Economic Quarterly—Volume 94, Number 1—Winter 2008—Pages 45–72

Antitrust Analysis in Banking: Goals, Methods, and Justifications in a Changed Environment

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Antitrust analysis (also known as competitive analysis) of bank mergers has used the same basic procedures for decades, even though the banking market has experienced significant shifts. Do these changes in the banking market call for changes in competitive analysis – or perhaps its cessation? We argue that continued use of these procedures makes sense.

The goal of competitive analysis is to protect competition in banking markets. Bank supervisors, along with the Department of Justice, perform competitive analysis for any proposed bank merger or acquisition. Consequently, before completing a bank merger or acquisition, a bank must seek approval from the government agency responsible for its supervision. When there are few competitors in a market, banks in that area might have the opportunity to exercise market power, thus diminishing economic efficiency. Banks with significant market power will tend to limit their output in order to drive up prices, thereby earning excess profits. For example, in a market with only one bank (a monopolist) fewer loans are likely to be made and interest rates are likely to be higher (earning high profits for the monopolist), than in a market with many competitors. Economic efficiency is reduced in two ways when market power (also known as monopoly power) is high. First, too little of the monopolized good—in this case loans—is produced. Second, resources will be wasted as the monopolist attempts to defend its monopoly position against

The authors benefitted greatly from comments from Brian Gaines, Arantxa Jarque, Leonardo Martinez, and Ned Prescott. Able research assistance was provided by Nashat Moin. The views expressed herein are those of the authors and do not necessarily reflect those of the Federal Reserve Bank of Richmond or the Federal Reserve System.

potential entrants, and by consumers' attempts to find alternative providers offering lower-prices.

What should be the focus of efforts to protect competition in banking markets? The focus was established by the Supreme Court in the 1960s when the Court ruled that two basic principles should guide competitive analysis. First, when reviewing the merger of two banks, competition only from other banks should be considered in the analysis, excluding all other depository institutions and nondepositories (such as mutual funds).[1] Second, the focus is to be on banks with operations near the merging banks, i.e., in the same local market. Today's banking marketplace, however, is very different than the market of the 1960s. Thrifts, credit unions, and nondepository institutions are now able to compete with banks directly because of the elimination of restrictive regulations. Technological improvements mean that products from competitors located outside the merging banks' local market currently are conveniently accessible to consumers in that local market. Consequently, one must wonder if analysis of the competitive effect of mergers should change.[2]

While before the 1980s, and certainly in the 1960s, law and regulation restricted depository institutions from entering new banking markets to compete with incumbent depositories; today such restrictions have been removed (Walter 2006). Furthermore, depository institutions face nondepository competitors that did not exist 30 years ago. For example, money market mutual funds, which did not exist until 1972, now offer deposit-like products in competition with depositories (Cook and Duffield 1993, 157). Additionally, consumers and businesses are less dependent on local depositories for banking products. Widespread access to the internet, 800 number call centers, and other information technology advances mean that bank customers can, at fairly low cost, obtain loans from and make deposits in distant financial institutions.

Current analysis focuses on competition in *local markets* with emphasis on competition in the *deposit market*. Why? Aside from the Supreme Court rulings of the 1960s, there are other reasons for focusing on *local market* competition. A great majority of consumers persist in holding deposits in institutions with branches near the consumer's home or work, despite the availability of similar products offered by competitors outside the local market. Additionally, banking companies apparently believe that a local presence

[1] More specifically, the Court determined that analysis should not focus on an individual product but rather the group (or cluster) of products that banks typically offer. But since regulatory restrictions at the time prevented nonbanks from offering many of these same products, essentially the rulings meant that the focus was strictly on banks. Today, thrifts are often included as competitors during competitive analysis since thrifts, in many cases, offer similar products to banks.

[2] A significant literature has developed which assesses the techniques of current competitive analysis, attempting to determine if the long-standing techniques, which are still used today, continue to make sense. Gilbert and Zaretsky (2003) provide a careful review of these analyses and conclude that the literature has not yet reached a consensus.

is quite important since they continue to build branches at a rapid rate, thus expanding their presence in local markets. The reason for focusing on *deposits* is twofold: 1) most consumers with financial relationships hold deposits with banks or thrifts, and 2) deposits data are the only information typically available at a local level.

This article discusses the history and current methods of competitive analysis. It also reviews justifications for the current methods of analysis in the face of the availability of internet banking and nationwide lenders, and it examines some of the latest survey data on the subject. The article concludes that the means of analysis (which has remained basically unchanged since the 1960s) continues to make sense regardless of a changed environment.

1. HISTORY OF BANKING ANTITRUST LAWS

The term "antitrust" might seem an unusual one to describe efforts to limit the creation and exercise of market power. But the term derives its origins from the use of the word "trusts" to describe large holding companies or conglomerates in important U.S. industries in the late 19th century. Some of these businesses were, in fact, configured using the legal structure of a trust, whereby the shares of separate firms were held in "trust" by a board of trustees. Observers argue that firms, such as Standard Oil, U.S. Steel, and railroad conglomerates, dominated their industries to such an extent that they were able to drive up prices and extract monopoly profits.

In response to the growth of trusts, opposition arose (especially from farmers seeking lower rail transportation costs, as well as from small businesses, shippers and consumers) which led to antitrust legislation. The first federal antitrust statute was the Sherman Antitrust Act of 1890, which was followed by the Clayton Act in 1914.

The Sherman Act prohibited monopolization and attempts to monopolize. It stated that: "Every contract, combination in the form of trust or otherwise, or conspiracy, in restraint of trade or commerce ... is declared to be illegal."

When first enacted, the act was to be enforced by suit, brought by the Justice Department or by individuals. One prominent suit resulted in the 1904 Northern Securities Supreme Court decision, in which the Court ruled that the aggregation of the stock of two competing railroads into one holding company was an illegal combination in restraint of trade (Posner 1976, 26). More broadly, the Sherman Act stated that: "Every person who shall monopolize, or attempt to monopolize, or combine or conspire with any other person or persons, to monopolize ... shall be deemed guilty of a felony." The Clayton Act expanded on the Sherman Act by forbidding price discrimination and explicitly prohibiting stock acquisitions if the effect of the acquisition "may be substantially to lessen competition, or to tend to create a monopoly."

These two antitrust statutes were widely viewed as inapplicable to banks until the Supreme Court said otherwise in the mid-1960s. In the 1963 Philadelphia National Bank case and the 1964 First National Bank and Trust of Louisville case, the Supreme Court ruled that bank mergers were subject to the Sherman and Clayton Acts (Martin 1965, 1).

