FUNDAMENTAL REAPPRAISAL OF THE DISCOUNT MECHANISM

THE SECONDARY MARKET FOR NEGOTIABLE CERTIFICATES OF DEPOSIT

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Prepared for the Steering Committee for the Fundamental Reappraisal of the Discount Mechanism Appointed by the Board of Governors of the Federal Reserve System

The following paper is one of a series prepared by the research staffs of the Board of Governors of the Federal Reserve System and of the Federal Reserve Banks and by academic economists in connection with the Fundamental Reappraisal of the Discount Mechanism.

The analyses and conclusions set forth are those of the author and do not necessarily indicate concurrence by other members of the research staffs, by the Board of Governors, or by the Federal Reserve Banks.

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I INTRODUCTION

This study is designed to serve several purposes: (1) to evaluate the operations of the secondary market for negotiable certificates of deposit (CD's) as a source of funds complementary to the discount window; (2) to determine whether it is feasible and desirable to promote a further development of this market so as to modify commercial bank reliance on the discount window; and (3) if such is the case, to recommend the degree, if any, to which the Federal Reserve should become involved in promoting the development of this market.

The study includes an analysis of available data on CD's to determine how the existing market functions and the extent to which banks of various types operate in it. The analysis has been supplemented by "personal interviews with knowledgeable market participants." These interviews attempted to assess the current nature of this market with respect to "depth, breadth, and resiliency" and to ascertain any changes in these market qualities over time -- seasonally, cyclically, or secularly. An attempt has also been made to determine the underlying causes for any deficiencies in market operations for the several classes of banks studied.

Some consideration has been given to procedures that could improve market operations. The problems that the Federal Reserve would encounter if it were to act as a clearing house for information on the market, to function as a broker, or to deal in such liabilities as an integral part of open market operations have also been considered.

II MAJOR FINDINGS

The development of the secondary market for CD's accelerated the growth in amounts of certificates outstanding, increased the acceptance of certificates as a money market instrument, and enabled them to become competitive with Treasury bills, commercial and finance company paper, bankers' acceptances, and other short-term instruments as a medium for investment. In this connection one of the principal functions of the market has been to provide CD's with shorter maturities than those originally permitted issuers by Regulation Q; these shorter maturities have made it possible for original holders of CD's to liquidate them before maturity, if need be, and for buyers to acquire desired short-term certificates at attractive rates. The market served this purpose most fully after its initial development -- that is, after the period 1962-65, when CD's that might have had shorter-term maturities were not issued because permissible ceiling rates were too low.

The increased versatility of CD's issued by leading banks in principal money centers where a secondary market for certificates has developed has enabled issuers to tap the national pool of short-term funds without a concurrent obligation to make a loan to a customer. The mere existence of the market, however, has increased the acceptance of CD's of all issuers.

The market has been most active when profits could be obtained by "riding the yield curve." The potential for such profit was greatest during the years 1962-65 when prospects sometimes suggested that short-term interest rates would be stable or would decline. During these years Regulation Q ceilings on the shorter maturities were somewhat below market rates for long periods, and the ceiling -- in effect --

provided a cushion against market loss as holdings approached maturity. The yield curve descended as maturity shortened, and this made it possible for original holders to offer their CD's at lower rates (higher prices) than those available at the time the certificates were acquired -- thus establishing a profit over and above the interest earned during the period held. Dealers often were able to acquire certificates on a favorable "carry" -- either with repurchases or with dealer loans; to hold them for an additional period to shorten the maturity; and then to sell them or offer them for repurchase again, depending upon the money market outlook. Third-party buyers were also attracted by the possibility of profits. In general, however, there was a tendency for over-all market activity to decline after the change in Regulation Q in November 1964, which permitted issuance of certificates with maturities of less than 3 months.

The secondary market underwent radical deterioration during 1966 after the establishment of a single rate for all CD's with maturities of 30 days or more. The year is distinguished from the previous period by the extreme influence of both rate and nonrate factors. The potential for profits from "carries" largely disappeared, and original issues were available at maturities as short as 30 days at maximum ceiling rates -- particularly during the last half of the year. Dealer positions were exposed to undercutting. With the single rate of 5 1/2 per cent on all maturities, issuers could make unexpected changes in rates on various maturities. As market rates approached and later exceeded ceiling rates during the summer, dealer positions and trading volume dropped to very low levels. Distress selling also characterized the market at times during the year. After July, if certificates were

sold before their due dates, there was a constant risk of loss on the principal.

During the latter part of December 1966, dealers began to rebuild positions in anticipation of taking profits as interest rates eased. By the year-end dealers had made large additions to their inventories as prospects seemed to indicate an abrupt and rapid movement toward lower levels of the over-all structure of rates. Positions reached a record high average in January 1967. Dealers acquired some volume of CD's with desirable maturities at 5 1/2 per cent. Trading increased but less correspondently than dealer inventories. While there was some lengthening in maturities on new offerings of CD's as rates fell below the ceilings, some issues with shorter-term maturities were also available.

This episode seem to represent a complement to the one in 1966 characterized by the dramatic rise in rates. The secondary market under "normal conditions" -- a period of general stability in interest rates without constraints on various maturities resulting from rate levels set by Regulation Q -- is still to be tested.

Certificates of roughly 30 to 35 banks form the bulk of the market and have accounted for most of the trading. The market classifies certificates according to 3 categories of issuing banks prime, lesser-prime, and off-prime. Although the designation given to any bank may vary from one buyer to another, the prime category generally includes from 12 to 20 banks; the lesser-prime category, from 35 to 45 banks; and the off-prime group, all other banks. In general, prime and lesser-prime names include banks with deposits of

at least $500 million.

Most prime-name banks are banks of international and national prominence, and their certificates trade at the lowest yields. Certificates of lesser-prime names trade at a small spread above this level. Those of off-prime names, if traded, carry a somewhat larger spread; or at times their spreads are negotiated. The common unit of trade is $1 million, but denominations of as little as $100,000 -- like lesser-known names -- trade at slightly higher yields.

In 1966, with the change in character of activity in the market, trading of bank issues was limited to 15 to 20 of the best names. Buyers revised their authorities to purchase, and some firms even rescinded the authority to buy CD's. By February 1967, most of the previous authorities had not been fully restored.

While the secondary market for CD's performs the basic function of enhancing liquidity of certificates, it is limited in "depth, breadth, and resiliency." Limitations in terms of these qualities -- particularly when compared with competing markets -- arise principally from the existence of Regulation Q provisions that set maximum rates on various maturities of certificates. Moreover, some of its limitations may reflect its relatively short period of development, during part of which it has been exposed to an unusual conjecture of events. In contrast, markets for banker's acceptances and for Treasury bills have developed over long periods and have received official aids. Commercial and finance company paper are not subject to rate limitation.

From the viewpoint of "depth" there is no substantial evidence of large orders on dealers' books at prices either above or below

the market, even at its peak of activity. At times dealers find it difficult to match demand and supply, and they cannot always adjust their positions readily, because of the irregularities that occur in both supply and demand. These irregularities are caused by a number of variables arising from interconnection of market and ceiling rates, rigidity of the authorities under which many borrowers operate, and the attitudes and expectations of both issuers and buyers. Holders sometimes face delays in "pressing sales," that is, when they need to sell a large block of CD's in a short period of time. Corporations, for example, often make purchases in the market only in response to dealer offerings. On the other hand, dealer purchases at times reflect merely an accommodation of the customer -- the dealer being repaid with other business.

From the viewpoint of "breadth," buyers and sellers represent an increasing number of divergent investor groups, but the principal buyers and sellers have been and still are corporations. In many ways the CD market is analogous to the municipal market, in which there are many issuers but a relatively small group of large investors.

From the viewpoint of "resiliency," the market is generally slow to adjust to rapid changes in rates. New orders do not flow in promptly to take advantage of sharp and unexpected fluctuations in prices, and changes in the rates cause no substantial or rapid changes in inventories. Even with a consistent increase in outstanding CD's, trading has declined. The volume outstanding rose steadily from early 1961 to a peak of about $18 billion in August 1966 -- with a tendency toward progresssive shortening of maturities, in part in response to Regulation Q changes. But trading on an average day in August 1966

was only $22 million, in contrast to $85 million in January 1965. This was true despite the fact that an increasing volume of short maturities was available from issuers.

During the last quarter of 1966 both dealer positions and trading reached virtual historical lows. Although dealer positions rose rapidly in January 1967 in anticipation of profits as rates shifted downward, trading did not rise in proportion. Regulation Q ceilings since 1961 have made the connection between the primary and secondary markets more intimate and have made trading activity dependent to a large extent on levels at which the ceilings were set on various maturities in relation to other market rates.

If Regulation Q continues to maintain a single ceiling rate for CD's with maturities of 30 days or more, trading in the secondary market will continue at very low levels as long as new-issue rates are at the ceiling and market rates on comparable maturities are above the ceiling rate. The secondary market supply of CD's declines. Investors in outstanding issues sell into the market only as a last resort to avoid capital loss. Dealers face a penalty cost in carrying positions. As well, there is a competing supply of desirable investments with coupons or yields not subject to the restriction of regulation. Although dealers will make some bids which vary with maturity and reflect the structure of market rates, there is evident discontinuity in this market as compared with some others when money is tight. Many trades are negotiated on an individual basis. Expectations of both investors and dealers include the possibility of a change in Regulation Q.

Trading should increase as market rates of interest fall below the Regulation Q ceiling and conditions permit issuance of new CD's. However, trading will fluctuate with the ability of banks to issue

maturities in excess of the 30-day minimums, and it will be the market that will supply paper with the shorter maturities. Under these conditions dealer positions will be more exposed than when the Regulation restricted issues of certain maturities, and the potential for profits may tend to be relatively small. Hence, dealers will run the risk of having issuers make unexpected changes in rates at various maturities, thereby undercutting their positions. They are also exposed to the risk of an unexpected change in Regulation Q.

Even with a new-issue market substantially larger than at present (mid-February 1967), secondary trading probably will not reach the levels of 1964-65. Further development of the market on comparatively smaller volume under conditions that suggest stable or declining rates, however, could lead to a narrowing of spreads such as has characterized trading in certificates of lesser-prime and off-prime banks. Assuming that the rate of growth that has characterized the new-issue market subsides, yields may also decline relative to competing investments. Yields to date (mid-February) have probably been sweetened to promote the market.

The spreads in yields that both the primary and secondary markets have established for CD's of some lesser-prime and off-prime names arise from several factors. When their authorizations permit discretion, buyers will refuse certificates of lesser-known names when those of better-known names are available at or near the same rate. In this sense buyers discriminate against certificates of the smaller and less well-known banks. Differentiation of names became more widespread after the failure of banks in Texas, California, and Colorado in 1964 and 1965.

Premium yields arise in part as an inducement to the buyer to take lesser-known names and in part as compensation to the dealer for additional marketing effort and cost. Dealers state that they have to make more effort and have to educate customers in order to sell CD's of lesser-known names. Such certificates must be carried in position longer; they are more difficult to place on repurchase or on loan, even though CD's of some prime names may be included in their package; and they cause the dealer trouble and expense in checking the volume of outstandings and in considering other relevant information of the particular bank.

Some smaller banks with good reputations issue CD's to local customers at the same rates as prime banks issue them to national customers, or possibly at lower rates. Markets are differentiated, however, and sales of locally oriented certificates in the secondary market call for a higher yield because the bank in effect is tapping the national market at one step removed. Yield spreads thus are viewed as an impersonal market mechanism for regulating new issues. Both the rate on the new issue and the premium yield in the secondary market in this case do not reflect arbitrary actions but rather a response to influences of the national short-term money market.

Yield spreads could be eliminated if cash guarantee were made by the Federal Deposit Insurance Corporation. Or if a dealer would certify credit on a bank's certificate -- charging 1/8 of a per cent as is the practice with acceptances -- such spreads could be reduced and standardized, with improved marketability for the CD's. However, dealers believe that impersonal market evaluation of credit risk should be encouraged, and they do not want to assume the obligation of certifying credits. Participating dealers view the market as

presently selecting, on this impersonal basis, those banks that can grow or be "tided over" on the basis of CD's, but these dealers will not give a guarantee of credit soundness.

If the Federal Reserve Banks were to act as clearinghouses for information or to function as brokers in matching the demands of smaller, expanding banks for funds with any supplies of surplus CD funds of other banks, these actions would be viewed with concern by participants in the market. Both issuers and buyers state that action would be considered as tantamount to a guarantee of soundness of the expanding bank. And if the bank should become overextended, the Federal Reserve would be blamed.

If there were no effective ceiling on rates -- so participants argue -- any bank could bid for funds, but the problem of rate differentials would remain. The rate paid by the individual bank would become an increasing function of the average rate prevailing in the market, the volume of CD's outstanding, and the amount of new issues proposed. This development could conceivably lead to a more even flow in the marketing of issues. Under these conditions, the preliminary cost of offerings by smaller banks might be reduced but not eliminated. Such premiums would bring interest costs on offerings by these banks to the ceiling sooner where they would encounter other inelasticities in the current market, such as the inability to issue -- or the increased difficulty in issuing -- certificates when large banks are in the market. Improved market techniques and the increasing familiarity of buyers with good reputations will help to reduce current differential yields in trading on a number of names.

In early 1966 a large commercial paper house, commenting on the

"inequity of money rates," stated that the secondary market yields on certificates of major money market banks had consistently been higher than those on major finance company paper of similar maturities since August 1964. This was attributed to weak secondary market support of CD's. Money costs for smaller regional and money-center banks reflected premiums above these rates. In an attempt to improve the liquidity of CD's and the mechanical ease of trading -- looking toward reduction of the premium and a proper yield relationship to the other money market instruments -- this firm suggested organization of a consortium of regional banks and recognition of the firm as the leading dealer in their secondary market certificates. The firm would then undertake to make a market that would reflect an "appropriate dealer spread" such as exist in acceptances. For instruments of members the dealer would post daily rates and would advertise a market with a spread of 10 basis points. This market would be quoted in units of 5 basis points with various maturity categories similar to those for acceptances. Adjustment to the rate scale would be made when the dealer's position reached key levels in relation to the amount of financing available to the dealer.

Participating banks could post rates for original issues of certificates at the sell side of the dealer's posted market rate, or at a lesser rate. The participating banks would provide the dealer with any financing necessary to carry reasonable positions at a rate equal to the interest earned on certificates held in loan position less any trading loss on certificates sold out of positions. In such an arrangement no profit would result to the dealer on certificates in position. This plan was expected to provide that the issue rate for members would be reduced substantially. On the assumption that the participating banks would obtain Federal funds to provide dealer financing, it was

expected that there would be a profitable arbitrage between the Federal funds rate and the interest earned on certificates held in loan. By establishing a known and advertised market for the certificates, it was anticipated that the issue rate for participating banks would be reduced to levels prevailing for major finance company paper and bankers' acceptances.

The consortium, however, could not be formed. One reason was that most of the prospective participants thought that they were placing CD's satisfactorily. Another was that some participants thought that customer relationships would be taken advantage of and that the benefits of the arrangement favored the dealer. Since losses would be absorbed by the lending banks and the cost of "carry" would equal the CD rate, there would be no cost of "carry" to the dealer.

Many participants continue to describe the certificate as a clumsy instrument, and they state that the preference among institutional portfolio managers is for issuance of CD's on a discount basis. Issuance on a discount basis would facilitate computation of purchase and sale prices and would avoid the awkward formula presently in use. Furthermore, issuance on a discount basis would generally make it possible for holders to avoid showing book losses unless a very sharp change in rates occurred; some large buyers currently will not sell into the market if a book loss would result. If these changes were made, the resulting advantages might increase the marketability of certificates substantially.

Market participants stated that they believed that the Federal Reserve would perform a disservice if it entered the market for CD's on a bid basis. Destruction of impersonal relationships was feared.

Others thought that the "feel of the market," which is provided now by changes in flows and rates, would be lost.

