# Increasing the Velocity of Corporate Funds

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*The faster a corporation collects the money owed to it and the longer it delays paying the money it owes — without losing discounts — the better its profit picture will be. Here are some of the devices used by corporations to achieve these ends —*

# INCREASING THE VELOCITY OF CORPORATE FUNDS

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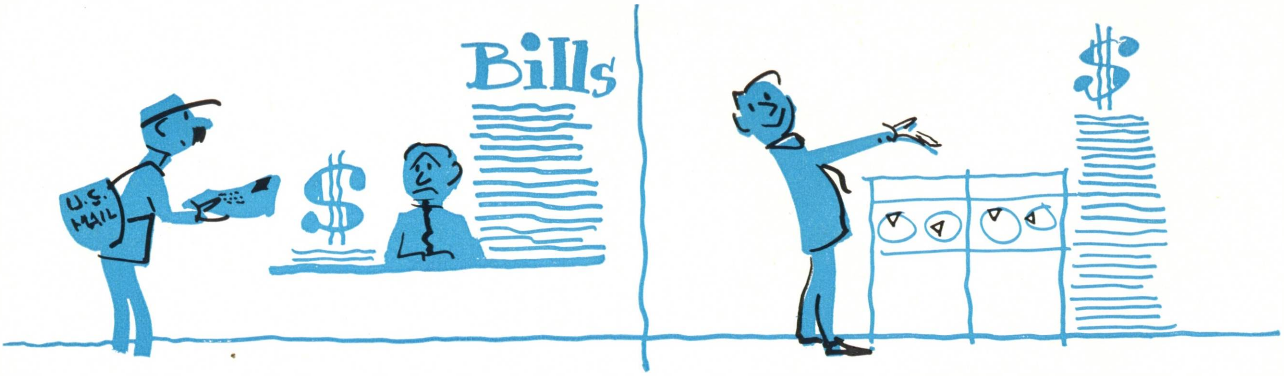
In recent years corporate[1] financial managers have come under increasing pressure to improve the efficiency with which they manage their cash balances. They have sought to conserve cash, to invest temporarily idle money on a short-term basis, and thus to increase the velocity of corporate funds.[2]

A number of influences have contributed to the growing emphasis on effective utilization of cash, including the substantial sums generated from depreciation and the favorable results achieved by some corporations from investing excess cash.[3] The principal influence, however, has been the rising level of interest rates, which has made it more expensive, in terms of opportunity costs, to hold idle cash. Among a group of Southern California companies that were surveyed by the authors, the majority began their efforts to improve their cash management in periods of tight money.

By increasing the velocity of their funds, these companies reported, they have been able to reduce the amount of cash required to support a given level of operations. This not only allows each dollar to earn more income, thus increasing the return on tangible assets, but also reduces the company's dependence on outside sources of financing, providing flexibility in future financing. The financial manager who has acquired the ability to "stretch" the working ability of each dollar is able to live within lesser means in periods of tight money, when interest rates are increasing and




The mechanization of accounting has worked wonders in speeding bills to customers.

banks become more selective in granting loans.

It is the purpose of this article to examine the methods of conserving cash and increasing the velocity of corporate funds. The specific propositions to be examined are the following:

1. What methods have financial managers employed to utilize corporate cash more effectively?

2. What alternative short-term investments for corporate cash are available to financial managers?

3. What philosophy underlies these corporate cash management programs?[4]

The velocity of corporate funds may be increased both by accelerating cash inflows and by decelerating (or at least better controlling the timing of) cash outflows. Selected methods of accomplishing both these aims are discussed in this article, along with some of the ways of investing the funds thus conserved.

### *Accelerating inflows*

Not all the common methods for accelerating the inflow of cash fall within the jurisdiction of the corporate financial manager and hence within the scope of this paper. For example, minimizing the time from the receipt of an order to the billing of the customer (an area in which great strides have been made because of mechanization of accounting) is a function of inventory and accounts receivable management.[5] Inducing customers to pay accounts more rapidly is a problem for credit and collections management.[6]

However, minimizing the total time it takes for checks to become "spendable" cash is an important part of cash management and thus of the subject matter of this article. The two most common methods of making cash spendable more rapidly are the use of lockboxes and the establishment of a system of concentration banks.