But even before these Supreme Court cases, Congress had passed legislation that applied to bank combinations. The Bank Holding Company Act (BHC Act) of 1956 gave the Federal Reserve oversight of multibank (and later one-bank) holding companies and their acquisitions (of both bank and nonbanking interests). The Board is prohibited—under Section 3 of the BHC Act, which covers acquisition of bank shares or assets—from "approving a proposal that would result in a monopoly . . . or that would substantially lessen competition in any relevant market, unless the anticompetitive effects of the proposal are clearly outweighed in the public interest by the probable effect of the proposal in meeting the convenience and needs of the community to be served."[3]

While the BHC Act applied only to banking combinations involving bank holding companies (BHC), the Bank Merger Acts of 1960 and 1966 extended coverage to bank mergers when no BHC was involved. These merger acts gave the federal banking supervisors (i.e., the Comptroller of the Currency for national banks, the Federal Reserve for state-chartered banks that are members of the Federal Reserve System, and the Federal Deposit Insurance Corporation [FDIC] state-chartered nonmember banks) authority to analyze the competitive effects of a proposed merger and to deny mergers that were anticompetitive.

In the 1966 act, Congress clarified the roles of bank supervisors relative to the Department of Justice (DOJ) in bank antitrust analysis.[4] Once the relevant bank regulator has made its decision concerning a proposed merger, the merger may not be consummated for 30 days, during which time the Justice Department or private parties may contest the proposal. Once the 30-day period has expired, the merger can go through, and may no longer be contested on competitive grounds (Alvarez 2005, 5–6).[5]

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[3] See deV. Frierson, Robert. 2007. "Order Approving the Merger of Bank Holding Companies: First Busey Corporation, Urbana, Illinois," October, C–90.

[4] Prior to the implementation of the Regulatory Relief Act of 2006, when considering a bank merger proposal, supervisors sought a competitive impact report (typically called "competitive factors report") from the Justice Department and from the other bank supervisors. Since the passage of the 2006 act, competitive factors reports from other supervisors are no longer required, although the DOJ still reviews the merger proposal.

[5] For a discussion of the Justice Department's role, see Holder 1993b, 42.

2. THE ANTITRUST ANALYSIS PROCESS

Antitrust analysis in banking involves three steps, which are performed by bank and thrift supervisors (the Federal Reserve, the Office of the Comptroller of the Currency, Federal Deposit Insurance Corporation, and the Office of Thrift Supervision) and the Justice Department. The first step is determining which banking products are involved. Firms exercise market power by curtailing output and driving up prices in monopolized products, so determining what products might be affected by a merger is the first step to merger antitrust analysis. Generally, deposits data are used as a proxy representing all banking products in merger analysis. The second step is determining the geographical areas in which the combining firms compete. The third step is measuring the likely impact on product pricing within the geographical (local) market. The third step typically includes analyzing how the proposed merger will affect concentration ratios, and then reviewing other factors beyond the simple concentration ratios that might exacerbate or ameliorate (mitigate) concerns of an increase in market power.

The Supervisory Agencies and Broad Strategy

As alluded to earlier, the supervisory agencies and the DOJ all have responsibility for ensuring that any bank and thrift mergers and acquisitions do not have a significant adverse effect on competition. One might imagine that this responsibility is primarily performed through denial of applications that are thought to reduce competition. Instead, the process is typically more nuanced.

In general, few competition-reducing mergers or acquisitions are denied out-right by the supervisory agencies, or if approved, contested by the DOJ. Nevertheless, in many cases, mergers that might raise competitive concerns for the agencies or the DOJ never are proposed. Banks, in many cases, seek initial input from the agency before making official application. Banks, often with input from their agency, determine if the proposal is likely to be viewed by the agency as significantly anti-competitive, and then simply never make application. Further, since (as discussed below) information needed to make a rough determination of a proposed merger's competitive impact is readily available from several agencies' websites, some banks may drop merger plans before ever discussing them with their supervisory agency.

If a banking company follows through with an application, the supervisory agency will perform its competitive analysis as described in detail below, and 1) either accept the application as made, if the agency determines it does not have a significant negative effect on competition; 2) require the applicant to modify the proposal, for example by committing to divest branches of the acquired institution; or 3) deny the application.

Product Market

Banks and thrifts offer a myriad list of banking products. When reviewing a merger for its effect on competition, should the supervisory agencies and the DOJ review the impact on competition for each of these products individually? Such a process would be very costly since the initial level of competition is likely to vary from product to product, and the effect on competition of a proposed merger is likely to have variable effects on different products.

In the Philadelphia National Bank case, the Supreme Court established the criterion that is still used today by the bank supervisors and the DOJ for measuring the product market (*United States v. Philadelphia National Bank*, 321). In contrast to focusing on individual products, the Supreme Court determined that the appropriate product is, in fact, the "cluster of products and services" offered by banks. The exact definition of the products one might include in the cluster was not specified. The concept is to have a range of products and services versus a single product or service to examine and gauge. The cluster concept is meant to include the primary range of products and services that customers can purchase from banks. These products include, but are not limited to, checking and savings accounts, credit, trust administration and commercial and personal loans.

Some critics question the validity of the cluster concept given the changes in the nation's financial system since the early 1960s. During the 1960s, banks typically offered a line of products—deposits, loans, and other financial services—none of which were widely offered by other providers. Therefore, it seemed appropriate, at that time, to view the combination of deposits, loans, and services as one product and to include only other banks in any analysis of merging banks competitors. More recently, due to the elimination of restrictive regulations, and technological change, other non-banking institutions as well as thrifts and credit unions are offering many of the same products. As a result, banks now compete not only with other banks, which offer this combination of products, but also with a range of other providers that offer one, or a group of products equivalent to those offered by banks. Consequently, the true level of competition faced by a bank, or by two banks which wish to merge, is greater than the amount provided only by other banks offering a full line or cluster of deposits, loans, and financial services.

Recent survey evidence points out that consumers continue to purchase multiple types of deposits and loans from one bank, though the reliance on one institution for multiple financial products is diminishing (Amel and Starr-McCluer 2002). Bank supervisors continue only to include in their measures of concentration those providers, which offer a fairly complete line of banking-type products. As a result, when measuring concentration, supervisors do not typically include credit unions, which offer a less complete line of deposits and loans, or financial firms such as mutual funds, which may offer only one competing product. However, supervisors may include a percentage of thrift

deposits given that most thrifts offer some, if not all, of the products offered by banks.

For simplicity, the supervisory agencies and the DOJ focus on bank deposits as proxy for all banking products when developing concentration ratios. The use of this proxy stems from the availability of useful data. Data on deposits are available at the local market level, because individual banks report deposits data by branch.

