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Larry D. Wall, Alan K. Reichert, and Hsin-Yu Liang*

The policy debate on whether to strengthen or to remove the legal barriers between banking and commerce has paid little attention to what the practical effects of removing the barriers would be. To help answer this question, this article, the first part of a two-part study, provides an overview of the potential gains of integrating banking and commerce.

Economic theory, the authors note, suggests that joint corporate ownership of banks and commercial firms has several potential benefits, including economies of scale and scope, increased internal capital markets, and diversification. Commercial firms could also enjoy a significant reduction in funding costs if affiliation with a bank extended the federal safety net for banks to cover the commercial firms' liabilities. But some benefits are already available without common ownership. Moreover, common ownership may also result in some disadvantages, such as significant diseconomies of scale and scope.

Actual experience provides better insight than theory can about the relative magnitudes of the benefits and costs of cross-industry combinations. U.S. experience with limited openings between banking and nonbank activities suggests that the most common combinations were banks with nonbank financial firms, relationships that were authorized by a 1999 reform act. Foreign experience and U.S. conglomerates of nonbank firms in different industries fail to provide compelling evidence for large-scale combinations of banking and commercial firms.

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Part 1: The Likely Outcome of Eliminating the Barrier

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The application by Wal-Mart in 2005 to acquire a type of bank called an industrial loan company (ILC) sparked a renewed interest in the issue of mixing banking and commerce.[1] Much of the public policy debate on this issue evaluates the merits of strengthening versus removing the "barrier" between banking and commerce. However, one aspect of this question that has not received much attention is, What difference would removing the barrier have in practice?[2] Indeed, the stakes in the policy debate depend, to a substantial degree, on whether removing the barrier is likely to result in (a) a large fraction of the banking industry becoming part of conglomerates with large commercial operations, (b) relatively small-scale combinations that typically are either a large bank with some minor commercial operations or a large commercial operation with a relatively small bank, or (c) some combination in between.

A definitive answer to the extent of affiliation can be obtained only by removing the barriers. However, we can use economic theory, past experience with deregulation, and observed cross-industry combinations to better understand what is likely to happen. This article is the first of a two-part study of the potential gains to banks and corporations from removing the legal barriers separating banking and commerce. This article, part 1, provides an overview of the potential for banks and corporations to obtain gains. Part 2 (Reichert, Wall, and Liang, forthcoming) will provide an analysis of the potential portfolio diversification gains from allowing banking and commerce to mix.

This article begins by surveying economic theory to provide some insight into where to look for potential benefits and costs of cross-industry combinations. All cross-industry combinations are likely to produce some gains from diversification and perhaps from the creation of internal capital markets. To the extent that the combined firms are significantly larger than stand-alone firms, the combined firms may experience decreases in some types of costs (economies of scale) and increases in other types of costs (diseconomies of scale). Combining firms with different product lines is also likely to result in some reduction in costs (economies of scope) and increases in some other costs (diseconomies of scope). Banks also have two unique features that may imply larger benefits to shareholders from combining banking and commerce. First, banks occupy a special place in the allocation of credit that they could use to give their commercial affiliates a competitive advantage. Second, banks also benefit from access to the federal safety net, which includes deposit insurance and access to loans from the Federal Reserve. Commercial firms may gain a significant reduction in funding costs if affiliation with a bank resulted in the safety net being extended to cover the commercial firms' liabilities.[3]

Although economic theory can tell us where to look for the benefits and costs of cross-industry combinations, actual experience provides better insight into the relative magnitudes of these costs

and benefits. The two types of experience most directly related are analysis of the combinations formed when permitted by openings in the barriers between banking and commerce and the diversification gains. Our experience with the openings in the barrier is limited by the tendency of Congress and the regulators to close openings whenever the breach was deemed too large. However, this article's review of past experience with limited openings in the barrier between banking and otherwise impermissible nonbank activities shows banks affiliating with a number of nonbanking activities. Most of these nonbank activities, however, were with nonbank financial activities and not commercial activities. The debate over the affiliation of banking and financial firms was resolved by the passage of the Gramm-Leach-Bliley (GLB) Act of 1999, which lifted almost all barriers to combining bank and nonfinancial activities. Estimates of the potential gains from diversification are discussed in part 2 of this study.

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Two other types of partially related historical experience discussed in this study also provide some insight. One type is the relationship between banking and commerce in other developed countries with more permissive laws. Here the data are limited, but they suggest that on average bank ownership of commercial firms is limited. In some countries that are thought to have close ties, such as Germany and Japan, the banks' control over commercial firms arises through their indirect influence over the voting behavior of the firms' stockholders. A second type of related experience comes from the extent to which commercial firms are organized as conglomerates operating in multiple different industries versus the extent to which they tend to be focused. The evidence here suggests that the largest commercial firms have become more focused over time, implying that the costs related to the net diseconomies of scope generally exceed the benefits from diversification and any economies of scale.

Economic theory: Potential benefits available to all conglomerates

All types of cross-industry combinations have the potential to produce two types of financial benefits: (1) portfolio diversification benefits, which provide the potential for higher expected returns for the same level of risk than either firm operating separately, and (2) the creation of internal capital markets in which the firms' managers may be able to allocate resources across jointly owned business operations more efficiently than if the firms were separately owned.

Portfolio diversification. Portfolio diversification arises when the individual firms' earnings are not perfectly correlated, creating the potential for losses at one firm to be offset by the other firm's profits. The results of this diversification are such that optimal combinations of two or more firms can obtain the weighted-average expected returns of the firms with less than the weighted-average risk. This reduction in risk does not depend on either firm changing their operations in any way.

