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DEPOSIT INSURANCE ASSESSMENTS
ON DEPOSITS AT FOREIGN BRANCHES
OF U.S. BANKS

by

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ABSTRACT

Under current law, domestic deposits of federally insured banks are subject to a 1/12th of one percent per annum insurance assessment, while foreign deposits are not. This paper examines the arguments for and against extending this assessment to foreign branch deposits of insured banks, which in the aggregate amount to more than \$200 billion. These arguments are based on real or imagined effects on FDIC revenues, the competitive position of various types of U.S. banks, international lending, bank capital formation, the functioning of the international interbank markets, the general efficiency of resource allocation, and the "fairness" of assessment allocations. These arguments depend critically on assumptions about the incidence of an extension of the FDIC assessment.

The arguments are individually evaluated under assumptions about likely incidence effects on loan and deposit customers in a three sector--money center banks, foreign banks, and regional and smaller banks--collar banking system. In general, assuming all loan and deposit schedules are somewhat but not perfectly elastic in the neighborhood of equilibrium, the likely effects of an extension of the FDIC assessment can be summarized as follows: (1) slight increase in domestic deposit rates and volumes of U.S. and foreign-chartered banks; (2) slight decline in foreign branch deposit rates and volumes of U.S.-chartered and insured banks; (3) slight increase in deposit rates and volumes at foreign offices of foreign-chartered banks; (4) slight increase in interbank rates; and (5) slight increases in loan rates and a slight decline in the aggregate loan volume of the dollar banking system. The distribution of the decline in aggregate volume would depend on the elasticities of various loan demand functions. It is also likely that the total deposits of the dollar banking system would decline slightly. The sectoral distribution of this effect would again depend on the elasticities of demand schedules.

Deposit Insurance Assessments on
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I. INTRODUCTION

The general issue of deposit insurance reform has been widely discussed for several years. A small component of these discussions has been a proposal to levy the Federal Deposit Insurance (hereafter "FDI") assessment on deposits by both banks and nonbanks at foreign branches of U.S. banks.² Senator Proxmire introduced this proposal as an amendment to the Financial Services Competitive Equity Act during the 99th Congress. Chairman Volcker recommended further study of the proposal in his testimony on deposit insurance reform before the Senate Banking Committee on September 11, 1985.

The proposal has been advanced by the Administration chiefly as a means of raising revenue for the FDIC. It has been suggested by others that on grounds of economic efficiency and perhaps fairness, foreign branch depositors should be charged for the de facto insurance

¹Division of International Finance, Federal Reserve Board. This paper reflects the views of the author and should not be interpreted as reflecting the views of the Board of Governors of the Federal Reserve System or of other members of its staff. This paper was prepared in late 1985, and primarily reflects data and opinions at that time. Comments and suggestions from members of the International Finance Division and the Division of Research and Statistics are gratefully acknowledged. I alone am responsible for any errors.

²The current gross assessment on domestic deposits is 1/12th of one percent per annum per dollar. This gross assessment is reduced by statutory credits that depend on the losses, operating costs, and other expenses of the FDIC. In past years, the net assessment rate has been as low as 1/25th of one percent. In 1984, the net assessment rate was 1/14th of one percent. In 1985, no rebates were given.

provided to them by a U.S. banking policy that (allegedly) protects all depositors of very large U.S. banks.³ Some proponents of the proposal also believe that assessing the foreign branch deposits of money center banks would reduce a funding cost handicap of regional (and smaller) U.S. banks that have limited access to these deposits, and thereby eliminate a source of competitive disadvantage for these banks in commercial lending markets.

The Bankers' Association for Foreign Trade (BAFT), a trade association composed mainly of U.S.-based banks, has been highly critical of the assessment proposal arguing that its revenue potential has been greatly overestimated by the Administration. The BAFT has further argued that the assessment would have a series of negative effects that run counter to the: (1) commercial policy, (2) bank supervisory policy, and (3) international lending policy of the United States.⁴

The purpose of this paper is to summarize and critique the arguments for and against extension of the FDI assessment to foreign branch deposits, with particular emphasis on dollar deposits.⁵ Since

³These arguments are often reinforced by estimates that as much as one-fourth of dollar denominated foreign branch deposits are actually Euro-deposits of U.S. residents. These U.S. residents are characterized as "evading" legitimate reserve requirement and FDI assessments. Foreign residents are characterized as "free-riders" on the U.S. deposit insurance system.

⁴Letter from M. Condeelis, Executive Director of BAFT to Treasury Secretary James A. Baker (April 9, 1985), available from BAFT, Washington, D.C.

⁵Christine Cumming of the Federal Reserve Bank of New York has recently discussed some of these issues. See Christine Cumming, "Federal Deposit Insurance and Deposits at Foreign Branches of U.S. Banks," Federal Reserve Bank of New York Quarterly Review (Autumn 1985).

many of the arguments turn on the likely incidence of the proposed assessment, this analysis treats that assessment as a constant percentage tax on the value of foreign branch deposits, and focuses on the issue of incidence. It must be emphasized, however, that the effects of a roughly 8 basis point tax on foreign deposits are likely to be very small in comparison to the effects of other banking policy changes under current consideration such as capital increases, overall deposit insurance reform, or changes in methods for determining capital adequacy. These other changes are not discussed.