Defining Geographical Banking Markets

When two banks operating in the same market merge, these previously competing banks no longer do so. The level of competition in the market will decline, and the remaining banks in that market, including the newly-combined bank, might have the opportunity to exercise some market power and raise prices. For instance, suppose that the market contains three banks, each with only one office. If banks 1 and 2 merge and form a larger bank with two offices, they no longer compete with one another. Still, the combined bank must compete against bank 3. Does the decline in the number of banks from three to two mean an increase in market power and an enlarged opportunity for the remaining two banks to restrict output and raise prices? After all, the two remaining banks are likely to compete aggressively to make loans and gather deposits, driving output to the highest feasible level.[6]

Competitive analysis, as currently conducted, is based on the view that a decline in the number of important competitors will lead to increased market power and less than optimal output and high prices. One reason for this view is that it is simpler for a small number of banks to collude, explicitly or tacitly to reduce deposit rates and raise loan rates, than for a larger number to do so. For example, it is more difficult to establish and enforce a three-way than a two-way agreement to collude. As discussed below, there is some empirical evidence supporting the view that a larger number of competitors leads to lower prices.

However, if one or both of the combining banks are small relative to the market, or there are plenty of competitors in the market, the loss of competition will be nominal: remaining banks—including the merged bank—in the market will probably continue to compete just as aggressively as before the merger. If the relevant market is defined to include all of the United States, or a large region, then the merger (even if a merger of large banks) is likely to lead to little noticeable decline in competition. If the relevant market is the town in which the two banks are located, the effect on competition could be

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[6] That is, the level of output at which marginal revenue equals marginal cost for the two firms.

quite large. Consequently, determining the relevant market is fundamental to banking merger analysis.

In the seminal banking antitrust Supreme Court case discussed earlier (*United States v. Philadelphia National Bank,* 321), Justice Brennan stated, when delivering the Court's opinion, that "in banking, as in most service industries, convenience of location is essential to effective competition. Individuals and corporations typically confer the bulk of their patronage on banks in their local community; they find it impractical to conduct their banking business at a distance." Therefore, this ruling placed the emphasis of antitrust analysis squarely on the local markets in which the combining banks have overlapping branches. (Below, we will analyze whether this view continues to make sense today given that the financial services industry is quite different than in 1963, when the Court decided this case.)

The Federal Reserve defines the geographical banking markets for all areas of the United States. Banking supervisors, as well as the DOJ, rely primarily on the Federal Reserve's definitions, although they may use their own banking market definitions. Through the Fed's public website program, CASSIDI, depository institutions may view almost all Federal Reserve banking market definitions (with mapping capabilities), examine preliminary banking market concentrations and study how a potential proposal (merger or acquisition) could change concentration in banking markets.[7] This ability allows depository institutions to better determine whether a merger they might be considering will pass antitrust muster.

Defining the area that constitutes a relevant geographic banking market is a crucial step in the antitrust process. Each of the 12 Reserve Banks, with guidance and procedures from the Board of Governors of the Federal Reserve System (Board), is responsible for defining their relevant banking markets (which are subject to change as market conditions change). At each of the Reserve Banks, there are staff members who have specialized, in-depth knowledge of their local geographic market areas. This specialized knowledge is valuable when defining local banking markets because each local market encompasses a distinct set of traits—economic, cultural, political, topographical, and legal—that are important to accurately defining the market.

The Federal Reserve uses Micropolitan Statistical Areas and Metropolitan Statistical Areas (collectively known as MSAs), Ranally Metropolitan Areas (RMAs), single or partial counties, or a combination of the three as a first approximation when delineating markets. A typical MSA is made up of a city or town and its surrounding counties. MSAs for all areas of the United States

[7] CASSIDI is maintained by the Federal Reserve Bank of St. Louis. Banking markets are defined by the Federal Reserve Bank in which they are located. A depository institution should always check with the local Federal Reserve Bank to verify a market definition. It is strongly recommended to contact the local Reserve Bank before a merger or acquisition application is filed. Available at: http://cassidi.stlouisfed.org/.

are defined by the U.S. Office of Management and Budget (OMB). The OMB notes that "Micropolitan Statistical Areas have at least one urban cluster and a population between 10,000 and 49,999 people. This area recognizes that even small places far from metro areas are economic hubs that draw workers and shoppers from miles around. Metropolitan Statistical Areas have at least one urbanized area and a population of 50,000 or more."[8] MSAs are intended to be used by Federal statistical agencies when collecting and tabulating statistical data on such parameters as population, income, and housing. RMAs, as defined by publisher Rand McNally, consist of "a central city or cities, satellite communities and suburbs, but does not limit the boundaries to the county as does (OMB). Typically an RMA must have 70 people per square mile and have 20 percent of its labor force commute to the defined central urban area."[9] RMAs are intended to delineate local market areas in which a grouping of consumers can be expected to concentrate their shopping. It is typically used by businesses when considering opening an office or branch in a region. MSAs trace county borders, while RMAs cut through county lines.

There is no reason to believe that one method, MSA or RMA, is superior to the other. However, regions throughout the country are quite distinct and one instrument might be of greater use compared to another in a particular area or district. Due to changing environments, the Federal Reserve revises banking market definitions at times, often when a merger application places a new focus on a changed market.

While the Federal Reserve Banks use MSAs and RMAs as their starting point for defining banking markets throughout their regions, MSAs and RMAs alone are not sufficient because a group of banks with a local presence (headquarter or branch offices) may draw their customers from an area that differs from the area defined by an MSA or RMA. What factors do the Reserve Banks review when deciding whether an MSA or RMA is a sufficient definition or whether a banking market should differ?

In analyzing banking market definitions, a great deal of weight is placed on journey-to-work commuting data. The idea is that "empirical evidence indicates that convenience is an important determinant in an individual's selection of financial institutions and that many people maintain their primary banking relationships near where they live or work."[10] Further, in the 1961 Supreme Court case, *Tampa Electric Co. v. Nashville Coal Co.*, the Court stated that the "area of effective competition in the known line of commerce must be charted by careful selection of the market area in which the seller operates, and to which the purchaser can practicably turn for supplies."[11] This

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[8] U.S. Bureau of the Census 2007.

[9] Brassard 2005, 41.

[10] Holder 1993a.

[11] *Tampa Electric Co. v. Nashville Coal Co.*, 320.

Supreme Court case emphasizes the importance placed upon commuting data for antitrust analysis.

