A more recent use of the PTD is to provide interest-equivalent accounts for money-market mutual funds (MMMFs). These funds generally have large numbers of shareholders who have “check-writer” privileges on the funds. By issuing PTDs to their shareholders, MMMFs are able to determine whether a shareholder’s portion is sufficient to cover his draft before acceptance and payment.

**Investment of Funds**

Techniques that hasten the collection of receivables and allow precise predictions in the amounts and timing of cash inflows are generally preferred for investment purposes. But the investment opportunities that arise from the two practices can be complementary. Techniques that accelerate the collection of receivables, for example, necessitate the reduction of working capital needed to operate a business. There is no reason to expect every dollar of increased cash collections to remain available to an asset or a decrease in a particular liability.

On the other hand, disbursal practices, balance reporting, and balance concentration tend to create limited, albeit sometimes lucrative, investment opportunities. For example, large numbers of shareholders who have “check-writing” privileges may require sizable investment sums. The investment minimums of at least one such MMMF are currently in an incipient stage. If three or more transfers are made from a savings account to a demand deposit account, then the savings account is subject to Regulation D reserve requirements for transactions accounts.

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**Methods of Cash Management**

by John B. Carlson

Cash management—the control of payments, receipts, and any resulting transactions accounts—has become increasingly sophisticated over the past decade. High interest rates, rapidly declining real costs of information processing technology, proliferation of new financial instruments, and a changing regulatory environment have been some of the factors affecting the market for cash-management practices that may soon include every small transaction in the public’s portfolio.

The cash-management process continues to have a significant impact on the public’s portfolio, particularly in the way its liquidity is managed. This, in turn, has important implications for measures of money and for the implementation of monetary policy. Some of the most widely used methods of cash management are described in this article, with the intent of suggesting likely portfolio implications, both past and future (see figure 1).

**Collection of Funds**

A fundamental way for a firm to marshal additional cash without borrowing is to ac- cess the collection of its receivables. A popular technique offered by many banks for this purpose is the lock-box service. First developed in 1947, the lock-box system enables businesses to decentralize the processing and collection of their receivables.

1. The impact of the cash-management process on the monetary aggregates was discussed extensively in a Federal Reserve Bank of Cleveland, P.O. Box 6387, Cleveland, OH 44101.

2. Implications for the money measures and for monetary policy are the subjects of a forthcoming sequel to this article.

John B. Carlson is an economist with the Federal Reserve Bank of Cleveland.
cepts, locating this function near the source of the payment. The firm receives payment earlier by eliminating mailing time (mail float) and may obtain earlier availability of funds (funds float). The collection time once the payment enters the banking system (bank float).

A lock box arrangement consists of a bank picking up the firms' payments from post-office box and processing these payments. Participating banks also are given authority (power of attorney) to deposit payments for the customer, reducing the number of times a check is handled. The services provided are tailored to the needs of each customer. Typically, banks offering lock box arrangements have reciprocal relationships with banks in other large cities to help the firm establish a network of processing points. Large corporate customers with nationwide sales may find it economical to have these collection points in many major cities, whereas smaller firms may have a few lock boxes set up in areas where most of their business is transacted.

In addition, receiving payments in the proximity of the source enhances the availability of funds offered by the collecting bank. Deposited funds drawn on banks within the Federal Reserve District that the collecting bank are generally available the next day for the depositor. If, however, payments are drawn on banks outside the Federal Reserve District, the collectible funds may not be available for two or three days just by eliminating cross-city transfers. Lock box systems also can improve certainty about near-term collected balances at the time investment decisions are made. Information on collected balances at the lock box can be transmitted to the master bank, along with balances available within the next few days. Some master banks notify their customers at specified times when and where lock box items are collected. A large number of banks now provide all available information on line, either through their own computer terminal or through a toll-free telephone.

