

ARE NOW'S BEING USED AS SAVINGS ACCOUNTS?

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Recent years have witnessed a host of financial innovations, one of the most important of which has been the introduction of interest-bearing checking accounts. Currently, there are two types of interest-checking accounts available: NOW accounts, which have a 5¼ percent interest rate ceiling, and Super NOW accounts, which are ceiling-free. (A more complete description of the characteristics of these two accounts is found in the Box.) In this article "NOW accounts" refers to all interest-bearing checking accounts, including Super NOWs, unless otherwise noted.

Some observers have argued that consumers are using interest-bearing checking accounts for both savings and transactions purposes, causing a blurring of the formerly sharp distinction between "transactions accounts" and "savings accounts."¹ The likelihood of consumers using NOWs as savings accounts depends primarily on two factors: yield and liquidity. The rates paid on NOWs have been (and should remain) substantially lower than the rates paid on alternative savings vehicles (see Box), giving consumers an incentive to keep their savings in these other vehicles. Savings balances held in NOW accounts, however, are more easily accessed than balances held in alternative savings vehicles. (Although, as noted in the Box, there are savings alternatives that are very liquid.) This greater liquidity might induce some consumers to use NOWs as savings accounts even though they pay a lower yield.² In general, this decision depends on each consumer's preference for yield versus liquidity and on the sacrifice in yield and the gain in liquidity from using a NOW instead of an

alternative savings vehicle. To help determine if a substantial number of consumers are, in practice, using NOWs as savings accounts, this article presents some direct evidence on how consumers are using NOWs.

Whether consumers are using NOW accounts as savings accounts has important implications for monetary policy. Under current procedures the Federal Reserve sets annual target ranges for three different monetary aggregates—M1, M2, and M3. M1, which is intended to be a measure of the public's transactions balances, includes currency, travelers checks, balances in demand deposit accounts, and balances in NOWs. NOWs have been a significant portion of M1 since 1981 and comprised one-fourth of M1 as of the end of 1984. M2 and M3, the broader monetary aggregates, include M1 plus balances in various categories of savings vehicles. Historically, aggregate balances in these savings vehicles have grown more rapidly than aggregate balances in transactions accounts. For this reason the Federal Reserve has generally set the annual target ranges for M2 and M3 two to three percentage points higher than the target range for M1. The use of NOWs as both transactions and savings accounts could substantially alter the relationship between M1 and economic activity. Since balances in savings vehicles grow more rapidly than transactions balances, balances in NOW accounts used for both savings and transactions would grow at a faster rate than balances in transactions accounts.³ As a result, the growth rate of M1 consistent with a given growth rate of economic activity would be higher than it was before the introduction of NOWs. In other words, the use of NOW accounts as savings accounts would raise

¹ See Hafer (1984) and Hetzel (1984).

² Also, some consumers might consolidate their transactions and savings balances in NOWs because of minimum balance requirements. For example, consider the case of an individual with insufficient savings balances to meet the minimum balance requirement on a money market deposit account, which is currently \$1,000 but was \$2,500 before January 1, 1985. This person, still saving in a passbook, might find it worthwhile to consolidate his savings and transactions balances in a NOW since the interest foregone on his savings balances would be negligible.

³ Theoretically, savings balances should grow either more rapidly than or at the same rate as transactions balances. If savings balances grow at the same rate as transactions balances, it would not matter if consumers are saving in NOWs because saving in NOWs would not change the long-run relationship between the growth rates of M1 and GNP. Historically, however, aggregate balances in savings vehicles have grown more rapidly than aggregate balances in transactions accounts.

BOX

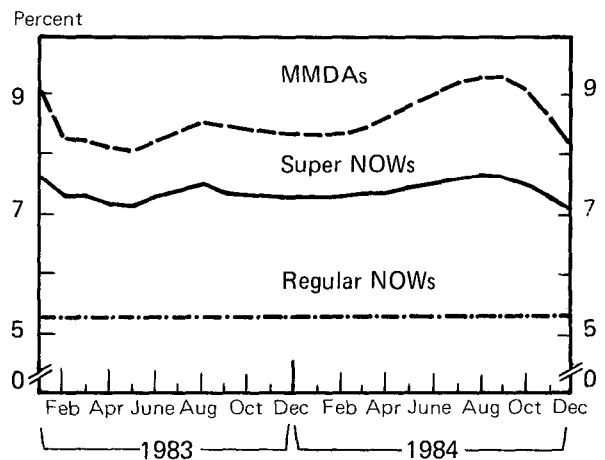
CHARACTERISTICS OF INTEREST-BEARING CHECKING ACCOUNTS

Interest-bearing checking accounts are available in two forms: NOW accounts and Super NOW accounts. These accounts can only be held by individuals and nonprofit organizations. NOW accounts were authorized nationwide as of the beginning of 1981 by the Depository Institutions Deregulation and Monetary Control Act of 1980; previously they were available only in New England. The interest rate on NOW accounts is limited by regulation to $5\frac{1}{4}$ percent and almost all financial institutions pay that rate. Super NOW accounts, which were authorized as of January 5, 1983, have no interest rate ceiling and the rates paid vary across financial institutions. Until 1985, Super NOWs were required by regulation to have a minimum balance of \$2,500. At present the legal minimum is \$1,000 although many institutions impose higher minimums. Similarly, although there is no legal minimum on NOW accounts, most institutions require minimum balances; a common requirement is \$500.

