The CD in American Banking: Retrospect and Prospect

The emergence of negotiable time certificates of deposit has been one of the most remarkable features of commercial banking development in the United States since 1961. Commercial banks perform various financial services, but their primary role and major source of income is financial intermediation — the channelling of loanable funds from surplus to deficit economic units. The banks' ability to lend depends on a somewhat different set of factors than that of other financial institutions as a consequence of the money-function of their demand deposit liabilities and of the fractional reserve system. But otherwise their lending capacity depends on their ability to attract funds in competition with other financial intermediaries and direct borrowers. The negotiable time certificate of deposit (hereafter referred to as the CD) has played an important role in the competitive struggle of commercial banks — it has enabled them to tap sources of funds they had neglected since the banking reforms of the thirties. The aggressive employment of the CD has already brought about various changes in banking practices, and it may lead to even more far reaching modifications in the functions performed by commercial banks and in the banking structure.

This article is devoted to the CD phenomenon as it affects the role of commercial banks as financial intermediaries and the structure of the banking industry. We shall also dwell on the effects of interest rate regulation on the development of the CD as a potential source of funds.

1. CD's and the Growth of Time Deposits in Commercial Banks

In order to trace the characteristics and significance of CD growth, it may be useful to describe briefly the development of time deposits in general in commercial banks since the banking reforms of the thirties.

Up to 1929 the ratio of time deposits to total commercial bank deposits was on the increase and reached 44% (1). The years 1929 to 1933 saw a sharp contraction in both demand and time deposits, but the latter shrank even more than the former, amounting to about 40% of total deposits (2). The regulation of deposit rates, enacted as part of the banking reform, had little practical effect until the early 50's. "Time deposits were not generally attractive to commercial banks during the era of low interest rates, ample loanable funds and limited private credit demands between 1933 and 1945" (3).

Time deposits amounted to no more than 23% of total commercial bank deposits at the end of 1945. Their loan-deposit ratio at exceptionally low levels (4), and being well stocked with secondary reserves to meet an upswing in loan demand, commercial banks made no intensive effort to attract time deposits in the early postwar years. Thus, banks were able to increase their business loans between 1945 and 1951 at an annual rate of 21%, while their deposits — both demand and time — were growing at an annual rate of about 5%. The banks' investments in U.S. Government securities were reduced in the same period at a rate of almost 6% a year (5). From 1951 to 1956 loan expansion slowed down, while accumulation of time and savings deposits gathered some steam. By the end of 1956, time deposits, at $52.3 billion, were 31.1 percent of total deposits, but the loan-deposit ratio departed much more drastically from its immediate post-war level, reaching about 47 percent (6). The increase in loan demand brought about a shift in the composition of bank asset portfolios — the share of loans was

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(1) The ratio of time to total deposits went up from 18% in 1899 to 27% in 1909, 31% in 1919 and 44% in 1929 (All Bank Statistics, United States, 1896-1955).

(2) Bogen and Kroos, "Savings and Other Time Deposits in Commercial Banks" (A Banking Research Study by the Graduate School of Business Administration, New York University), 22 (1962).

(3) *Ibid.*, 23.

(4) Cox, "Developments in the Commercial Bank Loan-Deposit Ratio", *Federal Reserve Bank of New York Monthly Review*, March 1966, 65. At the end of 1946 the loan-deposit ratio was about 22%.

(5) Trends in Commercial Banking, 1945-1965, *Federal Reserve Bank of St. Louis Review*, August 1965, 1, 2-3.

(6) Where no other source is indicated, the figures are derived from the Flow of Funds, Assets and Liabilities, 1945-1965, and the Flow of Funds Annual, 1946-65 of the Board of Governors of the Federal Reserve System (Mimeographed).

growing gradually while that of Government securities was on the decline (7).

The relative indifference of commercial banks to time deposits was not shared by savings institutions, particularly savings and loan associations. Between the end of 1945 and of 1956, when the banks accumulated some $21.9 billion of time deposits, savings institutions amassed an amount of $46.9 billion. The comparison is even more striking when rates of growth are taken into account: in commercial banks the 1956 level of time deposits was 72 percent above the end-1945 level. The corresponding figure for mutual savings banks was 96 percent and for savings and loan associations — 401 percent (8).

The poor showing of commercial banks is well accounted for by differences in the average rates paid on savings by the various types of depositary institutions (Table 1). The banks could not match the rates paid by competing savings institutions had they wished to do so: the ceiling under Regulation Q of the Federal Reserve Board, as revised in January 1, 1936 — to remain in effect for 21 years — was 2.5 percent, a rate which savings and loan associations exceeded as early as 1949.

The revision of Regulation Q on January 1, 1957, was rather modest — the ceiling on rates paid on 90-180 days time deposits was raised from 2.0 to 2.5 percent, whereas the rate ceiling on longer held time deposits and savings deposits was upped from 2.5 to 3.0 percent. But the year 1957 saw a turning point in the attitude of commercial banks towards time deposits. The average rate of interest paid by them advanced 0.5 percent (by almost third), and while it remained lower than savings institutions' rates, it has been in lively competition with them ever since.

Between 1957 and 1960 commercial banks attracted about $21.0 billion of new time deposits, the ratio of their time to total deposits reaching approximately 37.5 percent. The average rate paid by them in 1960 amounted to 2.56 percent, another 0.5 percent over and above

(7) The switch between 1954 and 1956 is demonstrated by WILSON, "America's Changing Banking Scene", reprinted from articles in *The Banker* (May-July 1957) in *Monetary Policy and the Development of Money Markets*, 132, 148 (1966).

(8) Credit union shares, included in the total for savings institutions, went up from $0,4 to $2.9 billion, or by about 620 percent.

(9) For Regulation Q ceilings until 1964 see RITTER, "Regulation Q: Issues and Alternatives", Association of Reserve City Bankers, 10 (1965).

TABLE 1

TIME DEPOSITS AND INTEREST RATES: 1946-56
($ billion, %)

	Commercial Banks			Savings & Loan Assns.			Mutual Savings Banks		
	Year-end balance	Annual flow	Average rate	Year-end balance	Annual flow	Average rate	Year-end balance	Annual flow	Average rate
1946	34.2	3.8	0.84	8.6	1.2	2.31	16.8	1.5	1.56
1947	35.5	1.3	0.87	9.8	1.2	2.34	17.8	1.0	1.62
1948	36.2	0.7	0.90	11.0	1.2	2.43	18.4	0.6	1.66
1949	36.6	0.4	0.91	12.5	1.5	2.52	19.3	0.9	1.82
1950	36.9	0.3	0.94	14.0	1.5	2.55	20.0	0.7	1.90
1951	38.7	1.8	1.03	16.1	2.1	2.62	20.9	0.9	1.96
1952	41.7	3.0	1.15	19.2	3.1	2.75	22.6	1.7	2.31
1953	45.1	3.4	1.24	22.8	3.6	2.87	24.4	1.8	2.40
1954	48.9	3.8	1.32	27.3	4.5	2.95	26.4	2.0	2.50
1955	50.3	1.4	1.38	32.1	4.8	3.01	28.2	1.8	2.64
1956	52.3	2.0	1.58	37.1	5.0	3.13	30.0	1.8	2.77

Source: Deposits - FRS Flow of Funds (see note 6).
Interest rates - Bogen and Kroos, 26 (see note 2).

the 1956 average (10). But loan demand outstripped even this rapid deposit expansion, and the loan-deposit ratio at the end of 1960 had approached 60 percent (11). (Despite the narrowing of rate differentials, savings institutions continued to pay higher interest rates than commercial banks — the average rate paid in 1960 by MSB's was 0.89 percent higher and that paid by SLA's was 1.44 percent higher (12). In the 4 years 1957-60, SLA's sold $25.0 billion of new savings shares, whereas savings deposits with MSB's increased by $6.3 billion).

