Federal Reserve Bank of New York
Staff Reports

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Staff Report No. 780
June 2016

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JEL classification: E5, G2, N2

Abstract

Following the Treasury–Federal Reserve Accord of March 3, 1951, the Federal Open Market Committee (FOMC) focused on free reserves—the difference between excess reserves (reserve deposits in excess of reserve requirements) and borrowed reserves—as the touchstone of U.S. monetary policy. However, managing free reserves was problematic because highly variable and not readily predictable autonomous factors, including float, Treasury balances at Federal Reserve Banks, and currency in the hands of the public, induced comparable volatility and unpredictability in reserve deposits and hence in free reserves. Managing free reserves effectively required policy instruments that could inject and drain large quantities of reserves quickly at low transaction costs.

This paper surveys the two leading policy instruments for reserves management: 1) open market purchases and sales of Treasury bills, and 2) repurchase agreements. Outright transactions in bills were specifically authorized by statute and used in unexceptional ways for managing reserves over relatively long periods, but they had significant drawbacks for short-term "in and out" operations when additional reserves were needed for only a few days. Repos, however, while not specifically authorized by statute, were ideally suited for in-and-out operations. The acceptance of repurchase agreements as an instrument of monetary policy, even in the face of active resistance by some FOMC members, illustrates how utility can sometimes trump concerns about statutory authority, equity, and need.

Key words: repurchase agreements, reserves management, accord

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Late in the evening of Saturday, March 3, 1951, Treasury Secretary John Snyder and Board of Governors Chairman Thomas McCabe announced that they had reached "full accord" on matters of debt management and monetary policy.[1] For the first time in nearly two decades, the Federal Reserve System was in full control of U.S. monetary policy.

The transition to the post-Accord policy regime was neither quick nor seamless. Federal Reserve officials did not begin formal planning until mid-April 1952, when a new Chairman, William McChesney Martin, announced plans for what became known as the "ad hoc subcommittee study."[2] The study was completed the following November and the Federal Open Market Committee adopted some, but not all, of its recommendations four months later.

Most importantly, the Committee agreed to three operating principles:[3]

1. Under existing conditions, operations for the System account would be confined to the short end of the market. This became widely known as the "bills only" doctrine, although it was more accurately termed the "bills preferably" doctrine.[4]
2. Intervention in the Government securities market was solely to effectuate the objectives of monetary and credit policy.
3. The System would refrain during a period of Treasury financing from purchasing
    (a) any maturing issues for which an exchange was being offered,[5]

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1 "Treasury Settles Rift with Reserve Over Bond Policy," *New York Times*, March 4, 1951, p. 1.

2 Minutes of the Executive Committee of the Federal Open Market Committee, April 21, 1952, pp. 9-10.

3 Minutes of the Federal Open Market Committee, March 4-5, 1953, pp. 41-42.

4 Any residual ambiguity was resolved in March 1955. See minutes of the Executive Committee of the Federal Open Market Committee, March 2, 1955, pp. 2-3.

5 Since the 1920s, Treasury officials refinanced maturing coupon-bearing debt by offering to exchange that debt for one or more new issues on a par-for-par basis, instead of redeeming maturing debt for cash and offering new securities for cash. (Treasury bills were auctioned and redeemed for cash.) A maturing issue that was eligible for exchange was commonly called a "right" because a holder had the right to exchange it for one or more new issues.

(b) when-issued securities,[6] and

(c) any outstanding issue with a maturity comparable to the maturity of an issue being offered for exchange.

There was some backing-and-filling with respect to the first and third principles [7] and the second principle was further tightened in December,[8] but the broad outlines of the new regime were clearly evident.

Exercising its newfound freedom, the FOMC focused on free reserves – the difference between (a) excess reserves (reserve deposits in excess of reserve requirements) and (b) borrowed reserves – as the touchstone of U.S. monetary policy. However, managing free reserves was problematic because highly variable and not readily predictable autonomous factors, including float, Treasury balances at Federal Reserve banks, and currency in the hands of the public, induced comparable volatility and unpredictability in reserve deposits and hence in free reserves. Managing free reserves effectively required policy instruments that could inject and drain large quantities of reserves quickly at low transaction costs.

This paper surveys the two leading policy instruments for reserves management: open market purchases and sales of Treasury bills and repurchase agreements. Outright transactions were specifically authorized by statute and used in unexceptional ways for managing reserves over relatively long periods of time, but had significant drawbacks for short-term "in-and-out" operations when additional reserves were needed for only a few days. Repos, on the other hand,

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[6] A security was said to trade on a "when-issued" basis if it had not been issued at the time the trade was negotiated. "When-issued" trades settled on the issue date of the security.

[7] Minutes of the Federal Open Market Committee, June 11, 1953, p. 52, reporting a decision to set aside the first and third operating principles, and minutes of the Federal Open Market Committee, September 24, 1953, p. 29, reporting a decision to restore those two principles.

[8] Minutes of the Federal Open Market Committee, December 15, 1953, p. 22, reporting adoption of the principle that "transactions for the System account in the open market shall be entered into solely for the purpose of providing or absorbing reserves."

were not specifically authorized by statute but were ideally suited for in-and-out operations.[9] The acceptance of repurchase agreements as an instrument of monetary policy after the Accord, even in the face of active resistance by some FOMC members, illustrates how utility can sometimes trump concerns about statutory authority, equity, and need.

The paper begins with a brief review of the economy and monetary policy in the pivotal year of 1954 and then examines the use of outright transactions and repurchase agreements in reserves management.

The Economy

The economy was contracting, albeit at a gradual pace, at the beginning of 1954. In January FOMC Associate Economist Ralph Young reported "declines in output and employment" but noted also that economic activity "remained high." [10] In early February activity was "still edging downward" and unemployment had increased.[11] Similar observations followed in mid-February ("few signs of a halt in the contraction" [12]), mid-March ("the decline ... was continuing" [13]), and late March (the recession "appeared to have continued at a moderate pace"[14]).

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9 Roosa (1956, p. 80) states that "on a very broad basis ... outright transactions are used when there is a good reason to believe that the change to be made in the reserve base may be of some duration; and repurchase agreements are used when a need for funds is most likely to be quite temporary, soon to be followed by a need to reverse the effects of the operation through the absorption of funds."

10 Minutes of the Executive Committee of the Federal Open Market Committee, January 19, 1954, p. 3.

11 Minutes of the Executive Committee of the Federal Open Market Committee, February 2, 1954, p. 2.

12 Minutes of the Executive Committee of the Federal Open Market Committee, February 17, 1954, p. 2.

13 Minutes of the Executive Committee of the Federal Open Market Committee, March 16, 1954, p. 3.

14 Minutes of the Executive Committee of the Federal Open Market Committee, March 30, 1954, p. 9.

In April Young reported that the decline was slowing [15] and by May the data was suggesting that activity had "leveled off." [16] (The National Bureau of Economic Research subsequently located a trough in economic activity in May.)

Activity moved sideways during the summer, with no sign of either renewed decline or recovery,[17] but began to strengthen in the fall. In early November Young reported that the strengthening "was being widely interpreted as foreshadowing sustained, though possibly moderate, cyclical expansion." [18] Four weeks later "the big question with which business observers are now concerned is whether a recovery movement is definitely taking form." [19] By the end of the year "a vigorous economic recovery" was "visible and tangible." [20]

Monetary Policy

The minutes of the Federal Open Market Committee and its Executive Committee [21] show that both the full Committee and the Executive Committee focused on free reserves as the touchstone of U.S. monetary policy in 1954. *Ceteris paribus*, more free reserves were

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[15] Minutes of the Executive Committee of the Federal Open Market Committee, April 13, 1954, p. 2.

[16] Minutes of the Executive Committee of the Federal Open Market Committee, May 26, 1954, p. 3.

[17] Minutes of the Executive Committee of the Federal Open Market Committee, June 8, 1954, p. 2 (not clear whether the economy was at a turning point or the downturn would resume), July 7, p. 3 (mixed trends with no clear evidence that an upturn was underway), August 3, p. 2 (a revival in activity "not yet clearly evident"), and September 8, p. 3 (reports indicated continuing sideways movement).

[18] Minutes of the Executive Committee of the Federal Open Market Committee, November 9, 1954, p. 5.

[19] Minutes of the Federal Open Market Committee, December 7, 1954, p. 2.

[20] Minutes of the Executive Committee of the Federal Open Market Committee, December 28, 1954, pp. 3-4.

[21] Until mid-1955 the Federal Open Market Committee relied on an executive committee of five of its members to translate Committee policy decisions into operational instructions to the manager of the System Open Market Account.

understood to foster an easier money market. The Committee rarely considered any measure of the money supply, any measure of aggregate reserves, or any interest rates as either policy indicators or policy targets.

Every Committee and Executive Committee meeting heard a presentation on the current state of financial markets from a senior economist, usually FOMC Economist Woodlief Thomas. Thomas would review the recent behavior of free reserves and present projections of how free reserves were likely to evolve in the coming weeks in the absence of any policy initiatives. For example, in mid-January he told the Executive Committee that a "return flow of currency [from the seasonal demand associated with Christmas shopping], a sharp decline in Treasury balances at the Reserve Banks, and the usually large mid-month [level of] float supplied abundant reserves to the market. The net result of these changes was that an extremely easy condition currently was prevailing in the money market with excess reserves running around $1,300 million and member bank borrowings from the Federal Reserve Banks below $100 million." [22] In early May Thomas remarked that "the reserve position of banks continued fairly easy during April, ... and although there was some temporary tightening last week it appeared ... that daily average free reserves during the next two weeks would range around $500 to $700 million." [23]

FOMC members also expressed policy objectives in terms of free reserves.[24] In early February Chairman Martin referred to $400 million of free reserves as "a possible guide to open

[22] Minutes of the Executive Committee of the Federal Open Market Committee, January 19, 1954, p. 4.

[23] Minutes of the Executive Committee of the Federal Open Market Committee, May 11, 1954, p. 4.

[24] Meltzer (2009, p. 44) states that "the main target was free reserves." Allan Sproul, the president of the Federal Reserve Bank of New York, remarked in September 1954 that "the main technical guide [to monetary policy in 1954] has been the maintenance of a substantial volume of 'free reserves' in the banking system." Minutes of the Federal Open Market Committee, September 22, 1954, p. 12.

market operations." [25] A month later, Governor J.L. Robertson suggested that "free reserves should be somewhere between $300 and $500 million under present circumstances ..., that anything below that would be too tight and ... anything above would be too sloppy." [26] By the end of September, with recovery not yet at hand, the Executive Committee unanimously concluded that "operations for the System account … should be directed toward maintaining a level of free reserves within the approximate range of $400-700 million." [27]

Why Free Reserves ?

