# The Cost of Checkable Deposits in the United States

### Kenneth C. Carraro and Daniel L. Thornton

INANCIAL innovations and deregulation of the 1980s have changed significantly the types and composition of checkable deposit accounts offered by depository institutions. Both banks and thrift institutions now offer checking accounts that generate explicit interest returns as well as the more traditional ones that do not pay interest. These accounts, however, impose some implicit and explicit costs on their holders. This article reviews the costs and benefits associated with holding various forms of money, specifically the costs of holding various types of checking accounts. The results of recent surveys are used to illustrate the differing costs of these accounts.

### THE COSTS AND BENEFITS OF HOLDING MONEY

A primary function of money is to serve as a "medium of exchange," that is, to facilitate the exchange of goods or services.¹ Most individuals receive their income, purchase the goods and services they desire and dispatch their debts with money.² Indeed, eco-

nomic life would be significantly more complicated if money did not exist. Individuals would receive their income in the form of a bundle of goods and services that likely would differ from the one they would like to consume. They would be forced to use time and energy exchanging unwanted goods and services. Because the use of money facilitates such exchanges, thereby reducing the cost of exchange, it can be thought of as providing benefits to its holder. These are the so-called "non-pecuniary" benefits of holding money. In addition, if money is held in a form, like NOW accounts, on which interest is paid there may be some pecuniary benefits.

Since there are costs associated with holding money, an individual must balance the benefits of holding money against these costs.<sup>5</sup> This problem is complicated because there are several types of money — cash (coin and currency), traveler's checks and checkable deposits — that have differing advantages for different types of transactions. For example, traveler's checks generally are more useful than checking

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<sup>&</sup>lt;sup>1</sup>We are silent on the exact nature of these services and their origin. For a discussion of these and other issues, see Brunner and Meltzer (1971), Alchian (1977) and White (1984).

<sup>&</sup>lt;sup>2</sup>Of course, exchanges can be made "in kind" (barter). In fact, it is often argued that high marginal tax rates provide an incentive to avoid taxes by engaging directly in barter. Indeed, there has been an increasing awareness of this as, until recently, inflation had pushed a larger percentage of the population into higher marginal tax brackets. (1985 marked the first year that tax brackets were indexed for inflation.) Moreover, because currency transactions are less easily traced than transactions carried out by check, currency has a decided advantage over checks for those who wish to avoid taxes.

<sup>&</sup>lt;sup>3</sup>Historically, the precise nature of these costs has been the subject of much discussion; see Brunner and Meltzer (1971), and Alchian (1977).

This is a convenient and, for our purposes, useful characterization. Also, this idea forms the basis for some empirical definitions of money, e.g., Barnett's (1980) Divisia monetary aggregates. It is not, however, the only, nor perhaps even the preferred, basis for the existence of money. A significant number of economists argue that there are no direct benefits to holding money. Instead, they argue that the benefits of holding money are indirect; money essentially enables an individual to obtain a higher (more preferred) stream of consumption than could be obtained without its use. See Brunner and Meltzer (1971) and their cited references.

<sup>&</sup>lt;sup>5</sup>Specifically, individuals will add to their money balances until the marginal cost of holding the next dollar exceeds the marginal benefit of holding it.

accounts when traveling out-of-state or abroad.6

Different forms of money also have different costs associated with holding them. Furthermore, the financial innovations and deregulation in the 1980s have resulted in different types of checking accounts with different costs. Individuals must trade off these costs and benefits in deciding how much and what types of money to hold.

### Implicit Costs of Holding Money

The costs associated with holding money can be divided into two broad categories: implicit and explicit. The implicit costs, called *opportunity costs*, primarily are the income lost by holding money rather than assets that pay a higher interest rate. To illustrate, assume that you hold an average daily balance of \$500 per month in cash or non-interest-bearing demand deposits and that your next-best alternative is to deposit these funds into a savings account paying 5.5 percent per year. On average, the annual opportunity cost of holding \$500 in demand deposits or cash is \$27.50 (\$500 × .055).