Overall Framework for Evaluating Incidence⁶ To address the question of incidence of an FDI "tax" on foreign branch deposits, it is assumed that the dollar banking system is composed of a U.S. money center bank sector, a regional (and smaller) U.S. bank sector, and a dollar-oriented foreign bank sector.⁷ Each sector is assumed to have two potential deposit pools, a domestic and an international pool. Analytically, these potential pools are the deposit demand functions of each banking sector's customer base. Since there are three sectors each having two demand functions, there are six deposit demand functions in total. The demand for each type of deposit is assumed to be increasing as the own-interest rate is increased and decreasing as a cross-rate is increased. Each function depends on the rates paid on all six types of

⁶An appendix containing the formal model described in this section is available from the author on request.

⁷One of the limitations of this framework is its failure to incorporate non-dollar banking and financial transactions outside of banks. The "taxation" of foreign currency deposits, however, is discussed at the end of the paper.

deposits. Barriers to interstate banking, customer preferences for certain bank names, legal and institutional prohibitions on certain depositors' holdings of off-shore deposits, and other factors limit the substitutability of foreign for domestic deposits as well as the substitutability of deposits at one banking sector for those at another. Hence the six types of deposits are considered imperfect substitutes for the purposes of analyzing the incidence of a small tax.

For these purposes, each bank sector can also be thought of as facing a foreign and domestic loan demand schedule. There are six such aggregate schedules, each depending on all six loan rates. It is assumed again that these categories of loans are imperfect substitutes, and that loan demand increases as the own-rate decreases and increases as a cross-rate increases. These assumptions do not rule out the possibility that international loans from money center banks may be very good substitutes for international loans obtained from foreign-chartered banks.

Although there are six deposit and six loan markets in this construct, these markets do not function independently. Banks and bank sectors can potentially draw funds from both of their deposit pools and lend in the domestic and/or foreign market. Moreover, as is well known, the interbank market ties all twelve markets together. Under current conditions, this market allows regional and smaller banks to collect deposits and on-lend these funds (net) to money center and foreign banks which in turn loan these funds to nonbank customers. These net interbank flows are driven by a profit incentive within the banking system to equate the net marginal returns on loans to the net marginal

costs of deposits across the banking system.⁸ In a longer-run competitive equilibrium, net marginal returns and net marginal costs will be equalized within each banking sector and in addition net marginal returns and net marginal costs will be very close (if not identical) to net average returns and net average costs. Unless otherwise noted, this paper assumes a longer-run competitive equilibrium, thus references to returns and costs refer to both the margin and the average. Real costs of intermediation, reserve and capital requirements, deposit insurance taxes, and other factors drive a wedge between rates received by depositors and rates paid by borrowers at any bank. Moreover under the assumption that different categories of deposits are imperfect substitutes to the depositor, deposits of the same maturity issued in the six sub-markets for deposits and subject to different FDI taxes, or reserve requirements, need not yield the same net return to depositors.

The equilibrium net cost of funds (return on funds) within each banking sector will be closely linked to the cost or return in other sectors through the interbank market even if depositors do not shift funds between deposit sub-markets. Under current conditions, both foreign and money center banks are net recipients of funds from regional U.S. banks. This results in both foreign and U.S. money center banks having roughly the same (risk-adjusted) net marginal cost per dollar of funds (return on funds). This cost (return) exceeds that of regional

⁸Net marginal cost includes interest received by depositors plus FDI taxes and possibly other costs in this analysis. Note that the equilibrium condition of equalization of returns also applies to non-dollar banking.

banks by the per dollar cost of intermediating funds between regional bank depositors and the larger banking sectors.

In the simplified partial equilibrium model described here, extending the FDI tax to foreign branch deposits initially lowers rates paid to foreign branch depositors, thereby inducing a decline in these deposits at money center and any smaller banks that issue these deposits. The restoration of equilibrium within the dollar banking system entails several subsequent volume and rate adjustments throughout the entire system. The magnitude of these adjustments depends on the elasticities of the various loan and deposit schedules of the three banking sectors.

Money center banks, which issue the bulk of foreign branch deposits, would react to the initial reduction in deposits by increasing both rates paid on foreign deposits and rates charged on loans. These effects work to increase total deposits and reduce loans, thereby reducing the excess demand for deposits induced by the initial disturbance, moving the banking sector back toward equilibrium. Money center banks would also raise rates on domestic deposits in order to attract new funds to offset lost foreign branch deposits.

