CHECK COLLECTION AND FEDERAL RESERVE FLOAT

The sometimes picturesque jargon of the banker includes terms and phrases that are often a mystery to those not acquainted with the vernacular of the financial community. One such term is "float," which is used to denote the overstatement of deposit liabilities of banks resulting from delays in collecting the multitude of checks written everyday. Because of these delays, and of other details of banking practice in this country, a check drawn on one bank and left for deposit with another bank will often be credited to the depositor's account before a corresponding debit is made to the account of the check writer. The check must be sent from the receiving bank to the drawee bank for collection, and this may require a day or several days. In the interim, the combined deposit accounts of the check recipient and the check writer are overstated by the amount of the check. The overstatement of commercial bank deposit liabilities to the public arising in this fashion is referred to as commercial bank float. It is measured by the dollar volume of checks in one or another stage of transit between banks or, in balance sheet terms, by the entry "cash items in process of collection."

Federal Reserve Float But there is yet another kind of float, similar in nature to commercial bank float but quite different in significance. This is Federal Reserve float, so-called. When a bank that is a member of the Federal Reserve System receives on deposit a check drawn on a bank in another city, it will often send the check to the Federal Reserve Bank of its district for collection, taking payment in the form of a credit to its reserve account. The Reserve Bank will credit the reserve account either immediately, or with a one- or two-day deferral, depending on its so-called "availability schedule" and on the location of the bank on which the check is drawn. In no case is the credit to the reserve account of the sending bank deferred more than two days. In the case of a sizable fraction of the checks sent to the Federal Reserve Banks for collection, the reserve account of the sending bank is credited one or more, sometimes as many as four or five or more, days before a corresponding debit is made to the account of the drawee bank. The combined reserve accounts of the sending bank and the receiving bank are thus increased, temporarily, as the result of the time lag between the credit and the debit, and this increase is what is denoted by the term "Federal Reserve float."

Because, unlike commercial banks, the Federal Reserve Banks do not give immediate credit for all checks sent to them for collection, Federal Reserve float is measured in a manner somewhat different from that used in measuring commercial bank float. In the case of commercial banks, deposit credit has been given for all uncollected items or "cash items in process of collection." Hence, the total of commercial banks' cash items in process of collection represents commercial bank float. For the Federal Reserve Banks, however, reserve account credit has been given only for some uncollected items, with a deferred availability account credited for the others. Hence, to arrive at Federal Reserve float the sum of deferred availability items must be subtracted from the volume of uncollected items.

Importance of Float Commercial bank float, or its balance sheet counterpart, cash items in process of collection, is important to commercial bankers chiefly because it figures in the computation of their reserve requirements. Member banks are allowed to subtract their cash items in process of collection from their gross demand deposits in calculating their legal reserve requirements. In many states, nonmember banks can count cash items along with their correspondent balances as legal reserves. But commercial bank float is also of interest to money and banking students and to monetary policymakers. In calculating the size of the demand deposit component of the money stock, close students of the monetary system conventionally subtract commercial bank float, along with interbank deposits and U. S. Treasury deposits at commercial banks, from gross demand deposits at commercial banks to get a measure of the general public's demand claims on the banking system.

From the standpoint of the monetary authorities, however, Federal Reserve float is more important than commercial bank float. This is true, basically, because Federal Reserve float creates new reserves

for the commercial banking system. This is to say that it creates "high-powered money" that can be used as a basis for multiple expansion of bank credit and demand deposit money. Federal Reserve float is, in a sense, credit extended by the central bank to the commercial banking system and it has the same effect on the reserve base of the banking system as an increase in Federal Reserve discounts and advances. Moreover, Federal Reserve float is one of the most volatile factors affecting member bank reserves and hence basic monetary and credit conditions. It fluctuates sharply from day to day and from week to week and its movement must be followed closely by the central bank in its efforts to preserve orderly credit conditions. Because of the significance of Federal Reserve float in this regard, the remainder of this article is devoted to this category of float.

Four Sources of Federal Reserve Float Federal Reserve personnel involved in the check collection function distinguished four kinds of Federal Reserve float, each associated with a particular cause of delay in the collection process. These are (1) remittance float, (2) time schedule float, (3) transportation float, and (4) holdover float. These several kinds of float, or causes of float, can be explained best against a background description of general Federal Reserve check-handling practices.