The opportunity cost varies with the size of the average daily balance held and the interest return on available alternatives. For example, if the same \$500 had been held in a NOW account paying 5.25 percent, the opportunity cost would be only \$1.25 (\$500  $\times$  [.0550 – .0525]) per year. Had the alternative, instead, been a money market asset paying an interest rate of 8 percent, the opportunity cost would be higher: \$40 (\$500  $\times$  .08) for demand deposits and cash and \$13.75 (\$500  $\times$  [.08 – .0525]) for NOW accounts. Thus, individuals have an incentive to economize on their money holdings when the interest return on one form of money is less than the rate paid on their next-best,

<sup>6</sup>Likewise, cash is generally more advantageous for small, everyday transactions, while checks are more useful for paying large bills, especially those involving out-of-city or out-of-state transactions. It is interesting to note that a significant portion of the population holds no checking accounts, but relies on money orders and the like to handle transactions for which cash is inconvenient. See Canner and Kurtz (1985).

non-money alternative and to choose the particular form of money that minimizes the cost, given their desire to make various transactions.

Depository institutions frequently specify that customers be charged an additional fee if their checking account balance falls below some specified level. These minimum balance requirements are most often imposed on checking accounts that pay explicit interest.10 All other things the same, the daily average balance held in an account increases by the difference between the minimum balance requirement and the minimum balance that would have been held if no requirement were imposed; the opportunity costs increase similarly. For example, suppose that an individual holds a daily average balance of \$500 but, because of the timing of his deposits and expenditures, the account balance never goes below \$50. If the depositing institution imposes a minimum balance requirement of \$200 and nothing else changes, the daily average balance would increase by \$150 from \$500 to \$650." Thus, minimum balance requirements increase the opportunity cost of holding these accounts to the extent that the required minimum balance exceeds what would have been held otherwise. Continuing with the previous example, the imposition of a \$200 minimum balance requirement on the demand deposit account increases the opportunity costs (if the alternative is a 5.5 percent savings account) from

<sup>&</sup>lt;sup>7</sup>Costs will be associated with the lost use of funds if depository institutions require holding periods on checks drawn on out-of-city or out-of-state depository institutions.

<sup>8</sup>This rate was the legal maximum for commercial banks from January 1984 to January 1986.

<sup>&</sup>lt;sup>9</sup>Consequently, if rates on these alternatives vary directly with money market interest rates, while the rates paid on checking accounts do not, the amount held in these forms can be expected to vary inversely with market interest rates.

<sup>&</sup>lt;sup>10</sup>These requirements are imposed to cover the costs of servicing these accounts. Because funds may be drawn from these accounts at any time, depository institutions must maintain liquid assets to meet these deposit withdrawals. In general, their liquid assets earn a lower interest return than other portions of their asset portfolio such as loans. Consequently, depository institutions also face an interest opportunity cost for holding such liquid assets. Moreover, on a per dollar of deposit basis, explicit costs such as accounting, clerical services and wire transfers tend to be higher for accounts with more activity than for nontransaction accounts. In addition, there are explicit interest payments on interest-paying checking accounts.

The average daily level of these deposits constitutes a pool of funds that a depository institution can lend. The interest income from these loans is a major source of income for these institutions. Because minimum balance requirements increase the average daily funds available to a depository institution, they increase the institution's net revenue, all other things the same.

In addition, because these minimum balances are perpetually on deposit, there are no transactions and, hence, none of the usual clerical, wire transfer and related costs associated with them.

<sup>&</sup>quot;In particular, this assumes that the individual does not alter his income and expenditure pattern. If the "cost" of doing so is less than the cost of holding larger average balances, however, the individual will respond by economizing on such deposits. As a result, the average balance will increase by less than the difference between the required and pre-required minimum balance.

\$27.50 to \$35.75.12

Depository institutions, however, usually reduce or waive their fees to depositors who meet minimum balance requirements. By holding a sufficiently large balance to avoid monthly fees, the cost of these accounts may be lower than other accounts not offering such fee-reducing balance levels.<sup>13</sup>

The opportunity costs associated with holding these deposits also varies with the method used to calculate the interest paid on deposits. The most commonly used methods are: daily compounded interest, simple interest paid on monthly (or statement period) average balances and interest paid on monthly (or statement period) *minimum* balances.

