

The Federal Safety Net, Banking Subsidies, and Implications for Financial Modernization

by Kenneth Jones and Barry Kolatch*

Many policymakers and economists have long maintained that the federal safety net—broadly defined as federal deposit insurance and access to the Federal Reserve’s discount window and payments system—endows insured depository institutions with a financial subsidy and with certain other, nonfinancial, competitive advantages. Some have also asserted that banks could conceivably pass cost advantages on to their bank subsidiaries and affiliates—in essence, extending the safety net (and taxpayer liability) to activities for which it was not intended. Indeed, this latter argument has long been used to justify constraints on permissible banking activities, and it has recently been echoed in Congressional hearings on financial modernization.¹ During hearings on proposed financial modernization legislation, the presumed existence of a government subsidy and a bank’s ability to pass it to its subsidiaries led some witnesses to recommend that the proposed legislation mandate the bank holding company structure in preference to the bank subsidiary structure: they argued that transferring a subsidy from a bank to an affiliate within the holding company structure is harder than transferring a subsidy within the bank subsidiary structure. Other witnesses countered that the evidence did not support the notion that banks receive a significant safety net–related subsidy at the present time and that, in any case, organizational structure was unlikely to have a marked effect on a bank’s ability to transfer a subsidy. Members of Congress believed that resolving the subsidy question was particularly important because, aside

from its competitive implications, the answer would largely determine the future legal and operational structure of diversified financial-service providers in the United States as well as the regulatory regime responsible for their oversight.

Because of the importance of the subsidy question, this article reexamines the issue, but does so in light of recent regulatory reforms prompted by the thrift and banking crises of the 1980s. A number of these reforms were designed specifically to do two things: reduce the safety net–related advantages that had been accruing to insured depository institutions, and correct perverse incentives created by the safety net’s existence. After reassessing the traditional arguments supporting the existence of safety net–related subsidies and their competitive implications, the article argues that for public-policy purposes the relevant question is not whether a gross subsidy exists, but whether a net marginal subsidy remains after full account is taken of all offsetting costs of government regulation, costs both explicit and implicit. Finally, the article discusses the effectiveness of firewalls and other regulatory efforts to prevent the transfer of any subsidy and to limit taxpayer exposure.

* Kenneth Jones is a financial economist and Barry Kolatch is a Deputy Director in the FDIC’s Division of Research and Statistics.

¹ U.S. House (1997) and U.S. Senate (1998).

Our analysis will indicate that the federal safety net and its related gross subsidy have been significantly constricted in recent years and that any funding advantage derived from the safety net appears to be largely offset by the direct and indirect costs associated with government regulation. Although not all these costs are incurred on the margin, the evidence indicates that if a net marginal subsidy exists at all, it is very small. Moreover, regulatory firewalls (such as those embodied in the Comptroller of the Currency's operating subsidiary rules and in Sections 23A and 23B of the Federal Reserve Act) serve to inhibit a bank from passing a net marginal subsidy either to a direct subsidiary or to an affiliate of the holding company. In both cases, any leakage of a net marginal subsidy would be *de minimis*. Consequently, unless there are other compelling public-policy reasons for mandating a particular organizational form, we conclude that financial institutions should be given the flexibility to choose the corporate structure that best suits their needs, provided adequate safeguards remain in place to protect the insurance funds and to guard against undue expansion of the safety net.

This article first discusses the sources of the safety net–related gross government subsidy and the recent legislative, regulatory, and market developments designed to reduce the size of the safety net and its related gross subsidy. The second section reviews efforts to measure the subsidy; introduces the importance of differentiating among gross, net, and net marginal subsidies; and discusses how offsetting costs associated with deposit insurance, reserve requirements, regulatory burden, and other operating expenses serve to minimize any gross subsidy that banks may receive. The third section discusses how regulatory firewalls inhibit the transfer of any safety net–related subsidy under both the bank subsidiary structure and the bank holding company structure. The article concludes with the policy implications of our analysis.

The Safety Net and Government Subsidization of Banking: Sources and Recent Restrictions

It is widely recognized that banks receive a *gross subsidy* from the federal safety net. In terms of funding costs, this means that, for any given level of capital, banks can borrow funds at a lower interest rate than they could in the absence of the safety net. During the past decade, however, a number of statutory and regulatory changes have lessened the subsidy considerably.

Sources of the Gross Subsidy

The three primary sources of the gross subsidy enjoyed by commercial bank and thrift institutions are deposit insurance, the discount window, and access to Fedwire, the Federal Reserve's large-dollar electronic payments system.

Deposit Insurance. The purchase of deposit insurance allows a bank to lower its risk profile and therefore operate with less capital and a lower cost of funds (lower, because some of the risk premium previously paid on borrowed funds is recaptured). However, the lower cost of funds would not in and of itself constitute a subsidy as long as the bank paid an actuarially fair "market premium" for the insurance. For example, municipalities often purchase municipal bond insurance to enhance municipal bonds. The savings, in terms of lower yields on the bonds, exceed the cost of purchasing the insurance (otherwise municipalities would not buy it). Nonetheless, the municipalities are not receiving a subsidy. By purchasing insurance from a AAA-rated company, they are merely capturing some of the risk premium they would have had to pay to get investors to purchase their riskier securities. Only if the insurance is mispriced (underpriced) does a financial subsidy begin to appear. In the case of depository institutions, the existence of underpriced deposit insurance would allow an insured institution to gather funds (deposits) more cheaply than a noninsured financial institution with a similar capital structure. Moreover, to the extent the public believes that uninsured deposits and other bank liabilities will also be protected by deposit insurance or other implicit government guarantees, the cost of other bank liabilities could be lower than they would be without the safety net.² Since banks are not charged for this credit enhancement, a gross subsidy can be said to exist.

In addition to the funding advantage, other dimensions of deposit insurance allow a gross subsidy to accrue to insured depository institutions. This is because deposit insurance differs from market-provided insurance in two important ways. First, the premium is not set by the market. As we discuss below, it is very difficult to measure what a market rate for deposit insurance should be. Second, there are two parts to deposit insurance: the insurance funds administered by the

² One example of an implicit government guarantee is the so-called too-big-to-fail policy, under which it is believed that the government would protect extremely large money-center banks from failure in order to maintain the stability of the U.S. financial system.

Federal Deposit Insurance Corporation (FDIC),³ and a call on the “full faith and credit” of the U.S. government. This call is similar to a standby letter of credit provided by the government. There has never been an explicit charge for this call. But measuring the value of this call is also quite difficult, since the call is “in the money” only if one of the insurance funds becomes insolvent. Hence its value varies over time with the health of the banking industry and the strength of the insurance funds. In the more than 60-year history of deposit insurance, reliance on the “full faith and credit” of the U.S. Treasury has been necessary only once—to clean up the savings-and-loan (S&L) debacle of the 1980s.⁴ Nevertheless, the fact that credit from the U.S. government is available for deposit insurance purposes enables insured institutions to borrow in the marketplace at lower interest rates than uninsured financial institutions.