A letter of inquiry from the Joint Economic Committee of the U. S. Congress forwarded to monetary economists in late 1965 asked whether the Federal Reserve should "supplement its portfolio of Federal Government securities with other types of assets such as commercial loans, foreign exchange, municipal securities, corporate bonds, mortgages, and commodities?"

Replies were received from 86 economists and others interested in monetary economics, and these were published in January 1966. About one-third of the respondents expressed the opinion that current policy should be maintained because acquisition of private credit instruments would involve entrance into relatively narrow markets and impose burdens of credit analysis. Purchases and sales of selected issues would subject the Federal Reserve to political pressures and criticisms that should be avoided. Less than one-tenth of the respondents preferred to give the System as much flexibility as possible. They indicated, however, that the System should be free to determine its own policy.

About one-sixth favored operations in private credit and municipal markets. Advantages that were cited include increased ability to influence the cost and availability of credit and to stimulate certain sectors of the economy and certain types of spending. One economist specifically recommended dealing in CD's.

III NEGOTIABLE CERTIFICATES OF DEPOSIT

Certificates of deposit have been used for many years by commercial banks in the United States to attract time deposits. In part these instruments represented long-term savings, but they were also used as temporary investment havens for interest-sensitive funds of business firms and large investors. As far back as 1900,certificates were popular instruments at many banks, particularly in the Midwest and in parts of the South. Even national banks -- although they lacked the express authority to accept time deposits -- reported the issuance of some certificates.

By 1913, when the Federal Reserve Act was passed and the powers of national banks to accept time deposits were clarified, competition for these deposits was common among national as well as state banks and trust companies. As time deposits grew rapidly during the 1920's, observers noted that a large part of the increase represented funds that would ordinarily go into demand or commercial departments of banks. They referred especially to funds that were placed in savings deposits or CD's without definite maturity. Issuers did not expect that these certificates would be traded, even if they were issued in negotiable form. In fact, there was no organized secondary market for such certificates, and their volume was limited.

But after World War II a new setting emerged -- a more closely integrated banking system along with a national money market. Many commercial banks accepted time deposits as an accommodation to corporate and other organizational customers, but they did not actively solicit such deposits. Many certificates offered to corporations

were tied to loan agreements and did not draw interest.

As the postwar period developed, the money market structure changed -- passing from one with an overhang of surplus reserves to one of relative reserve scarcity. In addition, a new generation of financial officers emerged. These officers, in charge of corporate treasuries and in responsible positions in banks and the money markets -- stimulated by large cash flows, rising interest rates, and other costs -- established new arrangements for sources of financing as well as investment. As interest-sensitive corporate treasurers trimmed their companies' operating balances to low levels, some instability and shrinkage of deposits resulted, particularly at banks in New York City. At the same time major banks in other areas of the nation were growing, and many concerns were turning to these banks for some of their principal banking services. Deposits of New York City banks fell from 21 per cent of the total for all banks in the United States at the close of World War II to about 15 per cent at the end of 1960.

In order to combat both instability and shrinkage of deposits, the New York City banks announced in early 1961 that they would begin to issue interest-bearing certificates. Issuance was expected to attract short-term corporate funds lodged elsewhere in the banking system and to provide an instrument that would compete for corporate balances being invested in a variety of money market instruments, principally in Treasury bills.

In late February 1961, the First National City Bank of New York began offering certificates to domestic business corporations, public bodies, and foreign sources. Two things concerning these certificates represented innovations in financial markets. One was that, according to public announcement, the certificates would be negotiable. And

secondly, the Discount Corporation of New York, a leading dealer in U. S. Government securities, announced that it would make a market for certificates to provide liquidity, thus broadening the appeal of this type of investment.

A. Growth

Public awareness of the negotiability of these certificates and provision of a secondary market for them increased their appeal considerably. Other banks quickly followed the lead of National City Bank in offering certificates, and other dealers joined in making a market for the certificates. A little more than a year later, negotiable certificates of deposit outstanding at the nine largest banks in New York City were estimated to total $1.3 billion, and almost that amount was outstanding at the leading banks outside New York -- Chicago and other principal cities. This brought the countrywide total to about $2.5 billion. The great bulk of these certificates were in large denominations -- units of $1 million or more -- which trade easily in the secondary market.

Member banks have been the chief issuers of CD's. Most nonmember banks are small, and more than 90 per cent of the number hold deposits of less than $5 million. These banks are unable to issue certificates to any extent -- and in any event none in denominations that appeal to investment buyers. Issues of certificates in denominations of $100,000 or more by member banks accounted for 40 per cent of the increase in time and savings accounts at the weekly reporting banks from 1961 to the end of 1965.

Certificates of deposit underwent very rapid expansion in 1962 -- reflecting (1) the increasing acceptance of the instrument and (2) the

development of the secondary market, which had begun in the spring of 1961. By the end of 1962 leading commercial banks in New York City and Chicago had become by far the largest issuers. They accounted for one-third and one-sixth, respectively, of the $5.8 billion outstanding. The marked growth of the certificates at the large banks reflected a liberalization of banks' offering policies. Their previous policies had, for the most part, limited issuance of certificates to occasional customers and had been in sharp contrast to the more liberal issuance policies followed by many smaller banks and by banks located in the South and Southwest. The decision of the larger banks created a new market for certificates and accelerated the increase in volume of all issuers. At the year-end the total outstanding amounted to $5.8 billion and was in excess of, or close to, the totals for most other short-term investment instruments, as shown in Table 1.

Expansion continued at a rapid pace until December 31, 1965,

Table 1

SELECTED MONEY MARKET INSTRUMENTS,
DECEMBER 31, 1960 and 1962.
Billions of dollars

	1960	1962
Certificates of deposit	0.8	5.8
Bankers' acceptances	2.0	2.6
Commercial paper	4.5	5.9
Short-term municipal securities	4.0	4.8
Treasury bills	39.4	48.3

with year-over-year monthly rates usually ranging from 29 per cent to 35 per cent. In 1966, however, the rate of gain slowed from 22 per cent in January to 7 per cent in September; and in November the total actually declined by 6 per cent. At the end of 1963 outstanding CD's reached $10 billion; in 1964, $13 billion; in 1965, $16 billion; and in August 1966, a peak of more than $18 billion. After August the total began to decline as short-term market rates on certificates rose and remained above the 5 1/2 per cent ceiling established by Regulation Q. By the end of November more than $3.2 billion of CD's had run off and they could not be renewed because of the tight money market and the suppressing effect of the Regulation Q ceiling.

In December, however, the atmosphere changed. Largely in response to the easing of rates during the month and the subsequent rapid decline after the year-end, banks were able to resume issuance of CD's. Between mid-December and the end of January 1967, they issued about $3.1 billion of certificates, bringing the total outstanding back to $18.1 billion. By the first of February most banks with deposits of $1 billion had posted rates of 5 1/4 per cent for all maturities, while a few were offering rates of 5 per cent.

The growth in CD's was widespread geographically as well as by size of bank but differed somewhat among Federal Reserve districts, as shown in Table 2. In part these differences reflect changes in certificate-issuance practices before 1961 and the policies of various bank managements. Banks in the South and the Southwest, which had issued certificates before 1961, have a larger base; hence, they reported a slower rate of growth.

Table 2

NEGOTIABLE CERTIFICATES OF DEPOSIT, BY FEDERAL RESERVE DISTRICT
December 30, 1961, and May 18, 1966
(Denominations of $100,000 or more)

Federal Reserve district	Amounts			Issuing banks			
	In millions of dollars		Per-centage increase	Number		Percentage of all banks in district	
	Dec. 30, 1961	May 18, 1966		Dec. 30, 1961	May 18, 1966	Dec. 30, 1961	May 18, 1966
Boston	82	829	911	16	59	6.0	23.0
New York	1,102	8,165	640	26	83	5.5	20.0
Philadelphia	41	525	1,181	7	19	1.0	4.5
Cleveland	233	1,363	484	16	24	3.0	5.0
Richmond	93	233	106	13	47	3.0	11.5
Atlanta	53	374	606	13	59	3.0	14.0
Chicago	351	2,166	516	32	84	3.0	8.0
St. Louis	34	288	747	12	16	2.5	3.0
Minneapolis	30	278	827	4	27	1.0	5.5
Kansas City	78	334	328	26	64	3.0	7.5
Dallas	340	1,115	225	36	86	5.5	13.0
San Francisco	456	2,053	350	31	64	19.0	29.0
	$2,893	$17,723	512	232	632		

Note -- Data for December 30, 1961, are based on a survey of 410 member banks (351 weekly reporting banks and selected additional banks believed to have an appreciable volume of negotiable CD's outstanding). Some adjustment in the data for several Federal Reserve districts has been made to eliminate CD's under $100,000 in denomination. Data for May 18, 1966, are based on a survey of virtually all member banks and on Federal Reserve Board Release H.4.2. Results of the surveys without adjustment appear in the Federal Reserve Bulletins, for April 1963, p. 458 ff.; and August 1966, p. 1102 ff.

Issuance of CD's is concentrated in banks with deposits of $1 billion or more. This group of banks accounted for 72 per cent of the total outstanding at the August 1966 peak as compared with 54 per cent at the end of 1961. Even at that time certificates issued by the largest banks accounted for about the same percentage of outstandings as did the total deposits of these banks to total deposits of all issuers.

Issuance is further concentrated in the leading banks in New York City, and banks there have consistently maintained or increased their relative share. It is New York's position as a money market that gives it the major fraction -- almost 40 per cent -- of issues as compared with any other financial center. Within the city are the headquarters or financial offices of most of the large domestic business corporations, and they normally would be expected to deal with local banks. Even if they do not have offices in New York, financial officers often visit the city, and some take out CD's there in anticipation of future customer relationships.

Issues of smaller banks, however, have experienced sharp increases, and the participation of these banks is reflected in the size of the certificates issued relative to the size of the issuer. As early as 1961, about two-thirds of such issuers had some certificates outstanding in denominations of $500,000 or more, a denomination ordinarily traded in the secondary market, and about 83 per cent of the issuers had some CD's at least as large as $100,000, a denomination traded on occasion in the early market and with more frequency as the market has developed.

Although the rise in volume has been rapid and continuous, some seasonal patterns in outstanding CD's are evident. The amounts decline around the quarterly tax and dividend dates and subsequently rise in substantial amounts in preparation for the next payments.

Some bankers argue that the ability of the larger banks to increase or decrease time deposits by large amounts with small shadings in rates or by lengthening or shortening the maturities offered, has

contributed to increased flexibility in the expansion and contraction of the total supply of money market instruments. In turn, this factor has tended to reduce the size of changes in money market rates associated with a change in demand.

The market from time to time over the period of development has exhibited a short-run elasticity as to the size of the market. When New York City banks withdraw certificates or issue fewer of them, banks outside of New York may increase offerings and attract more funds. Regulation Q ceilings also affect smaller banks more severely at times than they do the large prime-name banks, unless offerings are in local markets.

B. Characteristics

In view of the growth in CD's as a financial instrument, a description of the characteristics most common to them would seem to be in order.

1. Denominations. Certificates are offered in a variety of denominations. These range from about $25,000 to $10 million and higher. Denominations larger than $1 million, however, became a rarity as the secondary market developed. Limits are closely and directly related to the size of the issuing bank. Smaller banks holding the excess balances of the generally smaller local or regional organizations that they serve cannot set limits beyond their customers' reach, and CD's of these banks account for most of the outstandings at the lower end of the denominational range. Most often, however, denominations are $100,000, $500,000 or $1,000,000. The larger banks set their lower limits in these ranges because they compete only for funds that are interest-sensitive and that would òtherwise enter the money

market. Limits have some flexibility, and the large banks may set aside these limits at times to accommodate valued customers.

In August 1966, about 2,200 member banks -- just over one-third of all member banks -- were issuing certificates. Certificates of $100,000 or more were being issued by some 632 banks ranging in deposit size from over $8 billion down to less than $10 million. About 75 banks were found in the latter size group, and 225 banks in the $10 million to $50 million size group. This represented more than a four-fold increase in the number of issuers holding total deposits of less than $100 million as compared with the year-end 1961. Banks with deposits of $500 million and over, however, accounted for more than three-fourths of the total amount of certificates of $100,000 or more outstanding.

In May 1966, 1,549 member banks reported having negotiable CD's outstanding of less than $100,000 in denomination. These banks were widely scattered across the nation, the largest number being found in the Chicago, Kansas City and Dallas Federal Reserve Districts. These certificates are not traded.[1]

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[1] Federal Reserve Bulletin, August 1966, p. 1122.

Table 3

CD'S $100,000 AND OVER OUTSTANDING BY SIZE OF BANK
December 30, 1961, and August 31, 1966

Size (total deposits, in millions of dollars)	Dec. 31, 1961			August 31, 1966		
	Amounts		Number of banks	Amounts		Number of banks
	In millions of dollars	Percentage increase		In millions of dollars	Percentage increase	
Under 100	82	3	72	175	1.0	382
100 - 500	559	19	105	2,435	13.2	172
500 - 1,000	689	24	35	2,470	13.4	41
1,000 and over	1,563	54	20	13,289	72.4	37
	2,893	100	232	18,369	100.0	632

Note -- Based on materials in Federal Reserve Bulletin, April 1963, p. 458, and August 1966, p. 1125 and Federal Reserve Board release G.9, October 6, 1966.

2. Prime, Lesser-Prime and Off-Prime Issuers. As certificate volume grew, buyers in both the primary and secondary markets developed several classifications of certificates -- prime, lesser-prime, and off-prime. These designations do not represent an evaluation of the soundness of the issuer, but they are generally representative of the relative marketability of the instrument. The prime-name group comprises from 12 to 30 banks; lesser-prime about 45 banks; and off-prime all other issuers. Classifications of the leading banks in the principal money centers as prime or lesser-prime will differ from buyer to buyer. Differentiations reflect the buyer's estimate of the management and his opinion of whether the bank has been prudent in its issues. All of the banks classified as prime by one buyer or another generally have deposits exceeding $1 billion,[2] and as noted

[2] Several banks with deposits of about $500 million are considered prime by some buyers.

already, they have issued the bulk of the certificates.

3. Issuing Rates. Prime-name banks issue certificates at the "best rates" when Regulation Q ceilings permit -- about 1/4 of a percentage point above rates on comparable maturities of Treasury bills. Certificates of lesser-prime names carry a spread of 5 or 10 basis points above the best rates. Other issuers -- generally the smaller banks -- must pay 1/8 to 1/4 per cent of a percentage point more than prime banks, or they negotiate a rate with the buyers. Thus rates tend to vary with the size and reputation of the issuing bank -- rising as size of bank declines. All rates may be slightly higher if CD denominations are less than $1 million. Some smaller banks, which are well known and respected in their communities and have strong customer relationships, tap regional or local markets at the same rates as prime banks, or sometimes at lower rates. Certificates are issued and traded on a yield-to-maturity basis, and a comparison with instruments issued and traded on a discount-from-par basis -- such as Treasury bills -- overstates the actual difference in yield.[3]

In issuing certificates, it is necessary to consider returns on competing instruments other than Treasury bills -- that is, on sales finance company paper, commercial paper, and bankers' acceptances. Finance company paper is the most important of these, because the volume outstanding is large and denominations can be arranged to suit the buyer.

4. Maturities. Maturities of certificates have varied from time to time along with changes in current and prospective conditions in

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[3] This difference will vary with levels of interest rates. Equivalent coupon yields on 3-month Treasury bills will be 15 basis points higher than discount at rates of 5 1/2 per cent and 5 basis points higher at levels of 2 1/2 per cent.

the money market, supplies of competing instruments, buyers' and issuers' preferences, and the strength of demand for bank credit, as well as the provisions of Regulation Q in setting rate ceilings for maturity ranges. As the outstanding volume rose, average maturities of certificates tended to shorten, dropping from about 8 months in 1961 and 1962 to 2 months in November 1966.