Beyond MSA/RMA and commuting data, the Federal Reserve analyst focuses on other data that might provide input on the geographical area in which bank customers shop or work. Other items the analyst may examine are employment rates and the location and growth of job-producing industry, including any new exits, entrants or developments within the local market. An important question to ask is how heavily one area relies on another for goods and services. Determinants in defining a banking market include, but are not limited to, location of education and higher education facilities, location of major retailers, service areas (such as hospitals and specialized care) and entertainment centers as well as media coverage (including newspaper delivery and origination of production).

Therefore, the number of factors is large that might be important for defining a local banking market, from commuting data to local market employment conditions. The resulting complexity could explain why the job of defining markets is assigned to one agency, the Federal Reserve, and why this agency tends to rely heavily on regional specialists for its antitrust analysis.

HHI Analysis

After defining the relevant geographic banking market and the cluster of products and services (typically employing deposits as a proxy for the cluster), the supervisors analyze a local market concentration index, the Herfindahl-Hirschman Index (HHI), as an initial concentration screen.[12] The HHI measures bank concentration in a given geographic banking market. In 1982, the DOJ formally published merger guidelines (which were later revised in 1997 by both the DOJ and the Federal Trade Commission) stating maximum levels of concentration in terms of HHI.[13] Bank supervisors employ the DOJ merger guidelines as an initial screen for mergers and acquisitions, because doing so reduces the chance that the DOJ might contest a merger the banking agency approved.

The DOJ's guidelines are stated in terms of screens (Screen A and Screen B).[14] Screen A considers the Federal Reserve's predefined geographical markets. When a merger proposal falls between certain fairly low thresholds, the DOJ is unlikely to contest the merger because the DOJ maintains that the merger is unlikely to have an anticompetitive effect on the local banking

[12] The opinions offered in the Philadelphia Bank Supreme Court case and in earlier Supreme Court antitrust cases indicate that when analyzing the competitive impact of a proposed merger, numerical measures of concentration should be heavily relied upon (Posner 1976, 105).

[13] U.S. Department of Justice and the Federal Trade Commission 1997.

[14] U.S. Department of Justice 1995.

market. When these thresholds are exceeded, the DOJ antitrust analysis is to follow another screening procedure (Screen B). Screen B uses RMAs instead of Fed-defined markets to analyze competition of mergers to define markets. If these thresholds are exceeded, further investigation into mitigating factors is conducted (see section entitled, "Mitigating Factors").

HHI is calculated by summing the squares of each depository institution's shares in the market.[15] Thus, the concentration measure in a market with N depository institutions, and depository institution i's share of deposits (in percentage terms) denoted by s_i is[16]

$$\text{HHI} = \sum_{i=1}^{N} [s_i]^2.$$

If the market includes only one depository, the HHI will be 10,000. If the market contains 100 depositories, each with 1 percent of the deposits in the market, the HHI will be 100.

According to the DOJ guidelines, three threshold levels are specified for HHI, and they are in fact applicable to all mergers, not just those in banking. A market is considered unconcentrated if its HHI is under 1,000. It is considered moderately concentrated if between 1,000 and 1,800, and highly concentrated if over 1,800. In most cases, bank mergers will not be challenged on competitive grounds by the DOJ, and are unlikely to be denied by the banking supervisors if the change in the pre- and post-merger HHI does not exceed 200 points or the post-merger HHI does not exceed 1,800.[17] In other industries, an HHI increase that exceeds 50 points in a highly concentrated market (post-merger) will lead to further review by the DOJ, with a heightened possibility of denial. By allowing a 200 point increase in banking, the DOJ has chosen to give banks some additional merger latitude compared to other industries. It has done so because banks face some competition from other financial institutions such as money market funds and other nondepository financial entities which are not included in the HHI calculation (Gilbert and Zaretsky 2003, 31).

The DOJ's guidelines aid in merger analysis although the supervisors may fine-tune their analysis. For example, the Federal Reserve typically counts

[15] Depending on the regulator as well as the competitive implications of the merger application, HHI analysis could include banks, savings institutions, and sometimes credit unions.

[16] s_i for a bank is calculated by dividing the bank's total deposits by the total deposits of all institutions in the local market. The resulting fraction is then multiplied by 100 to convert to a percentage.

[17] In the merger case between First Busey Corporation and Main Street Trust, Inc., the order (issued by the Board of Governors of the Federal Reserve System) states that the "DOJ has informed the Board that a bank merger or acquisition generally will not be challenged (in the absence of other factors indicating anticompetitive effects) unless the post-merger HHI is at least 1,800 and the merger increases the HHI by more than 200 points." See deV. Frierson 2007, C–91.

thrift deposits at 50 percent (with the potential to increase up to 100 percent given the product cluster offered by particular thrifts in the geographic market) when calculating HHI. In contrast, the DOJ counts thrift deposits at 0 or 100 percent. In addition to using an 1,800/200 rule, it also ensures that banks as well as thrifts (and credit unions, if included), post-merger, do not hold more than 35 percent of the deposits in a geographic banking market. The DOJ on the other hand, no longer uses the cluster and instead looks at smaller lines of business such as small business lending.

Thus, any bank merger scrutinized by the Federal Reserve that fails the 1,800/200 threshold or has a market share above 35 percent is initially considered anticompetitive and further review of the proposal is warranted.

Although the HHI provides a valuable initial screen, it is typically not the only factor considered when a proposed merger exceeds the HHI guidelines. If the HHI indicates that the market appears concentrated, the bank supervisors will often review the market to determine if there are other mitigating factors that indicate that the market is, in fact, currently competitive and likely to remain so.

Mitigating Factors

When structural benchmarks are exceeded, mitigating factors may ameliorate competitive concerns.[18] In other words, structural benchmarks aid in the examination of competition but may not reflect the entire competitive nature of the market. Thus, analysis of deposits alone can be misleading. An in-depth analysis of conditions in the market as well as the potential for new entry could provide a more comprehensive picture of the competitive framework in a particular market. This careful analysis is necessary because the various mitigating factors that may prove important will vary from case to case.

The types of mitigating factors the Board of Governors of the Federal Reserve System considers illustrate how this in-depth review can proceed. When analyzing a proposed merger, the Board initially assigns a 50 percent weight to thrift deposits when calculating the HHI for a local market. However, if local thrifts are competing directly with banks the Board may assign a deposit weight of 100 percent to particular thrifts. For example, the Board might do so when thrifts' commercial and industrial lending relative to assets is similar to that of local banks. The Board may also increase the weight if local thrifts offer the full "cluster" of banking services.