Reserve credit for checks received for collection by a Federal Reserve Bank is deferred no more than two business days from the date of receipt. Some checks are payable through the local clearing arrangements of the city in which the Reserve Bank is located. Immediate credit to reserve accounts is given for these if they are received in time to be processed through the clearing house. Some checks payable in other Federal Reserve cities may be credited to reserve accounts in one business day if they are received in time to collect them in the local clearings of these cities.

The vast majority of checks handled by the Reserve Banks, however, are drawn on out-of-town banks, most on so-called "country check" points. Once these checks have reached the Reserve Bank they must be forwarded to drawee banks for collection. If the drawee bank is accessible by surface transportation overnight, it will be charged one day after it receives the checks from the Reserve Bank. This practice is based on transit time required to deliver the checks to their destination and time for payment to be returned to the Reserve bank along with any return items. If surface transportation requires more than one day, or if payment by the bank normally takes more than one day for return to the Reserve Bank, the Reserve Bank delays charging the remitting bank's account.

Many banks are charged by their Federal Reserve Bank under an automatic remittance plan. This plan, however, while automatic, recognizes and preserves the normal transit time required for receipt and payment. In some cases, even within a given Reserve District, the drawee bank is charged three or more days after checks are dispatched by the Reserve Bank, although the Reserve Bank has granted reserve credit *two* days after its receipt. This amount, a net debit on the books of the Fed for one or more extra days, is called "remittance float."

Checks received by a Reserve Bank for collection on country banks in another Federal Reserve territory require one day in transit between Reserve offices and a minimum of two more days after the checks are dispatched to the drawee bank before remittance is made. Since full reserve credit is granted by the first receiving Reserve Bank only two days after its receipt and handling, collection is not generally possible in less than three business days, and float is inevitable even under ideal transportation conditions. This type of float, incurred on almost all interdistrict checks, is referred to as "time schedule float."

Commercial banks customarily receive their greatest daily volume of checks on Monday, which apparently reflects the public's tendency to pay bills on weekends. These checks are largely deposited with Reserve Banks on Tuesday, with credit deferred no later than Thursday. Since many of these checks are interdistrict items, actual collection cannot be obtained from the drawee banks before Friday. Thursday balances on Reserve Banks' books therefore include a significant amount of time schedule float.

Daily and weekly float patterns are affected not only by general business practices but also by Reserve Bank check-handling practices, such as cut-off hours for receiving checks, and by holidays. These patterns become important in the Federal Reserve's efforts to keep abreast of the effect of float on bank reserves. A 1963 study by Irving Auerbach dealt with the effect of these variations on the procedure for forecasting Federal Reserve float.[1] Auerbach's study revealed that within each month float follows a bell-shaped curve with the peak generally occurring about mid-month. One explanation of this time pro-

[1] Irving Auerbach, "Forecasting Float," *Essays in Money and Credit*, New York: Federal Reserve Bank of New York, 1964.

file of float is that business firms typically bill customers at month end, often with ten day discount terms. For this reason payments are heaviest around the tenth of the month. The banking system receives and processes these checks around mid-month. Another type of seasonal bulge in check payments and float was shown to occur in the fall and early winter months, paralleling a seasonal pick-up in business activity.

Holiday mail delays, bad weather, transport schedules, transportation strikes, and processing overloads on Reserve Bank staff are additional sources of float. Transportation float typically occurs when interdistrict items are delayed in transit between Reserve Banks. Missed airline connections, weather-grounded airplanes, and delayed ground delivery connections are causes of transportation float. This source of float is not entirely uncontrollable. By constantly reevaluating and selecting the best available combinations of transportation between Reserve cities, the desired overnight delivery can usually be achieved. The Federal Reserve Bank of Richmond, among others, arranges some truck deliveries of checks from air terminals to the Bank.