However, the existence of portfolio diversification gains is not necessarily a reason for common ownership. Investors could obtain many of the benefits of diversification by creating their own portfolio of stock in the two separate firms. Thus, diversification provides benefits to the owners of

1. Indeed, the application sparked so much controversy that the Federal Deposit Insurance Corporation (2007) renewed its moratorium on approving certain types of ILC applications. Hudson and Wells (2007) report that Wal-Mart subsequently withdrew its application. But the issue reappeared recently with Cerberus's efforts to obtain permission to retain permanent control of an ILC (Adler 2008).
2. A related issue is banks' ability to engage in merchant banking, which Craig (2001) defines as "negotiated private equity investment by financial institutions in the unregistered securities of either privately or publicly held companies." Merchant banking includes both private equity financing and venture capital operations. Whereas banks' merchant banking relationships are temporary and the bank does not routinely manage the company, in the relationships discussed in this article, ongoing control is ordinarily exercised. See Robinson (2002) for a discussion of both the rules before the Gramm-Leach-Bliley (GLB) Act in 1999 and the more liberal rules adopted after GLB.
3. Although exploitation of these two unique features would benefit the firms' shareholders, the gains would largely come at the expense of other parties. But the extent to which conglomerates with banking and commercial operations would be formed depends on the gains obtained by the conglomerates' owners and not on the total societal gains from the merger.

banking and commercial conglomerates only if the combination somehow results in returns that could not be obtained by buying shares in separately managed banks and nonfinancial firms. One way that such gains might arise would be if the bank or nonfinancial firm or both were not publicly traded so that investors could not form a portfolio including the two firms. Another possibility would be that the combined firms could exploit the risk reduction from having a more diversified portfolio by either holding riskier assets than either firm could on a stand-alone basis (provided these assets offered a higher rate of return for their added risk), or the firms could substitute debt for equity to exploit the tax benefits of debt financing (for example, Lewellen 1971). Thus, portfolio diversification is likely to provide some net benefits to combining a bank with a commercial firm.

Internal capital markets. The general issue of one subsidiary providing financial support to another subsidiary of a conglomerate has received considerable attention in the finance literature. One strand of the literature discusses the potential for internal capital markets (transfers between firms with common ownership) to allocate resources more efficiently than the external markets (where firms obtain capital in arms-length transactions).[4] The reason why internal capital markets may be more efficient—at least in some circumstances—is that the common ownership bond provides mechanisms (for example, internal accounting and auditing systems) for reducing the information asymmetry between those allocating the funds and those receiving them that are not possible in the external capital market.

However, even though internal capital markets may reduce information asymmetry in many cases, divisional managers nevertheless have an incentive to be less than fully revealing when seeking additional capital. Moreover, internal capital markets may create agency costs in which the interests of the firms' managers, especially the senior corporate managers, are not fully aligned with the shareholders' interests. The net result may be that external capital markets are more objective and therefore more efficient in allocating capital.[5] Whether the gains from an internal capital market are greater than the costs likely depends on the ability of a firm's management and governance structures to exploit the benefits while minimizing the costs.

Operating benefits of mixing banking and commerce

The principal reason why firms produce multiple products under a common corporate structure is that doing so allows them to achieve economies of scale or economies of scope or both. Economies of scale arise to the extent that the unit cost of producing a good or service decreases as the amount of goods and services increases. Economies of scope arise to the extent that the cost of producing a good or service (including the cost to consumers of acquiring the good or service) decreases when it is produced in conjunction with some other good or service. Any economies of scale and scope may be offset by diseconomies of scale and scope since there is a tendency for some unit production costs to increase with the size and complexity of the firm. Moreover, merely finding that economies of scope and scale are larger than the related diseconomies is not a sufficient reason for the firms to have joint ownership. It must be the case that the net gains from having a common parent are greater than those that could be obtained via other contracting mechanisms, such as joint ventures.

Economies of scale. The argument that economies of scale in production are likely to arise from combining bank and nonfinancial firms is generally weak. The direct production of services by a bank is likely to use different technologies than those used by most types of nonfinancial firms, limiting the gains from economies of scale in direct production. Some gains may exist in the back-office areas, such as sharing common data centers and other types of information technology. However, such gains are unlikely to be substantial given banks and commercial firms' existing ability to outsource most back-office functions.

4. A full survey of the internal capital markets literature is also beyond the scope of this paper. See Chen (2006) for a recent analysis of stock market responses to capital investments by focused and diversified firms.
5. A full survey of the diversification discount is beyond the scope of this paper. Two recent papers raising questions about the discount are Villalonga (2004) and Gomes and Livdan (2004).

The one area where economies of scale are most likely to exist is in risk management. Nelson, Moffitt, and Affleck-Graves (2005) find that larger firms are more likely to use some combination of interest rate, currency, and commodity derivatives in risk management. The most likely reason for this is that risk management often uses derivatives that can be complex and expensive. The larger scale associated with combining a bank and a nonfinancial firm may allow the combined organization to exploit economies of scale in transactions costs and to cover the costs of hiring more sophisticated managers.

Whatever economies of scale may arise from combining banks and nonfinancial firms must be weighed against the diseconomies associated with running a larger organization. Larger firms typically have longer chains of command with more costs devoted to control, greater opportunities for subordinates to distort information flows to their advantage, and potentially less ability to respond flexibly to evolving markets.[6] The net gains solely due to increased size arising from a bank from entering commerce (or a commercial firm entering banking) are unlikely to be a significant factor motivating many combinations.

Economies of scope. Combining banks with various types of nonfinancial firms could potentially result in various types of economies of scope. The most commonly cited examples are ones in which the combined firms are able to offer customers one-stop shopping for bundles of products. The extent to which customers value one-stop shopping is sometimes questioned, with one prominent failure being that of the retailer Sears's attempts to cross-sell a variety of financial services—including those of its insured thrift during the 1980s.[7] Despite this failure, the potential for successful efforts is indicated by the success of American Express in providing travel-related and financial services and the success of captive finance companies such as General Motors Acceptance Corporation and General Electric Capital Corporation.

