

AUTOMATIC TRANSFERS FROM SAVINGS TO CHECKING: PERSPECTIVE AND PROSPECTS*

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On May 1, 1978, the Board of Governors of the Federal Reserve System amended its Regulation Q to allow member banks to transfer funds from a customer's savings account to his checking account automatically under certain stipulated conditions.¹ Such transfers must be preauthorized by the customer. Specific arrangements for the transfers will be the subject of an agreement between a customer and his bank and will presumably vary from bank to bank and from customer to customer. In general, however, once a customer has contracted for the service, transfers will be triggered automatically and without any further authorization whenever the customer's checking balance falls below some agreed minimum level.² The amendment became effective November 1, 1978.

The amendment is generally regarded as one of the more important developments in retail banking in recent years. While it is impossible at this time to gauge the impact of the amendment with a high degree of certainty, it is safe to say that it has potentially significant implications with respect to (1) the relationship between banks and their household customers, (2) competitive relationships between commercial banks and nonbank depository institutions, (3) the earnings of banks and other financial institutions that offer the service, and (4) the conduct of monetary policy. This article will show that the authorization of automatic transfers is not a radical

regulatory development but rather the latest event in a longer run evolution affecting all depository institutions. The article will describe this evolution and indicate the relationship of automatic transfers to it. It also summarizes the detailed provisions of the amendment, and speculates on some of the amendment's major potential implications.

I. A BRIEF PERSPECTIVE

To understand where the automatic transfer service stands in relation to other recent developments in banking, it is necessary to recognize its most important feature. Specifically, the service will enable some depositors—the exact number depending on the terms under which the service is offered—to reduce their demand balances. Therefore, the amendment authorizing automatic transfers can be properly viewed as the latest in a series of events over the last decade or so that have increased the extent to which the public has been able to use interest-earning deposits for purposes previously requiring non-interest-earning demand balances.³ The important events in this evolution are outlined in the Box. The initial development occurred in 1970 when the Federal Home Loan Bank Board authorized federally chartered savings and loan associations to make preauthorized non-negotiable transfers from savings accounts to third parties for recurring household-related expenditures. Subsequent developments have included (1) the introduction and extension of negotiable order of withdrawal (NOW) accounts at thrift institutions⁴ and commercial banks in New England and more recently New York, (2) the introduction of share draft accounts at federally chartered credit unions, (3) the proliferation of auto-

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¹ The FDIC has adopted a similar amendment. Consequently, the authority to make automatic transfers has been extended to all insured commercial banks and all mutual savings banks insured by the FDIC. A lawsuit challenging the authority of the agencies to issue the amendment was denied by the U. S. District Court for the District of Columbia, *United States League of Savings Associations v. Board of Governors of the Federal Reserve System*, et al., Civil No. 78-0878 (D.D.C., filed October 31, 1978).

² Therefore, the automatic transfer service will differ from such currently permitted services as the payment of regularly recurring bills from savings accounts and services where the customer is able to order, by telephone, individually specified transfers from his savings account to his checking account or to third parties.

³ As a result of these developments, some economists now use the term "transaction balances" to designate all balances in all types of accounts that are held against anticipated current expenditures as opposed to balances held to meet longer term or emergency contingencies.

⁴ Throughout this article the term "thrift institution" will refer to nonbank depository institutions such as mutual savings banks, savings and loan associations, and credit unions.

Box

RECENT DEVELOPMENTS ENABLING DEPOSITORS TO USE INTEREST-EARNING BALANCES FOR PURPOSES PREVIOUSLY REQUIRING NON-INTEREST-EARNING DEMAND BALANCES

September 1970 The Federal Home Loan Bank Board permitted federally chartered savings and loan associations to make preauthorized nonnegotiable transfers from savings accounts to third parties for household-related expenditures.

June 1972 State-chartered mutual savings banks in Massachusetts began offering NOW accounts following a favorable ruling of the Massachusetts Supreme Court. NOW accounts are functionally equivalent to interest-bearing checking accounts.

September 1972 State-chartered mutual savings banks in New Hampshire began offering NOW accounts.

January 1974 Federal legislation authorized all depository institutions except credit unions in Massachusetts and New Hampshire to offer NOW accounts.

January 1974 First Federal Savings and Loan of Lincoln, Nebraska, installed customer-bank communications terminals in two supermarkets enabling customers to withdraw funds from their savings accounts to pay for items purchased from the stores.

Early 1974 Money market mutual funds became widespread. These funds permit shareholders to redeem shares either by checks drawn on designated commercial bank accounts, by wire transfer, by telephone or by mail.

August 1974 The National Credit Union Administration permitted Federal credit unions to issue share drafts which, like NOW accounts, are functionally equivalent to interest-bearing checking accounts.

November 1974 Commercial banks were authorized to accept savings deposits from state and local governments.

April 1975 Commercial banks were authorized to transfer funds from a savings deposit to a checking account upon receipt of a depositor's telephone order.