As mentioned in the text, consumers consider two factors in deciding whether to use interest-bearing checking accounts as savings accounts: yield and liquidity. The savings vehicle which is closest to a checking account in terms of liquidity is the money market deposit account (MMDA), which pays an unregulated rate and is very liquid but has limited transactions capabilities.* As is shown in the accompanying chart, the rates paid on NOWs and Super NOWs have been well below the yields available on MMDAs. Most interest-checking accounts are regular NOWs, whose $5\frac{1}{4}$ percent ceiling rate was 3.6 percentage points less than the average MMDA rate in 1984. The rates on ceiling-free Super NOWs have also been well below those paid on MMDAs—averaging 1.4

* MMDAs are allowed three checks and three telephone transfers per month, as well as an unlimited number of withdrawals in person or through automatic teller machines.

RATES ON NOWs, SUPER NOWs, AND MMDAs



Source: Federal Reserve Statistical Release, H.6

percentage points less in 1984. Furthermore, it is likely that Super NOW rates will remain lower because a Super NOW is a costlier source of funds for a bank than is an MMDA. Since banks are required to hold 12 percent of Super NOW deposits as non-interest-bearing reserves, they would be expected to offer on Super NOW deposits no more than 88 percent of the rate they pay on MMDAs. In fact, the rate on Super NOWs in 1984 averaged only 84.1 percent of the rate on MMDAs, which is even lower than suggested by this rule-of-thumb. This even lower average rate on Super NOWs probably reflects the fact that banks have to recover the additional costs of providing checking services on Super NOW accounts.**

** Corcoran and Wachtenheim (1984) provide a detailed analysis of the relationship between the yields a bank would be willing to offer on MMDAs and Super NOWs.

the annual target for the growth rate of M1 compatible with any given growth rate of nominal GNP.

One approach to determining whether consumers are using NOWs as savings accounts is to look at the relationship between the growth rates of M1 and GNP. If consumers are using NOWs as savings accounts, then the growth rate of M1 should be permanently higher relative to the growth rate of GNP since the introduction of nationwide NOWs in 1981. Unfortunately, two data problems make it difficult to evaluate whether this has happened. First, only a short period has elapsed since the introduction of NOWs nationwide. Second, the relationship between M1 growth and GNP growth was temporarily distorted from 1981 through 1983 by consumers switching from regular checking accounts into NOW accounts.⁴ As consumers switched into NOWs from regular checking accounts, they had to transfer funds from savings in order to meet the higher minimum balance requirements on NOWs and still have the same amount of funds available for transactions. These one-time shifts of funds from savings into NOWs temporarily boosted the growth rate of M1 relative to GNP growth but did not reflect the use of NOWs as savings accounts.⁵

Rather than looking at M1 and GNP growth rates, this study evaluates two types of direct evidence on how consumers are using NOWs. First, it examines survey responses by consumers on their holdings of different accounts. If consumers are using NOWs as both transactions and savings accounts these survey responses should indicate that consumers have consolidated their transactions and savings balances in NOW accounts. Second, it looks at a number of characteristics of NOWs, including (1) average balances, (2) transactions activity, and (3) seasonal behavior. If consumers are using NOWs as savings accounts, then these characteristics should partially resemble the characteristics of other savings accounts, such as money market deposit accounts and money market fund accounts. Alternatively, if consumers are using NOWs solely as transactions accounts, then these characteristics should resemble those of consumer demand deposit accounts. Overall these

⁴ In addition, the sharp decline in interest rates in 1982 raised M1 growth relative to GNP growth in late 1982 and early 1983. Radecki and Wenninger (1983) and Judd (1983) provide discussions of this period.

⁵ To account for the effects of these flows on M1 growth in 1981, the Federal Reserve "shift-adjusted" M1, thereby implicitly raising the M1 target range. The M1 target range for the current year reflects the view that the relationship between M1 and GNP has returned to a more normal and predictable pattern.

two types of direct evidence provide very little support for the view that consumers are using NOWs as savings accounts.