Holdover float arises when the checks received and credited to deferred credit availability accounts are so numerous that they cannot be sorted and dispatched by the Reserve Bank on the day of receipt. The size of the check collection staff may be inadequate to handle unusual or peak volume of checks. Holdover checks are delayed in collection from the drawee bank, but this does not affect timing of credit to the depositing member banks' reserve accounts. Holdover float is controllable in the sense that larger or better-trained staffs can be employed in check collection. Sometimes, however, malfunctions in electronic check sorting and processing equipment are a cause of holdover checks. Reserve Banks try to minimize processing backlog, subject to cost limitations established on the basis of historical and interbank expense comparisons. Also, member banks, encouraged by Federal Reserve reimbursement of transportation costs and earlier reserve credit availability, may send checks directly to other Federal Reserve offices. This procedure places the burden of sorting checks on the sending bank and bypasses one Reserve Bank in the collection process, thus cutting overall collection time and reducing holdover potential.

Float Patterns From 1968 to 1970 Float components from early 1968 to late 1970 are illustrated below for the United States and for four selected Federal Reserve offices. Both trends and cross sectional differences among offices appear in the time series of quarterly figures on float per check.

As one might expect, time schedule float looms largest among the categories of United States Federal Reserve float. Its share of the total has declined somewhat since early 1968 principally because of growth tendencies in the other components. Given continuance of the System's policy of deferring country checks a maximum of two days and the general necessity of collecting inter-Reserve office country items over a minimum of three days, time schedule float is likely to retain its prominence. Its irreducible nature is extenuated by its low volatility relative to other float components. It is the variability of check float more than its magnitude that complicates reserve projections and the implementation of monetary policy.

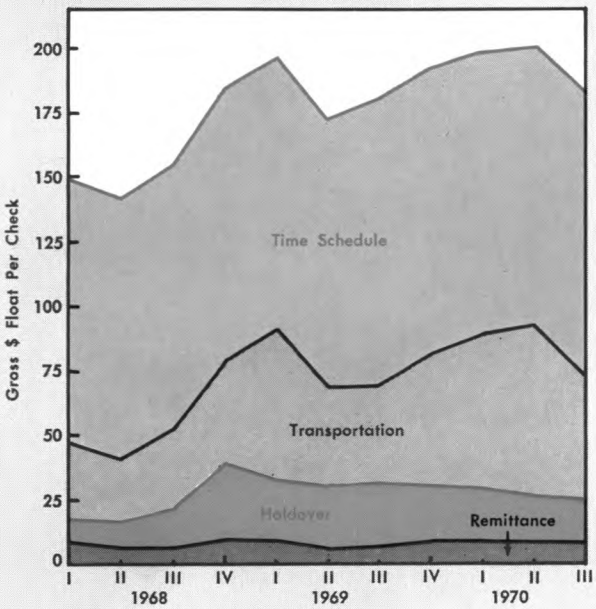
To a small degree, time schedule float may be reduced through improved collection methods. Early dispatch from one Reserve office to another to achieve same-day processing has occurred in some cases. Establishment of regional clearing facilities that encompass portions of two or more Reserve office territories would reduce transit between Reserve offices and consequently would reduce time schedule float. This innovation has occurred in the Washington-Baltimore metropolitan area. The establishment of the Regional Clearing Center in January 1970 produced a noticeable decline in time schedule float at the Richmond office.

Holdover float is largely related to the cost of processing, which, in turn, depends on the quantity of equipment and trained people needed to cope with peak levels of checks processed. For example, the Los Angeles office's total direct costs of processing country checks has consistently been low relative to other Reserve offices' costs. Yet Los Angeles has steadily raised its average holdover backlog in the past three years. Variability in daily check processing volume is also a factor in holdover float. This factor may differ substantially from one Reserve office to another. Given a fixed staff of personnel and equipment, wide variability in daily volume would probably be associated with high levels of holdover float.