Assume first that deposits and loans are not shifted between submarkets in response to rate changes (cross-elasticities of demand equal to zero). Even under this restrictive assumption, adjustments to the tax would affect regional and foreign banks through the interbank market. Money center banks could be expected to bid slightly more for the interbank funds needed to replace some or all of the lost foreign branch deposits. In effect, money center banks would bid for the

deposits of regional banks through this market. In a perfectly equilibrating market, these slightly higher bids would be translated into slightly higher deposit rates and volumes at regional and smaller banks. An increase in interbank rates paid to regional banks as well as an increase in deposit rates paid by regional banks, however, would also raise (slightly) the rates regional banks charge for loans. Induced declines in regional bank loan volumes and any increases in deposit volumes would also work to restore the banking system to overall equilibrium.

Assume now that loans and deposits are shifted between submarkets (non-zero cross-elasticities of demand) in response to an initial decline in rates paid on foreign branch deposits. In particular, deposit (demand schedule) shifts in favor of the foreign and regional banking sectors, and possibly the domestic deposit base of money center banks, might be expected. Such shifts would likely mitigate, but not eliminate, the deposit and loan rate increases needed to restore banking system equilibrium.⁹

Foreign banks would not be insulated from such adjustments. Again in a competitive market, increases in interbank rates would be passed on to foreign banks and increase both the rates charged on their loans and rates paid on deposits. Only if foreign banks had access to substantial amounts of dollar deposits by nonbanks that could be booked off-shore, would the foreign bank sector be unaffected by adjustments of

⁹Note for completeness that banks are assumed to be "price-takers" in the labor market, hence the FDI tax would not fall on bank employees.

U.S.-chartered banks.¹⁰ This does not seem likely for an 8 basis point tax.

In general, assuming all loan and deposit schedules are somewhat elastic, the likely effects of the proposed tax can be summarized as follows: (1) slight increases in domestic deposit rates and volumes of U.S. and foreign-chartered banks; (2) slight declines in foreign branch deposit rates and volumes of U.S.-chartered and insured banks; (3) slight increases in deposit rates and volumes at foreign offices of foreign-chartered banks; (4) slight increases in interbank rates; and (5) slight increases in loan rates and a slight decline in the aggregate loan volume of the dollar banking system. The distribution of the decline in aggregate volume would depend on the elasticities of the various loan demand functions. It is also likely that the total deposits of the dollar banking system would decline slightly. The sectoral distribution of this effect would again depend on the elasticities of the demand schedules. It should be noted that these general conclusions are likely to remain valid even if rate changes in one sector, for example declines in rates on money center banks' foreign branch deposits, induce shifts in deposit or loan schedules faced by other sectors as long as regional and smaller banks remain the marginal source of funds for money center and foreign banks. This appears likely in the medium-term even if a small FDI tax on foreign branch deposits were instituted.

¹⁰If foreign banks had substantial access to dollar deposits from nonbanks at rates determined outside the banking mechanism in world capital markets, changes in net costs (returns) within U.S. banking sectors would not affect foreign banks. All adjustments to an FDI tax extension or other regulatory change would have to be undertaken by U.S. banks.

A further effect can be identified if one accepts the view that smaller and some regional banks raise funds in imperfectly competitive retail deposit markets, on-lend some or all of these funds to larger banks through the competitive interbank market, and earn a "monopoly rent" for performing this service. Small increases in interbank rates as money center banks bid for funds to replace lost foreign branch deposits would be expected to increase the "monopoly rents" earned by smaller bank owners. Deposit rates would also rise slightly in these markets. In comparison with competitive markets, however, deposit rate and volume increases would generally be smaller if bank owners are assumed to maximize the "monopoly rents" to be obtained from their banking license,¹¹ since it is by restricting deposit-taking that "rents" are gained.

An additional short-run reaction to the proposed tax is also possible. Banking organizations might for a time pay the new tax out of profits. This raises a number of issues relating to short-run capital formation discussed below.

Effects on FDIC Revenues. The FDI tax extension was advanced by the Administration's Working Group on Financial Institutions Reform primarily as a tool to raise revenue for the FDIC. Critics suggest that the revenue raised by the tax extension may be much less than the amount implied by multiplying the 1/12th of one percent tax rate times the existing stock of foreign branch deposits, since the stock of branch deposits would decline in response to taxation. This point is valid,

¹¹If one believes that imperfectly competitive markets are widespread and that banks operating in such markets are good at lobbying, there are obvious political implications of the existence of such markets.

but the magnitude of the effect depends on the size of deposit responses to small tax changes, responses that cannot be predicted with much accuracy.

In general, the proposed tax will increase FDIC revenues as long as the stock of post-tax foreign branch deposits exceeds any declines in the domestic deposit tax base induced by the tax extension. It seems unlikely that the domestic deposit base would decline in response to a tax on foreign branch deposits. If anything, the domestic deposits would likely increase as U.S. banks substituted domestic deposits for foreign branch deposits, which would have become relatively more expensive at the margin. In this case, increases in domestic deposits would generate revenue for the FDIC in addition to any contributed by the tax on foreign deposits.