Another reason why commercial firms may value a bank charter is to obtain direct access to the payment system. Bergman (2005) notes that the goal given in Wal-Mart's application to acquire an ILC is that of reducing processing costs by owning a captive payments processor.

Affiliation with commercial operations may also enhance the efficiency of some types of bank operations. For example, banks might also be able to more fully utilize their expertise acquired in specific types of commercial lending if they could use that expertise in their own commercial operations. Haubrich and Santos (2005) show that commercial operations may also enable banks to reduce their losses on defaulted loans if their commercial operations helped banks dispose of collateral obtained through loan defaults. Santos (1999) finds that banks may be able to provide borrowers with better incentives and reduce their own risk if they could own a combination of debt and equity from their corporate borrowers rather than being restricted largely to lending money.[8] However, different modeling assumptions, such as those used in Boyd, Chang, and Smith (1998), find that allowing banks to take equity produces worse outcomes. Further, Kroszner and Strahan (2001) point out that the U.S. bankruptcy code provides a disincentive for lenders that also own equity to exercise governance powers.

Although operating both banking and nonfinancial businesses may produce some economies of scope, it also generally produces some diseconomies of scope. Firms operating in different business lines must spread their scarce senior management talent across different activities, each of which may have separate value propositions for customers and performance metrics for the divisional managers. Whether economies or diseconomies of scope would dominate for any given combination likely depends on what industry or industries the commercial firm is operating in and the way the firms are managed.

Joint ownership or mutually beneficial contracts. Many of the gains from increased scale or the provision of different services can be obtained without an ownership link. For example, smaller banks have long obtained the benefits of economies of scale in data processing by buying services

6. For example, see McAfee and McMillan (1990) for a discussion of the combined impact of dispersed information and subordinates' incentives to exploit their information advantage.
7. Krainer (2000) notes speculation that large firms acquired thrifts during this period more as an attempt to capture tax losses than out of a desire to build their financial services operations.
8. For additional analysis see Berlin, John, and Saunders (1996); John, John, and Saunders (1994); and Park (2000).

from larger banks or independent data processing firms. Similarly, although there may be economies of scope in having a bank branch in grocery stores, that does not necessarily imply that the optimal way to obtain these gains is by having a common owner for the bank and the grocery store. Indeed, the net economies of scope (economies less any diseconomies of scope) may be greater if the enterprises work together with separate ownership rather than with common ownership. In the grocery store example, separate ownership would allow the bank managers to concentrate on providing financial services and the grocery store managers to focus on providing retail services and hence would avoid the situation where some managers are required to be involved in both types of businesses.

If certain economies of scale and scope can be obtained and diseconomies avoided when firms retain separate owners, then the existence of these economies is not a sufficient reason for banks and commercial firms to have a common owner. It must be the case that the net economies of scale and scope (benefits less any diseconomies) are greater when the firms have a common owner—that is, when the production processes (broadly defined) that the firms would implement if they were independent are less efficient in producing the combination of services than the processes they would implement if they had a common owner.

Thus, economies of scale and scope may provide a powerful incentive for certain combinations of banks and commercial firms. However, in many cases banks and commercial firms may be able to obtain most of the economies and avoid most of the diseconomies by contracting as independent firms rather than having common ownership.

Economic theory: A bank subsidizing its commercial affiliate

The potential gains to shareholders from combining banks with commercial firms include two that arise from the special position of banks. First, banks play an important role in the allocation of resources to firms, especially small and medium-sized firms. In their role of allocating capital, banks may be in a position to assist their affiliates at the expense of other firms. Second, banks have special access to a federal safety net designed to reduce their probability of failing and subsequent costs if they should fail. As a result, at least some of the time, banks have access to funding on better terms than are available to otherwise comparable nonfinancial firms. Potentially large gains exist to the extent that joint ownership of banks and commercial firms results in the federal safety net being extended to the funding of the commercial firm.

Allocation of credit. One method by which a bank could help its commercial affiliate is by lending on better terms to the affiliate's customers than to customers of the affiliate's competitors. Another way is by denying loans to the affiliate's creditworthy competitors.

A bank may appear to be exploiting its position in the loan market to the extent that it provides loans at below-market rates to customers of its commercial affiliates. However, such loans are just one of a number of ways that one affiliate can subsidize another affiliate. The end result from the consumer's perspective would be almost identical if instead of having the bank lend at a preferential rate, the transaction were structured as follows: (1) the bank pays higher dividends to its parent, (2) the parent passes the funds from the bank to its commercial subsidiary, and (3) the commercial subsidiary uses the funds to lower the price of its products or the interest rate charged for its customers' loans. Thus, many of the issues raised by a bank lending at a below-market rate to its affiliates or its affiliates' customers are similar to those raised by any other type of cross-affiliate subsidy—which is to say the same issues raised by internal capital markets.

A potentially more serious problem arises if the bank seeks to assist its commercial affiliate by charging an above-market rate or even denying credit to its affiliates' competitors or their customers. Unlike making low-interest loans to support affiliates, a bank has no legitimate means to handicap its affiliates' competitors. Moreover, if such credit restrictions were effective, they could give the commercial affiliate a significant advantage.

Whether a bank could help its commercial affiliates by restricting loans to competitors and competitors' customers depends on the extent of competition in the lending market. If the bank is merely one of a number of loan providers, then potential borrowers could likely defeat any attempt

to limit credit by simply going to another lender.[9] Alternatively, if the bank has sufficient market power so that credit restrictions would be effective, the bank could use this power to demand higher loan rates independent of whether it is associated with a commercial firm. Thus, having a bank restrict the supply of loans to benefit its commercial affiliates will not necessarily increase the combined profits over those that could be obtained by the bank and the commercial firm independently exploiting their market power (to the extent that they have any market power).

One of the big differences between banks and commercial firms is that banks have access to the federal safety net, which includes deposit insurance and the Federal Reserve's discount window.