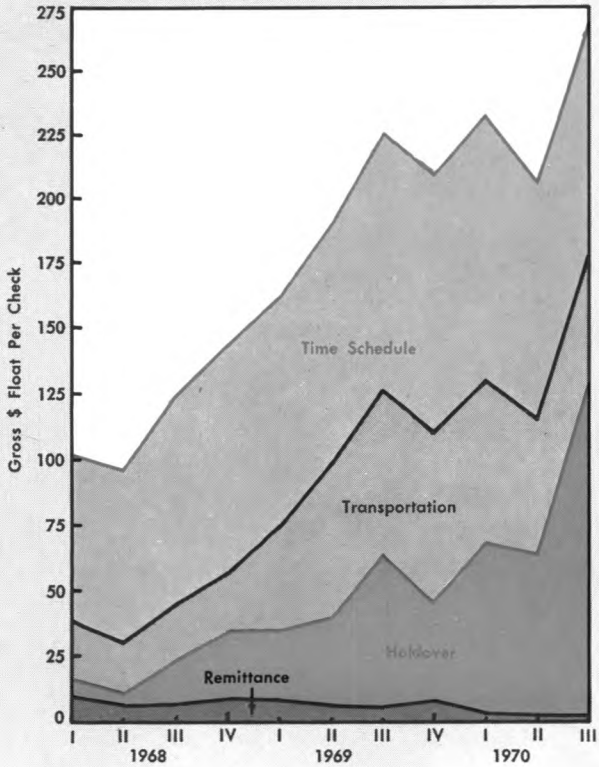
Remittance float is the smallest category of float relative to country check volume. Remittance time is largely related to highway transportation facilities within the Federal Reserve District. The Minneapolis Reserve Bank, with members more geographically dispersed than those in most other Federal Reserve territories, has the greatest proportion of remittance float. Moreover, the end of nonpar banking in Minnesota and the Dakotas in