### *Lockboxes*

The lockbox technique involves the setting up of a combination of post office boxes and depository accounts with one or more banks, geographically located so that remittances from customers will take no more than one day in transit. Customers mail remittances to the company at a locked post office box in the post office that services the company's regional bank. The bank collects from the box several times a day, deposits the checks, and credits the company for the amounts collected. Thereafter, depending upon the arrangements made with each regional lockbox bank, funds in excess of the minimum balances maintained to cover costs are either transferred automatically to the company headquarters bank(s), or, less frequently, drawn off by the financial manager at his discretion.

The lockbox is most useful for companies whose accounts receivable are centralized. Decentralized companies, in which division treasurers are responsible for their own collections and investments, do not ordinarily use lockboxes to channel receipts to headquarters. However, divisions that are large enough may use lockboxes for their own collections.

The principal advantage of the lockbox in increasing velocity is that funds are available anywhere from one to three days earlier than if collections had been made centrally. As one company whose monthly collections run into millions of dollars pointed out, faster collections can lower the need for seasonal bank credit as well as permit the earning of short-term interest between the date of receipt and eventual disbursement. Several companies reported that when the volume of collections is large, the use of a lockbox system can also reduce the clerical force required to process collections.

### *Lockbox disadvantages*

Despite the advantages, a few of the Southern California companies interviewed have encountered some problems in the use of lockbox systems. One difficulty is that some of the information needed for credit control is not available immediately. Notice of payments arrives at company headquarters a


Lockboxes sometimes hurt customers used to a four- or five-day delay.

few days after checks have been received and deposited by the regional banks. If customers are operating under uncertain financial circumstances, it is important to know, before any additional deliveries are made, that the checks sent in are for the proper amount. To correct this deficiency it may be feasible, when the volume of collections is sufficiently large, to maintain company credit men at each collection point.

A few companies interviewed have also encountered customer resistance to lockbox systems. Some customers insist on sending checks directly to company headquarters in spite of requests that remittances be forwarded to the lockbox. Customers who are accustomed to the three-to-five-day delay in interbank clearing sometimes draw and mail checks against funds that will not be in their bank accounts for another four or five days. The use of the lockbox means that they must have bank balances to cover such remittances no later than one day after the check is mailed.

### *Lockbox cost*

The cost of the lockbox must also be considered. For lockboxes to be economically feasible there must be a sufficient volume of checks involved and the amounts of the individual checks must be large enough to justify the cost of processing them. One California bank estimates that it processes between 4,000 and 6,000 checks a month averaging $1,800 each for an average lockbox system. The bank requires an average daily balance of $70 per item to cover the cost of processing (a minimum cost of ten cents per check, plus two cents for clearing). This daily balance requirement, of course, ties up otherwise usable cash.

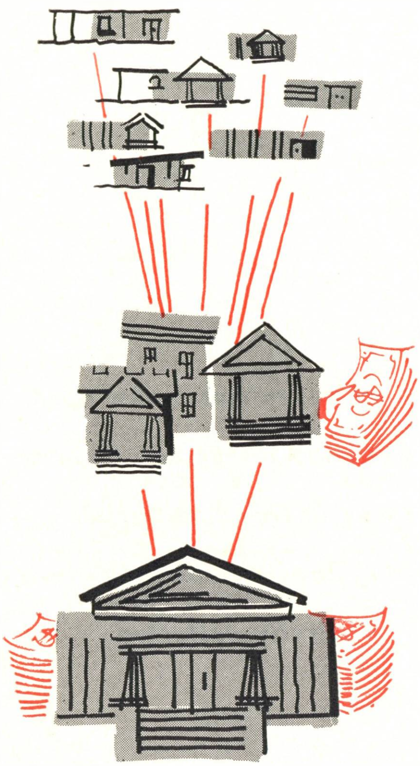
***Lockboxes can make funds available anywhere from three to five days earlier than they would have been if centrally collected.***

### *Concentration banking*

Concentration banking may be coupled with the lockbox system to increase velocity or it may be used in lieu of a lockbox system. If it is combined with the lockbox system it is used as an "automatic" mechanism to transfer cash from local to the home office bank(s). When it is employed instead of the lockbox,[7] local company units collect and deposit receivables in local banks, from which the funds are transferred to regional concentration banks, where funds may be reinvested, and/or to the corporate headquarters bank(s).