Disbursement of Funds

Two disbursement methods currently employed by large firms—remote disbursement and the use of payable through draft (PTD)—provide greater control over the timing of disbursements than are possible by mail alone. Clearly, the cash manager gains more control over disbursements if lock box arrangements are used to offer a specific financial service such as controlling disbursements near the end of the day. If individual payments are large, they may exceed the net benefits of collecting payments by mail (the balance holders may not be covered by a standing line of credit itself involving a fee). Furthermore, because the PTD method of disbursement reduces the need for costly short-term loans to cover unexpected disbursements, it allows firms to earn a better rate of return on their investment.

Disbursement of Funds

Remote disbursement is sometimes confused with remote deposit, a practice whereby cash managers set up their own deposit accounts at banks in remote areas, e.g., Helena, Montana. While this practice can extend the availability of funds for the paying firm, it does not affect the availability of funds to the payee. The availability of funds, however, is not balanced between payments and disbursements. Thus, in remote areas, e.g., Helena, Montana, the availability of funds generally comes at the expense of delayed disbursement. The availability of funds can be improved, thereby increasing incentives to reduce float.

5. The practice of remote disbursement may result in an extra day of float for the paying firm, the extended availability of funds being at the expense of delayed disbursements. This is true because the Federal Reserve will not honor PTDs for disbursements made through the PTD system. Thus, the paying firm does not have access to the funds as quickly as it would if the PTD were presented to the payee's bank. The extended availability of funds can result in increased float for the paying firm, thereby increasing incentives to reduce float.

6. The practice of remote disbursement can affect the image of the paying firm. The extended availability of funds generally comes at the expense of delayed disbursement. This is true because the Federal Reserve will not honor PTDs for disbursements made through the PTD system. Thus, the paying firm does not have access to the funds as quickly as it would if the PTD were presented to the payee's bank. The extended availability of funds can result in increased float for the paying firm, thereby increasing incentives to reduce float.
in addition, receiving payments in the
country delivery of payments. Mail float is
up sooner from lock boxes than through
large corporate cus-
cities to help the firm establish a network
services provided are tailored to the needs
receipts. Participating banks also are given
banking system (bank float).

In addition, receiving payments in the
of processing points. Large corporate cus-
multiple cities, whereas smaller firms

Figure 1 Components of Cash Management

<table>
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<th>Collection</th>
<th>Lock boxes</th>
<th>Wire transfer</th>
<th>Depositary transfer checks</th>
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<td>Zero balancing</td>
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In addition, receiving payments in the proximity of the source enhances the availability of funds offered by the collecting bank. Deposited funds drawn on banks using lock-box or remote deposit capture (RDC) systems in the Federal Reserve District at the collecting bank are generally available the next business day for the depositor. If, however, the deposits are drawn on banks outside the same Federal Reserve District, the collect ing bank will not offer availability for two or more days. Lock-box systems also can improve liquidity of near-term collected balances at the time investment decisions are made, so that balances may be fully utilized. Information on collected balances at lock-box points can be transmitted to the master bank, along with balances available within the next few days. Some master banks notify their customers at specified times when and where lock-box items are collected. Many banks now provide all available information on line, i.e., through their own computer terminal or even toll-free telephone.

As lock-box system are simplified, the advantages that they offer become more apparent. In addition to improving the information on near-term collected balances, cash managers can use lock-box systems for forecasting the pattern of receipts and disbursements over longer time horizons. This helps to understand the maturities of their short-term assets and cash needs. While many large firms have lock-box systems, most small and medium-sized companies do not. Many large banks can offer inexpensive standardized cash-flow forecasting techniques to their smaller customers.

**Disbursement of Funds**

Two disbursement methods currently employed by large firms—controlled disbursement and the use of payable through draft (PTD) or commercially clearable drafts—provide process savings and give the firm greater control over the disbursement of funds. Thus, they enable cash managers to avoid holding buffer balances that may not be covered by a standing line of credit (itself involving a fee). Furthermore, because disbursement of funds may be made in the evening, disbursements are achievable only for a limited class of payments, e.g., out-of-town payables. For example, a firm might hold disbursements in such an account for any given day. Typically, the resulting balance is not released for use by the collecting bank until after business hours.