COMPONENTS OF FLOAT

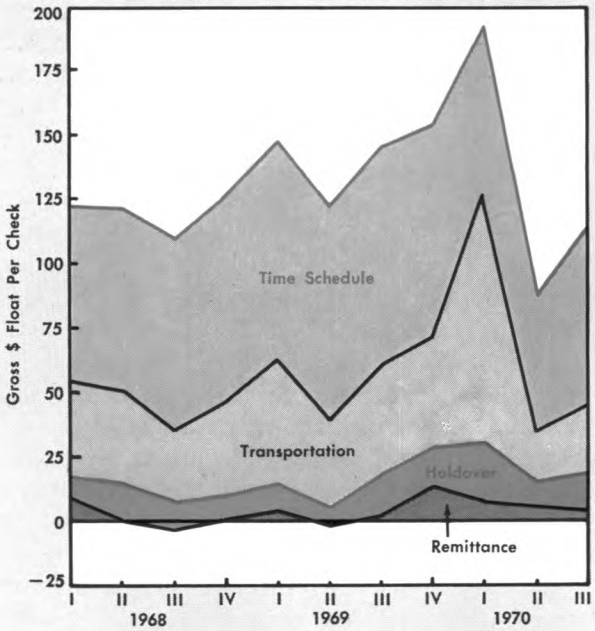
UNITED STATES



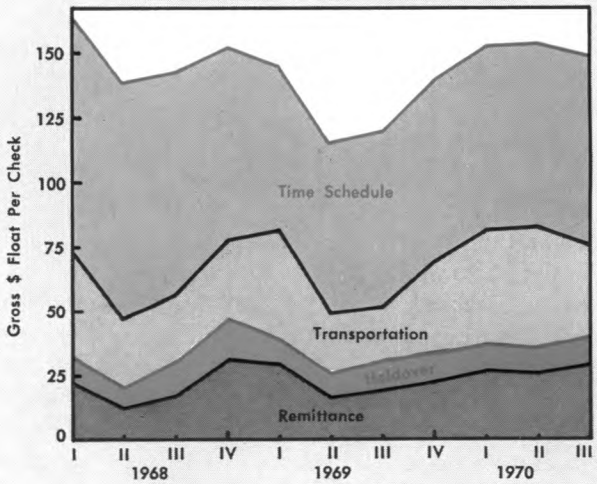
LOS ANGELES FEDERAL RESERVE OFFICE



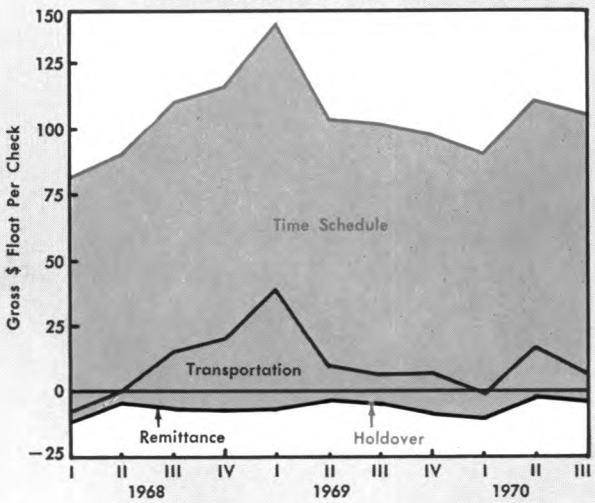
RICHMOND FEDERAL RESERVE OFFICE



MINNEAPOLIS FEDERAL RESERVE OFFICE



CINCINNATI FEDERAL RESERVE OFFICE



1968 added to the number of end points for which check shipments and remittance require more than two days. By contrast, in the Richmond territory, the relative compactness of the area and the prevalence of good road conditions is conducive to a customized contract carrier service at acceptable cost. In the Minneapolis District conditions are not as favorable for substitution of overnight private carrier service for mail service. There are significant numbers of drawee banks dispersed throughout thinly populated areas, and snow removal is a serious problem for some areas. The arrangement of private carrier service to every point would be prohibitively expensive.

Curiously, the Cincinnati Reserve office consistently reports a negative remittance float total. This is attributable to processing and dispatch of checks prior to the date from which deferred credit is calculated. Checks may be received after the Cincinnati bank's deadline for posting deferred credit to the depositing bank's account. Reserve credit, ordinarily deferred two days, is delayed an additional day. The Cincinnati office, nevertheless, dispatches the checks late on the day of receipt. The checks arrive at their destination on the following day and payment is often received the day after that. Hence, payment is obtained prior to the date on which reserve credit is granted.

The Richmond office occasionally has a credit balance in its remittance float account, which is due to Saturday's not being counted as a business day in the deferment of cash items. The Richmond office has a number of drawee banks that are open on Saturday and remit to the Reserve Bank in the form of a draft or charge to a reserve account on Monday. Banks that do not open on Saturday are not charged until Tuesday. Since reserve credit is passed to depositing banks on Tuesday for all country checks received Friday by the Richmond Reserve Bank and some of these checks are actually paid on Monday, a credit balance in the remittance float account occurs.

Transportation float has grown substantially in the float total for the U. S. since early 1968. A seasonal pattern reflecting bad weather and holiday traffic is also apparent. Of all the float developments, the rising trend of transportation float has been most discouraging to nearly all Federal Reserve offices. General air and ground traffic congestion presumably has been responsible for missed connections and increased delivery time. Holdover and remittance float are controllable to some degree; time schedule float, while not subject to control, is less given to the wide variations that complicate aggregate bank reserve projections. Transportation float, however, is only partially controllable; and it is highly variable. The standard handling routines of the U. S. Post Office and the few available private transportation firms are not always sufficiently expeditious for System needs. Constant attention by Reserve bank personnel to changing airline schedules plus pickup and delivery by Reserve Bank trucks has helped. Still, transportation float grows. As yet no satisfactory means of interdistrict check handling comparable to intradistrict carrier schemes has been found.

Conclusion Float could be entirely eliminated in a checkless society. A hundred million account holders could have home and business terminals connected to local and regional computer centers through which payments could be effected with the speed of telephone transmission. Payment and receipt in a given transaction could occur simultaneously.

The disappearance of float would have several policy implications. Reserves formerly granted via float would be replaced by reserves created by Federal Reserve Open Market purchases of securities or by some other means. Commercial banks would no longer need to distinguish collected from uncollected portions of customers' account balances in relating revenues obtained to costs of handling. Bank auditors would not have to distinguish between reserve balances and deferred availability balances in the accounts of member banks. Check "kiting" would be impossible. The monetary authority would not have to take account of changes in reserves occasioned by float nor project variable float effects on reserves. Most importantly, the community would effect its payments without the necessity of handling and shipping tons of paper records.

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