The emergence of the negotiable time certificate of deposit in early 1961 should be viewed against the background of the developments described thus far: despite intensified efforts on the part of

(10) For details on these developments in one Federal Reserve district see SHULL, "Struggle for Savings - the Philadelphia Story", *Federal Reserve Bank of Philadelphia Business Review*, May 1963, 3.

(11) EASTBURN, "Pressing Against the Ceiling? Or How High Can the Loan Deposit Ratio Go?", *Federal Reserve Bank of Philadelphia Business Review*, May 1966, 11.

(12) BOGEN and KROOS, *op. cit.*, 26.

commercial banks to attract additional funds, the loan-deposit ratio continued to rise, and

> " there was concern in some quarters that unless they somehow increased their lending ability, New York City banks would be unable to supply the legitimate loan requirements of their customers during the next cyclical uptrend ". (13)

2. The Functions and Scope of the CD Business

Time certificates of deposit are, essentially, evidence that a depositor will leave his funds with a bank for a specified length of time in return for a specific rate of interest. Many of these certificates, issued on a local and regional scale long before 1961, have always been legally negotiable (14). They could not, however, be sold before " maturity " to the issuing bank without forfeiture of all or part of the accrued interest, whereas other money market instruments could be sold at any time.

To overcome this disadvantage, the First National City Bank of New-York concluded an agreement with the Discount Corporation of New-York, which was making a market in Government bonds and bankers' acceptances, to guarantee the marketability of the CD's issued by the bank since February 1961 (15).

The First National City Bank and other money-market banks, which immediately followed in its steps, have sought to attract by the new instrument the liquid balances of large non-financial corporations.

Commercial banks began losing corporate deposits when they were prohibited from paying interest on demand deposits (16). The drain was not serious in the 30's, when alternative investments yielded

(13) LAW and CRUM, " New Trend in Finance: The negotiable C.D. ", 41 *Harvard Business Review*, 115, 116 (1963).

(14) " Negotiable Time Certificates of Deposit ", *Federal Reserve Bulletin*, April 1963, 458.

(15) For details on the secondary market in its initial phase see Fieldhouse, " Certificates of Deposit ", *Federal Reserve Bank of New York Monthly Review*, June 1963, 82. Later on, some of the money market banks themselves entered the market, buying and selling for their own account CD's issued by other banks. See " American Banking: Each Other's Wash ", vol. 218 *The Economist*, 739 (February 19, 1966).

(16) " Billions in Search of a Top Return ", *Business Week*, October 19, 1963, 172.

very low returns, but an increased interest in cash management has been one of the major developments in post-war finance.

> " Corporate treasurers with surplus cash began initially to explore the Treasury bill market... eventually corporations replaced the banks as the largest holders of these securities.
>
> As interest rates and cash flows continued to rise... corporations began to investigate more complicated investment opportunities — municipal obligations, commercial paper, finance company paper.
>
> Money market banks have traditionally been the major repositories of ' reserve ' balances of national companies and were hardest hit by these developments ". (17)

The amounts at stake were quite considerable, as can be seen in Table 2.

TABLE 2

FINANCIAL ASSETS OF CORPORATE NONFINANCIAL BUSINESS
(EXCLUDING TRADE AND CONSUMER CREDIT)
($ billion)

Year end	Total	Demand Deposits & Curr.	Time Deposits	U.S. Govt. Securities	Open-market paper	Municipals	Other Assets
1945	51.4	20.4	0.9	21.1	—	0.3	8.7
1948	52.1	23.8	0.9	14.8	0.4	0.4	11.8
1951	66.7	28.0	0.9	20.5	0.9	0.6	15.7
1954	74.2	31.0	1.1	19.1	1.3	1.0	20.7
1957	84.1	32.1	1.0	18.4	1.9	1.5	29.2
1960	97.8	32.1	2.8	19.5	2.9	2.4	38.1
1961	102.2	33.4	4.6	18.5	3.0	2.2	40.4
1962	109.8	32.8	8.3	19.6	3.8	1.8	43.4
1963	118.7	32.0	12.2	20.2	4.5	2.7	47.0
1964	123.2	29.3	15.4	18.8	5.9	2.9	50.9
1965	129.9	27.4	19.2	16.7	6.7	3.6	56.3

Source: FRS Flow of Funds Annual (see footnote 6).

Financial assets held by nonfinancial corporations (excluding trade and consumer credit) were equivalent to 40-50 percent of the total deposits with commercial banks. Changes in the allocation of this pool of financial assets were therefore a matter of utmost significance. Between 1945 and 1954 corporate holdings of demand deposits and currency kept abreast with the expansion of financial

(17) LAW and CRUM, *op. cit.*, 116.

asset holdings generally. But the years 1955 to 1960 saw a serious setback: out of an additional $24 billion of financial assets, only $1.1 billion were in the form of demand deposits and currency, while $1.7 billion were added to time deposits (18). The introduction of negotiable CD's has been an attempt to reverse the trend — and it has been quite effective in achieving this end. Holdings of currency and deposits (demand and time) did not recapture their *relative* position of 1954 among corporate financial assets, but the amounts held went up substantially: from $34.9 billion in 1960 to $46.6 billion in 1965 (19).

Bankers were late to realize that since 1954 nonfinancial corporations had stopped building up their currency and deposit balances. Besides, they expressed concern lest by offering to pay interest on corporate time deposits they would only induce a shift from demand deposits to time deposits, with no net deposit gain (20). This concern has proved to be exaggerated — demand deposits and currency holdings declined by less than $5 billion between 1960 and 1965, whereas additional time deposits amounted to more than $16 billion. (Not all the additional amount was in the form of CD's).

To minimize the attrition of demand deposits, CD's were initially offered only in large denominations — $500,000 or more. Later smaller denominations were issued, but the Federal Reserve Board survey of end-1962 still indicated that more than 2/3 of the CD's outstanding were in denominations exceeding $500,000 (21).

Although the number of banks willing to issue negotiable CD's is quite large — almost 1,800 according to a Federal Reserve Board survey of December 1965 — the bulk of the amount outstanding was issued by about 250 large banks, as shown in the table below (22).

(18) In the same period holdings of municipals and open-market paper went up by about $3 billion.

(19) The FRS's flow of funds tables give no breakdown of "other financial assets". It is interesting to note that these assets accounted for 53% of the increase in financial asset holdings between 1945 and 1954, for 73% of the increase between 1954 and 1961, and for 56% of the increase between 1961 and 1965.

(20) There were those who doubted the wisdom of commercial banks competing for time deposits at all. PRITCHARD, "The Case Against Commercial Banks Savings Accounts", vol. 147 *The Bankers Magazine*, Boston, Spring 1964, 73. See also footnote 32 below.

(21) The survey mentioned in footnote 14 above gives the following breakdown according to denomination: less than $100,000 - $597 million; $100,000 - $500,000 - $978 million; $500,000 and more - $4,600 million.

(22) CAGLE, "Time and Savings Deposits, Late 1965, and Early 1966", *Federal Reserve Bulletin*, April 1966, 466, 482-3.

TABLE 3

NUMBER OF BANKS ISSUING CD's AND THE AMOUNT OUTSTANDING ACCORDING TO BANK SIZE, DECEMBER 1965

Size of bank (Deposits in $ mil.)	less than 10	10-50	50-100	100-500	500 and over
Number of banks	882	543	107	170	75
Amount of CD's ($ mil.) .	554	857	499	1,562	11,403

Source: *Federal Reserve Bulletin*, April 1966, 482-3.