Finally, it should be noted that there is an implicit cost to holding money balances during periods of inflation. (During deflation there is a benefit.) Because some forms of money bear interest, while others do not, the attractiveness of various forms of money changes with the expected rate of inflation. Given the existing cost structures for these accounts, this is true even if, as was the case for NOW accounts prior to January 1986, there is a legal maximum interest rate on these deposits that does not increase with inflation.

### Explicit Costs of Checkable Deposits

In addition to the implicit costs of holding checkable deposits, there are explicit costs if money is held in specific types of checkable deposits. These costs fall into three categories: flat service fees (usually

12It should be noted, however, that checkable deposits have a reserve requirement (currently 12 percent of the account balance) that must be held in a non-interest-bearing form. Because this "reserve tax" is higher for checkable deposits than for savings deposits, depository institutions have an incentive not to impose too high a minimum balance requirement. If funds are simply switched from savings accounts with lower or no reserve tax to checkable deposits, the total net revenue for the institution could decline. Competition among institutions is another constraint on raising minimum balance requirements. It is possible that an increased balance requirement at one institution would cause its total deposits to decline, as its customers shift deposits to other institutions.

<sup>13</sup>The interest rate on alternative assets would have to be high for it not to pay to meet the minimum balance requirement necessary to waive all fees. For example, using numbers from the survey data reported below, assume annual service fees of \$74.76 on a NOW account bearing 5.25 percent. Assume that an individual normally holds a minimum balance of \$100, but that the institution requires a minimum balance of \$1,047 to waive all service fees. The interest rate that the individual would have to earn on alternative assets to make it worthwhile not to hold the minimum balance would have to be greater than 13.14 percent.

<sup>14</sup>Because checkable deposits may have costs that do not exist for cash, the costs of holding cash may be lower than the costs of interest-paying demand deposits. While this is true, it should be remembered that such deposits may offer more services and greater security than cash. monthly), per-check service fees and check-printing fees. Flat service fees are charged directly on each account and are independent of the number of checks written. Per-check fees are based solely on the number of checks written. Of course, depository institutions may impose a combination of such fees. Indeed, there is a wide variety of such plans, often offered by the same depository institution. For example, the flat fee per account may vary with the monthly average (or minimum) balance in the account; the flat fee is usually lower, the larger the checking account balance held. Likewise, depository institutions may vary the per-check fee with the average (or minimum) balance held. Finally, some institutions provide checks free of charge to depositors; others charge for them.

Given both the range of accounts available and the variation in the charges on these accounts, it can be quite difficult for an individual to choose the account with the lowest net cost. Unfortunately, this article cannot provide specific advice on such choices; the next section, however, presents recent U.S. survey information to illustrate these costs for representative depositors.

### THE COSTS OF HOLDING CHECKABLE DEPOSITS: AN ILLUSTRATION

This section illustrates the costs of holding four forms of checkable accounts. Since costs vary according to numerous characteristics, including the average balance, three representative depositors having low, medium and high monthly average balances are used.

A balance of \$500 is used as the baseline balance for the "middle" individual; two other representative individuals are assumed to have balances of \$300 and \$1,000, respectively.<sup>15</sup> The *minimum* balances held by

<sup>&</sup>lt;sup>15</sup>The 1983 Survey of Consumer Finances (Avery and Elliehausen, forthcoming) found that the median balance in the primary checking account for families was \$500, the median balance for families with incomes in the lowest 10 percent of those sampled was \$300, while the median balance for families with incomes in the highest 10 percent was \$1,000. The median account balance data from the Survey of Consumer Finances differs sharply from average balance data compiled by the ABA on a national basis. The ABA average account balance for tiered checking accounts in 1984 ranged from \$1,000 to \$1,700 depending on bank size. The average NOW account balance ranged from \$4,500 to \$6,600 for the ABA survey. The reason for the difference between the ABA data and the Survey of Consumer Finances is the use of average vs. median account balances. Data using averages have the disadvantage of being skewed by extremely large or small accounts. The use of median data avoids this problem by selecting the middle data point in a series so that half the values are less than the median while the other half exceed the median.

these three individuals are assumed to be one-fourth of their average monthly balances. These balance characteristics plus data on the number of checks written per account are presented in table 1.16

The characteristics of the four checkable accounts are shown in table 2. These characteristics are derived from survey data collected by Sheshunoff and Company, Inc. (see the appendix for a description of the data). The first three accounts — no-frills, basic, and tiered demand deposits — pay no explicit interest, while the fourth, a NOW account, is assumed to pay 5.25 percent interest.

