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# THE IMPACT OF THE PAYMENT OF INTEREST ON DEMAND DEPOSITS

A Study of the Staff of
the Board of Governors of the
Federal Reserve System*

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## I. Introduction

This paper evaluates the probable effects of lifting the prohibition on payment of interest on demand deposits on banks, other depository institutions, and the public, as well as on monetary policy and credit markets as a whole. The conclusions reached are necessarily tentative and judgmental. Various assumptions have had to be made with regard to the types of institutions that might be authorized to pay interest on demand deposits or other transactions-type accounts, the classes of depositors that might be permitted to receive such interest, and the adjustments that might be made to service charges and other policies by banks and nonbank institutions. Effects on depositors, institutions, and the banking structure from payment of interest on demand deposits and associated changes in the pricing of banking services are highly uncertain for they involve an assessment of institutional and public responses to a new ingredient in financial markets--payment of explicit interest on demand deposits--after a period of more than 40 years over which the nation's financial structure and practices have adapted to the prohibition of such payments.

Despite the prohibition of interest on demand deposits in 1933, banks as a group have still had to bid for the demand deposit funds of the public in competition with other highly liquid financial assets. Bank efforts to attract such deposits have mainly involved the payment of implicit interest in the form of charges below cost for services performed. However, banks also pay explicit interest to some customers on highly liquid funds that can be easily converted to demand deposits or can be used directly for payments purposes; banks borrow from other banks and certain other institutions on an overnight

basis at an interest rate called the Federal funds rate, and many also place "surplus" funds of State and local government and corporate customers in securities under an agreement by the bank to repurchase the securities at a predetermined price. Moreover, in recent years it has become increasingly convenient for the public to place transactional balances in savings accounts at both bank and nonbank institutions. Such balances can be easily transferred, by telephone in many instances, to demand deposits for purposes of writing a check. In other cases--such as the negotiable order of withdrawal (NOW) accounts permitted in New England--checks can be written directly on savings accounts. Share drafts against credit union savings accounts and drafts drawn on money market mutual fund accounts are similar to NOW accounts in many respects.

Thus, competitive pressures have been leading banks and other financial institutions more and more toward interest payments on transactional balances. Introduction of explicit interest payment on demand deposits would accelerate the process of evolution and alter its nature, but it is difficult to characterize and estimate in a precise way the institutional changes that may ensue.

It seems likely that introduction of explicit interest would change the public's perception of the return on demand deposits and might cause them to shift liquid funds from other assets to such deposits; that banks would be motivated to gauge more carefully their costs of demand deposit services; and that existing competitive relationships among banks and between banks and other depository institutions would be altered. Competitive stresses would probably be greatest in the transition period following introduction of interest on demand deposits,

as individual banks and nonbank depository institutions (if they too are permitted to offer interest bearing demand deposits) strive to increase or maintain market shares. Under such circumstances, the return to deposit holders and costs to depository institutions could, for a time, be above longer-run equilibrium levels. With time, the additional interest burden for depository institutions would tend to be offset by higher charges for checks and for other services presently provided free or below cost to depositors. There would be resulting gains in economic efficiency for the nation as a whole, as banking services were priced more in accordance with their actual costs in terms of resource use. But in the process, not all depositors and institutions would be equally affected; some may be better off than they are now and others worse off.

Given the wide variety of possible institutional and public responses to the availability of explicit interest on demand deposits, there is clearly a considerable area of uncertainty in assessing the likely effects of removing the present prohibition of such interest payments. Thus, conclusions with respect to the incidence of interest on demand deposits on banks, other financial institutions, depositors, and the nation can only be judgmental and qualitative.

Quantitive estimates of probable impacts have been made where possible in the analysis, but these estimates should be viewed, at best, as rough approximations. Analysis is limited both by a paucity of data and by lack of significant experience with interest on demand deposits under an institutional structure and economic framework such as now prevails in this country. However, the experience with

interest-bearing negotiable order of withdrawal (NOW) accounts in New England since 1974 does provide some general insight into possible institutional and public behavior in response to payment of interest on transactional deposits more generally.

Foreign experience offers little guidance on probable effects in the United States of explicit interest payments on demand deposits. A few countries with developed financial markets--such as Germany, Italy, the Netherlands, Switzerland, and Canada--have interest-bearing accounts against which checks can be drawn. The rates paid vary over time and across countries, but generally tend to be quite low. However, the banking and financial structures of these countries are quite different from those of the United States. This country has a considerably larger number of competing banks and nonbank depository institutions, and the structure of liabilities and assets of banks in the U. S. differ from those abroad.

The next section of this paper provides some historical background and discusses the apparent reasons for the abolition of interest on demand deposits in the Banking Act of 1933. The third section reviews the various methods developed, particularly in recent years, that enable many depositors to earn interest on funds that are tantamount to demand deposits. The next four sections discuss major issues in connection with payment of interest on demand deposits: efficiency in resource allocation; effects on costs and earnings of financial institutions; effects on depositors; and monetary

aggregates, credit markets, and the economy. The payment of interest on reserve balances held at Federal Reserve Banks is considered in section VIII. Conclusions with respect to the impact of interest on demand deposits are summarized in the final section.

## II. Background to the Legislative Prohibition of Interest on Demand Deposits

Section 19(i) of the Federal Reserve Act provides in part that "No Member Bank shall, directly or indirectly, by any device whatsoever, pay any interest on any deposit which is payable on demand." This provision was added by the Banking Act of 1933 that was signed into law by President Roosevelt on June 16, 1933. The statutory provision against interest payments on demand deposits was extended to insured nonmember banks by the Banking Act of 1935.

### Historical Perspective[1/]

Banks began to pay interest on selected accounts during the early part of the nineteenth century. With deposits at that time representing only a small part of bank liabilities--most banks issued notes in exchange for specie--such payments were small in comparison to total bank expenses. By the mid-1800s, however, large banks in New York City had attracted a considerable volume of bankers' balances--that is, deposits of other commercial banks--and were paying interest on those deposits. By the end of the last century, interest on deposits was being paid to governmental units, banks, and other large depositors.

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1/ For a comprehensive review of the payment of interest on deposits and associated criticism, see Charles M. Linke, "The Evolution of Interest Rate Regulation on Commercial Bank Deposits in the United States," National Banking Review, June 1966.

In the century before the passage of the Banking Act of 1933, the payment of interest on deposits was frequently criticized by bankers, regulators, and legislative bodies. Before the Federal Reserve System was established, such criticism was usually directed toward interest payments on bankers' balances and the role these balances were thought to have played in the periodic banking crises that occurred between 1857 and 1907.[1/]

Following the periods of financial crisis, repeated efforts were made to prohibit or restrict the payment of interest on bankers' balances. After the panic of 1857, the newly formed New York City Clearinghouse--an association of 46 large New York City banks--issued a report recommending that interest payments on bankers' balances be prohibited. This recommendation was defeated by the association's six largest members which held nearly two-thirds of all bankers' balances

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1/ Bankers' balances served as a highly liquid repository of funds for many smaller rural banks which tended to experience strong seasonal fluctuations in deposits and loans coinciding with the spring planting season and the fall harvest. These banks would rely upon their deposits at large banks to meet local customers' needs for funds. During periods of normal economic activity, large banks had little difficulty in adjusting to seasonal contractions in bankers' balances. However, when money was tight, the money center banks found it difficult to obtain loan repayments on short notice. According to critics of interest payments on bankers' balances, the resulting inability of large banks to meet their obligations to small banks during such periods caused severe stress on financial markets and was mainly responsible for banking panics. These critics contended that if interest had not been paid on bankers' balances, smaller banks would have invested their funds locally and the crises would have been averted.

in the city. A similar effort by the Clearinghouse following the panic of 1873 was unsuccessful. However, the panic of 1884 produced an agreement by association members to restrict the rate of interest on bankers' balances to 2 per cent. This restriction, however, was apparently only partially effective as some banks lowered service charges, to raise the effective rate above the agreed upon maximum.

After the passage of the Federal Reserve Act of 1913, criticism of interest payments on deposits began to focus on the implications for bank safety of excessive rates paid on time deposits. Since reserve requirements for Federal Reserve member banks were much lower for time than for demand deposits, such banks sought to attract time deposits by raising interest rates on those deposits. As the stock of time deposits expanded, interest expenses as a fraction of total bank costs began to rise. This development alarmed many bankers who felt that higher interest payments might encourage banks to acquire higher yielding, more risky assets in order offset higher costs.

Though somewhat reduced, the concern over interest payments on bankers' balances also continued during the 1913 to 1933 period. With the threat of banking panics seemingly eliminated by the establishment of the Federal Reserve System, attention turned to the uses to which bankers' balances were put by money center banks. It was argued that interest payments attracted funds from rural areas to money centers for the purpose of financing speculative investments in the securities market. Further, it was commonly alleged that such speculatively invested funds were being diverted from productive uses in rural areas.

Perhaps reflecting these concerns, the clearinghouse associations of all twelve Federal Reserve cities agreed in 1920 to limit the payment of interest on bankers' balances to 2½ per cent. While this rate limitation was generally effective throughout the twenties, the flow of funds from rural areas into the securities markets in the money centers was hardly affected, since rural banks commissioned money center banks to serve as their agents in placing funds in that market. Thus, the interest rate restriction apparently served only to change the channel through which such funds found their way into high yielding investments.

Arguments Used to Support the 1933 Prohibition

The legislative history of the Banking Act of 1933 is relatively thin; it was enacted in a crisis atmosphere without formal hearings. Concern at that time did not center on interest on demand deposits, but rather on other issues, such as establishing Federal deposit insurance.

From the limited discussion of the 1933 Act and from policymakers' statements on similar bills, at least three reasons appear to emerge for the provision prohibiting interest payments on demand deposits. First, the popular view was advanced that the payment of interest on bankers' balances encouraged the movement of funds from rural areas to money center banks able to pay higher interest rates, thus limiting credit availability to rural areas. Senator Carter Glass, one of the sponsors of the bill, argued that "the payment of interest on

demand deposits has resulted for years and years in stripping the country banks of all their spare funds, which have been sent to the money centers for stock speculative purposes." Glass believed that this practice resulted in credit shortages in the markets outside the money centers, and his main objective was evidently to force these banks to retain excess funds for use in their local communities.

Second, the prohibition of interest on demand deposits was expected to reduce bank costs significantly and thereby to improve bank profits and the stability of the banking industry. Moreover, the reduction in costs would encourage banks to place their deposits in less risky loans and investments, further promoting bank soundness. This argument was often generalized to apply to interest rate competition for all bank deposits, time as well as demand.

A third reason, also relating to lower costs expected to result from the prohibition, concerned deposit insurance for banks. A major concern was how banks, in their weakened financial condition, could afford to pay the necessary assessments for such insurance. Senator Glass observed on the floor that, "If banks are relieved of the competitive necessity of bidding for demand deposits on interest, they will not only have money to meet this assessment...but they will have almost an equal amount left over."

Appraisal of the Bankers' Balance and Bank Safety Arguments

The argument that payment of interest on bankers' balances drained loanable funds from rural areas did not consider that loans generally earned considerably more than bankers' balances over most of the period prior to the prohibition.[1/] Thus, the interest that could be earned on such balances was not the sole incentive for holding them. Among the other reasons for holding bankers' balances overlooked by those arguing for the prohibition were:

First, bankers' balances were a convenient form in which smaller banks could hold liquid funds against seasonal swings in deposits and loan demand.

Second, because country banks tend to be small and distant from financial centers, they always maintain balances with correspondents to facilitate check clearing and other transactions with larger urban banks.

Finally, reflecting in part the lack of short-term money market investments available in the twenties--Treasury bills were not introduced until 1929 and the Federal funds market was relatively underdeveloped until after World War II--bankers' balances served as a highly attractive short-term asset for the purpose of diversifying the portfolios of rural banks and stabilizing the expected return on their assets. Such

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1/ For example, from 1927 to 1930, the average interest rate paid on interbank deposits was less than 2 per cent. At the same time, the average return on loans and investments for member banks ranged from a little over 5 to 5¾ per cent. Data are not available for the return on loans in rural areas, but there is little reason to believe that it would be well below the average return on member bank loans and investments.

asset diversification was especially important for rural banks which depended heavily on activities related to a single industry, agriculture, for deposits and earning assets.

The bankers' balance argument appears even less applicable to issues connected with interest on demand deposits under current circumstances than it was in 1933. Rural areas are no longer dependent solely upon rural bank deposits for loanable funds, and rural banks have several channels available for placing interest-bearing highly liquid funds in nonlocal institutions. For example, rural banks presently earn interest on short-term funds placed with other commercial banks through the Federal funds market and the certificate of deposit (CD) market. As will be discussed in section III, large banks borrow extensively from smaller banks in the overnight Federal funds market. The bankers' balance argument is also less relevant because rural areas now have increased access to funds originating outside those areas. Credit provided through Federal farm credit agencies has enabled agriculture to tap national money markets. In addition, the Federal Reserve discount window is a source of funds to member banks in agricultural areas.

The other principal argument for the prohibition of interest on demand deposits in 1933 concerned bank safety and stability. George Benston and Albert Cox have examined the question of whether interest rate competition for bank deposits increased the instability

of the banking system in the early thirties.[1/] Neither found evidence that rate competition for demand deposits led to bank failures.

Benston used two sets of data: a New York State Bankers Association study of commercial banks in New York State outside of New York City for 1923 to 1934, and data for all national banks from 1928 to 1933 from the Annual Report of the Comptroller of the Currency. If rate competition had forced banks to acquire risky assets, a positive relationship would be expected between the interest paid on demand deposits and measures of asset risk.[2/] Benston, however, found no relationship between interest rates paid on all deposits and measures of asset risk in the New York data and found either negative relationships or no relationships between the interest rate paid on demand deposits and measures of asset risk in the national bank data. Similarly, if rate competition led to bank insolvencies, a positive relationship would be expected between demand deposit rates and the probability of bank failure. But, measuring probability of bank failure as the ratio of failed banks in a city or state during the time period to the total banks in that locality, Benston found either negative or insignificant relationships between demand deposit rates paid by national banks and the probability of their failure.

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1/ George J. Benston, "Interest Payments on Demand Deposits and Bank Investment Behavior," Journal of Political Economy, October 1964, and Albert H. Cox, Jr., Regulation of Interest on Bank Deposits (Michigan Business Studies, Vol. XVII, #4, 1966).

2/ Benston used "Percentage of Gross Earnings Paid Out as Interest" as an indicator of interest payments on deposits, and "Gross Earnings on Assets" and "Net Losses on Earning Assets" as indicators of asset risk.

Cox's study was based on a sample of 285 national banks, almost all the national banks in operation in 1929 in Michigan, Mississippi, Oregon, Vermont, and the District of Columbia. His sample, admittedly not random, comprised 4 per cent of the 7,500 national banks in operation in that year. Cox divided the banks into two groups, those that survived the 1930-33 period intact (165 banks) and those that failed or otherwise went out of existence during the same period, even if only temporarily (115 banks, or 42 per cent of the sample). After adjusting for bank size and deposit composition, Cox compared banks that survived with those that failed and found that banks that failed were paying slightly higher demand deposit rates (.2 per cent higher on average) than surviving banks with similar characteristics. However, the banks that survived were generally paying considerably higher rates on time deposits (.6 per cent higher) than those banks that failed. Cox thus found no support for the argument that excessive rate competition had contributed to bank insolvencies.

In summary, the arguments for prohibition of interest on demand deposits in the 1930's appear to have had little validity at the time the prohibition was enacted. The desirability of permitting interest to be paid on demand deposits under current conditions would

seem to depend mainly on an appraisal of its impact on economic efficiency, the costs and profits of banking institutions, the benefits to depositors, and monetary conditions and credit markets.1/

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1/ Over the past 15 years studies of the financial system by several groups (private, government-sponsored, and legislative) have included, in varying detail, analysis and recommendations with respect to the prohibition of interest on demand deposits. Their views are summarized in the appendix to this section.