Banks' ability to offer preferential terms to their affiliates' customers and to restrict lending to competitors' customers is also constrained by antitying legal rules. General antitrust laws prohibit tie-in arrangements in some cases, and Blair (2004) notes that Congress has made it easier to prove that tie-in deals by banks are illegal. In the case of banks, the plaintiff is not required to show that the bank had economic power or show the specific anticompetitive effects of the tying arrangement.[10]

Thus, banks' ability to use their control over credit appears unlikely to provide substantial additional gains to firms that combine banking and commerce. A bank's ability to benefit its commercial affiliate at the expense of other firms depends on whether the bank has substantial market power. Yet, even if the bank had market power, it could obtain most of the gains (likely even larger gains) by simply lending to all commercial firms at a higher rate rather than lending to its affiliates and its affiliates' customers at a lower interest rate.

Commercial affiliate gaining access to the safety net. One of the big differences between banks and commercial firms is that banks have access to what is sometimes called the federal safety net, which includes deposit insurance and the Federal Reserve's discount window. Deposit insurance limits losses to depositors in the event of bank failure by providing a guarantee on at least the first $100,000 of deposits through the Federal Deposit Insurance Corporation (FDIC).[11] The federal safety net also reduces the probability that a solvent bank will fail because of illiquidity by giving banks access to discount window loans from Federal Reserve Banks. Commercial affiliates of banks and their owners could benefit from the safety net to the extent that the creditors of the commercial firms believe that their nonbank debt is also protected. This gain to the shareholders of banking and commerce conglomerates from stretching the safety net to cover the commercial affiliates would come at the expense of banks that do not have commercial affiliates and from taxpayers.[12]

Most of the debate about extending the safety net has focused on public policy issues, especially the risk that a bank might provide so much (direct or indirect) financial assistance to a commercial affiliate that the bank becomes undercapitalized or even insolvent. However, viewing the issue simply as limiting banks' ability to assist their affiliates misses two important implications of such

9. A qualification to the ability to go to another lender arises if the potential borrower had a relationship with the bank restricting credit. In this case, the bank may have information about the borrower that is not available to other lenders and that might allow the bank to make loans on more favorable terms than other lenders. However, in most cases the borrower could avoid this problem by banking with banks that do not have commercial operations or by using several banks. Borrowers seeking very small business loans may also be able to obtain funding from lenders that rely on credit scoring rather than historical relationships to evaluate borrowers (see Frame, Srinivasan, and Woosley 2001).
10. See 12 U.S.C. §§1971–78.
11. In addition there exists insurance of $250,000 on retirement accounts and others ways of stacking insurance coverage. See FDIC (2008) for a discussion of deposit coverage levels.

    Additionally, although the FDIC is generally required to follow least-cost resolution, the agency is authorized to guarantee additional bank liabilities under the so-called systemic risk exception if doing so is necessary to protect the operations of the financial system. Least-cost resolution is generally required by 12 U.S.C. § 1823(c)(4) with the systemic risk exception given at 12 U.S.C. § 1823(c)(4)(G).
12. The FDIC collects insurance premiums from banks to reduce the probability that deposit insurance losses will be covered by general federal revenues; however, past practices suggest that the taxpayers remain exposed in the event of large losses to the FDIC. According to some estimates, the deposit insurance losses to clean up the thrift debacle in the 1980s cost taxpayers $132 billion (FDIC 1997, 187).

associations for the federal safety net. First, a financially distressed bank may receive assistance from its commercial affiliate that would reduce safety-net losses. Second, focusing on direct aid to affiliates ignores one of the major reasons why a bank would be affiliated with a commercial firm: The two firms working together under a common owner are presumably worth more than they would be worth operating independently. The increase in value from joint operations has both good and bad implications for the safety net. On the one hand, the resulting synergistic gains from affiliation may enhance the competitive and financial position of the bank, which may reduce the bank's probability of failure. On the other hand, the increase in value gives the bank an incentive to help its nonfinancial affiliate, possibly even if doing so exposes the safety net to increased risk. If so, the failure of a nonbank affiliate would eliminate these synergistic gains. Moreover, banks and their commercial affiliates are likely to adopt integrated management structures and production technologies designed to maximize these gains. If the commercial affiliate then fails, the bank may find its management structure disrupted and its production technology inefficient for producing only banking products. The result of these operational links is that, via the safety net, authorities may decide to help a bank's commercial affiliate even if the bank has no direct financial exposure.

Financial links. The safety net for banks could be stretched to cover a bank's affiliates if the bank is required to provide so much assistance to a distressed affiliate that it places the bank at risk of failing. As mentioned above, the cost of the safety net may also be reduced to the extent that distressed banks receive assistance from its affiliates, possibly on terms imposed by bank supervisors. Thus, the real question is whether the safety net and the associated supervision of banking conglomerates would yield net benefits to the shareholders.

Absent any government rules on providing help, the answer is that groups can generally, but not always, be expected to help their affiliates for at least two reasons. First, as mentioned above, the combination of a bank and a nonfinancial firm is generally expected to be profitable. Thus, preserving the group is typically value maximizing unless the losses to an affiliate exceed the expected present value of the net economies of scale or scope. Second, lenders and suppliers will offer better terms to the affiliates of a group to the extent that they believe that the group stands behind each of its affiliates. If the group walks away from its responsibility to help one of its members, creditors and suppliers are likely to question the group's commitment to support its other affiliates.[13]

While assistance would ordinarily be provided if allowed by the government, other cases could arise where assistance would not occur unless compelled by the government. In some cases, the group may correctly judge that the cost of helping an affiliate exceeds any potential gain from doing so. For example, the group may refuse to assist its insolvent affiliate if the insolvent affiliate's losses are so large that they would make the group as a whole insolvent and if the remaining affiliates would be viable without the insolvent affiliate.