Fast movement of funds is commonly effected by means of wire transfer or bank drafts. Typically, a local manager deposits daily collections and simultaneously draws a depository transfer draft in favor of the regional bank for the amount deposited. These funds become available to the regional concentration banks the day following their receipt of the draft. Each draft has a stub, which the local financial manager mails to headquarters, where it is compared with advices of collected funds that are received daily from regional banks. Because of the measure of control thus afforded, drafts are sometimes preferred to wire transfers.

One company utilizes its regional concentration banks in connection with a system of automatic balances. Each area branch has its own bank account with a working balance predetermined on the basis of its activity. Area funds are collected and deposited locally, and amounts in excess of the fixed maximum account balance are automatically transferred to a regional concentration bank. Similarly, if a local balance declines below a predetermined level (because of a seasonal increase in purchases, for example), funds are automatically transferred from a regional concentration bank to rebuild the local working balance. Each regional concentration bank similarly has a predetermined working balance requirement, and funds over that balance are automatically transferred by the regional banks to the company's headquarters bank(s). The financial manager estimates that he has recaptured for investment purposes approximately $8 million that was previously spread over the country in a number of banks.



When concentration banking is used instead of the lockbox, local company units collect and deposit receivables in local banks, from which the funds are transferred to regional concentration banks.

### *Special techniques*

Aside from the lockbox and similar collection systems, unusual techniques are sometimes employed by the companies interviewed in special situations, particularly for collection of a large single item. One such device is air mail pouch service, which is superfast air mail transportation. For example, an employee places a customer's check on a domestic flight from Chicago to the Los Angeles headquarters, where another employee picks it up at the airport and deposits it in a Los Angeles bank the same day. Postal handling from downtown to the airport is eliminated at both ends.

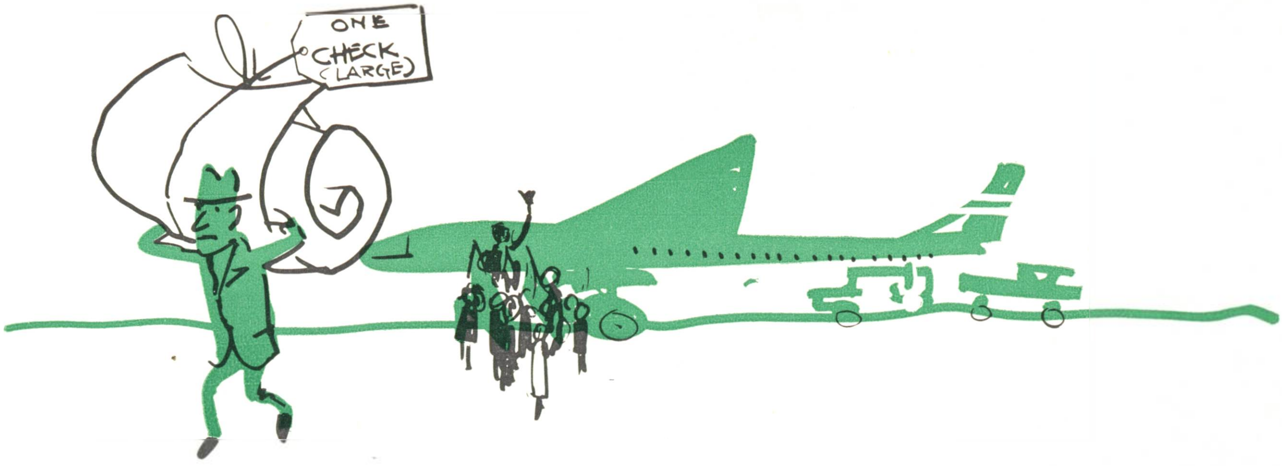
Once in a while a messenger is sent to pick up a large check. In one instance a check for nearly $25 million was to be mailed by a customer on Friday. The receiving company elected to fly a man from Los Angeles to Chicago to pick up the check personally and bring it back to Los Angeles, where it could be deposited immediately and invested over the weekend, with a resulting profit of approximately $6,000 (4 per cent of $25 million for two days).