Professors Karl Brunner and Allan Meltzer trace the origins of the Fed's interest in free reserves to studies of the U.S. banking system in the 1920s by Winfield Riefler at the Federal Reserve Board and W. Randolph Burgess at the Federal Reserve Bank of New York.[28]

Focusing on bank borrowings from the Fed – which, in the 1920s, were essentially equivalent (with a change in sign) to free reserves (because excess reserves were small and stable [29]) – the two System economists concluded that "banks were reluctant to borrow [from the Fed], borrowed only if reserves were deficient, and repaid promptly." [30] As a result of banks'

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[25] Minutes of the Executive Committee of the Federal Open Market Committee, February 2, 1954, p. 5.

[26] Minutes of the Executive Committee of the Federal Open Market Committee, March 16, 1954, p. 8.

[27] Minutes of the Executive Committee of the Federal Open Market Committee, September 22, 1954, p. 2.

[28] Brunner and Meltzer (1964, pp. 2-10) and Meltzer (2003, pp. 161-165). See also Meigs (1962, ch. 2), Riefler (1930), and Burgess (1936).

[29] Brunner and Meltzer (1964, p. 3, stating that "excess reserves were small during the period and exhibited negligible variations").

[30] Meltzer (2003, p. 161). The idea that banks were reluctant to borrow from the Fed, and restricted their loans and investments in order to repay promptly, was remarkably durable. See Federal Reserve Bank of New York (1958, p. 162), describing borrowings as a "stopgap" and stating that "rather than resort too frequently or on too large a scale to the 'discount window,' a member bank must take other steps to maintain or restore its reserve position – perhaps through liquidating investments or restricting loan volume," Young (1958, p. 24), stating that "under normal conditions member banks will make a practice of

reluctance to borrow, open market sales of securities that drained reserves and forced banks to borrow put upward pressure on money market rates as the banks sought to restrict their loans and investments in order to repay their borrowings. The result was less monetary ease (or more restraint), slower credit creation, and slower growth of the money supply. Conversely, open market purchases that added reserves and allowed banks to reduce their indebtedness to the Fed allowed them to expand their loans and investments and stimulated economic activity.

Bank behavior changed dramatically after 1933. Concluding that the Fed had not been a reliable lender of last resort during the Great Contraction of 1929-1933, banks began to accumulate extraordinary quantities of excess reserves. The change necessitated a revision of the Riefler-Burgess framework to one that recognized a role for excess reserves as well as borrowed reserves. Brunner and Meltzer conclude that,

> In the new view excess reserves were treated as an extension of bank indebtedness, a magnitude offsetting the retarding influence of member bank borrowing. Free reserves assumed the position and role which originally had been assigned to bank indebtedness. The free reserve conception thus emanated as a result of an adjustment in the central building block of the Riefler-Burgess view of the monetary process.[31]

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limiting their resort to Reserve Bank borrowing to necessary contingencies" and that "once in debt, they will seek to repay promptly," and Young (1958, p. 35), stating that "after they have borrowed, [member bank] lending policies tend to become more stringent because they are under pressure to repay their indebtedness."

[31] Brunner and Meltzer (1964, p. 10). Meltzer (2009, p. 44) states that "recognition that excess reserves could change, as they did in the 1930s, shifted attention to free reserves." The Federal Reserve Bank of New York explained the shift to free reserves similarly: "During most of the 1930's, ... member banks held large amounts of excess reserves, and did little or no borrowing at the Reserve Banks after the 'bank holiday' in 1933. Attention thus shifted to excess reserves as a measure of reserve availability and potential credit expansion. In more recent years, many member banks have again found it necessary to borrow frequently, even while excess reserves existed elsewhere in the banking system. ... Thus, taken alone, neither excess reserves nor borrowings can provide an adequate continuing measure of credit availability. To meet the need for such a measure, the concept of 'free reserves' – defined as excess reserves less member bank borrowings from the Reserve Banks – was developed." Federal Reserve Bank of New York (1958, pp. 162-163).

Open market sales that reduced free reserves were viewed as putting upward pressure on money market rates, resulting in less monetary ease (or more restraint).

FOMC minutes from 1954 support Brunner and Meltzer's characterization of the Fed's use of free reserves. For example, Sproul suggested in June, when the Committee was keeping free reserves high, that "the concept of free reserves as a guide to credit policy involved leaving the banks with a feeling of ability to meet credit demands without strain ... It allows the banks to run without checkrein and lets the capital markets know there is no present or prospective likelihood of credit restraint." [32] When the economy began growing again in November, Sproul suggested that an appropriate modification of credit policy "might be in the direction of reducing the volume of free reserves maintained in the banking system." [33]

Free reserves were not, however, viewed as something that required neither refinement nor interpretation. Box 1 describes several caveats to an unmindful use of the measure.

Hitting A Target Level of Free Reserves

Hitting a free reserves target was not a simple matter. Autonomous factors affecting reserve availability, such as Treasury balances at Federal Reserve Banks, float, and public demand for currency, were both volatile – see Chart 1 – and difficult to forecast.[34]

In the second half of January 1954, a combination of the usual post-holiday return flow of currency, an increase in float, and unexpectedly large disbursements that depleted Treasury balances at Federal Reserve Banks led to more than $1.2 billion in excess reserves (Chart 2) and a paydown of advances to less than $100 million (Chart 3). The resulting spike in free reserves (Chart 4) kept the Federal funds below 25 basis points for two weeks (Chart 5).

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[32] Minutes of the Federal Open Market Committee, June 23, 1954, p. 9. A checkrein is a piece of tack that prevents a horse from lowering its head.

[33] Minutes of the Executive Committee of the Federal Open Market Committee, November 9, 1954, pp. 9-10.

[34] Carr (1959, pp. 506-510) addresses forecasting Treasury deposits, float, and currency.

Chairman Martin was openly critical of the management of the System Open Market Account during January, suggesting that the market got "too sloppy" and that the manager "should have been more active in selling bills." [35] Robert Rouse, the manager of the Account, agreed that the market had gotten "pretty sloppy" but explained that "in discussions of the situation at that time it had seemed that it might require sales of around $500-$600 million in order to take out the sloppiness" and that projections "indicated that the account would be faced with a problem of buying back securities in that amount a little later on." When Martin remarked that "it would have been wiser to have been more flexible," Rouse replied that the account "could pursue a flexible course when transactions undertaken are of the order of $100-200 million" but that "an attempt to conduct flexible in-and-out operations in a volume substantially in excess of that would encounter difficulty." [36]

The January episode illustrates how rapid and unexpected variation in autonomous factors fueled an interest in policy instruments that could inject and drain relatively large quantities of reserves quickly at low transaction costs. The two leading candidates were outright purchases and sales of Treasury bills and repurchase agreements.

Outright Purchases and Sales of Treasury Bills

Treasury bills were an attractive vehicle for System open market operations because they were the most liquid and least volatile sector of the government securities market. There were, however, several drawbacks to relying on outright transactions in bills. Most critically, while the bill market could accommodate operations as large as $100 million to $200 million, the January episode showed that it was not liquid enough to accommodate substantially larger operations.[37]

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[35] Minutes of the Executive Committee of the Federal Open Market Committee, February 2, 1954, p. 6.

[36] Minutes of the Executive Committee of the Federal Open Market Committee, February 2, 1954, pp. 6-7.

[37] Roosa (1956, p. 35) states that, "as of mid-1956, perhaps 25 million dollars in bills ... could at times change [dealer bid and offer] quotations markedly."

The convention of settling transactions on the business day after the trade date constituted a second drawback to purchases and sales of bills, because such "regular" settlement delayed the impact of an operation on bank balance sheets. (However, as explained in Box 2, the significance of this drawback receded with the introduction of same-day "cash" settlement in the second half of 1954.)

Repurchase Agreements

Repurchase agreements offered an alternative way to inject (but not drain) significant quantities of reserves. The liquidity of the repo market was at least as good as that of the bill market and the opening leg of a repo transaction settled on the same day it was negotiated, so there was no delay in affecting bank balance sheets. Repos were particularly well-suited for adding reserves on a temporary basis to mitigate a stringency that was likely to recede within a couple of days, such as an elevated demand for currency over a holiday, a transient shrinkage in float, or an unusual accumulation of funds in Treasury accounts at Federal Reserve Banks.

Repurchase Agreements Before 1954

The Federal Reserve Bank of New York first entered into repurchase agreements (with both member and non-member banks) in support of the Liberty Loan drives of World War I.[38] Following the end of the war the Bank began to use repos to assist Treasury dealers when bank financing was unusually expensive or difficult to obtain.[39]

Because the Banking Act of 1935 provided that "no Federal Reserve bank shall engage or decline to engage in open-market operations ... except in accordance with the direction of and regulations adopted by the [Federal Open Market] Committee," [40] the continued availability of repos after 1935 depended on the approval of the Committee.

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[38] Garbade (2012, p. 193).

[39] Garbade (2012, pp. 192-195).

[40] Section 205 of the Banking Act of August 23, 1935.

Almost as soon as the FOMC opened for business in 1936, George Hamilton, president of the Federal Reserve Bank of Kansas City, requested that the Committee authorize the Reserve Banks to undertake "temporary purchases of Government securities under resale agreements." The minutes of the May 25, 1936, FOMC meeting note that "permission to continue the practice would enable the Federal Reserve Banks to render a service." [41] The Committee agreed, unanimously, to permit the practice for loan periods not to exceed fifteen days.

As a result of the immense excess reserves accumulated by banks in the second half of the 1930s, as well as the decision to cap interest rates during World War II,[42] there were few instances of Reserve Bank repos between 1936 and 1945. In March 1945 the FOMC revoked the 1936 authority.[43]

Post-War Reinstatement. Two and a half years later, Robert Rouse requested that the repo authority be reinstated.[44] During Executive Committee discussions of Rouse's proposal, Allan Sproul explained that Treasury dealers were reluctant to purchase a security if the yield on the security was less than the interest rate charged by the large New York banks on their dealer loans, i.e., if the security had "negative carry." The Fed was continuing to cap interest rates on notes and bonds maturing in more than a year and was obliged to purchase what the dealers didn't want, expanding Reserve Bank balance sheets and adding to the swollen supply of reserves in the banking system. Sproul explained that making repo credit available at the Fed's discount rate when the money market was tight would reduce dealer reluctance to acquire and hold Treasury securities. [45]

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[41] Minutes of the Federal Open Market Committee, May 25, 1936, p. 9.

[42] See Murphy (1950), Walker (1954), Wicker (1969), and Garbade (2012, pp. 338-346).