No-frills checking accounts are designed to provide low-cost checking to depositors whose monthly balances are low and who write relatively few checks. Basic demand deposit accounts have a flat monthly fee that is waived when the account balance exceeds some average or minimum level. Tiered demand deposit accounts have monthly fees that are calculated on the account's average or minimum balance. Typically, the higher the balance, the lower the monthly fee — up to a point at which, with sufficiently high balances, all fees are waived.

NOW accounts are checkable accounts that pay explicit interest. Until January 1, 1986, banks were legally restricted to paying a maximum interest rate of 5.25 percent on NOW accounts whose minimum monthly balance fell below \$1,000." As of January 1, 1986, all interest rate restrictions were removed from NOW accounts. Many NOW accounts, like tiered demand deposits, have fees that are levied according to the account's balance.

Table 2 presents data on a number of fee items. The monthly maintenance fee is the average of the maximum fee that the surveyed banks charged on these accounts. These fees are charged regardless of the minimum balance maintained for the no-frills accounts. For basic demand deposits, these fees were waived if the minimum balance in the account was at least \$452. For both tiered demand deposits and NOW accounts, the maximum monthly fee was reduced from the amounts shown by holding balances in ex-

Table 1
Comparison of Checking Accounts by Representative Individuals

Individual A	Individual B	Individual C
Average monthly balance \$300	\$500	\$1,000
Minimum monthly balance \$ 75	\$125	\$ 250
Checks per month 10	16	24

cess of \$236 and \$943, respectively, and waived for minimum balances of \$491 and \$1,047, respectively.

#### Cost Calculation

The costs for three representative individuals are calculated from the data shown in table 2. Details of these calculations are presented in the insert on the opposite page. The calculations assume that all banks impose these charges where relevant.

A number of qualifications are appropriate at this point. For example, while all banks are assumed to impose these fees, survey data indicate that 6.3 percent of all responding banks offered the basic demand deposit account without fees or minimum balance requirements. Furthermore, as noted, the maximum monthly fees may be reduced for some accounts by holding balances that are smaller than those that are indicated to waive all fees. Also, there is evidence from the American Bankers Association (ABA) survey and the 1983 Survey of Currency and Transactions Account Usage (see Avery and others, 1986) that many individuals hold deposit balances far in excess of those required to waive all fees. Indeed, 59 percent of the families responding to the 1983 Survey of Currency and Transactions Account Usage indicated that they usually do not pay a fee on the household's main checking account.18 Consequently, these calculations

<sup>&</sup>lt;sup>16</sup>These data are drawn from Avery and others (1986). This work, which is based on the Survey of Currency and Transaction Account Usage conducted in 1984, focuses on the household sector of the economy. The survey obtained 1,946 completed telephone interviews from a randomly selected sample of 2,500 families in the United States.

<sup>&</sup>lt;sup>17</sup>For a discussion of the issues surrounding Regulation Q see Gilbert (1986).

<sup>&</sup>lt;sup>18</sup>This is due primarily to holding account balances so large that interest earnings offset the account fees; however, this also represents responses from families who have selected non-fee accounts. The Sheshunoff data indicate that over 77 percent of the banks surveyed offered free checking accounts to senior citizens, 30 percent offered free checking to students and 19 percent used depositors' balances in savings accounts to offset checking account fees.

Table 2

Key Characteristics of Four Checkable Accounts

	No-Frills	Basic demand deposits	Tiered demand deposits	NOW account
Monthly maintenance fee	\$1.48	\$3.15	\$5.451	\$6.231
Highest balance to which maximum fee applies	NA	NA	\$236	\$943
Minimum balance needed to waive monthly fee	NA	\$452	\$491	\$1,047
Number of free checks monthly	15	19	24	25
Per-check fee after limit	\$0.23	\$0.16	\$0.16	\$0.18

These fees represent the maximum monthly fee that applies to balances below \$236 in the case of tiered demand deposits and below \$943 for NOW accounts. The Sheshunoff data provide only the maximum fee, while the ABA data provide the range of fees that applies to minimum account balances from \$0 to the balance level required for fees to be waived. For minimum account balances that fall between \$236 and \$491 for tiered accounts and between \$943 and \$1,047 for NOW accounts, the fee is estimated using the ABA data to adjust the fee data from Sheshunoff.