Decreasing real costs of information-processing systems has facilitated the development of another near-term management device, the cash-concentration account. Pooling of balances from a variety of lock-box and remote deposit capture arrangements, at the feeding bank, permits cash managers to exploit economies of scale that arise from investing and disinvesting from a large account rather than from many smaller accounts. Firms consolidate funds from their network of bank deposits using lock-box or remote deposit capture (RDC) systems. The costs of these transfers—al which also have declined in real terms over time—reduce the amount of working capital that the cash managernet can employ. The net yield of the cash-management effort is further enhanced by spreading fixed breakage costs over a larger pool of balances.

Moreover, centralizing the cash-management function not only improves the time-line of accurate information for the firms needing this information, but it also increases the availability of funds offered by the collecting bank. This enables the branch or affiliate to sort the presentments more quickly and efficiently.

The costs of these transactions including paying items and discounts are likely to be covered over time, so that balances held in the cash-concentration account cannot be known with certainty during the same day.

A controlled disbursement is sometimes confused with remote disbursement, a practice whereby cash managers set up their own disbursement accounts at banks in remote areas, e.g., Helena, Montana. While this enables improved information on disbursements (which can delay the disbursement), these systems generally improve the timeliness of accurate information for the firms using them. Moreover, centralizing the cash-management function at a firm's affiliate located strategically on the outskirts of a city can result in a fraction of those presented to the city bank. The branch or affiliate is chosen because it can serve as a center for lock-box items (presentments from the Federal Reserve) earlier in the day than does the city bank and, therefore, can hold the cash for the city bank and only a fraction of those presented to the city bank. This enables the branch or affiliate to sort the presentments more quickly and efficiently. The costs of these transactions, including paying items and discounts are likely to be covered over time, so that balances held in the cash-concentration account cannot be known with certainty during the same day.

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A more recent use of the PTD is to provide instant capabilities for money-market mutual funds (MMMFs). These funds generally have large numbers of shareholders who have "check-writing" privileges on the funds. By issuing PTDs to their shareholders, MMMFs are able to determine whether a shareholder's portion is sufficient to cover his draft before acceptance and payment.

Investment of Funds

Techniques that hasten the collection of receivables and allow precise predictions of future cash flows are generally used as investment or money-market instruments that pay market-determined rates of interest, provide payment options, and remain high in recent years. The potential success of MMMFs has simultaneously increased the awareness of the gains of more careful cash management and sensitivity of the segment of the public to interest-rate changes. The transactions costs associated with the new instruments are relatively low. Most MMMFs offer a check-writing privilege for their balances. This is the least as convenient as a regular passbook account. But the check-writing privilege will pay higher interest, as we will see more. Some recently organized MMMFs offer access to funds through bank-certificate-of-deposit accounts, on which interest rates may be written. Although there are no debit cards, there may be a need for cash and other assets. The interest minimums of at least one such MMMF are satisfied by bringing the value of securities (whether purchased on margin or not) and cash held with the affiliated brokerage firm. This arrangement can create borrowing power to the extent permitted by the margin account. If deficits exhaust all funds available in the MMMF and cash accounts, they may be covered by margin loans to the extent that a sufficient amount of securities is held. Thus, the borrowing power in the margin account becomes available for almost any financial need including day-to-day expenditures made by the credit card or by a check on that account. However, because of a Securities and Exchange Commission regulation, an MMMF with this feature is not available to corporations.

The development of MMMFs has had a sizable impact on the public's portfolio. As of December 1978, MMMFs amounted to $184 billion, up from $9 billion in December 1978. Although it is impossible to determine where these funds came from, many analysts argue that the greatest part of the growth came at the expense of traditional forms of saving and investment, which were unable to respond with its own attractive instruments because of current and past regulations and economic conditions. One regulatory change in 1975 permitted banks to offer savings accounts to businesses and to state and local governments.