Existing government regulations limit banks' ability to assist their distressed nonbank affiliates. Many of these regulations are general-purpose rules designed to maintain banks' safety and soundness regardless of whether they have nonbank affiliates. These regulations include minimum capital adequacy requirements and limits on bank dividend payments.[14] These regulations do not prevent banks from assisting their affiliates, but they help to limit the amount of assistance to levels that should not threaten the bank's financial stability.

In addition to these general regulations, some specific steps have been taken to limit a bank's ability to assist its nonbank affiliates. As previously mentioned, one way of assisting affiliates would

13. Deposit insurance may partially mitigate the incentive of the group to protect creditors of its banking affiliates, but the group would still have substantial incentives to help its bank. Deposit insurance ordinarily covers only the first $100,000 of normal deposits, and it does not cover any nondeposit liabilities. Deposit insurance provides at best incomplete protection for customers and suppliers who seek to develop a long-term business relationship with the bank.
14. The federal bank supervisors have adopted uniform minimum capital adequacy standards for all federally insured commercial banks. The Federal Reserve's capital adequacy standards for state member banks may be found at 12 CFR § 208 Appendices A (risk-based) and B (Tier 1 leverage). Any limits on dividend payments are set by federal law for national banks chartered by the Office of the Comptroller of the Currency and by the respective state laws for banks with state charters. The restriction of dividend payments by national banks is set by 12 U.S.C. § 60(b).

be to purchase assets and services from affiliates at above-market prices and sell services to affiliates at below-market prices. Section 23A of the Federal Reserve Act sets a maximum on a bank's credit extension and asset purchases equal to 10 percent of bank capital for any single affiliate and equal to 20 percent for the aggregate of all affiliates. Section 23B requires that a variety of transactions be priced at market prices, if available, and on terms that the bank would use in transactions with third parties if market prices are not available.[15] Additionally, the nonbank affiliates of commercial banks and thrifts (but not ILCs) are subject by law to examination by the Federal Reserve, and their parent is subject to minimum capital adequacy standards. This rule reduces the risk that the nonbank affiliates will seek assistance and alerts supervisors to situations where the bank may be ordered by its owners to help its affiliates (U.S. Government Accountability Office [GAO] 2005).[16]

Alternatively, nonbank affiliates of bank and financial holding companies may be ordered by the Federal Reserve to provide assistance to a bank under a regulation that calls for the nonbank operations to serve as a "source of strength" for their affiliated banking operations.[17] While some analysts have expressed doubts about the legal basis for the source-of-strength doctrine in the past, the U.S. GAO (2005) says that three provisions of the GLB Act indicate Congress's understanding that the Federal Reserve had the authority to impose the doctrine.

Thus, a literal reading of the existing legal structures suggests that financial assistance during times of distress will flow from the commercial affiliate to the bank and not in the other direction. The result of such flows would be to reduce expected losses to the safety net at the expense of the shareholders of banking and commercial conglomerates. This result in turn reduces the incentive to form such conglomerates. However, the history of regulation is replete with examples of firms finding ways to avoid the intent of regulations while complying with the letter of the law.[18] The combination of regulatory avoidance and the possibility that commercial affiliates will be more risky leaves open the possibility that allowing banks to affiliate with commercial firms would result in net gains to the conglomerate's shareholders but net losses to the safety net due to direct assistance between affiliates.

Nonfinancial links. The existence of economies of scale or scope should reduce expected safety net costs by decreasing the probability that a bank will become distressed and, should it encounter financial problems, by giving its parent more resources to assist the bank. These economies are likely to be partially offset by the diseconomies of scale and scope that may also arise, and diseconomies may actually dominate in some cases. However, as we argued above, the overall direct impact of economies/diseconomies of scale and scope should generally be to increase profitability and reduce safety net costs.

However, nonfinancial links may also tend to increase the probability that the commercial firms would gain from the safety net. One way to illustrate this point would be to consider how existing large banking groups operate. They may maintain several bank charters and incorporate assorted nonbank financial firms based on a variety of legal, regulatory, and managerial considerations. However, when organizing the management of their various operations, the groups do not focus on legal charters but rather on customer groups. Often the banking groups will have separate management structures for their retail (or consumer) operations, another for their wholesale and capital markets operations (large commercial firms), and maybe a third one for smaller businesses. These management structures coordinate the provision of products across various legally separate corporations. For example, the head of the wholesale operations may work to see that the commercial and

15. Sections 23A and 23B are codified at 12 C.F.R. § 223.
16. Unlike the parents of commercial banks, the parents of ILCs are not required by statute to be subject to government supervision. Adler (2007) reports on a House bill that would, among other provisions, clarify that the FDIC has the authority to regulate the parent companies of ILCs. Adler's account also says that FDIC Chairman Bair said that if such a bill were passed, the FDIC would also like to have the power to set capital standards for ILCs, similar to the power that the Federal Reserve has for bank holding companies.
17. The source-of-strength doctrine is codified at 12 U.S.C. § 225.4(a).
18. Walter (2003) discusses two cases where banks failed because of transactions with nonbank affiliates.

investment bankers in their wholesale operations act as a team to help their clients obtain financing rather than as competitors offering different products. This sort of coordination might be much less effective if it were implemented via a joint venture contract between independent commercial and investment banks than if the banks had a common owner and reported to the same manager.

While the adoption of integrated production boosts the combined firms' average profitability, the integration of banking and commercial activities could pose a threat to the bank if the commercial entity becomes financially distressed or fails. The failure of the commercial entity may remove an important part of the management structure of the bank and perhaps an important part of the production process of supplying banking services. Even if the bank can continue to function without its commercial affiliates, it may have a production process that is less efficient at producing banking products than it would have had if the bank had never had a commercial affiliate.

Moreover, the existence of the safety net may create an incentive for conglomerates with banking affiliates to integrate the management structures or production processes with their nonbanking activities even if doing so does not result in significantly greater economies of scale or scope. The group may benefit from lower funding costs to the extent that integrating management or production increases the likelihood that the safety net will be extended to the nonbank affiliates.