## Appendix to Section II

### Chronological Summary of More Recent Views on Interest on Demand Deposits in Major Studies of the U.S. Financial System

1961. Money and Credit and Their Influence on Jobs, Prices and Growth, the Report of the Commission on Money and Credit, 1/ recommended continuation of the prohibition against payment of interest on demand deposits.

Reasons: The Commission, in giving its recommendation, noted only that the prohibition was imposed to reduce competition for deposits among commercial banks and thereby relieve pressures leading to imprudent loans; and that by rendering special services some banks, in effect, pay interest on demand deposits indirectly. The recommendation was contained in a chapter proposing extensive changes for the financial system which, according to the Commission, balance two objectives:

1. preserving and increasing the safety of the financial system, and

2. providing greater flexibility for portfolio investment, increased mobility of funds, and increased alternatives for savers and borrowers.

April 1963. U.S. Committee on Financial Institutions, Report to the President of the United States 2/ (Heller Committee) recommended continuation of the prohibition on payment of interest on demand deposits. The Committee concluded (with three of the 11 members dissenting) that differential treatment of deposits was justified, and that demand deposits, as the fundamental medium of exchange, should be subject to unique restrictions not necessary in the case of deposits serving as a store of value.

Reasons: Those favoring continuation of the prohibition reasoned that present day counterparts existed to the specific conditions that gave rise to the prohibition, and if it were eliminated:

1. banks in financial centers would compete more actively and attract funds away from banks in smaller communities, and

2. competitive bidding might induce banks to reach for unsound assets.

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1/ Prentice-Hall, Inc., Englewood Cliffs, N.J., page 167.
2/ U.S. Government Printing Office, Washington, D. C., pages 20-22.

The majority also contended that the prohibition helps preserve the fundamental distinction between the payments medium and liquid savings, "a distinction that underlies the existing arrangements for monetary control."

Those favoring elimination of the prohibition argued that:

1. the holding of demand deposits is unnecessarily costly to the depositor and that, in order to minimize this cost, the public is forced into frequent financial transactions that serve no economic purpose.

2. if the prohibition were eliminated and if demand deposit rates moved cyclically with other rates, the extent to which movements in velocity tend to offset counter-cyclical monetary policy would be dampened.

Both those in favor and those opposed to a change in law recognized practices by which interest is paid implicitly on demand deposits, such as more liberal lending terms, free services, etc. Most believed that the public and banks have adjusted to this substitution of implicit for explicit payment of interest, and that a change in the law might prove harmful. Some felt, however, that such a change, with a requirement that interest rates be published, would result in more equitable and uniform treatment of depositors.

December, 1971. Report of the President's Commission on Financial Structure and Regulation (Hunt Commission) 1/ recommended that the prohibition against payment of interest on demand deposits be retained.

Reasons: The Commission believed that elimination of this prohibition if imposed with the other extensive regulatory changes recommended, would create a situation of disintermediation for thrift institutions, forcing them to shift to third party services more rapidly than desirable. This would thwart the "phase-in" process necessary to the success of the Committee's other recommendations and might also adversely affect the flow of funds into the mortgage market.

The Committee cited trends which would make review of their recommendation necessary in the future, including: improved cash management techniques by large business, which enables transfer of accounts easily into short-term interest-bearing assets, an option more difficult for small business; the

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1/ U.S. Government Printing Office, Washington, pages 27-29.

blurring of distinctions between demand and time deposits and the use of various ingenious devices to evade the prohibition of payment of interest on demand deposits; non-price competition leading to uneconomic increases in operating costs and misallocation of resources.

November 4, 1975. The "discussion principles" of Financial Institutions and the Nation's Economy (FINE), a report issued by the House Committee on Banking and Currency, recommended phase-out of the prohibition of payment of interest on demand deposits at the direction of a new Federal Depository Institutions Commission, according to a schedule which would avoid injury to the affected institutions and the flow of capital to housing. The prohibition would be lifted no later than 5 years following authorizing legislation.

## III. Emerging Methods of Paying Interest on Transactions Balances

While payment of explicit interest on demand deposits at commercial banks has been prohibited since 1933, a number of alternatives have evolved that result in the effective payment of interest on transactional balances. Among the most important are: (1) implicit interest on commercial bank demand balances through nonpecuniary services and subsidies in the form of customer service charges below bank costs; (2) explicit interest payments by commercial banks on very short-term, mainly overnight, borrowings, such as Federal funds and repurchase agreements; and (3) explicit interest payments on transactions-type balances at banks and nonbank institutions.

### Implicit Interest Payments

The prohibition of explicit interest payments on demand deposits has limited one of the methods by which commercial banks can compete for lendable funds. As a result, banks have developed alternative competitive strategies to attract demand deposits. In addition to convenient locations and banking hours, gifts to new customers, more attractive loan rates for depositors, and miscellaneous nondeposit services, banks also offer demand deposit services at charges below costs. This subsidization of check-related services is, in effect, an implicit interest payment on demand balances.

One method of estimating implicit interest paid on demand deposits is to measure the excess of bank expenses for servicing demand accounts over the various account fees charged customers.

No comprehensive data exist from which such statistical estimates can be made. But about 15 per cent of member banks voluntarily participate in a program run by the Federal Reserve System designed to estimate the costs and revenues associated with various bank functions.[1/] These "Functional Cost" data provide a basis for estimating the implicit return on demand deposits, but they are subject to a number of problems, even apart from the limited sample size. There are obvious accounting difficulties in allocating general revenues and costs to specific functions. Moreover, there is evidence that the participants in the Functional Cost Analysis (FCA) program tend to be more aggressive than the banking universe, which might result in some biases in implicit interest estimates.[2/] On the one hand, banks which are aggressive in attracting deposits can be expected to offer their depositors higher returns, and thus estimates of average implicit interest payments on demand deposits drawn from FCA data might be on the high side. On the other hand, if aggressive banks are more efficient, their costs will tend to be lower and implicit interest estimates could be somewhat lower than the average for all banks. On balance, it is difficult to infer the direction and the size of any biases that may be present in estimates of implicit interest rates calculated from FCA data.

Table III-1 shows estimates of implicit rates paid on personal checking accounts in 1975 for the three size categories of member banks used

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1/ Only about 2 per cent of the member banks with deposits less than $5 million participate, but the participation rate rises to over a third in the $100-$500 million category; the participation declines for banks with deposits over $500 million. In 1975, 870 member banks participated, a decline of 121 since 1971.

2/ See John J. Mingo and Arnold A. Heggestad, "On the Usefulness of Functional Cost Analysis Data," Journal of Bank Research, (Forthcoming, 1977).

in the Functional Cost Surveys--those banks with total deposits below $50 million, $50 to $200 million, and over $200 million. Hereinafter, these size categories will be referred to as small, medium, and large banks.

On average, bank expenses (both direct and indirect) to service the average personal checking account exceeded income from customer charges in 1975 by about $31 at small banks, $39 at medium banks and $48 at large banks. By dividing this implicit interest payment by the average account balance, the net return to customers is shown to be about 4 per cent for small and medium banks and 4.7 per cent at large banks. To the extent that personal account customers received other nonpecuniary services, e.g., cheaper loans, safe deposit boxes, etc., the implicit interest payment was even higher.

It is important to note, however, that it is likely that a discrepancy exists between the net costs to banks of administering a checking account and the value of the checking services as perceived by customers. The customer's valuation of checking services is equal to the sum of values attached to each check written. In general, these values will differ from the cost to the bank of processing checks, thus making bank costs an imperfect measure of the value of checking services to the customer.

Functional Cost data appear to indicate that the implicit interest payment on commercial checking accounts is significantly smaller than that for personal accounts. As shown in Table III-2, the implicit interest cost for commercial checking accounts--calculated the same way as for personal accounts--varied between 1.15 and 1.45 per cent in 1975.

Table III-1
Balances, Income, Expenses and Implicit
Interest Cost Per Personal Checking Account, by Size of Bank

| | Banks with total deposits up to $50M | Banks with total deposits $50M to $200M | Banks with total deposits over $200M |
|---|---|---|---|
| Average balance per account | $783 | $967 | $1,021 |
| Income from charges (per year) | | | |
| Service charges | $ 9.26 | $ 6.97 | $ 8.59 |
| Penalty charges | 5.54 | 4.31 | 5.97 |
| Total Income | $ 14.80 | $ 11.28 | $ 14.56 |
| Expenses (per year) | | | |
| Debits 1/ | $ 16.29 | $ 15.70 | $ 17.57 |
| Deposits 2/ | 4.85 | 5.18 | 7.01 |
| Transit checks 3/ | 2.25 | 2.15 | 4.85 |
| Account maintenance | 22.90 | 26.84 | 33.16 |
| Total Expenses | $ 46.29 | $ 49.87 | $ 62.59 |
| Implicit interest payment (Expenses less Income) | $ 31.49 | $ 38.59 | $ 48.03 |
| Implicit interest rate (Per cent) | 4.02 | 3.99 | 4.70 |
| MEMO: Implicit interest rate after required reserve adjustment (Per cent) | 4.43 | 4.49 | 5.48 |
| Debits per year | 184 | 166 | 157 |

1/ A debit is a check drawn on a depositor's account and the expense shown is the cost to the bank of processing such checks.
2/ The cost of processing deposits other than transit items.
3/ Transit checks are those deposited into an account that must be sent out of the bank for clearing.

Source: Functional Cost Analysis - 1975 Average Banks, p. 7.7

However, the apparent lower cost to banks of commercial accounts may well be illusory. The direct and indirect expenses shown for such accounts in Table III-2 do not include several other services that banks offer commercial customers at no explicit cost or at a subsidized rate. These include such services as payroll processing, lock-boxes,[1/] zero balance accounts,[2/] payable through drafts,[3/] deposit scanning,[4/] and other cash management services. In addition, banks may offer lower loan rates, including lower fees or more attractive nonprice terms, on loans to business customers with large account balances that may be used for

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1/ Lock-boxes are essentially bank depositories to which the bank customer's accounts receivables can be paid in order to speed up cash receipts to the customer.

2/ Zero balance accounts have two functions. In conjunction with a regular balance, the customer draws checks on an account with no balance and at the end of the day the bank transfers funds to the zero balance account to cover drafts received by the bank that day. The transferred funds come either from the regular account (mainly in compensating balances that must meet a certain level on average) or from money market assets owned by the customer and managed by the bank. In this way, customers have better control over their cash balances and can earn explicit interest on excess cash. The second function is to delay the actual cash disbursement. A zero balance account can be opened at a distant correspondent, with the customer's bank wiring funds once a day to cover checks drawn against that account.

3/ Payable through drafts are drawn on the customer himself (rather than a bank) but are payable through a bank. Before the draft is paid by the bank, the customer must approve the payment, giving the customer more control over drafts drawn. More generally, however, payable through drafts--like zero balance accounts--can also be used to delay payment. Such drafts cleared through distant banks take time to reach the "payable through bank" and, in addition, the customer's bank does not transfer funds to cover the draft until payment is approved by the customer.

4/ Deposit scanning is a service some banks provide for customers with balances in many banks throughout the country. At regular intervals during the course of the day the principal bank monitors balances at the firm's other banks and, when balances with an individual bank rise above or fall below a specified level, it arranges to take funds out of or to put funds into the firm's accounts at these various institutions.

Table III-2
Balances, Income, Expenses and Implicit Interest
Cost Per Commercial Checking Account, by Size of Bank

| | Banks with total deposits up to $50M | Banks with total deposits $50M to $200M | Banks with total deposits over $200M |
|---|---|---|---|
| Average balance per account | $5,003 | $9,528 | $12,858 |
| Income from charges | | | |
| Service charges | $11.26 | $23.06 | $17.10 |
| Penalty charges | 11.01 | 6.10 | 7.71 |
| Total Income | $22.27 | $29.16 | $24.81 |
| Expenses | | | |
| Debits 1/ | $35.92 | $49.07 | $43.85 |
| Deposits 2/ | 12.16 | 14.39 | 28.16 |
| Transit checks 3/ | 22.51 | 47.54 | 84.22 |
| Account maintenance | 24.26 | 28.20 | 25.33 |
| Total Expense | $94.85 | $139.20 | $181.56 |
| Implicit interest payment (Expense less Income) | $72.58 | $110.04 | $156.75 |
| Implicit interest rate (Per cent) | 1.45 | 1.15 | 1.22 |
| MEMO: Implicit interest rate after required reserve adjustment (Per cent) | 1.60 | 1.30 | 1.42 |
| Debits per year | 383 | 523 | 517 |

1/ A debit is a check drawn on a depositor's account and the expense shown is the cost to the bank for processing such checks.
2/ The cost of processing deposits other than transit items.
3/ Transit checks are those deposited into an account that must be sent out of the bank for clearing.
Source: Functional Cost Analysis - 1975 Average Banks, p. 7.6

transactions purposes. These various services suggest that the implicit return to businesses on demand balances is considerably higher than that shown in Table III-2 and may be at least as high as the implicit return to consumers.

The implicit return to deposits generally appears to have risen over the past ten years as may be seen from Table III-3. This increase probably reflects in part the general rise in market interest rates over the period as well as increased competition among banks for deposits and from other institutions with expanding third party payment powers.[1/]

Interest Payments on Very Short-Term Borrowing by Banks

Apart from implicit interest on demand deposits, banks, particularly large banks, have also offered businesses and other large depositors explicit interest-bearing outlets for transactional or highly liquid funds. The large negotiable time certificate of deposit (CD) was promoted in the early 1960's to aid banks in stemming deposit attrition of large corporations. However, while the holder can sell a CD before maturity if cash is desired, there are small transaction costs involved--as there are for most other money market assets. In addition, the minimum maturity of CD's as established by regulation is 30 days.

As large depositors have become more sensitive to the costs of holding idle demand deposits, banks have sought other ways to

1/ The upward trend shown in Table III-3 was also found by other analysts. See, for example, Robert J. Barro and Anthony M. Santomero, "Household Money Holdings and the Demand Deposit Rate," Journal of Money, Credit and Banking, May 1972, pp. 397-413; and William E. Becker, Jr., "The Effectiveness of Regulation Q and the Implicit Rate of Return on Demand, Savings, and Time Deposits," (Forthcoming in Papers and Proceedings of the Midwest Finance Association).

Table III-3

Estimates of the Implicit Interest Rate Paid on
Personal Demand Deposit Accounts
1966-75
(Per cent)

| Year | Banks with Total Deposits | | |
|---|---|---|---|
| | Up to $50M | $50 to $200M | Over $200M |
| 1966 | 1.33 | 1.07 | 0.94 |
| 1967 | 1.48 | 1.20 | 1.15 |
| 1968 | 1.62 | 1.33 | 1.27 |
| 1969 | 1.68 | 1.46 | 1.47 |
| 1970 | 1.61 | 1.56 | 1.59 |
| 1971 | 2.78 | 2.91 | 2.89 |
| 1972 | 2.68 | 3.39 | 2.99 |
| 1973 | 2.80 | 3.53 | 3.89 |
| 1974 | 4.11 | 4.07 | 5.55 |
| 1975 | 4.02 | 3.99 | 4.70 |

NOTE: Based on Functional Cost Analysis data.

maintain funds that might otherwise be lost to them because of the prohibition. They have increasingly offered interest-bearing non-deposit liabilities with very short maturities, and these have taken two principal forms: Federal funds borrowing and securities sold under repurchase agreements.