Three potential effects, however, would reduce the simple estimates of increased revenue. First, the gross interbank deposits received and placed by foreign branches of U.S. banks could decline. U.S. banks would be able to reduce their tax liability by shrinking branch balance sheets with no effect on net interbank positions. Although this effect is possible, the FDI tax proposal should be viewed as a small additional incentive to shrink money center bank balance sheets beyond the incentives created by increased capital requirements, shareholder demands to raise returns on the "book value" of assets, and the availability of cheaper mechanisms for manipulating currency and interest rate exposure. Second, there could be shifts of deposits from foreign branches of U.S. banks to foreign banks' foreign offices. The FDI tax proposal would initially decrease interest rates received by

foreign branch depositors. Their response could well be to switch deposits to equally sound foreign banks not subject to the FDI tax. This initial effect could be partially or fully offset, however, if depositors return to foreign branches of U.S. banks in response to increases in rates paid as the incidence of the tax is (partially or fully) shifted to borrowers from U.S. banks. Third, U.S. banks could invent new instruments not classified as taxable foreign branch deposits but with similar or identical financial characteristics. A large erosion of foreign branch deposits would almost certainly induce U.S. banks to create such instruments.

Effects on FDIC Liabilities. It has been argued that taxing foreign branch deposits would increase the contingent liabilities of the FDIC.¹² The idea is that taxation would carry a "moral commitment" by the FDIC that does not presently exist to protect depositors at foreign branches in the case of bank failure or nationalization of a taxed branch. The whole argument over "moral commitment," however, is extraordinarily superficial. In the event of threatened bank failures, Federal banking officials would be faced with a calculation of the economic and political costs and benefits of "bailing out" various classes of uninsured depositors and other liability-holders. If the calculation pointed toward the "bail-out", uninsured depositors and others would be made whole. The "moral commitment" to foreign branch depositors, if any, would likely be a negligible factor in such calculations, even if given consideration.

¹²See, for example, T. Huertas and R. Stranker, "Deposit Insurance: Overhaul or Tune-Up?", Citicorp Working Paper (July 1985, p. 36).

Commercial Policy.¹³ It is argued that extension of the FDI tax would "reduce" the ability of U.S.-chartered banks to compete with untaxed foreign-chartered banks in off-shore commercial loan markets. This argument has merit only if the tax extension does not raise the net cost of dollar funds to foreign-chartered banks through interbank market effects. This could occur for example if foreign banks faced perfectly elastic deposit demand schedules. In this case, foreign banks would be unaffected by the FDI tax extension. The U.S. banking system would simply contract in response to the tax.

In the more general case, it can be anticipated that the demand for deposits at foreign banks is not perfectly elastic. In addition, the foreign banking sector depends on U.S. banks for part of their net dollar funding, a situation likely to continue in the medium-term even if the proposed FDI tax were implemented. In this case as noted above, the net cost of dollar funds to both U.S- and foreign-chartered banks would increase as money center banks adjust to increased taxation. The higher net cost of dollar funds within the entire dollar banking system would be expected to cause aggregate dollar loan volumes to decline. However, the distribution of the decline among U.S. money center banks, U.S. regional banks, and foreign banks, as well as the distribution of the decline between foreign and domestic loans,

¹³Many countries have explicit and/or implicit policies that support their major banks in times of difficulty. Deposit insurance systems, where they exist, are one part of these policies. In the context of discussions about commercial policy, an increase in U.S. deposit insurance taxes is essentially an increase in the overall expected net taxation (or perhaps reduction in expected net subsidization) of U.S. banks relative to their international competitors.

would depend on the elasticities of demand for these different categories of loans.

These elasticities are not known with any confidence. Advocates arguing that U.S. bank loans would decrease more than foreign bank dollar loans would need to provide evidence that the demand for loans at U.S. banks (on average) is more elastic than the demand for dollar loans at foreign banks. One conjecture is that the demand for international loans at U.S. banks has roughly the same interest rate elasticity as the demand for foreign bank loans. Hence, in response to an 8 basis point (or less) increase in the net cost of funds to all banks, the best credits of both U.S. and foreign banks would likely reduce their borrowing from these banks in roughly equal percentages.

U.S. policy toward the balance of commercial lending between U.S. regional and money center banks raises a related point. Senator Proxmire suggested in 1984 that extending the FDI tax to foreign branch deposits would improve the competitive position of regional and smaller banks.¹⁴ This is because smaller banks do not generally raise funds through untaxed foreign branch deposits, and hence are thought to have a higher net cost of funds that erodes the ability of smaller banks to compete for commercial loans. However, in the simple incidence model described above, when U.S. money center banks are net buyers of funds in the interbank market from regional and smaller banks, money center banks will have a higher net marginal cost of funds than smaller banks regardless of access to foreign branch deposits. This cost wedge results from the costs of originating interbank loans, including the

¹⁴See statement of William Proxmire, Congressional Record-Senate, August 9, 1984, p. S10273.

capital costs associated with interbank lending, costs born in a competitive model by the money center banks. Moreover as described above, taxing foreign branch deposits under these circumstances raises the net cost of funds to regional and smaller banks that have no foreign branches.