Thus, commercial affiliates may gain some benefit from the safety net as a result of the operational links between the bank and its commercial affiliate even if their bank affiliate does not have significant financial exposure to the affiliate. However, the creation of this operational link does more than extend the safety net; it also exposes the combined firms to any economies or diseconomies of scope that result from the integrated operations.

Direct evidence

Theory suggests a number of potential gains from some combinations of banking and commercial firms along with some potential offsetting costs associated with various combinations. However, theory provides limited insight into the magnitude of the net gains. In order to improve our understanding, we can look at several sources of empirical information.

The one source of information that relates directly to a potential benefit of combining banking and commerce is accounting return data, which may be used to analyze potential diversification gains. The advantage of these data is that they can reflect actual U.S. conditions within the last few years. The disadvantage, as noted above, is that diversification gains by themselves may not provide sufficient gains to offset the combined costs of creating such combinations and the potential diseconomies of scope associated with such combinations. Our companion paper, Reichert, Wall, and Liang (forthcoming), provides an analysis of the potential gains using industry-level financial data from Internal Revenue Service corporate income tax filings. The sidebar (page 10) shows how our methodology would apply for the specific case of Wal-Mart acquiring a bank.

The other direct source of information on likely gains comes from the combinations that were formed in the United States by exploiting various banking and commerce loopholes that have existed over the years.[19] One major loophole was that the limits on bank holding companies' owning

19. This discussion of combinations is limited to cases where the bank and the commercial firm are part of the same corporate group. Haubrich and Santos (2003) and Santos and Rumble (2006) also show that control relationships may arise in other ways such as banks voting shares that the bank's trust department is holding for its customers.

Haubrich and Santos (2003) show that the United States has a long history of not only limiting banks' powers to engage in commercial enterprises but also allowing commercial firms to own banks. Except as noted in the text, commercial firms' authority to own full service banks was terminated with the Bank Holding Company Amendments in 1970. The relevance of the pre-1970 U.S. experience is doubtful given the extent to which U.S. financial systems have evolved.

Similarly, there are currently no limits on an individual's ability to acquire a controlling interest in both banks and commercial firms; at present, a firm providing nonfinancial services generally cannot acquire control of a commercial bank or thrift. The problems with trying to infer future activity from existing combinations are twofold. Extrapolating from the experience of banking and commerce with common individual ownership may be of limited value as virtually all of the largest U.S. banking organizations are publicly traded corporations. Moreover, the authors are not aware of any data source that compiles information on these combinations.

The Wal-Mart Example

Wal-Mart applied to own an insured ILC in July 2005. Wal-Mart's proposed business plan involved limited use of the ILC's banking powers, primarily to reduce its credit and debit card transactions. However, critics of the proposal feared that Wal-Mart's long-run intentions were to become a provider of retail financial services. In large part because of the controversy over Wal-Mart, the FDIC declared a moratorium on approving ILC applications. Wal-Mart withdrew the application in March 2007 after the FDIC voted to extend the moratorium.

The following discussion models the impact of Wal-Mart making various levels of investment in the commercial banking sector. The return on equity (ROE) data for Wal-Mart are from its annual reports from 1994 to 2004, and the banking data are from the FDIC's annual summary data for commercial banks over the same period. Note that we use commercial bank data rather than bank holding company data since Wal-Mart would likely own a commercial bank rather than a bank holding company. Furthermore, we use generally accepted accounting principles (GAAP) data rather than Internal Revenue Service data since we are dealing with a single firm rather than an entire industry or subindustry.

The table reports the average return, standard deviation, and coefficient of variation for various combinations of Wal-Mart with varying proportions of the overall U.S. commercial banking industry. Wal-Mart's average ROE over the period studied was 19.5 percent, with a standard deviation of 1.19 percent and a coefficient of variation of 6.07 percent. As Wal-Mart's investment in banking increases from 0 percent to 30 percent of the firm's total assets, the average ROE declines by 1.7 percentage points with an associated decline in both the standard deviation and the coefficient of variation. Thus, if Wal-Mart owned a bank with an earnings distribution similar to that of the average U.S. bank, it would generate a modest decline in average ROE but with a reduction in risk that would be two to three times as large.

Table
Pairwise analysis of Wal-Mart and commercial banking, 1994–2004

Percent of assets in banking	Average return on equity (%)	Standard deviation (absolute risk %)	Coefficient of variation (relative risk %)
0 (All Wal-Mart)	19.5	1.19	6.07
5	19.2	1.13	5.85
10	18.9	1.07	5.63
20	18.4	0.96	5.21
30	17.8	0.86	4.81
100 (All banking)	13.8	0.80	5.83

Sources: Wal-Mart annual reports (1994–2004); FDIC: Net Income, FDIC-Insured Commercial Banks, United States and Other Areas (Table CB04); and Liabilities and Equity Capital, FDIC-Insured Commercial Banks, United States and Other Areas (Table CB14)

nonbank subsidiaries applied only to multibank holding companies. One-bank holding companies (OBHCs) could own almost any type of financial or nonfinancial firm until restrictions were imposed after the passage of the Bank Holding Company Act Amendments of 1970. The Federal Reserve Board of Governors (1972, 1005) listed the most common types of nonfinancial activities reported by OBHCs at the end of 1971 (the deadline for OBHCs to report their activities). The most popular activity labeled as nonfinancial was "insurance agents, brokers and service" along with the related, but separate, category of "life insurance underwriting," activities that today would be permitted under the GLB Act as financial services. The other popular activities included

- real estate operators, including operators of bank buildings;
- business services, including equipment rental and leasing service firms;
- accounting, auditing, and bookkeeping services, including data processing firms;

- real estate agents, brokers, and managers;
- subdividers and developers; and
- livestock operators.

Fewer than fifty BHCs engaged in any of the other nonfinancial activities classified beyond the three-digit level in the Standard Industrial Classification (SIC) code.

