
FRBSF WEEKLY LETTER

November 14, 1986

Interest Checking

On January 1, 1986, all regulatory deposit rate ceilings and minimum balance requirements were removed from personal checking accounts (although the prohibition against paying interest on business checking accounts remains). This completed a process of deposit rate deregulation of personal checking accounts that began in earnest with the nationwide authorization of NOW (Negotiable Order of Withdrawal) accounts on December 31, 1980 and Super NOW accounts on January 5, 1983. The NOW account originally had a maximum deposit rate of 5¼ percent (until January 1, 1986 when the ceiling was removed), while the Super NOW deposit rate was unrestricted. Today, there is no longer any regulatory distinction between the two accounts.

Both the NOW and Super NOW accounts have been extremely popular and have caused major changes in the composition of consumer checking accounts and in the narrowly defined M1 monetary aggregate. Most consumer checking balances and a large part of M1 now bear interest.

In this *Letter* we analyze why these new accounts so dramatically altered both depositors' and banks' portfolios, and examine the sources of the funds deposited in them. In next week's *Letter*, we assess the implications for the behavior of the M1 monetary aggregate, which includes balances in these accounts plus currency, travelers checks, and demand deposits.

Effects of the ceilings

The effects of lifting or removing interest rate ceilings on checking accounts depend to a large extent on how easy it was for depository institutions to circumvent the ceilings through non-price competition in the first place. Nonprice competition is the practice of providing free or underpriced services in lieu of explicit interest payments.

Depository institutions expend resources on attracting and holding various kinds of deposits with the goal of equating the marginal costs of different types of deposits, including transactions deposits. However, when the payment of interest was prohibited, depositors' returns generally

were less than banks' marginal costs of attracting deposits because nonpriced services are not perfect substitutes for cash interest payments. Since depositors, in general, would have preferred the cash equivalent of nonpriced services, they valued nonpriced services at less than their cost. Thus, by imposing the inefficiency of nonprice competition, deposit rate ceilings drove a wedge between depositories' marginal costs of deposits and depositors' marginal returns.

The inherent inefficiency of nonprice competition implies that lifting or removing a deposit rate ceiling would, in effect, increase depositors' returns without affecting depositories' marginal costs. Undoubtedly then, a major reason for the popularity of interest-bearing checking accounts is the interest they yield. Even at current low interest rate levels, these interest-bearing checking accounts will yield \$10 to \$11 billion in interest this year. Just a few years ago, checking account balances would have earned no explicit interest. Thus, although interest earnings are taxable, interest payments have provided a powerful incentive to shift zero-interest checking balances and perhaps some savings balances as well into the new interest-bearing accounts.

Strong evidence supporting the view that explicit interest (even after taxes) on the new accounts exceeded the implicit interest previously available on demand deposits is presented in Chart 1. The chart indicates that a sharp drop in demand deposits coincided with the dramatic increase in NOW balances when they were first authorized nationwide on December 31, 1980 (they had been available previously on a limited basis) and, similarly, that NOW deposits fell sharply when Super NOWs were introduced.

These declines suggest that NOWs were successful in attracting large quantities of funds previously held in demand deposits (which paid no explicit interest), and that Super NOWs attracted funds from NOWs (which paid limited interest). These shifts would not have occurred if nonprice competition had circumvented deposit rate ceilings completely so that depositors valued the nonpriced services fully. Thus, in the aggregate, depositors' net returns on Super NOW accounts

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likely exceeded returns on NOWs, and the returns on NOWs likely exceeded the returns on demand deposits.

These shifts of funds from more regulated to less regulated checking accounts are similar to shifts that occurred from savings and time deposits with interest ceilings into the ceiling-free money market deposit account (MMDA) when it was authorized on December 14, 1982. Depositors moved several hundred billion dollars from lower-return regulated accounts into MMDAs. Just as with transaction balances, there were powerful incentives for depositors to move non-transaction funds into higher-yielding savings accounts.

As Chart 2 shows, the lifting of deposit rate ceilings has dramatically raised the proportion of personal checking account balances that earn explicit interest. At the beginning of 1977, less than 5 percent of the funds in consumer checking accounts were interest-bearing compared to over 70 percent today. In only ten years, these accounts have grown from \$1 billion to over \$200 billion.