The advisability of any system to accelerate cash inflows depends in part on the current dollar amount of immobilized funds in the corporate float. The dollar amount may be determined by multiplying daily receipts by extra clearing days gained. By applying the reinvestment rate of return to the above amount, the opportunity cost benefits may be compared with the actual dollar cost of employing the system (including the imputed cost of the additional compensating balances required).

### *Control of cash outflows*

The velocity of corporate funds can also be increased by controlling cash outflows so as to optimize the timing of payments. The three steps most commonly cited by the companies interviewed as possible contributors to control of cash outflows were the following: (1) deceleration of payments, (2) taking of discounts, and (3) centralization of disbursements.

Financial managers stressed the value of maintaining careful controls over the timing of payments so as to ensure that bills are paid only as they come due. The cash temporarily conserved can be used for other purposes, generally for short-term investment. In an extreme case, one company follows a policy of never mailing a check for payment until after 3 P.M. on the day the bill is due. Alternatively, a few companies pay large sums by bank drafts made payable to the drawee on the day payment is due. With a draft, payment is not made until the draft is presented for ac-




A messenger may be sent between cities to pick up a particularly large check.

ceptance, which may take an additional three days. Companies interviewed reported savings of a minimum of 3½ cents per item by the use of drafts rather than checks for payment of dividends and employee salaries. In the case of one company this amounted to an annual saving of $350,000.

### *Don't lose discounts*

Deceleration of payments should not, of course, be carried to the point of losing cash discounts. The advantages of taking discounts when they are offered are obvious. When company operations are decentralized, however, controls are required to ensure that discount opportunities are not lost. The tendency of local company units to hold bills for verification of the quantity and quality of merchandise received may result in forfeiture of the discount. Some of the California-based companies avoid this by vouchering and paying bills from reliable vendors without waiting for such verification. When adjustments are necessary, they are made against future payments.

The third item commonly cited as a contributor to better control of cash outflows was the centralization of disbursements. Most companies interviewed had tried both centralization and decentralization of disbursements and had returned to the centralized operation. The primary advantage of centralization is the pooling of cash at company headquarters that would otherwise be frozen at the division level. Much of this idle cash is now being invested in marketable securities. Moreover, with disbursements centralized, company headquarters can stay abreast of (and control) divisional commitments for large amounts of cash. Under a system of centralized payables, divisions or subsidiaries usually operate on small working balances, either imprest funds or automatic balances, and all bills except local expenses are paid out of company headquarters.

### *Short-term investments*

An integrated cash management system has the aim of increasing the velocity of corporate funds by improving the collection process, controlling disbursements more tightly, and investing the excess cash thus generated. The purpose of this section of the article is to examine the alternative investment media utilized by financial managers for the temporary investment of excess cash. Because the available alternatives have been extensively covered in the literature, treatment in this case will be of a summary nature. The principal emphasis will be placed on the repurchase agreement, negotiable time certificates of deposit, and commercial bank short-term notes.

The usual practice of companies with excess short-term cash is to invest in such commonly accepted investment media as securities of the United States Treasury (Treasury bills and certificates of indebtedness), the short-term offerings of the five federally sponsored credit agencies (federal land banks, banks for cooperatives, federal intermediate credit banks, federal home loan banks, and the Federal National Mortgage Association), bankers acceptances, commercial paper, and state and municipal securities.[8] Of these, Treasury bills are the most popular, not only because they are issued by the federal government but also because they are traded in an ac-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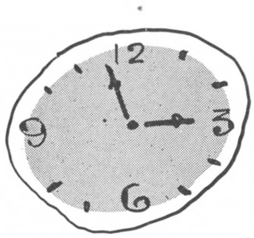




One company has a strict policy of never sending a payment check until after 3:00 P.M. on the day it is due.

tive and relatively liquid market. This liquidity is due to the large amount of bills outstanding and the regularity of issue, which narrows the spread between the bid and ask prices.

### *Tax anticipation bills*

The Treasury issues certificates of a somewhat longer maturity for, among other reasons, tax anticipation purposes. Tax anticipation bills are issued to raise funds when tax receipts are lagging behind cash outlays. These obligations mature several days after the date corporate income taxes are due, and their face value (price paid plus interest) is accepted in payment of taxes. Thus a few days' free interest is earned.

