WORKING CAPITAL MANAGEMENT

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December 4, 1984
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INTRODUCTION

Research devoted to working capital decision making has not been a major focus in business until recent decades. The focus on working capital is increasing because of the large number of businesses that have failed in recent years due to their inability to properly control current assets and liabilities. "Current assets collectively represent the single largest investment for many firms, while current liabilities account for a major part of the total financing in many instances."[1]

The purpose of this paper is threefold. Initially, the various components of working capital will be discussed to develop a better understanding of the importance of working capital in maximizing the profitability of the firm. Second, a survey has been conducted to determine the practical applications of working capital theory. The final objective of this paper is to consider an important concept, float, in greater depth.

At the most fundamental level, working capital decisions are those that relate to current assets and current liabilities. Working capital assets consist of cash, accounts receivable, marketable securities, and inventories. Generally, these assets are short-lived, usually not exceeding one year. Another important factor to consider is that they are interrelated; each component can be quickly transformed into other asset forms. For example, cash is used to buy inventories; inventories are turned into accounts receivable when sold, and then accounts receivable
is collected and returned to its original cash form. The interrelationship and transfer between asset forms is often referred to as the cash cycle. This cycle implies that managing working capital involves frequent and repetitive decisions. As in any other managerial decision process, the managerial functions, planning, implementing, and controlling must be incorporated. The manager must also set up some type of feedback that will ensure adherence to rules set and will provide a standard by which results can be measured.

The concept of the cash cycle also implies a close interaction among the various components of working capital. Therefore, decisions concerning a particular asset cannot be undertaken without simultaneously considering the other working capital components. This does not eliminate the usefulness of models that consider asset/liability forms independently. Specific models concentrate on the distinct characteristics of each asset form, which provide a framework that can later be integrated with the other working capital components. The importance of each component of working capital will be discussed individually.

**CURRENT ASSETS**

**Cash**

Cash is an asset that most people deal with in their day-to-day lives. Therefore, an average person has some concept of the cash management process. This process, however, can become
extremely complex in a firm that handles millions of dollars. The efficient management of cash is becoming increasingly more sophisticated with the incorporation of technologies, such as automatic clearing houses, electronic fund transfers, computerized simulation, etc. A survey conducted by Richard Gillespie notes that more than 80% of the companies surveyed changed their cash management systems during 1985.2

Efficient cash management has also become increasingly more important in recent years because of the opportunity cost of holding excess cash balances. Because cash is a non-earning asset, a company profits more by holding the asset in another form, such as marketable securities. Inflation increases the opportunity cost of idle cash for two reasons. First, inflation will reduce the purchasing power of the cash. Second, inflation is reflected in interest rates. Higher interest rates provide a higher return on marketable securities making the difference between the earning and non-earning asset even greater.

Accounts Receivable

Accounts receivable is an asset that represents an obligation of one firm to make payment to another. The management of accounts receivable consists of credit-granting and collection activities. The sooner accounts receivable is collected, the sooner the firm can reinvest the cash into an earning asset. Because the firm cannot utilize the asset until it is collected, accounts receivable represents a cost to the granting company.

The key issue of accounts receivable management revolves
around what should be the level of receivables in the firm. In order to determine the optimal level of receivables, the effect of accounts receivable has on sales must be incorporated into the analysis. How much will the extension of credit increase sales, or to what extent will the absence of credit reduce sales.

In addition to the amount of receivables, the risk associated with those receivables is relevant. The amount of risk, as reflected in uncollected or delinquent accounts, affects the accounts receivable policy. The focus of credit, in this paper, will be on trade credit (the extension of credit between nonfinancial firms).

Specific analysis of accounts receivable follows in a later section.

**Marketable Securities**

The analysis of marketable securities as a working capital asset is often indistinguishable from cash management since the two are so closely related. Excess cash is often converted into marketable securities, and cash shortages are often managed by liquidating securities. In fact, the distinction between cash and marketable securities may become blurred. Marketable securities, such as banker’s acceptances, can be used as a medium of exchange.