Tax effects

Not all personal demand deposits have shifted into NOWs, nor have all NOW deposits shifted into Super NOWs even though depositors might be expected to prefer the highest yielding account. The explanation for this lies largely in our tax system, which creates incentives for banks to provide a wide variety of checking accounts with different deposit rates, minimum balances, and service charges.

Checking accounts are somewhat unusual in that banks simultaneously "borrow" deposits and "sell" transaction services associated with these deposits. The result of this arrangement is a net payment from either the bank to the customer or vice versa, depending on whether the yield on deposits exceeds the cost of transaction services provided.

The tax system provides an incentive for banks to reduce the deposit rates they pay on personal transaction accounts by enough to cover the cost of the transaction services they provide. Currently, this incentive works through individual (but not business) depositors, who must pay income taxes on explicit interest payments but cannot deduct charges for transaction services.

These depositors can lower their taxes by selecting an account in which the banks' service charges have been netted out of the interest paid. For example, some depositors prefer accounts that pay no interest and have no service charges to accounts that pay taxable interest and charge for services. A bank would be willing to provide such a "free" account as long as its profits on balances in the account equalled or exceeded the costs of providing the associated transaction services.

The tax system also explains why zero-interest checking accounts co-exist with higher yielding checking accounts. Such accounts typically have lower minimum balance requirements than higher yielding checking accounts. Banks use minimum balance requirements to ensure that their net earnings on the deposits cover the cost of the transaction services they provide.

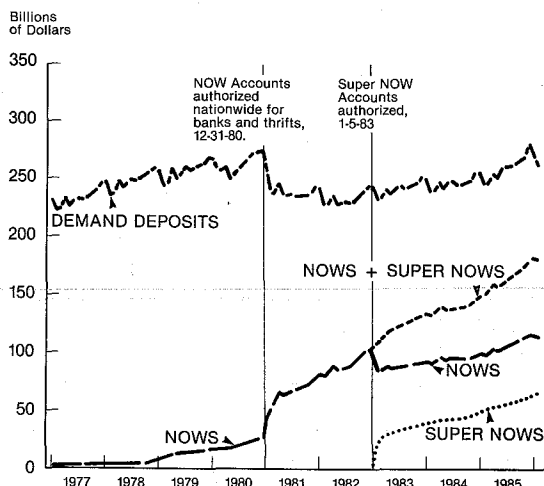
For example, according to a 1985 survey by Sheshunoff and Company, Super NOWs, which paid the highest interest among personal checking accounts, had an average minimum balance requirement of \$3,300 to avoid service charges. This compared with a \$1,073 requirement for NOWs (which paid lower interest) and a \$431 minimum balance requirement for demand deposit accounts, which paid no interest. Depositors who maintained only small balances would have been better off with a zero-interest demand deposit account even though a Super NOW yielded more interest because the interest it yielded would have been more than offset by service charges, especially on an after-tax basis. In contrast, depositors who maintained medium or large balances would have been better off with higher yielding NOW or Super NOW accounts.

In sum, even though deregulation eliminated the inefficiency of nonprice competition, the tax system will continue to ensure that a wide variety of checking accounts co-exist.

Sources of interest-bearing checkable deposits

The sources of funds placed in interest-bearing checkable deposits may be an indicator of how those balances will behave. For example, if NOWs and Super NOWs attracted balances from passbook savings accounts or maturing time certificates, NOW and Super NOW balances might behave more like savings balances than transaction balances. Both NOWs and

Chart 1
Deposits Shift into NOWs and Super NOWs



Super NOWs are believed to have attracted a significant amount of funds from savings and maturing time certificates.

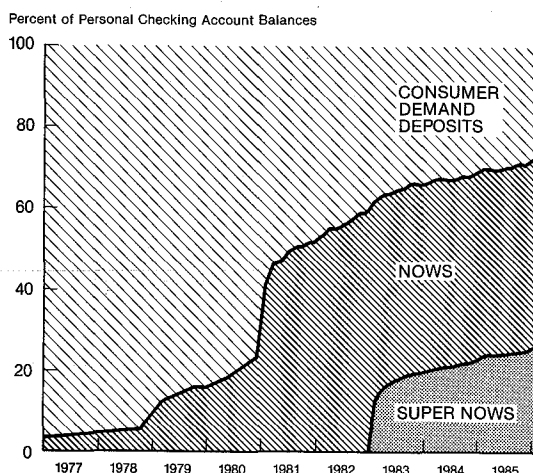
Surveys as well as our own statistical estimates suggest that about one-quarter of the new money that shifted into NOWs during the introductory NOW period came from nontransaction sources. These funds, which probably came from passbook savings and maturing time certificates, are likely to be more interest-sensitive than demand deposits. Super NOWs probably also attracted the same types of nontransaction balances. However, because the MMDA was introduced at about the same time and attracted the same types of funds, it is difficult to measure the magnitude of the transfers.