April 1975 The Federal Home Loan Bank Board extended its 1970 action by permitting federally chartered savings and loan associations to make preauthorized transfers from savings accounts to third parties for any purpose.

September 1975 Commercial banks were permitted to make preauthorized nonnegotiable transfers from savings accounts to third parties for any purpose.

November 1975 Commercial banks were authorized to accept savings deposits from partnerships and corporations operated for profit, limited to \$150,000 per customer per bank. In conjunction with telephone-ordered transfers, this authority made it possible for small businesses to earn interest on funds that can be readily used for transactions.

February 1976 Federal legislation extended NOW account authority to all New England States.

October 1978 Federal legislation extended NOW account authority to New York State.

November 1978 Commercial banks were authorized to offer automatic transfers from savings deposits to demand deposits.

Source: Board of Governors of the Federal Reserve System [10, pp. 30-32].

mated teller machines and similar facilities, (4) the authorization of banks to accept corporate savings accounts, and (5) the authorization of banks to make telephone-ordered transfers from savings accounts to checking accounts.

Perhaps more interesting than the specific developments in the evolution are the underlying forces propelling them. These changes have occurred simultaneously with the flowering of the consumer movement, and it is probable that this coincidence accounts in part for the political support accorded such innovations as NOW accounts. The steady rise in market interest rates, which has increased the opportunity cost of holding non-interest-bearing deposits, has also undoubtedly been a factor. Further, some of the developments have been a direct outgrowth of technological advances associated with the emergence of electronic funds transfer systems.

In addition to these factors, the evolution also appears to reflect important changes in the condition of the thrift industry and in competitive relationships between thrifts and commercial banks over the last 10 to 12 years. In the immediate post-World-War II period and during the 1950's housing demand was strong due to wartime construction postponements and rising family formations. As a result, thrift institutions, particularly savings and loan associations, grew rapidly throughout the first two postwar decades.⁵ Moreover, with a relatively steep upward-

⁵ According to the Hunt Commission Report [11, pp. 34-35], between 1945 and 1965 the total assets of savings and loan associations and mutual savings banks increased at compound annual rates exceeding 14 percent and 6 percent, respectively. The rate for commercial banks was 4 percent. During this same period the commercial bank share of total assets held by all depository institutions declined to 67 percent from 86 percent.

sloping yield curve in place during this period, the juxtaposition of generally long-term mortgage-dominated asset portfolios and predominantly short-term time and savings deposit liabilities on thrift balance sheets produced no significant structural difficulties. On the contrary, thrift operations were highly profitable.

Conditions changed rather dramatically, however, in the late 1960's. Spreads between short- and long-term interest rates were narrower on the average during this period than in earlier years, reflected in a flatter and sometimes downward-sloping yield curve. Given the maturity structure of thrift assets and liabilities, this development squeezed thrift profit margins. These difficulties were compounded by stronger competition from commercial banks for household time and savings deposits.⁶ Moreover, virtually all thrifts suffered sharp reductions in deposit growth during the periods of restrictive monetary policy in 1966 and 1969-1970.

This change in the fortunes of the thrifts troubled the industry itself, its regulators, and others concerned about the politically sensitive longer run prospects for housing finance. The Hunt Commission Report, issued in 1971, addressed this problem among others. One of its major recommendations was that thrifts be allowed a broader range of activities in order that they might break out of the bind imposed by the structure of their balance sheets.⁷ The Commission proposed that the lending and investing powers of savings and loan associations and mutual savings banks be extended and that these institutions be allowed to offer third-party payment services, including ordinary checking accounts, to nonbusiness customers.

The Hunt Commission Report has led to the introduction of several comprehensive legislative programs in the Congress to "reform" depository institutions and markets and their regulators. The sweeping

scope of these proposals has produced to date enough anxiety in all quarters to prevent passage of the Commission's principal recommendations. Faced with political inertia at the national level, some elements within the thrift industry have sought to expand their powers by other means. Of specific relevance to this article, some thrifts, particularly the mutual savings banks in the Northeast and the emerging credit unions, have worked vigorously to gain and promote third-party payment services in order to compete more effectively with commercial banks.⁸ Several of the most important innovations listed in the accompanying Box were initiated by thrifts, including NOW accounts, credit union share drafts, and the installation of point-of-sale terminals in supermarkets.