The Discount Window. The Federal Reserve’s discount window provides credit to solvent but illiquid banks. Although discount window loans must be fully collateralized, the window’s existence in periods when other sources of credit may not be available under any terms means this backup source of credit provides a subsidy to depository institutions. Moreover, a depository institution does not have to borrow from the window to derive some benefit from its existence. Because of the discount window, banks may be able to fund riskier and less-liquid asset portfolios at a lower cost and on a much larger scale than would otherwise be possible. As with deposit insurance, the subsidy provided by access to the discount window is extremely hard to quantify because the value varies with the health of individual institutions and of the banking industry.

Access to Payments System. The Federal Reserve District Banks operate Fedwire, through which banks and thrifts with reserve or clearing accounts at a Federal Reserve Bank may transfer balances to other institutions that have similar accounts. For many institutions, payments made on a given day may exceed that day’s opening balance; when a bank’s account goes into a negative position, a daylight overdraft occurs. Because Fedwire transfers are “guaranteed” by the Federal Reserve at the time they are initiated, the Federal Reserve assumes the intra-day credit risk that a participating bank will not have enough funds at the end of the day to discharge its obligations. When banks that incur intra-day overdrafts do not pay a market rate for the Fed’s overdraft protection, the differ-

ence between the market rate and the Fedwire rate represents a government-provided financial subsidy. Again, determining what the market rate for such overdraft protection would be is difficult, but many contend that the current rate charged banks for use of Fedwire is less than the rate a private provider would impose.

Legislative, Regulatory, and Market Developments Affecting the Size of the Gross Subsidy

Although the federal safety net continues to provide banks with a gross subsidy, the subsidy has been lessened considerably in the past decade by a number of statutory and regulatory changes designed specifically to reduce the safety net–related advantages that had been accruing to insured depository institutions.

Capital Regulation. Bank capital serves as a cushion to absorb unanticipated losses and shrinkages in asset values that could otherwise cause a bank to fail. Capital levels can be likened to a deductible for federal deposit insurance. As such, the higher the level of capital, the lower the “market” rate for deposit insurance. In addition, all other things being equal, the higher a bank’s capital level, the greater its creditworthiness. Thus, higher capital levels imply a lower *gross subsidy* from the discount window and Fedwire.

In 1988, the major industrialized nations, concerned about declining levels of bank capital, adopted uniform standards for capital adequacy. The Basle Accord established an international capital measure (total capital to risk-weighted assets) and set 8 percent as the minimum acceptable level of risk-based capital. Adoption of minimum capital standards and of capital requirements tied to the risk profiles of banks has resulted in banks holding more capital and has moved industry

³ These include the Bank Insurance Fund (BIF) and the Savings Association Insurance Fund (SAIF), both of which are maintained by premiums assessed on insured banks and savings associations. Both funds are currently fully capitalized and exceed the statutorily mandated level of \$1.25 per \$100 of insured deposits.

⁴ Total taxpayer cost for resolution of the S&L crisis has been estimated at approximately \$126 billion, excluding interest on the national debt. In contrast, the commercial banking industry has never had to exercise its call on the U.S. Treasury. Although the FDIC borrowed working capital from the Federal Financing Bank in 1991, it used deposit insurance funds to resolve bank failures and repaid the Treasury borrowings in 1993 with interest. Thus, there was no net cost to the U.S. taxpayer for deposit insurance for commercial banks insured by the FDIC.

capital levels closer to the levels the market might impose in the absence of the federal safety net. Capital regulation, therefore, has significantly reduced the subsidy from the safety net.

Prompt Corrective Action. In 1991, Congress passed the Federal Deposit Insurance Corporation Improvement Act (FDICIA) that, among other things, included provisions designed to limit regulatory forbearance by requiring more-timely and less-discretionary intervention, with the objective of reducing failure costs. Under these Prompt Corrective Action (PCA) provisions, as an institution's capital position declines, the appropriate bank regulator is required to increase the severity of its actions. These actions range from restricting asset growth (for undercapitalized institutions) to closing banks (those that are critically undercapitalized for a prescribed period).⁵ Since PCA requires regulatory action while an institution still has some tangible capital remaining, in theory the deposit insurance funds are less likely to suffer large losses should an institution eventually fail. Moreover, the value of the "call" on the full faith and credit of the U.S. Treasury is reduced.

The Least-Cost Test. FDICIA also instituted the "least-cost test." With rare exceptions, the FDIC may meet its insurance obligations by means other than a payoff only if the other method is deemed "least costly" to the deposit insurance funds. Before this requirement, the FDIC could choose any method that was cheaper than the estimated cost of liquidation; most institutions with over \$100 million in assets were resolved through a purchase-and-assumption transaction in which all liabilities except subordinated debt were assumed by an acquirer. The least-cost test caused the FDIC to change the way it structured resolutions, so that uninsured depositors or other general creditors often suffer losses in a resolution.

In the five years leading to the enactment of FDICIA (1987–1991), uninsured depositors and other general creditors suffered losses in only 17 percent of the 927 bank failures. From the enactment of FDICIA through 1998, the comparable figure has been 63 percent (of 191 bank failures). With the least-cost test requiring uninsured depositors and other general creditors to bear greater risk, the resultant market discipline serves to reduce the subsidy from the safety net.

Risk-Based Deposit Insurance. FDICIA also required the FDIC to develop and implement a system

of risk-based deposit insurance premiums. Since the market rate for insurance is related directly to the amount of risk an institution takes, flat-rate insurance provided the greatest subsidy to the riskiest institutions. The aim of risk-based premiums is to make the price of insurance a function of an institution's portfolio risk, thus not only reducing the subsidy to risk taking but also spreading the cost of insurance more fairly across depository institutions. Though the magnitude of the subsidy's reduction is not easily quantifiable, risk-based insurance premiums should have reduced the size of the *gross subsidy* accruing to depository institutions because of fixed and often underpriced deposit insurance.

National Depositor Preference. In 1993, as part of the Omnibus Budget Reconciliation Act, Congress passed a national depositor preference statute that changed the priority of claims on failed depository institutions.⁶ Under depositor preference, a failed bank's depositors, and by implication the FDIC, have priority over the claims of general creditors. In theory, depositor preference would reduce losses to the insurance fund from bank failures by increasing the value of the FDIC's claims and reducing the average cost of resolutions. Moreover, since the claims of general creditors are now subordinated to those of insured depositors and the FDIC, it is anticipated that these groups will demand higher interest rates on their funds, more collateral, or both, to compensate for their increased risk of loss—effectively raising a bank's overall cost of funds and lowering the *gross subsidy* associated with underpriced deposit insurance and the federal guarantee.

Changes to Discount Window Policy. To enhance market and regulatory discipline in the banking sector and to protect the deposit insurance funds, FDICIA also restricted the ability of the Federal Reserve to lend to undercapitalized institutions through the discount window. In particular, FDICIA restrained the Federal Reserve from lending to institu-

⁵ Critically undercapitalized institutions are those with tangible capital ratios of 2 percent or less. Under FDICIA, a receiver must be appointed for any institution that is critically undercapitalized for 90 days, although an extension is possible to 270 days if the regulator and the FDIC concur and document why the extension would better serve the purposes of the provision.