### *Repurchase agreements*

In the past few years three new forms of short-term investment were introduced that offer flexibility as well as higher yields for the adventuresome. They are repurchase agreements, negotiable time certificates of deposit, and short-term notes of commercial banks. In the first of these, the repurchase agreement, a security dealer sells his securities to the corporate lender and simultaneously buys them back at the same price plus accrued interest. Payment is made at some future maturity date which can be tailored to the lender's needs; thus the agreement may be overnight with renewal possible, an open transaction that remains in effect until terminated by either of the parties, or a fixed-date agreement ordinarily covering a longer period of time.[9]

The agreement also offers the lender a higher rate of return than he would earn if he had bought the short-term government obligations outright. The interest advantage derives from the spread between the maximum and minimum rates of interest that govern the price. The maximum rate is governed by the rate charged by New York banks for financing government security dealers. The minimum is influenced by the going rate on short-term Treasury bills.

### *Certificates of deposit*

In 1961 a new instrument, the negotiable time certificate of deposit (CD), was issued by a New York bank. The CD is a receipt given by a bank for a time deposit of money. The bank promises to return the amount deposited plus interest to the bearer of the certificate on the date specified. The certificate is transferable and may be traded prior to its maturity date. There is a fairly well established market in CD's since dealers in government securities will buy certificates offered.[10]

Although CD's are very flexible, the denominations offered are large ($1,000,000 minimum). This is to keep banks' cost-free demand deposits from flowing into costly CD's. There is also limited protection ($10,000) offered by the Federal Deposit Insurance Corporation. This restricts investment only to large sums of money and makes the size and reputation of the issuing bank an important criterion. Although the yield of CD's has been as much as .40 per cent above that of Treasury bills, the discount earned on bills is exempt from state income tax, while interest on CD's is not.

### *Short-term bank notes*

Commercial bank short-term notes are a recent money market innovation. In 1964 a Boston bank arranged to borrow money by issuing its own unsecured notes. At the same time the First Boston Corporation agreed to make a market in these notes. Unlike CD's, these notes are not subject to Regulation Q, which sets a ceiling on rates of interest banks may pay on deposits. This form of financing did not provoke the response that was expected, however, because the Federal Reserve Board liberalized the ceiling on rates payable on CD's in late 1964; furthermore, there is doubt about its legality in New York state.[11]

With so many different types of investments available, it is not surprising that the portfolios of the companies interviewed varied widely. In order to formulate a plan for the investment of excess cash, the financial manager must first determine the minimum amount of cash needed to meet operating requirements. This includes balances necessary to compensate banks for services and a small buffer against unexpected seasonal and/or cyclical requirements.

From the cash budget the company can determine how much excess cash will be available for investment, when it will become available, and how long it will be available. All three "bits" of information are vital to the formulation of an investment plan because along with determining the dollar amount available for investment the financial manager must select maturities. Since many of the investments are earmarked to pay for dividends, interest, federal income taxes, and large capital expenditures, financial managers attempt to match maturities with disbursements. This practice also reduces the risk of having to liquidate a security in a technically weak market.

### *Criteria*

A minimum list of criteria, indicated by all financial managers, for the selection of investments for excess cash includes the following: (1) safety of principal, (2) liquidity, (3) maturity, and (4) yield.

The most basic objective is ensuring the safety of principal. To accomplish this many financial managers restrict themselves to a type of marketable investment that remains relatively stable in price. Thus, if liquidation becomes necessary, risk of capital loss is minimized. As an alternative, some portfolio managers purchase only those securities they intend to hold to maturity. When excess cash is earmarked for a specific obligation, managers often invest in higher-yielding and thus riskier securities for which they may select maturities to coincide with payment dates.

Liquidity is regarded as the second most important consideration. This is understandable when one considers that the cash is available primarily for short-term investment. Furthermore, errors in cash budgets sometimes force financial managers to convert investments into cash on short notice.

### *Maturities*

Two factors determine the length of maturities selected for the investment of excess cash: the intended use of the funds and the company's investment policy. Generally speaking, the longer the maturity the smaller the percentage of the total portfolio it represents. Short maturities are preferred because most companies intend to reinvest excess cash in receivables and inventory, to make future payments, or to keep it as a hedge against the unexpected.