[43] Minutes of the Federal Open Market Committee, March 1, 1945, p. 13, stating that the repo authority had not been used "for a long time."

[44] Minutes of the Federal Open Market Committee, October 6, 1947, p. 18.

[45] Minutes of the Executive Committee of the Federal Open Market Committee, December 9, 1947, pp. 4-5.

Box 3 shows the terms of the repo authority approved in January 1948. The key elements provided that:

- Repo credit would be extended only to primary dealers accepted by the Federal Reserve Bank of New York as counterparties in open market operations.[46]
- Repo credit would be extended directly by a Reserve Bank, and not through the System Open Market Account. However, since the Federal Reserve Bank of New York would be the principal provider of repo credit and since the manager of the Open Market Account was a senior officer of that Bank, it was hardly likely that extensions of repo credit would conflict with monetary policy.
- Repo contracts were limited to a maximum tenor of fifteen days.
- Repo credit could not be priced below the discount rate.
- Collateral was limited to short-term Treasury issues yielding not more than the issuing rate on one-year certificates of indebtedness.[47]
- Repos would be used "only in periods of strain, with care and discrimination."

A Transitional Authority. Economic activity reached a peak in November 1948 and thereafter went into a recession that lasted until the following October. By the summer of 1949 market participants were anticipating a reduction in the discount rate, which had remained at 1½ percent even while 13-week bill rates had fallen to one percent.

The 50 basis point spread between the discount rate and the bill rate made holding bills a costly activity even for bills financed with System repo credit. To reduce dealer financing costs, Rouse suggested tweaking the repo authority by authorizing Reserve Banks to extend repo credit to *non-bank* dealers at an interest rate *below* the discount rate pending a decision to reduce the discount rate. Importantly, the new authority would not apply to bank dealers, thus ensuring that

[46] Garbade (2016) describes the primary dealer system as it existed between 1939 and 1960.

[47] Certificates of indebtedness were coupon-bearing Treasury securities with a term to maturity at original issue of not more than one year.

those banks would not get access to Federal Reserve credit on terms better than the terms available to non-dealer banks. (On the other hand, non-bank dealers would get preferential access to Federal Reserve credit relative to both dealer banks and non-dealer banks.) With surprisingly little discussion, the FOMC approved Rouse's suggestion on August 5, 1949.[48] Box 4 reproduces the wording of the transitional authority. (In the event, the discount rate remained unchanged and the transitional authority was replaced by a revised permanent authority.)

Linking the Floor on Repo Rates to the Bill Rate instead of the Discount Rate. Interest rates began to rise with the onset of recovery in the fall of 1949. By the early spring of 1950 bill rates were up to 1.15 percent. Although narrower than previously, the spread between the 1½ percent discount rate and bill rates continued to limit dealer interest in bills.

In a second attempt to mitigate dealer carrying costs, Rouse suggested tying the minimum repo rate to bill rates rather than the discount rate. He justified the change in terms of the utility of repos for monetary policy, noting that they "had been helpful in making adjustments in the market in August and early October" and observing that repos were "one means of putting funds into the market in periods of strain to help in carrying out the policies of the Committee." Rouse suggested that the repo authority be revised to provide for a rate at least ⅛ per cent above the average auction rate on the most recent offering of Treasury bills and that the authority be used "as a means of providing the money market with sufficient Federal Reserve funds to avoid undue strain on a day-to-day basis." [49]

Rouse's proposal marks the beginning of the transition of the repo program from one aimed primarily at dealer support to one targeted at relieving short-lived money market stringencies. Woodlief Thomas enthusiastically backed the proposal, saying that the repo facility "should be used more extensively than it had been as a means of helping to provide the market

[48] Minutes of the Federal Open Market Committee, August 5, 1949, pp. 16-18.

[49] Minutes of the Federal Open Market Committee, March 1, 1950, p. 6.

with additional bank reserves to meet shortages of a strictly temporary nature." [50] Marriner Eccles, the former chairman (but still a member) of the Board of Governors, questioned whether Reserve Banks should be in the business of lending to nonbank dealers but allowed that "he would have no objection to continuance of the authority if it was clearly understood that it was to be used only in emergencies." [51] The Committee unanimously approved the repo authority reproduced in Box 5.

The Impact of the Accord. System officials recognized that repurchase agreements were likely to become more important in the wake of the Accord. Sproul noted (at the March 8, 1951, FOMC meeting) that his Bank's repo authority had been used "infrequently and within the spirit and letter of the Committee authorization" but suggested that "it might be of greater use in a period such as that immediately ahead." [52] Five months later Rouse confirmed that the New York Fed was using repurchase agreements "much more frequently during the recent period than was contemplated when the authority was originally given" and stated that repos had "demonstrated their usefulness as an effective instrument" of monetary policy.[53]

A Few More Tweaks to the Repo Authority. The FOMC tweaked its repo authority several times between the Accord and 1954:

- In 1952 it modified the minimum repo rate to the *lesser* of (a) the discount rate and (b) the auction rate on 13-week bills.[54]

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[50] Minutes of the Federal Open Market Committee, March 1, 1950, p. 7.

[51] Minutes of the Federal Open Market Committee, March 1, 1950, p. 7

[52] Minutes of the Federal Open Market Committee, March 8, 1951, p. 4.

[53] Minutes of the Executive Committee of the Federal Open Market Committee, August 8, 1951, p. 2.

[54] Minutes of the Executive Committee of the Federal Open Market Committee, July 22, 1952, pp. 12-14, and of the Federal Open Market Committee, September 25, 1952, p. 2.

- Also in 1952 it charged the manager of the System Open Market Account with responsibility for setting the repo rate for all twelve Reserve Banks,[55] a move that signaled the growing importance of repurchase agreements for monetary policy.
- In 1953 it changed the limitation on repo collateral to "short-term Government securities maturing within fifteen months," thereby putting an explicit ceiling on the tenor of repo collateral and eliminating the requirement that the yield on repo collateral had to be less than the offering rate on one-year certificates.[56]

The resulting authority is reproduced in Box 6.

Repurchase Agreements in Late 1953 and 1954

Between late 1953 and the end of 1954, members of the Open Market Committee and the Committee's senior staff converged on a shared appreciation of the utility of repurchase agreements for reserves management. However, making full use of repos required a willingness to sometimes set repo rates below the discount rate, something that some Committee members found troubling.

Repos as a Relief Valve. One conception of System repos had them functioning as a relief value, activated by tightness in the short-term money markets. The minutes of the March 3, 1954, FOMC meeting noted that "in earlier years the [repo] authority was used infrequently but that during the past year or two it had been used upon frequent occasions to help relieve tightness in the market." [57] Rouse reported in August that he was countering a scarcity of reserves in the New York market by making repurchase agreements "freely available." [58]

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[55] Minutes of the Executive Committee of the Federal Open Market Committee, July 22, 1952, pp. 12-14, and the Federal Open Market Committee, September 25, 1952, p. 2.

[56] Minutes of the Federal Open Market Committee, March 4, 1953, pp. 6-7.

[57] Minutes of the Federal Open Market Committee, March 3, 1954, p. 7.

[58] Minutes of the Executive Committee of the Federal Open Market Committee, August 24, 1954, p. 2.

Repos as a Device to Meet *Anticipated*, Temporary, Reserve Needs. Because the size and timing of a repo operation were matters for the manager of the System Open Market Account, repos could also be deployed to counter *anticipated* short-term reserve needs in a pro-active way.

There are numerous examples of "in-and-out" anticipatory reserves management in 1954. In mid-January Woodlief Thomas commented that "prospects for coming weeks indicate continued ease even with a seasonal decline in float and a rebuilding of Treasury balances during the latter part of [the] month. The System might wish to consider absorbing some of the extremely large amounts of excess reserves that are likely to be in the market by selling securities, but if such sales are made it may become necessary for the System to put funds back into the market *for a few days* early in February." [59] In mid-February Rouse "contemplated selling some bills from the System account ... if the expected rise in float developed and there was a reduction in the Treasury's balance, realizing that if that were done it probably would be necessary to buy some back *within the next few days*." [60] And in mid-March, when Governor A.L. Mills questioned why the Account had both bought and sold bills during the preceding two weeks, Rouse explained that the operations "had been designed to prevent an accumulation of excess reserves which would be carried over weekends, and thus result in quite a 'sloppy' reserve position" and that a similar effort had been made "to avoid a deficiency in reserves that had to be carried over the weekend." [61]

Sproul was outspoken in his support of System repurchase agreements for in-and-out reserves management. In May he recommended "meeting temporary situations with repurchase

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[59] Minutes of the Executive Committee of the Federal Open Market Committee, January 19, 1954, p. 4. Emphasis added.

[60] Minutes of the Executive Committee of the Federal Open Market Committee, February 17, 1954, p. 5. Emphasis added.

[61] Minutes of the Executive Committee of the Federal Open Market Committee, March 16, 1954, p 7.

agreements" [62] and in June suggested that an anticipated end-of-quarter scarcity "would be an appropriate [occasion] to use the repurchase method of applying some reserves." [63] During the October 5 Executive Committee meeting, Woodlief Thomas observed that, "in the absence of further system operations, fluctuations in free reserves during the next three weeks might be of the magnitude of $500 million; their total might range from less than $500 million on some days in the next week to over a billion for a week or more after the middle of October." Sproul remarked that "this might ... be a period for use of repurchase agreements as a means of putting funds into the market on a temporary basis in a manner that would result in their being withdrawn automatically." [64]

The Repo Rate Relative to the Discount Rate. The fly in the ointment with respect to repos as a relief valve and as a pro-active device to meet temporary reserve needs was that both uses required flexibility in setting repo rates. In order for repos to function effectively as a relief value and to be attractive to securities dealers, it was important that the repo rate be kept in line with other money market rates. A repo rate well in excess of other rates was comparable to keeping a room air conditioner set at 100°: relief would come only after the room had become uncomfortably hot.

Given that short-term money market rates were sometimes well below the discount rate (see Chart 6), the question was whether, with repos being used more frequently and in larger size in the post-Accord environment, the FOMC was prepared to fix repo rates below the discount rate.

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[62] Minutes of the Executive Committee of the Federal Open Market Committee, May 11, 1954, p. 5.

[63] Minutes of the Executive Committee of the Federal Open Market Committee, June 8, 1954, p. 7.

[64] Minutes of the Executive Committee of the Federal Open Market Committee, October 5, 1954, pp. 3 and 5.