The negotiable CD business is therefore limited mostly to large banks attempting to attract deposits of large corporate customers. The significance of the growth of this particular instrument is, however, quite far-reaching, and we shall refer to it in the sections below. Here we shall stress only one aspect of the CD development — its being part of the commercial banks' effort to capture a larger share of the flow of time and savings deposits. It can be seen in Table 4 below that, with the exception of 1959, the distribution of time and savings deposits since 1957 has been more favorable to commercial banks in comparison with the early postwar period (see Table 1 above). This trend has been even more pronounced since 1961, when the CD began to strengthen the banks' competitive position, but negotiable CD's have been only part (no more than a third) of the time deposits accumulated with commercial banks. In 1965 a symbolic landmark was reached on the way towards time-deposit banking: the balance of time deposits of individuals, partnerships and corporations held by commercial banks exceeded for the first time the balance outstanding of IPC demand deposits. In 1945 the ratio was almost 8 to 2 in favor of demand deposits, and as late as 1961 it was still about 6 to 4.

The growing flow of time deposit money was associated with gradually increasing interest rates. The negotiable CD's have no doubt contributed to the trend — the funds invested in this instrument have proved to be highly sensitive to interest rates (23), and

(23) Rate... usually wins the day... "We're out for the best rate for the term we are looking for" says the treasurer of one large oil company. "On CD we'd like about a ¼% over the 90 day bill rate". Quoted in "How Banks Have Lured More Corporate Cash", *Business Week*, July 19, 1964, 68.

the banks were competing against other money market instruments when rates were rising generally (24). Over the period 1961 to 1966 Regulation Q was amended four times to permit banks to offer competitive rates (25), and many of them used the permission (26).

The responsiveness of CD money to changes in interest rates has enabled commercial banks — particularly the larger among them — to take more initiative in financial intermediation. But owing to the continued presence of Regulation Q, they are much more vulnerable than before to the possibility that competing money market rates will penetrate the ceiling, without the Federal Reserve Board coming to their rescue and amending the Regulation. In the succeeding sections we shall refer to the risks inherent in the growing importance of the negotiable CD.

TABLE 4

TIME DEPOSITS AND INTEREST RATES: 1957-66

($ billion, %)

	Commercial Banks			Savings & Loan Assns.			Mutual Savings Banks		
	Year-end balance	Annual flow	Average rate	Year-end balance	Annual flow	Average rate	Year-end balance	Annual flow	Average rate
1957	57.8	5.5	2.08	41.9	4.8	3.37	31.7	1.7	2.94
1958	65.8	8.0	2.21	48.0	6.1	3.49	34.0	2.3	3.07
1959	67.5	1.7	2.36	54.6	6.6	3.64	35.0	1.0	3.19
1960	73.3	5.8	2.56	62.1	7.5	4.00	36.3	1.3	3.47
1961	82.7	9.4	2.71	70.9	8.8	4.04	38.3	2.0	3.58
1962	98.3	15.6	3.23	80.2	9.3	4.08	41.3	3.0	3.85
1963	112.6	14.3	3.34	91.3	11.1	4.17	44.6	3.3	3.96
1964	127.2	14.6	3.47	101.9	10.6	4.19	48.8	4.2	4.06
1965	147.2	20.0	3.73	110.3	8.4	4.22	52.4	3.6	4.11
1966	158.8	11.6	4.11	113.9	3.6	4.46	55.0	2.6	4.50

Source: Deposits — to 1965, FRS Flow of Funds; 1966 — F.R. Bulletin. Interest rates — 1957-61, Bogen and Kroos; 1962-65: Commercial Banks — F.R. Bulletin (member banks only); SLA's and MSB's — 1967 Savings and Loan Fact Book (U.S. Savings and Loan League), 17.

(24) See STONE, "The Changing Structure of the Money Market", *Journal of Finance*, May 1965, 229.

(25) Regulation Q was actually amended six times, but the last two amendments, in July and September 1966, did not involve increases. We shall return below to the details of the various amendments.

(26) CAGLE, *op. cit.*, 482-3. When Regulation Q was amended in December 1965, 59 of 75 large banks (those with $500 million or more in deposits) raised their CD rates.

3. The Significance of the CD for Bank Management

The role of financial intermediaries is to channel loanable funds from surplus economic units to deficit units (27). Lines of demarcation between types of intermediaries are usually drawn according to either the characteristics of their sources of funds, or those of the uses. Occasionally the lines are blurred when intermediaries of different types are competing in the same markets.

The most distinctive feature of commercial banking is still the acceptance of demand deposits withdrawable by check, and the consequent participation in handling the payments mechanism of the economy (28). Banks' willingness to accept demand deposits has never been made conditional on the availability of attractive investment outlets. But when loan demand exceeds their ability to accommodate it from regular sources, commercial banks look for additional sources of funds. The eagerness of commercial banks to compete for time and savings deposits with specialized thrift institutions has been a function of changes in their investment opportunities (and in the views about acceptable investments) (29).

We have mentioned above that from the end of World War II until the mid-50's commercial banks had no difficulty in meeting their customers' loan demand simply by reducing the sizeable portfolio of Government securities they had accumulated in the 40's (30). A combination of factors led the banks in the late 50's to change their attitude towards savings deposits:

— The continued expansion of the demand for business loans, which pushed their loan-deposit ratios to uncomfortable levels;

(27) Financial intermediaries perform a useful function by "converting" assets and liabilities. A surplus unit may be interested in acquiring a short-term asset, whereas the deficit unit demands a long-term loan. By pooling the short-term assets of surplus units the intermediary is able to satisfy part of the long-term loan demands of deficit units.

(28) We ignore here the peculiar consequence of the fractional reserve system. It is not an inevitable part of the commercial banks' function as part of the payments mechanism.

(29) See MORRISON and SELDEN, "Time Deposit Growth and the Employment of Bank Funds", Association of Reserve City Bankers 1965; CREPS Jr. and LAPKIN, "Improving the Competition for Funds Between Commercial Banks and Thrift Institutions", Research Paper 11, School of Business Administration, University of North Carolina, 1963.

(30) At the end of 1945 Government securities held by commercial banks amounted to $90.6 billion, or 56 percent of their total assets. Loans at $26.1 billion were 16 percent of total assets.

— The " discovery " of new remunerative credit outlets: consumer loans, mortgage loans, more term loans to business, etc. (31).

— The slowdown in the expansion of demand deposits, which contrasted with the unprecedented growth of specialized savings institutions.

The 1957 amendment of Regulation Q signaled the beginning of a keen struggle for time deposit money among commercial banks and between them and savings institutions (32). The emergence of the negotiable CD in 1961 can be viewed as another manifestation of the competition for deposits, but various characteristics of the new instrument lend exceptional significance to its rapid growth.

By issuing negotiable CD's commercial banks have started to compete for funds in the most interest-rate sensitive segment of the capital market. It can be claimed that the banks only try to recapture the corporate funds they lost when company treasurers became more rate conscious. The fact is, however, that they did not actively compete before with Treasury bills and commercial paper. This invasion into the money market territory spells both opportunity and danger.

Because of the size of this market and its interest rate responsiveness, banks that are large enough to penetrate it acquire unprecedented flexibility in the management of their business (33). The concept of asset management, which is coupled with a relatively passive attitude towards deposit liabilities, can be substituted for a liability management concept. Banks know that they can count on buying liquidity through raising their CD rates whenever loan demand makes such a move worthwhile. The CD market, being national in its scope, lessens the dependence of a commercial bank on its local market (34).