A second major loophole has involved the nonbanking activities of the thrift equivalent of OBHCs—unitary thrift holding companies. Haubrich and Santos (2003, 153) report that the single most common nonbanking activity of these thrift companies was "real estate" as of December 1996. The next most common is a set of activities that would appear to be financial for the purposes of the GLB Act, including insurance, equity and fixed income investment, broker/dealer, mutual fund manager, pension fund manager, and financial asset manager.[20]

Finally, the last major loophole that provides evidence on the sort of combinations that were formed is industrial loan companies.[21] As was true for the OBHCs and unitary thrift holding companies, the FDIC Office of Inspector General (2004) finds that a large fraction of ILCs are associated with predominantly financial companies. Of fifty-six ILCs, thirty-four are "embedded in organizations whose activities are predominantly . . . financial in nature [or] conducted within the financial services sector." These thirty-four ILCs accounted for 94 percent of total ILC assets at the time of the report. Only seven ILCs with assets of $4.2 billion (3 percent of ILC assets) were found to be part of large corporations that were not financial in nature. Examples of these seven ILCs include GE Capital Financial Inc., GMAC Commercial Mortgage Bank, and Exante Bank. Finally, nine ILCs with assets equal to $2.6 billion are "institutions that directly support the parent organizations' distinctly commercial activities." The four ILCs that support their parent organization with assets over $100 million at the time of the report are BMW Bank of North America, Pitney Bowes Bank, Transportation Alliance Bank (a subsidiary of the diesel retailing firm Flying J Inc.) and Volkswagen Bank USA. Two large retail firms that subsequently applied for ILC charters are Wal-Mart (discussed earlier) and Target, which has received approval.

Thus, historical evidence suggests both commercial and banking firms use loopholes in the laws limiting ownership of banks to obtain economies of scope. The most common affiliations resulting from the loopholes were combinations of banks with other financial service providers that were subsequently authorized by the GLB Act.

Indirect evidence

Additional evidence on the likely extent of combinations of banking and commercial firms may be obtained by examining related experience in two areas. First, the observed combinations of banks and commercial firms in other developed countries may give us some insight into the economies of scope to be derived from such combinations. Second, the extent to which multi-industry conglomerates are the dominant organizational form in the United States provides some information on the likely gains from diversification and internal capital markets.

International. Both Barth, Caprio, and Levine (2000) and the Institute of International Bankers (2005) report substantial cross-country differences in the restrictions on banking and commerce. Further, these restrictions often differ in important ways depending upon whether the situation is characterized by a bank holding equity in a commercial firm or vice versa. This section focuses on the experience in other developed countries as these are most relevant to the U.S. situation.[22]

20. Other activities engaged in by two or more unitary thrift companies include hotel owner/operator; manufacturing, telecommunications, and travel agency; auto sales; consumer goods; convenience stores; and Canadian credit union leagues.
21. See the U.S. GAO (2005) for a brief overview of how ILCs have evolved over time.
22. Many developing countries have large groups that include both banking and industrial firms. However, in many cases, the relationships are designed to at worst avoid the adverse consequences of weaknesses in the legal systems of the country and at best to exploit these weaknesses. For example, Rajan and Zingales (1998) note that the weak enforcement of contractual rights in East Asian countries led them to rely on relationship financing (sometimes including ownership ties) to a far greater extent than occurs in most developed countries.

The Institute of International Bankers (2005) survey shows banks' authority to own shares in commercial firms directly or indirectly through a holding company is typically restricted by either limits expressed as a fraction of banks' capital or limits as a percentage of the industrial firms' capital.[23] France and Germany both limit a bank's investment in an individual industrial firm to 15 percent of the bank's capital and a bank's investment in all industrial firms to 60 percent of capital. Canada and Japan both limit ownership as a percentage of an industrial firm's equity, with Japan imposing a 5 percent limit on direct ownership (15 percent including the bank's subsidiaries) and Canada imposing a 10 percent limit. The United Kingdom permits such acquisitions subject to supervisory consultations. U.S. rules generally limit bank ownership stakes to 5 percent of voting shares; among the exceptions is the authority for financial holding companies to form merchant banking subsidiaries that have control relationships, but these investments are subject to some limitations.

In other developed countries, industrial firms are typically allowed to have ownership interest in a bank, although many countries require governmental approval for ownership stakes above specified threshold levels. For example, the Institute of International Bankers (2005) describes the Irish rule as follows: "permitted, but subject to prior notification to the Central Bank for acquisition of more than 5% of total bank shares." In addition to limits based on the size of the industrial firm, Japan requires regulatory approval for ownership stakes in excess of 20 percent. The United States permits "*noncontrolling* investment up to 25 percent of the voting shares" (emphasis added).

Perhaps the best evidence on the extent of cross-ownership between banks and commercial firms is published by the Organisation for Economic Co-operation and Development (OECD) in reports on bank financial variables. These reports provide aggregate income statement and balance sheet variables for individual countries.[24] These data on banks' ownership of "shares and other participations" are compiled by Santos (1998) for OECD countries in 1995. He found that ownership of shares and participations was common, with the category of large German banks holding the highest ratio (6.3 percent) of bank ownership interest to total assets. The table on page 13 updates Santos's analysis for 2003. In some cases the ratio of shares and other participations to total assets increased, but in no case does the ratio exceed 10 percent, suggesting that ownership of industrial firms is not a major part of the banking system's assets in any developed country. Further documenting the extent of cross-ownership is difficult as these data are not readily available for many countries.

The OECD data raise one question concerning the nature of these relationships. Germany and Japan are often cited as examples of countries where banks have played an important role in the governance of many corporations. Indeed, some U.S. commentators have argued that German and Japanese firms had a competitive advantage because their shares were controlled by patient bank investors (Porter 1992). But how can these claims be reconciled with the low proportion of bank assets devoted to share ownership?