EVIDENCE ON CONSOLIDATION OF TRANSACTIONS AND SAVINGS ACCOUNTS

Perhaps the most direct way to determine if consumers are using NOWs for savings purposes is to see whether they have combined their regular checking accounts and savings accounts into NOWs. Evidence on the account combinations of consumers is available from the 1983 Survey of Consumer Finances, which collected detailed financial data on 3,824 randomly selected households nationwide.⁶ Any consumer that had consolidated savings and transactions balances in a NOW would have shown up in the survey as having a NOW and no "savings account." Savings account is here defined to be either a regular savings account, a money market deposit account (MMDA), or a money market fund account (MMF).

While it is not necessarily true that all consumers without savings accounts are using their checking accounts for savings purposes, the percentage of survey respondents with NOWs but without savings accounts can be used as an initial estimate of the percentage of consumers that are using NOWs for savings purposes. To make this estimate, the survey results were classified into three groups on the basis of whether a household's main checking account was (1) a regular checking account, (2) a NOW, or (3) no checking account, and then each category was divided into households with and without savings accounts. The number of households in each group is reported in Table I. Seventy-nine percent of the households with NOWs also had savings accounts. Furthermore, the 21 percent of NOW holders without separate savings accounts was only 2.4 percent of the sample.⁷ Therefore, even if one assumes that all NOW holders without savings accounts use their NOWs for savings purposes, the effect on aggregate M1 growth would be small.

⁶ Further detail on the survey is found in the Appendix.

⁷ To check if the results were biased because the survey was stated in terms of households rather than individuals, subsamples of single person households and one-or-two-person households were examined. The percentages in the subsamples were very similar to those for the whole sample, leading to the conclusion that there was no bias. For example, the number of NOW holders without savings accounts was 2.8 percent in the single person household subsample and 3.0 percent in the one-or-two-person household subsample.

Table I

ACCOUNT COMBINATIONS HELD BY HOUSEHOLDS

Main Checking Account	Households with a Savings Account ¹	Households without a Savings Account
No Checking Account		
Number	322	485
Percent of category	39.8	60.1
Percent of total ²	8.6	12.9
Regular Checking		
Number	1796	712
Percent of category	71.6	28.4
Percent of total	47.9	19.0
NOW		
Number	343	91
Percent of category	79.0	21.0
Percent of total	9.1	2.4

¹Savings accounts include regular savings accounts, MMDAs, and MMFS.

²Total equals 3749. The table omits 75 households from the full sample: 44 that did not answer relevant questions and 31 whose main checking account was a type not included in M1.

source: Board of Governors, "Survey of Consumer Finances, 1983."

Two other survey results cast doubt on the validity of the assumption that all NOW holders who do not have savings accounts use their NOWs for savings purposes. First, as shown in Table I, a substantial percentage of regular checking account holders held no funds in savings accounts. This indicates that many respondents either did not save at all or held all of their savings in financial assets not included in this study's definition of savings account. Second, one would expect consumers who had consolidated savings and transactions balances in NOWs to have significantly higher average balances than consumers who were using NOWs purely for transactions purposes. The survey, however, provided only weak evidence of such an effect. As Table II shows, the sample median of the balances in NOWs was only \$350 higher for households with no savings accounts than households with some type of savings account.⁸ This difference is fairly small, and indicates that only a small proportion of the households with NOWs but without savings accounts are using their NOWs for

⁸The survey estimates of account sizes appear to be biased downward, probably by the tendency of respondents to under-report dollar amounts. More reliable estimates of account sizes are presented below.

Table II

MEDIAN BALANCE IN MAIN CHECKING ACCOUNT BY TYPE OF ACCOUNT

Main Checking Account	Households with a Savings Account ¹	Households without a Savings Account
Regular checking	\$ 500	\$ 300
NOW	\$ 900	\$1250

¹Savings accounts include regular savings accounts, MMDAs, and MMFS.

source: Board of Governors, "Survey of Consumer Finances, 1983."

savings purposes. In sum, since only 2.4 percent of the households in the survey fell into the category of NOW holders without savings accounts and since only some of those households appear to be using their NOWs for savings purposes, it seems highly unlikely that a significant percentage of households are using NOWs for savings purposes.

EVIDENCE ON CHARACTERISTICS OF NOW ACCOUNTS

A second way to evaluate whether consumers are using NOWs as savings accounts is to compare the characteristics of NOWs with those of alternative transactions and savings accounts. Three characteristics for which data are available to make this comparison are average account size, transactions activity, and seasonal behavior.