An Early Test. The first test of the willingness of the FOMC to set repo rates below the discount rate in the post-Accord environment came in late 1953. In November FOMC Secretary Winfield Riefler stated his belief that the seasonal reserve needs associated with the coming holiday season would be "greater than the System would wish to meet through discount operations alone, which would leave the way open for some direct purchases of securities for the System account in addition to use of repurchase agreements." He wondered whether the repo rate should be set below the existing 2 percent discount rate, admitting that "the question of a rate for [nonbank] dealers which was lower than that offered to banks presented something of a problem." Governor Menc Szymczak noted that the repo rate had been below the discount rate in the past but Governor Mills questioned the propriety of such an action, "since it might provoke a charge of preference to nonbank borrowers." [65]

In the event, Rouse lowered the repo rate to 1¾ percent on December 8 and kept it at that level until early January, when the return flow of currency to the banking system obviated any further need to provide additional reserves.[66] Repos added between $120 million and $734 million of reserves, on average over the course of a maintenance week, between the week ending December 9, 1953, and the week ending January 13, 1954.[67]

The FOMC debated the merits of Rouse's action at its quarterly meeting in mid-December 1953. Sproul suggested that "a repurchase rate lower than the discount rate is peculiarly adopted to relieving temporary situations in the money market:"

> We have an example in the recent situation. ... [W]e had a relatively easy reserve position in most of the country and relative tightness in New York. It was a money market phenomenon of temporary character.

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[65] Minutes of the Executive Committee of the Federal Open Market Committee, November 23, 1953, pp. 4-5.

[66] "New York and Chicago Reserve Banks Cut Rate of Repurchase Pacts," *Wall Street Journal*, December 9, 1953, p. 3, and minutes of the Executive Committee of the Federal Open Market Committee, January 5, 1954, p. 5.

[67] Board of Governors of the Federal Reserve System (1976, Table 10.1C).

> Our job was to smooth it out, without actual or apparent major or significant changes in general credit policy. A reduction in the repurchase rate and increased use of repurchase facilities avoided a temporary undue run-up of rates and a temporary undue tightening of credit due to increased bank borrowing, and also avoided the substantially more permanent commitment of a reduction in the discount rate, and the slightly more permanent commitment of larger outright purchases of Government securities. It emphasized the money market aspect of the situation as distinguished from the overall business and credit aspect.[68]

Sproul's remarks reflect the growing appreciation for repurchase agreements as a tactical instrument of monetary policy. However, Governor Robertson, Delos Johns (president of the Federal Reserve Bank of St. Louis), and Malcolm Bryan (president of the Federal Reserve Bank of Atlanta) all expressed "some doubts." [69]

Robertson's Critique of System Repurchase Agreements

Governor Robertson was the FOMC member most discomforted by the use of repurchase agreements and was particularly uncomfortable with the idea of setting the repo rate below the discount rate. In March 1954 he expressed "serious doubts" about the practice.[70] Three months later he won unanimous consent to charge the Executive Committee, rather than the manager of the Open Market Account, with responsibility for setting repo rates, saying that "it seemed undesirable to give [the manager] the authority [to set the repo rate] and then not expect him to use it freely, as has been the case in recent months." [71]

At the September 22, 1954, Executive Committee meeting, Robertson objected to Sproul's suggestion that the committee authorize the manager of the Open Market Account to

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[68] Minutes of the Federal Open Market Committee, December 15, 1953, pp. 26-27.

[69] Minutes of the Federal Open Market Committee, December 15, 1953, p. 28.

[70] Minutes of the Federal Open Market Committee, March 3, 1954, p. 7.

[71] Minutes of the Federal Open Market Committee, June 23, 1954, p. 16. The revised repo authority appears in the minutes of the Federal Open Market Committee, June 23, 1954, p. 16.

enter into repurchase agreements at rates between 1¼ and 1½ percent (the contemporaneous discount rate was 1½ percent), saying that "the repurchase arrangement constituted a loan," that it was inconsistent with the purpose of the Federal Reserve Act, and that "it benefited nonbank dealers in Government securities in a manner which did not apply to dealers who were banks or to member banks in general." Robertson believed that "dealers in Government securities should not be given an advantage which was not given to member banks." [72]

Governor Szymczak responded vigorously to Robertson's objections, saying that repurchase agreements were not intended to benefit dealers but rather were directed at the market as a whole: "an instrument to be used in adjusting monetary policy to the needs of the market." Szymczak focused on the *utility* of repos, observing that they were "the most effective instrument which the System could use for meeting certain market situations which could exist for short periods of time." [73]

Robertson's rejoinder left no doubt about the nature of his objections:

> Mr. Robertson stated that notwithstanding the use of the repurchase agreement for many years, he felt that originally it was an *illegal arrangement*. The fact that it had been an administrative practice for many years gave some legal support to its present use, however, and he did not wish to have a decision on its future use based on the question of legality. He did wish, nevertheless, to raise the question of its use on the basis of *equity* ... and *need*. [74]

Robertson asserted that "there was no necessity for the repurchase agreement" and that "any needs of the market which have been met by this means could be met by outright purchases and sales of securities for the System account, or at most by making advances to Government

[72] Minutes of the Executive Committee of the Federal Open Market Committee, September 22, 1954, pp. 2-3.

[73] Minutes of the Executive Committee of the Federal Open Market Committee, September 22, 1954, p. 3.

[74] Minutes of the Executive Committee of the Federal Open Market Committee, September 22, 1954, p. 3. Emphasis added.

securities dealers under repurchase agreements at rates no less than the rates charged to member banks on discounts.[75]

When President Williams of the Federal Reserve Bank of Philadelphia asked about the legal status of repos, the Committee's General Counsel, George Vest, replied that the Board had specifically approved repos in 1925.[76] However, Vest continued, "if repurchase agreements were made at a rate which resulted in repurchase transactions becoming the normal means by which member banks obtained funds from the Federal Reserve Banks rather than through discount transactions, a situation might be brought about under which the Open Market Committee, as distinguished from the Reserve Banks and the Board of Governors, would establish the rate that applied to the bulk of transactions. Such a situation," Vest said, "while not illegal would not be in accord with the general scheme contemplated under the Federal Reserve Act." [77]

Chairman Martin suggested that the matter should be explored in more detail at a later date. In the meantime, the Executive Committee approved (over Robertson's dissent) Sproul's proposal to authorize repo rates below the discount rate.[78]

Robertson read a lengthy statement critiquing System repurchase agreements at the October 20, 1954, Executive Committee meeting. The statement, reproduced in full in the appendix, made several important points:

- Repos were loans.

[75] Minutes of the Executive Committee of the Federal Open Market Committee, September 22, 1954, pp. 3-4.

[76] Minutes of the Executive Committee of the Federal Open Market Committee, September 22, 1954, p. 4.

[77] Minutes of the Executive Committee of the Federal Open Market Committee, September 22, 1954, p. 4.

[78] Minutes of the Executive Committee of the Federal Open Market Committee, September 22, 1954, pp. 4 and 5.

- Repos were not *bona fide* "open market" transactions because they were not available to other than nonbank dealers.
- Entering into repos on Treasury securities with nonbank dealers opened the door to entering into similar agreements with, e.g., nonmember banks, corporations, and individuals, and with respect to any instrument described in section 14 of the Federal Reserve Act, all at rates below the discount rate.
- The intent of Congress was that loans would be extended by the Reserve Banks, subject to the supervision of the Board of Governors, pursuant to section 13 and that open market operations would be undertaken at the direction of the Federal Open Market Committee, pursuant to sections 12A and 14.
- The doubtfulness of the FOMC's legal position with respect to repurchase agreements with nonbank dealers was a strong reason to limit the use of such agreements and to limit repo rates to not less than the discount rate.
- Extending repo credit to nonbank dealers at rates below the discount rate gave a competitive advantage to those dealers relative to bank dealers that was difficult to justify.
- The recent advent of outright transactions for cash settlement (see Box 2) invalidated the argument that repos were needed to get reserves into the market quickly.

Martin suggested that copies of Robertson's "stimulating and provocative" paper be circulated to the members of the committee "for study and consideration at a later meeting." [79]

At the March 1955 FOMC meeting, Robertson put forth a concrete proposal for an "open window" lending facility, based on repurchase agreements and available to *all* dealers in Treasury securities at a rate not less than the discount rate. The facility would be for the specific

[79] Minutes of the Executive Committee of the Federal Open Market Committee, October 20, 1954, p. 15.

purpose of "enabling dealers in Governments to maintain broad and ready markets." Robertson suggested that "dealers should feel assurance that the facility is always available to them within reasonable limits …, as the discount window is open to banks." [80]

Robertson's proposal was an anachronism, reprising the role of repurchase agreements at a time when the Fed was still pegging interest rates. When called upon to discuss the proposal at the June 1955 FOMC meeting, Robertson allowed that "he continued to have grave doubts as to the legality of the repurchase instrument" and suggested that "the same results could flow from thoroughly legal instruments, such as cash transactions in Government securities." He claimed that repurchase agreements "were for the purpose of aiding dealers in making markets in Government securities," an activity that could be done "much more efficiently if the Federal Reserve Banks made a completely impersonal arrangement similar to that followed in discount policy." [81]

Governor Mills objected to Robertson's characterization of the use of repos, arguing that repos were actually intended "to supply reserves to the market through a device other than general open market operations." It followed that "the initiative [for a repo] should lie with the management of the System, … rather than with individual dealers whose reasons for seeking repurchase agreements might not necessarily coincide with the objectives of System policy." [82]

Sproul had a particularly adverse reaction to Robertson's proposal, saying that repos "have a real place and purpose as a supplement to more general credit controls and cannot now be used to enable dealers to maintain broad and ready markets." He observed that "what [dealers] would like to have is assured access to funds at lower rates so they would always, or nearly always, have a profit on the "carry" of their securities in position." Sproul suggested that "no central bank can give such assurance without also giving up its initiative in credit control"

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[80] Minutes of the Federal Open Market Committee, March 2, 1955, p. 44.

[81] Minutes of the Federal Open Market Committee, June 22, 1955, p. 32.

[82] Minutes of the Federal Open Market Committee, June 22, 1955, pp. 32-33.

and that "there is no warrant in law or in fact for such relinquishment to enable dealers to make broader markets." [83] Sproul also disparaged the analogy with the discount window: "The discount window is open as a privilege not a right, there are no credit lines to be drawn on at will, and the suggestion that member banks should borrow freely and continuously has usually been frowned upon." [84]

Finally, Sproul suggested that "there are only two kinds of situations when a dealer's borrowing needs exceed … the limits of funds available to him:" (a) "when he has become overextended in relation to his capital," and (b) "when the money market has tightened and individual banks are reluctant to borrow at the Federal Reserve Bank in order to advance additional funds to the dealer." He argued that "we certainly would not want to step in to relieve the first situation, and to relieve the second, whenever it represented an intended result of credit policy, would be partially to nullify that policy." However, "when the tightening is *temporary* and *not an intended result of credit policy*, the present use of the repurchase agreement is effective and appropriate as a supplement to outright open market operations and the discount window." [85]

Robertson's proposal went down to defeat on a vote of nine to one.[86]

Reconciliation

Following the defeat of Robertson's proposal, the Open Market Committee turned to the business of actually setting the repo rate. (The FOMC had abolished the Executive Committee at its June 1955 meeting and assumed for itself the responsibility for setting repo rates.)