Another indication of shifts of nontransaction balances into NOWs and Super NOWs is their large average balances — approximately \$5,000 in NOWs and \$13,000 in Super NOWs. These average balances are much closer to those of traditional savings deposits than to those of personal noninterest checking accounts, which are approximately \$1,500.

Conclusion

Deposit rate deregulation has caused a major change in the composition of consumer transaction deposits by raising to 70 percent the propor-

Chart 2
The Changing Composition of Personal Checking Account Balances



tion of these balances in interest-bearing checking accounts. In contrast, as recently as 1977, virtually no checking balances paid explicit interest. Moreover, since their nationwide introduction on December 31, 1980, interest-bearing checking deposits have been by far the most rapidly growing component of consumer transaction balances.

This dramatic change is due to the inability of nonprice competition to compensate most depositors fully. The \$10 billion or more that consumers will earn this year apparently exceeds (even on an after-tax basis) the free or underpriced services that they would have received if regulation continued to prohibit the accounts from paying interest.

The shift in the composition of consumer checking from noninterest-bearing to interest-bearing has also had a significant impact on M1. Interest-bearing transaction balances in M1, including some formerly classified as savings, have grown from virtually nothing before deregulation to over 30 percent by mid-1986. In next week's *Letter*, we present evidence that these effects of deregulation have caused a major change in the relationship between M1 and the economy.

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Opinions expressed in this newsletter do not necessarily reflect the views of the management of the Federal Reserve Bank of San Francisco, or of the Board of Governors of the Federal Reserve System.

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BANKING DATA—TWELFTH FEDERAL RESERVE DISTRICT

(Dollar amounts in millions)

Selected Assets and Liabilities Large Commercial Banks	Amount Outstanding	Change from	Change from 10/23/85	
	10/22/86	10/15/86	Dollar	Percent ⁷
Loans, Leases and Investments ^{1 2}	202,622	— 120	6,388	3.2
Loans and Leases ^{1 6}	182,025	— 96	4,774	2.6
Commercial and Industrial	50,065	312	— 993	— 1.9
Real estate	67,030	171	1,659	2.5
Loans to Individuals	39,464	15	1,679	4.4
Leases	5,584	— 33	181	3.3
U.S. Treasury and Agency Securities ²	12,652	13	962	8.2
Other Securities ²	7,945	— 37	651	8.9
Total Deposits	203,397	— 7,065	4,836	2.4
Demand Deposits	51,148	— 6,253	4,820	10.4
Demand Deposits Adjusted ³	35,984	—15,986	— 6,677	—15.6
Other Transaction Balances ⁴	17,630	— 142	3,628	25.9
Total Non-Transaction Balances ⁶	134,618	— 671	— 3,612	— 2.6
Money Market Deposit				
Accounts—Total	46,200	— 658	787	1.7
Time Deposits in Amounts of				
\$100,000 or more	33,117	— 11	— 5,415	— 14.0
Other Liabilities for Borrowed Money ⁵	26,435	— 562	1,781	7.2
Two Week Averages of Daily Figures		Period ended 10/20/86	Period ended 10/6/86	
Reserve Position, All Reporting Banks				
Excess Reserves (+)/Deficiency (—)	59		36	
Borrowings	12		24	
Net free reserves (+)/Net borrowed(—)	48		12	

¹ Includes loss reserves, unearned income, excludes interbank loans

² Excludes trading account securities

³ Excludes U.S. government and depository institution deposits and cash items

⁴ ATS, NOW, Super NOW and savings accounts with telephone transfers

⁵ Includes borrowing via FRB, TT&L notes, Fed Funds, RPs and other sources

⁶ Includes items not shown separately

⁷ Annualized percent change