Regulation Q ceilings restricted issuance of maturities of less than 6 months prior to July 1963, and less than 3 months prior to December 1964. Buyers who wanted such short maturities could find them only in the secondary market at the going rate. Although some certificates have been issued with maturities of 2 to 5 years, these generally represent special situations. Maturities of certificates issued by the larger banks tend to be shorter and those of smaller banks longer, reflecting in the latter case less interest-rate sensitivity on the part of customers of the smaller banks. Increasingly, during the first several years certificates issued by the larger banks matured on quarterly tax and dividend dates. Maturities were later spread out when market conditions permitted in an attempt to avoid concentrations and associated "binds" on these dates.

Table 4

AVERAGE MATURITIES OF NEGOTIABLE CERTIFICATES
OF DEPOSIT OF $100,000 OR MORE

Date	Months
1961 - Nov. 30	8.0
1962 - Nov. 30	7.5
1963 - June 30	5.3
1964 - May 19	4.1
Aug. 19	3.8
Nov. 18	3.4
1965 - Feb. 17	3.5
May 19	3.7
Aug. 18	3.9
Nov. 17	3.4
1966 - Feb. 10	3.3
May 18	3.8
June 29	3.7
Aug. 31	3.0
Sept. 28	2.2
Oct. 26	2.5
Nov. 30	2.0

Note -- Data for 1961-63 are estimated. Data for other years are from surveys of the Federal Reserve Board.

The over-all shortening of maturities that has occurred is the result of liberalization of Regulation Q ceilings and the activities of the larger banks, principally, in meeting competition in the money market as Federal Reserve credit policy was gradually tightened. Variations in average maturity arise from defensive shortening to avoid paying higher rates or from defensive lengthening as the spread between market and ceiling rates widens. Buyers' preferences at times are also factors.

C. Buyers

The major buyers of certificates, from issuers as well as in the

secondary market, are corporations. Other buyers include commercial banks,[4] foreign official institutions; a range of institutional investors such as insurance companies, savings banks, and savings and loan associations; mutual funds; and individuals. On occasion dealers have bought certificates directly, with the intent of reselling in the secondary market. In some regional markets State and local government units are important buyers. When rising interest rates reduce new-issue volume, some banks in placing CD's resort to the use of brokers and dealers with wider business contacts. These intermediaries obtain payment for services by charging a finder's fee or by charging more than they paid.[5]

The deposit of time money at commercial banks in exchange for a certificate is governed by both rate considerations and customer relationships. Most corporate treasurers prefer to place funds only with banks at which they maintain working balances or important credit lines. Since the larger corporations generally deal with several leading banks, they place their funds with those that offer the highest rates. Corporate treasurers may place limits on both total holdings of certificates and on amounts held in individual banks. The finance committees

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[4]Member banks may issue CD's to other member banks without restriction, but a member bank may issue CD's to nonmember banks only to 10 per cent of its capital and surplus.

[5]A part of the finder's fee in some instances may be passed on to the purchaser either directly or indirectly through concession pricing. If such practices raise the effective yield paid by the bank above the ceiling rate, they are considered to violate Regulation Q. When these interest payments exceed the ceiling, the Federal Deposit Insurance Corporation may consider the certificates not to be deposits and refuse insurance payments if the bank should fail. Cases involving broker CD's and FDIC insurance coverage are still in litigation.

of some leading corporations have set rigid lists of the banks with whom they will place funds, and they allow the treasurer no discretion in selection. These lists apply to original issues as well as certificates bought in the secondary market. Other buyers generally have less specific guides, but like the larger corporations, they may recognize degrees within the prime and other categories when taking certificates.

Most banks have imposed no formal restrictions on resale of certificates by original holders. Some banks, however, caution customers to hold their certificates and sell them into the market only as a last resort. This caution became more widespread with the disappearance of the yield curve on CD's in 1966. In general, the liquidity of the CD market has not been considered constant and completely dependable. Issuers prefer not to have buyers take losses because they fear that losses might inhibit future takings. Furthermore, the issuers want their CD's to "stand up" when they do appear in the market.

D. Bank Uses of Funds

Banks generally try to avoid issuance of certificates at the expense of a reduction in their holdings of demand deposits. The over-all total of certificates a bank will issue is somewhat flexible. It may be raised as long as there are profitable uses for the funds and the outlook for certificates is favorable. Some banks may express their maximums in dollar terms; and some as a percentage of total deposits.

In setting limits, smaller banks are concerned about the effects that certificates may have on the deposit totals shown in their

published balance sheets. Inability to roll over certificates may result in a decline in total deposits from year to year. However, the ratios of CD's to total deposits at issuing banks have been quite stable over time, particularly at the smaller banks. The level seems to be closely related to bank size, with the smaller banks maintaining lower ratios than the larger banks.

Table 5

RATIO OF OUTSTANDING NEGOTIABLE CD'S TO TOTAL DEPOSITS, SELECTED DATES
(Per cent)

Size (Total deposits, in millions of dollars)	1964	1965		1966		
	Nov. 18	May 12	Nov. 17	May 18	Aug. 31	Oct. 26
All issuers	6.1	6.4	6.7	6.8	10.1	8.9
Under 100	4.4	4.6	4.6	4.7	5.0	5.0
100-200	4.2	4.0	4.6	4.6		
200-500	7.0	7.4	7.4	7.3	7.0	6.7
500-1,000	7.5	7.8	7.8	7.8	7.7	7.5
1,000 and over						
Prime:						
N.Y.C.	12.6	15.2	17.2	17.9	15.0	13.2
Outside N.Y.C.	8.2	8.3	9.6	10.3	9.0	7.5
Nonprime	8.4	8.4	9.1	10.7	10.9	10.1

Note -- Figures are from surveys conducted by the System for the dates shown.

Banks issuing certificates generally place the proceeds in a "pool of funds." The larger banks, believing that certificates afford greater stability of deposits, have used the funds to seek attractive loans and investments, with more emphasis on loans as markets tightened in 1965 and 1966. Unlike other money market instruments, CD's may influence the reserve position of banks because of the lower reserve required

against time deposits. As the market evolved, a number of leading banks adopted the practice of varying the rate offered on certificates and in so doing used certificates as one means of adjusting their money position.

Smaller banks,on the other hand, feeling less sure of their ability to avoid run-offs of certificates, generally do not use the funds to support loans to the same extent as large banks. Smaller banks employ the proceeds largely for the purchase of municipal securities, in the belief that such holdings can be liquidated to advantage in the market when necessary.

For years commercial banks have been important purchasers of municipal securities; in the period from 1952 to 1965 they supplied about one-fifth of all such funds. As banks began to compete for time money after 1957 with the more liberal rates permitted by Regulation Q, they increased their taking of municipal securities. And as certificates gained in acceptance, the banks became the dominant purchasers of municipals. As of year-end 1966, they held almost three-fourths of the total supply.

Certificates have increased the ability of the banks to attract deposits from beyond their normal service or market areas, thus making it possible for them to meet a broader range of demands. Some banks, however, have opposed the use of certificates and have issued none because they feared that they would be misled in determining minimum levels of funds to be held as reserves and thus the maximum amounts that could safely be used for lending and investing. Furthermore they prefer not to incur a heavy burden of interest expense.

IV THE SECONDARY MARKET FOR CERTIFICATES

Since the initial stage of development in 1961, the secondary market has provided marketability -- that is, has facilitated sales to third parties before maturity -- for most certificates. However, not all certificates are marketable. A number are issued by banks that are not well known outside their service areas, and others are too small in denomination to attract the large investors who participate actively in the secondary market. Furthermore, many original buyers of CD's do not buy with the intention of selling, and if they need to rearrange their portfolios, they use other investments such as Treasury bills first.

The increased versatility that the market provides for CD's issued by the leading banks in principal money centers enables these banks to tap the national pool of short-term funds without a concurrent obligation for making loans to the customer. The mere existence of the market, however, has increased the acceptance of CD's of all issuers -- regardless of their size or location.

In the secondary market certificates compete principally with Treasury bills, bankers' acceptances, and finance company paper. Participants rate the markets for these short-term investments as excellent for Treasury bills and good for both bankers' acceptances and certificates. While finance company paper has no secondary market, issuers under certain conditions will buy back the paper prior to maturity, thus providing some flexibility to buyers.

A. Participants And Operating Methods

The primary and secondary markets for certificates are quite closely related. The parties include (1) the issuers, (2) the

dealers who provide an intermediary function, and (3) the buyers of certificates. The dealers buy, carry, and sell certificates at rates that reflect current market conditions. Certificates usually come into possession of dealers from original holders, but at times they come directly from issuers.[6] Certificates not acquired from these sources find their way into the market through brokers and to to a more limited extent as resales to the dealer by third parties. Buyers from dealers are for the most part corporations, trustees, and institutional investors.

To a certain degree the issuers also participate in the market from the demand side as buyers of, or lenders against, certificates (other than their own).[7] A number of banks buy certificates for investment only when rates on certificates are "out of line" with rates on other instruments. Some banks, however, prefer not to buy certificates for investment because they must be carried in the "Cash and due from banks" account, which suggests possible inefficiencies in employment of funds. Furthermore, certificates are not thought to provide the same degree of liquidity as other instruments.

As an auxiliary to the market, some issuing banks assist customers who need to liquidate their own certificates by canvassing other customers as possible buyers, thus assuring a better price

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[6]Some dealers criticize this practice as being one that "violates the spirit of Regulation Q." In effect no deposit has been made with the bank until the dealer finds a buyer. Meanwhile the certificate is carried with borrowed funds.

[7]A bank is permitted to make a loan secured by its own certificate only if it charges an interest rate at least 2 per cent above the rate at which the certificate was originally issued.

than if the CD's were sold into the market.

Development of a secondary market for CD's began early in the spring of 1961 when the Discount Corporation of New York announced it would make a market -- that is, buy or sell certificates, or hold them if necessary. Salomon Brothers & Hutzler took similar action soon afterward, and as the volume of issues grew, other nonbank dealers in U. S. Government securities entered the field. The core of the market came to be centered around five leading houses: in addition to those cited, the group included First Boston Corporation, C. J. Devine and Co.,[8] and New York Hanseatic Corporation. These houses generally carried large inventories of certificates -- ranging from $40 million to $70 million for an individual firm.

Other nonbank dealers were also active in the market from time to time, but as a rule they held only modest positions -- perhaps $15 million to $30 million. As the market developed, several bank dealers in U. S. Government securities acquired inventories of varying size. These included Bankers Trust Company, Bank of America, and the First National City Bank of New York. The last entrant was National City Bank in March 1965. Some banks are opposed to assuming a dealer function, however, on the grounds that they would help other issues at the expense of their own rather than helping the market as a whole. Others state that costs are too great in relation to potential returns.

Although smaller nonbank dealers seldom take certificates into their inventories, they act as brokers or as an auxiliary to the dealer function. Similarly, a number of large banks operate service

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[8]Suceeded by Merrill, Lynch, Pierce, Fenner & Smith, Inc. through purchase on May 13, 1964.

departments for correspondents and other customers -- buying or selling on orders from them. While Regulation Q does not permit a bank to purchase its own certificates for investment, it may, as an agent, acquire them for customers. Banks also purchase certificates issued by other banks for the account of a customer.

B. Dealer Purchases and Financing

While on occasion dealers secure a market before bidding on certificates, they do not handle certificates on a consignment basis but rather purchase the CD's outright. Dealers are generally careful not to buy too large an amount of any given issue, and they try to guard against development of too large a floating supply of certificates in general. They consider the issuer's credit standing as well as the amount of certificates that he has outstanding.

In their purchases, dealers emphasize profits to be gained from trading as well as from carrying an issue. They buy the longest maturities available that seem to offer profits, considering the probabilities of negative, even, or positive carries. Aside from the usual sales into the market, dealers at times prompt customers to acquire large amounts of CD's from an issuer. Later that day, or on the next, the dealer will take over the certificates at an agreed price, one that provides the original buyers with a profit of 1 or 2 basis points. These are often referred to as "take outs." In other cases dealers' customers that have temporary surpluses of funds will take CD's from issuers with the understanding that the dealer will purchase them within a short period of time at par plus interest. These arrangements may run from several days to 2 weeks, depending on the rate outlook. Occasionally dealers acquire certificates on reverse repurchases to accommodate customers.

During the years 1961 through 1965 there were relatively long periods of stability in short-term interest rates and even some periods when these rates showed a tendency to small declines. This stability made it possible for dealers to place portfolios of certificates on profitable "carries." Since Regulation Q ceilings precluded issuers from offering certain shorter maturities, dealers took issues with long maturities, placed them on repurchase or loan, and held them for a period to reduce the maturity to shorter term. The certificates could then be sold or placed on repurchase again, depending upon the money market outlook.

In the short run dealer positions vary more or less inversely with the volume of trading. Dealer inventories vary widely from week to week but much less from quarter to quarter. On a quarterly basis they average about four times the volume of trading, a ratio somewhat larger than for Treasury bills or acceptances.

The capital of the dealers is small relative to the volume of their business -- particularly since CD's have been added to the line of their investments. Hence, dealers have been relying more and more on outside funds to carry inventories. The rate paid for borrowed money, as in the case of Treasury bills and acceptances, must bear a close relationship to the market rate for certificates. Higher rates on bank loans make borrowing unprofitable.

Dealer portfolios are financed in several ways: (1) on repurchase agreements with corporations, insurance companies, State funds, and other nonbank short-term lenders; (2) on repurchase agreements with agencies of foreign banks; (3) on loans from commercial

banks in New York City[9]; or (4) under repurchase with out of town banks. Dealers prefer repurchase agreements because of lower cost, but they do use bank loans for residual needs. Repurchase agreements may be for overnight or may run for several weeks or months. Bank loans usually run for a day and must be renewed each morning if necessary. Federal Reserve facilities for repurchase agreements are not available as they are in the case of bankers' acceptances and U. S. Government securities, including those of Federal agencies.

As a matter of practice the securities that underlie repurchase agreements or the collateral on loans consists wholly of CD's. This arrangement is preferred to mixed collateral for ease of administration if substitution of securities is necessary or if the loan is reduced in size. Mixing CD's with U. S. Government securities, or with other acceptable collateral, depends upon the relative amounts of securities in inventory. Some banks make loans at the rate charged for call loans on U. S. Government securities while others impose a higher rate on certificates. Rates on repurchases are almost always lower than those on loans, as is the case with repurchases on U. S. Government securities and on acceptances. Dealer loans and repurchases were generally available during the 1961-65 period at reasonable, and at times attractive, rates. In 1966, however, as rates rose, costs became virtually prohibitive, and at times some dealers could not

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[9] The lending bank's own certificates are generally excluded from the collateral on the grounds that if the loan is defaulted, the bank as new owner would be redeeming the certificate prior to maturity. Additionally, Regulation Q provides that a borrower shall be charged 2 per cent in excess of the interest rate on the certificate for any loan collateralized by the bank's own certificates.

obtain funds. Others, fearing that financing would not be available, halted their acquisitions of CD's.

Banks as well as most of the parties to repurchase agreements are careful about issuers and will insist that the best names underlie the transaction. A mixture of names that includes lesser-prime or even some off-prime names is acceptable on occasion, but these arrangements become less desirable to lenders as markets tighten. Banks whose outstanding certificates are believed to be excessive are avoided even if the name is well known. Proceeds of the repurchases and proceeds from bank loans are available in Federal funds.

C. Buyers

Since inception of the market, corporations have been the principal buyers of certificates. Maturities of certificates are generally determined by negotiation between the issuing bank and the purchaser, and to an increasing degree, CD's have been written to mature on tax and dividend dates or at the end of a quarter, half-year, or year. In this way CD's are useful as an investment outlet for corporate tax and dividend accumulations and other special purposes, whether acquired from the issuer or in the secondary market.