⁶ Public Law 103-66, Title III, instituted national depositor preference for all insured depository institutions by amending Section 11 (d)(11) of the Federal Deposit Insurance Act.

tions that fall below minimum capital standards, setting time periods beyond which the Federal Reserve may not lend to undercapitalized institutions without incurring a potential limited liability to the FDIC. The liability is incurred if an undercapitalized institution borrows for more than 60 days in any 120-day period. Because undercapitalized institutions have the most difficulty obtaining credit at attractive rates elsewhere and thus benefit most from access to the discount window, restricting their access to the discount window reduces the *gross subsidy* that flows from such access.

Changes to Payments System Policies. Two changes to payments system policies have reduced the subsidy arising from the Federal Reserve's guarantee of transactions on Fedwire. First, in 1988, the Federal Reserve instituted a system of net debit caps (credit limits) on an institution's daily Fedwire overdrafts. Then in April 1994 the Federal Reserve started charging fees for daylight overdrafts incurred in accounts at Federal Reserve Banks. Since April 1995 the fee has been set at an annual rate of 15 basis points of chargeable daily overdrafts. (A chargeable overdraft is an institution's average per-minute daylight overdraft for a given day, less a deductible amount equal to 10 percent of its risk-based capital.) From April 1995 through December 1995, overdraft charges averaged \$27 million at an annual rate. During that period, approximately 120 institutions incurred fees regularly, with the largest banks (those with assets of more than \$10 billion) accounting for, on average, 92 percent of total charges.⁷ The debt limits and daylight overdraft fees together led to a dramatic decline in total daylight overdrafts—averaging 40 percent in the six months following the initial imposition of fees in April 1994. This reduction in daylight overdrafts has reduced the Federal Reserve's intra-day credit risk and its liability as guarantor of all Fedwire transactions and has thus reduced the subsidy accruing from the government-operated payments system. In addition, technological changes that are rapidly transforming the payments system—changes such as real-time settlement and alternative means for settling payments—are likely to erode the subsidy still more.

In summary, although banks still receive a *gross subsidy* from the safety net, statutory and regulatory changes have reduced it significantly during the past decade.

Gross Subsidy, Net Subsidy, and Net Marginal Subsidy

The federal safety net for banking, besides extending certain benefits (including a *gross subsidy* in the form of a funding advantage), also imposes direct and indirect costs. The current system of regulation and supervision of the banking industry, for example, has arisen in part because of the externalities created by the intrusion of government into the financial marketplace. In addition, the banking industry has been restrained from engaging in certain potentially profitable activities because they were deemed too risky, while simultaneously it has been forced to pursue other endeavors in the interest of societal goals. Therefore, in examining the question of whether a subsidy exists and, if so, whether it can be transferred beyond the core bank, one must recognize that the relevant question is not whether a *gross subsidy* exists, but whether a *net subsidy* remains after all the offsetting costs, both explicit and implicit, are taken into account.

In some instances, moreover, it is critical to determine whether a net subsidy exists at the margin. That is, do the benefits of adding an additional dollar of deposits exceed the costs? In the case of deposit insurance, for example, if the benefit (subsidy) from each additional dollar of insured deposits exceeds the costs, then an institution will have an incentive to increase its use of deposits in order to maximize the deposit insurance subsidy. However, if the benefit from each additional dollar of deposits is offset—say, by regulatory costs that are linked directly to the level of insured deposits—then the marginal subsidy is reduced or eliminated. As the *net marginal subsidy* approaches zero, a bank's choice of funding will increasingly depend on the relative costs of funds as determined in the market, as is the case for uninsured financial firms. In practice, some regulatory costs are indeed tied directly to the level of deposits and thus serve to reduce the gross subsidy at the margin. Among these offsetting marginal costs are deposit insurance premiums, payments to the Financing Corporation (FICO), and reserve requirements.

⁷ See Richards (1995).

Measuring the Gross Subsidy

The first step in answering the question of whether a net subsidy exists is to measure the magnitude of the gross subsidy. But doing so is quite difficult, and few estimates exist. Those few, however, suggest that it is not large.

One method of measuring the gross subsidy from the safety net—or at least from the deposit insurance portion of it—is to estimate the market rate for deposit insurance. Unfortunately, calculating what that rate should be is very hard to do. The bulk of the studies that estimate a market rate for deposit insurance have applied an option-pricing model to deposit insurance data from the 1980s.⁸ The rationale for applying this model to deposit insurance is that if a bank is found to be insolvent, depositors can, in effect, “sell” their share of the bank’s liabilities to the FDIC in exchange for cash. Thus, the value of this option to sell would be the appropriate price for insurance. If insurance premiums are set lower than the option price, the bank can be said to receive a subsidy.

Unfortunately, using option-pricing theory as a basis for valuing deposit insurance involves numerous methodological problems. Most notably, option theory deals with finite time contracts, contracts that expire in a year or at the end of some other finite period of time, whereas the deposit insurance guarantee is theoretically open-ended. In addition, the value of insurance as calculated by these models also depends critically on (1) the timing of bank examinations (greater frequency of examinations lowers the risks to the insurance funds and therefore lowers the value of insurance), (2) the actual recovery on the assets of the failed bank, and (3) the actual or assumed degree of regulatory forbearance. Hence, as computed by these models, the estimated fair value of deposit insurance varies widely depending on the model’s assumptions.

Given these caveats, most option-based models estimated that for the majority of banks, the fair value of deposit insurance in the 1980s was less than the explicit insurance premium applicable at that time—implying a negative deposit insurance subsidy. Only for the weakest banks were estimated deposit insurance values found to be above the premium rate charged by the FDIC (8.3 cents per \$100 for most of the 1980s).⁹

The widespread finding that most banks received only a minimal gross subsidy from deposit insurance in the 1980s has recently been corroborated by Whalen (1997), who estimated fair deposit insurance premiums

for the 50 largest domestically owned bank holding companies for 1996. Like the authors of many of the earlier studies that used option-pricing models, Whalen found the estimates of the value of deposit insurance to be highly sensitive to the assumed values of key explanatory variables. For example, the mean value of the estimated fair premia is only 1 basis point when depository institutions are assumed to be closed at the time the market value of their assets is 95 percent of the value of their liabilities, and 30 basis points when the closure threshold is allowed to slip to 90 percent (that is, when the market value of their assets is 90 percent of the market value of their liabilities). But, consistent with the findings of earlier studies, Whalen also found the estimated premia values to be highly skewed, with the median value significantly less than the mean. For example, assuming a closure threshold of 90 percent, the median deposit insurance value for the sample was roughly 4 basis points, while the mean was 30 basis points. In this scenario, almost 80 percent of the sample banks had estimated fair premia below the mean value, suggesting that the median rather than the mean value is a better indicator of the fair premium for a “typical” bank. Median (as well as mean) values for closure thresholds above 90 percent are extremely small, suggesting that the typical bank in the sample received only a small gross subsidy from deposit insurance.