Under current Federal Reserve regulations, member banks can borrow "Federal funds" from other banks (commercial banks, domestic offices of foreign banks, and Edge Act and Agreement Corporations), some nonbank thrift institutions (savings and loan associations and savings banks), Federal agencies (such as the Federal Home Loan Bank Board), and securities dealers who have received Federal funds in payment for securities sold.[1/] Such borrowing by member banks is not subject to interest rate ceilings and is, for the most part, on an overnight basis. A member bank may also borrow funds from any lender free of interest rate, maturity, and reserve requirement limitations if the loan is arranged as a repurchase agreement (RP) secured by U.S. Government or Federal agency securities.[2/]

The market for Federal funds and RP's has grown quite rapidly. At the large weekly reporting member banks--which account for almost

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1/ Historically, a "Federal funds transaction" referred to an interbank loan of immediately available funds involving a direct transfer of a deposit at the Federal Reserve between two member banks. Today, however, a Federal funds transaction need not involve an actual debit or credit to a Federal Reserve Bank account nor necessarily involve two banks. Indeed, a significant share of current Federal funds borrowing never goes through a Federal Reserve account nor results in a shift of funds to or from a bank. For example, some of the Federal funds borrowing is from customers who have a demand deposit account with the borrowing bank; the bank simply reduces the customer's demand account and increases its own liability, "Federal funds borrowed."

2/ The FDIC has similar regulations affecting insured nonmember banks.

90 per cent of all banks borrowing in the Federal funds market--the gross amount of Federal funds purchased rose from $37 billion in 1969 to $50 billion in 1974 and to about $68 billion currently.

Generally, only qualitative information exists on the institutions or groups that hold assets in the form of Federal funds or RP's. However, in the spring of 1974 the Board surveyed 45 large banks--which account for about two-thirds of all Federal funds borrowing--to determine the sources of their funds. The results are shown in Table III-4.

Of the over $35 billion of daily average gross borrowing of immediately available funds by these 45 banks during the 1974 survey week (column 3), about $22 billion--or a little over 60 per cent of the total--was loaned by commercial banks and nearly all of this was on an overnight basis. Thus, the Federal funds market has to some extent replaced the market for interest-bearing bankers' balances of the 1920's.[1/] Institutions other than commercial banks also earn interest by making short-term funds available to banks. Of the $13½ billion loaned by this group, about 40 per cent was made available by depository institutions and another two-fifths by business corporations and State and local governments.

Such very short-term borrowing from nonbanks represents payment of interest on funds that are thought of by the lenders as being nearly equivalent to demand deposits. Banks engage in these transactions as an alternative to losing funds to the money market in a framework under which explicit interest cannot be paid on demand balances.

1/ There are, of course, interbank balances at present which bear no interest. They totalled about $35 billion at the end of October 1976.

Table III-4
GROSS BORROWINGS OF IMMEDIATELY AVAILABLE FUNDS
DAILY AVERAGE FOR WEEK ENDING APRIL 24, 1974
(Amounts in Billions of Dollars)
45 Large Banks

| BORROWED FROM | Regular Federal Funds 1/ | RP's on U.S. Gov't and Agency Securities | Total | Amount Maturing in One Day 2/ |
|---|---|---|---|---|
| | (1) | (2) | (3) | (4) |
| I. LENDERS FROM WHOM MEMBER BANKS MAY BORROW "REGULAR" FEDERAL FUNDS | | | | |
| 1. Member commercial banks | 13.1 | 1.0 | 14.1 | 12.8 |
| 2. Nonmember commercial banks | 3.9 | 0.5 | 4.4 | 4.2 |
| 3. Domestic offices of foreign banks | 3.2 | * | 3.2 | 2.4 |
| 4. Edge Act and Agreement Corp. | 0.1 | * | 0.1 | 0.1 |
| Commercial Bank Subtotal | 20.3 | 1.5 | 21.8 | 19.5 |
| 5. Savings and loan associations and cooperative banks | 2.9 | * | 2.9 | 2.3 |
| 6. Savings banks | 1.6 | * | 1.6 | 1.6 |
| 7. Federal Home Loan Banks and Board | 1.2 | * | 1.2 | 0.7 |
| 8. All other agencies of the U.S. | 0.5 | 0.2 | 0.7 | 0.4 |
| 9. Securities Dealers | * | 0.9 | 1.0 | 0.2 |
| TOTAL | 26.5 | 2.6 | 29.2 | 24.7 |
| II. LENDERS FROM WHOM MEMBER BANKS MAY NOT BORROW "REGULAR" FEDERAL FUNDS | | | | |
| 1. Business corporations | -- | 2.1 | 2.1 | 1.2 |
| 2. State and local governments | -- | 3.0 | 3.0 | 1.4 |
| 3. Foreign banks and foreign official institutions | -- | 0.6 | 0.6 | 0.5 |
| 4. All other | -- | 0.2 | 0.2 | 0.1 |
| TOTAL | -- | 5.9 | 5.9 | 3.2 |
| GRAND TOTAL | 26.5 | 8.7 | 35.3 | 27.9 |
| MEMO: Noncommercial Bank Subtotal | 6.2 | 7.2 | 13.5 | 8.4 |

1/ May be secured or unsecured.
2/ Includes continuing contracts which have no maturity but can be terminated without advance notice by the lender or the borrower.
* Less than $500 million.
NOTE: Totals may not add due to rounding.

Explicit Interest Payments on Transactions-Type Balances

Over the past decade there has been an increasing number of innovations and regulatory changes which have resulted in the explicit payment of interest on balances used directly or indirectly to transfer funds to third parties. Both banks and thrift institutions are currently authorized to offer NOW accounts in the six New England states. On a nationwide basis, banks have been permitted to transfer funds from a savings to a demand account on the telephone order of a customer, making it more convenient for the customers to hold a portion of transactions balances in savings accounts. And, businesses and State and local governments have been permitted to hold savings accounts at commercial banks, which have enabled them to transfer precautionary and to some degree transactions balances out of demand deposits.

Most of these developments benefited households and small businesses, and many were associated with efforts of thrift institutions to enter third-party payment deposit markets that have been dominated by commercial banks. The following list provides a chronology of the innovations, and regulatory and legislative changes that have produced--directly or indirectly--transactions accounts bearing explicit interest.

| | | |
|---|---|---|
| 1. | September 1970 | Savings and loan associations were permitted to make preauthorized nonnegotiable transfers from savings accounts for household-related expenditures. 1/ |
| 2. | June 1972 | State-chartered mutual savings banks in Massachusetts began offering NOW accounts. |
| 3. | September 1972 | State-chartered mutual savings banks in New Hampshire began offering NOW accounts. |

1/ Authority contained in the Housing Act of 1970.

| | | |
|---|---|---|
| 4. | January 1, 1974 | All depository institutions in Massachusetts and New Hampshire (except credit unions) were authorized by Congress to offer NOW accounts. 1/ Accounts similar to NOWs, but noninterest-bearing, began to be offered by state-chartered thrifts in other states in the course of the year. |
| 5. | January 1974 | First Federal Savings and Loan, Lincoln, Nebraska installed customer bank communication terminals (CBCTs) in two supermarkets, allowing its customers to make deposits to or withdrawals from savings accounts. Such withdrawals can be used to pay for merchandise purchased from the stores. The First Federal system, known as Transmatic Money System, is now being franchised to other S&Ls. |
| 6. | Early 1974 onward | Money Market Mutual Funds came into existence on a large scale basis. These funds which invest in money market instruments, allow their shareholders to redeem shares either by checks drawn on accounts established at designated banks, by wire transfer, by telephone or by mail. |
| 7. | August 1974 | Federal credit unions were permitted to issue credit union share drafts which are check-like instruments payable through a commercial bank. 2/ |
| 8. | November 1974 | Commercial banks were authorized to accept savings deposits from state and local governments |
| 9. | April 7, 1975 | Member banks were authorized by the Federal Reserve to make transfers from a customer's savings account to his checking account upon telephone order from the customer. This authority permitted banks to match the competition of thrift institutions offering the service of immediate transfer of funds from savings accounts to a commercial bank demand account on telephone order of the customer. Such plans permit the payment of interest on an account that can be converted quickly to a transaction balance. |

1/ Public Law 93-100 signed August 16, 1973.

2/ Section 721.3, Rules and Regulations of the National Credit Union Administration (NCUA), established rules for experimental pilot EFT programs which include share draft plans.

| | | |
|---|---|---|
| 10. | April 16, 1975 | The Federal Home Loan Bank Board broadened its 1970 action to allow S&Ls to make preauthorized third party nonnegotiable transfers for any purpose. |
| 11. | September 2, 1975 | Commercial banks were authorized by Federal regulatory authorities to make preauthorized third party nonnegotiable transfers from a customer's savings account for any purpose. |
| 12. | November 10, 1975 | Commercial banks were authorized by Federal regulatory authorities to offer savings accounts to partnerships and corporations operated for profit, limited to $150,000 per customer per bank. In conjunction with telephone transfers, this authority permitted the payment of interest on funds that can be readily used for transactions. |
| 13. | February 27, 1976 | Federal legislation authorizing NOW accounts in the States of Connecticut, Maine, Rhode Island, and Vermont became effective. |

It is difficult to estimate the portion of funds held for transactions purposes on deposit in the various interest-bearing accounts listed above. The largest part of NOW account balances are probably held for transactions purposes. As of the end of August 1976, there was a total of $1.6 billion in NOW accounts in the six New England states,[1/] and the number of drafts drawn on active NOW accounts currently averages about 11 per month, not very different from the average number of checks written against personal checking accounts at commercial banks throughout the country (14 per month). Balances against which credit union share drafts can be written thus far remain small. Such balances averaged only about $70 million in the summer of 1976; the average number of drafts drawn per account was almost 10 per month. Savings

1/ Of which almost $1 billion was at commercial banks, $0.5 billion at mutual savings banks, and $155 million at savings and loan associations.

deposits of businesses and state and local governments at all commercial banks totalled an estimated $15 billion by the end of 1976, but probably a smaller proportion of such deposits, as compared with NOW accounts and credit union share drafts, represent funds used for transactions purposes. No statistics exist for telephone transfers from business, state and local government, and individual savings accounts to demand deposits, for telephone and automatic billpaying services from savings deposits, or for transfers by draft from money market mutual funds.

It seems clear that new third party payment accounts and the availability of more convenient means of transferring funds out of savings deposits have reduced the effectiveness of the prohibition of explicit interest payment on demand balances. These developments have eroded old distinctions, have altered competitive relationships, more so in some regions of the country than others, and appear to be gaining momentum.

## IV. Economic Efficiency

Commercial banks, like all depository financial institutions, borrow from and lend to the public. Their borrowing mainly takes the form of deposits. In order to attract deposits, banks must offer depositors something of value, which under current law can take the form of explicit interest only on time and savings deposits; no such interest payment is permitted for demand deposits. As a result, banks must offer nonpecuniary returns to attract demand deposits. As indicated in the previous section, these nonpecuniary returns to depositors--or implicit interest--include check services offered below cost, a wide variety of other free or below cost services, and, particularly in the case of businesses, more assured access to credit.

Such methods of attracting demand deposits are likely to lead to an inefficient use of resources by the banking system. Free or below cost checking tends to encourage the public to over-utilize that service, as is true for any good or service provided below cost. Under the circumstances the public has little, or no, economic incentive to economize on check writing, even though check clearance costs for banks are significant.[1/]

If banks and other institutions were permitted to pay explicit interest on demand deposits, they would be likely over the

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1/ Estimates for the cost of clearing checks vary widely. Cost estimates for clearing a check through the banking system range between 16 cents and 26 cents. For an individual bank, according to FCA data, it appears to cost about 10 cents to clear a check written by its own deposit customer. The larger figures reflect the fact that a number of banks are often involved in clearing a single check.

long run to raise service charges on checking accounts and other services presently offered below cost in order to offset the explicit interest payment. 1/ Higher service charges on checks would encourage the public to reduce the number of checks written--by increasing the use of currency for small transactions and by combining payments into a single check where possible. Higher charges on other services would similarly restrain their use. In exchange for the more careful management of check writing and other services, the public could receive explicit interest payments about equal to the increase in charges collected by banks plus the cost saving to the bank of the foregone checking and other services.

The public could, of course, use the explicit interest income earned for any desired purpose, including purchase of the same quantity of checking services. It is likely, though, that the public would divert some of this new interest income to the acquisition of consumer goods or services which are valued more highly than checking services at the margin. In contrast, under the current prohibition of interest payments, the public's "earnings" on demand deposits can be used only for check writing or other bank-related services. The wider range of choice in employing the pecuniary earnings from demand deposits that would be made available by payment of explicit interest would make the public

1/ Any payment of explicit interest, other things unchanged, increases the return to depositors and the costs to banks. Assuming that banks and depositors were roughly in competitive equilibrium prior to the payment of explicit interest, banks' service charges would have to rise (i.e., implicit return to depositors would have to fall) so that the total yield to the depositors (explicit plus implicit return) would move back toward the original yield (which was entirely an implicit return).

as a whole better off. As the public reduces its use of checks, for example, resources that would otherwise be employed in check clearing will be released for the production of goods and services valued more highly by the public.

Some observers have argued that explicit payment of interest on demand balances is more likely to lead to higher loan rates than to increased charges for checking and other bank services. This outcome appears doubtful. Virtually all interest rates charged by banks are determined in highly competitive markets where banks and other lenders are offering similar services. While there may be some minor changes in the structure of rates, it is unlikely that the average level of interest rates would rise in the long run as a result of interest payments on demand deposits.[1/] Moreover, it should be far easier for banks to pass on this cost increase by raising checking account service charges since such charges would be coupled with additional payments to depositors. The relation of interest on demand deposits to market interest rates is discussed in more detail in section VII.

As noted in the previous section, demand deposit substitutes paying explicit interest have been developed. Each of these appear to be less efficient than paying interest explicitly on demand deposits.[2/]

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1/ Similar arguments were made in the past when Regulation Q ceilings were raised, but there is little or no evidence of their validity.

2/ NOW accounts are an exception since they are in effect interest-bearing demand deposits, with NOW drafts cleared in virtually the same way as checks.

They involve added inconvenience or the use of additional resources to shift funds back and forth between interest-bearing assets and deposits from which payments can be made. For example, telephone calls are necessary to transfer funds from savings to demand accounts; additional bookkeeping is required for transfers among deposit categories; and personnel must be diverted to make transfers from corporate demand accounts to security RP's or "Federal funds" borrowing.

Besides being less efficient, interest-bearing third party transactions vehicles and demand deposit substitutes are not accessible to all members of the public. Only certain depositors are permitted to lend "Federal funds" and only large account customers appear to be able to place surplus funds in repurchase agreements with banks. Consumer interest-bearing transaction accounts are more accessible in those areas where thrift institutions have sought entry into the market for third party payment vehicles. Explicit interest on demand deposits would tend to widen the availability of such services to the public at large.

On balance, it would seem that authorizing payment of explicit interest on demand deposits would be a step in the direction of greater economic efficiency and would rationalize the current system that has become needlessly more complex with the passage of time. The net gains to society from interest on demand deposits cannot be readily quantified, however. Such gains will be limited in part by the extent to which the public can, or will, readjust check-writing habits, and by the extent to which direct interest on demand deposits replaces less efficient methods currently used to pay interest on transactions balances.

Moreover, any assessment of overall gains to the nation in terms of resources released to more productive uses should be balanced against an evaluation of potential gains and losses to particular depositors and depository institutions.