The major distinction between cash and marketable securities is the degree of liquidity they represent. Marketable securities are less liquid than cash, even though they can be converted almost instantly, because of the transaction costs.

The marketable securities decision involves two steps. First, it must be determined how much of the working capital
assets should be reflected in marketable securities. The second factor is which type of security should be used. There are many different securities that vary according to maturity, risk, return, and payment schedules. The manager must carefully balance returns with the risk policy of the firm.

Inventory

Just as decisions regarding risk and return affect the investment in marketable security decisions, decisions regarding the production of goods affect the investment in inventory. The problem is that the financial manager is not usually in charge of production or purchasing for the firm. As a result, it is difficult to implement financial analysis to such decisions. These decisions are often made based on capacity utilization, projected demand, availability of materials, etc. These factors should not prevent the application of financial analysis, because inventory requires the allocation of financial resources.

Financial analysis can be used to determine the amount of inventory a firm should carry considering inventory costs, production costs, potential sales lost, lead time, and demand rates. Analysis can also be used to predict the optimal replacement schedule. The production process, economies of large-scale purchasing, labor costs, and production time will determine if inventories should be replenished continuously or in large batches. Financial models are useful in this context, but cannot replace the production manager's role; it is meant as a supplement or framework for such decisions.
CURRENT LIABILITIES

Accounts Payable

Accounts payable is the most important current liability for most firms. It is a spontaneous source of short-term financing used to purchase materials and supplies. Accounts payable normally represents the largest dollar cost of current liabilities. The most important consideration, in terms of acceptance of trade credit, is the cost. Often credit terms include a discount period to promote early payment. Or, an explicit charge may be applied to unpaid balances beyond a certain time. These costs must be considered to determine the value of trade credit as a method of financing.

Accounts payable is a method of financing that can be considered as a type of loan. As such, the terms, availability and effective interest rate should be calculated and compared to other methods of financing. Using trade credit to finance inventories and supplies may or may not be the cheapest method of financing. The analysis of the cost of trade credit is often overlooked by financial managers because of its availability and the relative ease of obtaining it.

Short-Term Loans

Financial officers are often faced with the decision of choosing the optimal financing alternative. In addition to the use of trade credit, there are numerous types of short-term loans that can be arranged with banks or other financing firms. This problem
can be quite difficult considering the numerous alternatives and restrictions facing the firm. The common objective of any method of financing should be to secure the necessary funds as prescribed in the cash budget, at the minimum cost to the firm, given the restrictions within the operating environment.

The first step the financial officer should take is to analyze the available alternatives. A partial list of some of the loan considerations follow:

- effective interest rate
- amount of funds available
- repayment schedule
- collateral required
- compensating balances

Short-term loans can take the form of a revolving line of credit, term loan with compensating balance, term loan without compensating balance, line of credit backed by receivables, term loan backed by inventories; the list goes on and on. The repayment schedule could consist of periodic interest payments with principal repaid at the end of the agreement, periodic payments of principal and interest, interest paid entirely at the beginning (discount loan), etc. The interest rate could be fixed or variable, compounded annually, monthly, weekly, daily, or somewhere in between. This short list of alternatives shows the many decisions a financial manager must make, just in regard to short-term financing.

There are other types of current liabilities, such as notes
payable or the current obligation of a long-term debt. These liabilities are certainly relevant and fall within the scope of working capital, but will not be presented here because the decision is often beyond the authority of working capital manager. A manager must certainly consider the cash flow effects relating to the current position of a long-term debt to be repaid this period. But, the long-term debt represents a long-term decision and cannot be easily changed in the short-run. Likewise, taxes payable and wages often fall within the realm of working capital but represent payments that cannot be manipulated in the short-run. A sample balance sheet is provided in figure 1 on the following page. This shows the position of current assets and liabilities for a firm.