Another measure of the gross subsidy from the safety net was noted by Federal Reserve Board Chairman Alan Greenspan in testimony before the House Banking Committee in February 1997. In his remarks, Greenspan observed that the debt of a bank holding company generally has a lower credit rating than comparable debt of the holding company’s lead bank, and suggested that the resultant difference in bond yields may offer one measure of the subsidy from the safety net.¹⁰ According to data collected by the Federal Reserve, in 1990 this difference was 10 to 15 basis

⁸ The connection between option pricing and deposit insurance was first noted by Merton (1977). For empirical estimates of the fair value of deposit insurance, see, for example, Flood (1990), Marcus and Shaked (1984), McCulloch (1985), Ronn and Verma (1986), Pennacchi (1987), Kuester and O’Brien (1990), Epps, Pulley, and Humphrey (1996), and Whalen (1997).

⁹ However, it should be noted that, on average, the premium rates estimated in most of the studies employing option-pricing models would have been grossly insufficient to cover FDIC losses during the 1980s and early 1990s.

¹⁰ See Greenspan (1997), 3.

points, but since 1994 it has been in the 4 to 7 basis point range. Moreover, Greenspan asserted, this ratings differential could also be considered evidence that the safety net provides the bank with a funding subsidy that is not transferred to the bank's parent holding company. Because it allegedly shows that the holding company structure is more effective than a bank subsidiary structure in limiting the advantages of the safety net, this assertion is considered particularly important evidence by those who favor mandating the bank holding company structure in proposed financial modernization legislation.

In interpreting the data Greenspan alluded to, one must remember two things. First, the ratings differential captures only the difference between the bank and its holding company. If the holding company's debt rating is enhanced by the safety net, then the ratings differential would underestimate the magnitude of the gross subsidy. Second, besides the safety net, other very good reasons exist for the ratings differential between the bank and its holding company. Indeed, it is not clear that the safety net plays a significant role in the 4 to 7 basis point discrepancy between the cost of bank debt and the cost of bank holding company debt. In fact, both Moody's and Standard and Poor's credit rating manuals cite the priority structure in debt servicing and in bankruptcy as the primary reason that bank debt typically carries a higher credit rating than BHC debt. In most bank holding companies, for example, the subsidiary bank is the primary operating unit that generates debt service payments. But in times of stress, banking regulators can restrict a bank's ability to pay dividends to its holding company—thereby endangering the holding company's source of funds to service its debt. Furthermore, during periods of financial distress or adversity federal regulators may even be able to require a bank holding company to use its available resources to provide adequate capital funds to its subsidiary bank(s).

In any event, under no circumstances can the entire ratings discrepancy be attributed to the safety net. This is an important point. It means that when the nondeposit funding costs of banks and bank holding companies are compared, any subsidy-related difference is less than 4 to 7 basis points even before offsetting costs are taken into account.

Offsets to the Gross Subsidy

As just discussed, estimating the size of the gross subsidy is hard to do, and no good estimates exist. After careful evaluation, however, one can reasonably assume that for well-capitalized banks under all but the most severe economic conditions, the gross subsidy derived from the three components of the safety net is not particularly large—perhaps only a few basis points. But whatever its magnitude, the gross subsidy is at least partly offset by both direct and indirect costs. These include deposit insurance premiums, interest payments on bonds issued by the FICO, reserve requirements, regulatory-burden expenses, and operational costs associated with collecting deposits.

Risk-Based Deposit Insurance Premiums. The fair value of deposit insurance, as estimated by option-pricing models, is not a measure of the subsidy from deposit insurance, because banks pay premiums for the insurance. Historically, all banks paid a flat rate. Between 1935 and 1988 this rate was never more than 8.3 basis points per dollar of insured deposits (or 8.3 cents per \$100). Beginning in 1989, the FDIC began to raise rates.¹¹ From 1990 through 1996, banks and thrifts paid higher premiums to recapitalize the insurance funds, with the premium assessment ranging as high as 31 basis points for some institutions. In 1990, the assessment rate was increased from 8.33 basis points to 12 basis points; in 1991, to 19.5 basis points for the first six months and to 23 basis points for the second six months. Until the two funds reached full capitalization at 1.25 percent of total estimated insured deposits (May 1995 for the BIF, late 1996 for the SAIF), assessment rates for insured institutions were kept within the range of 23 to 31 basis points. Effective January 1, 1996, insurance premiums for BIF-insured

¹¹ The Financial Institutions Reform, Recovery, and Enforcement Act of 1989 (FIRREA) granted the FDIC limited authority to increase assessment rates as needed to protect the insurance funds, and specified certain flat annual assessment rates that were to be in effect for each of the two deposit insurance funds through 1991. In 1990, the FDIC Assessment Rate Act introduced greater flexibility in the timing and amount of assessment rates. FDICIA (1991) fundamentally changed the assessment process by (among other things) establishing a system of risk-based deposit insurance premiums and requiring that rates be set semiannually to maintain a fund reserve ratio of at least 1.25 percent. The current system of risk-based premiums became effective on January 1, 1994.

institutions were lowered to a range of 0 to 27 basis points. For most SAIF-insured institutions, the assessment rate for calendar year 1996 averaged approximately 20.4 basis points. In the third quarter of 1996, SAIF members paid an additional one-time special assessment of almost 65 basis points to capitalize the SAIF. Following full capitalization of the SAIF, premiums paid by SAIF-insured members were reduced to a range similar to the range for premiums paid by BIF-insured members.¹²

Because of the recapitalization of the insurance funds and the current health of the banking industry, approximately 95 percent of BIF-insured depository institutions and 90 percent of SAIF-insured institutions now pay no explicit premium for deposit insurance. However, in general any insured depository institution that does not achieve the highest supervisory and capital ratings still pays an explicit premium for deposit insurance.¹³ Even though most banks and thrifts now pay no explicit premium for deposit insurance, it is important to remember that these institutions have the highest supervisory and capital ratings and thus are least likely to receive a material subsidy from deposit insurance and from the discount window. Furthermore, the FDIC Board of Directors can raise the reserve ratio whenever it determines there is significant risk of substantial future losses to the insurance funds. In other words, the Board can reach a higher ratio well in advance of a severe crisis, thereby decreasing the likelihood that the call on the U.S. government will have to be exercised in the future and reducing both the gross and the net subsidy attributable to federal deposit insurance.

FICO Assessments. In 1987, Congress created the Financing Corporation (FICO) to sell bonds to raise funds to help resolve the thrift crisis. The interest payment on FICO bonds is \$793 million annually, and the last of the FICO bonds matures in 2019. Beginning in 1997, the annual interest has been paid by all FDIC-insured institutions, not just by SAIF-member savings associations. Because commercial banks share in the benefits of deposit insurance, they were asked also to share the burden of these payments. Thus, banks' payment of this fee is a direct result of their access to the safety net. For the fourth quarter of 1998, the FICO assessments were 5.8 basis points (annualized) for SAIF members and 1.2 basis points for BIF members. Beginning in 2000, all institutions will pay a *pro rata* share for FICO, presently estimated to be 2.2 basis points per dollar of deposits.