Among the various initiatives of the thrifts to expand their deposit service powers, the most important in terms of its potential longer run effects on all depository institutions was probably the introduction of NOW accounts in Massachusetts and New Hampshire in 1972 at the instigation of the Consumer Savings Bank of Worcester, Massachusetts, a mutual savings bank.⁹ At that time, savings banks in the New England States did not have the power to offer ordinary demand deposits, and earlier efforts to obtain that authority by state legislation in Connecticut, New Hampshire, and Massachusetts had failed. The NOW innovation circumvented this restriction by tying third-party payment powers to savings accounts, which the savings banks were empowered to offer. But this action introduced a new and highly significant element into the picture, because NOW accounts, although legally a form of savings account, are for all practical purposes equivalent to a checking account that bears explicit interest. The growth of the NOW instrument in New England and the subsequent introduction of the similar share draft account by credit unions elsewhere has forced an extensive reconsideration of the 45-year-old prohibition of interest payments on demand deposits in the Congress, regulatory agencies, and the banking and thrift

⁶ In testimony during the hearings on the FINE "Discussion Principles," the National Association of Mutual Savings Banks presented data drawn from the Federal Reserve flow of funds accounts indicating that the savings and loan association share of the growth of household time and savings deposits declined from 46.9 percent in the 1946-1956 period to 34.1 percent in the 1966-1974 period. The mutual savings bank share declined from 23.2 percent to 11.9 percent, while the commercial bank share increased from 29.9 percent to 54.0 percent. U. S. Congress, House, Committee on Banking, Currency and Housing, **Financial Institutions and the Nation's Economy (FINE) "Discussion Principles,"** Hearings, before a subcommittee of the Committee on Banking, Currency and Housing, House of Representatives, 94th Cong., 1st and 2nd sess., 1975, p. 865.

⁷ For general background on the Hunt Commission prepared by the co-directors of the Commission's professional staff, see [6, pp. 9-20].

⁸ The savings and loan industry has been generally less interested in obtaining third-party payment powers than the mutual savings banks and credit unions, fearing such powers would result in loss of the interest rate ceiling differential on time and savings deposits. The Federal Home Loan Bank Board, however, which regulates federally chartered associations, has strongly favored the extension of full third-party payment powers to thrifts. See Federal Home Loan Bank Board, **A Financial Institution for the Future**, (Washington, D. C.: Office of Economic Research, Federal Home Loan Bank Board, 1975), pp. 27-33.

⁹ For a summary of the early history of NOW accounts see [4].

industries. Indeed, legislation that would have extended NOW account authority nationwide, a development that would have substantially reduced the force of the prohibition, was introduced and debated although not passed by Congress in 1977.¹⁰ The reconsideration has received added impetus from technological developments such as automated teller machines and similar devices that have made it much easier and less costly for individual depositors to transfer funds from savings to checking.

It is against this background that the amendment permitting automatic transfers from savings accounts to checking accounts must be evaluated. Far from an isolated regulatory development, the amendment is a natural step in what increasingly appears to be an inexorable sequence of events, driven by technological developments and changing competitive forces affecting depository institutions, that is steadily increasing the ability of households to use interest-earning accounts for many of the purposes for which non-interest-earning balances were previously required.

II. THE PROVISIONS OF THE AMENDMENT

The amendment authorizing automatic transfers was originally proposed by the Board of Governors in March 1976. This initial proposal elicited little response from the general public and largely negative comments from banks and other financial institutions. In retrospect this lack of interest is understandable since the terms of the proposal were quite restrictive. Depositors would have been required to forfeit 30 days' interest on amounts transferred, and transfers would have had to be made in \$100 units. To the extent they were aware of the proposal, potential users of the service apparently did not find these conditions attractive, and banks evidently concluded they could not offer the service profitably subject to these restrictions. In the light of this reaction, the Board did not implement this initial proposal.

The proposal was revived in early 1978, but with important revisions. The interest forfeiture penalty was softened,¹¹ and the \$100 unit requirement for transfers was dropped. The response to this second proposal was quite different, both quantitatively and

qualitatively. The number of responses received by the Board set a record for proposals of this nature. The proposal had received some attention in the general press, which may account for the large number of letters—many of them handwritten—sent by individuals. A majority, approximately 52 percent, of the responses favored adoption.

The amendment finally enacted by the Board reflects the second round of public comments and therefore itself differs from the revised proposal. The amendment has seven major provisions:¹²

(1) In offering the automatic transfer service banks may either agree to make the transfers necessary to maintain some prearranged minimum nonzero balance in the depositor's checking account, or they may agree to maintain a zero checking balance, i.e., to transfer funds continuously as required to cover checks as they are written.

(2) Banks offering the service will not be *required* to impose either an interest forfeiture or a service charge on transfers. (They are free to impose either if they so choose.) This provision constitutes the major departure from the Board's revised proposal. In commenting on the revised proposal a large number of financial institutions had suggested that the required interest penalty be eliminated.

(3) The service may be offered to individuals only.

(4) The service may be offered beginning November 1, 1978, six months after the date of the amendment's adoption. The delay was provided to allow ample start-up time to banks planning to offer the service.¹³

(5) The service is entirely voluntary both for banks and bank customers and can be made only with the prior consent of the customer. (Consent in the case of automatic transfers, of course, is to the service, not to individual transfers.)

(6) A bank offering the service must "disclose prominently and call to the attention of depositors" that it reserves the right to require not less than 30 days' advance notice of withdrawals from savings accounts subject to transfer just as it has

¹⁰ Ironically, the legislation's defeat was due largely to thrift opposition arising from fear that Congress would couple the extension with the abolition of the interest rate ceiling differential.