(31) As stressed below, there is a two-way relationship between the expansion of investment outlets and the growth of competition for funds — the one prompts the other.

(32) For early references on this development see: ALHADEFF and ALHADEFF, " The Struggle for Commercial Bank Savings ", vol. 74 *Quarterly Journal of Economics*, 1 (1958); CARSON, " The Competition for Savings Deposits ", vol. 67 *Journal of Political Economy*, 580 (1959). Both expressed doubts as to the profitability of savings deposits to the banks.

(33) " Buying liquidity is a policy than can generally be followed only by larger institutions, because money market investors hesitate to place their funds into very small banks, no matter how attractive the yield ". NADLER, " Changing Concepts of Liquidity ", *Savings and Loan News*, May 1967, 22.

(34) NADLER, " Liability Management: Banking's Quiet Revolution ", *Banking*, March 1967, 35 (140).

On the other hand, the very manageability of the CD money (subject to a reservation mentioned below) constitutes a temptation that many banks may find hard to resist. Banks were warned " to refrain from trying to buy growth when the price is clearly disproportionately high " (35). When banks raise CD money for the sake of growth, without any foreseeable need for its employment in meeting credit demands, they are bound to take excessive risks and abuse the legitimate concept of liability management.

Active commercial bank competition with issuers of money market instruments is a factor contributing to greater perfection of the market mechanism — funds flowing from one segment of the market to another in response to minimal interest rate variations. Being more interest-rate sensitive on the liability side of their accounts, commercial banks must be careful to adjust their earning assets so as to cover additional interest costs. This can be done either by raising loan rates, or by shifting from lower to higher yielding assets.

Although banks could be more flexible in their loan rate policies than the savings depositary institutions, which are locked into long term mortgages with their interest rates fixed over the life of the contract (36), commercial bank loan rates were quite sticky between 1960 and 1965 (Table 5). Only in 1966 did the monetary constraint push loan rates considerably upwards.

TABLE 5

BANK RATES ON SHORT TERM BUSINESS LOANS - 19 LARGE CITIES: 1955-1966

Year	%	Year	%	Year	%	Month	%
1955	3.7	1959	5.0	1963	5.0	1966 iii	5.55
1956	4.2	1960	5.2	1964	5.0	vi	5.82
1957	4.6	1961	5.0	1965	5.1	ix	6.30
1958	4.3	1962	5.0	1966	6.0	xii	6.31

Source: *Federal Reserve Bulletin* (Weighted averages based on new loans and renewals).

(35) KAHN, " Behind the Headlines on CD's ", *Burrough's Clearing House*, March 1965, 37.

(36) MINSKY, " The Evolution of American Banking: The Longer View ", vol. 202 *The Bankers' Magazine*, London, 325, 327 (1966). " Aggressive rate competition from commercial banks has brought to the surface the incompatibility of present mortgage practices and monetary constraint... ". " As long as interest rates are rising the many dimensional commercial banks holding portfolios heavily weighted by short-term assets are in a favorable competitive position vis-à-vis the savings intermediaries... ".

For a proposal to correct the incompatibility mentioned by Minsky see GARRISON, " A New Plan for Variable Mortgage Rates ", *Savings and Loan News*, January 1967, 26.

On the other hand, commercial banks were able to adjust the composition of their asset portfolios in order to increase the overall yield of the portfolio.

> "Unable to generate a sufficiently rapid rise in business and consumer loans to cover the rise in interest costs, banks turned to mortgages and State and local government bonds in their search for relatively high yielding assets...
>
> The tendency to match time and saving account inflows with longer-term investments was accentuated in 1962, when banks acquired over $13 billion in long-term investments against a $15.5 billion rise in time and savings deposit liabilities". (37)

As a result of this adjustment process, commercial banks have been able to prevent erosion of their profitability despite a large increase in their interest payments. The ratio of net income to average total capital accounts of Federal Reserve member banks ranged between 8.7 and 9.6 percent in the years 1961-1965 (average of 9.0% for the five year period), as compared with a range of 7.8 to 10.1 percent in the years 1955 to 1960 (average of 8.6% for six years) (38). From the viewpoint of individual banks, improved operational results justify the growing reliance on time deposits as a source of funds (39). One may wonder, however, to what extent does the banking system perform a useful function when it channels time deposit money into tax exempt securities. The ability of commercial banks to compete in deposit rates with savings institutions enjoying tax advantages was based to a considerable extent on their heavy investments in tax exempt securities. Net income of Federal Reserve member banks increased from $1,689 million in 1960 to

(37) Brill, "Recent Changes in Liquidity", *Federal Reserve Bulletin*, June 1963, 756, 762-3.

(38) Member Bank Income, 1965, *Federal Reserve Bulletin*, June 1966, 785, 786. From 1960 to 1965 interest payments on time deposits went up from $1,434 million to $4,214 million — an increase that absorbed about 60% of the revenue growth in those years.

(39) In trying to refute Carson's doubt (see footnote 32 above) concerning profitability of savings deposits to commercial banks, Dewald, "Bank Earnings and the Competition for Savings", vol. 69 *Journal of Political Economy*, 279 (1961) makes the following remark: "Rather than bankers' competition for savings being a paradox that calls for analysis of special cases, it may be a simple profit maximizing reaction to someone bidding away the wherewithal from which earnings are derived" (282).

See also Horvitz, "Bank Earnings and The competition for savings: A Further Comment", vol. 70 *Journal of Political Economy*, 86 (1962).

$2,103 million in 1965; of this $414 million increase, $361 million can be accounted for by the reduction of taxes on net income (40).

This observation is not meant to cast doubt on the soundness of commercial bank investment in tax exempt securities. Our doubts are related to the extent that active bank participation in competition for time deposit money has actually contributed to a more efficient operation of the money markets. The view that financial intermediaries ought to limit themselves to a certain segment of the capital market is not held nowadays in an extreme form. But some specialization makes sense — and commercial banks are best qualified to lend to business, although they have expanded their consumer and mortgage lending in recent years. Commercial bank competition for savings and time deposits seems to us fully justified when required to meet those loan demands. But in channelling a substantial proportion of their additional assets into tax exempt securities the banks perform an unusual and perhaps unnecessary intermediation function. (The figures in Table 6 illustrate our point). Moreover, investment in municipal bonds may be a risky business. Owing to the relatively long maturity of municipals, banks that are pressed to sell the bonds, when confronted with heavy loan demand, may suffer capital losses (41).

Until 1961 commercial banks acquired a small fraction of the new issues of State and local securities. From 1961 onwards the banks have acquired every year an amount equivalent to 30-40% of the new issues (42). The growing demand for municipal securities had led to a downward trend in the yield on municipals, when most other interest rates were inching up. (It can be seen in Table 6 that until 1961, when the banks started their heavy buying, yields of municipal bonds moved in the same direction as yields of U.S. Government securities).

The foregoing account can be restated much more favorably to the banks' activity in the CD and municipal securities fields. It can

(40) Member Bank Income, 1965, footnote (38) above.

(41) Rothwell, "The Move to Municipals", *Federal Reserve Bank of Philadelphia Business Review*, September 1966, 3. More than 50% of the municipal bond portfolio of national banks in 1965 had maturities of over 5 years (7).

(42) Rothwell, *op. cit.*, 5, shows that between December 1960 and June 1965, member banks in the various Federal Reserve districts invested in municipals from 17.5% (Richmond) to 33.2% (Cleveland) of their incremental deposits. Investment in municipals amounted to 10% of total assets by the end of both 1965 and 1966 (Duffy, "Bank Holdings of Municipals", *Banking*, May 1967, 43).