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[83] Minutes of the Federal Open Market Committee, June 22, 1955, p. 34.

[84] Minutes of the Federal Open Market Committee, June 22, 1955, p. 35.

[85] Minutes of the Federal Open Market Committee, June 22, 1955, p. 35. Emphasis added.

[86] Minutes of the Federal Open Market Committee, July 12, 1955, p. 11.

Sproul suggested leaving it up to the manager of the System Open Market Account to set a rate not less than the smaller of (1) the discount rate and (2) the average issuing rate on the most recent issue of three-month Treasury bills, noting that "there have been situations in the past and will be in the future when a repurchase rate below the discount rate can make possible a desirable temporary release of credit to meet an unusual and concentrated need for immediate bank reserves." [87]

Robertson agreed to abstain from objecting "if it was understood that a rate below the discount rate would be used only if such procedure seemed essential as a means of carrying out Committee policy." Sproul stated that "this was the way in which the [authority] has been used in the past" and Martin said that "his sentiment was in accordance with Mr. Robertson's suggestion." [88]

The form of the repo authority subsequently approved (unanimously) by the Committee, shown in Box 7, included Sproul's suggestion.[89]

Hugh Leach, president of the Federal Reserve Bank of Richmond, provided a concise coda to the FOMC's efforts to reframe repurchase agreements. He observed that "repurchase agreements had a very useful purpose in keeping the Federal Reserve from having to make frequent outright purchases and sales of securities" and that "frequent purchases and sales were undesirable … because they might confuse the public as to what the Committee was trying to

[87] Minutes of the Federal Open Market Committee, July 12, 1955, p. 14.

[88] Minutes of the Federal Open Market Committee, July 12, 1955, p. 17.

[89] The authority in Box 7 reflects a tweak not noted in the text. At the July FOMC meeting the Committee deleted the words "with care and discrimination" from clause (d) of the existing authorization, so that clause stated only that repos would be used "as a means of providing the money market with sufficient Federal Reserve funds as to avoid undue strain on a day-to-day basis." Minutes of the Federal Open Market Committee, July 12, 1955, pp. 19-20. A month later the Committee limited repurchase agreements to the Federal Reserve Bank of New York, on the grounds that there was little likelihood that the authority would be used by any other Reserve Bank. Minutes of the Federal Open Market Committee, August 2, 1955, p. 3.

accomplish." Leach concluded that "in the absence of repurchase agreements, the only way to operate more precisely … would be to make more frequent purchases and sales in the open market." Since that was undesirable, "it was his view that there was much to be said for authorizing repurchase agreements in a manner which would permit the Committee to carry out its policy objectives more effectively." [90]

Subsequent Events

System repurchase agreements continued to evolve after 1955. The maturity limit on repo collateral was extended from 15 months to 2 years in 1961, suspended with respect to "rights" during Treasury offerings in 1965, suspended temporarily in 1966, and eliminated altogether in 1967.[91] Competitive repo auctions were introduced in 1972 [92] and opened to bank dealers in 1975.[93] But perhaps the most important expansion of the repo program took place in 1966, when the FOMC approved a *reverse* repo facility to *drain* reserves from the banking system.[94]

Appendix. Statement of Governor J.L. Robertson at the Meeting of the Executive Committee of the Federal Open Market Committee on October 20, 1954

"Sections 12A and 14 of the Federal Reserve Act relate to 'open-market operations' – buying and selling in the open market. The general understanding of dealings in the open market

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90 Minutes of the Federal Open Market Committee, July 12, 1955, p. 19.

91 Minutes of the Federal Open Market Committee, December 19, 1961, pp. 70-72, March 2, 1965, pp. 4-13, June 28, 1966, pp. 27-33, and March 7, 1967, pp. 11-13.

92 Minutes of the Federal Open Market Committee, April 17, 1972, pp. 6-18.

93 Minutes of the Federal Open Market Committee, June 16, 1975, pp. 138-142.

94 Minutes of the Federal Open Market Committee, July 11, 1966, pp. 2-20, and "Reserve Devises New Credit Curb," *New York Times*, July 13, 1966, p. 80.

is that they are based on freedom of access by any willing participants who buy at the lowest available price and sell at the highest price offered.

Repurchase agreements, as they have been used in our open-market operations, do not meet these standards. 'Buying' and 'selling' imply price, and there is no bona fide price in our repurchase agreements. A dealer purports to 'sell' to the Federal Reserve Bank government obligations with a present market value of $10,200,00 or more at a price of $10,000,000. On its face this is absurd, and all persons involved in this transaction are aware that the price is a fiction and that the [interest] rate is the significant figure. Our Repurchase Agreement form itself speaks of 'interest … at the rate of ___ per cent per annum.' But there is no rate of interest in a true purchase and sale transaction; such a rate is one of the major characteristics of a loan. In all honesty, we know that repurchase agreements, whatever their purpose, in substance are loans. Dealers in government securities are also aware of this; within recent weeks two dealers have told me that they regard repurchase agreements with the Federal Reserve Bank as loans collateraled by government securities, exactly as if they borrowed the same amount of money from a commercial bank upon identical security.[95]

The departure of our practice from true open-market operations becomes even more apparent when we enter into repurchase agreements at an interest rate below the current discount rate. In a true open market, business is transacted with the highest bidder. Under our arrangements however, when the discount rate is 1½ percent and the repurchase rate is 1¼ per cent, we will 'buy' from and 'sell' to (I have to use the words buy and sell in quotes because in reality we are lending) a nonbank dealer at 1¼ percent despite the fact that a competing bank dealer, in need of Federal Reserve credit, is eager to enter into identical transactions with us at a higher 'price' – e.g., 1⅜ percent. It is difficult to believe that Congress intended the Federal

95 Whether a repurchase agreement was a loan or a spot sale and forward purchase continued to be debated for many years. See, for example, Garbade (2006, pp. 34-35).

Reserve System, in its open-market operations, to give preferential treatment in identical transactions to non-bank dealers over bank dealers.

If the Open Market Committee may enter into repurchase agreements with nonbank dealers, it may also enter into such agreements with member banks, nonmember banks, corporations, and individuals. It may enter into such agreements not only with respect to government obligations, but with respect to any other class of paper described in Section 14. In other words the Open Market Committee would have power through this device, to make advances on various classes of securities, and at rates below the current discount rates. To defend this result requires that we interpret the Federal Reserve Act to mean that the Congress intended to authorize the Open Market Committee not only to buy and sell in the usual sense of these words, but also to make advances of the types that may be made by Federal Reserve Banks under Section 13. I hope it is not necessary to convince anyone there that this was not the Congressional intent. Congress separated the two functions – credit through loan transactions was to be extended under Section 13, and under Sections 12A and 14 the Federal Reserve Banks, under the direction of the Open Market Committee, were to buy and sell (as those words are ordinarily understood). Nowhere did Congress indicate an intent that open-market operations should include the extension of credit at specified rates of interest on the security of collateral with a market value in excess of the 'price' paid.

These are my personal views regarding the proper interpretation of Sections 12A and 14. However, the Committee's general counsel, for whose legal ability and integrity all of us have the greatest respect, has expressed the opinion that the use of repurchase agreements is within the legal authority conferred by Section 14. In view of this opinion and the use of repurchase agreements at various times over a period of more than thirty years, I am not prepared to contend that the use of repurchase agreements should be discontinued on the ground that it is *ultra vires*. Nevertheless, it seems to me that the doubtfulness of our legal position is a strong additional reason for minimizing the use of repurchase agreements, unless the affirmative reasons for their use are so strong as to outweigh all contrary considerations.

I should like to request those who favor the use of repurchase agreements – particularly at interest rates below the discount rate – to justify this practice. Admittedly it is a departure from the dictionary meaning of the words of the law under which we operate. It cannot be denied that the use of repurchase agreements of this type adds to the complexity of our operations. Even more important, it takes out of our hands, to some extent, the initiative in open-market operations, and transfers that initiative to dealers in governments. Furthermore, when nonbank dealers can borrow from the Federal Reserve through repurchase agreements at 1¼ percent, and member-bank dealers can borrow from the Federal Reserve at no better than 1½ percent, it seems clear to me that the Federal Reserve System is giving to nonbank dealers a competitive advantage that is most difficult to justify.

As I said before, the advocates of this procedure bear the burden of establishing firmly that it is a sound procedure. It has generally been described as simply performing a subordinate and supplementary role to outright purchases and sales –a means of getting funds into the market quickly on a temporary basis, to be used only when outright purchases and sales cannot serve the purpose. However, this argument for using repurchase agreements lost most, if not all, of its validity when we found feasible the cash-basis technique, which enables us to supply and withdraw reserves immediately without resort to repurchase agreements.

It is sometimes suggested that repurchase agreements, with a rate somewhat below the discount rate, operate as a sensitive automatic control of the supply and withdrawal of reserves – a mechanical device that operates in some mysterious way more precisely than the judgment of the executive committee or the Manager of the Account. A couple of weeks ago we entered into repurchase agreements to the extent of $37,000,000 at a 1¼ percent rate when the need for supplying reserves was not evident to me, and I am unable to satisfy myself that such addition to excess reserves was not simply arbitrary and at the will and judgment of the dealers concerned. With respect to the repeat performances since then, I have the same difficulty.

It has been contended that the repurchase-agreement device serves as a sensitive valve through which the needs of the market can be met semi-automatically. Congress thought of the

need for such a valve, and provided it in the form of the discount privilege of member banks, but put the operation of it in the hands of the Federal Reserve Banks and the Board of Governors – not the Open Market Committee. The power to make loans and discounts to member banks is specifically vested in the Federal Reserve Banks and the Board of Governors. This is true also under Section 13 of the Federal Reserve Act with respect to advances to nonbank borrowers. The power was not given to the Federal Open Market Committee. We should not continue to deviate, on the basis of subtle and perhaps disingenuous reasoning, from the procedure Congress specifically adopted unless we are quite certain of what we are doing and why we are doing it.