¹¹ Only the interest actually accrued on the funds transferred during the 30 days prior to the transfer would have had to be forfeited.

¹² The provisions listed here paraphrase those set forth in the Board's formal announcement of the amendment's adoption in the May 1978 *Federal Reserve Bulletin*, pp. 424-425.

¹³ A request of the Independent Bankers Association of New York to delay the beginning date still further was denied by the Board on September 13, 1978.

reserved this right for ordinary savings accounts in the past.

(7) Banks may arrange with thrift institutions to offer jointly automatic transfers from savings accounts at thrifts to checking accounts at banks.

These provisions are subject to change as experience with automatic transfers accumulates. In its announcement the Board stated that it will monitor the effects of the amendment on competitive conditions and flows of funds in depository markets in order to make whatever modifications seem appropriate.

As presently written, the amendment's central feature is the high degree of flexibility it offers to banks in packaging the service and to customers in using it. Banks can set whatever conditions they wish with respect to such details as the frequency and amounts of transfers, minimum balance requirements, and account maintenance fees and other charges. Presuming there is at least moderate variety in bank offerings in a given local market, an individual customer might be able to use the service to avoid overdrafts and overdraft charges, to maintain a specified minimum checking balance to avoid ordinary checking account service charges, or to maintain a zero checking balance, in accordance with his characteristics and needs.

III. SOME POTENTIAL IMPLICATIONS

This section will speculate on some of the potential repercussions of automatic transfers. The service has important potential implications, ranging from transitory effects on banks and their depositors to more lasting effects on the functioning of the nation's payments system. It must be emphasized, however, that while it is important for both banks and the general public to be aware of the potential impact of automatic transfers, it is not possible to predict either the magnitude or the timing of these effects with high confidence.

Apart from the possibility of future modification of the amendment, the significance of automatic transfers—especially during the first year following their promulgation—will depend largely on how aggressively banks promote the service and how favorably the service is received by the public. Neither factor can be foreseen with much certainty. For these reasons, what follows should not be regarded as a set of predictions but rather as illustrations of what might occur under certain specific hypothetical conditions. The first part of the section will discuss some of the immediate implications of the amend-

ment for banks and bank customers with the aid of Table I. The latter part will speculate on some of the broader and more permanent effects.¹⁴

Appeal to Depositors Sections I and II of Table I present information that might help determine the appeal of automatic transfers to depositors at a typical medium-sized or large bank in an urban or suburban area. Section I lists the assumptions underlying the analysis. Lines I.B and I.C show the various assumed charges and interest rates faced by the depositor before and after the introduction of automatic transfers, respectively. In both cases an attempt was made to specify what might be regarded as median or "typical" service charges.¹⁵ As anyone familiar with the banking industry knows, however, there is extraordinary variation in both the form and level of such charges across banks. Therefore, the assumptions are a rough approximation at best.

Banks will apparently offer automatic transfers in two basic forms: (1) as overdraft protection and (2) as what might be called "interest maximization" accounts.¹⁶ The latter appear to be the more important and are the only type considered in the remainder of this article. These accounts will generally involve a linked checking account and savings account. The bank will agree to maintain a very low balance (for many banks zero) in the checking account, transferring any surplus funds to savings

¹⁴ On October 16, 1978, when this article was in the late stages of preparation, Congress unexpectedly extended the authority to offer NOW accounts to all federally chartered commercial banks and thrifts in New York State. Prior to the passage of this legislation, banks and thrifts in the State had been preparing to offer automatic transfers. Since NOW accounts and the most important forms of automatic transfer accounts are in some respects substitutes from the standpoints of both offering institutions and depositors, the legislation renders the effects of the automatic transfer amendment even less certain in New York than elsewhere. This article does not attempt to take account of this late development.

The legalization of NOW's in New York increases the probability that NOW account authority will be extended nationwide at an early date. In that event automatic transfers would probably serve as a transition step to NOW's. Even so, automatic transfers may not be hastily abandoned because larger banks have already invested sizable sums in preparing the operational mechanisms and promotional programs to support transfers. Support requirements for NOW accounts are different.

¹⁵ By mid-October 1978, a sizable number of larger banks had announced preliminary prices for automatic transfer services. Many of these announcements were reported in the *American Banker* newspaper in August, September, and October.

¹⁶ The main difference between the two forms of service relates to the anticipated frequency of transfers. Overdraft protection accounts are designed to accommodate relatively infrequent transfers, whereas interest maximization accounts are intended to handle more frequent transfers.