## V. Effects on Costs and Earnings of Depository Institutions

In this section, an effort is made to estimate the potential for upward cost pressures and the associated impact on earnings of financial institutions--mainly banks--from removal of the prohibition of interest on demand deposits. Such pressures are likely to develop during the transition period to a new equilibrium, and their intensity will depend in part on whether the authority to pay interest on demand deposits is extended to thrift institutions as well as to banks. Over the longer run, as indicated in the previous section, banks can be expected to offset higher interest costs by raising charges to depositors for services that are now offered free or below cost.

Given the uncertainties in predicting the reaction of the many thousands of banks and thrift institutions and the multitude of depositors to the availability of explicit interest on demand deposits, it is difficult to forecast how long earnings pressures would last; it could be a relatively short period of a year or less, or a longer period of perhaps two to four years. It is equally difficult to estimate the intensity of competition for market shares in such a period. Therefore, the estimates in this section are best thought of as rough indicators of potential transition problems for depository institutions.

These estimates should also be viewed as upper limits since they do not allow for certain influences that may in practice work to limit transitional pressures. For instance, they do not allow for a phase-in of interest on demand deposits through regulatory actions,

such as use of a low, though perhaps gradually rising, ceiling interest rate. Nor do they allow for the possibility that a substantial delay in the effective date for interest on demand deposits following enabling legislation would permit banks to plan more effecitvely for the new competitive environment. Finally, these estimates do not take account of the substantial offsets to cost pressures that could result if interest were paid on reserve balances held at Federal Reserve Banks, as discussed in section VIII.

Competition for Market Shares During the Transition Period: Estimates of Cost Increases

In the most general sense, checking accounts are among the products and services sold to the public by commercial banks and thrift institutions. Any regulatory change creating a new account that has the potential to contribute to future profits may cause intense competitive pressures for a time, as institutions seek to capture a share of the new market. Basically, depository institutions would tend to compare the higher costs of acquiring new deposits with the expected long-run profits to be derived from those deposits after market shares stabilize and costs decline. In a competitive market, during the period before market shares stabilize, costs would rise to a level where the

temporary reduction in profits is just equal to the discounted value of the expected addition to future profits.

The NOW account experiment in Massachusetts and New Hampshire, where thrifts and commercial banks have competed for interest bearing NOW balances since 1974, provides an example of higher costs resulting from competition between depository institutions for shares of a new market. NOW balances in the two states have cost banks and thrifts about 8½ per cent per year, or about 4 percentage points more than demand deposits.[1/] As a result, earnings of depository institutions in those states have declined somewhat since 1974.[2/] However, after NOW market shares stabilize in Massachusetts and New Hampshire, the cost of NOW accounts to banks and thrifts can be expected to decline until it is about equal to the cost of other funds of comparable maturity and stability. Those institutions that acquired sizable NOW balances during the transition period will then be in a position to earn additional profits as long as the NOW balances are retained.

The removal of the prohibition against the payment of interest on demand deposits would extend the devices by which banks can compete with each other for demand deposits, but competitive pressures in the transition would be much less if the removal were not coupled with extension of demand deposit powers to thrift institutions. Some banks might view the payment of interest on demand deposits as a means of enlarging market shares, thus driving up costs in local markets, but it seems unlikely that banks would pursue such costly policies

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1/ The 8½ per cent is the sum of 5 per cent explicit interest plus 3½ per cent implicit interest reflecting the institutions' servicing costs in excess of service charges and other fees.

2/ For details of the NOW experiment in Massachusetts and New Hampshire, see John D. Paulus, "Effects of NOW Accounts on Costs and Earnings of Commercial Banks in Massachusetts and New Hampshire in 1974-75," Federal Reserve Board Staff Economic Study, August 1976.

on a large scale, or for long. Banks currently can attempt to increase market shares through other devices: for example, by offering very high rates of return, or favorable services, on specific types of deposits. Such behavior is uncommon, though, because the expected gains in deposits are not only expensive, but are likely to be reversed as competitors react to protect their own positions. Thus, without competition from thrifts, payment of interest on demand deposits at commercial banks may be accompanied by fairly prompt adjustments in checking account service charges as banks seek to recover higher interest costs. In this case the period of transition may be relatively short and involve only modest upward cost pressures.

By contrast, the extension of interest bearing demand deposits to thrifts would effectively increase the supply of demand deposit services in banking markets, which could intensify cost pressures on commercial banks considerably. Thrifts, many of whom have seemed anxious to acquire checking account powers, may be expected to compete aggressively in order to acquire a share of this market. In order to protect their own market shares, commercial banks will be required to offer depositors at least equivalent terms. Thus, bank earnings could come under pressure, both from the loss of demand deposit balances to thrifts and from the higher average cost of retained deposits.

The increase in bank costs associated with extending interest-bearing demand deposits to thrifts is difficult to estimate. Some evidence on these effects is available, however, from the NOW experiment in New England. As noted earlier, costs of NOW accounts in Massachusetts and New Hampshire appear to exceed average costs of demand deposits by about 4 percentage points. In March 1976, the NOW experiment was extended

Table V-1

Characteristics of NOW Accounts in New England
August 31, 1976
(In Per Cent)

| | Proportion of Institutions: | | |
|---|---|---|---|
| | Offering Unlimited Free Drafts | Paying 5 Per Cent Interest | Paying Interest from Day of Deposit to Day of Withdrawal |
| All Institutions | | | |
| Mass. and N.H. | 56.0 | 98.1 | 86.7 |
| Conn., Me., R.I., Vt. | 21.3 | 99.4 | 68.0 |
| All New England | 46.8 | 98.4 | 81.7 |
| Commercial Banks | | | |
| Mass. and N.H. | 19.7 | 96.8 | 73.2 |
| Conn., Me., R.I., Vt. | 7.7 | 100.0 | 59.0 |
| All New England | 15.7 | 97.9 | 68.8 |
| Mutual Savings Banks | | | |
| Mass. and N.H. | 70.2 | 97.8 | 95.6 |
| Conn., Me., R.I., Vt. | 16.1 | 100.0 | 74.2 |
| All New England | 56.4 | 98.4 | 90.1 |
| Savings and Loan Associations & Corporations | | | |
| Mass. and N.H. | 80.5 | 100.0 | 90.6 |
| Conn., Me., R.I., Vt. | 69.0 | 96.6 | 79.3 |
| All New England | 78.3 | 99.4 | 88.5 |

to include the four other New England states--Maine, Vermont, Rhode Island, and Connecticut. Table V-1 shows that terms offered on NOW accounts have been less generous in these four states than in Massachusetts and New Hampshire. The proportion of institutions offering free NOW drafts, for example, is significantly lower for all three types of institutions. In addition, the proportion of institutions paying interest on a day-of-deposit to day-of-withdrawal basis is lower. Thus, while they exceed the average cost of personal demand deposits, NOW accounts in the four states joining the experiment in 1976 are less costly than in Massachusetts and New Hampshire.

The more modest increase in NOW costs in these four states probably reflects, in part, the lower interest rates in 1976 compared to 1974, when large credit demands and high rates encouraged banks and thrifts to compete vigorously for deposits. Thus if NOWs or interest on demand deposits were extended nationwide to all depository institutions under current, or moderately tighter, money market conditions, it seems plausible that offering terms might initially be similar to those on NOWs in Maine, Vermont, Rhode Island, and Connecticut. As a rough estimate, bank costs of NOWs might rise by about 2 to 3 percentage points, from 4½ to between 6½ and 7½ per cent during the transition period. 1/

Explicit interest payments on business demand deposits, however, should cause bank costs to rise by a smaller amount. As discussed

1/ This could take the form of either a 2 to 3 per cent explicit interest rate and no increase in service charges, or a higher explicit rate accompanied by increased service charges.

in section III, businesses already receive interest in several ways, either directly or indirectly, on demand deposit balances. In addition, most business funds are highly mobile and can be readily shifted among banks, whenever more favorable rates are found. This suggests that business demand balances probably already receive a competitive rate of return in implicit form. Moreover, the effect on offering rates to businesses of extending interest-bearing demand deposits to thrifts would likely be small; the inability of thrifts to provide businesses with loans and other services would greatly limit the size of business balances that could be attracted.[1/] Given that business demand balances now earn a competitive rate at commercial banks, and that competition from thrifts would be severely restricted, it seems unlikely that the average cost to banks of business demand deposit balances would rise by as much as one percentage point. As a rough estimate, the average cost of business demand balances may increase by about one-half percentage point during the transition period.

Transitional Impacts on Earnings of Banks

There are several possible ways of authorizing interest on demand deposits. The authority may be extended to commercial banks only,

1/ Thrifts are severely restricted, by statute and regulation, from entering the business loan market. Most of the asset portfolios of savings and loan associations consists of mortgages and construction loans as well as Treasury and agency securities. In recent years there has been some increase in consumer lending powers for these institutions. Mutual savings banks, having broader asset powers, are somewhat more diversified than S&Ls. However, these institutions are smaller in the aggregate than commercial banks and S&Ls and they have generally not maintained close relationships with medium and large businesses.

or to both banks and thrift institutions. It can be authorized for household demand deposits only or for all demand deposits. Or the authorization may take the form of permitting nationwide NOW accounts.

If both banks and thrift institutions were permitted to pay interest on transactions balances, the transitional effects on banks' earnings could be smaller if NOW accounts were authorized than if interest were permitted on all demand deposits. NOWs can be offered only to individuals and not-for-profit organizations, and the volume of demand deposits that could be converted to NOWs is limited to about $80 billion, or about one-third of total demand deposits at commercial banks. Moreover, based on the NOW account experience in New England, it seems unlikely that more than about one-third of eligible demand deposits, or $25 to $30 billion, would be converted to NOWs within a two-year period.[1/]

Commercial banks in Massachusetts and New Hampshire were able to retain about one-half of the funds converted from demand deposits to NOW accounts after two years, but it seems plausible that on a nationwide basis banks would retain a much higher proportion of new NOW balances, perhaps about 75 percent. This estimate mainly reflects the stronger competitive positions of banks relative to thrifts outside of New England. As shown in Table V-2, commercial banks in Massachusetts and New Hampshire held only about 20 per cent of small time and savings deposits in those states. However, on a national basis, banks have about 45 per cent of the market for small time and savings deposits.

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1/ See John D. Paulus, op. cit.

Table V-2

Deposits at Major Depository Institutions[1/]
(December 1975)

| | Mass. and N.H. | | Nationwide | |
|---|---|---|---|---|
| | Total Deposits ($ billions) | Commerical Bank Share (per cent) | Total Deposits ($ billions) | Commercial Bank Share (per cent) |
| Household Demand Deposits | 2.1[2/] | 99 | 82.0 | 100 |
| Savings Deposits (excluding NOWs) | 16.7 | 20 | 351.7 | 46 |
| Time Deposits[3/] | 9.9 | 13 | 342.5 | 42 |
| Total: Savings and Small Time | 26.6 | 18 | 694.2 | 44 |
| NOW Accounts | .8 | 43 | .8 | 43 |
| Total Household Demand (including NOWs) and Small Denomination Time and Savings Deposits | 29.5 | 24 | 777.0 | 50 |

1/ Includes commercial banks, MSBs, and S&Ls. Excludes credit unions. MSB data are partially estimated based on June 1975 Report of Deposits.
2/ Estimated from Demand Deposit Ownership Survey, Federal Reserve Board.
3/ Excludes time deposits greater than $100,000.

The estimated peak transitional effect on commercial banks' before tax earnings from competition with thrifts for NOW accounts is shown in Table V-3. This estimate assumes conversions from demand deposits to NOW accounts at commercial banks of about $21 billion in a transition period (line 1 of the table) and to NOW accounts at thrift institutions of about $7 billion (line 4)--with the amounts based on the analysis of the preceding two paragraphs. The estimated earnings reduction shown in line (7) ignores such factors as flows of time and

savings deposits to NOWs and inflows to banks from substitutions out of currency and securities, because it is thought that their effect on bank earnings will be relatively small.[1/]

Table V-3

Estimated Transitional Effect on Commercial Bank Before Tax Earnings of Nationwide NOWs ($ billions)

| | | | |
|---|---|---|---|
| (1) | Demand deposits Converted | $21.0 | |
| (2) | x Average Cost Increase | .020 | |
| (3) | = Higher Costs | | $.420 |
| (4) | Demand Deposit Outflow to Thrifts | $ 7.0 | |
| (5) | x Net Earnings on Demand Deposits | .015 | |
| (6) | = Earnings Lost Due to (4) | | $.105 |
| (7) | Before Tax Reduction in Earnings (3) + (6) | | $.525 |
| (8) | 1975 Commercial Bank Before Tax Income | | $ 9.0 |
| (9) | (7) ÷ (8) | | .06 |

The factor thought to have the largest depressing effect on bank profits is the higher cost associated with converting demand deposits to NOW accounts. The 2 percentage point increase in costs, shown in line (2), reflects the estimated 2 to 3 percentage point increase in offering rates (explicit interest plus implicit return)

1/ For funds transferred from savings accounts to a NOW account within a single bank there might tend to be a small cost saving resulting from the reduction in transfers (telephone calls, etc.) from savings to demand accounts which are priced below bank costs and, perhaps, by a lower interest rate. Conversion from currency and from securities to NOW accounts should also have only modest effects on such earnings since the net cost to the bank of these funds is likely to be on the order of 6½ to 7½ per cent, which leaves little margin for profit.

offset partially by lower average reserve requirements against NOW accounts relative to demand deposits, given the current reserve requirement structure. 1/ The smaller earnings reduction due to deposit outflows, shown in line (6), is based on an assumed net return on demand deposits of 1½ per cent. 2/

Bank earnings are estimated to decline by about one-half billion dollars in the worst year of the adjustment period to nationwide NOWs, as shown in line 7. This represents a reduction of about 6 per cent of banks' before tax earnings in 1975. After the adjustment period, bank earnings should recover as market shares begin to stabilize and competitive pressures on bank costs gradually diminish.

Should interest payments be authorized on all demand deposits, and if authority is given to both banks and thrifts to offer such deposits, a more substantial reduction in bank earnings would likely result during the transition period than was estimated for nationwide NOWs. The competitive effect of permitting thrift institutions to offer interest-bearing demand deposits would fall mainly on consumer-type demand deposits. As noted

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1/ Because NOW accounts are classified as savings deposits for Federal Reserve member banks, the reserve requirement against such accounts is 3 per cent. Reserve requirements against demand deposits for member banks range from 7 per cent for small banks to 16½ per cent for the largest banks, and average a little under 13 per cent. Thus, the transfer of funds from a demand deposit to a NOW account reduces reserve requirements. Earnings from bank investment of the released reserves (assuming a 5 percent return) tend to lower net costs of NOW accounts by about one-half percentage point.

2/ According to the 1975 Functional Cost Statistics, the average return on demand deposits was about 1 per cent. This has been adjusted slightly upward, reflecting the belief that the incremental cost of a demand deposit may be slightly lower than average costs. Thus, while earnings on demand deposits may average 1 per cent, the return on an additional account may be slightly higher for the range of deposit shifts considered here.

above, thrifts are limited in their ability to serve the financial needs of business customers; banks' demand deposit costs for businesses would therefore probably rise only marginally, mainly reflecting efforts by some banks to improve market shares.