The repurchase device does not improve the ability of the Manager of the Account to operate on the basis of the 'feel of the market.' Quite the contrary – it enables him to operate, to some extent, without a 'feel of the market,' from the basis of the judgment and profit motives of dealers rather than the judgment of men charged with the duty of maintaining the appropriate volume of reserves. The Manager has access to all the information that the dealers have, and more. Therefore, the Manager should be in as good a position as any dealer or group of dealers to know the needs of the market, and therefore ought to be able to act positively through actual purchases and sales rather than passively through repurchase agreements.

Needless to say, I am more than willing to consider any and all arguments in favor of the use of repurchase agreements, and particularly the use of agreements at interest rates below the discount rate. To my mind, any such arguments should make clear what is expected to be achieved through repurchase agreements that cannot be achieved by buying and selling, on a cash basis whenever necessary. My own tentative position is that unless it is clear that repurchase agreements can accomplish something which cannot be accomplished in any other way, their use should be discontinued, in view of

(1) the uncertainty as to their legal status;

(2) the possibility that the Open Market Committee is usurping the authority of the Federal Reserve Banks and the Board of Governors, and thus deviating from the

procedure adopted by the Congress in separating the discount function from the open-market functions;

(3) their patent inequity as between nonbank dealers and bank dealers;

(4) the unnecessary complexity of our operations as a result of their use; and

(5) the fact that the use of repurchase agreements takes the initiative away from the Reserve authorities to some extent, and places it in the hands of dealers to whom the repurchase agreement is simply a beneficial alternative to commercial bank loans." [96]

[96] Minutes of the Executive Committee of the Federal Open Market Committee, October 20, 1954, pp. 11-15.

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Box 1. Caveats to the Use of Free Reserves as an Indicator of Monetary Policy

The use of free reserves as an indicator of monetary policy was subject to a variety of caveats.

Because it was defined as the difference between excess reserves and advances, a given level of free reserves could result from smaller excess reserves and smaller advances or from larger excess reserves and larger advances. It was not clear if all of the combinations of excess reserves and borrowings that produced a given level of free reserves also produced the same amount of restraint or ease.

The geographic distribution of reserves mattered. Country banks had lower reserve requirements than reserve city banks and central reserve city banks,[97] so required reserves fell, and free reserves expanded, when commercial bank assets and deposit liabilities moved from city banks to country banks. However, country banks were more likely than city banks to allow excess reserves to sit idle. Because of the difference in behavior, a shift in the distribution of deposits and reserves from city banks to country banks could tighten, rather than ease, the market for reserve balances.

Distributional considerations became a major issue in August 1954, when a shift in reserves from city banks to country banks left reserves in major money markets unexpectedly tight and, as shown in Chart 5 below, forced the Federal funds rate up against the discount rate during most of the month. Malcolm Bryan of the Atlanta Fed pointed out that "the distribution of free reserves … has allowed a very considerable increase in short rates, which has at times carried over into longer rates. The result can be explained on many grounds; but the effect has been that we have permitted a policy of monetary ease to some extent to be contravened by the holders of free reserves, who have wanted liquidity." [98]

Federal Reserve officials were not ignorant of the difference in the behavior of country banks and city banks. In the wake of the August stringency, Allan Sproul commented on "the slowness with which reserve funds flowed from country banks to the city banks." [99] Two weeks later, Oliver Powell, the president of the Federal Reserve Bank of Minneapolis, observed that "during the past few months there has been a 'stickiness' of excess reserves at country banks,

[97] Goodfriend and Hargraves (1983) and Feinman (1993) provide excellent histories of Federal Reserve reserve requirements.

[98] Minutes of the Federal Open Market Committee, September 22, 1954, p. 9.

[99] Minutes of the Executive Committee of the Federal Open Market Committee, September 8, 1954, p. 3.

and such reserves had not flowed into central money markets as rapidly as had been contemplated." [100]

Officials were also aware of the policy implications of the difference in behavior. The Federal Reserve Bank of New York observed that "the level of free reserves at which [simulative] results may be expected is not fixed and immobile. The figure would have to be higher, for example, when the national total of free reserves included a heavy concentration in those member banks that habitually maintain substantial excess reserves (usually 'country' banks). Money market banks are generally more aggressive in seeking outlets for excess funds than are country banks, so that the significance of any national total of free reserves ... must depend in part upon the distribution of the total." [101]

Milton Friedman identified a third caveat to the use of free reserves as an indicator of monetary policy when he pointed out that what mattered was the difference between free reserves and *desired* free reserves.[102] Friedman suggested that the amount of free reserves that banks wanted to hold depended, among other things, on market rates of interest (such as Treasury bill rates) and the discount rate.[103] *Ceteris paribus*, a higher discount rate reduced the attractiveness of advances and raised the attractiveness of excess reserves as a liquidity backstop. Similarly, lower market rates reduced the implicit cost, and increased the attractiveness, of excess reserves.

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[100] Minutes of the Federal Open Market Committee, September 22, 1954, p. 4.

[101] Federal Reserve Bank of New York (1958, p. 163).

[102] Friedman (1960, p. 42).

[103] Friedman (1960, p. 42), stating that the desired level of free reserves depends "on market rates of interest and their relation to the discount rate." See also Meigs (1962, p. 3), suggesting that "banks seek to maintain certain desired ratios of [free reserves] to total deposits" and that "these desired ratios are functionally related to market interest rates and the discount rate."

Chart 1. **Treasury Deposits at Federal Reserve Banks, Float, and Currency in Circulation.** Weekly averages of daily figures, plotted as deviation from average value over the year ($507 million for Treasury deposits, $737 million for float, and $30,029 million for currency). Board of Governors of the Federal Reserve System (1976, Table 10.1C).

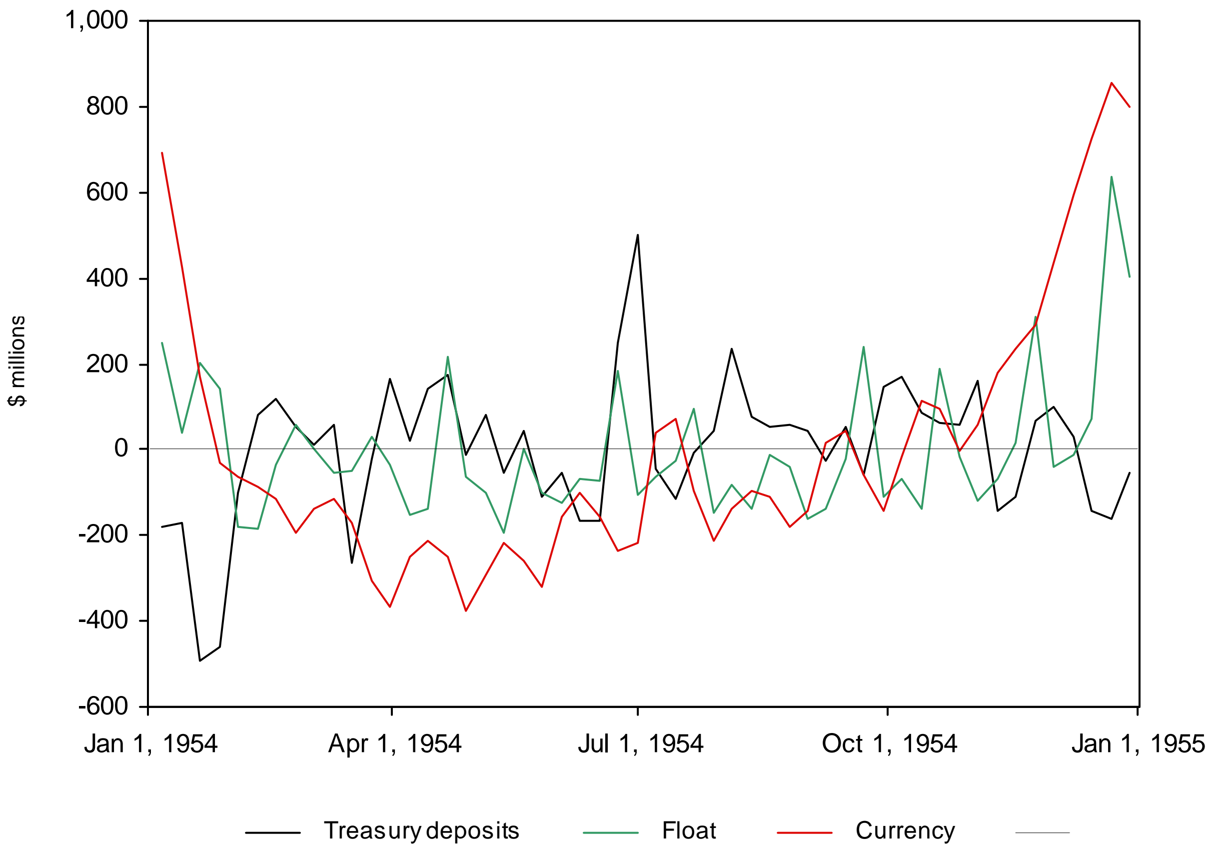


Chart 2. **Excess Reserves.** Weekly averages of daily figures. Board of Governors of the Federal Reserve System (1976, Table 10.1C).

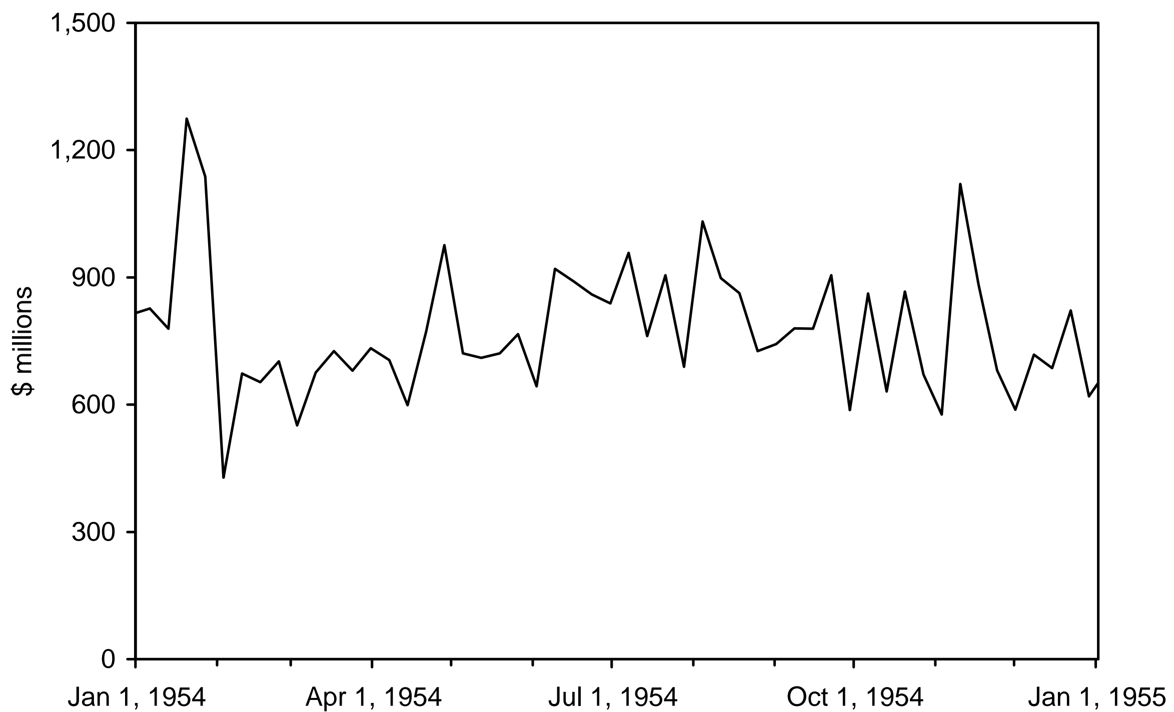


Chart 3. **Advances.** Weekly averages of daily figures. Board of Governors of the Federal Reserve System (1976, Table 10.1C).