Table I

SOME POTENTIAL IMPLICATIONS OF AUTOMATIC TRANSFERS: AN ILLUSTRATION

(Based in Part on 1977 Federal Reserve Functional Cost Analysis Data)¹

I. ASSUMPTIONS

- A. Analysis focuses on depositors and profits at a typical large (greater than \$200 million) member bank
- B. Pre-automatic transfer checking and savings deposit terms
 1. Checking account service charge: \$.10 per check
 2. Interest rate on savings accounts (daily compounding): 5.13%
- C. Automatic transfer (AT) terms
 1. Zero balance checking account tied to 5% savings account
 2. Account maintenance charge: \$3.50 per month (\$42.00 per year)
 3. Activity charge: \$.15 per transfer
 4. No charges if minimum balance of \$3500 maintained

II. EFFECT ON DEPOSITORS

- A. Depositors with pre-AT minimum combined checking and savings account balance greater than \$3500:
 - all of these depositors would gain by transferring their entire checking balance to AT savings account
- B. Depositors with pre-AT minimum combined checking and savings account balance less than \$3500:
 - incentive to shift to AT will depend on comparison of (1) additional savings interest and (2) net increase in service charges

Net Annual Increase in Service Charges at Various Activity Levels

(1)	(2)	(3)	(4)	(5)	(6)
		AT Charges			
		Current Annual Service Charge	Annual Activity Charge	Total Annual Charge (4) + \$42 maint. charge	Net Annual Increase (5) - (3)
Checks Per Month	Checks Per Year	(2) × \$.10	(2) × \$.15		
5	60	\$ 6	\$ 9	\$ 51	45
10	120	12	18	60	48
15	180	18	27	69	51
20	240	24	36	78	54
25	300	30	45	87	57
30	360	36	54	96	60
35	420	42	63	105	63
40	480	48	72	114	66

¹ See [3, especially Tables 7.2, 7.7, and 8.2].

² The assumed conversion rate, expressed as a ratio to total personal demand deposits, is based on a separate analysis using FCA data on the size distributions of demand and savings deposits. *Ibid.*, Tables 7.2 and 8.2.

³ *Ibid.*, Table 1. As indicated in the document, FCA earnings data are adjusted to remove factors such as large, nonrecurring expenditures that distort interbank comparisons. It should be noted that the personal demand deposit total in Line III.A was derived from a subsample of banks within the FCA large bank sample. The earnings figure in Line III.N was estimated from the full sample.

Pre-Tax Interest on Checking Balance Transferred to AT Savings Account

(1)	(2)
Current Checking Balance	Annual Interest (nearest dollar)
\$ 250	\$ 13
500	26
750	38
1,000	51
1,500	77
2,000	103
2,500	128
3,000	154
4,000	205
5,000	257

III. FIRST YEAR EFFECT ON PROFITS OF AN AVERAGE LARGE FCA BANK (\$ thousands)

Estimate of Additional Interest Expense	A. Average personal demand deposits	\$59,038.6
	B. First year conversions from demand deposits to AT savings (Line III.A × .20 conversion rate ²)	11,807.7
	C. Additional interest expense (Line III.B × .0513 effective yield)	607.7
Estimate of Net Loss of Service Charges	D. Pre-AT demand deposit service charges (assumes average account activity of 15 checks per month at \$.10 per check/some high balance accounts not paying service charges)	81.0
	E. Post-AT service charges (assumes average account activity of 15 checks per month/assumes 20% of the number of converting accounts have to pay service charges)	13.8
	F. Net service charges lost (Line III.D - Line III.E)	67.2
Estimate of Gain from Earnings on Required Reserves Released	G. Marginal reserve requirement on demand deposits	11.75%
	H. Reserve requirement on savings deposits	3.0%
	I. Pre-AT required reserves on converting deposits (Line III.B × .1175)	1,387.4
	J. Post-AT required reserves on converting deposits (Line III.B × .03)	354.2
	K. Required reserves released by conversion (Line III.I - Line III.J)	1,033.2
	L. Earnings on released required reserves (Line III.K × .065 assumed average bank asset yield)	67.1
M. Net reduction in earnings (Line III.C + Line III.F - Line III.L)	607.8	
N. Earnings before Federal taxes ³	11,207.5	
O. Percent reduction in pre-tax earnings (Line III.M ÷ Line III.N × 100)	5.4%	

on a regular basis. Checks will then be covered by transfers from the savings account, typically for the exact amount of the check. A majority of the banks intend to impose a fixed monthly maintenance charge for this service and an additional fee per check. A number of banks also plan to offer the service without charge to depositors who maintain minimum combined balances exceeding some specified amount.¹⁷ The prices assumed in Lines I.C2 and I.C3 appear to lie somewhere between the relatively liberal terms announced by several large West Coast banks and the more stringent terms likely to prevail in the East.

Section II of the table attempts to suggest what kinds of households, as indexed by their checking and savings account balances and account activity levels, might find this "typical" automatic transfer offer attractive. Since it is assumed the service will be offered free to depositors who maintain a minimum balance exceeding \$3500, all households holding minimum combined checking and savings balances over this level before the introduction of automatic transfers would benefit from the service. The amount of the gain for these depositors would increase with the depositor's average checking balance and his account's activity (the latter because he is assumed to be paying \$.10 currently for each check written). Although all depositors in this class would gain from the service, it is unlikely that all would use it even where it were conveniently available. Depositors with relatively small and inactive checking accounts before automatic transfers might not consider the small gain worth the trouble of opening new accounts. Further, surveys of consumer attitudes toward the service have suggested that many potential users fear it might compromise the integrity of the savings account by making it easier to indulge in unintended spending out of funds originally set aside as longer term savings.