Reserve Requirements. Under current regulations, all depository institutions—commercial banks, savings banks, thrift institutions, credit unions, agencies and branches of foreign banks, and Edge Act corporations—are required to hold reserves against transaction accounts (see table 1). These noninterest-bearing reserves must be held either as vault cash or as a deposit at a Federal Reserve District Bank. Although most institutions are able to satisfy their entire reserve requirement with vault cash (which they would probably hold in any case to meet the liquidity needs of their customers), approximately 3,000 larger depository institutions also maintain deposits, called *required reserve deposits*, at a Federal Reserve District Bank.¹⁴

Table 1
**Reserve Requirements of
Depository Institutions, 1998**

Amount of Net Transaction Accounts	Requirement (percent)
\$0 million-\$47.8 million	3
More than \$47.8 million	10
Nonpersonal time deposits	0

Since reserves are required only on transaction accounts, that is, only on specific types of deposits, it is possible to calculate the marginal cost associated with each additional dollar deposited in a reservable account. One can compute the marginal cost of the reserve requirement by multiplying the required reserve ratio (3 percent or 10 percent) by the opportunity cost of idle balances (assumed to be 5 percent—the federal funds rate through most of 1998). This calculation produces a pre-tax marginal cost of 15 basis points for these deposit balances up to \$47.8 million, and 50 basis points for each dollar of deposits above \$47.8 million. If one assumed a reinvestment rate higher than the federal funds rate, the opportunity cost of reservable funds would be even higher.

¹² As of December 31, 1998, the BIF balance was \$29.6 billion and the SAIF balance was \$9.8 billion. These amounts represented 1.38 percent and 1.36 percent, respectively, of all insured deposits.

¹³ For current rate schedules and a risk distribution of insured institutions, see Federal Deposit Insurance Corporation (1998).

¹⁴ See Feinman (1993).

In recent years, the burden of this “reserve tax” has led many depositories to expend resources developing new financial products whose sole purpose is to deliver transaction services without creating reservable liabilities. Depositories have been quite successful at this, and the required reserve balances at Federal Reserve District Banks have dropped considerably. Nevertheless, managing account balances to avoid the reserve tax incurs its own costs and leads to a less than optimal allocation of a bank’s resources.

Regulatory Burden. Perhaps the greatest offset to the gross subsidy banks receive from the safety net is regulatory costs. Unfortunately, good estimates of the full cost of the regulatory burden do not exist. A 1992 Federal Financial Institutions Examination Council (FFIEC) study reviewed the literature on regulatory burden and found that “despite differences in methodology and coverage, findings are reasonably consistent: regulatory cost may be 6–14 percent of noninterest expenses, not including any measurement of the opportunity cost of required reserves.”¹⁵ These estimates are for the period before the 1991 passage of FDICIA and therefore do not take into account the regulatory burden imposed by many of the market-oriented reforms of the 1990s, including risk-based capital requirements and risk-based deposit insurance premiums. Nor do the estimates include the additional costs associated with performance-based revisions to the Community Reinvestment Act or stricter application of the fair lending laws. Nevertheless, even the low end of the FFIEC range—6 percent—still yields substantial regulatory costs. For example, 6 percent of the approximately \$186 billion of noninterest expenses incurred by FDIC-insured institutions during 1996 yields an estimated \$11 billion in regulatory costs. Expressed in terms of average total deposits at FDIC-insured institutions during 1996 of more than \$3.8 trillion, this amounts to roughly 29 basis points (or 29 cents per \$100 of deposits).

To be sure, not all of these costs are marginal costs, but neither are all of them fixed costs. Many regulatory costs might best be characterized as “lumpy”—that is, although they do not increase with each dollar of new liabilities, they do increase with bank size. Thus a bank could not use bank borrowings to finance a significant new activity in either an operating subsidiary or a holding company affiliate without incurring additional regulatory costs.

Costs of Raising Retail Deposits. It is also important to remember that collecting retail deposits is

not costless. In contrast to nonbank financial companies that obtain funds through the capital markets, commercial banks and thrifts generally must support an extensive network of branch banks and offer numerous services to customers in order to obtain and retain insured deposits. Consequently, the “subsidized” marginal cost of deposits is not as low, relative to a nonbank financial firm’s market cost of funds, as some might think. Passmore (1992), for example, found that the “all-in” costs of collecting retail deposits were roughly 47 basis points above the three-month Treasury bill rate.¹⁶ Hence, assuming the accuracy of his data, even at the margin one finds significant offsetting costs to the safety net–related gross funding advantages.

Measuring the Net Subsidy and the Net Marginal Subsidy

Measuring whether banks receive a *net subsidy* requires reliable estimates of the gross subsidy and the offsetting costs, and both of these are hard to determine. Moreover, most economists agree that the value of the subsidy—net, gross, or marginal—varies over time and from bank to bank. Riskier banks clearly receive a larger subsidy than safer banks, while across the industry the value of the subsidy rises and falls countercyclically with the financial business cycle. Nonetheless, with most estimates putting the gross subsidy attributable to deposit insurance at only a few basis points for all but the weakest of banks, the average regulatory costs alone would appear to outweigh this portion of the subsidy significantly. Even if the contributions of the other two components of the federal safety net were quantifiable and could be added to the gross subsidy from deposit insurance, for most banks it is not at all certain that the monetary benefits would exceed the costs.¹⁷

¹⁵ Federal Financial Institutions Examination Council (1992).

¹⁶ Included in Passmore’s estimated “all-in” cost of retail deposit funding were interest and noninterest expenses, deposit insurance premiums, and the opportunity cost of reserve requirements. His estimate of the cost of retail funds is slightly below the estimates of other, earlier researchers, who put the cost in the range of 50 to 159 basis points above Treasury rates. See Passmore (1992) for a survey of these other studies.

¹⁷ Our conclusion that the net subsidy is small for most banks is supported by the recent work of Whalen (1997). Using a standard option-pricing approach, a conservative set of assumptions, and current data (including a value of zero for the explicit deposit insurance premium), he found that for the 50 largest domestically owned bank holding companies in the United States in 1996, the net subsidy associated with the deposit insurance portion of the federal safety net was minimal or negative.

In determining whether banks receive a net subsidy, some economists have correctly emphasized the importance of *marginal costs*. This is because it is marginal benefits and costs that are relevant for a bank's profit-maximizing calculations and for an understanding of how a bank might be able to exploit any safety-net subsidy.¹⁸ Even at the margin, however, the gross subsidy derived from the safety net appears to be significantly reduced by costs that are directly related to an institution's level of deposits. Deposit insurance premiums (still assessed on "risky" banks), FICO payments, and reserve requirements, for example, are all assessed directly on deposits. Although most banks and thrifts currently pay no explicit deposit insurance premiums, FICO payments are estimated to cost banks and thrifts 1.2 and 5.8 basis points per dollar of deposits, respectively; and on some reservable balances, the marginal cost of reserve requirements can be as high as 50 basis points. Additionally, some regulatory costs can be deemed to vary on the margin. Examination costs, for example, are often considered a fixed cost, but in fact they may be "lumpy" and vary depending on such things as bank size.