As the secondary market broadened, however, an increasing number of divergent investor groups having temporary surpluses of funds became purchasers of CD's. These include foreign official institutions, States and municipalities, commercial banks, individuals, and the range of institutional investors including foundations. Some institutional investors such as insurance companies buy certificates only when the yields are higher than those on finance company paper. States and municipalities use certificates for temporary investment

of the proceeds of bond issues, and savings banks for the accumulations of mortgagees' tax monies. Many buyers were more interested in the market when it provided an opportunity to "ride the yield curve" than when the certificate provided only investment income. Most purchasers take round lots, but on occasion investment management firms will buy odd lots at higher yields and add them to their accounts.

Investments in certificates are also made through repurchase agreements in which certificates underlie the transaction as an alternative to direct investment. The repurchase allows the "lender" to invest without risk of fluctuation in price and at the same time to suit the maturity to his needs.

All buyers tended to become more selective toward the end of 1965 as issues of certain banks increased substantially and several other banks failed. Buyers further restricted purchases as the market softened in 1966.[10] And some withdrew from the market completely. Dealers do not endorse the CD's that they sell to the market, and usually they make it a policy not to provide a credit opinion on the issuer.

D. Supply and Demand Variables

A number of interacting and interdependent variables or factors affect both the primary and secondary markets for CD's. These forces affect not only the volume of issues and maturities but also the

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[10]Restrictions involved reduction in amounts of CD's of particular banks, reduction in number of eligible bank names from the 50 largest to the 21 largest, and one large corporate buyer excluded from the authorized list of the CD's of all banks west of the Mississippi.

volume of trading. These factors are discussed below:

1) Regulation Q ceilings -- As offering rates reach the ceilings set by the Regulation Q, banks are forced to withdraw from the issue market, because certificates become noncompetitive with other instruments. Under these conditions short-term interest rates in the market rise relative to the Regulation's ceiling. The rise of open market rates above, or their fall below, the existing rate ceilings leads to retardation or acceleration, respectively, of new issues as interest-sensitive investors move to obtain highest possible yields. Maturities are also affected under these circumstances; they tend to shorten as rates approach the ceiling and lengthen as they fall away. Similarly as rates move above the Q ceiling or fall below it, supplies of CD's in the secondary market become less or more plentiful respectively, and trading volume is affected accordingly. Dealers' willingness and ability to carry inventory is strongly influenced by such rate movements.

2) Pattern and size of corporate tax and dividend payments -- The volume of funds being accumulated for corporate tax and dividend payments has a strong influence on maturities of CD's as well as on the amount of the increase in issues at various times and has led to a concentration of maturities on these dates. Tax and dividend dates significantly affect dealer positions and trading, and inventories are determined with these dates in mind. The peak of demand in the market for certificates maturing on tax and dividend dates comes about 1 or 2 months before the payment dates.

3) Liquidity position of corporations -- When cash flows shrink, lessened liquidity leads corporations to reduce both their takings of certificates from issuers and their purchases in the secondary market; and when they make an investment, they put considerable emphasis on

the ability to liquidate if necessary. Treasury bills are generally preferred. Under these conditions increasingly large premiums over other investments must be offered in order to move new issues and to induce takings in the secondary market.

4) Strength of loan demand at the banks -- Expectations of continued or increasing loan demands suggest profitable employment of funds and encourage banks to become more aggressive bidders for CD's. If possible, they tend to extend maturities of issues. This factor has been an alternating influence in every year and has affected issue volume particularly at large banks, both in New York and outside.

5) Supply of attractively priced substitutes -- If the supply of CD substitutes such as Treasury tax anticipation bills is good, it is more difficult for banks to issue certificates with comparable maturity dates. Trading volume in the secondary market also tends to be smaller than it is when there are no tax bills outstanding.

6) Rate relationships and money market conditions -- At times banks refuse to pay the rates that are necessary to replace run-offs of certificates, and they withhold issues temporarily. If so, would-be CD issuers seek needed funds elsewhere.

7) Inflows of other time and savings deposits -- If inflows of other time and savings deposits are good, banks become less willing to issue certificates not only because of usual higher cost relative to other savings forms but also because of fear of transfer of time deposits from one form to another.

8) Legal list statutes -- Lists of legal investments vary from State to State for savings banks and for trusteed and public funds. As of August 1966, the Massachusetts savings bank statute was changed to permit those banks to hold certificates of commercial banks; this broadened

the issue market and moderated the rollover problem of Boston banks. Some short-term investors are legally required to invest temporary holdings of funds in U. S. Government securities. And the Comptroller of New York State is authorized to buy CD's only if secured by collateral.

9) Corporate treasurers' authorities to hold certificates -- Although some policy limits on takings of CD's may be liberalized from time to time, the existence of these limits contributes to widening spreads between Treasury bill yields and those on other obligations -- particularly as supplies increase -- thus influencing trading at various times. Limits apply to new issues as well as purchases in the secondary market.

10) Overissuance of certificates -- Overissuance of CD's by some banks, which arouses suspicion of the soundness or possible failure of banks with substantial amounts of certificates outstanding, induces reappraisal of policy limits of buyers and at least temporarily affects the market as a whole or the outlook for interest rates will induce reviews of authorities, which may lead on occasion to temporary termination of buying authorities.

E. Measures of Trading

The general acceptance of CD's as a money market instrument is evidenced by comparing market activity in certificates with that for bankers' acceptances and Treasury bills. The volume of trading in the certificate and acceptance markets is quite similar. In 1964 and 1965, years of active markets for both instruments, the daily average volume of trading by months ranged between $43 million and $79 million for certificates and $44 million and $49 million for acceptances. But both of these markets were dwarfed by trading in Treasury bills;

such trading on a daily average basis ranged between $1.1 billion and $1.5 billion per month. To a considerable extent the greater volume of trading in Treasury bills reflects the larger volume of these securities outstanding. Bills outstanding in 1964 and 1965 averaged from $52 billion to $55 billion per month, acceptances a little over $3 billion, and certificates between $11 billion and $12 billion in 1964 and $13 billion to $16 billion in 1965.

1. Trading Vs. Issues Outstanding. Comparison of the dollar volume of trading with the volume of issues outstanding for each instrument shows that somewhat larger percentages of both acceptances and Treasury bills are traded. In 1964 and 1965 daily-average trading volume ranged from .31 per cent to .64 per cent of certificates outstanding , from 1.10 per cent to 1.78 per cent for acceptances, and from 2.05 per cent to 2.80 per cent for Treasury bills for various months. These differences reflect variations from one buyer to another in use of the various instruments to adjust portfolios, homogeniety of the instruments, and the amounts outstanding at various maturities. In contrast to both certificates and acceptances, Treasury bills are the most homogeneous of all money market paper, for they differ essentially only in maturity.

Corporate holders of certificates frequently consider them an adjunct to short-term U. S. Government securities. However, if large blocks of investments must be sold quickly to raise cash, financial officers usually use Treasury bills because of the dependable continuity of one market. At times it is difficult to liquidate large blocks of certificates in the market, although the market can usually

handle transactions of $5 million to $10 million without any problem and $20 million on occasion. In other cases demands by investors cannot always be met from dealers' inventories, and in many instances switches in holdings among customers may be necessary to supply the specified issuer and maturity. To a much lesser extent the same applies to acceptances. The market trades only prime acceptances, and the several maturity ranges for which quotes are posted overcome some of their diverse characteristics.

2. Inventories Vs. Issues Outstanding. Comparisons of the dollar volume of dealer inventories with the dollar volume of the several instruments outstanding are also significant. In 1964 and 1965 the daily-average volume of inventories as a percentage of daily-average volume of outstandings resulted in ratios for various months ranging between 1.12 per cent and 2.54 per cent for certificates, 3.20 per cent and 10.74 per cent for acceptances, and 3.84 per cent and 6.12 per cent for Treasury bills. The larger percentages of outstanding acceptances carried in inventory reflect not only the relatively smaller amounts outstanding in contrast to Treasury bills and certificates but also the prime character of the acceptance instrument.

The high degree of quality of acceptances is based upon the combination of the name of the accepting bank, the contingent liability of other parties to the instrument, the feature of self-liquidity, and eligibility for purchase or discount at the Federal Reserve Banks, as well as the preferred position accorded holders of acceptances of failed banks. Even the prime eligible acceptances of smaller banks with proven experience are traded at the same rates as acceptances of the leading banks. In addition acceptances have had about 50 years

of development in American practice. Like Treasury bills, acceptances may be bought under repurchase agreements with the Federal Reserve under certain conditions, and on occasion the System may buy them outright in the course of its open market operations, a policy that was developed in the 1920's and renewed in 1955 as the Federal Reserve fostered the growth of the market.

Certificates on the other hand do not represent a standardized form of credit risk. Thus the several rates that prevail in the market correspond to the buyer's analysis of the issuer's credit standing.[11] Dealers, by and large, trade only the better names, principally those of the 30 to 35 largest banks, most of which have deposits of $1 billion or more. The market supply of these prime CD's in relation to total CD's outstanding is not so large as it is in the case of acceptances.[12] Occasionally certificates of banks with deposits as small as $150 million to $250 million are traded. In contrast to acceptances, certificates of medium-sized and smaller banks, despite a reputation for good management, generally must carry a concession of about 1/4 of 1 percentage point to attract buyers. Treasury bills are the predominant instrument in the short-term market, and dealer inventories must be related to the large quantities outstanding of each bill

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[11] Even in the absence of an analysis, buyers know that CD's of some big-name banks trade better than others and will prefer the better names even though careful examination of the record shows there is no difference between names.

[12] Acceptances are in effect a loan, and the accepting bank can sell or hold the acceptance at its option. CD's are taken out by a depositor generally to be held to maturity, and the initiative to sell rests with the holder. In part, these distinctions explain the differences in supply in relation to outstandings.

maturity. As a rule this assures continuous availability of bills in the market as compared with variations in supplies of both acceptances and certificates at times.

3. Transactions to Positions. Activity in the market may also be measured by comparing the volume of transactions to the volume of dealer positions. On this basis certificates and acceptances compare favorably. In 1964 and 1965 the ratios computed on a daily-average basis ranged from 16 per cent to 50 per cent and from 13 per cent to 38 per cent, respectively, for various months. Ratios for both instruments were somewhat smaller than those for Treasury bills, which ranged from 38 per cent to 70 per cent.

Acceptance portfolios were generally smaller in relation to turnover before 1964. The increased inventories in 1964 reflected the more continuous sales by banks to meet reserve needs and the ability of dealers to carry the larger amounts, for the most part at favorable rates. Portfolios of certificates in relation to turnover are somewhat larger than the ratios for Treasury bills. This difference arises from the potentials for profits and reasonable "carries" in the absence of abrupt rises in interest rates. Potentials for profit on inventories of certificates are greater than for acceptances, which have a flat yield curve in each maturity range, in contrast to the descending pattern to maturity provided by Regulation Q prior to December 1965. Potentials for profit have also frequently been greater for CD's than for Treasury bills.

F. Market Rates and Yield Spreads

In the secondary market, CD's compete with the primary paper of the issuing bank, and since the buyer of an original certificate has the advantage of selecting the date of maturity, the paper in the

secondary market must trade above current primary rates. Above this minimum, quotations are determined largely by the movement of money market rates as a whole, and particularly by prices of competing instruments such as Treasury bills, finance company paper, and acceptances.

Secondary market rates for CD's generally fall between those for finance company paper and acceptances on the one hand and those for Treasury bills and issues of Federal agencies on the other. Generally, rates on finance company paper and certificates are within 1/8 of a percentage point of each other. Acceptance yields are more often below certificates, by about 1/8 of a percentage point. These spreads widen in tight markets.

Changes in relative supplies of market instruments (including bills) are an important influence on yields and on spreads among the various types. This is well illustrated in the first half of 1965 as compared with 1964 and was quite striking in 1966.

Treasury bill rates remained quite stable during the first half of 1965 and 1966, but most other short-term market yields rose some 12 to 19 basis points and 40 to 70 basis points, respectively, in these periods. These increases reflected in part the retirement of tax-anticipation bills and official purchases of U. S. Government securities. More important, however, was the fact that the outstanding volume of most other money market instruments rose substantially (Table 6).

Chart 1

SECONDARY MARKET CERTIFICATES OF DEPOSIT RATES 90 DAYS
AND OTHER RELATED MARKET RATES
1961-1966

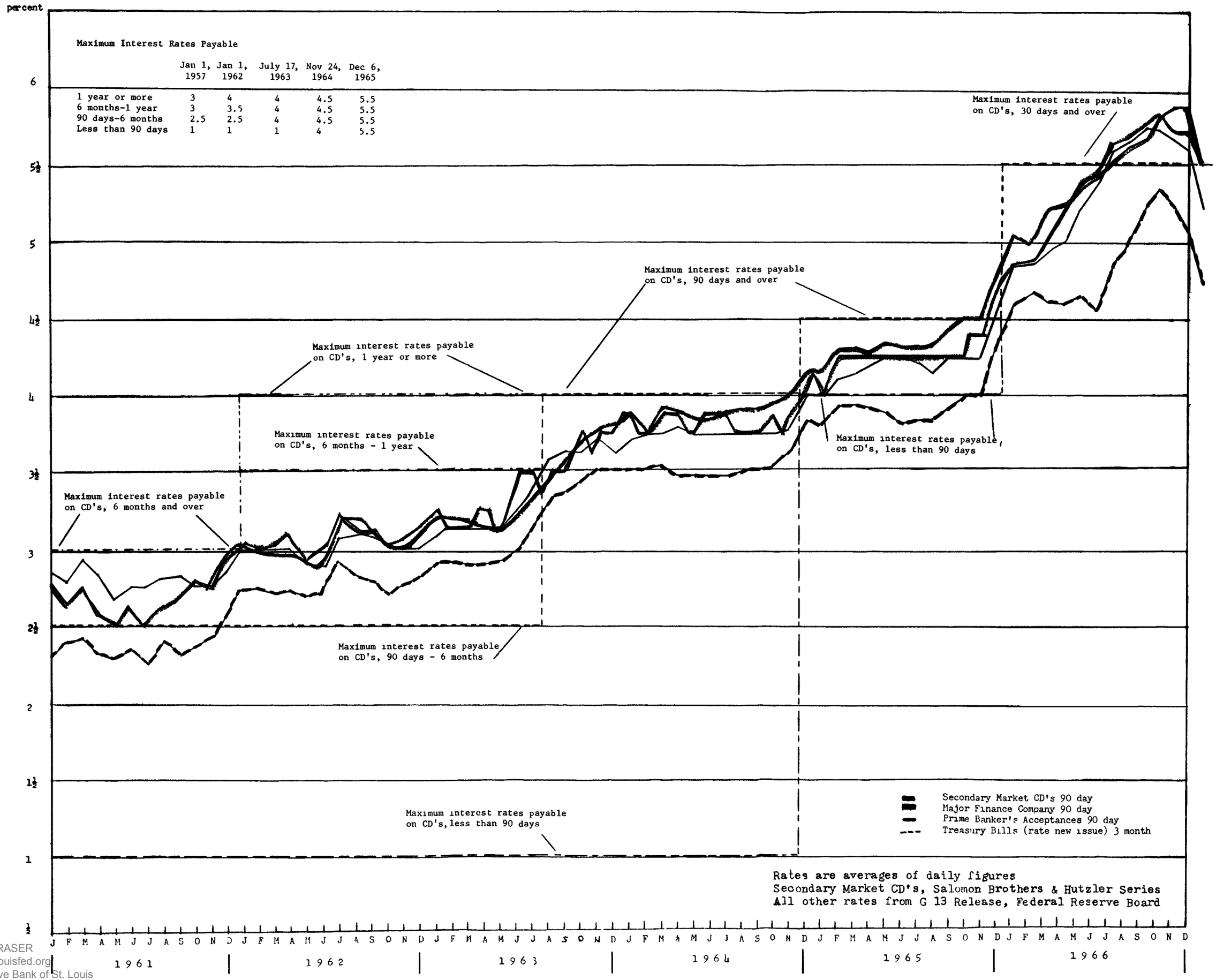


Table 6

NET CHANGE IN SELECTED MONEY MARKET INVESTMENTS OUTSTANDING
First 6 Months, 1964, 1965, and 1966
(Billions of dollars)

Type	1964	1965	1966
3-month maturities of:			
Treasury bills	-0.5	-2.8	-5.3
Bankers' acceptances	+0.2	0.0	+0.2
Finance paper	+1.2	+1.3	+1.5
Negotiable CD's	+2.0	+2.7	+1.6
Issues of Federal agencies	-0.9	-0.3	+2.0

Changes in demand for certain types of instruments also affect yields. For example, as indicated earlier, some short-term investors may not invest temporary funds in any securities except U. S. Government securities while others from time to time reach policy limits on holdings of CD's and other private obligations. Although these limits are sometimes liberalized, their existence tends to contribute to a widening of spreads between bills and other obligations in the secondary market at various times.