Depositors with a combined minimum balance below \$3500 in this example would be charged. Section II.B of the table attempts to indicate the conditions under which depositors in this class might find automatic transfer accounts advantageous. As indicated, this determination would require a comparison of (1) the gain from interest paid on funds formerly held idle in a non-interest-bearing checking account that could now be held in an interest-bearing savings account and (2) the net increase in service charges. The data in the two numerical tables permit such a calculation for a variety of account behavior

¹⁷ In the case of zero checking balance arrangements, the minimum combined balance by definition refers to the minimum balance in the savings account.

characteristics. Column (6) of the upper table presents the net increase in service charges for accounts at several different activity levels.¹⁸ In general, the increase is a rising function of activity. Column 2 of the lower table shows the approximate gross interest on funds transferred to savings at various checking balance levels. Together the two tables indicate that depositors who normally write 15 to 20 checks a month would have to be currently holding an average checking account balance in the \$1500-\$2000 range to gain from the service, and even at this level the gain would be nominal.¹⁹

If the various terms assumed are at all representative, it is obvious that the service will appeal mainly to the minority of depositors who maintain relatively high balances in their checking accounts. Many of the larger banks are planning to emphasize this point as candidly as possible in promoting the service.

Effects on Bank Profits During the Transition

It is probable that the introduction of automatic transfers will have some effect on commercial bank profits. It is even more likely that the magnitude and timing of this effect will vary widely from bank to bank, reflecting differences in the competitive conditions faced by individual banks.

Section III of Table I presents a simplified example of the possible effect of automatic transfers on the before-tax earnings of a Federal Reserve member bank with total deposits in the \$600-700 million range during the first year the service is offered. The analysis is based on a set of specific, hypothetical assumptions regarding such factors as (1) the percentage of eligible household demand deposit balances shifted to savings accounts subject to transfer and (2) service charge policy before and after the inauguration of automatic transfers. Most of the data on which the analysis is based were taken from the

¹⁸ For simplicity, the service charge assumption in Line I.B1 in the table ignores the common current practice in some markets of providing free checking services for relatively modest minimum balances. The net service charge increases shown in the table understate the increases that depositors able to take advantage of these current programs would experience.

¹⁹ The interest gains shown in the table are on a before-tax basis. The after-tax benefit would be smaller. Also, most checking account customers presently earn "implicit interest" in the form of free services or service charges that are below the costs the bank incurs in providing checking services. Unlike explicit interest, implicit interest is not taxed. Therefore, to the extent that automatic transfers substituted explicit for implicit interest, this tax benefit would be lost. Hence the tables probably understate the checking balance levels at which automatic transfers would be advantageous. For a discussion of implicit interest, see [9].

Federal Reserve System's Functional Cost Analysis Report for 1977. This Report provides balance sheet and income statement data for "average" banks in three size classifications based on information provided by 846 member banks throughout the nation. *It must be stressed that the analysis is not a prediction of the actual transitional effects of automatic transfers on the earnings of most member banks.* No such estimate is possible in the face of the wide variety of prices and price policies contemplated by individual banks. The aim of the example is to provide a suggestive benchmark estimate under specific assumed conditions. Individual banks might then alter the conditions and the estimate to fit their individual situations. The specific conditions assumed include the pre- and post-automatic transfer price and interest rate terms in Section I of the table along with the additional assumptions noted in Section III of the table. Therefore, as in the preceding section of the article, the focus is on zero-balance automatic transfer accounts offered without charge to depositors with minimum balances over \$3500.

The analysis takes account of three of the major factors likely to affect member bank earnings during the transition to automatic transfers.²⁰ These are: (1) the increased interest expense due to shifts in deposits from demand to savings accounts (Lines III.A to III.C); (2) the net gain or loss from service charges (Lines III.D to III.F); and (3) additional earnings that result from the lending or investment of required reserves released as a result of shifts from demand to savings deposits (Lines III.G to III.L). The principal factors omitted from the analysis are the potential impacts of automatic transfers on (1) bank non-interest costs (in this example mainly accounting and computer expenses) and (2) overdraft fees. Information that would have permitted estimation of these effects was not readily available.