TABLE 6

ANNUAL CHANGES IN VARIOUS ASSET CATEGORIES
OF FEDERAL RESERVE MEMBER BANKS
($ million)

	1959	1960	1961	1962	1963	1964	1965
Total loans and investments	3,014	7,740	13,980	13,700	17,874	16,145	21,215
Commercial and industrial loans	n.a.	2,462	1,643	2,293	3,642	4,797	8,666
Real estate loans	2,173	332	1,469	2,036	3,750	3,697	3,921
Consumer loans	2,849	1,746	1,230	1,349	2,505	3,711	4,273
Municipals	272	464	2,550	3,344	4,340	3,549	3,945
U.S. Government securities	−7,486	2,293	4,952	1,927	−1,300	−3,328	−2,396
Other loans and securities	5,206	443	2,136	2,751	4,937	3,719	2,806
New issues of State and local securities	7,880	7,292	8,566	8,845	10,538	10,847	11,329
Yield on municipals	3.74	3.69	3.60	3.30	3.28	3.28	3.34
Yield on U.S. long-term	4.07	4.01	3.90	3.95	4.00	4.15	4.21

Source: Surveys of Member Banks Income in Federal Reserve Bulletins.
The figures for 1959-61 are changes from year-end to year-end; the figures for 1962-65 are changes from annual average to annual average.

be claimed that the commercial banks' activity in the CD field has improved capital mobility in the money market, and has been necessary to enable them to perform their traditional lending functions. The banks' involvement in municipal securities has been a condition of their ability to pay competitive deposit rates; and since it is far from being the only imperfection in the capital markets, it may be a price worth paying for the revitalizing of commercial banking.

One complaint voiced against the aggressive use of negotiable CD's is —

"that large well-known banks will be able to buy all the money they can use through the CD, while the smaller institutions... must sit idly and watch their larger rivals buy away their life blood...". (43)

(43) NADLER, "The Use and Mis-Use of CD's", *Banking*, July 1965, 51.

We have not found evidence that this has actually happened, and it seems to us quite plausible that —

"... if bigger banks are hampered in their fight for CD's... then the money now going into larger banks' CD's would go into Treasury bills, bankers acceptances and other money market instruments rather then into smaller bank CD's". (44)

The problem then is to assure that the money raised through the issuance of CD's will be wisely used (45). This requires recognition of the distinctions between CD's and regular savings deposits —

"Failure to recognize that CD's represent volatile funds is perhaps the easiest way to run into difficulties with them". (46)

Since CD's are a costly source of funds, making them pay means investment of the proceeds in relatively long-term and/or risky investments. Reconciling this requirement with the volatility of the negotiable CD leads to the conclusion that this source of funds should not be counted on too heavily.

"I would agree therefore with the views of the Comptroller of the Currency that if we find a bank with roughly more than 10% of its deposits in CD money, we, as bank examiners, ought to take a good look at what is being done with it". (47)

The most important source of CD volatility is competition by other money market instruments. Banks are subject to Regulation Q ceilings — they may find themselves in trouble if other money market rates exceed the Regulation Q ceiling. The implications of deposit-rate regulation to the future of the CD as a source of bank funds will be explored in the following section.

(44) *Ibid.*, 52. See on this point, GRAMLEY and CHASE Jr., "Time Deposits in Monetary Analysis", *Federal Reserve Bulletin*, October 1965, 1380, 1396.

(45) "I am primarily concerned with the quality of credit", CROSSE, "The Role of the CD in Commercial Banks", *Banking*, July 1965, 52.

(46) KAHN, *op. cit.*, 37.

(47) CROSSE, *op. cit.*, 53. The Comptroller issued the following directives to bank examiners in 1965:

- It is an unsound practice to use a money broker to get deposits (whether or not a commission is paid).
- A Report is required when a CD transaction is disproportionate to the bank's usual deposit size.
- Report when CD money is accepted from outside the bank's normal trading area.

4. Regulation of Deposit Rates and the Stability of the CD as a Source of Funds

The regulation of the commercial banks' deposit rates is among the most important factors affecting their ability to rely on negotiable CD's as a permanent source of funds. What is the background to such regulation, and what is its importance under present circumstances?

The prohibition of interest payment on demand deposits and the regulation of time deposit rates were provided for in the Banking Acts of 1933 and 1935. This legislation was "predicated on the grounds that excessive interest rate competition for deposits had weakened the internal soundness of the banking system, and thereby made it vulnerable to any shock imposed from without" (48).

The most common argument for regulation of interest rates was that interest rate competition in the late 20's caused the collapse of the banking system in the early 30's. Excessive rates were linked in this argument with speculative stock market financing, and the crisis atmosphere of the time helped to overcome the congressional resistance to price controls in commercial banking (49). It should be remembered that control of deposit rates was accompanied by legislation providing for price controls in other sectors of the economy, but still there are views that —

> "Had it not been for the complete collapse of the banking structure early in 1933, it is doubtful whether deposit rate regulation could have been incorporated in the new legislation and almost certainly not in such sweeping form as that adopted". (50).

An examination conducted by Cox of aggregate statistics for all member banks indicated relatively little upward pressure on the rates of interest paid on deposits in the 1920's (51). Moreover, he found very little significant relationship between the rate of interest on total deposits and asset quality.

(48) Ritter, "Regulation Q: Issues and Alternatives", 7 (1965).

(49) In this section I relied heavily on Cox Jr., "Regulation of Interest Rates on Bank Deposits", Michigan Business Studies, Vol. XVII, No. 4, 1966.

(50) Watkins, "Commercial Banking Reform" (89-90) quoted by Cox Jr., *op. cit.*, 22.

(51) Cox Jr. expresses the view (48) that some observers might have mistakenly attributed higher burdens of deposit interest to rate competition when in fact it actually reflected a higher proportion of time to total deposits, or lower yields on earnings assets, or both.

But even if the arguments for deposit rate regulation were questionable, bankers were generally satisfied with it in the early years (52), and since until the 50's the maximum permissible rates were above market rates, Regulation Q was inoperative for all practical purposes.

Bankers' attitudes changed in the late 50's, for reasons mentioned above (53). When Regulation Q was amended on January 1, 1957 and the ceiling raised from 2.5 to 3.0 percent, commercial banks were actively engaged in competition for savings deposits (54). This ceiling was still in effect when the negotiable CD was offered to money market investors in February 1961.

It was soon realized that the 1957 ceiling did not give the banks wide enough scope for competition, and it was revised on January 1, 1962 to 4.0 percent on long-term savings and time deposits (see Table 7).

Table 7

DEPOSIT RATE CEILINGS UNDER REGULATION Q, 1936-1965 *
(percent)

	1.1.1936	1.1.1957	1.1.1962	17.7.1963	24.11.1964	6.12.1965
Savings:						
up to 12 months	2.5	3.0	3.5	3.5	-4.0	4.0
12 months and over	2.5	3.0	4.0	4.0	4.0	4.0
Time:						
30 to 89 days	1.0	1.0	1.0	1.0	4.0	5.5
90 days to 6 months	2.0	2.5	2.5	4.0	4.5	5.5
6 to 12 months	2.5	3.0	3.5	4.0	4.5	5.5
12 months and over	2.5	3.0	4.0	4.0	4.5	5.5

Source: *Federal Reserve Bulletin*, March 1967, 400.
* Two further changes in 1966 will be mentioned below.

Meanwhile, as competition for funds pushed deposit rates towards the new ceiling, there were various expressions of opinion in 1962 and 1963 that the time had come to modify the legal framework of deposit rate regulation. The Commission on Money and Credit

(52) According to a 1941 survey mentioned by Cox Jr. (28).