Dealer bids must be enough above bank issuing rates on CD's -- with distinctions being made for paper of prime, lesser-prime, and off-prime banks -- to insure a trading profit while at the same time making a competitive offer. In the first year of market trading, spreads for certificates of prime-name banks ranged from 10 to 30 basis points above bill yields, and they have generally remained within this range since then. CD's of prime-name banks outside New York trade from 5 to 10 points higher than those of similar banks in New York, and 15 to 40 points above bills; for off-prime paper the ranges are 10 to 15 basis points and 20 to 55 basis points higher,

respectively. CD's in denominations of less than $1 million generally carry higher rates. Denominations of $500,000 are traded with some frequency, and denominations of $100,000 occasionally. Market rates for prime certificates at times, however, have been as much as a full percentage point higher than those on Treasury bills. (See Table 7.)

Table 7

YIELD SPREADS--U.S. TREASURY BILLS AND OTHER SHORT-TERM INVESTMENT PAPER

	1964		1965		1966	
	Jan. 1	June 30	Jan. 1	June 30	Jan. 1	June 30
3-month Treasury bill rate (per cent)	3.53	3.48	3.83	3.89	4.48	4.54
Spread from bill rate (basis points):						
Bankers' acceptances	+10	+27	+17	+36	+27	+85
Federal agencies	+11	+27	+16	+32	+32	+75
Finance paper	+36	+40	+30	+36	+36	+85
Certificates of deposit (prime category)	+35	+39	+34	+41	+42	+101

Spreads between prime and nonprime certificates and between certificates and bills vary from time to time as the appraisal of the outlook for short-term rate changes. Spreads narrow when a trend toward lower rates (higher prices) is anticipated. Under these conditions, participants feel more confident of the marketability of higher-yielding though less liquid instruments such as certificates. Accordingly, they bid strongly for higher yields to maximize income -- with the expectation of greater potential for future profits. When higher interest rates and lower prices are expected, the less liquid instruments become relatively less attractive, and yield spreads widen. In this context CD's maturing around certain tax-payment and dividend dates will always

command higher prices (lower yields) than those maturing on other dates.

The amounts by which yields on CD's of prime-name banks exceed those of some lesser-prime and off-prime banks in the market arises from several factors. Even when the authority to purchase permits discretion, buyers will refuse certificates of lesser-known names when those of better-known names are available at about the same yield, despite the fact that an analysis would show about the same standing. In this sense buyers discriminate against certificates of smaller, less-well-known banks. Differentiation of names became more widespread after the failure of banks in Texas, California, and Colorado in 1964 and early 1965. A part of the premium consequently represents an inducement to the buyer to take CD's of banks not so well known.

Dealers state that it takes more effort to educate customers to the point where they will be interested in CD's of lesser-known names. Such certificates must be carried in position longer; they are more difficult to place on repurchase or loan, even though mixed with prime names; and they afford trouble and expense in checking amounts already outstanding, and other relevant information of the particular bank. In some cases data are available only quarterly or semiannually, and comparative data are lacking. For this reason a part of the premium represents compensation for additional marketing effort and cost.

A number of smaller banks that are well known in their communities issue CD's to local customers at the same rates, as prime banks issue CD's to national customers, or at even lower rates. Markets are thus differentiated, and sales of locally oriented certificates in the secondary market call for added yields, since in effect the bank is tapping the national market at one step removed. In a sense, premiums are viewed as an impersonal market means of regulating new issues. They may be a

warning that a particular bank is issuing a disproportionate volume of CD's. Both the rate on the new issue and the premium yield in the secondary market in this case do not reflect arbitrary actions but a marginal response to influences of the national short-term money market.

If there were no effective ceiling on rates, any bank could bid for funds, but rate differentials would remain. The rate paid by the individual bank would become an increasing function of (1) the average rate prevailing in the market, (2) the amounts of certificates outstanding, and (3) the size of the proposed new issue. Inelasticities in the current market -- as exemplified by the added cost paid by smaller banks, which brings them to the ceiling sooner, or by the inability or increased difficulty in issuing certificates when the large banks are in the market -- might be reduced but they would not be eliminated.

Similarly with no ceiling on rates trading in CD's would develop by competitive forces in a fashion similar to that of comparable investments which are not regulated. The secondary market freed from expectations about Regulation Q would fall into place as a division of the money market. Market yields would be determined by the usual forces of supply and demand and the reputation of the issuers.

G. Certificate Characteristics

Certificates offered for sale in the early period often had terms and final payment dates that did not suit the requirements of new buyers and consequently had to be carried by dealers for long periods. Many CD's were carelessly executed and the instrument had to be standardized. Most of the early certificates were issued to a named payee or order; this contributed to some awkwardness in trading until authority was granted or the practice developed for issuance in bearer form. Similarly, banks outside New York found it necessary, in order to reduce delivery and

collection expenses, to arrange for issuing agents and alternate paying agents in New York and other principal money centers. In addition the practice became general of paying-off maturing issues in Federal funds as opposed to clearinghouse checks. Currently, unless otherwise agreed, CD's bought and sold in the secondary market are deliverable in New York the next business day following the date of transaction and payments are in Federal funds.

The certificate market then and now is more diverse than the other short-term markets, including the acceptance market. Acceptances are analogous in many ways to certificates, but the market for them has overcome many of the problems associated with diversity through the establishment of posted rates for three maturity ranges -- 1-90, 91-120, and 121-180 days. Additionally the distinction between prime and lesser-prime acceptances is practically eliminated by the market convention (recognized by the Federal Reserve Open Market Desk) that any acceptance in the market is a prime acceptance. Certificates can be and are written in sizes large enough to trade on an individual basis, and maturities are mutually agreed upon by the issuer and buyer. The maturity groupings used for acceptances, which were designed to overcome size and maturity differences related to the underlying goods transactions, are not appropriate for certificates.

H. Dealer Bid and Offering Rates

Certificates are individual instruments, and they differ by maturity and/or by issuer. Dealers do not know of the existence of a particular CD -- of any specific maturity of a particular bank -- until that CD appears in the market. The possible number of maturity dates is large, and the certificate may be prime, lesser-prime, or off-prime. CD's of several hundred issuers may appear in the market,

but the bulk of the trading has involved the certificates of 30 to 35 of the leading banks. Issues of another 20 to 30 banks have appeared from time to time. Only occasionally are certificates of banks with deposits of $150 million to $250 million traded. In making a market for CD's, dealers cannot be expected to be familiar with the credit standing of all issuers. Furthermore, certificates are considered easy to counterfeit, and dealers examine the issues of even the best-name banks with care.

Lack of homogeneity of certificates prevents the establishment of posted bid and offered rates and of real breadth in dealer trading. A dealer will bid only in response to a specific certificate offering, although as the market has developed, the certificates of best names have come to trade at yields very close to each other. In the early market the dealers' spread between bid and offered quotations was generally about 5 basis points on 90-day maturities, but this subsequently narrowed to 2 to 3 points as strong competition developed. The spread widens as CD's approach maturity -- with the decrease in value of a basis point. If certificates are held in position for several days or longer, the rate will reflect interest accrual, financing costs, and the lesser number of days to maturity, as well as any change in short-term rates. Spreads between bid and asked prices also widen in tight markets as dealers move to protect themselves. Some inventories must be liquidated, potential sales are fewer, and purchases must be made in a market where prices are declining. Hence, dealers keep their offers down and at the same time bid less for the certificates bought. In 1966 bids declined by 5 to 10 points on 90-day paper of better names and 25 points for lesser-known names.

In recent years some dealers have posted offering rates for better names, but this is not a general practice. Many issuers object to the practice on the grounds that it gives the appearance of rating the credit of issuers by differentiating the prices of similar maturities even though the shadings are small. In markets where they exist, however, posted rates -- bids and offers -- permit dealers to lighten or increase inventories rapidly at prevailing rates. Short sales in the CD market are unknown because of the great difficulty in covering such a sale -- considering the need for matching maturity, coupon, and day of offering. Thus the CD market lacks much of the continuity and closeness in pricing that is characteristic of other markets.

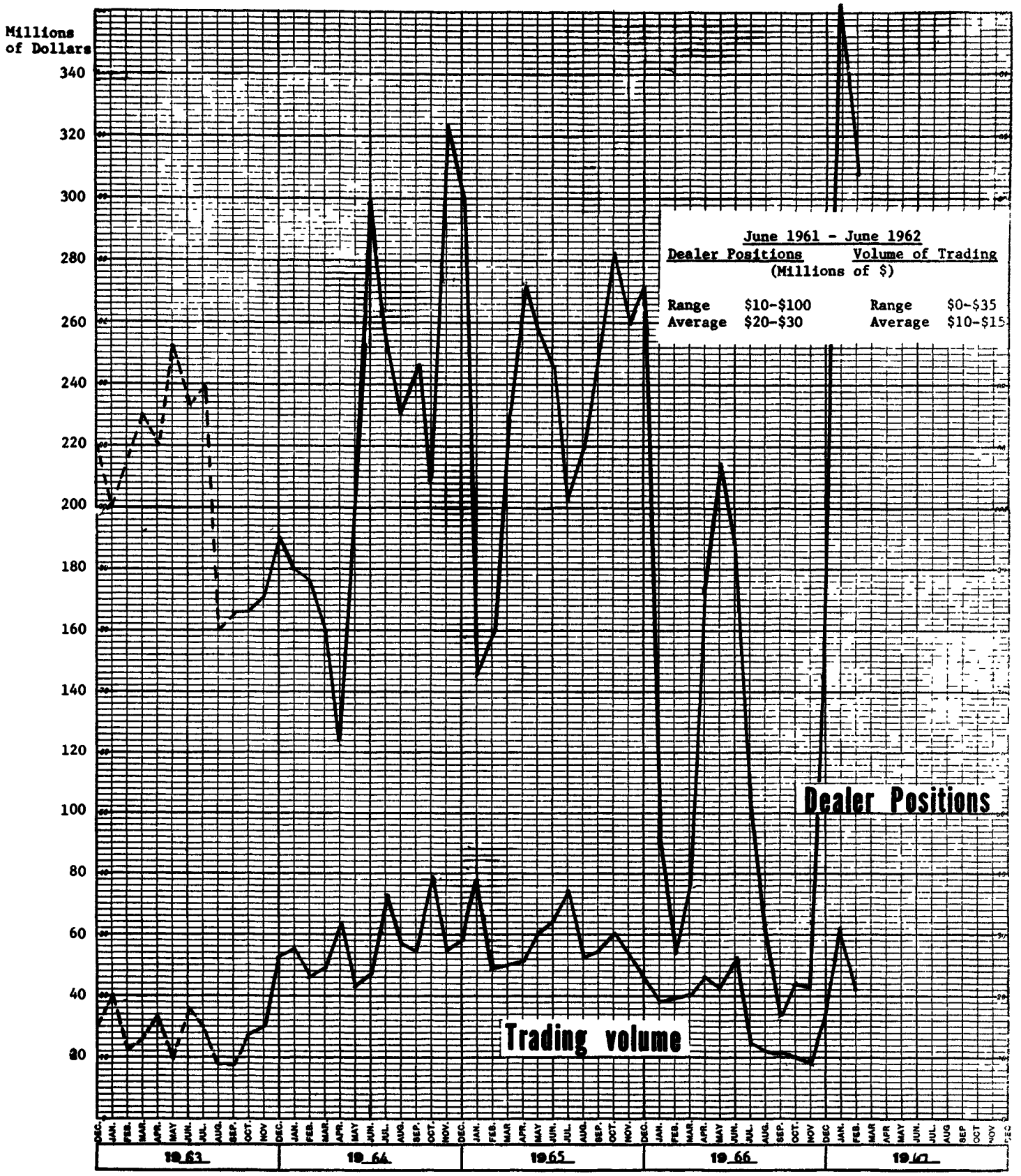
I. General Features -- 1961-66

Activity in the secondary market divides itself into two periods -- the first running from the establishment of the market in 1961 through 1965; and the second, the year of 1966. Until the end of 1965 Regulation Q ceilings and money market conditions generally provided a favorable atmosphere for new issues. The expanding economy stimulated both an increasing variety of uses for funds and changes in the total and pattern of business borrowing. Time deposits in the form of certificates became a larger share of the liquid asset holdings of corporations and to some extent displaced both money and market securities such as Treasury bills in their liquid asset portfolios.

The maximum rates permitted issuers effectively restricted offerings of short maturities -- making them available only in the secondary market at attractive rates. Market rates for much of this period, it should be noted, were sufficiently above the Regulation Q ceilings on

Chart 2

DEALER ACTIVITY IN NEGOTIABLE CERTIFICATES OF DEPOSIT
(Daily Average Figures, in Millions of Dollars)
1963-1966



Data for 1963 estimated.

restricted maturities as to permit considerable leeway in potentials for profits, and the volume of trading was large.

Inasmuch as Regulation Q ceilings on the shorter maturities were somewhat below market rates with some frequency, the ceilings provided a cushion against market loss as holdings approached maturity. The descending pattern of the yield curve for certificates as they approached maturity permitted dealers to offer certificates at lower rates (higher prices) than when acquired -- thus establishing a profit over and above the interest earned during the period of holding. Important in this connection were the relatively long periods of rate stability, which enhanced profit possibilities and encouraged acquisition of inventories.

The upward adjustment in Regulation Q ceiling rates to 5 1/2 per cent in December 1965, along with the shortening of the minimum maturity from 3 months to 1 month, against which the rate applied, virtually eliminated the slope in the yield curve for certificates. This development coupled with the rises in market rates in 1966 -- in response to System policy and very strong aggregate demand -- brought to an end much of the potential for dealer profits. This was particularly true after rates pierced the Q ceilings in mid-summer. Trading volume, which had already diminished, dropped sharply and then continued at very low levels for the balance of the year. The supply of certificates declined, and the character of trading changed.

The volume of certificates outstanding rose quite steadily from early 1961 to mid-1966, then leveled off before declining. Over

the whole period there was some tendency toward a progressive shortening of maturities. Both dealer positions and trading volume increased along with the rise in CD's outstanding until the end of 1965. After that, although outstandings continued to rise, the market activity was substantially less than in previous years -- in part because of risk of exposure to new issues of short maturities and the constant risk of principal if sales were made by holders before maturity. Trading dropped sharply after July 1966, as rates rose to record levels and new issues of certificates became competitive with other short-term investments of only 1 month or slightly longer maturity. Dealers' carrying costs became prohibitive, and at times there were fears that financing would not be available. Trading in the secondary market concentrated on maturities unavailable to original buyers. Dealers' bids frequently represented book losses to investors and corporate treasurers and others held their CD's.