The estimate of additional interest expense (an increase of \$607,000 in this example) essentially follows from the assumption (Line III.B) that 20 percent of the bank's dollar volume of household demand deposits would be converted to savings balances during the first year automatic transfers are available. This estimate is based on a separate estimate of the *joint* distribution of demand and savings deposits by account size using Federal Reserve Functional Cost Analysis data on the *individual* size

²⁰ The methodology employed here is straightforward and follows the procedures used in several recent estimates of the similar potential effect of nationwide NOW accounts on bank profits. See [5, 10].

distributions of demand and savings deposits, respectively.²¹ This separate analysis suggested that perhaps as much as 60 percent of the dollar volume of the "average" large bank's household demand deposits might be presently lodged in accounts that would benefit from being shifted to savings deposits subject to transfer, reflecting the surprisingly high percentage of household demand and savings balances in high balance accounts.²² It was somewhat arbitrarily assumed that 40 percent would actually convert over a three-year transition period, with 20 percent converting during the first year. This estimate is close to the first year conversion factors estimated and publicly announced by some large banks.

Lines III.D to III.F estimate the net change in service charge revenues using the stated activity level assumptions in conjunction with the before and after charge schedule in Section I of the table. Underlying these calculations are data on the *number* of personal demand accounts in various size categories at an average large bank. These data were also developed in the separate analysis mentioned above. As indicated, the bank in this example would experience a moderate net reduction in service charge revenue. This follows directly from (1) the assumption that the bank would offer automatic transfers free for a minimum balance of \$3500 and (2) an estimate based on the separate analysis that fully 80 percent of converted balances would be in accounts that qualify for the free service. Obviously, this percentage would be sensitive to the minimum balance level for free service, if any, set by an individual bank.

Lines III.G to III.L suggest that the return on the investment of released required reserves would provide a modest offset to the additional interest expense shown on Line III.C. The offset would be larger for banks having a higher marginal required reserve requirement ratio on demand deposits and lower for banks having a lower ratio.

The final line suggests that the bank in this example might experience a reduction of before-tax earnings on the order of 5½ percent during the initial year of the transition to automatic transfers. It should be emphasized again that this estimate re-

²¹ See [3, Tables 7.2 and 8.2]. Table 7.2 shows the distribution of total demand balances including nonpersonal balances. This distribution served as a benchmark for an estimate of the distribution of personal demand balances.

²² The analysis indicated that the major portion of the funds would be shifted from checking accounts with average balances that currently exceed \$3000. Functional cost data indicate that between 60 and 65 percent of household demand balances are in such accounts.

flects the assumptions from which it was derived. It does not take account of differences in competitive conditions or differences in individual depositor characteristics faced by different banks. Some banks will experience little or no reduction. Others will probably experience greater reductions. The most striking result of the analysis is its suggestion that due to the existing size distribution of personal account balances, banks offering the service without charge for minimum balances in the \$3500 range or less will not receive an offset to their increased interest expense from higher service charge revenue. On the contrary, they might anticipate some net decline in these revenues.

Economic Efficiency The two preceding sections described two of the more immediate potential effects of automatic transfers. This section and the next section deal briefly with two of the possible longer run ramifications. It should be noted that the points made below are not uniquely relevant to automatic transfers but would be associated with any regulatory or technological change tending to increase the extent to which depositors are able to use interest-bearing deposits for purposes previously requiring non-interest-bearing demand balances.

Economists have argued that removal of the current prohibition of explicit interest on demand deposits would increase the efficiency of the nation's payments mechanism in two ways.²³ First, it would reduce the wasteful shifting of funds between demand and savings deposits that results from the efforts of depositors to maximize the return on their transaction balances. Second, it would improve the allocation of economic resources in the aggregate. The logic of the second claim runs along the following lines. Most household depositors currently earn an "implicit" return on their demand balances in the form of a remission of service charges.²⁴ Obviously, this implicit return can only be realized in the form of checking services, thereby severely restricting the depositor's use of the return. If the return were paid in the form of explicit money interest, many households would probably use it to consume other goods or services. Resource allocation would then more nearly reflect consumer preferences.

The first of these two arguments is less relevant to

automatic transfers than to the outright removal of the ban on explicit interest on demand accounts or to NOW accounts because automatic transfers require the continued maintenance of distinct checking and savings accounts. Resources must still be used to shift funds back and forth between the accounts, although—depending again on how banks price the service—the burden may be shifted to some extent from depositors to banks or to those who borrow from banks.

The second argument is relevant to automatic transfers, but only under certain conditions. The essence of this argument is that if explicit interest were permitted, efficiency would increase because explicit, pecuniary interest would be substituted for implicit interest. Because implicit interest is simply the provision of payments services to depositors free or at fees below the value of the resources used in producing the services, the existence of implicit interest invites excessive use of these services and therefore virtually guarantees a misallocation of resources. If banks used automatic transfers to reduce implicit interest payments, efficiency in the use of resources to carry out payments transactions would probably increase, even though the precise magnitude of this benefit might be difficult to measure.²⁵ On the other hand, if banks offer automatic transfers either without charge or at a low fee on a widespread basis, implicit interest payments would not be eliminated. Indeed, they might not even be significantly reduced. In these circumstances efficiency gains would be small or nonexistent.