Credit union deposits are typically excluded when calculating the HHI for a market. There are several reasons for this exclusion. For instance, credit

[18] For an in-depth review of mitigating factors, see Holder (1993b), "The Use of Mitigating Factors in Bank Mergers and Acquisitions: A Decade of Antitrust at the Fed."

unions do not normally offer the full "cluster."[19] Additionally, credit unions often have membership restrictions, only accepting customers from a specified group. Further, in some cases credit union offices are not easily accessible to consumers—they lack widespread branches and ATMs. If, however, local credit unions offer easily accessible branches, drive-through windows, and open membership, the Board includes a portion of these credit unions' deposits in the HHI.

Beyond mitigating factors that alter the calculation of HHI for a local market are factors related to the likelihood that the market may attract competitors. Market attractiveness is often measured by population per banking office (if population per office is relatively high, new entry is likely) and growth rates of deposits and population. In addition, denovo entry and prior merger activity can be taken as a sign of market attractiveness. In contrast, if depository institutions have been leaving a market, then the market might be judged unattractive. Additionally, if the target institution in a merger is financially weak or failing, then the merger might be approved even though guidelines are exceeded.

3. WHY PERFORM LOCAL MARKET ANALYSIS?

Depository institution supervisors analyze the competitive impact of every proposed bank merger even though the U.S. banking industry is quite unconcentrated. The U.S. banking industry includes about 18,000 depository institutions (banks, savings institutions, and credit unions), plus numerous non-depository financial institutions offering products similar to those offered by depositories.[20] Many of these institutions have multiple branches that cross regions and are located around the country. For example, in 2005 the 7,500 commercial banks in the United States had 72,000 branches.[21] The number of bank branches has been growing consistently for a number of years. Consequently, when the nation as a whole is considered, the national banking market seems likely to be quite competitive. One might assume that there is little reason to be concerned about any possibility of a lack of competition for banking products and, therefore, wonder why supervisors devote resources to performing antitrust analysis.

Supervisors perform competitive analysis because for many banking products the relevant market is local, not national; and local markets can be more concentrated (Moore and Siems 1998, 4). In particular, competitive analysis is undertaken for five reasons:

[19] Emmons and Schmid (2000) explore competition between credit unions and banks.

[20] Figure from Federal Deposit Insurance Corporation (2007a) and Credit Union National Association (2007a).

[21] Figures from Federal Deposit Insurance Corporation (2007a).

1. Several essential consumer banking products are almost exclusively purchased locally.
2. The number of branches has grown rapidly implying that banks believe customers prefer local branches.
3. Small businesses can be dependent on local banks.
4. Empirical evidence ties local market competitiveness to bank prices.
5. Potential entry is costly.

Many Banking Products Are Purchased Locally

Several banking products are often purchased from providers other than depositories in the consumer's local market, including: mortgage and vehicle loans, IRA/Keogh accounts, and credit card accounts. Additionally, consumers have the option to use internet banks, which have no local presence, and are a growing, though still small, part of the banking market. Nevertheless, depository institutions with local facilities continue to be key providers of a number of essential products purchased by consumers, such as transaction and savings accounts, CDs, and home equity lines, as determined by the Federal Reserve's Survey of Consumer Finances.

Once every three years, the Board of Governors of the Federal Reserve System conducts the Survey of Consumer Finances. Among other questions, the survey asks about the types of accounts consumers hold, with what type of institution they are held, and the distance to the institution from work or home. One can determine, from the survey, the share of respondents' accounts held with local depository institutions (meaning banks, savings institutions, and credit unions) versus nonlocal depositories and non-depository financial institutions.[22]

The survey shows that mortgage loans, vehicle loans, and IRA/Keogh accounts are all purchased, to a significant degree, from providers other than local depository institutions. According to the data gathered in these surveys, for mortgages, the percentage of consumers borrowing from local depositories declined from 68 percent in 1989 to 40 percent in 2004 (Table 1). For vehicle loans, this same percentage declined from 77 to 37 percent between 1989 and 2004. Local depository institutions accounted for 70 percent of consumer IRA/Keogh holdings in 1989, but only 27 percent in 2004.

Credit cards are also an example of a banking product that is purchased predominantly from nationwide suppliers. While 6,000 depository institutions

[22] While the triennial Survey of Consumer Finances began in 1983, important questions were added in 1989. These questions include those that allow analysts to determine whether the consumer's deposits (and loans) are held in nearby institutions or in distant institutions.

Table 1 Shares of Banking Services Acquired from Local Depositories

	1989	1992	1995	1998	2001	2004
All Accounts	86.5	80.4	77.3	75.7	74.0	72.0
Checking	96.4	94.4	93.8	93.3	93.2	93.1
Savings	91.7	88.5	88.0	89.7	90.9	81.8
Money Market	78.4	72.1	66.4	63.5	65.1	76.5
CDs	91.7	88.9	87.9	88.0	87.0	85.1
IRA/Keogh	70.3	53.4	41.8	36.8	31.2	26.8
All Loans	73.3	61.1	51.9	43.2	44.9	39.0
Mortgages	68.3	56.3	48.0	41.7	41.2	39.7
Vehicles	76.9	69.5	56.2	49.8	49.0	37.4
Lines of Credit	80.0	79.7	77.7	72.8	79.8	73.0
Other Loans	73.9	46.8	40.6	23.4	25.6	19.3

Notes: Definitions of banking services are found in the Appendix.

Source: 1989 data from Amel and Starr-McCluer, 2002, Table 4; 1992–2004 data from Arthur B. Kennickell and Kevin B. Moore of the Board of Governors of the Federal Reserve System based on data from Survey of Consumer Finances.

offer credit cards, implying the possibility of a localized market, the market is dominated by the top five or ten issuers (U.S. Government Accountability Office 2006, 10). The five largest issuers, in terms of credit card loans outstanding, are responsible for 70 percent of the market and the top ten for 90 percent of the market, or $623 billion in credit card loans outstanding. The largest issuers advertise and sell cards nationally, often through direct mail offerings. Consumers seem quite willing to acquire their credit card services from distant providers.