J. The Course of Market Activity -- 1961-1965

1961 -- Banks were unable to issue certificates of less than 90-day maturity during 1961 because of the 1 per cent ceiling set by Regulation Q. Treasury bills with 1-month maturities comparable to the shortest certificate maturity that could be issued, traded well above this level. Similarly, issue rates on certificates of 90-days to 6-months maturity were only briefly competitive with bills of the same maturity for several months during the spring and summer, and they were at the 2 1/2 per cent ceiling from August to the end of the year (see Chart 3). Certificates of 6 months or more maturity afforded the most flexibility during the year because offering rates

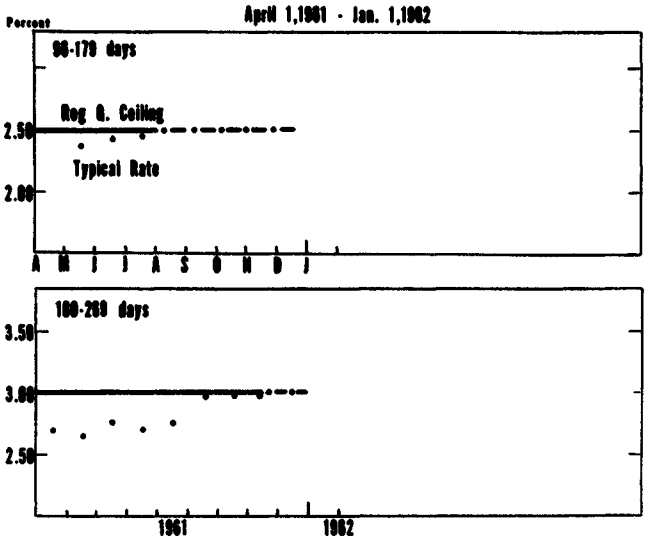
on these did not press the 3 per cent ceiling until November. The bulk of issues consequently had maturities of 6 months or more.

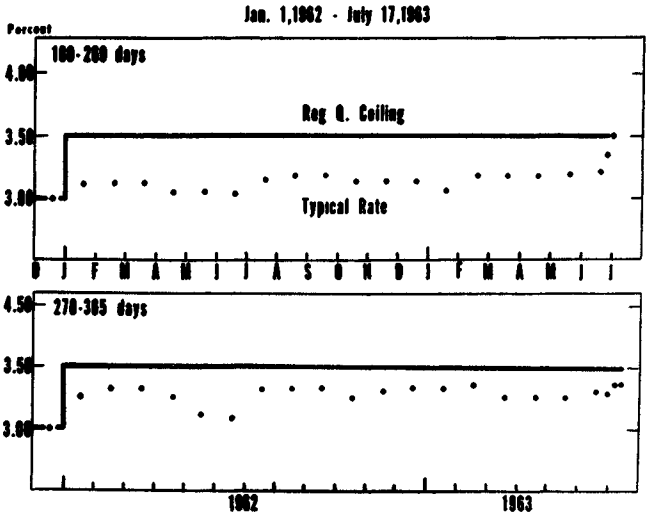
The market in 1961 was generally thin. Original buyers in many cases were content to hold their certificates, and dealers had difficulty in matching demand and supply of certificates at quoted rates. In the early part of the year dealer transactions were undertaken for the most part only on order. One or two dealers, however, began with small positions -- say, $5 million to $10 million. As trading developed, however, dealers cautiously acquired inventories, and during the autumn their positions are estimated to have ranged from $10 million to $100 million and averaged from $20 million to $30 million. Individual dealer positions, however, showed wide departures from the averages,and variation has been a characteristic of positions even in years of peak activity in the market. The volume of trading correspondingly was spotty to light -- ranging from nothing to $34 million -- and probably averaged from $10 million to $15 million. Dealers were able to adjust their positions only with difficulty. Bid and asked prices could be moved only within fairly narrow limits because large changes would induce arbitrage with other markets. Interdealer trading was sporadic because of the small market supply of certificates.

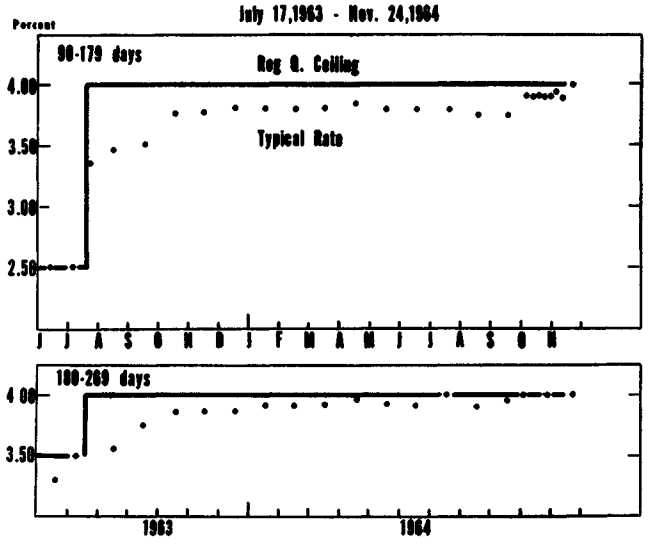
1962 -- Regulation Q ceilings were raised on January 1, 1962, and banks increased rates on new CD's by about 1/8 of a percentage point on 6- to 9-month maturities and 3/8 of a percentage point on maturities of a year or more. The new ceilings were established at 3 1/2 per cent and 4 per cent for maturities of 6 months, and of 1 year or longer, respectively. Rates for other maturities were

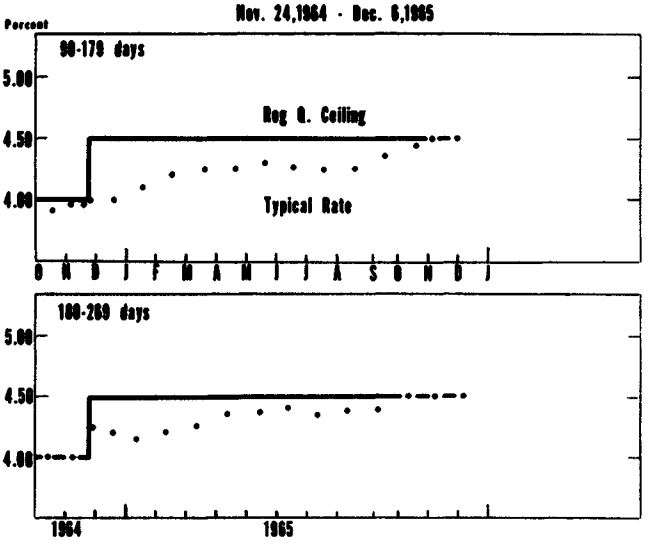
Chart 3

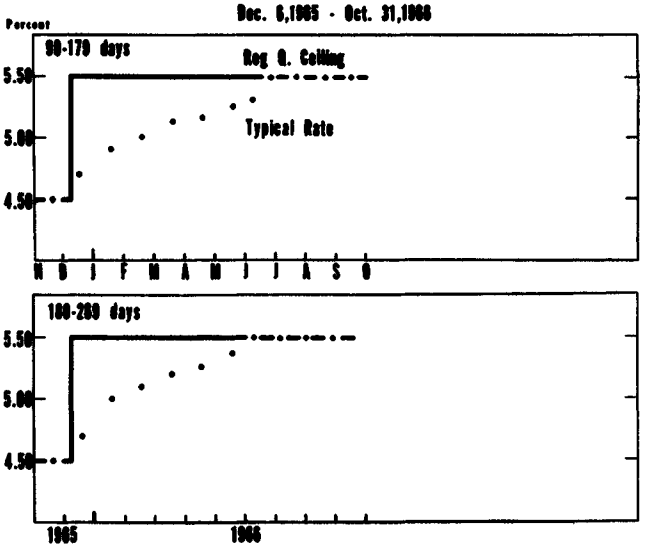
CD ISSUING RATES — N.Y.C. BANKS











unchanged. This action renewed the appeal of 6-month or longer maturities and resulted in substantial new issues.

Larger amounts of certificates then became available to dealers, and the volume of trading increased. Dealers acquired reasonable inventories of 6-month maturities from original holders and "aged" them placing some on repurchase agreements and held other for sale in the relatively near future. Interest rate prospects were attractive for capital gains. Expectations for generally stable interest rates encouraged dealers to build positions. Since the Regulation Q ceilings established lower rates on the shorter maturities than on the longer ones, the yield curve descended as maturity shortened. This enabled the dealers to offer CD's at lower rates (higher prices) than when acquired -- thus making a profit over and above the interest earned during the period held. Dealer positions are estimated to have averaged between $125 million and $225 million and trading between $25 million to $45 million on an average day. Certificates of perhaps as many as 50 banks appeared in the secondary market at one time or another during the year.

1963 -- In 1963 the secondary market became stronger, attracted more participants, and served a greater variety of investor groups. Trading was more active during the first half of the year but was affected by fluctuations in interest rates during the spring as the market anticipated higher levels. Dealer positions are estimated to have ranged from $100 million to $500 million and averaged $150 million to $250 million. Trading volume ranged between $15 million and $75 million and averaged $20 million to $30 million. Both dealer positions and the transactions reached peaks for the year

during the spring. Issue rates on certificates of less than 6 months maturity had been at the ceiling all year and maturities of 6 to 9 months reached the ceiling in July. Only maturities of 9 months to 1 year were competitive

The market received its first major test with the increase in the discount rate in mid-July and the accompanying sharp rise in Treasury bill rates. Regulation Q ceilings were revised, establishing a 4 per cent ceiling for certificates with maturities of 90 days to 1 year and permitting banks to offer shorter maturities than previously. Following these changes all market rates adjusted upward during the last half of July, and offering rates were raised from 3 3/8 to 3 1/2 per cent on 3- to 6-month maturities and 3 1/2 to 3 3/4 per cent on 6-month to 1-year maturities. Issue rates and market rates on certificates continued to move upward during the remainder of the year -- increasing by as much as 10 to 20 basis points in 3- and 6-month maturity areas in some months. (See Charts 1 and 3.)

The rise in market rates of interest lowered the market values of outstanding certificates, and some investors who normally would have sold before maturity, chose to hold their certificates rather than accept a loss -- thus contributing to a substantial decline in trading after midyear. Activity remained at low levels until fall. Trading fluctuated between a low of $15 million on the average in September and $55 million in the last month of 1963. Dealer inventories were also lightened, and some dealers were reported to have sustained large losses.

The adjustment of the secondary market for CD's to the abrupt rise in interest rates was more sluggish than the adjustment in

Treasury bills. The spread in yields between certificates and Treasury bills narrowed sharply in July and remained narrow until October. After October the volume of trading picked up, with activity centered in maturities of less than 3 months. In contrast to the decline in dealer positions and secondary trading, the volume of CD's outstanding rose sharply after July in response to lifting of the Regulation Q ceiling and to strong loan demand, which permitted and induced banks to seek funds aggressively. The new terms of Regulation Q, as noted, also made possible issuance of maturities of less than 90 days for virtually the first time. Some banks took advantage of this, and so provided competition in this area with the market supply. By the end of 1963, the larger banks were quoting issuing rates close to the 4 per cent maximum. The market as a whole, however, was substantially strengthened and broadened during the year.

1964 -- The volume of trading in certificates reached new high levels during 1964, considerably above those in 1963. On the average there was a $10 million quarter-over-quarter increase. Broad patterns of activity associated with the four principal quarterly tax and dividend dates, as well as some trading for midyear and year-end needs also developed. Dealer positions fluctuated, but inversely to trading; and positions averaged about four times the volume of trading. Both positions and trading reflected the relationships of both market and issuing rates to Regulation Q ceilings as well as the spread between these rates and Treasury bill yields. These factors of course influenced the maturities available in the market. Divergent trends in the supplies of the various money market instruments moderately influenced the yield spreads between Treasury bills and other obligations.

During the first quarter of 1964 CD market rates, which generally tended to be 30 to 40 basis points above Treasury bill yields of a comparable maturity were near the 4 per cent ceiling on maturities of 3 months or longer. At the end of March most large banks were quoting interest rates of 4 per cent on new certificates of 6 months or longer and about 3.9 per cent on 3- to 6-month maturities. Smaller banks quoted 4 per cent across the board. Since some shorter maturities were available from issuers, dealers were reluctant to increase inventories, and investors met most of their needs from the banks.

The opening of the second quarter in April brought a decline in market rates, and rates on new 9-month certificates backed away from the ceiling -- thus providing banks with a chance to sell longer-term certificates. Rates changed little in May, and dealers -- anticipating favorable "carries" -- began to increase their positions. During the first half of the year dealer inventories averaged between $120 million and $280 million and trading volume between $60 million and $70 million.

Over the early summer the bulk of outstanding certificates continued to have relatively short maturities; about half carried dates within 3 months; and three-fourths, within 5 months. Some declines in rates in June and July again permitted issuance of a modest amount of longer-term certificates. Expectations for favorable "carries" and a strong demand for certificates maturing around the September tax and dividend date led dealers to make further increases in their inventories.

Induced by high interest rates in the market in August, September,

and early October, new issues maturing in 6 months or more were at the 4 per cent ceiling from the end of September until the change in the discount rate and increase in Regulation Q ceilings in late November. For some weeks prior to the change, prime banks had not been able to attract any volume of certificates, and most issues were in the 4- to 5-month maturity range. Heavier dividend payments relative to tax payments in December and a step-up in estimated tax payments for 1965 also influenced the shortening of maturities and at the same time heightened interest in trading. The increase in certificates in the September-November period was only about $500 million.

Dealer positions reached new highs just before the change in the discount rate and the Regulation Q change in November, and they have never regained these levels since then. Active trading during the fall under the umbrella of the 4 per cent issue ceiling on maturities of less than 90 days emphasized the desirability of having CD's mature on or near tax and dividend dates or around the year-end. During the last half of the year dealer positions averaged between $210 million in October and $322 million in November, with trading averaging from $70 million in July to $80 million in October. The bulk of the trading during the year was again in maturities of less than 3 months.

The new ceilings under Regulation Q permitted issue rates of 4 1/2 per cent for maturities of 90 days or more and payment of 4 per cent on maturities of less than 90 days. The latter action ended the prohibitive 1 per cent ceiling on short maturities, which had been in effect since 1936. Banks used the new authority to obtain funds maturing in less than 90 days and only reluctantly paid the higher

rates necessary to issue longer-term certificates.

As the year closed, dealers began to adjust inventories to the new interest rate structure through run-offs and sales. Both new issue and secondary market rates moved higher in December (see Charts 1, 2, and 3).

1965 -- After a tendency for short-term rates to level off in January, they edged higher in February and moved upward through the remainder of the first quarter. Funds in the short maturities became generally unavailable. Banks turned from the 30- to 89-day maturities and began to seek deposits in the 4- to 6-month or longer range. Large banks in New York City and elsewhere -- anticipating strong loan demands, heavy redemptions of CD's in June, and reduced liquidity -- aggressively competed for funds and extended maturities.

In contrast the smaller banks shortened maturities. They experienced net reductions in outstanding certificates during the late winter and early spring. In part these banks were hampered by rate ceilings and the inelasticity in the market, which makes it difficult for them to issue CD's when the big money market banks are seeking funds. There was also some unwillingness to pay the necessary higher rates. New York City banks accounted for nearly all of the increase in outstanding certificates over the quarter, and all were in the form of longer maturities (see Table 4 and Table 8).

In response to the changes in Regulation Q, the new rate setting, and issuance of some shorter-term CD's over the year-end, dealers cut their positions to an average of $150 million in January, an amount about half the level at the end of December. The volume of trading reached a record high of $90 million. Both buyers and sellers

were active in rearranging their portfolios, and trading tended to center on certificates maturing on the March and April 15 tax dates as well as certain spring dividend dates. After appraising the new context of market rates and possibilities for new issues of CD's, dealers began to rebuild positions. It seemed clear that upward fluctuations in rates would continue and would foreclose short-term issues. Positions were increased to about $225 million on the average in March.

Through the spring New York banks continued aggressively to seek funds with longer maturities. As a result, issuing rates were marked up, and market rates also tended to be higher. The larger banks were successful in issuing a sizable volume of longer-term certificates. However, during the spring,banks outside New York experienced net reductions in outstanding CD's in all size groups. These banks were more severely affected by rate ceilings than they had been earlier in the year (see Table 8).