Working capital decision-making techniques are an important and popular topic of discussion by both academians and corporate executives. Both financial officers and college professors are working to improve their understanding of working capital accounts and their importance in the firm's profitability. Theoretical analysis has provided the potential for improvement for corporate decision making. However, the practical application of various analyses is essential so that these theories will actually improve the firm's performance.

In order to determine what techniques are being utilized in business, the next section of this paper discusses a survey conducted in June, 1984. This survey has been conducted to provide insight into the current working capital practices of various corporations.
Figure 1
SAMPLE BALANCE SHEET

ASSETS
Cash
Accounts Receivable
Marketable Securities
Inventory

Current Assets
Equipment
Plants
Other Fixed Assets

Fixed Assets
Total Assets

LIABILITIES & STOCKHOLDER'S EQUITY
Accounts Payable
Bank Loans
Wages Payable
Taxes Payable

Current Liabilities
Long-term Debt
Total Liabilities

Total Paid-In Capital
Retained Earnings

Total Equity
Total Liab. & Equity

9
WORKING CAPITAL SURVEY

Purpose

In order to ascertain the techniques employed by corporations in the area of working capital management, a survey was conducted of 115 companies of different sizes and industries in the Midwest. A copy of the survey and a list of the companies that received the survey are provided in Appendix A and Appendix B, respectively. The survey conducted is from a statistically small sample, but the responses should give some indication of the practical use of the working capital models.

The survey covers background information about the firm, including size, type of business, and policies for the overall management of working capital. The sections cover cash management, accounts receivable, marketable securities, loans and other financing methods. The results of the survey will be used as a basis for further analysis of the interrelationships among the various accounts. This analysis will follow this section.

Survey Design

The survey was conducted using a four-page questionnaire made up of 28 questions. The respondents of the survey were assured of anonymity and confidentiality of their answers. An example of the cover letter is provided in Appendix C, at the end of this section. The surveys were directed to the financial officers of the firms. The questionnaire required the respondents to choose one answer or to rank various alternatives. For questions that requested ranking,
of alternatives, respondents were instructed to rank only those alternatives that applied to their firm. Also, respondents were given the opportunity to write in other responses and comments. This format was chosen for its ease of completion, standardization of answers, and ease of analysis.

Using information from the Million Dollar Directory, 115 companies of different sizes and industries were selected. A cover letter, survey, and return envelope were sent to the highest-ranking financial officer of each firm in June, 1984. Of these 115 firms, 63 responses were received. This represents a 54.8% response rate.

SURVEY RESULTS

Tables have been developed that show the numerical and percentage answers for each of the questions on the survey. Because of the nature of the questions, the responses to choose one questions and ranking questions are given in separate tables. The responses to the choose one questions are provided in Appendix D, and ranking question responses are provided in Appendix E.

Background Information

The first part of the survey dealt with background information about the firms. This section also asks the financial officer to describe the responsibility for working capital decisions. The first question indicates the size of the firm in terms of 1983 annual sales. Gross sales was chosen as a
determinant of size because sales is a good representation of the amount of funds being handled by the firm. The more funds flowing through the firm, the more important working capital decisions become for firm profitability.

The third question, concerning a firm's background, asks the financial executive to describe their firm's working capital policy. The answers from this question were compared to the size of the firm to see if size influenced the answer to this question. Of the firms that responded 'formal', 60% were large firms; 20% medium; and 20% small. (Large firms have annual gross sales of $800MM - 1000MM, medium-sized firms---$100MM - 499MM, and small firms---$1MM-999MM.) These results were as expected, large firms would be more likely to have developed formal working capital policies.

A significantly greater percentage, 47%, of smaller firms had an informal working capital policy than larger firms. Twenty-nine percent of the medium-sized firms responded they had 'informal' policies.

The respondents that answered 'formal' policy tended to be manufacturing and financial firms. These two types of businesses represented 55% of the formal policy answers. The remaining 45% was approximately equally distributed among the other categories. Informal policy responses were most common from utilities, retailers, and service firms. Utilities responded informal 62.5% of the time; retail, 72.6%; and non-financial services, 90.0%.