SOURCE: Derived from Sheshunoff Survey Data.

are illustrative; they need not reflect any particular individual's explicit costs of holding various types of checking accounts.

Table 3 presents the calculated monthly explicit cost of the four transaction accounts. Although NOW accounts have the highest maximum monthly service charge, the earned interest income can make their monthly before-tax net cost quite low, especially for an individual with large minimum and/or average balances. Indeed, the monthly before-tax net cost would be negative if average balances were greater than \$1,425, regardless of how low the minimum balance was. Since survey data indicate that the average balance in these accounts is in the \$5,000–\$6,000 range, it would not be surprising to find that many NOW account holders have negative monthly net costs.

### Annual Comparison of the Four Accounts

Table 4 summarizes the results of table 3 on an annual basis. The cost of purchasing checks is included in the annual cost based on the average number of checks written from table 1. A 1984 study analyzing retail banking fees found the average charge for 200 checks to be \$6.25.19

# The Cost Calculation Formula

The following simple equation is first used to calculate the monthly before-tax costs. Tax implications are discussed in a later section. Then the net costs, which include the cost of buying checks, are compared on an annual basis for all four accounts.

Monthly Net Cost = Interest Earned on Deposits minus Monthly Maintenance Fee minus Per-Check Fees,

can be restated as:

Net Cost = 
$$\frac{i(X)}{12}$$
 - M - p(N-L),

where:

i = interest rate paid on deposits

X = average monthly balance

M = monthly fee, (a function of minimum monthly balances)

p = per-check fee (applies only when N > L)

N = number of checks written per month

i = limit of free checks per month.

<sup>&</sup>lt;sup>19</sup>Trans Data Corporation (1984). The ABA survey found the charge for 200 checks to vary from \$5.18 to \$6.51.

Table 3

Net Costs of Alternative Checking

Accounts for Representative Individuals

	No-frills DD	Basic DD	Tiered DD	NOW accoun
	Indivi	dual A		
Interest earned	0	0	0	\$1.31
Monthly fee	\$1.48	\$3.15	\$5.45	\$6.23
Check fee	0	0	0	0
Monthly net cost	\$1.48	\$3.15	\$5.45	\$4.92
	Indivi	dual B		
Interest earned	0	0	0	\$2.19
Monthly fee	\$1.48	\$3.15	\$5.45	\$6.23
Check fee	\$0.23	0	0	0
Monthly net cost	\$1.71	\$3.15	\$5.45	\$4.04
	Indivi	dual C		
Interest earned	0	0	0	\$4,38
Monthly fee	\$1.48	\$3.15	\$5.181	\$6.23
Check fee	\$2.07	\$0.80	0	0
Monthly net cost	\$3.55	\$3.95	\$5.18	\$1,85

'Individual C has a minimum balance of \$250 but the highest fee is assessed for balances up to \$236. The monthly fee of \$5.45 was reduced by 5 percent to \$5.18. The 5 percent reduction is the average amount by which the monthly fee was reduced from its maximum according to ABA data.

Table 4 indicates that individuals A and B would opt for the no-frills account at annual costs of \$21.51 and \$26.52, respectively, while individual C would clearly prefer the NOW account at an annual cost of \$31.26.<sup>20</sup>

While the data in table 4 do not necessarily represent the cost of various types of deposits for a given individual, there is a clear relationship between the average daily balance and the cost of various types of accounts. As a general rule, the higher the average daily balance, the more likely it is that NOW accounts will be the *least* costly form of checkable deposits. Indeed, for very large average and/or minimum balances, NOW accounts likely will be the most cost-effective checking account among all the alternatives. Likewise, no-frills demand deposits likely will be the least costly alternative for individuals who hold rela-

Table 4

Annual Cost of Four Checkable Deposit
Accounts for Representative Individuals
(including the cost of checks)

	Individual A	Individual B	Individual C
No-frills account	\$21.51*	\$26.52*	\$51.60
Basic demand deposit account	\$41.55	\$43.80	\$56.40
Tiered demand deposit account	\$69.15	\$71.40	\$71.16
NOW account!	\$62.76	\$54.51	\$31.26*

Due to rounding, NOW account interest income is slightly different using annual rather than monthly calculations.

tively small balances.<sup>21</sup> Similar results were arrived at using Eighth District data in place of national data (see opposite page). While our calculations do not illustrate a situation in which either basic or tiered demand deposits are preferred, there clearly are combinations of average and minimum balances and explicit fees for which these accounts will be the least costly alternative.