The estimates of higher costs and reduced earnings from interest payment on all demand deposits are shown in Table V-4. The increase in the cost of household demand deposits of 1½ percentage points (line 2) is slightly lower than that assumed for nationwide NOWs. 1/ However,

Table V-4

Estimated Transitional Effect on Commercial Bank
Before Tax Earnings of Interest Payments on Demand Deposits
($ billions)

| | | | |
|---|---|---|---|
| (1) | Household Deposits Converted | $ 50 | |
| (2) | x Average Cost Increase | .015 | |
| (3) | = Higher Cost for Households | | $ .75 |
| (4) | All Other Deposits Converted | $150 | |
| (5) | x Average Cost Increase | .005 | |
| (6) | = Higher Cost for Other Depositors | | $ .75 |
| (7) | Demand Deposit Outflow to Thrifts | $ 15 | |
| (8) | x Marginal Earnings | .015 | |
| (9) | = Earnings Lost Due to (7) | | $ .225 |
| (10) | Before Tax Reduction in Earnings (3)+(6)+(9) | | $1.725 |
| (11) | 1975 Before Tax Earnings of Banks | | $9.0 |
| (12) | Relative reduction in earnings (10) ÷ (11) | | .19 |

1/ The assumption of a somewhat lower explicit offering rate on demand deposits, relative to NOWs, reflects the likely profit calculation of commercial banks. In determining any explicit offering rate on transactions accounts, banks must balance the higher cost of offering explicit interest on their present stock of deposits against the potential future profit reductions from the loss of deposits to competing institutions. For NOWs, the customer must explicitly notify the bank to set up such an account, and only at that time do bank costs rise. But, when interest is paid on all demand deposits of a certain class, it is more likely that the entire stock of such deposits would earn interest and, consequently, the short-run cost increases to the bank would be much larger. The balancing of short-run costs from paying interest on an existing class of demand deposits against expected future revenue losses from deposits shifted to competing institutions is thus likely to lead to lower offering rates on demand deposits (where the existing stock of deposits is more likely to bear interest) than on NOWs (where only those accounts opened bear interest).

the expected volume of household demand deposits "converted" to interest-bearing form, shown in line (1) of Table V-4, should be considerably larger than for NOW accounts. This, of course, reflects the automatic nature of most conversions. In addition, the projected outflow of demand balances to thrift institutions shown in line (7) is somewhat larger.[1/] Included in the estimated $15 billion outflow, it should be noted, is a modest amount, probably less than $2 billion, of business demand deposits.

The total estimated earnings reduction of $1.725 billion from interest payments on all demand deposits for the worst transitional year represents one-fifth of 1975 before tax income of commercial banks. This reduction is a little more than three times larger than that expected to occur if only NOW accounts are authorized. This larger estimated earnings reduction results mainly from the more rapid conversion of non-interest-bearing demand deposits to interest-bearing form, and from a modest net increase in the cost of interest-bearing demand deposits for businesses and other non-household accounts. As with NOW accounts, this reduction in earnings is mainly a transitional phenomenon, and earnings should recover in the longer-run as check service charges and charges for other bank services are adjusted over time more fully to reflect costs, or as the explicit interest rate is lowered.

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1/ This may occur in part because bank offering rates during the transition in this case might be a little lower than rates offered on demand deposits by thrift institutions, who would not face the same potential cost burden as banks (as explained in the footnote on p. 50).

In view of the potentially large increase in costs from interest on demand deposits, banks may choose to offer interest-bearing demand deposits in the same way that most institutions have offered NOW accounts. Instead of notifying depositors that existing demand deposit accounts will automatically begin to earn interest, banks might simply offer new interest-earning demand accounts to those depositors who request them. Under such a procedure, if interest on demand deposits were limited to individuals and nonprofit organizations, conversion to interest-earning demand deposits might be closer to the slower pace assumed for nationwide NOW accounts in Table V-3. The impact on bank earnings from interest on converted demand deposits would be about the same as in Table V-3. If interest were extended to all classes of depositors, the reduction in earnings might be over $1 billion, or a little more than 10 per cent of 1975 earnings.

As a final alternative, cost impacts from authorization of banks to pay interest on demand deposits without an associated extension of such powers to thrift institutions may be considered. Pressures on bank costs of household demand deposits would be considerably reduced by the absence of competition from thrifts, and such an alternative would probably result in more rapid adjustment of service charges by banks. The after tax earnings reduction would thus be smaller during the transition period than that shown in Table V-4, even though, as noted earlier, some banks would probably attempt to improve competitive positions. As a very rough estimate, the transitional reduction might be as low as 5 per cent of 1975 after tax earnings and this loss would be incurred over a shorter period of time.

The estimated earnings reductions from the various possibilities considered ranged from about 5 to 20 per cent--depending on the types of deposits and institutions eligible for interest payments, and on institutional responses.[1/] It should be stressed once again that these earnings reductions represent estimates of temporary effects while banks are in the process of making longer-run adjustments (to be discussed later in this section). Moreover, as noted earlier, the estimates do not assume use of relatively low ceiling interest rates to moderate transitional pressures, or the possibility of offsetting increases in bank revenues from the payment of interest on reserve balances held at the Federal Reserve.

Differential Impacts by Bank Size

The preceding estimates of impacts on costs and earnings apply to the banking system as a whole. However, effects on particular institutions may vary widely depending upon the type of market and customer served, with some institutions being less able to withstand transition costs than others. In particular, those institutions with adequate earnings but with relatively large amounts of deposits eligible for conversion to interest-bearing accounts (such as household accounts)

1/ Over the period 1960 through 1975 banks' net income after taxes as a percentage of equity ranged between 8.7 per cent and 11.3 per cent. In the period from 1962 through 1966, the measure was consistently between 8.7 and 8.9 per cent. From 1971 through 1975, this measure was between 10.3 and 11.3 per cent, with the lower figure in 1975. If the highest estimate for a temporary earnings reduction because of interest on demand deposits is realized, and assuming a marginal tax rate for banks of about 25 per cent, the average after-tax return on equity in 1975 would be temporarily reduced to around 8½ per cent--or only a little less than the 1962-66 average. The smallest estimate for the temporary reduction in earnings would reduce the 1975 return on equity to around 9-3/4 per cent.

may tend to experience sharp reductions in earnings. The most vulnerable institutions would thus appear to be those that have low earnings and a high proportion of deposits in accounts eligible for conversion to interest-bearing form--as well as those facing intense deposit competition in local markets, including competition from thrift institutions should they be given authority to offer interest-bearing transactions accounts.

Table V-5 shows the number of commercial banks by size class that had both low earnings in 1975--defined as before tax income equal to less than one-half per cent of total deposits[1/] -- nd a high ratio--50 per cent or more--of demand deposits to total deposits.[2/] A total of 371 banks, or about 2½ per cent of all banks in the U.S., satisfied both conditions. Many of these banks could experience severe difficulties in adjusting to the removal of the prohibition.

Table V-5

Vulnerable Banks by Size Class:
Payment of Interest on Demand Deposits

| BANK SIZE ($ millions) | 0-5 | 5-10 | 10-25 | 25-50 | 50-100 | 100-250 | 250-1000 | 1000 | All Banks |
|---|---|---|---|---|---|---|---|---|---|
| Number of Banks | 2310 | 3140 | 4826 | 2177 | 1032 | 525 | 277 | 85 | 14372 |
| Vulnerable Banks 1/ | 146 | 63 | 81 | 38 | 15 | 12 | 12 | 4 | 371 |
| Percentage | 6.3 | 2.0 | 1.7 | 1.7 | 1.5 | 2.3 | 4.3 | 4.7 | 2.6 |

1/ Banks with both before tax income less than .5 per cent of total deposits and demand deposits representing more than 50 per cent of total deposits.

1/ In 1975, the average ratio of before tax income to deposits was 1.15 per cent.

2/ Based on the 1975 Call Report, demand deposits represented 41 per cent of total deposits for all U.S. banks.

Very small banks appear to face the most difficult adjustment problems, but a few large banks, particularly those with extensive branch systems, could also experience transitional difficulties. As shown in the table, more than 6 per cent of the 2300 banks with deposits less than $5 million had both low earnings in 1975 and a high ratio of demand to total deposits. And 80 per cent of all vulnerable banks had deposits of less than $25 million. However, some of these banks may be located in markets with limited competition from other depository institutions, and may remain essentially unaffected by interest on demand deposits. Others serving small communities may face stiff competition from aggressive thrift institutions or other banks.

Further evidence suggesting that smaller banks might suffer the largest relative earnings reductions concerns their commitment to the market for consumer, or household, demand deposits. As shown in Table V-6, a little over 10 per cent of bank deposits are held by consumers in checking accounts. However, a larger proportion of the deposits of small banks are held by households in demand accounts. Since, as noted, cost increases will probably be greatest for household

Table V-6

Ratio of Household Demand Deposits to Total Deposits

| BANK SIZE: TOTAL DEPOSITS ($ millions) | 0-5 | 5-10 | 10-25 | 25-100 | Over 100 | All Banks |
|---|---|---|---|---|---|---|
| Ratio Household Demand to Total Deposits 1/ | 17.2 | 17.0 | 15.0 | 12.7 | 7.4 | 10.4 |

1/ Estimated from Demand Deposit Ownership Survey.

accounts, the smaller banks, on average, can be expected to experience relatively larger earnings reductions than very large banks.

Impact on Thrift Institutions

Earnings of thrift institutions will also be affected during the transition period by the various proposals, but probably only modestly. Thrifts need only pay interest on new demand deposits or NOWs, while banks are more likely, for competitive reasons, to pay interest on most, if not all, eligible demand deposits. With extension of transactions balances on a nationwide basis to thrifts, either in the form of NOW accounts or interest-bearing demand deposits, such funds may be estimated to cost the institutions an average of about 7 per cent in a transition period (explicit interest plus net cost of services), assuming rates of interest at around today's levels.

The impact on earnings would depend on the return obtained from investment of newly acquired funds. It seems likely that thrifts will place less of newly acquired transactions balances in mortgages than has been the case for time and savings deposits, because of the short-run volatility of demand deposits. Instead, a substantial proportion of these funds would probably be invested in more liquid Treasury and agency securities, which generally yield less than mortgages. Reflecting this lower marginal yield on assets, thrift earnings as a percentage of deposits would probably decline slightly during the transition period.

If interest-bearing demand deposits were authorized for commercial banks only, the potential loss of funds by thrifts would depend largely on the explicit rate of interest offered by banks on transactions balances. A significant erosion of thrifts' savings deposits would be unlikely to occur unless the explicit rate on demand deposits approached the savings deposit rate.

Longer-run Adjustments

The potential temporary pressures on costs and profits discussed earlier were the product of initial efforts by banks and other institutions to increase, or maintain, market shares after being given the authority to pay explicit interest on demand deposits. Transition pressures were thought to be most intense if both banks and thrift institutions were permitted to pay interest on demand deposits, and less intense if the authority were limited to banks. However, the reduction in earnings that would develop during a transition period would itself tend to limit the duration of such a period and hasten the longer-run adjustments that would be made in an effort to restore profits.

Such adjustments would include further increases in service charges by banks, to make them commensurate with the costs of particular services. Downward adjustments in the explicit interest rate paid might also occur. Costs might also be reduced if banks were able to reduce or eliminate services that had been developed as a substitute for explicit interest on demand deposits. Many of these activities, such as repurchase agreements and telephone transfers from savings accounts, involve a more extensive use of resources in shifting funds

and in paperwork than would be necessary if the funds were held in demand deposits. Another long-run saving to banks would appear through the reduction in resources used to clear checks.

In the long run, banks could find that the net cost per dollar of transactional balances will decline. This could occur primarily because services that are expensive to the bank, but not valued highly by the customer, would be replaced by explicit interest, whose value to the bank and customer would be equal.

For example, under current conditions, the customer with free check-writing generally would value the last check he writes by much less than it costs the bank to handle it. He might value this check at, say, 2 cents, while it costs the bank about 10 cents. If the customer were offered explicit interest, coupled with service charges on his checks at least greater than 2 cents, he would no longer write that last check--saving the bank 10 cents. The bank need pay the depositor only 2 cents in interest to make him as well off as before. Thus, the bank would be saved 8 cents. A similar argument is applicable to those banks that currently charge customers for services so long as the charge is below the bank's cost of handling checks.

These considerations suggest that banks' earnings would tend to be restored to levels prevailing prior to the payment of interest on demand deposits, or perhaps even improve a little. However, if third party payment powers are extended to thrifts when the prohibition is lifted, the increased competition, particularly for household deposits, may work to keep the rate of return (explicit plus implicit) to depositors above the current implicit return. This would act

to offset, at least in part, the cost savings from increased efficiency. In addition, competition from thrifts may result in a permanent shift in some demand deposits from commercial banks to thrifts, which would also tend to reduce bank profits compared with what they otherwise might be.

Longer-run adjustments by banks to the payment of explicit interest on demand deposits may also entail adaptations in the banking structure. Competition among large and small banks--or among local, regional, and national banks--has become more intense in recent years as a result of the wider availability of deposit and credit services through such devices as bank-by-mail, bank credit cards, and direct deposit of payroll checks. Payment of explicit interest would provide a clear measure for depositors of the return on their funds available from a number of competing banking institutions. In an environment in which deposit mobility has been increasing, smaller banks may find it more difficult to restore profit margins than larger banks, which--because of their more highly developed managerial and technological skills--may be in a better position to adjust marketing strategies and costs to the new circumstances.

In addition, the incentive for banks to establish branch systems may be reduced if the prohibition on demand deposit interest payments is removed. In the absence of such explicit interest payments, the establishment of branch systems has enabled banks to offer depositors an implicit return through the convenience of branch locations. Competition for deposits directly through payment of explicit interest would reduce the need for such expensive, fixed cost methods of attracting deposits.

## VI. Effects on Depositors

Adjustments to interest on demand deposits may have differential impacts, not only on depository institutions, but also on depositors. Depositors are likely to derive the most benefit from removal of the prohibition during the transition period. As noted in the preceding section, competitive efforts by institutions to maintain or increase market shares in the initial adjustment period would probably cause the total of explicit and implicit returns to nearly all depositors to rise above the current implicit return, perhaps substantially. After market shares stabilize, the temporary transition benefits to depositors would tend to disappear.[1/] The longer-run equilibrium return to depositors as a whole--viewed as the sum of explicit and implicit rates--should more nearly approximate the current implicit return. This section assesses possible gains and losses to particular depositor groups--differentiated mainly by size of deposits--over the longer-run, after banks have adjusted service and other charges to offset higher interest expenses.

Analysis of the effects over the longer-run on particular groups of depositors is seriously constrained by the limited data, not to mention the uncertainties in appraising the reactions of both banks and the public to removal of the current prohibition of demand deposit interest. An evaluation of differential impacts requires

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1/ As noted in section V, banks in the most recent states where NOW powers have been authorized--Connecticut, Rhode Island, Maine, and Vermont--have imposed higher service charges than in Massachusetts and New Hampshire, and in many cases they are imposing substantial minimum balance requirements.

data for bank costs of servicing checking accounts, bank charges to customers for account servicing, and the value of other services provided to customers free or below cost. However, virtually no such data exist on a comprehensive basis by size of account or by any other breakdown of depositor characteristics.

As discussed in section III of this report, there are functional cost data that can be used to compare the cost to banks of personal and commercial checking accounts. But these data appear to significantly underestimate the cost per dollar of commercial accounts (and thus the implicit return to business demand deposit holders) since they do not take account of the many services that banks offer commercial customers below cost--such as cash management advice--or other related aspects of the customer relationship--such as attractive loan terms to businesses with large cash balances.

There are fragmentary data on costs to banks of personal deposits by limited size breakdowns implicit in the functional cost data. They are subject to the same limitations as the commercial account data in that they do not measure the value of other services rendered by the bank to the depositor. Nevertheless, the data may be used as a basis for tentative judgments about possible impacts on small as compared with larger personal depositors of explicit interest on demand deposits--on the assumption that the value of non-checking services does not differ substantially across depositors within a relatively broad size range and that, in any event, the value of such services is much less for personal than for business depositors.