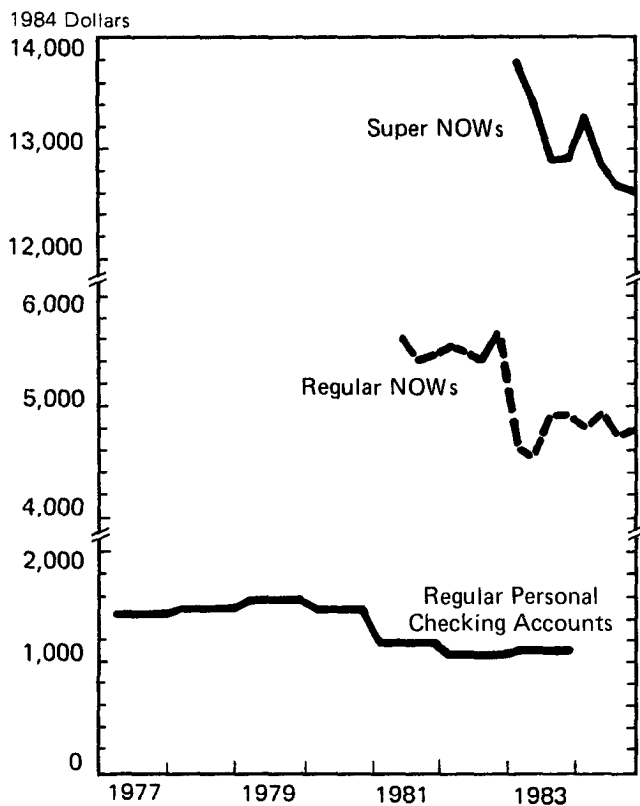
Average Account Size

Chart 1 shows the size of the average balances held in Super NOW accounts, regular NOW accounts, and regular consumer checking accounts.⁹(Since average balance data are available for both Super NOWs and regular NOWs, this section discusses these accounts separately.) The average balance in Super NOWs is much higher than the average balance in regular NOWs, which is higher than the average balance in personal demand deposits (DDs). These differences might be used to argue that interest-checking accounts include a substantial amount of savings balances. There are a number of

⁹Since the distribution of account balances is skewed to the right, the median is more representative of the typical balance than is the mean. Unfortunately, reliable estimates of median balances are not available.

Chart 1

AVERAGE BALANCES IN INTEREST-CHECKING ACCOUNTS AND REGULAR CHECKING ACCOUNTS

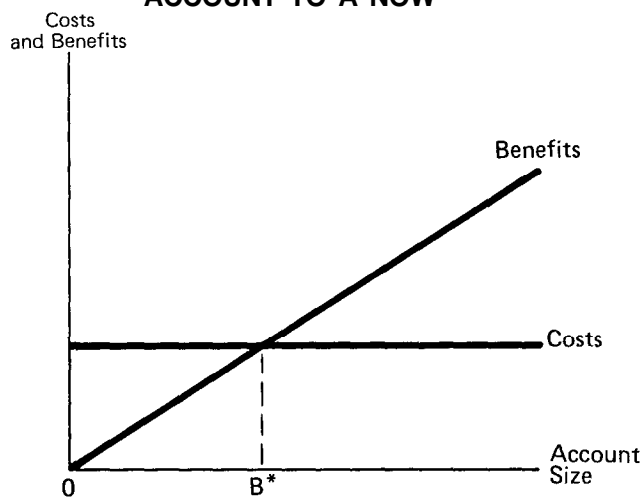


Sources. Board of Governors, Banking Section; and Functional Cost Analysis.

reasons, however, why interest-bearing checking accounts would be expected to have higher average balances *even if* they were solely composed of transactions balances. The most important reason is that, due to the high minimum balance requirements on interest-checking accounts, only persons with large average balances find it worthwhile to use them. The cost of switching to a NOW from a regular checking account is the interest foregone on savings-type deposits used to satisfy the higher minimum balance requirement, while the benefit is the higher yield earned on transactions balances. Since the cost of switching is unrelated to account size and the benefit increases with account size, only persons with high average transactions balances have the incentive to switch from a regular checking account to a NOW. This result is summarized in Figure 1. Only persons with regular checking account balances greater than B^* profit by switching to NOWs. For this reason,

Figure 1

THE DECISION TO SWITCH FROM A REGULAR CHECKING ACCOUNT TO A NOW



one would expect the average balance to be higher in NOWs than DDs. Similarly, since Super NOWs have higher minimum balance requirements than regular NOWs (see Box), only holders of very large balances profit by switching to Super NOWs.¹⁰

The behavior of average account sizes following the introduction of NOW and Super NOW accounts illustrates the importance of segregation by account size as a determinant of average account size. The average balance in personal demand deposits fell by 21 percent in real terms (from \$1,489 to \$1,182 in 1984 dollars) following the introduction of nationwide NOWs, indicating that much of the higher average balance in regular NOWs was caused by persons with large transactions balances switching from DDs to NOWs. Similarly, the average balance in regular NOWs fell by 18 percent in real terms (from \$5,701 to \$4,662 in 1984 dollars) following the introduction of Super NOWs in January 1983, indicating that much of the higher average balance in Super NOWs is a result of regular NOW holders with large balances switching to Super NOWs.