Once again, the effect of this general increase in the net cost of funds on the loan volumes of money center and smaller banks depends on their respective loan demand elasticities. It is entirely possible, however, that the tax proposal could result in relatively greater decreases in large commercial loans at smaller banks than at money center banks. If smaller banks are marginal participants in large loan markets, they may face much more elastic large loan demand schedules than money center banks. Hence a rise in their net cost of funds would create a much larger percentage reduction in their large loans.

International Lending Policy. It is argued that the net funding cost increase to banks from the tax proposal would raise rates on dollar loans to major troubled debtor countries and at the margin decrease the lending of additional funds to those countries. Under present circumstances only the first conclusion is correct. The aggregate demand for bank credit by major troubled debtors does not appear to be very sensitive to small changes in interest rates because of the overriding need to maintain orderly debt service and finance a return to growth. Moreover, alternative sources of finance are extremely limited for these countries at present. This insensitivity of loan demand to small rate changes implies that the volume of new loans

extended to troubled debtors would probably be unaffected by a small increase in the net cost of funds to major lending banks. However, an increase in the net cost of funds to banks would almost surely be passed on to debtors in the form of a (small) rate increase, slightly increasing debt service burdens. Since the interbank rate will adjust to reflect the increased net cost of funds to banks, a loan pricing formula such as "LIBOR plus a spread" would automatically pass on the effects of the tax increase to borrowers.

The tax increase and the corresponding increase in interbank rates do not imply that regional banks would have an added incentive to withdraw from foreign lending that is "funded" at individual banks with interbank deposits. The increase in lending rates would offset the effect of increased funding costs on the profitability of international lending for these regional banks. This observation, however, says nothing about other incentives for regional banks to reduce international exposure.

Bank Supervisory Policy. It is also argued that a general reduction in the international lending of regional banks would increase the concentration of international lending at U.S. money center banks, increase the international exposure of money center banks relative to capital, and thereby increase the exposure of the FDIC to international loans. This argument is misleading.

As discussed, the tax extension would increase the net cost of funds throughout the banking system. If international loans were interest sensitive, the entire banking system would reduce international lending. If the loans, or particular classes of loans such as LDC

loans, were not interest sensitive, the entire banking system would respond by increasing rates. In the short-run, the net cost of funds to regional banks would probably not play a significant role in reductions of their international lending. In the longer run, international loan demand at regional banks might be more interest sensitive than demand at money center banks, although it is not clear that this is true. If true, an increase in the net cost of funds could have a disproportionate impact on the international lending of the two classes of banks.

However, it is misleading to suggest that an increased concentration of international lending at large U.S. banks would increase the riskiness of the U.S. banking system. Despite the publicity given to the debt servicing problems of certain countries, international loans are not inherently more risky than domestic loans. Portfolios of such loans must be analyzed for their risk characteristics, including credit, liquidity, and transfer risk. It could be argued that during the last several years international loans have been subject to the same underlying problems as domestic loan portfolios, problems associated with large changes in dollar interest rates, inflation rates, and commodity prices. Hence an increase in the concentration of international loans at money center banks and a corresponding increase in concentration of domestic loans at other banks would not have necessarily changed significantly the ex ante riskiness of the banking system.

If the concentration of international loans at money-center banks were to increase, the question of depositor or FDIC risk exposure would probably turn on the impact of increasing concentration on bank capital. If there were a change in loan concentrations, which took

place through ordinary lending markets, would money-center banks adjust their capital levels so that measures of individual bank and banking system risk would remain unchanged? The answer to this question is complex and unclear. It depends in part on one's assumptions about the advantages of size and expertise in pooling and managing risk. It also depends on assumptions about the incentives created by size to exploit implicit and explicit deposit guarantees offered by the FDIC and other governmental bodies. Merely asserting that international loans carry greater risks is not useful in evaluating these issues.

It is also argued that the tax extension would reduce the rate of capital formation of the banking system contrary to the public policy of increasing capital ratios. It is assumed that banks would pay the new FDI tax out of profits. This would reduce retained earnings that are part of primary bank capital. In addition, reduced earnings would reduce bank stock prices relative to book values of assets making public stock issues more difficult. These arguments have merit in the short-run but neglect important longer-term effects of reductions in earnings.

Using March 1984 Call Report data, Christine Cumming calculated that a maximum of \$276 million could have been raised by applying the proposed 8 basis point tax to the end-of-March stock of foreign branch deposits. This figure represents roughly 5 percent of the net pretax income of the largest 25 bank holding companies for 1984. Hence if the proposed tax were paid out of bank earnings, the charge would have been small although not insignificant.