Current Implicit Returns for Personal Deposits by Deposit Size

Relatively small average balances are maintained in the great majority of demand deposit accounts. The average demand balance in 1975 at banks participating in the functional cost program of the Federal Reserve was about $2,500 for all customers--personal, business, etc.--but nearly two-thirds of all accounts had balances of less than $500, as may be seen from the first column of Table VI-1. The average balance of such accounts was only $166, as shown in the last column of this table. The distribution of accounts by size was roughly the same for each of the three bank size classes reported in the FCA data.

The average balance in personal demand accounts was $990. No further information on the distribution of personal accounts is available from the functional cost data. However, it seems reasonable to assume from the data on all accounts that most personal accounts are probably significantly smaller than $990.

The cost to banks of servicing accounts depends importantly on account activity--number of checks written and number of checks deposited--although related services provided to account holders may also be a significant cost, particularly for business accounts. Unfortunately, data on account activity by size of account are extremely sketchy. Nevertheless, there is some evidence to suggest that the number of checks written per account does not increase in proportion to the increase in account size.

Table VI-1

The Distribution of Demand Deposits for all Functional Cost Banks by Number and Volume, 1975

| Deposit Size | Number (In per cent) | Volume (In per cent) | Cumulative Average Balance Per Account 1/ ($ Amount) |
|---|---|---|---|
| Under $200 | 40.64 | 1.03 | 64 |
| $200 to $500 | 22.61 | 3.15 | 166 |
| $500 to $1,000 | 14.76 | 4.03 | 265 |
| $1,000 to $5,000 | 15.96 | 13.18 | 573 |
| $5,000 to $10,000 | 2.87 | 7.55 | 753 |
| $10,000 to $25,000 | 1.89 | 10.59 | 1,008 |
| $25,000 to $100,000 | .96 | 17.15 | 1,432 |
| $100,000 and over | .31 | 43.32 | 2,519 |

Source: Functional Cost Analysis - 1975 Average Banks, p. 7.2

1/ Average balance for all accounts under the upper limit of the class interval shown.

Functional cost statistics are maintained for three types of personal checking accounts: special accounts (specified service charges per check and sometimes a maintenance fee), no service charge accounts (generally requiring a minimum balance or the use of another bank service such as holding a savings deposit), and regular accounts (remission of service charges varying with average balance). For all banks participating in the functional cost survey, the average balances in the first two account types in 1975 were about $365 and $880, respectively, and the monthly average number of checks written were 11 and 16, respectively. While such data do not exist for so-called regular accounts, the statistics available for the first two types of personal accounts suggest that the number of checks written does not on average rise anywhere in proportion to the size of account balances.[1/]

Thus, the dollar costs to banks of checking account activity in personal accounts do not appear to vary proportionally with size of accounts. In addition, banks incur fixed costs for statement preparation, building occupancy, and other items that are similar for large and small accounts alike. As a result, banks' gross costs of servicing

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1/ This judgment is reinforced by a formal study of account activity by size of account prepared by the staff of Security Pacific National Bank (Los Angeles, California) entitled "Restructuring of Financial Institutions 'Interest on Deposits,'" Discussion Paper, 1976. Their results indicate that 53 per cent of all personal accounts at that bank had minimum balances below $100 during the survey month and the average number of checks written on these accounts was 17 per month. By contrast, 11 per cent of all that bank's personal accounts had minimum balances of $1,000 or more and the average number of checks written on these accounts was 19 per month.

a checking account per dollar of account balance appear to be higher for small than for large accounts.

Banks, of course, levy service and other charges to offset some of the costs of checking account activity. The FCA data suggest that banks do not completely recover the costs of account activity, and thus personal depositors as a group received an implicit return on demand deposits of from 4 to 4¾ per cent in 1975, as shown in Table III-1. The breakdown of functional cost statistics between special accounts (with service charges) and no service charge accounts (with minimum balance requirements) can be employed to obtain a rough approximation of the implicit return to small as compared to larger depositors, since small depositors are predominantly in the former accounts.

Table VI-2 shows the costs and income derived from these two types of accounts at medium-size banks in 1975. Balances in special checking accounts with per check service charges averaged $359; administration of the accounts cost banks an average of $37 per year; and banks recovered $16 through fees and other charges. For no service charge accounts, the average balance was larger, checking activity was slightly higher, and a much smaller proportion of costs was recovered by the bank through service charges.

Table VI-2

Income, Cost, and Return to Demand Deposit Accounts, 1975
(medium-size banks)

| | | Special Accounts | No Service Charge Accounts |
|---|---|---|---|
| A. | (1) Average balance | $359 | $1,011 |
| | (2) Checks written per month | 11 | 15 |
| B. | Cost of administration | $ 37 | $ 50 |
| C. | Charges and fees | 16 | 7 |
| D. | Net cost to bank (B-C) | 21 | 43 |
| E. | Out-of-pocket cost to depositor (=C) | 16 | 7 |
| F. | Implicit return to depositor in per cent (D ÷ A) | 5.8% | 4.2% |

The implicit return to depositors (line F) with the smaller account was higher (5.8 per cent) than for those with the larger account (4.2 per cent). On the other hand, out-of-pocket costs to the depositor (line E) were higher for the small account holders because of higher service charges. The advantage to the small account holder derived chiefly from the fact that such depositors wrote almost as many checks as large depositors, but with a smaller average balance.

Data limitations--such as the relatively small number of FCA reporters and problems of cost allocation--make any conclusion with respect to relative rates of return to small and larger depositors highly uncertain. More importantly, however, banks may act to equalize returns across deposit size groups by offering large depositors free, or below-cost, non-checking services--such as travelers' checks at

no charge, safe-deposit boxes at reduced rates, and preferential treatment for loans and other financial services. Although it is impossible to quantify the extent to which these services benefit larger account customers, it is likely that they tend to raise bank costs of larger accounts relative to small accounts, though they may be most important for very large accounts and may not have significant differential effects on accounts within a fairly broad size range.

Differences in returns to depositors may reflect the costliness to banks of adapting service charges and nonprice benefits to a highly diverse set of depositors with disparate average balances and account activity. As a consequence, in the absence of authority to pay explicit interest on demand balances, banks offer a package of deposit and related services, aimed mainly at the typical depositor, and this leads to some depositors benefitting more than others. In addition, it is possible that banks may be willing to incur higher costs for small accounts in anticipation that small depositors will come to use other bank services (such as savings accounts and loans) over their lifetime and may also increase the size of average demand balances.

Impact of explicit interest

If explicit interest were paid on demand deposits, the adjustments made by banks to service charges and related fees may have differential effects on the over-all return--explicit plus implicit interest--realized by different types of depositors and by depositors of the same type with checking accounts of different size. In

general, banks can be expected to unbundle packages of services available to depositors and to price each of these services more in accordance with its cost.

With regard to businesses, it seems reasonable to assume that they now receive a highly competitive return on demand deposits, after taking account of the value of other services offered by banks. The demand deposit account is only one element in a complex variety of services offered to business by customer banks, some of which, such as loans, can be obtained elsewhere. And, as part of ordinary business practice, it can be expected that every effort has already been made by corporate treasurers to minimize costs of banking services, including deposit, loan, and other related services.

If businesses are now receiving close to an optimum return on their demand deposits, it seems likely that after payment of explicit interest on such deposits banks would adjust charges on checking account activity and terms on other services in order to re-establish the pre-existing equilibrium. They may introduce, or raise, fees for cash management or lock-box services. It is possible that the stated loan rate (including fees) on a deposit customer's business loan may rise somewhat to offset the payment of explicit interest on what were formerly interest-free compensating balances.

With regard to personal account holders, banks would also be expected to take measures over time that would bring the total cost per dollar of demand deposit accounts to a level close to that which prevailed prior to payment of explicit interest. However, it

is possible that the ultimate return to consumers as a group--measured as explicit plus implicit interest--may be higher than the current implicit return. It is probable that most consumers are currently not as aware as businesses of the return from banking services now being provided to them at less than cost. The information conveyed by payment of explicit interest is likely to make individuals more aware of the return on demand deposits and the costs of checking and other related services. This greater awareness--together with any increased long-run competition for transactions deposits if thrift institutions are permitted to offer such interest-bearing accounts--could lead to establishment of a somewhat higher equilibrium return for consumers after explicit interest is permitted.

Impacts may differ, however, by deposit size, depending on how banks and consumers adjust to the new conditions. Banks could adapt, for example, by establishing either a relatively high or low explicit interest rate. If banks set a high explicit rate, they would be likely over time to raise charges and fees to the point where they recover a very high proportion (or all) of the costs of administering checking accounts. In that case, the apparent relative advantage of small depositors over larger depositors shown in Table VI-2 would be reduced (and would be eliminated if charges and fees were set to fully recover the costs of administering checking accounts). This would occur because the increased explicit interest earned on deposit balances would serve as a greater offset to increased service charges

for large accounts than it would for small accounts, since both the small and larger account holders on average appear to write nearly the same number of checks. On the other hand, if banks pay a relatively low explicit interest rate on demand deposits, they would have less incentive to adjust service charges as fully as if a higher explicit rate were paid. In consequence, the relative advantage of small depositors might tend to be maintained.

The impact of explicit interest on depositors would also be affected by adaptations in their check-writing habits. As banks raise the price of check services, depositors would have an incentive to economize on check writing. To the extent that depositors write fewer checks, their potential out-of-pocket costs would be reduced as charges and fees decline relative to interest income received. A personal depositor would have a particularly strong incentive to economize on check-writing since service charges are not tax deductible (as they would be for business) whereas explicit interest income is, of course, taxable.

In sum, because of the variety of responses available to banks and depositors, and because of limitations on what can be determined about the current distribution of implicit returns by type of depositor or by size group, it is virtually impossible to assess with any certainty the distribution of gains and losses across depositor groups that would result from payment of explicit interest. It is possible that consumers as a group may benefit a little more than businesses, who may already be managing their deposit funds

optimally. Depositors with small balances who write a large number of checks could be worse off than they are now. The clearest gainers would appear to be depositors with large and relatively inactive accounts. Tax considerations could erode consumer gains generally, however, since, as noted above, explicit interest is taxable whereas the added service charges are not tax deductible; this will tend to increase potential out-of-pocket costs.

## VII. Monetary Aggregates, Credit Markets, and the Economy

This section considers the effects that payment of interest on demand deposits may have on monetary aggregates, economic activity, and credit markets.

### Monetary aggregates and monetary control

Payment of explicit interest on demand deposits will affect the significance and interpretation of the monetary aggregates, including money supply narrowly defined as currency and demand deposits in the hands of the public ($M_1$), as well as broader measures of money including time and savings deposits at banks and thrift institutions ($M_2$ and $M_3$). Thus, it will influence formulation of longer-run growth ranges for the monetary aggregates consistent with over-all economic objectives. Given particular monetary growth ranges, payment of explicit interest is unlikely to have a significant effect on the ability of the Federal Reserve to control monetary aggregates through open market operations or other measures affecting the member bank reserve base.

Implications for longer-run money supply growth rates. At present, financial markets are in a transition period involving the accelerated development of a variety of substitutes for demand deposits bearing an explicit interest rate, as discussed in section III. These developments, which have blurred the distinguishing characteristics of the various monetary aggregates, have complicated the formulation of monetary policy.

$M_1$ was formerly viewed as the sole repository of transactions balances. Recent institutional developments--including NOW accounts, telephone transfers, and business saving accounts--have increased the transactions character of savings deposits at banks and thrift institutions and thus of $M_2$ and $M_3$. Money market mutual funds also offer individuals a highly liquid investment, virtually available on demand. Over the past year alone, it appears as if these and other developments may have reduced the demand for $M_1$ by as much as 1¾ percentage points.1/

As demand deposit substitutes evolve, public preferences for various types of assets in which transactions and liquidity balances can be held will remain in a state of flux, and it will be more difficult to choose one-year growth ranges for the monetary aggregates that are consistent with over-all economic objectives. If interest is paid directly on demand deposits, this evolutionary process will be altered. Ongoing institutional arrangements and behavior patterns will be changed. It is difficult to predict how quickly, and by how much, banks may adjust explicit rates paid and make offsetting adjustments in service charges. Moreover, if demand deposit powers were extended to thrift institutions, there would be yet another unknown in appraising institutional responses. Thus, uncertainties, as compared with the present situation, would be heightened for a time. However, the

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1/ See John Paulus and Stephen H. Axilrod, "Recent Regulatory Changes and Financial Innovations Affecting the Growth Rate of the Monetary Aggregates," a Board staff memorandum of November 2, 1976.

adjustments may be more expeditious and the institutional structure that finally evolves easier to interpret if explicit interest is authorized on demand deposits than if events continue on their present course.

As time passes, a fairly stable pattern of explicit interest rates, institutional arrangements, and deposit holdings would be expected to emerge. However, even if permitted to move freely, an explicit rate on demand deposits would probably be adjusted sluggishly, as banks and other institutions seek to maintain costs of such deposits more in line with longer run interest rate expectations than with short-run, transitory market rate variations. In any event, the Federal Reserve would be able to observe such rates, and would begin to learn how rapidly institutions adjust them in response to changes in market interest rates. Also, the Federal Reserve might eventually be able to estimate more precisely the demand sensitivity of various types of deposits to changes in the return on demand deposits if explicit interest were permitted. Under current conditions, the Federal Reserve has little direct evidence on implicit rates, the value of related financial services and arrangements, and on demand sensitivities to these rates. Payment of explicit interest on demand deposits might also contribute to stabilizing the institutional environment by tending to curtail the development of financial instruments designed to

substitute for demand deposits in the payments mechanism. This, in turn, would simplify analysis of the economic significance of various monetary aggregates.

The extent to which monetary policy will need to permit adjustments in growth of the various monetary aggregates in order to accommodate shifts in the public's desire to hold demand deposits will depend in part on the particular types of depositors who are permitted to earn explicit interest. Payment of an explicit interest rate would tend to increase the public's desire to hold demand deposits. This appears to be more clearly the case for consumers than for businesses.

At present, households receive an implicit return largely through either free checking services or service charges below cost. With free services, for example, households may be said to have a marginal return to deposits that is zero since there is no additional gain from holding added balances, though there is an incentive to open an account. Payment of an explicit interest rate would permit incremental deposits to earn additional interest and thereby would provide an incentive to increase demand deposit holdings. The increased incentive would be less clear for those household accounts where service charges are presently scaled inversely to demand deposit levels since these accounts presently receive an implicit marginal

return; in these cases banks may lower the implicit marginal return to help offset the payment of an explicit rate.[1/]

With regard to the behavior of corporate depositors, it is uncertain whether their demand deposits would tend to rise if an explicit rate were paid. The scope for adjustments in other related services and terms on loans is broader than for consumers, as noted in earlier sections, and it is more likely that the current marginal return to corporate depositors (which is now implicit) might change little if explicit interest were paid.

If explicit interest were paid to state and local governments, there may be some increase in willingness on their part to hold more demand deposits, particularly the smaller units. Again, the magnitude would be highly uncertain, because there would surely be adjustments in the relationship between services provided by banks to local governments--including the availability of repurchase agreements on U.S. Government securities and support on issuance of securities, particularly those of smaller governmental units--and the terms offered on deposits.

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1/ If an explicit interest rate were permitted nationwide only on NOW accounts, the principal difference--as compared with interest on all demand deposits--may be in the nature of the transition period. It may be slower for NOW accounts, as discussed in section V. Moreover, during the transition NOW accounts might include more of a mixture of savings and transactions balances than would an interest-earning demand deposit since some institutions may offer to convert savings deposits automatically to NOW accounts. Over the longer-run, the ability of institutions to pay a higher rate on NOW accounts as compared with interest-bearing demand deposits, and thereby to attract more savings-type funds into NOW accounts than into demand accounts, would seem to depend on the continuation of the present large difference in reserve requirements on the two accounts.