In addition to causing this segregation by account size, the characteristics of interest-bearing checking accounts cause the *same* individual to hold a higher average balance in an interest-checking account than he would in a regular checking account. First, the higher minimum balance requirement on a NOW forces the individual to maintain a higher average

¹⁰ For a more elaborate treatment of this effect, see Corcoran and Wachtenheim (1984).

balance in order to have the same amount of funds available for transactions. Second, because NOWs pay explicit interest, the marginal opportunity cost of holding NOW deposits is much lower than that of holding demand deposits. Hence, in general one would expect an individual to hold more transactions balances (above the minimum requirement) in a NOW than in a demand deposit. Similarly, he would hold an even higher balance in a Super NOW than he would in a regular NOW, since Super NOWs have higher required minimums and pay higher rates than regular NOWs.

While these factors explain why interest-bearing checking accounts would be expected to have a higher average account size than consumer demand deposits, they do not rule out the possibility that some of the higher average balance in interest-checking accounts results from some consumers using them as savings accounts. If consumers are holding savings in interest-checking accounts, however, the average interest-checking balance should be increasing faster over time than the average personal demand deposit balance. The reason is that, as discussed above, aggregate balances in savings vehicles have grown more rapidly than aggregate balances in transactions accounts. This difference in the behavior of aggregate balances probably reflects the tendency for individual savings balances to grow at a faster rate than individual transactions balances.¹¹ Therefore, if consumers are using NOWs partially as savings accounts, one would expect to see the average balance in NOWs increasing faster than the average balance in personal transactions accounts.

As shown in Chart 1, the average balance in personal demand deposits has been fairly stable except for the sharp drop following the authorization of regular NOWs nationwide in 1981, as persons with large checking account balances switched to regular NOW accounts. Similarly, the average balance in regular NOWs, although more variable, has been stable except for the sharp fall after the introduction of Super NOWs, as regular NOW holders with large balances switched to Super NOWs. Finally, the average balance in Super NOWs has been declining

¹¹ Since the growth in aggregate transactions and savings balances reflects the behavior of both consumers and businesses, it is possible that the slower growth of aggregate transactions balances is solely a result of the behavior of businesses. In this case, the aggregate data would mask the fact that transactions and savings balances of consumers grow at roughly the same rate. If this were true, however, the use of NOWs as savings accounts by consumers would not alter the long-run relationship between the growth rates of M1 and GNP.

slightly since the first quarter of 1983.¹² In general, except during periods of regulatory change, the average balances in regular NOWs and Super NOWs have been stable or decreasing and the average balance in personal demand deposits has been very stable. This similarity in the movement in the average balances in interest-checking accounts and personal demand deposits suggests that interest-checking accounts are not being used extensively for savings purposes.

Transactions Activity

Turnover rate. A standard measure of the extent to which an account is being used for transactions purposes is the turnover rate of the account. The turnover rate is the dollar value of transactions made using an account in a year divided by the average dollar balance in the account. It can be thought of as the number of times per year an individual dollar flows through the account—the higher the turnover rate, the greater the transactions usage of the account. For this reason, this measure is an important determinant of the monetary aggregate in which an asset is included.

Table III compares the turnover rates of several types of accounts. All the figures are actual values

¹² The sharp fall in the average Super NOW balance after the first quarter of 1984 seems to indicate that some consumers initially consolidated savings and transactions balances in Super NOWs but then transferred their savings balances into MMDAs or MMFs. This could have been caused by unusually high introductory rates on Super NOWs.

Table III

TURNOVER RATES

Type of Account	Number of times per year ¹
Consumer demand deposits	18-30
NOW accounts	15.8
Money market deposit accounts	3.5
Money market mutual funds	2.6 ²
Regular savings accounts	5.1

¹ Annual averages of monthly data for 1984, except the turnover rate of consumer demand deposits, which is an indirect estimate for the early 1970s from Pugash (1974).

² Excluding institutions-only funds; from Donoghue's Money Fund Report of Holliston, MA 01746.

Source: Federal Reserve statistical release G.6, February 12, 1985, except as noted.

for 1984 except the turnover rate of consumer demand deposits, which is an indirect estimate for the early 1970s from Pugash (1974).¹³ (Data are not available to directly calculate the turnover rate of consumer DDs). The turnover rate of NOWs (including Super NOWs) is several times greater than the turnover rate of savings-type accounts, which implies that NOWs are used much more intensively for transactions purposes. The turnover rate of NOWs is somewhat lower, however, than the estimated turnover rate of consumer demand deposits.

The lower turnover rate of NOWs than DDs is not necessarily inconsistent with the view that NOWs are primarily being used for transactions purposes since an individual with a given amount of transactions would have a higher average balance if he were using a NOW than if he were using a regular checking account. The two reasons for this were discussed above. First, he would have to have a higher average balance in order to satisfy the minimum balance requirement. Second, he would not manage his transactions balances as closely in a NOW as in a DD because the NOW pays explicit interest. Since the turnover rate is calculated as the dollar value of transactions divided by average account size, the individual's higher average balance in a NOW than in a DD (for the same amount of transactions) would cause his turnover rate to be lower. Therefore, the aggregate turnover rate of NOWs would be somewhat lower than the aggregate turnover rate of DDs even if NOWs were being used solely for transactions purposes.