For large banks facing a competitive stock market, however, one would predict that (risk-adjusted) returns to capital--derived from bank profits--could not permanently be depressed below levels in industries that compete for capital funds. The capital market difficulties cited as reasons for not imposing the FDI tax would create the incentives for bank managements to avoid and/or shift the new tax, thus off-setting effects on profits.

International Interbank Markets. A central theme of the criticism of the FDI tax proposal is that taxing deposits by foreign banks at foreign branches of U.S. banks would have undesirable effects on the structure and functioning of the international interbank market. Among a list of undesirable effects, three stand out: (1) interference with bank flows that link ultimate savers (depositors) with ultimate borrowers, (2) decreased "liquidity" of the interbank market, and (3) increased systemic risk to the banking system.

It is argued that some regional banks fund loans in the international interbank market. Taxing this source of funds would raise their net cost of funds and hence decrease lending. Regional banks as a group, however, are net providers of funds to interbank markets. If some regional banks borrow from foreign banks to finance loans, they should be able to switch funding sources and borrow needed funds from other regional banks through the untaxed Federal Funds market. It is unlikely that extension of the FDI tax (in itself) would reduce the nonbank deposit volume of regional banks relative to their loans to nonbanks to such an extent that the regional banking sector would cease to be a net supplier of funds to money center and foreign banks.

The basic point that a per dollar tax on interbank deposits can cause a restructuring of the path and form of interbank flows is accurate. These adjustments would be part of a competitive banking system's efforts to diminish the impact of the tax change on nonbank depositors and borrowers. Moreover, even without a direct tax on interbank deposits, nonbank depositors and borrowers would be affected by increases in the net cost of intermediation, an indirect effect of taxing nonbank deposits.

It is argued that taxing interbank deposits would decrease the "liquidity" of the interbank market. The definition of "liquidity" is notoriously slippery. Apparently, the point is that taxing interbank deposits would create an incentive for banks to reduce the gross amount of taxed interbank borrowing. If the gross size of the market influences the ability of banks to buy or sell large blocks of funds quickly without affecting rates, then reducing the gross size of the market could reduce "liquidity." In essence, it could become more expensive for banks to smooth unanticipated variations in cash flows using the interbank market.¹⁵ This point has merit. However, if one views an exemption from the FDI tax as a relative subsidy for interbank liquidity adjustment, it is not clear why the subsidy should be granted. An explicit publicly operated mechanism for bank liquidity adjustment already exists in the form of Federal Reserve "discount window" procedures.

¹⁵It could also become more expensive to take interest rate or currency positions in the interbank market. Less expensive methods of taking such positions using futures markets, however, already exist.

The ultimate argument is that taxing the interbank market would increase the systemic risk of the banking system. The premise of this argument appears to be that reducing the liquidity of the ordinary interbank market would decrease the "ability" of an individual bank to adjust to a relatively large deposit shock, and hence increase risks to all banks dealing directly and indirectly with that bank. Again however, central banks were established in part to deal with large adjustment problems and the risks of such problems. Moreover, ordinary interbank deposit transactions do not appear to be the primary means of interbank adjustment to large "shocks." Special safety net arrangements including non-FDI taxable interbank credit commitments, bank loans, and borrowings from central banks appear to be the major tools of adjustment. Even if actual support arrangements were structured as taxable interbank deposits, the demand for such assistance is likely to be so inelastic that rates not the volume of support would adjust in emergencies. Hence, support arrangements would be put in place, and the rate charged would reflect a small premium for the FDI tax. It is unlikely that this small price effect would increase the "riskiness" of the banking system.

Economic Efficiency. It is tempting to argue that economic efficiency would be enhanced if the U.S. government charged foreign branch depositors for any implicit (de facto) insurance they receive along with their deposits. The argument is that charging for the insurance would correct or diminish an incentive to purchase "too much" of the free insurance at the expense of contributors to the FDIC's insurance fund and general U.S. taxpayers.

The problem with this argument is that it assumes government

insurance is bought and sold as an ordinary commodity in a separate market. In practice, foreign branch deposits, and other bank liabilities as well, are issued to depositors by private banks jointly with the de facto government guarantees of the deposit's value. The coverage of certain classes of liabilities such as foreign branch deposits and of domestic deposits above \$100,000 is uncertain ex ante. This uncertainty does not alter the inseparability of bank liabilities from the insurance coverage. A basic reason for this inseparability, or coerced acceptance of insurance, is the belief that large depositors or bank liability holders would purchase suboptimal amounts of insurance if given a choice. Absent a credible threat of problems at a bank, large liability holders might purchase no insurance. Given a credible threat, it might be cheaper to liquidate their holdings rather than to purchase insurance. The coerced purchases of insurance are thought to prevent this type of behavior from leading to large and "damaging" bank runs.