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Economic Commentary

April 5, 1982

Economic Commentary

Methods of Cash Management

by John B. Carlson

Cash management—the control of pay- ments, receipts, and any resulting trans- actions in the money market. The method- ically sophisticated over the past decade. High interest rates, rapidly declining real costs of information processing technol- ogy, proliferation of new financial instru- ments, and a changing regulatory environ- ment for current transfers to suit changing market for cash-management practices that may soon include every small trans- actor in the nation, no matter how small. The cash-management process continues to have a significant impact on the public's portfolio, particularly in the way in which they are managed. This, in turn, has important implications for measures of money and for the im- plementation of monetary policy. Some of the most widely used methods of cash management are described in this article, with the intent of suggesting likely portfolio implications, both past and future (see figure 1).

Collection of Funds

A fundamental way for a firm to marshal additional cash without borrowing is to ac- cess the collection of its receivables. A popular technique offered by many banks for this purpose is the lock-box service. First developed in 1947, this and other systems have enabled businesses to decentralize the processing and collection of their receivables.

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Collection of Funds


2. The reason for these measures is discussed in detail in a forthcoming sequel to this article.

John B. Carlson is an economist with the Federal Reserve Bank of Cleveland.
Investment of Funds

Techniques that hasten the collection of receivables and allow precise predictions of necessary cash inflows or outflows generally can be used to increase investment purposes. But the investment opportunities that arise from the two practices can also be used to reduce the working capital needed to operate a business. There is no reason to expect a related large increase in the asset or a decrease in a particular liability.

On the other hand, distortion practices, balance reporting, and balance concentration tend to create limited, albeit sometimes lucrative, investment opportunities. This largely reflects the limitations on the information gains of the techniques employed. For example, controlled disbursement provides only a partial checking of the clearings of a given day. Without additional information, a cash manager has no knowledge on clearings on the next day. The funds released by controlled disbursement may need to be covered the account on the next day. Thus, they are often invested in a bank of surplus balances, particularly RPs.

The practice of investing all collected funds on a daily basis is known as zero balances. Banks will sometimes assist their customers in this practice by arranging RPs or overnight Eurodollar borrowings. This arrangement is the subject of a common paper of their own holding privileges on the funds. By issuing PTDs to shareholders, MMMFs are able to determine whether a shareholder’s proportion is sufficient to cover his draft without acceptance and payment.

Within a year or so, this bank liability grew to over $1 billion. As interest rates began to rise above the ceiling rates imposed on these accounts, their levels declined slightly. To make savings accounts more convenient, some banks offer sweeping arrangements that allow deposits to sweep into (or out of) savings when demand deposits rise above (or fall below) pre-determined thresholds. The lower threshold typically is chosen high enough to compensate the bank (at least in part) for the service. Some banks offer sweeping arrangements linking a transactions account (including NOWs) to other savings accounts, often only overnight RPs, but also to nonbank liabilities such as MMMFs. Sweeping arrangements of all types are becoming increasingly popular for small businesses and institutions with transaction balances relatively larger than those of households.

Sweeping arrangements linking deposits to MMMFs have also become increasingly common in an incident stage. A number of firms currently have arrangements of this type. By accepting cash balances from the bank that currently hold them, MMMFs may be able to purchase securities directly from their current or potential customers. This arrangement is designed to permit participating banks to set parameters and fees that are appropriate for their own portfolios.

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Methods of Cash Management

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Cash management—the control of payments, receipts, and any resulting transaction balances—has become greatly sophisticated over the past decade. High interest rates, rapidly declining real costs of information processing, technology, proliferation of new financial instruments, and a changing regulatory environment has made it possible for customers to maintain required minimum balances in MMMFs. Sweeping arrangements could appeal to a very large segment of the market. The potential impact on the form in which the public maintains its desired liquidity at least as pervasive as any previous innovation. Unlike most previous innovations, however, rapid growth in sweeping arrangements conceivably might increase the level of transactions balances if attractive daily interest makes it worthwhile for customers to move into (or out of) savings when demand deposits rise above (or fall below) pre-determined thresholds. The lower threshold typically is chosen high enough to compensate the bank (at least in part) for the service. Some banks offer sweeping arrangements linking a transactions account (including NOWs) to other savings accounts, often only overnight RPs, but also to nonbank liabilities such as MMMFs. Sweeping arrangements of all types are becoming increasingly popular for small businesses and institutions with transaction balances relatively larger than those of households.

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