Internet-only banks illustrate the ability to conduct banking business with institutions lacking a local presence. Internet-only banks have no branches and interact with customers only via the internet, the phone, and the mail. Currently, there are a handful of such banks operating in the United States. Assets of internet-only banks amounted to approximately $170 billion as of 2007.[23] In general, internet-only banks focus on savings accounts but do offer transaction accounts as well. Some of the largest internet-only banks offer checking, savings, and money market deposit accounts. To initially fund the accounts, a customer sends a check and then has payments, such as salary payments, direct deposited to provide a continuous flow of funds into the accounts. While internet-only banks do not have broad ATM networks, some refund the ATM fees imposed on customers using ATMs owned by other

[23] Total assets figure is derived from an internal analysis performed by the Federal Reserve Bank of Richmond, 2007.

institutions. Consequently, customers of internet-only banks can typically withdraw cash using a broad range of ATMs near where they live, work, or shop. Still, as a percentage of all assets in depository institutions internet banks remain small—a little over 1 percent as of 2007.[24]

Just as local banks have become less important for a number of banking products, one might imagine that consumer ties to local banking offices would be diminishing for deposit accounts as well; but in fact they are not. One reason to expect local ties to diminish is that website banking information and 800 number services reduce the need to visit a branch to obtain product information. Additionally, consumers can confirm that a check has cleared, place a stop-payment order, or verify a balance without actually visiting a bank office. Another reason is that consumers and businesses are writing fewer and fewer checks. With fewer checks being written, there is a reduced need to visit a branch to cash checks. Between 1995 and 2005, the number of checks written in the U.S. declined from 50 billion to 37 billion (Gerdes et al. 2005, 181). Just between 2000 and 2003, check's proportion of payments made by consumers declined considerably. Of the approximately 80 billion noncash retail payments made annually by consumers, checks declined from 57 percent in 2000 to 45 percent in 2003 (Pacheco 2006, 1). In general, check volume appears to be declining at a 3 to 5 percent rate annually (Borzekowski, Kiser, and Ahmed, forthcoming).

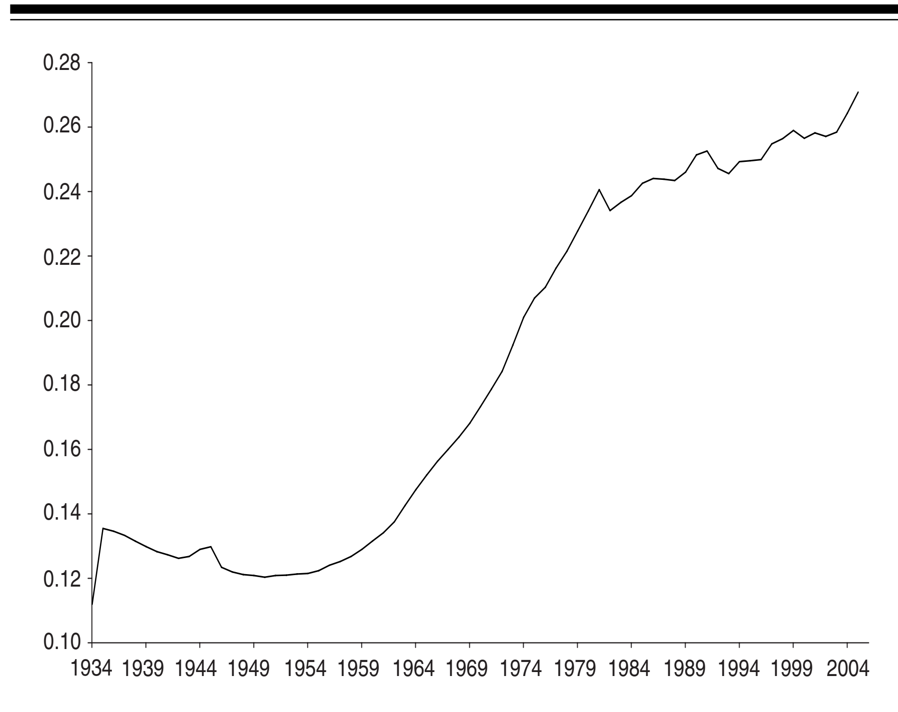
The growth of debit card payments accounts for much of the decline in check volumes. Between 2000 and 2003, debit card payments increased from 11 percent to 20 percent of all noncash retail payments (Pacheco 2006, 1). Credit card and automated clearing house (ACH) payment growth explain the remainder of the decline in number of checks written. ACH payments are interbank electronic payments, whereby funds are electronically withdrawn from one business's or individual's account and deposited in the account of another business or individual. Examples include direct deposit of salary or Social Security payments, or electronic payment of bills such as mortgage payments or utility bills.[25] Moreover, the widespread availability of point of sale terminals, which are capable of offering consumers the opportunity to withdraw cash from accounts, as well as ATMs, reduces the frequency with which consumers will wish to visit their bank branches to obtain cash.

Despite these shifts, which should diminish the ties of consumers to local institutions, in 2004, 93 percent of consumer transaction accounts were held in local depositories (see Table 1, "Checking"), down little from 96 percent in 1989. Apparently consumers continue to prefer local depositories to nonlocal providers for transaction accounts, which though check use has diminished,

[24] Figure from Federal Deposit Insurance Corporation (2007b) and Credit Union National Association (2007b).

[25] NACHA 2007.

Figure 1 Branches Per Capita—Population in Thousands



still require frequent interaction between the customer and the depository institution.

Frequent interaction argues for geographical proximity, especially if the interaction cannot easily be accomplished over the phone or via the internet (Gilbert and Zaretsky 2003, 35).[26] Checking accounts are the most apparent example since can they involve frequent visits driven by the need to make deposits and cash checks. In contrast, mortgage loans do not necessarily require face-to-face interaction with the lender, thus explaining the relatively low proportion of mortgages purchased from local providers.

Additionally, savings accounts, CDs, and lines of credit (such as home equity lines) are provided predominantly by local depository institutions, with such institutions accounting for 82 percent, 85 percent, and 73 percent, respectively, in 2004. In each case there was little change since 1989 (Table 1).

[26] One reason that internet banking may be unattractive to some customers is a concern with identity theft. As many as 30 million consumers may be avoiding using internet banking for this reason (Klein 2007).

Expansion of Branches Indicates Importance of Local Markets

Bank practice confirms consumer interest in maintaining a relationship with a local depository institution. Banks have been expanding the number of branches fairly rapidly. The number of banking offices grew from 57,710 in 1985, to 80,302 in 2005 (Federal Deposit Insurance Corporation 2007a). As shown in Figure 1, the number of branches has grown relative to population, as well. The number of persons per U.S. commercial bank offices declined from 4,200 in 1985 to 3,700 in 2005, or equivalently, as shown in the figure, the number of branches per capita increased. Growth in number of branches relative to population was especially rapid in the 1960s and 1970s, but was still strong in the 1980s and forward. Some of the growth in the 1980s and 1990s is likely accounted for by the lifting of branching restrictions. During the 1980s, in-state branching restrictions were removed in a number of states, and in the 1990s, the Riegle-Neal Interstate Banking and Branching Act made interstate branching feasible through much of the country (Walter 2006, 62). Even in recent years, when technological improvement might seem to have significantly undercut the importance of local branches, there has been no decline in numbers, and banks continue to add branches faster than population growth. The continued addition of branches indicates that banks perceive strong demand for local banking services from their customers.