It is difficult to estimate just how much the higher minimum balance and lower opportunity cost of NOWs would raise an individual's average balance relative to what it would be in a DD for the same volume of transactions. However, to illustrate the potential magnitude of these effects, assume that an individual's average balance is 20 percent higher in a NOW.¹⁴ The turnover rate of NOWs adjusted for

¹³ It is difficult to assess whether the turnover rate of consumer DDs has risen or fallen since this estimate was made. Technological innovations have reduced the cost of managing transactions balances. At the same time, however, real wages have risen, thereby increasing the opportunity cost of time spent managing balances. These two factors would have opposite effects on the turnover rate.

¹⁴ This 20 percent figure is plausible based on 1984 average data. Average balances in regular NOWs and Super NOWs were \$4,826 and \$12,844, respectively. Assuming that the minimum balance requirements were \$500 and \$2,500, respectively, then minimum balances alone caused a 11.6 percent higher average regular NOW account balance and a 24.2 percent higher Super NOW balance. Additionally, the marginal opportunity cost of

20 percent higher average balances is 15.8×1.2 or 19.0, which is within the estimated range of the turnover rate of consumer demand deposits. All in all, the evidence on turnover rates is consistent with the view that NOWs are being used primarily for transactions purposes.

Number of withdrawals and deposits. Two other simple but direct measures of transactions activity are the average number of withdrawals from and deposits to an account. Although these measures cannot be used to determine if consumers have consolidated their savings and checking balances in NOWs, they can be used to determine if any NOW accounts are being used purely for savings purposes. Estimates of the average number of debits and deposits per account per month for personal checking accounts (DDs), NOWs, and regular savings accounts are shown in Table IV. These estimates indi-

holding transactions balances was 2.35 percentage points for Super NOWs, 4.51 percentage points for regular NOWs, and 9.76 percentage points for regular checking accounts, using the three-month Treasury bill as the alternative asset. Based on an interest elasticity of the demand for transactions balances of 10 percent, a representative individual would have held a 5.4 percent higher balance in a regular NOW and a 7.6 percent higher balance in a Super NOW than he would have held in a regular checking account. Combined, these two effects would have caused a 17.0 percent higher balance in a regular NOW and a 31.8 percent higher balance in a Super NOW than in a demand deposit for the same volume of transactions. Based on the relative amounts of regular NOW deposits and Super NOW deposits, total NOW deposits would have been 21.6 percent higher due to these factors.

Table IV

AVERAGE NUMBER OF DEBITS AND DEPOSITS PER ACCOUNT PER MONTH

	DEBITS		
	Personal DD	NOW	Regular Savings
1981	16.68	14.63	0.36
1982	14.96	16.93	0.37
1983	17.19	15.66	0.42
	DEPOSITS		
	Personal DD	NOW	Regular Savings
1981	2.99	2.99	0.44
1982	2.62	3.46	0.47
1983	3.03	3.25	0.53

Source: Functional Cost Analysis, 1981-1983.

cate that the average NOW is just as active as the average regular checking account and much more active than the average regular savings account.¹⁵ They imply that there is not a significant number of NOWs being used purely as savings accounts.

Seasonal Behavior

It is evident from a comparison of the behavior of balances in regular checking accounts and passbook savings accounts that transaction balances and savings balances have very different seasonal patterns. This difference is illustrated in Chart 2, which shows the 1984 seasonal factors for demand deposits and passbook savings deposits.^{16,17} Demand deposits increase strongly at times of seasonal transactions needs such as the April tax date and the period before Christmas. Savings deposits have a much weaker seasonal movement, although they tend to decline at the end of the year as people take funds out of their accounts to finance Christmas expenditures.

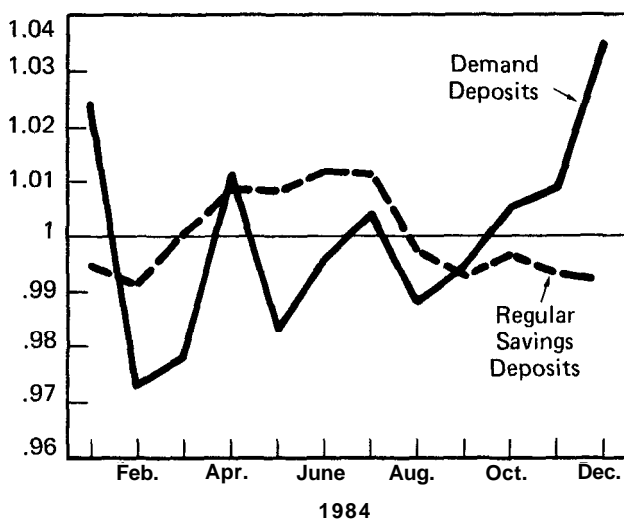
¹⁵ The similarity in activity in NOWs and DDs is supported by the fact that banks' noninterest expense per account is nearly as high for NOWs as it is for personal DDs. See Taylor (1984).