### The Impact of Tax Considerations

It is also important to consider the tax liabilities arising from interest on deposits. Tax effects are important because interest income on bank deposits is taxed as ordinary income, without consideration of monthly service fees. For example, in one year, individual C earned \$52.50 in interest on the NOW account and paid \$83.76 in account fees for a net annual cost of \$31.26. In that year, individual C would be taxed on the \$52.56 of interest income rather than paying no taxes on the \$31.26 of net expense. If this depositor were in the 30 percent marginal tax bracket, the account would result in an after-tax cost of \$47.01, (\$31.26 + .3 [\$52.50]), instead of the before-tax cost of only \$31.26. If this depositor were in the 50 percent tax bracket, the

 $<sup>^{20}</sup>$ For example, the net annual cost of \$31.26 for individual C includes \$52.50 of interest earned (\$1,000  $\times$  .0525) and \$83.76 of fees. The fees include \$74.76 of monthly maintenance fees (12  $\times$  \$6.23) and \$9.00 in charges for checks (24  $\times$  12  $\times$  \$6.25/200).

<sup>\*</sup> indicates the least-cost alternative.

<sup>21</sup>Indeed, survey data indicate that the percentage of families holding only regular non-interest paying demand deposits declines substantially with family income, while the proportion with only NOW accounts increases. We would like to thank Robert Avery for providing us with these data.

### The Cost of Checkable Deposits in the Eighth Federal Reserve District

This insert compares the fee structure on checkable accounts in the Eighth District with that of the nation. It also investigates whether the three representative individuals would have chosen different checkable accounts had they been located in the District. The Eighth Federal Reserve District includes all of Arkansas and parts of Illinois, Indiana,

accounts using the District data. It indicates that, although the absolute costs in the District are different than the national costs, the selection of the lowest cost account for each of the three individuals is unchanged.

Eighth District data from the Quarterly Survey of Number of Selected Deposit Accounts and the Re-

Table A
U.S. and Eighth District Comparison

	No-Frills		Basic Demand Deposit		Tiered Demand Deposit		NOW Account	
	U.S.	District	U.S.	District	U.S.	District	U.S.	District
Monthly fee Minimum balance	\$1.48	\$1.46	\$3.15	\$3.37	\$5.45	\$5.21	\$6.23	\$6.29
for free checking	NA	NA	\$452	\$438	\$491	\$467	\$1,047	\$1,030
Free checks	15	NA	19	NA	24	21	25	24
Check fee	\$0.23	NA	\$0.16	\$0.17	\$0.16	\$0.15	\$0.18	\$0.17

SOURCE: Sheshunoff (1986)

Kentucky, Mississippi, Missouri and Tennessee. As of December 31, 1985, there were nearly 1,400 banks in the District. The primary data source for this article, Sheshunoff (1986), provides a state-by-state breakdown of most fees for some of the major checkable accounts. An Eighth District fee structure is constructed by combining data from all seven states that are part of the District. The number of observations for the District data ranged from 74 to 325.

In the cases in which regional data were not available, national data were substituted. Table A compares the national and District data where such comparisons are possible. It shows that the District data correspond closely with the national data. There are no consistent differences; however, the national fees are sometimes higher than District fees, while at other times the opposite is true.

Table B replicates table 4 of the main text. It provides the annual cost of the four checkable

port of Transaction Accounts indicate an average NOW account balance of \$6,554 in the first quarter of 1986. These District findings correspond closely to the ABA national survey results which indicate an average NOW account balance of \$4,500 to \$6,600 depending on the size of the bank.