However, some managers will select a higher-yielding security with a longer maturity date coinciding with the date the cash is needed. Companies that carry a large cash cushion as a hedge against the unexpected (or poor planning) invest a small portion in short-maturity, highly liquid securities and a greater portion in longer-maturity, higher-yielding, more risky investments. Funds being accumulated for long-range purposes, such as an expansion or acquisition program, are invested in long-term securities that the company intends to hold to maturity.

### *Investment policy*

The company's investment policy is also a consideration. If the excess cash is small in amount and can be quickly reinvested in the company, safety of principal and marketability demand the selection of a short-term security; yield is a poor fourth among the investment criteria. If, on the other hand, the excess cash is large in amount and cannot be fully reinvested in the company in a short period of time, the pressure to earn a reason-


There are a wealth of commonly accepted investment media which companies can invest in for short-term profits.

able return on such funds is great. In such cases, yield becomes a significant criterion, for the additional yield to be gained through aggressive investment practices is substantial.

### *Yield*

Within the constraints imposed on an investment program by safety of principal, liquidity, and maturity, the final objective is to maximize yield. In the attempt to balance these objectives, the investment policies of the companies surveyed fall into two distinct categories.

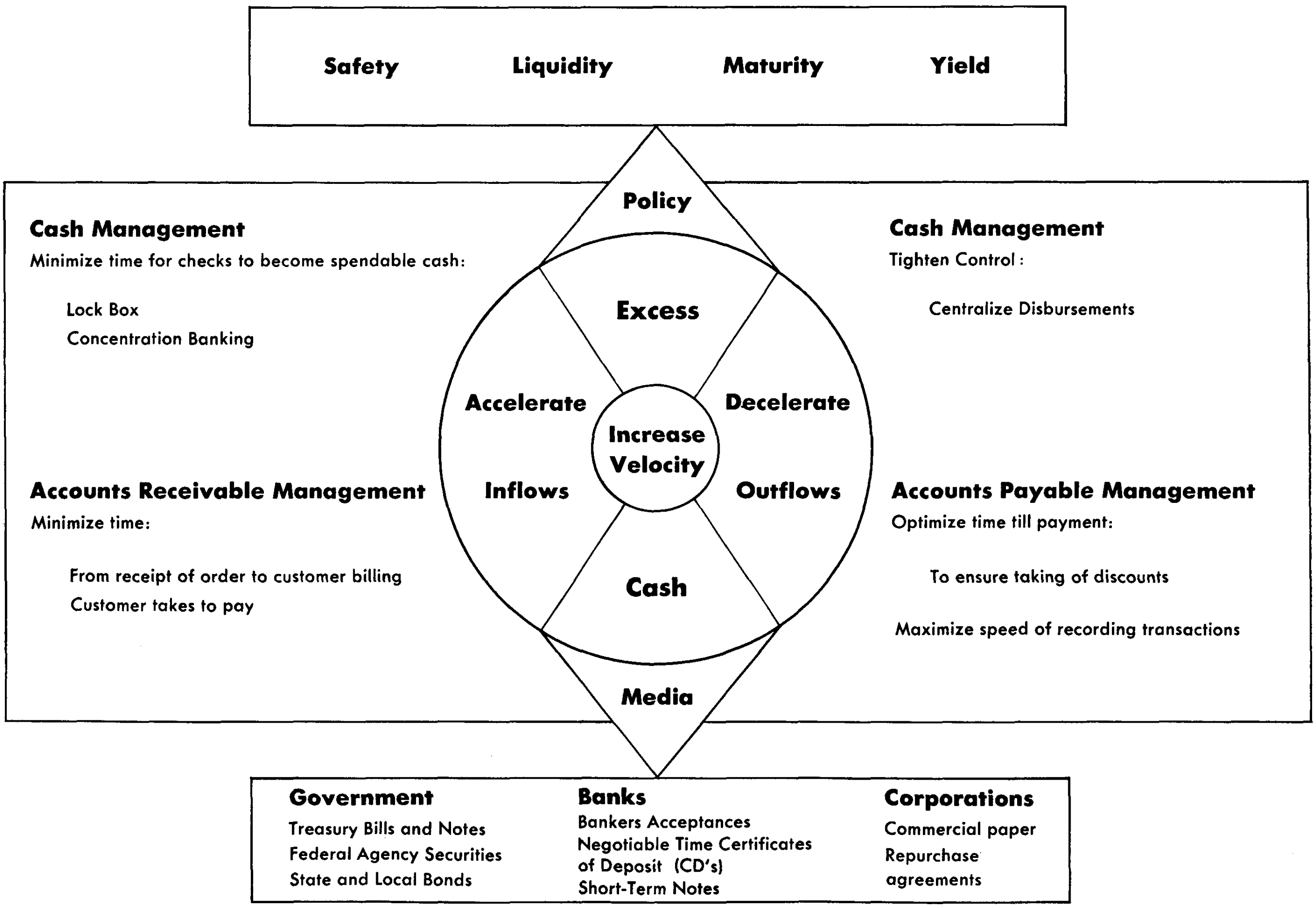
The first is a program that may be labeled conservative. Financial managers in these companies restrict investments to Treasury bills, which are purchased with the intention of holding to maturity, but which, if the company is forced to sell, possess high marketability. Only on rare occasions do these companies purchase prime finance company paper.