Evidence of a Net Marginal Subsidy

Given the difficulty of obtaining reliable estimates of a net subsidy, it is helpful to look at other indicators that might aid us in determining whether banks receive a safety net–related net marginal funding subsidy that affects the business judgments they make. Theoretically one could argue, for example, that the gross subsidy must be offset at the margin, for otherwise the competitive advantage it provided would allow banks to gain an ever-increasing share of financial assets, but that is not happening. In a 1994 study, Boyd and Gertler found, after correcting for a number of measurement issues, that commercial banks' share of total financial intermediation in the United States has been roughly stable over the last four decades, even though financial sector activity has been growing steadily relative to GDP. This finding, plus similar findings by Kaufman and Mote (1994), is not consistent with the argument that banks have enjoyed a meaningful competitive advantage because of safety-net subsidies.

It is also informative to consider how a banking organization would best fund and organize itself to exploit a net marginal subsidy if one existed. If, for example, a deposit insurance subsidy were important, one would expect banks to exploit it by using insured deposits as their primary source of funds. However,

bank financial data indicate that depository institutions are relying less on insured deposits and more on uninsured deposits and nondeposit funding. In fact, for all FDIC-insured institutions, insured deposits now represent less than half of all liabilities, compared with 60 percent in the early 1990s. In 1997, only 45 percent of commercial bank assets were supported by insured deposits, and currently a significant number of banks hardly use them at all. This is especially true of the largest banks, those most likely to engage in nonbanking activities and where one would suspect that the greatest potential for exploitation of any net marginal subsidy would exist. Commercial banks with assets greater than \$1 billion, for example, fund on average only approximately 38 percent of their liabilities with insured deposits.

Furthermore, as Acting Comptroller of the Currency Julie Williams observed, if banks enjoyed a lower cost of funds in the capital markets because of safety net–related benefits, one would expect banking organizations to issue debt exclusively at the bank level.¹⁹ Instead, it is quite common for banking organizations to issue debt at all levels of the organization, including the lead bank and the bank holding company parent. This is not what one would expect if an exploitable funding advantage existed at the bank level.

Nor do banks seem to organize themselves as if a safety net–related net marginal subsidy were important. As Federal Reserve Board Chairman Greenspan explained in recent testimony before the House Subcommittee on Financial Institutions, "One would expect that a rational banking organization would, as much as possible, shift its nonbank activity from the bank holding company structure to the bank subsidiary structure. Such a shift from affiliates to bank subsidiaries would increase the subsidy and the competitive advantage of the entire banking organization relative to its nonbank competitors."²⁰ Yet, in the real world, banks can be observed using holding company affiliates to engage in a wide range of activities, even though these units are subject to firewalls and other regulatory restrictions that could have been avoided if the activity were conducted through the bank or in a bank subsidiary. As of September 30, 1996, the 50 largest bank holding companies had 155 mortgage

¹⁸ See, for example, Kwast and Passmore (1997).

¹⁹ See Williams (1998), 10, A22.

²⁰ See Greenspan (1997), 3–4.

banking affiliates, 98 commercial finance affiliates, and 263 consumer finance affiliates. At the same time, the bank subsidiaries of these holding companies had 104 mortgage banking subsidiaries, 24 commercial finance subsidiaries, and 89 consumer finance subsidiaries. In addition, the banks conducted mortgage, commercial, and consumer finance activities directly through the bank—and, moreover, were empowered to do so nationwide.²¹

Following the logic that a rational banking organization would choose its funding and organizational structure so as to maximize its competitive advantage from the subsidy, one sees only three possibilities: (1) the subsidy is the same whether an activity is conducted in a holding company affiliate or in the bank proper, (2) there is no net subsidy, marginal or otherwise, or (3) the net marginal subsidy is so small that other considerations outweigh it. Because Sections 23A and 23B of the Federal Reserve Act make the first possibility highly unlikely, the fact that banking organizations choose all three forms of organization—holding company affiliate, bank subsidiary, and bank proper—suggests that there is not a net marginal funding subsidy, or that if one exists, it is so small as to be outweighed by other considerations.²²

Although we believe our observations make a strong case for concluding that no significant net marginal subsidy exists, we recognize that Federal Reserve officials and staff have consistently offered alternative evidence which they argue supports their position that a net marginal subsidy does exist and is large enough to influence behavior. As evidence of the subsidy advantage, for example, Kwast and Passmore (1997) point out that (1) banks have historically had lower leverage ratios (equity-to-asset ratios) than their nonbank competitors, and (2) according to their analysis, there has been a trend among bank holding companies toward shifting assets and activities that could be conducted in banks from BHC subsidiaries back into the bank proper.

The first argument, that banks hold proportionally less capital than competing nonbank financial institutions, is not persuasive evidence of a safety-net subsidy for several reasons. As others have pointed out, it is problematic to make comparisons of capital ratios in different industries in isolation from the industries' relative risk profiles. Markets permit firms with lower risk to hold less capital. So lower capital ratios at banks could simply reflect an overall lower degree of risk in banking than in securities underwriting, for example. In addition, as Kaufman (1994) has suggested, the low-

er capital ratios maintained by banks could partly result from the relatively more efficient resolution process in banking and the consequently smaller losses suffered by bank creditors compared with creditors of nonbank firms. Finally, the fact that banks operated with substantially lower capital ratios than nonbank firms even before deposit insurance was introduced (in 1933) suggests that the existence of the federal safety net is not what underlies the banking industry's ability to operate with lower equity-to-asset ratios than other industries.

The second argument put forward by Kwast and Passmore (1997) as evidence of a net marginal subsidy is a reported decline over the period 1986–1996 in the share of total BHC assets in nonbank subsidiaries that are engaged in selected activities that can be conducted in both a bank and a BHC subsidiary.²³ According to their data, the percentage of assets in the included activities in BHC subsidiaries fell from approximately 3.8 percent in 1986–1988 to approximately 1.8 percent in 1993–1994. This trend, the authors contend, is evidence that BHCs have been shifting these assets into the bank proper in order to take advantage of a safety-net subsidy. However, there are at least two major problems with their analysis.

First, because of inconsistencies in the data over the period studied, it is not clear that such a shift has actually occurred. As Acting Comptroller of the Currency Williams testified before the U.S. Senate Banking Committee, “Between 1994 and 1995 the Federal Reserve changed the instructions governing the filing of the asset data used in the calculation of the reported shift to reduce, if not eliminate, apparently widespread, year-by-year, reporting errors.”²⁴ Such data errors and the changes made in the reporting instructions certainly call into question the validity of any trend analysis for the period discussed.

Second, even if the share of BHC assets held in nonbank financial subsidiaries did decline over the period discussed, there is nothing to indicate that the assets were necessarily shifted into the bank proper or to direct bank subsidiaries. Indeed, a number of other explanations besides a safety net–related subsidy are

²¹ See Helfer (1997).

²² The observed choices of organizational structure, for example, could partly reflect the effect of the geographic restrictions that existed until passage of interstate banking in 1994.