If consumers were reducing their reliance on local providers there would be little reason for banks to maintain and build widespread branch networks in local markets. Instead, banks would use central offices, from which national services could be offered. Bank managers would not find it profitable to build branches if their customers were not visiting the branches in significant numbers.

Surveys of branch use by retail customers show that consumers do visit branches frequently. According to a 2003 Gallup poll, 83 percent of Americans visit a bank at least once a month. Furthermore, 30 percent visit their bank four or more times per month. For comparison, the same poll showed 29 percent of consumers use online banking at least once per month, and 17 percent use it four or more times per month (Jacobe 2003).

Small Business Relationships with Local Versus Nonlocal Institutions

Beyond consumer reliance on local branches for several important banking products, small businesses are also often considered reliant on services obtained from local branches, and in some cases services from locally-headquartered banks, providing an additional justification for analyzing local market competitiveness. Nevertheless, information technology

improvements have undercut, to a degree, the tight bond between small businesses and locally-headquartered depositories.

Kwast, Starr-McCluer, and Wolken (1997) studied the dependence of small businesses on local depository institutions. They conclude, based on 1993 survey data, that small businesses concentrate their banking business in depositories with local branches to as great a degree as do consumers. Of small businesses, 92 percent use a local branch or office, only 8 percent use nonlocal depositories (Kwast, Starr-McCluer, and Wolken 1997, 7–8). Additionally, only 35 percent of small businesses utilize any nondepository institution.

Small businesses may have some of the same reasons as consumers for preferring to deal with a local office. Those small businesses whose customers often pay with cash or check will wish to have an account in a bank with a local branch. Such businesses will tend to make frequent deposits, so that they can avoid storing large amounts of cash on their premises. Frequent trips are less costly if the depository has a nearby branch. Therefore, such businesses will likely hold transaction accounts at a bank with local offices.

Small businesses often seek loans from small, locally-based banks. The idea here is that the creditworthiness of a small business is often difficult to convey in financial statements alone. A small business's creditworthiness may depend heavily on local conditions, or on the character and skill of the owner and employees. Furthermore, small businesses often do not have audited financial statements. Therefore, it may be difficult for lenders to separate good risks from poor risks. A small locally-headquartered bank may be able to take these factors into account when deciding on a loan to the small business. A locally-headquartered bank will tend to have a continuing relationship with a small business, and therefore have developed thorough knowledge of the borrower's income prospects and creditworthiness.

But large banks with distant headquarters will have some difficulty employing such information (Stein 2002). While a large bank's *local* branch managers can gather this information, headquarters personnel are likely to demand verifiable information. Requiring such verifiable information is the result of an *agency problem*, whereby headquarters personnel cannot completely trust distant employees, so they demand verifiable evidence before releasing funds for a loan (Berger and Udell 2002).

Analysts have extensively studied the importance of the relationship between locally-headquartered community banks and small business lending. They find that local relationships produce greater credit availability for local business and lower prices for these businesses' banking services (Petersen and Rajan 1995; Berger and Udell 1995).

While small banks may enjoy advantages in relationship lending to nearby small businesses, information technology improvements are consistently reducing the cost of gathering and conveying creditworthiness information about individuals and businesses. As a result, large banks, with distant headquarters,

are becoming better able to make small business loans. Recent studies have found that the average distance between small businesses and their lenders has been increasing over the last decade or so (Petersen and Rajan 2002; DeYoung et al. 2007).

One recent improvement in information technology illustrates the opportunity to untie small businesses from locally-headquartered banks and even from banks with nearby branches, increasing the opportunity for distant banks to capture small businesses as customers. Remote deposit capture (RDC), allows businesses to scan checks electronically, and then transmit the scanned information to their banks. The equipment needed for the operation can be as simple as a desktop scanner and a PC. The electronic version of the check is sent to the bank and the business keeps or destroys the check. The bank then processes the check for payment. RDC reduces the need for small businesses to have a deposit relationship with a bank with any local presence, thus making the banking market more of a national one (Scott and Lorenzo 2005; Wachovia 2007).

Pricing Studies

Beyond the direct evidence that consumers and small businesses focus important portions of their banking business on their home markets, there is also evidence from regression analysis studies of depository institution pricing indicating that local market competition is important. Gilbert and Zaretsky (2003) provide a valuable review of this literature. The results are somewhat mixed, but imply that pricing varies from local-banking-market to banking-market, suggesting that banks compete mainly at a local level rather than at a national level. Therefore, banks make their pricing decisions based on the actions of nearby competitors rather than more distant competitors. If bank pricing decisions are driven by competitive conditions in local markets, bank supervisors have good reason to carefully analyze mergers that might reduce local competition.

In one example of a pricing study, Jackson (1992) analyzed whether local market interest rates on bank money market deposit accounts (MMDA), NOW (accounts with transaction features) accounts, and CDs respond to movements in interest rates on nationally-traded instruments (Treasury bills). He found that adjustments in MMDA and NOW interest rates differ significantly from Treasury bill interest rate movements. In contrast, CD rates in local markets, tended to match movements in Treasury bill rates. This finding supports the idea that for accounts with strong transactions components (MMDA and NOW accounts) the relevant market may be more local than for non-transaction accounts (CDs).

Heitfield and Prager (2002) regress bank deposit interest rates on local market concentration levels, measured by HHI and by the market share of

the largest three firms (three-firm concentration ratio), for local markets and for states (Heitfield and Prager 2002, 13). They find that higher levels of local concentration are associated with lower levels of deposit interest rates, indicating that concentration may weaken competition and hurt consumers. The results did not diminish when tested with data from 1988, 1992, 1996, and 1999 data. But they also find that state concentration matters too, meaning that interest rates are lower in states with higher levels of concentration.

Heitfield and Prager (2002, 4, 6–12) also note that local market concentration is a more significant factor explaining interest rates on transaction accounts than on other types of bank deposits, specifically savings and money market deposit accounts. The implication is that for accounts involving frequent interaction between the customer and the bank (i.e., transaction accounts), nearby location is important. As a result, customers focus largely on banks in their local market and cannot be easily drawn away from a local bank when a nonlocal bank offers a higher interest rate on deposits. For savings-type accounts, for which the customer has less need for frequent trips to the bank, customers are more likely to search for and be drawn away to a bank that pays higher interest rates.