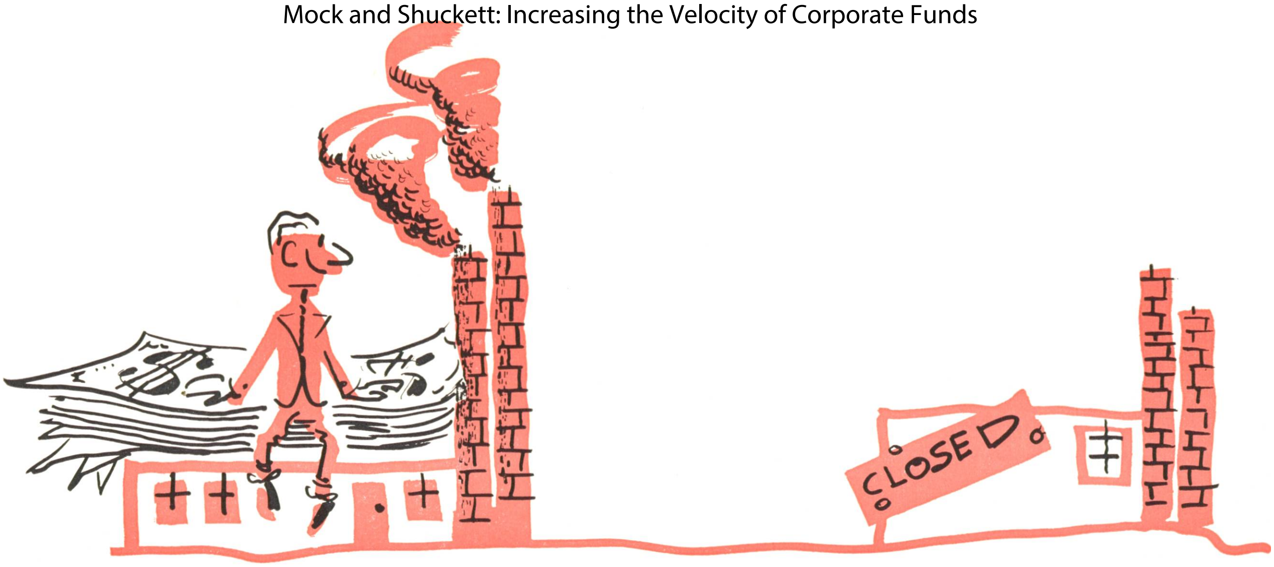
The primary reason cited for such a policy is that since the dollar amount of the excess yield is small and it would be reinvested in the company rather quickly, the rewards, in terms of the additional income that could be derived from a more aggressive policy, are not commensurate with the time and effort required. Others pursue a conservative policy to offset the risks the company has assumed in the areas of production, distribution, and new product development. They believe that they require a larger near-cash buffer, in terms of liquid marketable securities, to ensure solvency. Some financial managers are conservative in policy because they operate under outdated investment policies formulated when short-term interest rates were low. Finally, some have many duties in addition to the investment of surplus cash and are unable to devote the time required for adequate portfolio management.