The charge schedules announced for automatic transfers to date by individual banks suggest that the substitution of explicit for implicit interest will proceed slowly. As time passes, however, the existence of automatic transfers and the additional costs associated with providing them may gradually increase the incentives for banks to raise customer fees for checking and other payments services, thereby reducing implicit interest and the inefficiencies arising from it. Increasingly conservative pricing policies have characterized the NOW account experience in New England.²⁶

Implications for the Conduct of Monetary Policy In addition to their potential consequences in the areas already discussed, automatic transfers may

²³ The term "efficiency" is used here in its technical economic sense: i.e., the efficiency with which basic labor and capital resources are allocated among competing uses.

²⁴ See footnote 19 above and the article by Klein cited there.

²⁵ At the time this article was prepared a few banks had indicated they planned to review all of their service charges in conjunction with the introduction of automatic transfers.

²⁶ See Kimball [8, pp. 34-38].

have some important repercussions on the implementation of monetary policy. Economists have long recognized that the prohibition of explicit interest on demand deposits and, by extension, the progressive erosion of the force of that prohibition due to technological developments and other changes raises major theoretical and practical questions regarding the definition of the money supply and the stability of the demand for money, however defined, with respect to interest rates and income.²⁷ If automatic transfers lead to substantial shifts from demand to savings deposits, their introduction might produce the kinds of effects contemplated by those concerned with these broader questions. It was suggested above that any such shifting might be small initially, in which case the practical importance of these effects may not be very great in the immediate future.

Nonetheless, the initiation of automatic transfers is likely to create some problems of interpretation at an early date for both Federal Reserve policymakers and others who monitor monetary policy. The procedures currently used in implementing monetary policy include setting both longer run targets and short-run tolerance ranges for the growth rates of various monetary aggregates. Automatic transfers may temporarily complicate the use of these procedures, particularly the interpretation of short-run growth rates of the various aggregates. Specifically, shifts of funds from demand deposits to savings deposits to take advantage of the transfers will tend to depress the growth rate of the narrowly defined M_1 aggregate (which includes demand but not savings deposits) while leaving the growth of the broader M_2 aggregate (which includes both) little changed.²⁸ Because neither the magnitude nor the timing of the shifts induced by automatic transfers can be confidently predicted, and since complete data on the shifts will not be available on a current basis,²⁹ it may be difficult during the transition to determine whether changes in one- or two-month growth rates are being caused by changes in underlying economic conditions or by the spread of automatic transfers or

²⁷ These issues are well beyond the scope of this article, but an extensive literature is available. For a brief summary see [1, pp. 72-89]. For a comprehensive survey of these and related current issues in monetary research, see [2].

²⁸ This statement does not take account of possible shifts of deposits from thrift institutions to banks. Such shifts would tend to raise the growth rate of M_2 .

²⁹ The Federal Reserve will, however, conduct a telephone survey of a sample of banks to estimate the order of magnitude of shifts during the transition. The survey is described in *American Banker*, October 26, 1978, p. 1.

both. Since M_2 should not be strongly affected by automatic transfers, it might be helpful during the transition to evaluate M_1 data in the light of what is happening to M_2 . But this procedure is by no means foolproof since M_2 growth rates are themselves continuously buffeted by a variety of adventitious forces in the short run.

The interpretative difficulties introduced into the monetary policy process by the transition to automatic transfers will probably be short-lived. But more than the usual degree of uncertainty might surround short-run policy actions during the early weeks of the transition. Experienced Fed policy watchers recognize the potential confusion. Their awareness should limit any disruption.

IV. CONCLUSION

This article began by considering automatic transfers in an evolutionary context. It was suggested that the amendment to Regulation Q allowing the service was the latest in a lengthy series of events over the last decade or so that have made it increasingly easy for the public to achieve with interest-bearing balances certain ends that previously required non-interest-bearing demand balances. The latter part of the article summarized some of the potential effects of the amendment under given assumptions. On the basis of the pricing policies announced through mid-October 1978, it seems likely that the service will appeal primarily to depositors with large checking balances who will apparently be offered the service without charge or for a small fee by many of the larger banks. For this reason, the analysis in the preceding section suggested that (1) the earnings of a typical large bank offering the service might be reduced somewhat during the transition since service charge income might not offset the increased interest expense and (2) the potential improvement in the efficiency of resource usage in the payments system might not be forthcoming initially because many banks are not planning to take advantage of the introduction of the service to reduce implicit interest payments significantly. It was also suggested that the shifting of balances from demand to savings accounts might complicate the conduct of monetary policy in a mechanical way during the transition.

Despite these reservations, automatic transfers will probably be useful both to banks and the general public as a part of the longer run transformation of the nation's payments mechanism currently in progress. Whatever the prospects for continuation of the legal prohibition of explicit interest on demand de-

posits, the force of the prohibition is bound to be weakened and eventually reduced to insignificance as continued development and refinement of electronic payment facilities make it ever more convenient and

less costly to transfer funds from one account to another. Moving gradually in this direction through such partial steps as automatic transfers is preferable to an abrupt and possibly disruptive transition later.

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