(53) See p. above.

(54) The annual flow of savings and time deposits to commercial banks, which was less than \$1.5 billion (annual average) between 1946 and 1951 and about \$3 billion in the years 1952-56, climbed to \$5.5 billion in 1957 and averaged \$5 billion in the years 1957-60.

recommended that the prohibition of interest payments on demand deposits be continued, but that the regulation of time and savings deposits rates be converted to a standby authority — ceilings to be imposed only when further competition was not in the public interest (55).

The Advisory Committee on Banking to the Comptroller of the Currency shared this view. A majority believed that commercial banks should be free to adjust interest rates paid and charged in response to market conditions, and that the authority to regulate interest rates be converted to a standby basis (56). The Committee expressed the opinion that the task of discouraging banks from taking undue risks could be achieved more directly and efficiently through supervision and examination.

The President's Committee on Financial Institutions, which reported in 1963, also subscribed to the same view in recommending

> "that the purpose served by continuous regulation of interest rates on time and savings deposits could be served equally well by standby authority to impose maximum rates, and that this regulation should apply as well to nonbank financial institutions that accept deposits or shares... In exercising this authority, the supervisory agencies should be permitted to establish, at their discretion, different maximum rates for different accounts according to type, holder, maturity, or other characteristics". (57)

As a consequence of either these distinguished opinions, or of the fact that the Federal Reserve Board amended Regulation Q in July 1963, November 1964 and December 1965, there was considerable feeling and hope among bankers that the Federal Reserve would not keep the ceiling so low that the banks would be unable to compete with other money market instruments (58). Chart 1 below (59) on interest rates on large certificates of deposit shows clearly that Regulation Q ceilings were revised in 1964 and 1965

(55) Money and Credit: Their Influence on Jobs, Prices and Growth, 167-8 (1961).

(56) National Banks and the Future, 115-27 (1962).

(57) Report of the Committee on Financial Institutions to the President of the United States, 19-24 (1963).

(58) NADLER, "Changing Concepts of Liquidity", 24.

(59) This and the following charts are reproduced from GOLDSTEIN and ANDERSEN, "1966 A Year of Challenge for Monetary Management", *Federal Reserve Bank of St. Louis Review*, April 1967, 8, 11.

shortly after the CD rate in the secondary market exceeded the then existing ceiling.

The Board decided however to change this flexible policy in 1966. When the maximum rate was raised in December 1965 by a full percentage point, it was probably felt that enough latitude was allowed the banks for a long time to come.

> "A major reason for setting the new ceiling at this historically high level was in fact to make crystal clear that the System was not trying to designate a desirable rate — which had tended to be the interpretation of earlier more modest increases in the rate ceilings". (60)

But the restrictive monetary policy (see Chart 2 on net reserve availability) and the bulging loan demand intensified the competition for funds, and pushed the CD rate up to the new ceiling in a matter of months. Moreover, while major banks were able to buy virtually all of the money that they needed as credit got tighter, smaller banks and savings institutions found themselves hard pressed (61). The Federal Reserve Board decided not to allow further sharpening of deposit rate competition, and between July and September it took various actions, as described in Table 8 below (62).

When interest rates continued on their way up — see Chart 3 below on key money market rates — commercial banks began losing CD money. The volume of large CD's outstanding in weekly reporting member banks climbed from $16.5 billion in January 1966 to $18.3 billion in July, and then declined as follows: August - $18.2 billion; September - $17.0 billion; October - $15.7 billion; November - $15.5 billion. Recovery began in December, and in January 1967 CD volume was back at its August level (63).

The action of the Federal Reserve was not the only reminder to the banks that they were not yet free to compete for time deposit money. Proposed Bills that were given a hearing in the House of

(60) HAYES, "Interest Rates and Monetary Policy in Perspective", *Federal Reserve Bank of New York Monthly Review*, February 1966, 22, 26.

(61) NADLER, "Changing Concepts of Liquidity", 27. On the advantages of larger institutions see NADLER, "Where Next for Regulation Q?", *Banking*, February 1966, 49, 50. The resentment against such competition was heightened when on May 16 the Franklin National Bank of Long Island announced that it would pay the maximum permissible rate on deposits of as little as $2,500.

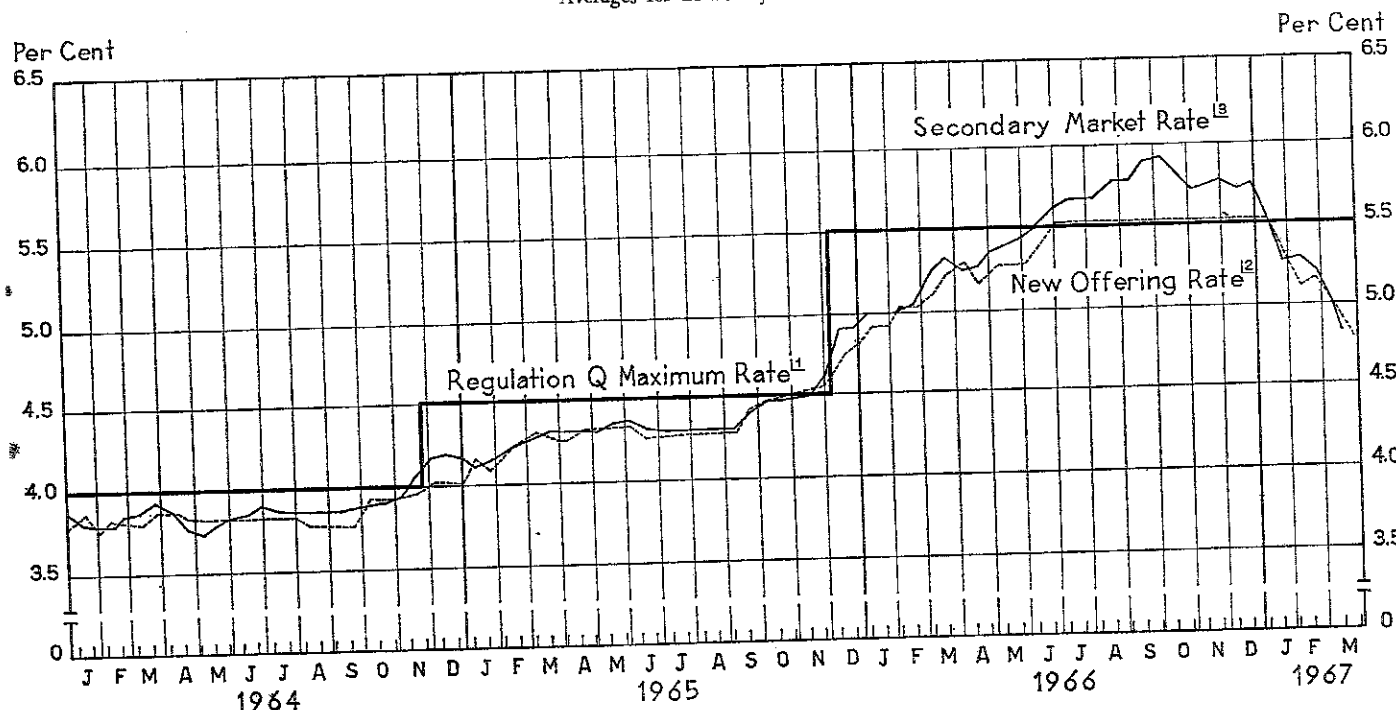
(62) Reproduced from *Federal Reserve Bank of St. Louis Review* (see footnote 59).