### *Risk taking*

The second category of program is more dynamic. In these companies financial managers allocate a greater portion of their portfolios to higher-yielding investments such as certificates of deposit, commercial paper, federal agency securities, and tax-free municipals. Financial managers in this group pursue such a policy because they have found that only a relatively small portion of the total portfolio may have to be converted into cash on very short notice. They purchase only enough Treasury bills to achieve the liquidity desired and concentrate on the higher-yielding securities with the intention of holding to maturity. Portfolios in

METHODS OF INCREASING VELOCITY






Many conservative companies believe in a large near-cash buffer to ensure solvency.

this category require constant supervision, and the companies have staffs of money market experts and portfolio traders much like that of the investment officer of a commercial bank.

These organizations concentrate on taking advantage of yield differences among maturities as well as among the various types of securities. Most engage in one or more of the following activities to increase yield further: bidding directly on new issues of Treasury bills, riding the yield curve, utilizing repurchase agreements, and supplying the compensating balance of a borrowing corporation.[12] For all their complexity, these trading techniques and the high-yielding securities they involve carry little additional risk. Thus, if a company by hiring a competent portfolio manager at $20,000 per year could increase profits by only $50,000 per year, it is foregoing profits by not doing so. A mere one-half per cent extra yield on a $10,000,000 portfolio increases profits by $50,000.

The successful portfolio manager of the future must be qualified to produce good trading profits and to play the interest cycle skillfully. Trading profits are represented by the capital appreciation of investments, often taxed at the long-term capital gains rate. Playing the interest cycle involves shifting into short-term obligations when interest rates are low and prices high on the assumption that sooner or later rates will rise again. The financial manager will then be protected against the consequent fall in prices because his short-term paper will mature at par. Then, of course, as rates rise, the financial manager moves into longer-term holdings, until, at the point where he judges rates to be at their high (and prices their low), he has a large portion of his portfolio in long-term paper. This technique, however, carries with it a risk of loss unless the financial manager takes care not to buy more long-term paper than he can hold to maturity if interest rates do not perform as anticipated.

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1 Unless otherwise noted, the words corporation and corporate as used in this article refer to manufacturing corporations.

2 The velocity of corporate funds, for purposes of this article, is the ratio of net sales (revenues) to average cash for the period.

3 Donald Hoddeson, "Embarrassment of Riches: Ingersoll-Rand Is Beginning to Put Its Cash Reserves to Work," *Barron's*, July 17, 1961, p. 9.

4 During the period November, 1965, to February, 1966, eighteen large industrial companies with headquarters in Southern California were interviewed about their programs for conserving cash and increasing its velocity. The propositions indicated on page 40 were reviewed with the chief financial officer of each of these corporations. The results provided the greater portion of the material for this article.

5 For further information on inventory and accounts receivable management see M. K. Starr and D. W. Miller, *Inventory Control: Theory and Practice*, Prentice-Hall, Inc., Englewood Cliffs, N.J., 1962.

6 For further information on credit and collections see T. N. Beckman, *Credits and Collections: Management and Theory*, 7th ed., McGraw-Hill Book Company, New York, 1962.

7 Decentralized companies whose divisions' treasurers are responsible for their own collections and disbursements may use the concentration banking system to transfer funds to the home office.

8 For discussion of the majority of alternatives listed, see *Money Market Instruments*, 2d ed., Federal Reserve Bank of Cleveland, Cleveland, Ohio, January, 1965, and *Money Market Investments: The Risk and the Return*, Morgan Guaranty Trust Company, New York, 1964.

9 "Repurchase Agreements," *Economic Review*, Federal Reserve Bank of Cleveland, Cleveland, Ohio, May, 1964.

10 Warren A. Law and M. Colyer Grum, "New Trend in Finance: The Negotiable C.D.," *Harvard Business Review*, January-February, 1963.

11 "Short-Term Notes and Banking Competition," *New England Business Review*, December, 1964.

12 For additional information on these techniques see *Money Market Investments: The Risk and the Return*, Morgan Guaranty Trust Company, New York, 1964.