The key is that banks do not rely on direct stock ownership in either country. Japanese groups called keiretsu rely on cross-ownership between the various members of the group. The largest bank, or main bank, of the group plays an important role because of its ability to supply loans to other members of the group, not because it owned a controlling interest in them.[25] German banks' primary source of control is their voting power over shares held by their trust departments for other investors, according to Emmons and Schmid (1998). In such cases, investors typically give their proxy to the bank, allowing the bank to vote the shares. Thus, the nature of the ownership interest and control in both Japan and Germany is very different from that typically observed in the United

23. Although the Institute of International Bankers (2005) does not explicitly discuss the effect of bank investment in industrial firms on banks' capital requirements, in general such investment would be expected to be factored into the regulatory capital requirements.
24. The reports are from the Statistics/Bank Profitability section of SourceOECD, an online data base available by subscription from the OECD.
25. This common view of keiretsu is summarized in a recent paper by Santos and Rumble (2006). Questions about the existence of keiretsu are raised by Miwa and Ramseyer (2002).

Table
Bank ownership interest in selected assets in 2003 as a percentage of total assets

	Loans	Securities	Capital and reserves	Shares and participations
Australia	64.7	9.9	6.9	—
Austria	51.2	16.1	4.5	4.7
Finland (all banks)	60.7	8.9	9.8	0.9
Finland (commercial banks)	54.8	8.7	10.2	0.8
Belgium (all banks)	35.0	29.6	3.6	3.2
Belgium (large banks)	34.3	29.7	3.2	3.5
Canada	55.4	26.4	5.5	—
Denmark	40.2	30.9	6.0	4.6
France (all banks)	37.6	22.9	5.1	4.3
France (commercial banks)	32.1	26.1	4.1	4.2
France (large banks)	30.0	28.7	3.0	—
Germany (all banks)	47.7	24.6	4.5	5.9
Germany (commercial banks)	49.1	23.5	4.5	7.3
Germany (large commercial banks)	48.7	23.9	4.1	8.8
Ireland	46.7	29.2	5.2	0.4
Italy	45.8	6.3	6.9	4.0
Japan (all banks)	56.6	26.1	3.9	3.8
Japan (commercial banks 2001)	62.0	20.2	3.9	4.2
Japan (large commercial banks 2001)	58.3	19.1	3.4	5.5
Korea (commercial banks)	53.2	24.9	4.6	—
Mexico	50.4	21.4	11.4	0.3
Netherlands	57.6	23.5	3.7	2.4
Poland (all banks)	48.4	23.2	10.1	—
Poland (commercial banks)	47.8	24.1	10.1	—
Spain (all banks)	56.5	20.8	8.5	6.1
Spain (commercial banks)	48.6	23.7	8.6	7.3
Sweden	38.2	21.1	5.7	5.3
Switzerland	41.9	20.9	5.9	5.5
Turkey	25.6	44.2	13.1	13.1
United Kingdom	56.1	19.1	4.6	—

Source: SourceOECD and authors' calculations

States, where the parent organization (typically a bank holding company) owns a controlling interest in its affiliated firms.

Moreover, doubts about the merits of the close relationship between banks and corporations in Japan and Germany have emerged. Peek and Rosengren (2005) document the role of close ties in the continued financing of financially failing firms in Japan and the resulting misallocation of capital. Enriques and Volpi (2007) discuss various corporate governance reforms in Germany, some of which are intended to weaken the role of German banks in corporate governance.

U.S. nonfinancial experience. The experience of U.S. nonfinancial conglomerates cannot speak directly to the likely economies of scope from combining banks with commercial firms. However, it can provide some insights into the gains from economies of scale, diversification, and internal capital markets relative to the general diseconomies of scope arising from operating in multiple industries. If most large nonfinancial firms are conglomerates, then we might expect the gains from operating in multiple industries to generally exceed the costs. In this case, we would predict that large combinations of banks with a variety of nonfinancial firms are likely if the barriers were eliminated. On the other hand, if most large nonfinancial firms are focused (not conglomerates), that

fact would suggest that the existence and magnitude of any economies of scope would be an important determinant of the extent of likely combinations of banking and commercial firms.

The ranks of the largest firms in the United States were dominated by conglomerates in 1980. According to Davis, Diekmann, and Tinsley (1994), roughly 25 percent of the firms in the Fortune 500 operated in a single industry (two-digit SIC) while over half operated in three or more industries (two-digit SIC). However, the growing recognition that the individual pieces of many conglomerates were worth more than their sum resulted in a dramatic change in structure by 1990. Davis, Diekmann, and Tinsley show that 42 percent of the Fortune 500 firms in 1990 operated in a single industry and only 30 percent operated in three or more industries (measured at the two-digit SIC code level). The change was a result of either being broken up after being acquired or of voluntary restructuring.

Conclusion

What would be the practical impact of eliminating the barriers to joint corporate ownership of banks and commercial firms? Theory suggests a number of possible potential benefits to society and to the owners of such combinations, including economies of scale and scope, increased internal capital markets, and diversification. Additional gains to the firms' owners may arise from wealth transfers from taxpayers to the extent that the safety net for banks is stretched to cover their commercial affiliates. However, some of the gains can be, and in some cases currently are being, obtained without common ownership. Moreover, common ownership may also result in instances of significant diseconomies of scale and scope.

A review of a variety of related evidence suggests that some combinations will yield net gains to their owners but that large conglomerates combining substantial banking and commercial activities are unlikely to arise. Foreign experience with the combination of banks and commercial firms suggests some limited potential, but the two developed countries most closely associated with combinations of banking and commercial firms, Germany and Japan, have found that such combinations also have disadvantages. Further, the inability of the conglomerate structure to dominate the U.S. commercial sector raises doubts about the costs and benefits of operating across industry boundaries. Of course, there may be a "killer" combination of banking and commerce that would dominate the U.S. corporate sector if permitted. But no such combination has yet arisen as a result of openings in the U.S. barrier or less restrictive rules in other developed countries.

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