As deposit holders adjust to payment of interest on demand deposits, the money supply growth consistent with attainment of economic objectives would be affected, as noted earlier. If the exact pattern of institutional and public adjustments could be foreseen, the Federal Reserve could simply adjust the projected ranges for the various monetary aggregates accordingly. However, it may be difficult to forecast such adjustments with any precision, particularly early in the transition period.

Interest on demand deposits in the short run, therefore, introduces some uncertainty with regard to the interpretation of the degree of economic stimulation, or restraint, implied by various monetary growth rates. But these problems do not differ in kind from those that have developed recently as transactions substitutes for demand deposits have become more widespread. Thus, it does not appear that payment of interest on demand deposits would complicate significantly the formulation of monetary policy in the short run. In any event, with interest on demand deposits, the public's preferences for the various depository claims would probably become more predictable sooner than under present circumstances, and the formulation of growth ranges of the aggregates would be simplified.

Interest on Treasury demand deposits. Payment of interest on U.S. Treasury demand deposits held at commercial banks would not affect the monetary aggregates directly, since such deposits are not included in measures of money supply. It might, however, lead to

some minor improvement in the ability of the Federal Reserve to implement monetary policy on a day-to-day basis.

If interest on demand deposits were paid to the Federal Government, there might be some incentive for the Treasury to hold more of its deposits at commercial banks instead of at Federal Reserve Banks. This incentive would be minimal, however, unless the interest rate on its demand deposits approached the return on the System's portfolio. At present, the bulk of Treasury deposits are held at the Federal Reserve, where they in effect earn interest equivalent to the average yield on the System's security portfolio (since the System turns over to the Treasury the earnings on the Government securities that Reserve Banks acquire in consequence of a rise in Treasury deposits).

To the extent that the Treasury did reduce its average balance with Reserve Banks and raise it with commercial banks,[1/] monetary control in the short run would be simplified. At present,

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1/ If sufficiently high interest on demand deposits could not be paid the Treasury to induce a significant shift in deposits to commercial banks--or if no interest could be paid--the same practical effect could be accomplished by permitting the Treasury to lend Federal funds to banks. Such authority was granted the Treasury in legislation passed by the House of Representatives in 1976 (H.R. 3035).

the Treasury's balance at Federal Reserve Banks fluctuates from week to week. These fluctuations necessitate large offsetting open market operations in order to keep bank reserves from being unduly affected. On occasion, the Federal Reserve has found that such operations are so large that they cannot be accomplished in as timely a fashion as would be desired and therefore that short-term disturbances develop in bank reserves and in money market rates. If the Treasury balance were maintained mainly at commercial banks, the effect on bank reserves of variations in Treasury receipts and expenditures would be considerably lessened.

Effects on monetary control. Whether payment of explicit interest will in practice weaken, or strengthen, monetary control depends on the predictability of the response of banks and the public to changes in reserve availability under the new circumstances, on whether or not explicit interest is subject to a ceiling, on whether demand deposit or similar powers are simultaneously extended to other depository institutions, and on the reserve requirement structure behind such deposits.

Any heightened uncertainties about demands for various deposits after banks begin to pay explicit interest on demand deposits would tend to reduce the predictability of the multiplier relationship between bank reserves and the money supply. Unpredicted shifts among deposit categories subject to different reserve requirement ratios

alter the multiplier relationships between reserve and monetary aggregates. Unpredicted movements in deposit demands also give rise to unpredicted movements in money market rates, given reserve aggregates; hence, the excess and borrowed reserve positions of banks would be affected, which also would alter the multiplier relationships between reserve and monetary aggregates. Increased uncertainties about money demand would also reduce the precision of monetary control if the Federal funds rate is used as the main day-to-day operating guide for control of the monetary aggregates, since control, in that case, depends more heavily on knowing the relationship between interest rates and the public's money demand.

Over the longer-run, though, it seems likely that uncertainties about shifts in public holdings of deposits will be reduced with explicit interest paid on demand deposits as compared with the current environment in which a wide variety of evolving demand deposit substitutues are greatly complicating interpretation of monetary aggregates. But controllability of the aggregates will also be affected in part by the regulatory environment following removal of the prohibition of explicit interest.

Monetary control will be influenced to a certain extent by whether or not interest-bearing demand deposits are subject to a regulatory ceiling. With a relatively low fixed rate ceiling that prevents explicit offering rates from adjusting to market rates, changes

in the public's demand for money in response to changes in market interest rates may not be significantly different from what they are now. The availability of an explicit rate would probably increase the demand for money for any given level of market rates. But as market rates change, the public may respond no differently to the changing spread between a fixed explicit return and market rates than it now does.

A more flexible demand deposit rate offered by institutions in the absence of a ceiling could introduce additional uncertainty in evaluating the demand for money because faster bank responses to changing market rates would in turn influence the public's willingness to hold demand deposits. However, changes in the terms on which banks offer demand deposits are likely to be clearer than they are now--when they take the form of service charge adjustments, changes in compensating balance requirements, or other such devices--and the System therefore would be in a better position to adjust its short-run money market and bank reserve operating guides. In any event, even if permitted to move freely, adjustments in an explicit rate on demand deposits by banks and other institutions would probably be sluggish, as noted earlier, so that short-run control problems would not in practice be significantly different from what they are now.

Still, a reporting system on explicit interest on demand deposits, as well as related service charges, would, under the

circumstances, be helpful in appraising both the public's willingness to hold demand deposits and the adjustments in the reserve base that the Federal Reserve may be required to make to affect the volume of such deposits.

The effectiveness of monetary control would also depend on whether institutions offering third-party payment accounts are required to maintain reserves on such deposits at the Federal Reserve. Member banks, of course, do hold such reserves. Monetary control would be enhanced if nonmember institutions were also required to hold reserves against demand or other transactional deposits on a uniform basis and if they were maintained in vault cash or as balances at Federal Reserve Banks. To the extent that NOW accounts are used as transactions balances and are considered similar to demand deposits for purposes of monetary policy, it would also be desirable from a control point of view for reserve requirements on NOW's to be identical with those on demand deposits.

Monetary policy and the economy

The extent to which payment of interest on demand deposits will alter the responsiveness of the economy to monetary policy or other forces will depend in part on how flexibly banks adapt the interest rate paid on demand deposits to changing market rates. If, as seems probable, the deposit rate is adjusted sluggishly in response to changing market interest rates, the process and speed of economic

adjustment to an easing of monetary policy, for example, will be little different than under current circumstances. The quantity of money demanded will increase about as it does now in reflection of a decline in short-term market rates. And subsequent adjustments in economic activity will occur with about the same speed and magnitude as they do now in response to the resulting lower interest rates, enhanced capital values, greater credit availability and any improvement in liquidity positions of key economic sectors.

If, on the other hand, banks were able to adjust explicit interest rates on demand deposits significantly more rapidly than they presently adjust implicit rates, the speed and magnitude of the economy's response to any given change in bank reserves and money would be heightened. Suppose that money is encouraged to grow more rapidly in a noninflationary period and money market rates drop in the short run. Banks would, as a result, have some incentive to lower demand deposit rates. To the extent deposit rates decline, the public would have less of an interest rate incentive to hold the added money. Market interest rates would then tend to drop further, so long as the quantity of money demanded remains below that supplied. The greater decline in market rates generated by a more flexible deposit rate would more promptly set in motion forces that will act to generate additional economic activity and, as a result, additional demand for money. Thus, if offering rates are varied more rapidly, payment of interest on demand deposits would lead to a somewhat more rapid and pronounced

response of the economy to changes in money growth rates. Stated another way, this analysis suggests that changes in the velocity of money would be less of a potential offset to changes in money supply the more flexible is the interest rate paid on demand deposits.

Such a speed-up in responsiveness of the economy to money supply growth has both stabilizing and destabilizing aspects. It is stabilizing to the extent that monetary policy actions may more rapidly offset other factors causing undesired economic disturbances. It is destabilizing, on the other hand, to the extent that the Federal Reserve is unable to maintain an appropriate money supply growth, either because interest on demand deposits increases the difficulty of setting long-run growth ranges for the aggregates or because adequate tools are not available to control money growth under the new circumstances. Such difficulties would tend to be minimal after a transition period, however, assuming that the demand for money would become more predictable and that the Federal Reserve would have authority to set reserves behind transactional deposits.

The effects on the economy of more flexibility in the interest rate on demand deposits can also be considered in relation to exogenous shifts in the demand for money or in the demand for goods and services, assuming no change in money supply growth. If the demand for money changed relative to economic activity while money supply growth was being kept unchanged, a more flexible rate on demand deposits might cause the economy to be somewhat less stable. For example, if money demand were increasing relative to GNP, interest rates would tend to rise more rapidly than otherwise for given money

supply growth. Following a rise in market rates generated by the increase in money demand relative to supply, banks would raise demand deposit rates. This would further increase the public's willingness to hold money; the public would sell additional assets in order to acquire the limited supply of deposits, raising interest rates still higher. This consequent heightening of interest rate pressures--accompanied by greater declines in the velocity of money than would otherwise occur--would thus tend to reinforce any downward effects on economic activity resulting from the initial rise of interest rates.

On the other hand, more flexibility in demand deposit rates will work in a stabilizing direction to moderate changes in economic activity generated by exogenous changes in demands for goods and services. For example, with money supply growth unchanged, a drop in the demand for goods and services would drive market interest rates down, and this decline would be accentuated by a fall in deposit rates. Lower market rates would provide an incentive to increase spending, velocity would fall less than it would otherwise, and economic activity would tend to be maintained at a higher level than otherwise.

The analysis in this section suggests that interest on demand deposits may have no clear net advantage or disadvantage in terms of impacts on aggregate economic activity. On balance, its effect is likely to be quite minor, mainly because it appears probable that institutions able to pay such interest will probably adjust the rate rather sluggishly in response to longer-run changes in market

conditions--much as is done now with the implicit rate--rather than rapidly in line with short-run fluctuations in money market rates.

Credit markets

The effect of beginning to pay interest on demand deposits on the average level and the structure of interest rates will depend on the response of the Federal Reserve to changes in money demand occasioned by payment of interest, on how banks or other institutions pass on the added cost of demand deposits, and on shifts in flows of savings among banks, other institutions, and the markets.

As the public's desire to hold demand deposits rose as a result of the payment of interest on such accounts, the Federal Reserve would presumably provide the reserves necessary to permit the increase to occur. If reserves were not provided, economic activity might well be adversely affected as interest rates rose reflecting sales of securities by the public or transfers out of time and savings deposits (which have relatively low reserve requirments) to the new demand deposits bearing explicit interest (and which have relatively high reserve requirements). But if additional reserves were provided, over-all interest rate pressures would be averted. Thus, the average level of interest rates would not be affected by the introduction of interest on demand deposits.

The costs to banks would, at least temporarily, be higher on those deposits which bear explicit interest. However, banks would

probably not be able to pass on these costs to any significant extent in the form of higher interest rates on particular loans or investments they make. Most of these interest rates are determined in highly competitive markets characterized by a very large number of borrowers and lenders. Even in regional and local markets, competition among banks and other lenders limits the ability of any single lender to raise lending rates.

To the extent that payment of interest on demand deposits has any impact on interest rates in national markets, it would be reflected in the structure of interest rates. If payment of interest on demand deposits enabled banks to capture a larger share of total financing, yields might decline a little in those areas where banks are important suppliers of funds--such as loans to businesses.[1/] Interest rates could rise somewhat in other areas, such as in the mortgage market, if the funds diverted to banks came from thrift institutions. These increases would probably be quite small, however.

Permitting thrift institutions to pay interest on demand deposits would reduce the likelihood of any such shift in relative

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1/ In the process of adjustment to an explicit return on demand deposits, stated loan rates to corporate customers could rise if these customers also received explicit interest on demand deposits. But this would not imply an increase in the true cost of borrowed money to these firms. At present, non-interest earning compensating balances generally raise the cost of loans to corporate borrowers above the stated rate. If interest could be paid on demand deposits, adjustments might be made to compensating balances--either by paying interest or reducing the non-interest bearing amount--with a higher contract loan rate providing an offset.

credit availability. But, it is difficult to gauge the precise effects on credit flows of permitting all depository institutions to offer interest bearing demand deposits. Much would depend on the exact form of those new powers--whether they included only NOW or demand deposit accounts limited to households, whether they encompassed all demand deposits, and whether they were subject to rate ceilings. Much would also depend on any accompanying changes in the investment powers of nonbank depository institutions. The degree to which these institutions compete for costly and volatile demand balances may well depend on whether they are given greater access to shorter-term investments and loans.

If all depository institutions were permitted to pay interest on demand deposits, it is possible that thrift institutions would increase their share of the total of all forms of deposits. The availability of demand deposit powers to thrifts might also tend to stabilize their total deposit flows over the economic cycle. As market interest rates rose, growth of time and savings deposits would still tend to decelerate, but thrifts might continue to attract their share of expanding transaction-type deposits. This might, at the margin, help to reduce the sensitivity of mortgage flows to cyclical swings in credit availability and interest rates.

The ability of thrift institutions to compete with banks for interest-bearing demand deposits over the course of an economic cycle is open to some question, however. Banks have more diverse assets, and they may be better able than thrifts to adjust demand deposit rates

upward in a period of rising market rates. On the other hand, in a period of easing credit conditions thrift institutions would appear to be in a better position to maintain high deposit rates relative to banks. Maintenance of a relatively low ceiling rate on demand deposits at all depository institutions over an economic cycle might tend to minimize the likelihood of shifts in institutional shares of transaction-type deposit accounts as market interest rates change. Nevertheless, even without ceiling rates, thrift institutions would probably have a larger availability of funds in periods of high interest rates if they had demand deposit powers than if they did not.

## VIII. Interest on Reserve Balances

If banks and other depository institutions were given permission to pay explicit interest on demand deposits, consideration might also be given to paying interest on balances held by such institutions as reserves at Federal Reserve Banks. The added return would help facilitate institutional adjustments to cost increases associated with payment of interest on demand deposits. In addition, over the longer run, interest on reserve balances would serve to increase the effective return to demand deposit holders to the extent that banks and other institutions pass on part of the interest return.

At present only member banks of the Federal Reserve System would be affected by interest on reserve balances. But it would also aid other institutions if, as has been proposed, their transactions balances are subject to reserve requirements set by the Federal Reserve.1/

Member banks of the Federal Reserve System now earn no interest on the reserves that they are required to hold either in

1/ A number of proposals have been made to Congress that would require depository institutions to hold reserves against transactional-type deposits at the Federal Reserve. The Financial Institutions Act passed by the Senate in 1975, for example, authorized the Board to set reserve requirements on demand deposits and NOW accounts for members of the Federal Home Loan Bank System and the National Credit Union Association Discount Funds. The Federal Reserve has also proposed legislation that would make all deposits of such institutions subject to reserve requirements set by the Board of Governors. Under both proposals such reserves were to be held in vault cash and deposits at the Federal Reserve.

the form of demand balances at Federal Reserve Banks or vault cash. Other depository institutions--nonmember banks, savings and loan associations, and credit unions--can earn interest on all, or at least a sizable portion, of their required reserves. Member banks are thus placed at a competitive disadvantage in relation to other depository institutions.[1/]

The implications for the effectiveness of monetary policy of any proposal to pay interest on reserve balances must be considered, along with the expected effects of such a proposal on bank costs, competitive balance among institutions, and on Treasury revenues. Each of these issues is examined below.

Monetary Control

A major issue with respect to the payment of interest on reserve balances is its implications for the ability of the Federal Reserve to control the monetary aggregates and to influence overall liquidity and credit conditions. Effects on monetary control will depend in part on whether interest is paid on total reserves, excess reserves, or required reserves.