¹⁶ Despite financial innovation, the seasonal factors for passbook savings deposits have been stable for the last ten years.

¹⁷ The Board of Governors has not constructed explicit seasonal factors for NOWs due to the data problems mentioned below.

Chart 2

SEASONAL FACTORS FOR DEMAND DEPOSITS AND REGULAR SAVINGS DEPOSITS



Source: Federal Reserve Statistical Release, H.6.

If NOW deposits are transactions balances, then their seasonal behavior should be similar to the seasonal behavior of consumer demand deposits. Unfortunately, there are two data problems in making this comparison. First, there is a shortage of data with which to evaluate the seasonal behavior of NOW balances. The seasonal pattern of NOW deposits was distorted by the introduction of nationwide NOWs in January 1981 and by the introduction of Super NOWs in January 1983. In addition, from 1981 through 1983 very strong growth in NOW deposits obscured the seasonal pattern. In 1984, however, there were no regulatory changes affecting the intra-yearly pattern of NOW deposit growth and the annual growth rate was only 11 percent. Hence, in 1984 it is possible to get a pretty good reading of the seasonal behavior of NOW deposits.

The second data problem is that while NOWs are held solely by consumers, demand deposits are held both by businesses and consumers. Unfortunately, there are no aggregate data available on consumer demand deposits to compare to the NOW deposit data. Until the end of 1978, however, the Federal Reserve collected monthly data on gross demand deposits at weekly reporting banks by type of holder. We know from these data that the seasonal patterns of consumer and business transactions deposits are somewhat different.¹⁸ In particular, the buildup in demand deposits in the months before Christmas is greater for businesses than for consumers.

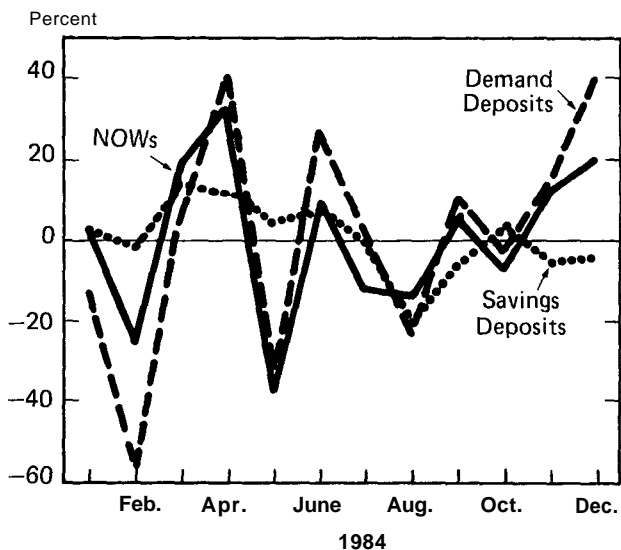
With these two problems in mind, Chart 3 compares the unadjusted monthly growth rates of NOW deposits in 1984 to the unadjusted growth rates of demand deposits and passbook savings deposits. The strong similarity between the seasonal patterns of demand deposits and NOW deposits-and the dissimilarity between the seasonal patterns of NOW deposits and savings deposits-provides additional evidence that NOW deposits are very heavily composed of transactions balances.

One noticeable difference in the seasonal behavior of NOW deposits and demand deposits occurs around Christmas, when the seasonal movement in NOW balances is smaller than that of DDs. This difference might be taken as evidence that NOW deposits have a significant savings component. It might, however, simply reflect the different mix of deposit holders for regular checking accounts versus NOWs. As noted above, the buildup in demand deposits in the months prior to Christmas-and the subsequent decline in the months after Christmas-is considerably greater for

¹⁸ See Summers (1979).

Chart 3

**UNADJUSTED GROWTH RATES
OF NOWs, DEMAND DEPOSITS,
AND SAVINGS ACCOUNTS**



Note: Annualized growth rates of not seasonally adjusted data less the trend rates of growth from December 1983 to December 1984. NOW data includes demand deposits at thrifts (see Appendix).

Source: Federal Reserve Statistical Release, H.6

business demand deposits than for consumer demand deposits. Therefore, since only consumers hold NOWs, one would expect a smaller amplitude in the seasonal movement around Christmas of NOW deposits relative to that of total demand deposits.