(63) *Federal Reserve Bulletin* - weekly reports of dates closest to the end of month. Only certificates of more than $100,000.

Chart 1

INTEREST RATES ON LARGE CERTIFICATES OF DEPOSIT
Three-Month Maturities

Averages for Bi-weekly Periods



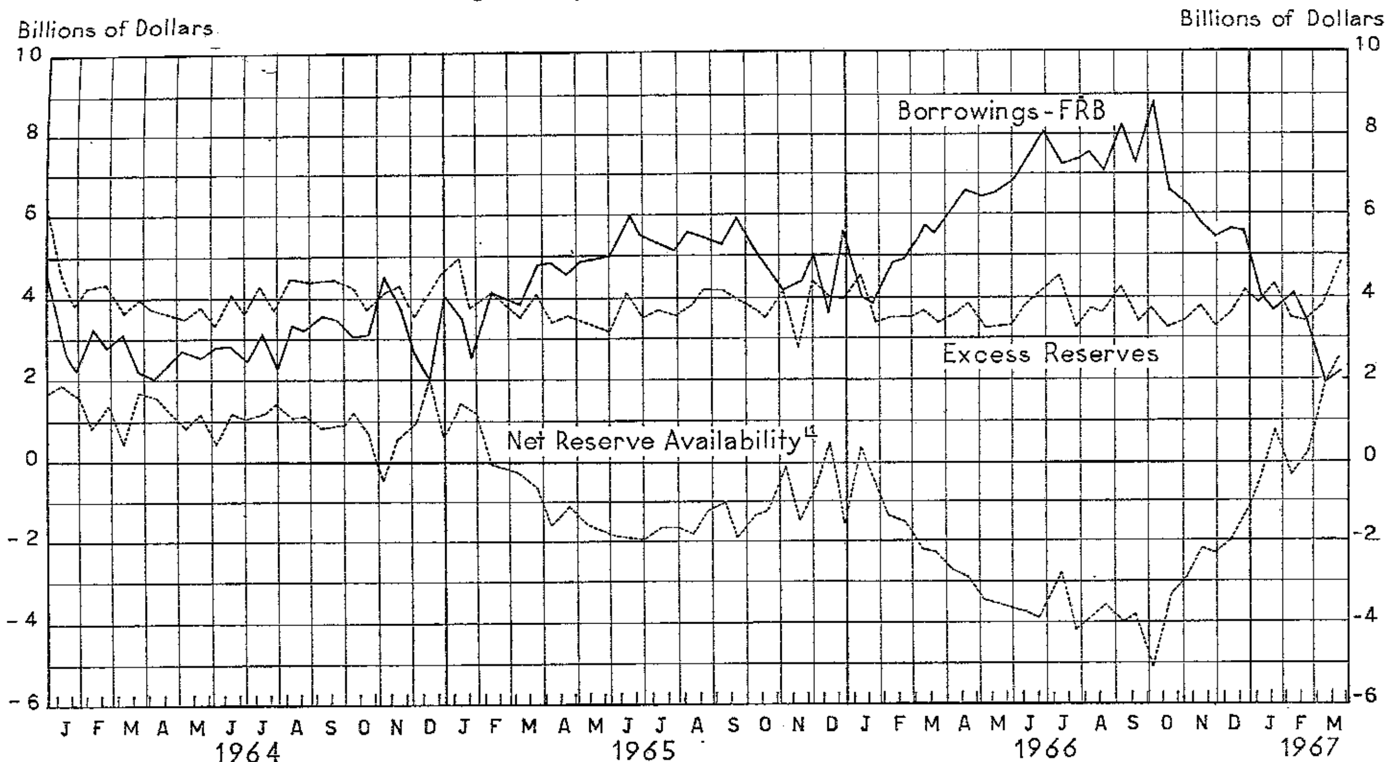
(1) Rate on deposits in amounts of $100,000 or more maturing in 90 days or more.
(2) Friday closing figures reported by Salomon Brothers and Hutzler.
(3) Daily average of rates reported in THE BOND BUYER beginning with data for September 1966. Earlier data is estimated by this bank.

Source: *Federal Reserve Bank of St. Louis Review*, April 1967, 8, 11.

Chart 2

NET RESERVE AVAILABILITY
All Member Banks

Averages of Daily Figures for Bi-weekly Settlement Periods



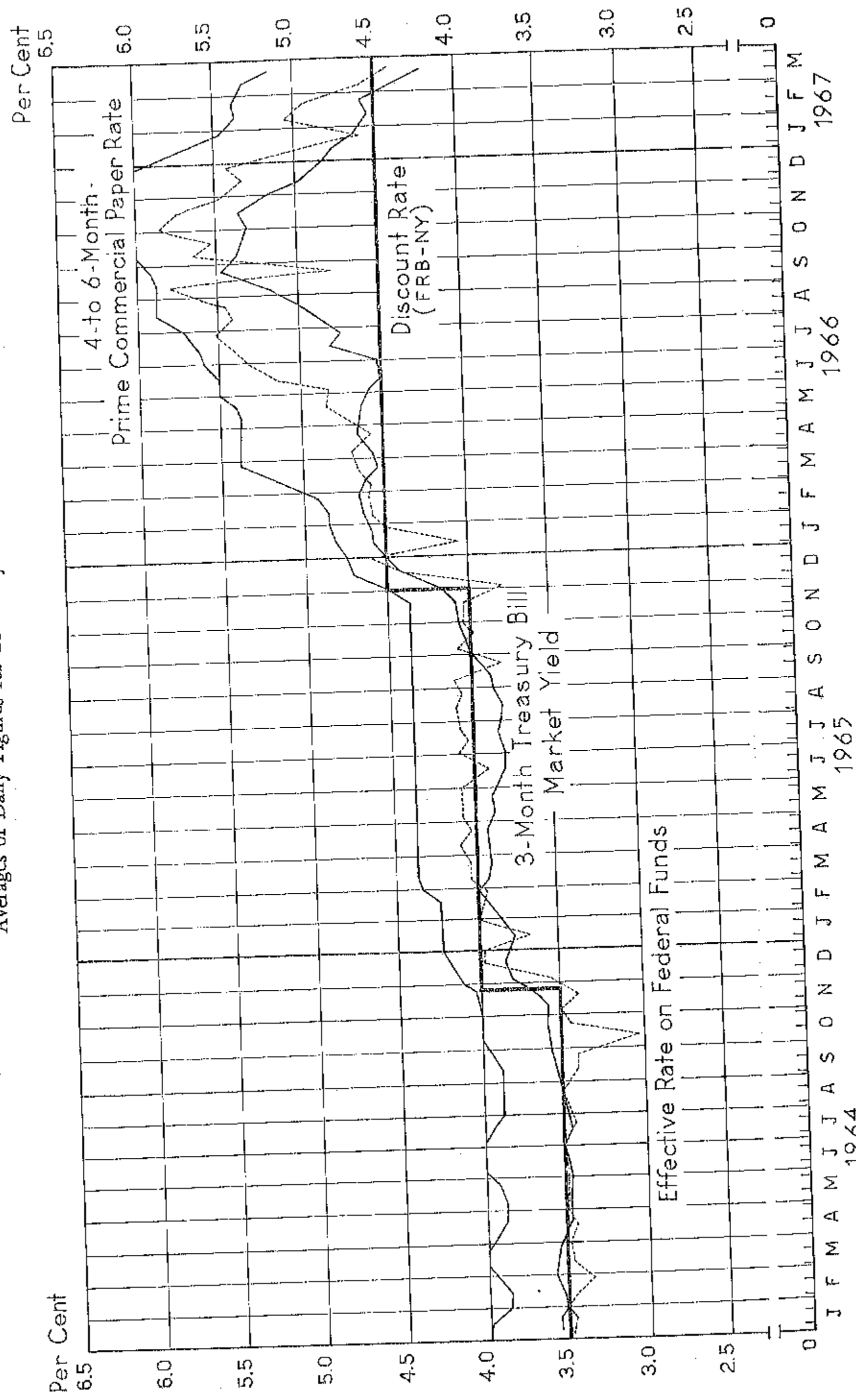
(1) Net reserve availability is measured by excess reserves less borrowings from Reserve Banks. It is called free reserves when positive and net borrowed reserves when negative.