1/ Payment of interest on reserve balances may therefore help stem the considerable attrition in membership in the Federal Reserve System. This attrition, as it continues, could raise problems for the soundness of the banking system in that fewer banks would come to have ready access to the discount window and for monetary policy in that an increasing share of the nation's money supply would not be subject to reserve requirements set by the Federal Reserve.

If interest were paid on all of banks' reserves, including excess reserves, the linkage between bank reserves and money and credit could become looser. In implementing monetary policy, the Federal Reserve must take account of the quantity of excess reserves that banks are likely to hold, since such reserves do not add to the supply of bank credit and money made available to the public. With interest paid on excess reserves, the System would have to guard against an undesirable accumulation of such reserves by banks as market rates moved close to or below the rate on excess reserves. Thus, the interest rate on excess reserves would have to be adjusted from time to time. In view of the need to adjust the rate and because the behavior of member banks with respect to excess reserves under the new circumstances might be less predictable, monetary control could become somewhat more complicated.

These problems could be avoided, however, by confining the payment of interest to required reserves, which would have no significant effect on the ability of the Federal Reserve to control monetary aggregates through control of the reserve base. Payment of interest might be confined, in addition, to those required reserves held on deposit at Federal Reserve Banks; vault cash--the other form in which member banks may currently maintain reserves--serves for banks a transaction purpose similar to that of currency in circulation in the hands of the public (which does not of course earn interest).

If a fixed interest rate were paid on that portion of required reserves held at the Federal Reserve, banks would not be likely to alter significantly their response to changing market conditions, and thus the predictability of the relationship between reserves supplied by the Federal Reserve and money and bank credit would probably not deteriorate.

Nor would occasional variations in the rate paid on required reserves held at Federal Reserve Banks be likely to present problems for monetary control. To be sure, changes in that rate might influence the rates banks in turn pay on deposits, and hence the demand for bank deposits. But such effects would probably be quite small and would not significantly complicate the determination of longer-run ranges for the monetary aggregates or the Federal Reserve's ability to influence growth in these aggregates or overall credit conditions.

It has been advocated that banks be permitted to earn interest on reserve balances by allowing their holdings of certain securities--usually those of the U.S. Government--to be counted as reserves. This, however, would seriously erode System control over bank reserves, and hence over money and credit. Banks would be able to obtain added reserves merely by purchasing securities in the market. Such an action, initiated solely by commercial banks, would in itself increase the lending and and money-creating capacity of the banking system.

If, however, banks continued to be subject to a fixed reserve requirement limited to balances at Federal Reserve Banks or vault cash, and interest-earning securities were held solely as an additional supplementary reserve, monetary control would not be significantly weakened. But such a supplementary reserve would not reduce the burden on banks of reserve requirements unless the reserve ratios for those reserves held in balances at the Federal Reserve and in vault cash were reduced. Cutting reserve requirements would, of course, reduce the reserve burden on banks. A supplementary reserve would then serve little purpose and would raise all of the problems and economic inefficiencies that are associated with credit allocation, since a decision would have to be reached regarding what securities are acceptable for reserve requirements. Payment of interest on required reserves held at the Federal Reserve has the advantage of keeping monetary control problems to a minimum and of avoiding issues of credit allocation.

Competitive balance among financial institutions

Maintenance of non-earning reserve balances by member banks at Federal Reserve Banks represents a tax or added cost of doing business that is borne by member banks and possibly their customers, but not by nonmember commercial banks and other depository institutions. Such institutions are generally required to hold a smaller proportion

of deposits as reserves. They are also typically permitted to hold their reserves, at least in part, in earning assets--such as Treasury and State and local securities, and time deposits--and in assets that they would hold in their portfolios in any event such as interbank balances.

Thus, competitive balance among member banks and other institutions would be promoted in the long run if member banks were not subject to cost burdens that were not shared by other competing institutions. If nonmember institutions were required to hold reserves against transactional balances at Federal Reserve Banks (or in vault cash)--as is desirable from a monetary policy viewpoint--interest payments on reserve balances would provide a compensating adjustment for the loss in revenue that nonmember banks would experience on reserves against demand deposits currently held in the form of earning assets.

Effects on bank costs

Payment of interest on reserve balances held at the Federal Reserve would in effect reduce bank costs. It would, therefore, help ease adjustments by banks during the transition period as banks and possibly other institutions adapt to interest on demand deposits. Over the longer-run, it should also serve to increase the effective return to demand deposit holders as banks and other institutions pass on part or all of the interest return.

Each 1 per cent paid on reserve balances of member banks at Federal Reserve Banks would currently produce about $300 million of additional before-tax income for member banks. 1/ This effect might be somewhat smaller, however, if institutions other than banks are also permitted to compete for demand deposits and in consequence demand deposits are attracted away from member banks. 2/

Based on the estimates of Section V, pre-tax profits of the member commercial banks could decline by about $500 million to $1.5 billion in the adjustment period to interest on demand deposits. If only NOW accounts for individuals and non-profit institutions were authorized, the reduction in earnings could be on the order of $500 million. A 2 per cent interest rate on reserve balances would therefore more than offset the aggregate earnings reduction from nationwide NOW's or the lowest estimate of the transitional impact from interest on demand deposits.

The value to individual banks of such an offset to interest on demand deposits will vary considerably depending on their own market strategies and competitive environments. In any event, the principal beneficiary would be member banks of the Federal Reserve, even if by legislation all depository institutions were required to maintain reserves on all transactions balances at

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1/ This assumes that member banks shift 30 per cent of their vault cash to such deposits.

2/ If nationwide NOW accounts were permitted rather than interest on demand deposits, the interest payment on member bank balances would be further reduced as NOW accounts with currently lower reserve requirements replaced demand deposits--although banks, of course, would receive interest on securities or loans made as a result of the reduction in reserve requirements.

Federal Reserve Banks (or as vault cash). Member banks would receive interest on reserves held for time and savings deposits as well as those held for transactions balances. Other institutions, however, are able to hold such reserves in interest-earning form at present.

Impact on Treasury revenues

If interest were paid on reserves held at Reserve Banks (to the extent that they reflected required reserves), one result, of course, would be a reduction in the earnings of the Federal Reserve and therefore in the amount of funds returned by the Federal Reserve to the Treasury each year. The amount of revenue loss would depend in part on the interest rate paid on reserves and in part on the regulatory environment surrounding the payment of explicit interest on demand deposits and the extension of demand deposit powers.

As noted above, for each 1 per cent paid on reserve balances at present, Treasury revenues would be directly reduced by about $300 million per year. This figure represents about 5 per cent of the funds returned to the Treasury by the Federal Reserve in 1976.

The net revenue loss to the Treasury stemming solely from interest payments on reserve balances would be lower, of course, because of several offsets. First, interest paid to member banks will partly be returned to the Treasury in the form of income tax payments from the ultimate recipients. To the extent that interest

on reserve balances ends up as bank profits, banks may pay about 35 cents of each dollar in taxes to the Treasury; taxes on dividends and capital gains of bank stockholders would generate an additional 20 cents in revenue for a total of 55 cents. To the extent that interest on reserve balances is passed on as interest to depositors in proportion to their current holdings of demand deposits, about 40 cents per dollar will be repaid to the Treasury. Thus, between 40 and 55 cents of each dollar paid as interest on reserves would ultimately be returned to the Treasury in tax revenue.

Second, to the extent that payment of interest on reserve balances stems attrition in Federal Reserve membership, potential future revenue losses to the Treasury would be reduced. Third, the reduction in Treasury revenues might be further offset if banks using System facilities were charged for various services--such as check collection, wire transfer, and custody of securities--long provided without charge partly as an offset to the requirement that member banks hold non-interest earning balances. And finally, if all institutions were required to maintain reserves against transactional deposits at the Federal Reserve, the System would augment its Government security holdings by an equivalent amount, which would increase net earnings to the degree that the interest rate on securities acquired exceeds the rate paid on reserve balances.

## IX. Summary and Conclusions

(1) The arguments advanced in 1933 for prohibiting interest on demand deposits--that interest rate competition undermined bank safety and drew funds from rural areas in the form of bankers' balances--appear to have had little validity.

(2) The prohibition of interest on demand deposits has been eroded by developments in financial markets. Despite the prohibition, interest is available in one form or another on transactions balances. Banks can pay interest on overnight funds loaned by banks and others. Explicit interest is also available at banks and other financial institutions on funds that can be conveniently used either directly or indirectly to make payments to third parties. Such accounts have become increasingly available to the public in recent years. Moreover, demand deposit holders have been receiving an implicit return on their accounts in the form of services provided by banks free or below cost.

(3) Payment of explicit interest on demand deposits is likely to be accompanied by pricing of banks' checking and other services more nearly in line with costs. This would tend to curtail uneconomic use of certain bank services and would encourage an allocation of resources to uses more highly valued by the public. The methods that have been developed over the past 40 years to pay interest--both explicit and implicit--on transactions-type balances have already tended to reduce some of the economic inefficiencies produced by the interest rate prohibition. However, these methods are generally less efficient than

payment of explicit interest on demand balances, since they usually involve use of additional resources to shift funds between demand and other accounts, to clear checks that otherwise would not be written if service charges more fully reflected costs, and so on.

(4) The payment of explicit interest on demand deposits would temporarily reduce bank earnings. A reduction of between 5 and 20 per cent of banks' total before-tax earnings is estimated during the worst year of the transition, depending on the types of deposits eligible for interest and on institutional responses. The largest transitional impact would be felt if interest were paid on all demand deposits and thrift institutions were also empowered to offer such deposits. Impacts would probably be considerably smaller if interest-bearing demand deposit powers were limited to commercial banks, or if both banks and thrift institutions were authorized on a nationwide basis to offer only NOW accounts restricted to individuals and non-profit organizations (as is the case in the current experiment with such accounts in New England).

(5) Transitional adjustments to interest on demand deposits would be most difficult for those banks with both relatively low earnings and a relatively large amount of deposits eligible for interest, especially household demand deposits. About 370, or 2½ per cent, of all commercial banks in the United States fall into such a category; they have both more than 50 per cent of total deposits in demand form and before-tax earnings of less than one-half per cent of total deposits.

Most of these are very small banks. (For all banks, demand deposits are about 40 per cent of total deposits and before-tax earnings average a little over one per cent of deposits).

(6) Whatever reduction in earnings develops during a transition period would itself tend to limit the duration of such a period and hasten the longer-run adjustments that would be made in an effort to restore profits. Such adjustments would include further increases in service charges by banks to make them more commensurate with costs. If demand deposit or NOW powers are also extended to thrifts, the increased competition, particularly for household deposits, may tend to increase the cost somewhat to banks of demand deposits over the longer run.

(7) Earnings of thrift institutions will also be affected during the transition period by various proposals for interest on demand deposits, but probably only modestly. If thrifts were permitted to pay interest on demand deposits, they would need to pay interest only on new funds attracted. Banks would be more likely, for competitive reasons, to pay interest on all, or most, eligible deposits. Over the longer-run, earnings of thrift institutions may be a little more stable if they are permitted to acquire transactional balances, since such deposits tend to be less sensitive to interest fluctuations than time and savings deposits.

(8) The temporary cost pressures on banks resulting from payment of interest on demand deposits could be partially offset by the

interest payments on reserve balances maintained at Federal Reserve Banks. At present, this would affect only member banks of the Federal Reserve System. It is estimated that a 2 per cent interest rate on reserve balances would more than offset the aggregate earnings reduction from nationwide NOW accounts in the worst transition year, or the lowest estimate of earnings reduction from interest on all demand deposits.

(9) Payment of interest on reserve balances held at Federal Reserve Banks would have no adverse impact on monetary policy. It would also tend to promote competitive balance between member banks and other depository institutions, since the latter are now permitted to maintain the bulk of their reserves in interest-bearing form. Moreover, payment of interest on reserve balances would provide a compensating adjustment for the loss in revenue that nonmember institutions would experience if they were required to hold reserves against transactional balances at the Federal Reserve.

(10) From a monetary policy viewpoint, it would be desirable to require all institutions offering transactional accounts to hold reserves against such deposits either in vault cash or as balances at the Federal Reserve, and to set such requirement on a uniform basis. Moreover, since NOW accounts and demand deposits serve similar purposes, monetary control would be enhanced if reserve requirements on NOW accounts were equal to those on demand deposits.

(11) Payment of interest on demand deposits would mean that depositors would receive a total return on their deposits made up of

an explicit interest payment and an implicit return (to the extent that banks continue to offer checking services below cost). At present, depositors receive only an implicit, or nonpecuniary return on demand deposits. A pecuniary return provides more options to the depositor, and in this sense the depositor is better off if a given implicit return is replaced by an explicit return of the same size, or perhaps even smaller.

(12) Explicit interest on demand deposits will extend the possibility of obtaining a pecuniary return on transactional balances to a wider range of depositors--in particular consumers--than now receive such a return through one form or another. With explicit interest, banks and other institutions would probably raise charges for checks and other bank services now offered free or below cost. This would tend to equalize rates of return for all depositors, to the extent that they receive the same interest and services are priced more in line with costs.

(13) It is virtually impossible, however, to make a definitive judgment with respect to the distribution of gains and losses across depositor groups from payment of explicit interest on demand deposits. It is possible that some small depositors who write a large number of checks may be worse off than they are now (if they cannot economize on check writing). The largest gainers would appear to be those depositors with large and relatively inactive accounts.

When tax considerations are taken into account, however, part or all of the benefits to individuals may be eroded, since explicit interest is taxable and service charges are not now tax deductible.

(14) Interest on demand deposits may temporarily introduce some uncertainty about interpretation of the rates of growth of monetary aggregates. But this is essentially no different from the interpretation problems that have developed recently as transactions substitutes for demand deposits have become more widespread. In any event, with interest on demand deposits, demands for the various monetary aggregates should ultimately become more predictable in comparison with the continuation of the prohibition which will be accompanied by the continued evolution of a variety of new third-party payment accounts.

(15) Payment of interest on demand deposits may somewhat increase the speed with which the economy responds to monetary policy to the extent that explicit rates are adjusted more promptly than implicit returns have been to changing market interest rates. A more flexible adjustment of explicit rates would reduce the extent to which changes in the velocity of money would offset changes in the money supply. The effects on the economy of more flexibility in the interest rates on demand deposits can also be considered in relation to exogenous shifts in the demand for goods and services or in the demand for money, assuming no change in money supply growth. If there is an exogenous shift in demands for goods and services and an accompanying change in market interest rates, more flexible interest rates on

demand deposits would work in a stabilizing direction by inducing an offsetting change in velocity. On the other hand, explicit interest payments on demand deposits would tend to be destabilizing if there were unanticipated shifts in the demand for money relative to GNP, as the more flexible deposit rate would lead to more perverse movements in market interest rates in the process of balancing the demand for and supply of money.

(16) Payment of interest on demand deposits is not likely to have a significant effect on interest rates in credit markets. The average level of rates will not be affected so long as the Federal Reserve accommodates reserve provision to shifts in the public's demand for deposits caused by the authorization of interest on demand deposits. To the extent that payment of interest on demand deposits has any impact on interest rates in national markets, it would be reflected in the structure of rates and would depend on relative shares in funds flows obtained by banks and other institutions. In local and regional markets, competition among banks and other lenders would severely limit the ability of any single lender to raise lending rates.

(17) If explicit interest were paid on demand deposits, this study suggests that the most significant potential problem lies in the transitional adjustments of banks and other institutions to the new competitive environment. Adjustment difficulties could be mitigated by payment of interest on reserve balances; by

a gradual phase-in through regulatory actions, such as use of a low, and perhaps gradually rising, ceiling rate; and by a delay in the effective date for interest on demand deposits following enabling legislation so as to permit banks to plan effectively for the new competitive environment.