992**	**2004**	**1992**	**2004**
All households	35.3	56.8	19.1	40.9	23.0	43.4
Age						
34 or younger	39.5	60.1	16.7	42.4	29.4	50.7
35-44	42.0	64.2	21.6	41.3	29.4	55.7
45-54	40.2	63.3	21.8	47.5	27.7	50.2
55-64	35.9	62.1	24.4	45.3	19.9	45.1
65-74	22.7	42.2	14.0	32.8	11.1	22.5
75 or older	16.0	31.2	14.0	26.5	2.9	11.8
Income percentile group						
0-19.9	14.6	28.4	8.7	16.9	8.1	20.2
20-39.9	22.6	43.6	12.4	26.5	12.4	31.9
40-59.9	35.9	60.2	16.4	38.2	25.4	48.2
60-79.9	42.8	67.1	23.2	49.4	27.6	51.5
80-90	48.3	79.8	25.1	63.3	36.6	63.1
90-100	56.3	77.1	35.7	72.1	34.3	57.3
Net worth percentile group						
0-24.9	27.4	39.8	10.3	20.1	21.1	35.2
25-49.9	31.9	57.2	14.4	34.4	23.2	48.2
50-74.9	35.7	60.1	18.0	43.7	24.8	48.1
75-89.9	39.1	66.1	25.2	58.3	21.8	42.5
90-100	50.0	67.7	38.2	64.9	23.1	38.2

Table 8 (cont)

Percentage of households using at least one non-local institution, by demographic or market characteristic and type of service, 1992 and 2004.

	Any non-local service		Any account		Any loan	
	1992	**2004**	**1992**	**2004**	**1992**	**2004**
Education						
Less than high school	16.9	29.4	8.2	10.8	10.2	24.1
High school diploma	26.9	48.7	12.6	29.6	18.7	38.1
Some college	37.9	61.2	22.1	43.9	23.1	47.9
College degree	49.5	69.4	28.1	57.5	32.5	51.3
Race						
White non-Hispanic	37.0	61.0	20.7	45.8	23.7	45.4
Non-white or Hispanic	28.3	44.2	12.7	26.2	19.8	37.5
Homeownership status						
Renter	26.7	40.6	16.4	29.4	15.1	29.6
Homeowner	39.2	63.0	20.3	45.3	26.6	48.7
Type of area						
Non-MSA	31.0	51.6	19.4	31.3	17.7	39.7
MSA	36.4	57.8	19.0	42.8	24.4	44.2
Local market concentration (HHI)						
less than 1800	35.7	58.4	18.9	42.6	23.5	44.6
1800 or more	34.3	47.6	19.5	30.8	21.5	36.7