²³ Kwast and Passmore (1997) examined nonbank subsidiaries engaged in commercial finance, mortgage banking, consumer finance, leasing, data processing, and insurance agency.

²⁴ See Williams (1998), 11.

possible for the observed differences over time in the percentage of BHC assets devoted to the selected activities. For example, the 1980s saw an unprecedented wave of innovations in the nation's financial markets. In particular, the development of both securitization techniques and a functioning secondary market for many types of loans fundamentally changed how many mortgage, consumer, and business finance subsidiaries operate. By selling mortgages and other loans into the secondary market, finance companies could increase their lending volumes and earnings while holding fewer assets in portfolio. Hence a decline in the ratio of BHC assets in nonbank subsidiaries engaged in the selected activities to total BHC assets may reflect nothing more than developments in the financial markets and related changes in the operations of nonbank financial subsidiaries.

Data from the FR-Y11AS reports²⁵ also suggest that BHCs may have simply reallocated assets from subsidiaries engaged in the more traditional nonbank activities examined by Kwast and Passmore to subsidiaries engaged in relatively more profitable nonbank activities, such as securities brokerage and securities and insurance underwriting. Assets of subsidiaries engaged in securities brokerage and underwriting, for example, grew from \$19 billion in 1986 to \$127 billion in 1994—an increase of 541 percent. BHC assets invested in insurance underwriting subsidiaries and small business investment companies also increased dramatically during the period, rising 220 percent and 1,450 percent, respectively. Indeed, the reallocation of assets during this period is startling. In 1986, nonbank subsidiaries' assets in these three activities accounted for only approximately 13 percent of all assets of nonbank subsidiaries of bank holding companies. By 1994 the comparable figure was nearly four times as much, or 47 percent.

BHCs may have been encouraged to shift assets into securities subsidiaries not only by expectations of higher profits but also by regulatory rules that limit revenues derived from underwriting and dealing in bank “ineligible” securities (such as corporate debt and equity) to a fixed fraction of the gross revenues of the securities subsidiary.²⁶ Given this restriction, BHCs have an incentive to move additional activities into the securities subsidiary, thereby enlarging the revenue base and allowing more revenue to be generated through the underwriting of “ineligible” securities.

Finally, even if assets were moved from holding company affiliates to the banks and direct bank sub-

sidaries, that is entirely consistent with the gains in efficiency expected after the removal of geographical and other barriers to interstate banking and with a bank's increasing opportunities to offer “one-stop” customer service. In other words, if the shifting of assets as perceived by Kwast and Passmore did take place, it may simply reflect a BHC's desire to reallocate resources to relatively more profitable activities and achieve greater operational efficiencies. In short, it may have nothing to do with capitalizing on a safety-net subsidy.

In summary, the alleged decline in the ratio of assets in selected BHC activities to total BHC assets is based on questionable data, but even if it did take place, there is no reason to believe it was the consequence of BHCs shifting assets into the bank or a direct bank subsidiary in order to take advantage of a net marginal subsidy accruing to the bank.

Firewalls and the Transferability of a Net Subsidy

Despite what we consider to be evidence to the contrary, some policymakers maintain that the safety net–related net marginal subsidy is significant, and have expressed concern that banks could pass a funding advantage on to their bank subsidiaries and affiliates—thereby giving the banking industry an unfair competitive advantage *vis-à-vis* its financial-services competitors and creating an unwarranted extension of the federal safety net. Setting aside the issue of whether a net marginal subsidy exists and, if so, how large it is, we find it instructive to consider the channels through which banks might be able to transfer a subsidy beyond the parent bank. In theory, there are primarily two such channels: a bank could transfer the subsidy through capital infusions to its subsidiary or to an affiliate, or it could transfer the subsidy to a subsidiary or affiliate by extending loans or engaging in the purchase or sale of assets at terms favoring the subsidiary or affiliate. In practice, however, reasonable firewalls—designed to protect insured banks and the

²⁵ Before being replaced in 1995 by forms FR Y-11Q and FR Y-11I, the FR-Y11AS reports were required to be filed annually by any domestic or foreign-owned bank holding company that operated a subsidiary engaged in a permissible nonbank activity.

²⁶ From 1987 to 1989, BHC securities subsidiaries were allowed to derive 5 percent of their gross revenues from underwriting and dealing in bank “ineligible” securities. This ratio was raised to 10 percent in 1989 and to 25 percent in 1997.

deposit insurance funds—make the transfer of any subsidy difficult, though not necessarily impossible under all circumstances.²⁷

Transferring a Subsidy from a Bank to an Operating Subsidiary

To conceptualize the difficulty of passing a subsidy on to an operating subsidiary, consider that the Comptroller of the Currency's operating subsidiary rule²⁸ requires that for a bank subsidiary to engage as principal in an activity not permissible to the insured bank, (1) the bank must be "well-capitalized"; (2) the bank's equity investment in the subsidiary must be deducted from regulatory capital (and assets); (3) the subsidiary must not be consolidated with the bank for regulatory capital purposes; and (4) "covered transactions" between the bank and its subsidiary must be subject to restrictions similar to those of Sections 23A and 23B of the Federal Reserve Act. These four requirements make it quite difficult to pass on a net subsidy. For example, requirements (1) and (2) permit only excess capital to be invested as equity in a subsidiary. That is, a bank would need capital beyond the amount the regulators required it to have for its own level of risk assumed. This restriction ensures that even if the total investment in the operating subsidiary were lost, the regulatory capital of the parent bank would not be impaired.²⁹

These firewalls are not impenetrable, however. If a bank had excess regulatory capital—capital above the well-capitalized level—it could theoretically pass a portion of any net marginal subsidy to a bank subsidiary by borrowing additional "subsidized" funds at the bank and investing these funds as "equity" in its subsidiary. The bank's consolidated costs of funds would fall because subsidized funds borrowed at the bank would replace unsubsidized liabilities at the subsidiary. The bank could make such an investment even if it had decided for business reasons to hold more capital in the bank than required by regulatory standards, since its consolidated (GAAP) capital level would remain unchanged. However, unless all of the liabilities of a bank subsidiary were replaced with equity investments funded by subsidized bank borrowings, only a portion of a subsidy could be passed to the subsidiary. Since we are talking about a net marginal subsidy that may not exist at all or that, at most, is very small, a portion of it would be a *de minimis* amount.