The joint-good nature of deposits and insurance creates the problem that free insurance can cause overinvestment by foreign and domestic residents in U.S. banking system deposits to obtain the insurance, but charging too much for the insurance can cause underinvestment in these deposits. Correcting one distortion may introduce another. If accurate and timely information about various demand elasticities were available, an optimal set of deposit insurance taxes might be constructed to raise a given amount of revenue for the FDIC.¹⁶ Since such information is not generally available, a strategy

¹⁶This ignores the question of constructing optimal risk varying premia, which raises even more difficult problems of data availability and measurement.

of taxing domestic but not foreign branch deposits may be a reasonable method of financing the FDIC with a deposit tax and at the same time minimizing the distortions introduced by the tax when two classes of depositors have different deposit demand elasticities.

Fairness. In the FRBNY Quarterly Review article, Christine Cumming addresses the issue of whether imposing the FDI tax on foreign branch deposits would result in a fairer distribution of the costs of financing the FDIC across banks. While not taking a position on the fairness question, Cumming points out that the proposed tax would considerably redistribute this cost toward larger banks, the organizations that tend to have more foreign branches. Using March Call Report data and assuming no adjustments to avoid new assessments, Cumming calculated that the proposed tax would increase the insurance payments of the group of insured banks with assets of less than \$1 billion by only \$1.2 million. The payments of insured banks with assets of between \$1 billion and \$10 billion would increase by \$35.1 million. However, the payments for the group of insured banks with assets of greater than \$10 billion would increase by \$239.4 million. These changes would represent a negligible increase for smaller banks, a 9 percent increase for banks with assets between \$1 and \$10 billion, and an 88 percent increase for large banks. Cumming also points out that whether it is "fair" for larger banks with foreign branches to pay more to finance the FDIC depends on the extent of de facto insurance benefits provided by the government to foreign branch depositors.

This paper does not take a position on the issue of fairness or equity in the allocation of FDIC financing costs. However, it is

important to recognize that banks are financial intermediaries and that initial tax burdens may well be shifted from foreign branch depositors. In the short-run bank equity holders may pay some or all of the tax out of bank income. In the medium-term, incidence analysis suggests that the tax may fall on borrowers from all banking sectors--including the small bank sector--as well as on foreign branch depositors. Moreover, if foreign branch depositors have very good financial alternatives such as deposits at foreign-chartered banks, they may feel little or none of the new tax.

Hence, judgments about fairness depend on judgments about the ultimate incidence of the proposed tax as well as judgments about deposit insurance coverage. If, for example, one believes that large banks contribute more risk to the banking system than smaller banks, one might urge that taxing foreign branch deposits is a method for making large banks pay a "fairer" share of deposit insurance costs. Under plausible assumptions, however, large "banks" in the sense of bank shareholders might ultimately pay little of the tax. Small and middle-sized borrowers from both large and small banks would be more likely candidates to bear the tax. If the tax would fall on such groups, then arguments about fairness would be better phrased in terms of taxing small and middle-sized business as well as consumers rather than in terms of taxing large banks.

Financial Innovation. Imposing a new tax on banks always creates the problem that financial innovation may undermine the purpose of the tax. One obvious innovation in response to the proposed FDI tax extension would be a simple redirection of funds flows using foreign

banks. For example, price effects might induce nonbank dollar depositors to shift deposits from U.S.-chartered to foreign-chartered banks to escape the initial levy of the FDI tax on foreign branch depositors. Foreign banks in turn could relend funds to U.S. banks if increased loan demand did not accompany deposit shifts.

This funds arbitrage scheme does not appear likely to occur. The FDI tax would also be levied on interbank deposits at foreign branches of U.S. banks. This blocks the incentive for a simple re-routing of funds around the new tax. Moreover, the re-routing of funds creates additional intermediation and (probably) capital costs that would leave nonbank depositors with a lower return than if they deposited directly in foreign branches of U.S. banks. Foreign banks might on-lend deposits of nonbanks to their U.S. offices and place these funds with U.S.-chartered banks through the untaxed Federal Funds market. Eurodollar reserve requirements on net intra-bank inflows of funds would ultimately eliminate the incentives for such flows if they occurred on a large scale.

It also seems unlikely that an 8 basis point tax on foreign branch deposits would stimulate the creation of new instruments to replace taxed deposits. However, if foreign branch deposits are very interest elastic, and particularly if losing deposits of U.S. corporations would also affect loan and other business relationships with such customers, then U.S.-chartered banks might well begin creating untaxed instruments with financial characteristics similar to those of taxable deposits. Short-term commercial paper and long-term floating rate notes with put options are two readily apparent funding

alternatives. It might also be possible to replace taxed interbank deposits with untaxed interbank "loans" or "borrowings" in some jurisdictions.

If this type of innovation did occur, it would create pressures to extend the definition of FDI taxable deposits in order to "protect" the FDI tax base. Presumably, this would mean attempting to tax Euro-market instruments issued by insured banks, a challenging task.

Foreign Currency Deposits. In April 1985, foreign branches of U.S. banks had roughly \$67.5 billion in foreign currency deposits -- not including intra-bank liabilities--outstanding. By contrast, there were approximately \$200 billion in dollar deposits--not including intra-bank liabilities--outstanding at that time.