Finally, even if NOWs are purely transactions accounts, there are reasons why the seasonal behavior of NOW deposits might be somewhat different from that of consumer demand deposits. First, NOW account holders are more likely to have money market deposit accounts (MMDAs) or money market fund accounts (MMFs), which have some transactions capabilities. In the 1983 Survey of Consumer Finances, discussed earlier, 24.6 percent of the respondents in the survey who had NOWs also had an MMDA or a MMF while only 14.5 percent of those

with DDs had one of these accounts. In the aggregate, more NOW holders might use these alternative accounts for seasonal transactions needs, rather than building up balances in their NOWs.¹⁹ Second, NOWs have higher minimum balances than consumer demand deposits. Both of these factors could lessen the percentage movement in NOW deposits around Christmas relative to that of consumer demand deposits.²⁰

SUMMARY

This paper has examined two types of direct evidence on how consumers are using NOW accounts. First, the survey responses by consumers on their holdings of different types of accounts indicate that few households have consolidated savings and transactions accounts into NOWs. Second, the characteristics of NOWs resemble those of regular checking accounts and are very different from those of savings accounts. Overall, the evidence provides little indication that a significant number of consumers are using NOWs as savings accounts.

In conclusion, it appears that the introduction of NOWs has not, in practice, weakened the distinction between transactions accounts and savings accounts. Consequently, there is little reason to believe that the introduction of interest-bearing checking accounts has significantly altered the long-run relationship between M1 and economic activity or that M1 has deteriorated as a measure of the public's transactions balances.

¹⁹ A further implication of the relatively greater share of NOW account holders with MMDAs or MMFs is that total NOW balances might be more sensitive to changes in market rates than total DD balances.

²⁰ These two points raise the question of why the seasonal movement of NOW deposits around the April tax date in 1984 was roughly equal to that of demand deposits. This probably reflects the different mix of deposit holders for NOWs versus regular demand deposits. The seasonal movement in transactions deposits in April is largely due to the payment of nonwithheld federal income taxes by individuals. Since only consumers hold NOWs, whereas both consumers and businesses hold regular demand deposits, one would expect greater strength in NOWs versus demand deposits in April compared to other times during the year when there is a seasonal demand for transactions deposits.

APPENDIX

DATA SOURCES

Functional Cost Analysis The Functional Cost Analysis (FCA) program is an annual survey by the Federal Reserve of banks' expenses and revenues. The analysis is primarily intended as a management tool for banks since it allocates costs and income among the various functions of the bank and allows the bank to compare its data to other banks. Participation is voluntary but substantial-608 banks in 1983. Average figures for all banks for each year are made available to the public by the Fed.

The FCA data reported in the text (average size of personal DDs; activity in NOWs, personal DDs, and regular savings accounts) are averages for all accounts of a given type in the survey. The personal checking account category included both NOWs and DDs, but figures for personal DDs could be isolated based on the method in Taylor (1984). The key assumption of this method is that the NOWs in the personal checking category have the same characteristics as the NOWs in the NOW category.

Survey of Consumer Finances, 1983 Between February and July 1983, 3,824 randomly selected families were interviewed by the Survey Research Center of the University of Michigan. The survey, sponsored by the Board of Governors of the Federal Reserve System and six other agencies, collected data on families' balance sheets. Information on the use of NOWs is found in the section of the survey on holdings of various types of assets. Detailed information on the survey construction and on obtaining copies of the results is found in Appendix A of "Survey of Consumer Finances, 1983" (1984).

NOW and Super NOW Account Size Four times a year the Federal Reserve System surveys a random sample of commercial banks stratified by size on the number and dollar volume of NOWs, Super NOWs, and MMDAs. The sample for NOW ac-

counts excludes banks in New England, while the sample for Super NOWs and MMDAs is nationwide. The sample figures are used to calculate estimates of the number and dollar volume of these accounts at all commercial banks. The average account size is calculated as the aggregate dollar volume divided by the number of accounts. The estimates are available upon request from the Banking Section of the Board of Governors. In order to abstract from the effects of inflation, the estimates of average account size in the text are divided by the personal consumption expenditures deflator after first rebasing it so that 1984 equals 100.

Rates Paid As of the last Wednesday of each month, the Federal Reserve collects data from a nationwide random sample of about 550 banks stratified by size on rates paid on Super NOWs and MMDAs. Based on this survey, the Board estimates average rates on these accounts at all commercial banks. These estimates are published as part of a special supplementary table to the H.6 statistical release.

Turnover Rates The turnover rate is the ratio of debits to deposits for an account type. The data are reported in the *Federal Reserve Bulletin* and in the Board's G.6 release and, for MMFs, in Donoghue's *Money Fund Report* of Holliston, MA 01746.

Aggregate Deposits in NOWs As part of the H.6 statistical release, the Federal Reserve reports total Other Checkable Deposits (OCDs), which consists of deposits in NOWs (including Super NOWs) and demand deposits at thrifts. Since demand deposits at thrifts are less than 5 percent of total OCDs, the aggregate data for OCDs were used in the text as estimates of aggregate deposits in NOWs in order to examine the seasonal behavior of NOW deposits.

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