As reported by Gilbert and Zaretsky (2003), a number of analysts have studied the relationship between bank profits and local market concentration. The fairly consistent result is that profits are higher for banks in concentrated markets. These findings imply that local market concentration plays an important role in banks' competitiveness, so that it is appropriate to measure it and act upon it when mergers are being considered.

Bank Entry and Local Market Analysis

The threat of new entrants limits the danger that a bank with local market power (i.e., a bank with few local competitors) will take advantage of this power to charge high prices. But if entry is costly, new entry may not be forthcoming even when incumbent bank prices are quite high. There is evidence that entry is costly in banking. As a result, supervisors should continue to perform competitive analysis of proposed mergers to limit market power in local markets.

Because of the reduction of branching restrictions over the last 20 years, banks can more readily establish branches in markets in which they currently have no presence. As a result, even if there are few competitors in a given local banking market, the threat of new entry, which today can occur largely without legal restriction, should keep even a lone bank in a market from exercising monopoly power. (As noted earlier, market attractiveness to new entrants is considered a mitigating factor when performing merger analysis.)

One might imagine that supervisors have little to gain by examining local market competition, because the level of competition (number and market

shares of competitors in a market) is irrelevant when the threat of new entry is strong. There is little need for competitive analysis in such a case because even when there are few competitors in a local market, incumbent banks will tend to price their products as if there were strong competition—meaning they charge prices equal to those charged in markets with a large number of competitors. Incumbent banks in markets with few competitors will mimic pricing in highly competitive markets because they know that failure to do so will simply lead new banks to enter and undercut incumbents' prices.

As noted earlier, before the 1980s, banks in many states were restricted from branching beyond the market in which their headquarters was located, or had to circumvent costly barriers to do so. In general, interstate branching was prohibited. However, both in-state and interstate restrictions were lifted in the 1980s and 1990s. Once restrictions were removed, banks were better able to establish branches in markets that they deemed poorly served by existing banks. These were markets in which they might profitably acquire customers from incumbent banks. The number of branches has grown significantly since then.

While the lifting of legal restrictions on entry almost certainly enhanced the potential for local market competition, and surely led to additional competition, profitable entry might still be difficult. Existing banks in a market may have advantages. Such advantages can be substantial, as discussed by Berger and Dick (2007). One of these advantages is derived from the presence of switching costs, the costs of moving one's account or accounts from one bank to another.

A bank's customer may determine that another bank with local branches offers a better interest rate or more attractive services; yet the customer might still find that switching to the other bank is not beneficial. Consequently, a new bank entrant will find it costly to dislodge bank customers from incumbent banks. The customer may have his paycheck and other income payments direct deposited with the existing bank, and may have arrangements to have automatic bill payments come out of the existing bank account. These arrangements are likely to be somewhat costly to change. Also, to switch banks, the customer would need to spend time learning how to use the new bank's products, or have his funds tied up in the existing bank for some time before they can be moved to the new bank.

Because of the switching cost advantage of incumbent banks, customers may therefore be unlikely to shift to a new entrant even though it offers a lower price or better service. Additionally, the new bank may be unable to offer better prices than incumbents. A customer's creditworthiness may be well-known to his current bank, but unknown to the new bank. Berger and Dick (2007) analyze the advantage that incumbent banks (first or early entrants) might have over new entrants. The authors determine that the early movers, those banks

in a market the longest, maintain a market share advantage compared to later entrants.[27]

The reduction of branching restrictions has opened the door for banks to enter markets and challenge incumbents' high prices. Switching costs, and other costs of establishing a new branch in a market, mean that the threat of new entry is only partially effective at preventing banks in markets with few competitors from exercising market (monopoly) power by charging above-market prices. Therefore, competitive analysis may still be necessary in order to prevent mergers that could reduce competition and allow the growth of monopoly power in a local market.

4. CONCLUSION

More than 40 years later, banking antitrust analysis (analysis of bank mergers for their competitive effect in local markets) continues to follow the basic philosophy laid down by the Supreme Court in the early 1960s. During those 40 years, banking markets changed considerably so that depository institution customers now have a wider array of choices when making deposits or seeking loans. If bank customers now can easily obtain deposit and loan services from nonbanks or from providers outside of their local area, then one might question the current antitrust focus on depositories (to the exclusion of nondepositories), as well as the focus on competitive conditions in local markets. Additionally, starting in the early 1980s, restrictions on entry into local banking markets by outside competitors (through the establishment of new branches) began to be removed, so that ability of local incumbent banks to extract monopoly profits has been diminished by the threat of potential new entry, further leading to questions about the need for antitrust analysis. As carefully reviewed in Gilbert and Zaretsky (2003), there is a large literature analyzing the continued relevance of current methods of antitrust analysis. The literature reaches mixed conclusions.

Regardless of the availability of many alternatives, the most recent survey data indicate that consumers persist in relying on local depositories for important banking products, and especially so for deposit accounts. Furthermore, banks apparently view a local presence as important, because in recent years they have been adding branches at a rapid pace. The removal of most restrictions on new entry certainly must have undercut the opportunity for incumbent local banks to extract monopoly profits. Without such restrictions, incumbents who attempt to curtail output to raise prices face the threat that some outside bank might establish a new branch in the incumbent's market and acquire many of the incumbent's customers. Still, entry is costly so that incumbents

[27] See Kiser (2002), Sharpe (1997), and Kim, Kliger, and Vale (2003) for further discussion of the significance of switching costs.

may be able to retain many of their customers regardless of above-normal prices.

Consumers' reliance on local institutions for deposits, banks' penchant for increasing the number of branches, and entry costs' capacity to weaken potential competition, imply that the philosophy set out in the Supreme Court cases 40 years ago is still valid. These cases laid the foundation for antitrust analysis, placing the focus on depositories, excluding nondepositories, and analyzing competition at the level of the local market.

APPENDIX

Definitions of Banking Services Listed in Table 1

Checking: Checking accounts other than checkable money market accounts

Savings: Passbook accounts, share accounts, Christmas Club accounts, and any other type of savings account

Money Market: Money market deposit accounts

CDs: Certificates of deposit, both short- and long-term

IRA/Keogh: Individual Retirement Accounts and Keogh accounts, including accounts established as pension rollovers. IRAs and Keoghs are tax-advantage accounts such that taxes are not assessed until funds are withdrawn, presumably after the retirement of the saver.

Mortgages: First and second mortgages, home equity loans, and loans for other real estate purchases

Vehicle Loans: Loans for the purchase of any type of vehicle owned for personal use

Lines of Credit: Home equity and other lines of credit

Other Loans: Loans for home improvement or repair, student loans, installment loans, personal loans (excluding loans made by credit card institutions)

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