In response to these factors, dealers increased their positions to a peak for the second quarter of about $275 million in April. The volume of trading remained low, averaging about $45 million in February, March, and April. Trading became more active after April until July when it reached $75 million. Trading as usual centered on certificates maturing on tax and dividend dates. The $3.3 billion tax-anticipation bills maturing in June -- the largest since the spring of 1962 -- moderated corporate buying to some extent.

Banks outside New York, faced with increasing requests for loans, stepped up their offerings of CD's during the early summer. The New York banks had temporarily withdrawn, and Treasury bill rates had

moved down. With the re-entry of New York banks after midsummer, CD issues at the outside banks slowed.

From August through November, issuing rates of New York banks were close to or at Regulation Q ceilings about half the time, and total certificates outstanding showed only a small increase. Aside from the rise in market rates relative to the ceiling, lessened corporate liquidity and wider use of the capital market -- with a consequent reduction in demand for bank credit -- were factors checking the rate of growth of CD's. Contrary to experience since 1961, when long-term rates had tended to fall and short-term rates had moved up slowly, both long- and short-term rates rose rather steadily after mid-1965. Trading in the secondary market reached a peak of about $78 million in July, with demand centered on certificates maturing on fall tax and dividend dates. After that, activity declined irregularly until the year-end, except for a small pick-up in trading in October for year-end maturity dates. As in the second and third quarters of 1963, some of the decline in activity was caused by the unwillingness of many holders to liquidate at a loss.

Although dealer positions reached a high for the year of $280 million in October 1965, both positions and the volume of trading failed to reach levels attained in the last half of 1964. As the fourth quarter progressed, the market became thin and uncertainty about the outlook for rates developed -- culminating with the changes in the discount rate and Regulation Q early in December. In general the market lacked the

breadth that had been characteristic of 1964 and early 1965 and reflected some lessened over-all interest in new issues of CD's and some slowing in their volume offered. It also was affected significantly by the removal of the 1 per cent ceiling on issues maturing in less than 90 days. Dealer positions were influenced by less strong potentials for profits.

K. Changes In Market Activity -- 1966

The secondary market suffered a sharp setback in 1966. The year is distinguished from the previous period in several respects all of which significatly influenced activity in the market. Among these forces are the pattern of both long- and short-term rates; the new Regulation Q ceilings, which established a single rate at 5 1/2 per cent for all maturities of 30 days or more; the large increases in the ceilings; a record rise in amount of CD's outstanding during the spring, followed by a marked decline later in the year; the change in character of trading; and greater diversity in the supply of all short-term money market instruments. (See Table 6.)

While the December increase in Regulation Q ceilings provided considerable flexibility for banks to raise their rates, it also made it practicable for banks to issue maturities as short as 30 days. Over the year-end, as market rates rose sharply and competition quickened, the banks -- particularly those in New York -- preferred to emphasize issuance of shorter maturities rather than to pay the rates necessary to attract longer-term money. Leading banks paid 4.80 per cent on 3-month certificates, and out-of-town banks were paying up to 5 per cent. At the same time there were small increases in longer-term -- 6 months and over -- maturities, which limited further average

shortening. In February the average maturity was 3.3 months. The volume of March and June Treasury tax-anticipation bills outstanding made it more difficult to issue certificates for those dates. Between November 1965 and February 1966, there was a small net decline in certificates outstanding. This was the first over-all decline within any 12-month period since CD's were first issued.

As the year developed, both short- and long-term rates continued the sharp rises that had begun in the summer or fall of 1965, and the advance in rates became more rapid as monetary restraint intensified and reinforced upward rate pressures stemming from heavy credit demands. New issues of certificates accelerated with these developments in March, and by mid-May the volume had increased about $1.4 billion -- one of the largest quarterly increases. Two increases in the prime rate after December -- particularly the one in March to 5 1/2 per cent -- made it possible and profitable to seek certificates aggressively.

Table 8

NET INCREASE IN NEGOTIABLE CERTIFICATES OF DEPOSIT OUTSTANDING IN DENOMINATIONS OF $100,000 OR MORE
(Millions of Dollars)

Size of Bank (Total Deposits in millions of dollars)	8-19-64 to 11-18-64	11-18-64 to 2-17-65	2-17-65 to 5-19-65	5-19-65 to 8-18-65	8-18-65 to 11-17-65	11-17-65 to 2-16-66	2-16-66 to 5-18-66	5-18-66 to 8-31-66	8-31-66 to 10-26-66
Under 100	120	16	-13	21	8	8	2	-6	-11
100 - 200	2	40	-42	37	24	7	-2		
200 - 500	-45	195	-76	90	1	-28	19	8	-76
500 - 1,000	25	88	-29	160	101	-38	96	193	-97
1,000 and over	574	668	1,470	644	225	40	1,259	-404	-2,094
Total	676	1,007	1,310	952	359	-11	1,374	-109	-2,778

Note -- Data are based on Federal Reserve surveys for dates specified. Surveys of May 18, 1966, and Aug. 31, 1966, adjusted for change in sample.

Emphasis shifted towards sales of 6-month and over maturities, in part to avoid earlier rollover problems on tax dates and in part because loan demands were expected to continue strong. Offering rates were increased more on longer maturities than on short ones, and the average maturity in May rose to 3.8 months. Market rates rose above the CD ceiling in July, and certificates outstanding leveled off and began to decline in August. Run-offs amounted to about $3.0 billion at the end of November. Certificates became competitive only with 1-month maturities of market instruments. With the increase in the prime rate in early July to 5 3/4 per cent, leading banks began issuance of 30-day maturities at 5 1/2 per cent. Certificates of these banks subsequently became available in the secondary market at rates above 5 1/2 per cent. The situation became intensely competitive in the summer as rates of all short-term and long-term investments approached or reached record levels.

Dealer positions in certificates during the first quarter of 1966 averaged only about $70 million, the smallest first-quarter holdings on record. This contrasts sharply with inventories which ranged from $150 million to about $210 million in an average month in 1964 and 1965. Although dealers will purchase certificates for inventory at even or negative "carries" if the prospects for reselling at a small profit are good, the situation in the first quarter of 1966 exposed them to undercutting of positions. Issuers could make unexpected changes in rates at various maturities. Trading averaged only $40 million, about $10 million to $15 million below the levels of the comparable quarter in the previous 2 years. Trading was affected by the increased availability of shorter maturities from issuers, and the Treasury

tax-anticipation bill maturing in March tended to cut market demand. One or two corporations that were pressed for cash and did not want to sell certificates at a loss arranged reverse repurchases with dealers until the March tax date. These transactions accounted for part of the increase in dealer positions in February and March.

During the second quarter of 1966, although the competition for funds intensified, the supply of certificates with emphasis on longer maturities increased substantially. Banks were willing to pay higher rates, and corporations improved their liquidity by selling new bonds. Treasury bill rates had begun to drop in March, and the yield spread between certificates and bills widened substantially. Expectations seemed favorable for "carries." Dealers accordingly added to positions cautiously -- buying principally certificates maturing around the September and December tax and dividend dates. Inventories rose from an average of $80 million in March to a peak of $215 million in May. This level, however, was well below that of previous years (see Chart 2).

Trading volume increased with the March and April tax and dividend dates and reached a high point in June for the midyear and early fall dates. The trading level, however, never exceeded an average monthly level of $55 million -- roughly equal to the trading lows in 1964 and 1965. The money market atmosphere had changed, and concern had developed about their ability to finance inventories and about the availability of supplies. As rates rose, the spread between yields on Treasury bills and CD's reached 101 basis points at the end of June, with a large part of the spread reflecting diverse movements in the supplies of short-term investments during the half year. (See Tables 6 and 7.) Toward the end of June rates on loans to securities dealers approached

the bank prime rate and subsequently exceeded it. Dealer bids for CD's in part came to be based on the cost of carrying them on loan and not on the basis of resale price. Spreads between bid and asked quotations widened.

As the secondary market weakened, the authorities of some corporate treasurers to purchase certificates were revoked and other were limited or further restricted as to which banks' certificates they could buy. Dependence upon the Treasury bill market for liquidity was increased.

During the summer quarter both trading and positions declined sharply to very low levels. Inventories were cut from an average level of $180 million in June to $35 million in September when they leveled off. The sharp drop reflected some "dumping" by dealers at a loss. Trading volume was cut almost two-thirds, to an average level of $20 million.

The decline occurred at a time when market rates broke through the Regulation Q ceilings and then moved substantially above them. (See Charts 1-3.) Many sales by investors thus could be made only at a loss of principal funds, and there was some distress selling. During most of the time only 1-month maturities of new issues had yields that were competitive with those on other money market investments. Trading in the market continued to concentrate on maturities of less than 30 days and special situations. Market preference turned almost exclusively to certificates of the major banks, and the number of issuers in the market was generally between 20 and 25. This condition characterized the market until mid-December.

Banks had begun to have difficulties in rolling over certificates

in late August. From August on, outstanding CD's declined steadily and by early December about $3.2 billion had run off. Both rate and nonrate factors were contributing causes. Some banks appealed to customer loyalties to lessen runoffs. Worry, apprehension, and even desperation "dogged" dealers and investors alike.

Yields on short-term money market investments reached peak levels in September and October, as shown in Table 9, and remained high throughout October. As the banks became still more restrictive in granting credit during the early fall, the increased costs and shrinkage of availability of dealer loans and repurchases compounded market problems.

Table 9

YIELDS ON SHORT-TERM MONEY MARKET INVESTMENTS

Type of Investment	Yields (per cent)			Net change (basis points) from peak to-	
	Peak (Sept.-Oct.)	Nov. 3, 1966	Dec. 22, 1966	Nov. 3, 1966	Dec. 22, 1966
Treasury bills	5.59	5.33	4.81	-26	-78
Finance paper	5.87	5.87	5.87	0	0
Federal agency issues	5.77	5.58	4.98	-19	-79
Bankers' acceptances	6.00	5.75	5.75	-25	-25
Certificates	5.90	5.70	5.65	-20	-25

Note -- Three-month maturities for all.

Some easing in short-term market rates began in November and continued into December, supported in part by a shift in credit policy towards ease. The market atmosphere improved slightly, and dealers cautiously began to consider small increases in positions. There was also some revival of interest in market purchases by investors, but

the market remained soft. Attraction to the market was chiefly the result of the decline in Treasury bill yields, as they fell substantially below certificate yields. Issue rates remained at 5 1/2 per cent for 30-day or longer maturities, and banks continued to have trouble in rolling over maturing certificates.

In contrast to these changes in the certificate market, activity in both the acceptance and Treasury bill markets over the year exceeded somewhat the levels of the previous period. Average daily volume of trading in acceptances in 1966 was about $63 million monthly, up noticeably from 1964 and 1965. Treasury bill trading rose to an average monthly level of $1.5 billion, up about $150 million.

Positions of acceptance dealers averaged about $280 million, some $60 million higher than the levels in 1964 and 1965. The larger inventories carried by dealers resulted from increased sales into the market by accepting banks as their money positions came under pressures. Banks' holdings of their own acceptances declined to about 30 per cent of their total acceptance portfolio as compared with 49 per cent and 36 per cent in 1964 and 1965, respectively. By-passing of the dealer market was reduced. Investors were attracted to acceptances by their high interest rates relative to those on other investments. Dealers' positions in Treasury bills were about the same as in the previous 2 years.

Holdings of acceptances and Treasury bills, however, were sharply reduced as the cost of "carry" mounted during the summer and funds became short in supply. Acceptance inventories averaged only $181 million in contrast to an average of $350 million for the first two quarters. Repurchase agreements by the Federal Reserve had been

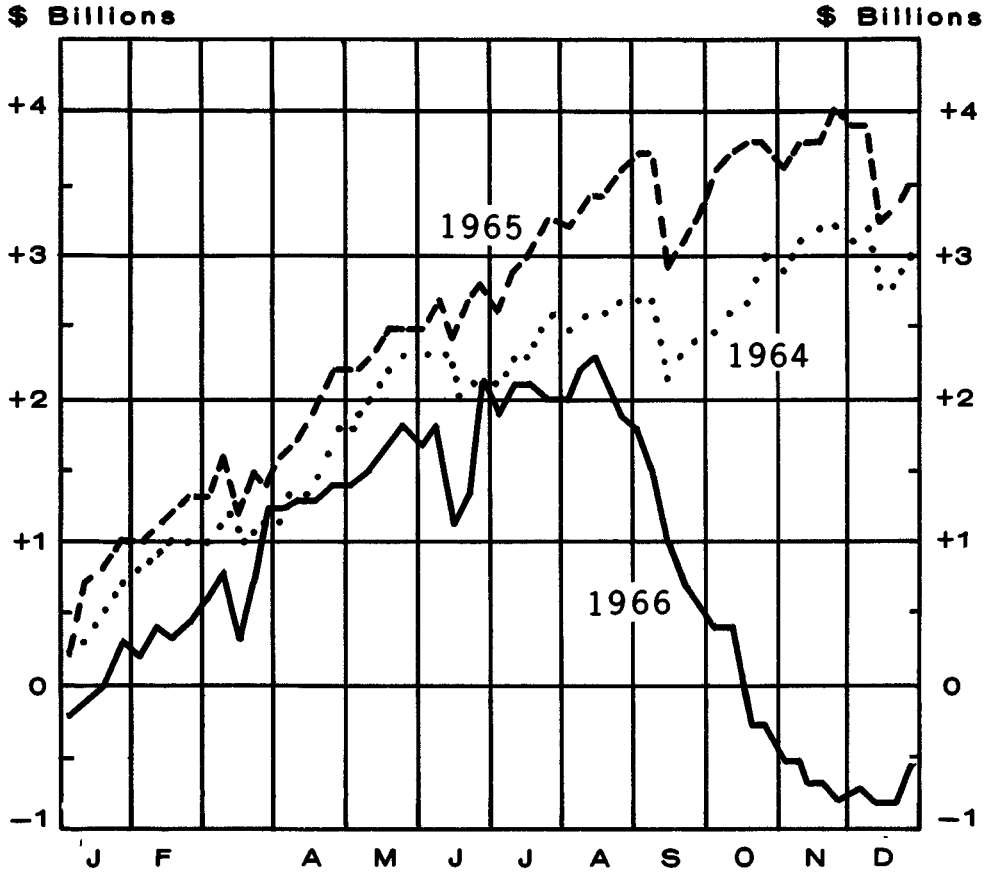
consistently available until mid-July, but from then until the end of September there were none. Withdrawal of these agreements at 4 1/2 per cent materially raised cost of "carry" and forced the lightening of inventories during the third quarter. Similarly, Treasury bill positions were cut about in half during the summer quarter, in part because of rising costs but also because of scarcity of bills and heavy demand.

The volume of acceptances outstanding remained close to the 1964 and 1965 levels as did Treasury bills. This contrasts with the pattern of outstanding CD's, which rose to a peak in August and subsequently declined very sharply (see Chart 4).

Chart 4

NEGOTIABLE CERTIFICATES OF DEPOSIT
ALL WEEKLY REPORTING MEMBER BANKS

(actual cumulative change from Jan. 1 of each year)



Comparison of the dollar volume of transaction with the dollar volume of outstandings for each instrument indicates that trading in both acceptances and Treasury bills rose substantially. From January through June trading volume ranged on the average from .23 per cent to .30 per cent of CD's outstanding; from 1.22 per cent to 1.52 per cent for acceptances; and from 2.38 per cent to 2.73 per cent for bills. The percentages for certificates were less than half those reported for earlier years, while the ratios for acceptances and bills were more or less unchanged. As noted earlier, activity in certificates was materially affected by the establishment of a single rate for all maturities and by the increases in market rates relative to the ceiling. After June trading in certificates shrank to .13 per cent of the total outstanding, while trading in acceptances and bills remained the same or increased slightly -- ranging between 1.6 per cent and 1.8 per cent and 2.53 per cent to 3.00 per cent, respectively,

Comparison of the dollar volume of dealer inventories to the dollar volume of outstandings also shows a marked change for certificates in 1966 as compared with the previous period. From January through June this ratio ranged on the average from .33 per cent in February to 1.20 per cent in May, and in September and October declined to .19 per cent and .27 per cent, respectively. All of these ratios are small fractions of those of previous periods and reflect a greater change in positions than in outstandings. For acceptances the ratios ranged from 11.3 per cent in January to 8.6 per cent in June, dropped to 4.0 per cent in August as markets tightened, and returned to earlier levels during the fall. These ratios for acceptances, except for the summer quarter, are similar to those of

1964 and 1965. Ratios for Treasury bills averaged about 3.21 per cent and showed little significant variation from earlier years. They were lower, however, during the tight market of the summer.