Source: *Federal Reserve Bank of St. Louis Review*, April 1967, 8, 11.

Chart 3

KEY MONEY MARKET RATES

Averages of Daily Figures for Bi-weekly Periods



Source: *Federal Reserve Bank of St. Louis Review*, April 1967, 8, 11.

Table 8

FEDERAL RESERVE ACTIONS COMPLEMENTING OPEN MARKET OPERATIONS IN 1966

Date	Description of Action	Additional Information in the Federal Reserve Bulletin for:
Announced June 27 (Effective July 14 for reserve city banks; July 21 for all other member banks).	Differential reserve requirements established on time deposits. Requirements raised from 4 per cent to 5 per cent on each member bank's holdings of time deposits (other than savings deposits) in excess of $5 million.	July 1966, page 979
Announced July 15 (Effective July 20).	Maximum rate member banks permitted to pay on time deposits having multiple maturities lowered from 5½ per cent to 5 per cent on those of 90 days or more and to 4 per cent on those of less than 90 days.	July 1966, pages 979-980
July 15	Board of Governors requested broader authority from Congress for itself, the Federal Deposit Insurance Corporation, and the Federal Home Loan Bank Board in setting rate limitations for banks and savings and loan associations.	July 1966, pages 979-980
August 17 (Effective Sept. 8 for reserve city banks; Sept. 15 for all other member banks).	Differential reserve requirements widened on time deposits. Requirements raised from 5 per cent to 6 per cent on each member bank's holdings of time deposits (other than savings deposits) in excess of $5 million.	August 1966, page 1172
September 1	Presidents of the Federal Reserve Banks sent a letter to each member bank requesting moderation of business loan expansion and disposition of municipal securities. The letter also stated, " It is recognized that banks adjusting their positions through loan curtailment may at times need a longer period of discount accommodation than would be required for the disposition of securities ".	September 1966, pages 1338-1339

TABLE 8 *continued*

Date	Description of Action	Additional Information in the Federal Reserve Bulletin for:
Announced September 21 (Effective September 26).	Maximum rate member banks permitted to pay on any time deposit under $100,000 reduced from 5½ per cent to 5 per cent. Similar actions for institutions under their jurisdiction taken by Federal Deposit Insurance Corporation and Federal Home Loan Bank Board. Increased authority for establishing ceiling rates on time deposits and on savings accounts had been granted by Congress (see July 15 request for such legislation).	September 1966, page 1338
December 27	September 1 letter rescinded because « credit conditions have changed, the expansion of business loans has been reduced to a more moderate rate, and banks no longer are unloading securities in unreceptive markets ». Special discount arrangements mentioned in the original letter were terminated.	January 1967, page 83

Source: *Federal Reserve Bank of St. Louis Review*, April 1967, 8, 11.

Representatives Banking and Currency Committee went as far as prohibiting altogether the issuance af CD's by commercial banks (64).

Whatever the outcome of the proposed legislation, the experience of 1966 makes it unlikely that commercial banks will be left alone to decide their deposit rates. Faced with the prospect of competing rates exceeding the Regulation Q ceiling, they must take care not to rely too heavily on CD money, and to space the maturity of the issued certificates so as to assure the gradual withdrawal of funds in case of deposit rate handicap. The concept of liability management has proved to be less all-powerful than assumed before July 1966.

(64) The various legislative proposals are reviewed by BRATTER, " Interest Ceilings: A Pending Problem in Washington ", *Banking*, July 1966, 50.

In concluding this paper we shall try to summarize the significance of the emergence of the negotiable CD, in the light of the sobering experience of 1966.

Conclusion

The significance of the development of the negotiable CD as a major source of bank funds can be examined on three different levels: the individual bank, the structure of the banking system and the banking system among other financial intermediaries.

As far as the individual bank is concerned, the negotiable CD is both an opportunity and a risk. Issuing negotiable CD's, banks could attract funds that would otherwise have been invested, mostly in money market instruments, and to some extent in competing financial institutions. The opportunity represented by the CD is a faster rate of growth, and a consequent improvement in profitability.

The risks inherent in entering the CD business are more varied. They derive on the one hand from the volatility of these funds, which may leave the bank, in pursuit of higher returns, as precipitately as they arrived. On the other hand, there are risks in investing CD money, to make it pay its way. Investment in long term assets — mortgages, term loans, municipal bonds — yields the highest return, but may cause the bank difficulty if CD money is suddenly withdrawn in large amounts (65).

Most CD money is attracted by large banks, the main reason being that corporate depositors, interested in the marketability of the certificate, are looking for major bank names (66). What is the probable effect of CD growth on the structure of the banking system? Is there a real danger that CD concentration will undermine the competitive position of small banks? An answer to this question requires a careful study, though there has been no deterioration in the standing of small banks in recent years (67). It seems to us that factors such as automation of the payments system on the

(65) On the growth of term loans and its significance see BUDZEIKA, " The Maturity of Loans at New York City Banks ", *Federal Reserve Bank of New York Monthly Review*, January 1967, 10, and BRATTER, " Term Loans Attract Fed's Attention ", *Banking*, May 1967, 56.

(66) See Law and CRUM (footnote 13 above), 120.

(67) Changes in Banking Structure, 1953-62, *Federal Reserve Bulletin*, September 1963, 1191, 1196; KOHN, " The Future of Small Banks ", New York State Banking Department, 1967.

one hand, and the freedom (or restriction) of entry and branching on the other hand, will be much more crucial to the structure of the banking system in the long run than the employment of the negotiable CD by large banks (68).

The competitive position of the banking system in the capital markets has certainly been affected by the CD. The more important aspect of this change seems to us to be the improved mobility of funds between commercial banks and other segments of the money market. However, the more intensive competition between commercial banks and other savings institutions has not been an outcome of the emergence of the CD, but rather of the greater interest of commercial banks in other forms of time and savings deposits.

The proposals to limit the ability of commercial banks to compete with savings institutions give rise to a basic policy problem in the field of financial regulation. To what extent is it worthwhile to try and attack a single distortion in the competitive functioning of the capital markets? Will relaxation of Regulation Q be an improvement when other competitive limitations are not removed? An effective, and not legally restricted, competition for funds calls for less portfolio limitations on the institutions involved (69). There are arguments for a segmented capital market, in which each group of institutions will specialize in attracting certain types of funds and in investing in certain categories of assets. But if commercial banks are competing for time deposits with savings institutions, the latter should be given more latitude in their competition with the banks.

Our conclusion is that there are still many barriers to effective competition in the financial markets. The emergence of the CD, while overcoming some of them, has highlighted the continued existence of others. If this will lead to the removal of some of the barriers, the contribution of the CD to an efficient capital market may be greater than realized at present.

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(68) GREENBAUM, " Competition and Efficiency in the Banking System - Empirical Research and its Policy Implications ", The American Bankers Association, Conference of University Professors, September 17, 1966.

(69) See on this point KREPS Jr. and LAPKIN, *op. cit.* (footnote 29).