Foreign currency deposits do not raise new conceptual issues. However they do create a dilemma. If they are not subject to the deposit insurance tax, they create an easy mechanism for avoiding the assessment. Foreign branches could offer untaxed foreign currency deposits to traditional dollar depositors. These would presumably be coupled with forward dollar exchange contracts, dollar indexing arrangements, or other "innovative" devices that would make these "synthetic" instruments financially equivalent to untaxed dollar deposits. In addition, if such innovations occurred, there would again be pressure on the FDIC to protect its revenues and to decrease the appearance of arbitrary taxation by broadening the definition of assessable deposits to include foreign currency deposits.

On the other hand, any proposals for the taxation of foreign currency deposits by statute or regulation would be a more serious,

although still small, threat to the international competitive position of U.S. banks than the taxation of foreign branch dollar deposits. U.S.-chartered banks have few, if any, inherent advantages in taking foreign currency deposits and are likely to face very elastic demand schedules for these deposits. Since foreign banks are not net recipients of foreign currency funding from U.S. banks, there would be little or no effect from the tax on the foreign currency funding costs of foreign banks through interbank channels. U.S. banks are also likely to face their most elastic loan demand schedules in foreign currency lending markets, due to competition from banks chartered in the home countries of various foreign currencies. The effect of the tax could then be a larger erosion of the foreign currency deposit and loan market shares of U.S. banks than in the case of dollar instruments.

A conceivable response by U.S.-chartered banks would be to increase the share of foreign currency lending that is funded in dollar deposit markets. U.S. banks are likely to face less elastic deposit demand functions in these markets, and such a strategy could reduce the competitive impact of the FDI tax. Depending on loan maturities, foreign exchange cover would be available in long-dated foreign currency swap markets. These changes in banking practice, however, do not seem likely unless additional and larger incentives for changing the currencies of U.S. bank activities arise from other market or regulatory forces.

Overall Evaluation. The size of the FDIC fund is not the ultimate index of the willingness of the U.S. government to support the U.S. banking system. Nevertheless, the size of the fund may affect

private calculations because of the uncertainty of timing and results should a financial crisis develop that would require legislative action to support the U.S. banking system. Hence it is a desire to strengthen the near-term credibility of the fund that is behind suggestions that FDIC revenues be increased. As reported above, Christine Cumming calculated that a maximum of \$276 million would be raised by extending the 8 basis point FDI tax to foreign branch deposits. This would increase FDIC revenues approximately 21 percent based on year-end 1984 revenue figures. If one takes the size of the FDIC fund as reported by the Corporation and subtracts the value of assets acquired from troubled institutions, the amount of free funds available for future assistance at year-end 1984 was at most \$10 billion. Using this 1984 data, the maximum impact on the size of the fund in the first full year of the FDI tax extension would be an enlargement of free FDIC funds in the neighborhood of 2.8 percent. A conservative estimate of the present value of the 5-year impact of the tax extension would be an expansion of the fund by 10 percent, assuming that the present stock of foreign branch deposits neither grew nor shrank from March 1984 levels.

An expansion of the FDIC fund by 10 percent would not seem large given the loan quality problems at a number of insured banks reported in the press. Moreover, the 10 percent expansion is a maximum 5-year impact that could be much smaller in practice due to financial innovations and changes in bank and nonbank deposit patterns. Since there is also a potential for the new tax to be paid out of bank income in the near-term, it is possible that additional contributions to the FDIC will come at the expense of slightly reduced money center bank

capital growth from earnings retention. If such a trade-off exists, it could become necessary to weigh the benefits of marginally greater bank capital against the benefits of a marginally greater deposit insurance fund.

There is the potential for a very small negative impact from the proposed tax on the lending business of money center and even regional and smaller banks. Whether such an effect is appropriate would depend on one's views about the importance of subsidizing credit provided to bank borrowers and (possibly) on the importance of promoting the competitive position of U.S.-chartered banks vis-a-vis foreign banks.

The decision to impose the tax may turn on a belief that the tax favors the commercial interests of regional and smaller banks and would be "fairer" to these banks than a tax on domestic deposits alone. Incidence analysis suggests that taxing foreign branch deposits of money center banks could raise slightly the cost of funds to regional and smaller banks as well as money center banks. This would not necessarily improve the commercial position of the regional and smaller banks. Moreover, some of the ultimate burden of the tax increase could well fall on smaller borrowers from regional and smaller banks, since these borrowers typically have fewer attractive alternatives to bank credit than larger businesses. Fairness should be judged from ultimate incidence to the extent possible, not from the distribution of initial assessments across banks.

On balance, it is unlikely that an assessment of foreign branch deposits by itself would significantly increase the reserves of

the FDIC relative to measures of FDIC contingent liabilities, and it is not clear that economic efficiency or fairness would be enhanced by taxing these deposits. There is also a possibility that the international competitiveness of U.S.-chartered banks would suffer slightly, particularly if foreign currency deposits were ultimately subject to tax.

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