Perhaps the most striking contrast in activity in the secondary market is the change in the dollar volume of transactions in relation to the dollar volume of positions. During the first half of the year these percentages for certificates ranged from 70 per cent in February to 27 per cent in May and were substantially above most months in 1964 and 1965. After June they ranged between 22 per cent and 65 per cent. Positions dropped somewhat more than transactions did. For Treasury bills too the ratios were larger than in the earlier period and reflected higher levels of trading and some reduction in position as costs mounted. During June and July, trading in bills exceeded positions by 40 and 18 per cent, respectively. Transactions in acceptances reflected the increase in investor interest. Both trading volume and positions rose, however, and the ratios were unchanged.

L. Market Activity Mid-December 1966-January 1967

A shift from outflow to inflow of certificates began at banks in mid-December and accelerated rapidly in January as declines in market rates of interest made the instruments relatively more attractive. CD's issued by large weekly reporting banks increased by about $2 billion in January, a new monthly record. The increase for December and January combined amounted to $2.3 billion and brought certificates outstanding back to a level of about $18.1 billion. As short-term rates declined further after mid-January, many of the larger banks reduced their offering rates, and at the month-end a number of banks were offering rates of 5 1/8 per cent for all maturities, and some banks posted a

5 per cent rate for CD's with 3-month maturities. Even at this level, yields on new 90-day certificates exceeded Treasury bill discounts by 50 basis points. Some extensions in maturity ranging up to 3 months were also made.

In the easier atmosphere in December and with prospects for further ease, dealers began to rebuild positions in anticipation of profits. Toward the year-end they made large additions to inventories as developments seemed to suggest an abrupt and rapid movement in the over-all structure of rates to lower levels. Dealers acquired as long maturities as possible, most of them with June and December dates carrying coupons of 5 3/8 per cent and 5 1/2 per cent. Some dealers subsequently cut back on their holdings of some of the longer maturities and emphasized instead certificates with early summer and early fall maturities. Dealer positions for January averaged $360 million, a record high, and although trading volume increased, it failed to rise commensurately. For the month it averaged only $60 million. Positions were six times larger than the volume of trading as compared with typical ratios of four to one in the active markets of 1964 and 1965.

In part trading volume did not increase to its earlier proportions relative to positions because of competition from new issues and some lack of a balance in maturities in inventories. Dealers were also reluctant sellers. Improvement in availability of financing at lower rates provided a "running carry" or at least one that was only modestly negative. In other markets dealers' holdings of securities also increased but not to the same extent relative to trading.

This dramatic resurgence of postions accompanying the rapid drop

in market rates was a complement to the equally dramatic decline in inventories in 1966 associated with the sharp upward movement in rates. It reflects largely the speculative tendencies that may accompany the unwinding of extremely tight markets.

Table 10

YIELDS ON SHORT-TERM MONEY MARKET INVESTMENTS

Type of Investment	Yields (per cent)			Net Change from	
	Peak (Sept.-Oct.)	Dec. 22, 1966	Jan. 31, 1967	Sept.-Oct. 1966 to Jan. 31, 1967	Dec. 22, 1966 to Jan. 31, 1967
Treasury bills	5.59	4.81	4.51	-108	- 30
Finance paper	5.87	5.87	5.25	- 62	- 62
Federal agency issues	5.77	4.98	4.87	- 90	- 11
Bankers' acceptances	6.00	5.75	4.75	-125	-100
Certificates	5.90	5.68	5.20	- 70	- 48

Note -- Three-month maturities for all.

As shown in Table 10, downward adjustments in yields on acceptances, finance paper, and certificates were substantial in January 1967, and they accounted for all of the adjustment from the September-October peaks for finance paper and somewhat more than half for the other two investments. These drops in rates on money market paper, which had previously shown only sluggish moves, accompanied declines in rates at the bank counter and in the capital markets.

The secondary market for certificates awaits a test of what it may consider are normal conditions, that is, a period characterized by stable or declining yields and one free from the changes in Regulation Q that have been a feature of market activity to date.

Patterns and levels of activity under such conditions are unknown.

M. Future Market Activity

As long as Regulation Q provides a single rate for maturities of 30 days or more -- with issue rates at the ceiling and market rates on comparable maturities above the ceiling -- trading in the secondary market will continue at relatively low levels. The floating supply of CD's tends to undergo a constant decline. New issues are prohibited. Holders of outstanding issues are deterred from selling because of capital loss,[13] and dealers face a penalty cost in carrying inventory. Buyers show a strong reluctance to extend maturities. Participants are also concerned with the possibility of an unexpected change in Regulation Q. As well, there is a competing supply of desirable investments with coupons or yields not subject to the constraint of regulation. Although dealers will make some bids which vary with maturity and reflect the structure of market rates, there is evident discontinuity, and many trades are negotiated individually. This background does not produce a well-defined yield curve characteristic of some other markets, even though tight.

When market rates fall below the Q ceiling and stable or declining rates encourage issuance of new CD's, trading volume should advance moderately. The volume will fluctuate with the ability of the banks to issue longer-term maturities, and the market will supply the desired shorter maturities. Dealer positions may be somewhat smaller under these conditions, because they are exposed to greater risk than when the

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[13] This is particularly true of corporations which cannot make the same flexible use of capital losses as banks do in offsets against income.

Regulation prohibited issues of shorter maturities. The potential for profits will be relatively limited unless there is an opportunity to "age" CD's. Under the circumstances the dealer, as noted, runs the risk of having issuers make unexpected changes in rates at various maturities. The new supply comes out and competes with the old. The dealer is also exposed to the risk of a change in the Regulation Q ceiling. Even with a new-issue market substantially larger than at present, secondary trading probably will not reach the levels of 1964-65, which to a great extent resulted from provisions of Regulation Q.

The secondary market for certificates has had a relatively short period of development and testing. Nevertheless, it may be said that a basic framework has emerged on which future activity can build. While comparisons of the certificate market with competitors are frequently made, they are not altogether valid. None of the other markets have been exposed to constraint similar to that provided by Regulation Q. The acceptance market and Treasury bill markets, on the other hand, are offically recognized as markets in which the System conducts open market operations, and dealers in both markets may have repurchase facilities extended to them at times to help finance inventories. Aside from these important aids, these markets have the distinct advantage over the certificate market of a long period of development in which practices and mechanisms have evolved that contribute to their greater breadth and other qualities.

With or without official recognition or help, the certificate market of the future is likely to be somewhat different from the past. The future market -- reflecting shifts and refinements based on the historical experience of the monetary authorities, issuers, buyers, and dealers --

should be more continuous. Diverse characteristics of CD's should be further reduced, supplies should be less variable, and progress should be made toward a more standardized form of credit risk. It is also to be expected, if Regulation Q remains, that the spasmodic periods of illiquidity for certificates associated with changes in the Regulation will be avoided or substantially moderated. Official and private action along these lines should help to encourage a widespread increase in demand, and this factor alone should help to eliminate differentials in issuing and trading rates for many banks' CD's.

V. PROPOSALS TO IMPROVE MARKETABILITY OF CERTIFICATES

As the CD market expanded, various proposals designed to improve the marketability and appeal of certificates to both buyers and issuers were made by the monetary authorities and participants. Some of the proposals have the objective of providing easier access to the market by the smaller banks. Other suggestions involve merely changes in market practices.

A. Issuance of Certificates on a Discount Basis

Many observers believe that the appeal of certificates to corporate and institutional portfolio managers would be greatly increased if the certificates were issued on a 360 day discount basis instead of yield to maturity. Issuance on a discount basis would facilitate computation of purchase and sale prices and would avoid the awkward formula now used to make the conversion. In addition, issuance on a discount basis would make it possible for most holders to avoid showing book losses unless a very sharp change in rates occurred. Some large buyers currently are not willing to sell into the market if the sale would cause a book loss, and this factor lessens the appeal of certificates as compared with competing instruments. A change to issuance on a discount basis might result in a substantial gain in marketability.

Some banks state that placing CD's on a discount basis was considered when the market began. This method was rejected because (1) according to convention, certificates had been issued on a yield to maturity basis; (2) effective costs would be higher; (3) interest accrues daily, and the value of the deposit changes daily; hence

there would be a mechanical problem in computing required reserves; (4) some customers insist on a yield to maturity basis; (5) issuance of certificates on both bases would split the trading market into divisions and this would lead to confusion. Although some banks now believe that these reasons exaggerate possible difficulties, they think that it would be almost impossible to turn the market around.

B. F.D.I.C. Insurance Coverage

Some observers suggest that complete insurance coverage be granted certificates. This proposal would obviously provide a high degree of marketability. It is not clear, however, how this proposal can be justified without applying the same coverage to other deposits. Individual unit banks are separately capitalized, differ substantially in performance, and rise and decline in profitability with their managements. Complete insurance coverage would subsidize poor management. This cost would be seemingly greater than the benefit of improved marketability and attendant improved flow of funds.

C. Dealer's Endorsement

If a dealer would stamp or endorse bank certificates -- charging a customary fee as in the case with acceptances -- yield spreads of lesser known banks could be standardized and marketability improved. Dealers, however, state that they do not want to assume the obligation of certifying credits. Furthermore, they believe that impersonal market evaluation of credit risk should be encouraged. The market currently decides on this impersonal basis which banks can grow or be tided over, but it does not give a guarantee of credit soundness. Yield spreads frequently give valuable warning signs to the purchaser and perhaps to the issuer.

D. Provision of Information by Federal Reserve Banks

If the Federal Reserve Banks were to act as a regional clearing-house for information about banks wanting to issue certificates and those willing to buy them, or if they were to function as brokers in matching deficit needs for funds of smaller banks with surplus funds of other banks through an exchange of certificates for deposits, the market would view these actions with concern. Participants state that such actions would be considered tantamount to guaranteeing the soundness of the bank receiving the deposit. And if the bank should become overextended, the Federal Reserve would be subject to criticism. While this proposal would promote flows of funds and provide easier access to the market than currently exists for some banks, it is not clear that those banks' needs are closely suited to the average certificate maturity. Their needs by and large are considered to be somewhat longer-term.

E. Group Marketing of Certificates of Smaller Banks

In early 1966 a large commercial paper house, commenting on the "inequity of money rates," stated that the secondary market for certificates of major money market banks had consistently yielded more than the market for major finance company paper of a similar range in maturity since August 1964. This was attributed to weak secondary market support of CD's. Money costs for smaller banks, whether in major centers or in outlying regions, were reflected in spreads above these rates. In an attempt to improve the liquidity of CD's and the mechanical ease of trading them -- looking toward reduction of the premium and a proper yield relationship to the other money market instruments -- the firm suggested that a consortium of regional

banks be organized and that the firm be recognized as the leading dealer in their secondary market certificates. Under this proposal the house would undertake to make a market reflecting a "proper dealer-spread" such as exists in acceptances. For instruments of members the dealer would post daily quotations and would advertise a market with a spread of 10 basis points. Yields in such a market would be quoted in .05's of a percentage point by various maturity categories, as in markets for acceptances and direct-issue commercial paper. Adjustment to the rate scale for CD's would be made when the dealer's position reached key levels in relation to the amount of financing available to the dealer.

Participating banks could post a rate on an original issue of certificates at the sell side of the dealer's posted market, that is to say, at a lesser rate. They could not post a rate higher than that posted by the dealer. The participating banks would provide the dealer with financing necessary to carry reasonable positions -- the rates on such financing to be equal to the interest earned on certificates held in loan position less any trading loss on certificates sold out of positions. In the arrangement the dealer would not realize any profit on certificates held in position. This plan was expected to allow the issue rate for members to be reduced substantially. On the assumption that the participating banks would use the Federal funds market as a source of money to provide dealer financing, it was expected that there would be a profitable arbitrage between the Federal funds rate and the interest earned on certificates held in loan position. By establishing a known and advertised market for the certificates, it was argued that the issue rate for

participating banks would be reduced to levels prevailing for major finance company paper and bankers' acceptances.

The consortium could not be formed. Most of the prospective participants felt that they were placing CD's satisfactorily. Some thought that customer relationship would be taken advantage of. Others felt that the advantage rested largely with the dealer. Since losses would be absorbed by the lending banks and the cost of "carry" would equal the rate earned on CD's, the dealer would sustain no cost at all for the financing.

F. Purchase of Certificates by the System Account

In the interest of increasing the marketability of certificates of smaller banks, the proposal has been made that the manager of the Federal Open Market Account make direct purchases of certificates from time to time. Participants in the market state, however, that such action would subject the System to political pressures and criticisms, which should be avoided. Beyond this it is believed that the "feel of the market" and the warning signs that changes in flows under current conditions provide would be lost. Although having little substance as to the likelihood, the eventuality of offical rate pegging is also a background fear. In this general connection about one-third of the replies from monetary economists to a Joint Economic Committee questionnaire in late 1965 requesting an opinion about broadening of the list of credit instruments eligible for purchase by the System Open Market Account favored the maintenance of current policy. Acquisition of private credit instruments would involve entrance into relatively narrow markets. Less than one-tenth of the replies favored giving the Federal Reserve more

flexibility in this regard. One economist, however, specifically recommended dealing in CD's.

G. Extend System Repurchase Agreements to Dealers

Repurchase agreements by the System are now entered into with dealers in acceptances and in U. S. Government securities, and some market participants favor the addition of repurchase agreements on certificates. Unless the certificate were made eligible for purchase by the System Account and eligible for discount, there seems little to favor this proposal. Some have raised the question as to why this market should be distinguished from municipals or mortgages of short-dated maturity. If a recent proposal to make acceptances ineligible for repurchase is acted upon, inclusion of certificates would be still harder to justify.

H. Permit Greater Market Freedom with Respect to CD Rates

The secondary market for certificates for most of 1966 was a market by designation rather than transaction. Although this may not be an accurate characterization of the current market, it is still a matter of concern to participants in the market and it raises a question about the kind of secondary market that can be expected in the future if Regulation Q is used aggressively as one of the policy instruments to control bank credit. The administration of Regulation Q at various times in the past has maintained unrealistic maxima of rates, with the result that the CD facility as a whole -- both the new-issue market and the secondary market -- has not always been attractive to users. Rigid ceilings have also been responsible for development or expansion of several financial arrangements that may be considered questionable. These include

use of repurchase agreements between banks and corporations, use of brokers in placing CD's, expansion of the Euro-dollar market, issuance of short-term unsecured negotiable notes, and some loss of interest-sensitive funds by nonprime -- to large prime-name banks.

Market participants favor greater freedom in the establishment of certificate rates. To this end they argue that all buyers would use the facility more regularly if there were assurance that it would generally be attractive to them. Under these conditions issuers would not be forced to experience liquidation of CD's at maturity, and investors would find marketability more reliable.

In the absence of official action to permit the underwriting or subsidizing of CD's, and without radical change in the structure of the banking system, economic forces and the momentum of the national money market will continue to draw a preponderant share of CD's to the large prime banks. Corporate customer relationships and the size of these banks are interacting and interdependent factors, which explain these banks' share of market trading as well as investors' preferences for these names.

As in the acceptance market where there is a high degree of concentration -- 40 of the 125 accepting banks account for 80 per cent of all acceptances outstanding and the acceptances of these 40 banks comprise the bulk of the trading -- the market for interest-sensitive CD funds is concentrated in the more important financial centers. The banks outside these areas service local markets, and their customers by and large are less interest-sensitive. CD's issued in these markets should not be considered as being the same as those issued by large banks.