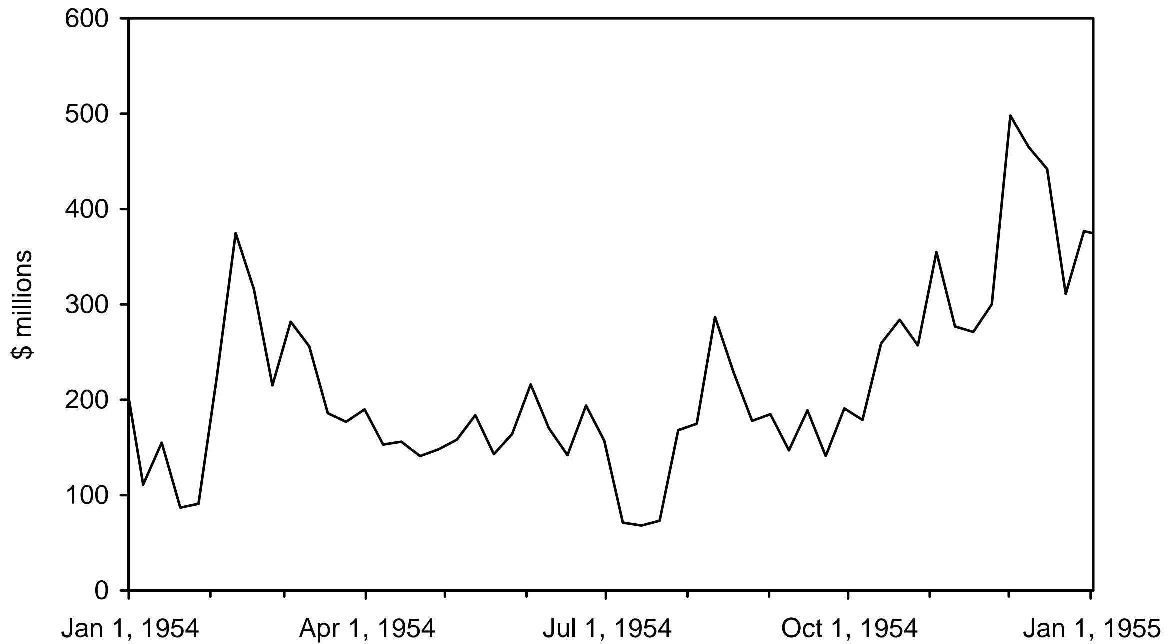


Chart 4. **Free Reserves.** Weekly averages of daily figures. Author's calculations.

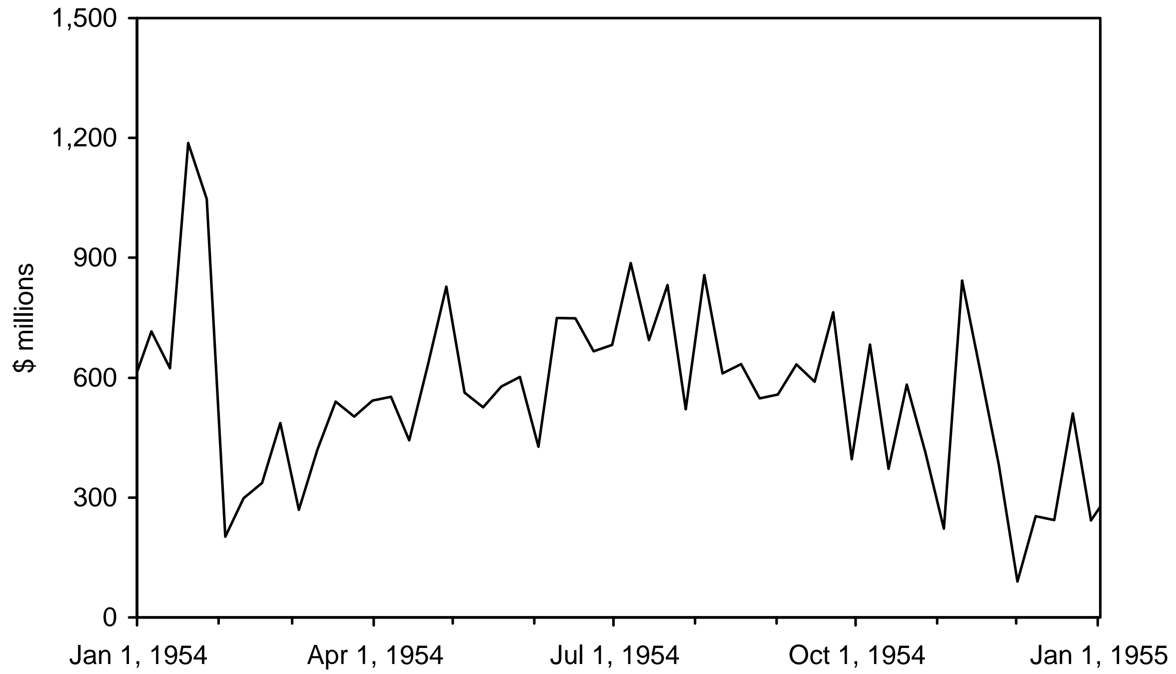
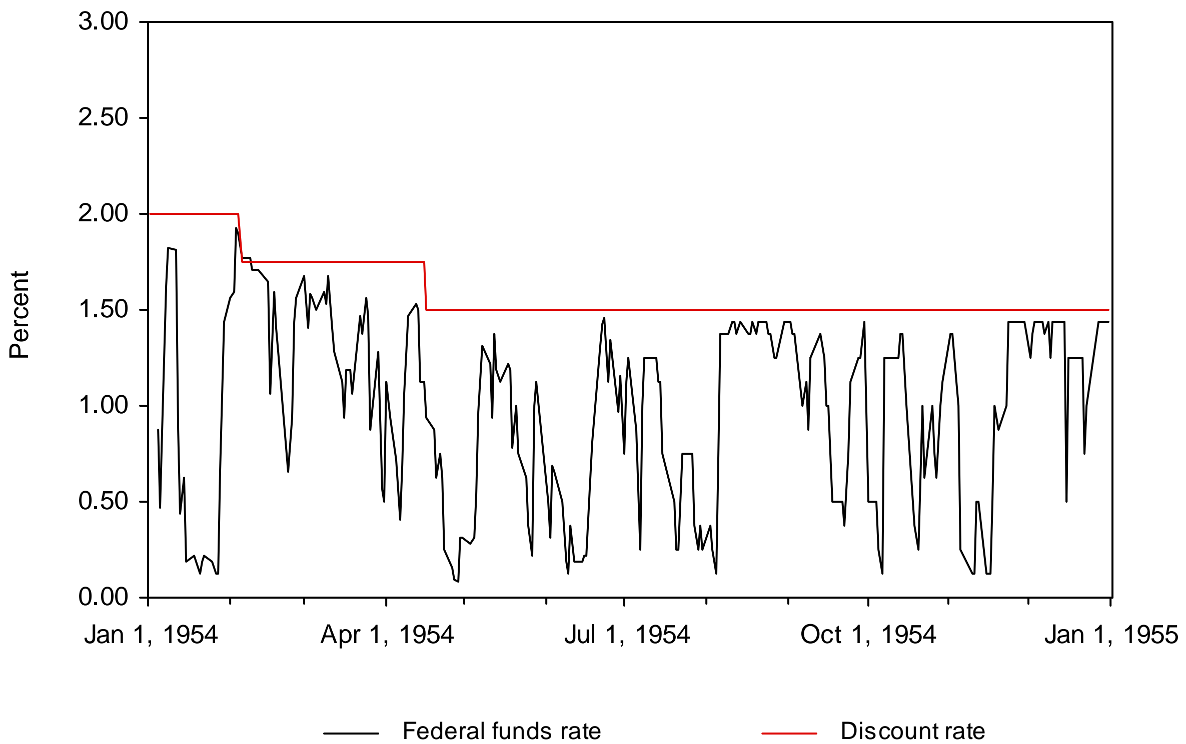


Chart 5. Rates on Purchases and Sales of Federal Funds and Federal Reserve Bank of New York Discount Rates. Board of Governors of the Federal Reserve System (1976, Table 12.1) and Federal Reserve Statistical Release H.15.



Box 2. Cash Settlement of Outright Transactions for the System Open Market Account

At the beginning of 1954 outright purchases and sales of Treasury securities for the System Open Market Account settled on the business day after the trade date, i.e., the securities traded for "regular settlement." [104] Thus, a sale of $50 million of bills on Wednesday would not drain reserves from bank balance sheets until Thursday. The one-day delay meant the Open Market Desk could not use outright transactions in bills to quickly mitigate either a tight or sloppy reserves market.

In early June Governor J.L. Robertson asked the manager of the Account, Robert Rouse, whether the Desk could eliminate the one-day lag. Rouse responded that eliminating the lag "might be desirable" and said he would look into the matter.[105]

In early July Rouse forwarded to Robertson a favorable memo on the possibility of trading for cash settlement [106] and Robertson quickly secured the agreement of the Executive Committee to a trial program.[107] The program got underway in August and Rouse soon reported that transactions for cash settlement were proceeding satisfactorily.[108] Eighteen months later he reported "active use" of transactions for cash settlement and stated that the transactions had "been of definite assistance in improving the techniques of operations for the System account."[109]

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[104] Minutes of the Executive Committee of the Federal Open Market Committee, March 30, 1954, p. 3, letter to the staff director of the House Banking Committee stating that "'outright' transactions for the System Open Market Account are effected for regular delivery, that is for delivery and settlement on the next business day," and July 20, 1954, p. 10, remark of George Vest, General Counsel of the FOMC, stating his understanding "that transactions for the System account had almost always been on a 'regular' delivery basis."