The second possible channel, in theory, is for a bank to extend a net subsidy to a subsidiary through loans or

other extensions of credit on terms favorable to the subsidiary. However, under the OCC's operating subsidiary rule, a subsidiary that is conducting activities as principal is subject to Sections 23A and 23B of the Federal Reserve Act, which (1) limit extensions of credit to any subsidiary to no more than 10 percent of a bank's capital, (2) require that such extensions be over-collateralized, and (3) require that such extensions be made on an "arm's-length" basis.³⁰

Transmitting a Subsidy to a BHC Affiliate

Sections 23A and 23B would also prohibit the *direct* transmission of a net marginal subsidy from a bank to a nonbank affiliate within the same holding company. However, if a bank had excess capital, it could *indirectly* provide "subsidized" funding to a nonbank affiliate within the holding company by borrowing additional subsidized funds and declaring additional dividends payable to the parent holding company. The BHC could then downstream the dividends to another member of the holding company, which could then use those funds to pay off market-rate liabilities. Consequently, the nonbank affiliate's cost of funds and the overall cost of funds of the holding company would decline. However, in this case the bank's consolidated capital ratio would fall. Thus it might hesitate to pay these dividends if it had business reasons to hold additional capital at the bank level. In addition, there are statutory and regulatory impediments to this "upstream" transmission of funds from a bank to its hold-

²⁷ Firewalls are statutory and regulatory limitations on financial transactions between banks and their affiliates. Firewalls are intended primarily to prevent a banking company from shifting financial losses from its nonbank subsidiary to its insured bank subsidiary and, potentially, to the federal deposit insurance funds. However, firewalls also serve to limit opportunities for the bank to subsidize its nonbank affiliates by making loans at below-market rates or by providing funds or services at terms favorable to such affiliates. For a thorough discussion of firewalls, see Walter (1996).

²⁸ 12 C.F.R. Part 5.

²⁹ According to Longstreth and Mattei (1997), this restriction amounts to *preemptive* corrective action whereby the capital necessary to absorb a 100 percent loss of the investment must be in place *before* the subsidiary is established. The corrective mechanism is self-executing and operates without regulatory intervention in the wake of a loss.

³⁰ See 12 C.F.R. § 5.34(f)(3)(ii).

ing company parent.³¹ For example, FDICIA's Prompt Corrective Action provision prohibits the payment of dividends when a bank is deemed undercapitalized or when the payment of the dividend would make the bank undercapitalized. A bank's dividend-paying capacity would be further limited by law and regulation if the dividend payments exceeded a bank's retained earnings for the period or if the total of all dividends declared during the calendar year exceeded the sum of net income plus the retained net income of the prior two calendar years. In contrast to the bank-sub-sidiary model, however, such a transfer could take place even if the bank were not well-capitalized, since there is no requirement that a bank be well-capitalized to pay dividends to its parent holding company. Do BHCs employ this technique to transfer a subsidy to their nonbank affiliates? Unfortunately, despite Greenspan's assertion that they do not,³² the fungibility of money and the mixing of funds at the holding-company level prevent us from determining whether bank dividends actually do make their way to nonbank affiliates within the holding company.

In summary, although we find it theoretically possible for banks to pass at least a portion of a net marginal subsidy (if one exists) from the bank to either a direct subsidiary or to a holding company affiliate, we also conclude that the firewalls currently in place under *both* organizational models inhibit such transfers. The evidence appears to bear out this conclusion. The FDIC, for example, has allowed securities subsidiaries of state nonmember banks for just over a decade; these bona fide subsidiaries are subject to restrictions to protect the insured bank, much like the firewalls outlined above; and if there were a substantial net marginal subsidy that could be transferred, one would expect at least some large bank holding companies to conduct their securities activities through bona fide subsidiaries rather than through Section 20 subsidiaries of the holding company. One would expect this especially since 1991, when the U.S. Court of Appeals for the Second Circuit ruled that the Federal Reserve Board does not have jurisdiction under the Bank Holding Company Act over bank subsidiaries of a bank in a bank holding company.³³ Yet all large bank holding companies continue to conduct their underwriting activities through bank holding company Section 20 subsidiaries. This fact seems to indicate that if there is a net marginal subsidy, the bona fide subsidiary structure is just as effective as the bank holding company structure in preventing the subsidy's transfer out of the bank.

In times of stress, of course, firewalls tend to weaken, and transgressions have occurred both within and beyond the reach of the regulators. But the FDIC's experience with the financial crises of the 1980s and early 1990s indicates that at such times, pressure can be exerted on a bank by its holding company as well as by subsidiaries. This potential problem is likely to be unaffected by organizational structure.

Effect of Organizational Structure on a Subsidy

To the extent that a net marginal subsidy exists, it is not independent of organizational structure. In particular, the operating subsidy structure may help to contract any net marginal subsidy. If appropriate safeguards are in place, having the earnings from new activities be in bank subsidiaries (where profits accrue to the parent bank) provides the insurance funds with greater protection than they would have under the holding company structure. Moreover, since the fair market price for deposit insurance is tied to expected insurance losses, allowing banks to put new activities in a bank subsidiary and thereby reduce the expected losses of the insurance funds would also lower the fair market price for deposit insurance. It would, as well, lower the value of the banking industry's access to the full faith and credit of the U.S. government. Accordingly, if banks do receive a net marginal subsidy, allowing them to put new activities in bank subsidiaries would lower such a subsidy.

Conclusion and Implications for Financial Modernization

It has long been widely accepted that banks receive a gross subsidy from the federal safety net. As we have shown, however, recent legislative and regulatory changes have significantly constricted the federal safety net and its related gross subsidy. In addition, banks incur costs, both direct and indirect, that appear to largely outweigh any funding advantage derived from

³¹ Three major federal statutory limitations govern the payment of dividends by banks (see 12 U.S.C. Sections 1831o, 56, and 60). State law, too, may govern bank dividend payments. See also Federal Reserve Board Policy Statement on Cash Dividend Payments, November 14, 1985.

³² See Greenspan (1997), 3.

³³ *Citicorp v. Board of Governors of Federal Reserve System*, 936 F.2d 66 (1991).

the safety net. On the basis of the evidence available, we conclude that if banks receive a *net subsidy* at all, it is small. And even at the margin, any subsidy is at least partially offset by regulatory and other costs. Moreover, under the OCC's operating subsidiary rule, the only banks that can use a direct subsidiary to engage in activities not permissible to banks themselves are well-managed and well-capitalized banks—those for which, by definition, any safety net–related subsidy is smallest. Indeed, most evidence suggests that the *net marginal subsidy* received by these banks is insignificant or even negative. Even if a net marginal subsidy did exist, regulatory firewalls (such as those embodied in the OCC's operating subsidiary rule and in Sections 23A and 23B of the Federal Reserve Act) serve to inhibit a bank from passing it either to a direct subsidiary or to an affiliate of the holding company. In both cases, any leakage of a net marginal subsidy out of the insured bank would be *de minimis*.

The true question, then, is whether the theoretical possibility of passing on a net marginal subsidy makes any real-world difference. Is there a reason, for example, to favor one bank organizational structure over the other for the sole purpose of containing a subsidy within the bank? Given the existing firewalls and incentives outlined above, we find no compelling reason to favor the bank holding company model over the bank subsidiary structure or *vice versa*. Notwithstanding Kwast and Passmore (1997), the literature is in almost universal agreement with us on this point. Longstreth and Mattei (1997), Santos (1997), Schull and White (1998), Walter (1998), and Whalen (1997), among others, all conclude that firewalls such as those currently in place inhibit the transfer of any subsidy under both structures. Neither structure has advantages and disadvantages so dominant as to justify the mandating of that organizational form for expanded banking activities.

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