Table B

Annual Cost of Four Checkable Deposit
Accounts in the Eighth District

	Individual A	Individual B	Individual C
No-frills account	\$21.27	\$27.60	\$52.68
Basic demand deposit account	44.19	46.44	60.84
Tiered demand deposit account	66.27	68.52	77.64
NOW account	63.48	55.23	31.98

after-tax cost of the account would be \$57.51 (\$31.26 + .5 (\$52.50)). In this case, the NOW account would no longer be the lowest-cost checking alternative for the high balance depositor. Instead, the no-frills account would be the least costly form. As a general rule, the higher the marginal tax rate, the higher the average and/or minimum balances required to make NOW accounts the least costly alternative.

#### SUMMARY

This article reviews the costs and benefits of holding money and outlines the calculations involved in determining the amount and type of money balances one would want to hold. In addition, the explicit costs of holding four types of checking accounts are calculated for three representative depositors. The purpose of this discussion is to provide a better understanding of the costs and benefits of holding money and to make it easier for consumers to compare annual costs on alternative checking accounts.

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# APPENDIX The Data Sources

The primary data source for the explicit costs of these checkable deposit accounts is the most recent annual survey published by Sheshunoff and Co., Inc., entitled "Pricing Bank Services and Loans 1986." Nationally, over 1,300 commercial banks responded to a detailed survey which asked banks to list the charges associated with the "checking account used by most of your customers" for each of many different accounts. For example, if a bank offers three distinct NOW accounts to depositors, its survey responses provide data only for the most widely used of the three.

The data requested include minimum balance requirements, service charges, per-check charges and a

variety of other information related to the costs and returns of holding checkable deposits. The Sheshunoff data provide weighted average rather than median values. It is assumed that all charges and fees assessed are based on the minimum balance held because over 85 percent of respondent banks indicate they calculate these charges on the basis of minimum, rather than average, balances.

Another data source is the "1984 Retail Deposit Services Report" by the American Bankers Association (ABA). The ABA sampled 1,735 banks and published data from 377 respondents broken down by asset size of the banks and solicited account information similar to the Sheshunoff survey. In most cases, the Sheshunoff data are used in the analysis.

### Sheshunoff and ABA Survey Comparison

	Sheshunoff	ABA
No-frills Accounts		
Monthly maintenance fee	\$1.48	\$1.25-\$3.06
Number of free checks monthly	15	13-20
Per-check fee after limit	\$0.23	N/A
Basic Demand Deposits		
Maximum monthly maintenance fee	\$3.15	\$3.14-\$3.89
Minimum balance needed to waive		
monthly fee	\$452	N/A
Number of free checks monthly	19	N/A
Per-check fee after limit	\$0.16	\$0.17-\$0.25
Tiered Demand Deposits		
Maximum monthly maintenance fee	\$5.45	\$3.51-\$4.31
Minimum balance needed to waive		
monthly fee	\$491	\$400-\$500
Number of free checks monthly	24	10-27
Per-check fee after limit	\$0.16	\$0.12-\$0.22
NOW Accounts		
Maximum monthly maintenance fee	\$6.23	\$4.77-\$5.75
Minimum balance needed to waive		
monthly fee	\$1,047	\$1,000
Number of free checks monthly	25	15–40
Per-check fee after limit	\$0.18	\$0.10-\$0.22

### Comparison of Sheshunoff and ABA Survey Data

Both the Sheshunoff and ABA surveys collect data on the four checkable accounts analyzed in this article although slightly different terminology is used to describe some of the accounts. Both surveys refer to nofrills and NOW accounts but use different terms in reference to basic and tiered demand deposit accounts. The Sheshunoff survey uses the term "metered" checking account and the ABA uses "special" checking account to refer to the basic demand deposit account for which a fee is assessed without regard to the account's balance. Tiered demand deposit accounts, for which fees are assessed as a function of the account's balance, are called "3–2–1" accounts by the Sheshunoff study and "regular" checking by the ABA study.

While the account definitions and the manner of displaying survey results are not identical for the two studies, basic data comparisons can be made. Though Sheshunoff data are reported by the deposit size of the bank, an average for all banks is provided as well. The ABA data do not provide averages for all banks and, therefore, a range of fees and balance levels are presented in the following table. The ABA survey was completed in 1984, while the Sheshunoff study was done in 1985. The following comparisons in table A show that the two studies arrive at similar account fee structures.