[105] Minutes of the Executive Committee of the Federal Open Market Committee, June 8, 1954, p. 12.

[106] Minutes of the Executive Committee of the Federal Open Market Committee, July 20, 1954, pp. 8-9, referencing a memo dated July 6, 1954, "relating to transactions for cash delivery for the System open market account."

[107] Minutes of the Executive Committee of the Federal Open Market Committee, July 20, 1954, pp. 9-11.

[108] Minutes of the Executive Committee of the Federal Open Market Committee, November 23, 1954, p. 2.

[109] Minutes of the Federal Open Market Committee, March 6, 1956, p. 12.

Box 3. Repo Authority of January 20, 1948

Each Federal Reserve Bank was authorized "to enter into repurchase agreements with dealers in United States Government Securities who are qualified to transact business with the System open market account, provided that

(1) such agreements

(a) are at rates not below the rate in effect at the Bank on discounts for and advances to member banks under sections 13 and 13a of the Federal Reserve Act,

(b) are for period of not to exceed 15 calendar days,

(c) cover only short-term Government securities selling at a yield of not more than the issuing rate for one-year Treasury obligations,

(d) are used only in periods of strain, with care and discrimination, as a means of last resort in the special types of situations and conditions reviewed in Mr. Rouse's memorandum,[110] and

(e) that reports of such transactions should be included in the weekly report of transactions furnished the Committee, and

(2) in the event Government securities covered by such an agreement are not repurchased by the dealer pursuant to the agreement or a renewal thereof, the securities will be sold in the market or transferred to the System open market account." [111]

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[110] The referenced memorandum is noted on p. 7 of the minutes of the January 20, 1948 Executive Committee meeting.

[111] Minutes of the Executive Committee of the Federal Open Market Committee, January 20, 1948, p. 10.

Box 4. Transitional Repo Authority of August 5, 1949

Each Federal Reserve Bank was authorized, "temporarily, until such time as action was taken to reduce the discount rates now in effect at the Federal Reserve Banks under sections 13 and 13a of the Federal Reserve Act, to enter into repurchase agreements with nonbank dealers in United States Government securities who are qualified to transact business with the System open market account, provided that

(1) such agreements

(a) are at rates not below 1⅜ percent,

(b) are for periods of not to exceed 15 calendar days,

(c) cover only short-term Government securities selling at a yield of not more than the issuing rate for one-year Treasury obligations,

(d) are used only in periods of strain, with care and discrimination, as a means of last resort in the special types of situations and conditions reviewed in Mr. Rouse's memorandum of January 2, 1948, which was considered at the meeting of the executive committee on January 20, 1948, and

(e) that reports of such transactions shall be made to the Manager of the System Open Market Account to be included in the weekly report of open market operations which is sent to the Federal Open Market Committee, and

(2) in the event Government securities covered by such an agreement are not repurchased by the dealer pursuant to the agreement or a renewal thereof, the securities will be sold in the market or transferred to the System open market account." [112]

[112] Minutes of the Federal Open Market Committee, August 5, 1949, pp. 17-18.

Box 5. Repo Authority of March 1, 1950

Each Federal Reserve Bank was authorized, "in lieu of all previous authorizations, to enter into repurchase agreements with nonbank dealers in United States Government securities who are qualified to transact business with the System open market account, provided that:

(1) such agreements

(a) are at a rate at least ⅛ per cent above the average issuing rate on the most recent issue of United States Treasury bills,

(b) are for periods of not to exceed 15 calendar days,

(c) cover only short-term Government securities selling at a yield of not more than the issuing rate for one-year Treasury obligations,

(d) are used with care and discrimination as a means of providing the money market with sufficient Federal Reserve funds as to avoid undue strain on a day-to-day basis,

(2) reports of such transactions shall be made to the Manager of the System Open Market Account to be included in the weekly report of open market operations which is sent to the Federal Open Market Committee, and

(3) in the event Government securities covered by such an agreement are not repurchased by the dealer pursuant to the agreement or a renewal thereof, the securities thus acquired by the Federal Reserve Bank are sold in the market or transferred to the System open market account." [113]

[113] Minutes of the Federal Open Market Committee, March 1, 1950, p. 8.

Box 6. Repo Authority of March 4, 1953

Each Federal Reserve Bank was authorized, “in lieu of all previous authorizations, to enter into repurchase agreements with nonbank dealers in United States Government securities under the following conditions:

(1) Such agreements

(a) Are at a rate which will be specified from time to time by the Manager of the System open market account in the light of market conditions and developments with any directive or limitations prescribed by the full Committee or the executive committee for the purpose of carrying out the current policies of the Federal Open Market Committee, but in no event shall the effective rate be below whichever is the lower of (1) the discount rate of the purchasing Federal Reserve Bank on eligible commercial paper, or (2) the average issuing rate on the most recent issue of three-month Treasury bills;

(b) Are for periods of not to exceed 15 calendar days;

(c) Cover only short-term Government securities maturing within 15 months; and

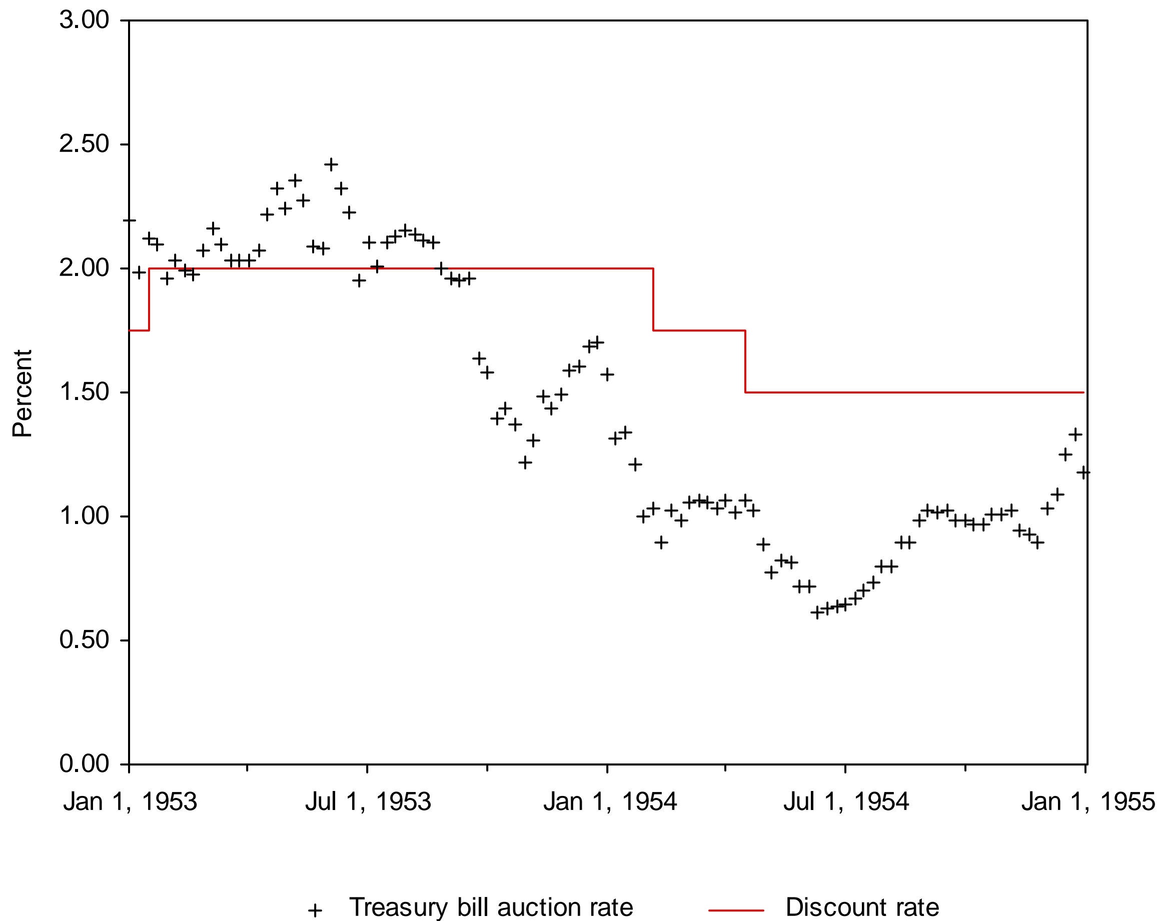
(d) Are used with care and discrimination as a means of providing the money market with sufficient Federal Reserve funds as to avoid undue strain on a day-to-day basis.

(2) Reports of such transactions are made to the Manager of the System open market account to be included in the weekly report of open market operations which is sent to the members of the Federal Open Market Committee.

(3) In the event Government securities covered by any such agreement are not repurchased by the dealer pursuant to the agreement or a renewal thereof, the securities thus acquired by the Federal Reserve Bank are sold in the market or transferred to the System open market account.” [114]

[114] Minutes of the Federal Open Market Committee, March 4, 1953, pp. 7-8.

Chart 6. **Treasury Bill Auction Rates and Federal Reserve Bank of New York Discount Rates.** Board of Governors of the Federal Reserve System (1976, Tables 12.1 and 12.7).



Box 7. Repo Authority of July 12, 1955

Each Federal Reserve Bank was authorized, "in lieu of all authority previously granted by the Federal Open Market Committee with respect to repurchase agreements, ... to enter into repurchase agreements with nonbank dealers in United States Government securities at such times, in such amounts, and at such rates (or rate ranges) as the Committee shall prescribe, subject to the following conditions:

1. Such agreements

    (a) In no event shall be at a rate below whichever is the lower of (1) the discount rate of the purchasing Federal Reserve Bank on eligible commercial paper, or (2) the average issuing rate on the most recent issue of three-month Treasury bills;

    (b) Shall be for periods not to exceed 15 calendar days;

    (c) Shall cover only Government securities maturing within 15 months; and

    (d) Shall be used as a means of providing the money market with sufficient Federal Reserve funds as to avoid undue strain on a day-to-day basis.

2. Reports of such transactions shall be made to the Manager of the System Open Market Account to be included in the weekly report of open market operations which is sent to the members of the Federal Open Market Committee.

3. In the event Government securities covered by any such agreement are not repurchased by the dealer pursuant to the agreement or a renewal thereof, the securities thus acquired by a Federal Reserve Bank shall be sold in the market or transferred to the System Open Market Account." [115]

[115] Minutes of the Federal Open Market Committee, July 12, 1955, p. 21.