Questions 4 and 5 deal with the responsibility for working
INVENTORY MANAGEMENT

Questions 12 and 13 concern the firm's inventory management.

**Question 12:** The firm was next asked to check all concepts used in the management of inventory at their firm. Thirty-five of those surveyed did not respond to this question. This lack of response is most likely due to the number of companies surveyed that do not hold inventories such as those in the financial services industry. All of the companies that did respond to the question used a combination of concepts for inventory management.

**FIFO Valuation:** This technique for inventory valuation causes inventory balances to reflect the cost of goods purchased recently and requires that goods purchased earlier in time are sold first (first-in, first-out). Assuming that prices are rising, inventories will have a greater value under FIFO valuation than under LIFO valuation.

**LIFO Valuation:** This technique for inventory valuation causes the cost of items purchased earlier in time to be reflected in inventory balances. Thus, goods purchased most recently are sold first (last-in, first-out).

**Computerized Inventory Control:** This is the process where inventory balances are automatically maintained via a computer system.

**Just-in-Time:** This inventory management technique allows companies to minimize inventory levels by producing goods and products just-in-time for delivery to the customer. Some firms
ability to generate profit.

**Pret to Equity Ratio**: Long Term Debt / (Long Term Debt + Equity)

Other responses indicated under this category included: corporate credit guidelines, experience with customers, knowledge of the customer, and credit cannot be refused to anyone (spatial limit).

Nineteen percent of the respondents indicated that a combination of all of the ratios (except “slope”) were used.

Another 19 percent indicated that all except the times interest earned and “slope” ratios were used.

These findings indicate that companies are concerned with a combination of all-around efficiency, profitability, and lack of losses.

**Question 11**: This question allows the respondents to answer:

All of the variables above are of major importance.

Some, but not all, are of major importance.

None of the variables are significant.

A combination of each of the variables is used, but none are major.

**Percentage Collection Period**: Monitoring the collection period of accounts receivable is not maintained. The collection period is not maintained on all accounts receivable. The collection period is not maintained on a number of accounts receivable. The collection period is not maintained on all accounts receivable. The collection period is not maintained on a number of accounts receivable. The collection period is not maintained on all accounts receivable.

**Percentage of Sales**: The accounts receivable turnover rate for the period is...
ability to generate profits.

**Ostberg Equity Rating: Long Term Debt/Long Term Debt + Equity.**

**Other Responses included under this category included corporate social responsibility, experience with customer, knowledge of the customer and credit cannot be refused to anyone (public utility).**

Nineteen percent of the respondents indicated that a combination of all of the factors (subjective) was used.

Another 17 percent replied that all except the time, interest, charges waived and "other" factors were used.

These findings indicate that companies are concerned with a company's all around condition, efficiency, profitability, use of leverage.

**Question 11:** This question asked the respondents to indicate all of the procedures used in corporate accounts receivable.

In order of the common realization the top three are:

1. Collation of all of the financial returns,
2. The collection of all of the financial returns,
3. The financial returns

**Visitor's Collection Process:** Monitoring the collection periods of credit. "Serves as an instrument to determine the collection age. The collection rate can be calculated by the ratio of returns to the total returns. The financial returns are calculated by the return on investment (ROI) of the total returns. The average amount of returns per year should be considered the total amount of money to be refunded.

**Accrued Interest Receivable:** This includes interest on the loan receivable. Interest paid on the loan receivable must be included before the loan amount.
schedule allows a credit manager to locate changes in a customer's payment behavior. An example of an A/R Aging Schedule follows:

Table 2: Accounts Receivable Aging Schedule

<table>
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<tr>
<th>Period</th>
<th>Quarter 1</th>
<th>Quarter 2</th>
<th>Quarter 3</th>
<th>Quarter 4</th>
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<tr>
<td>0-30 days</td>
<td>45,000</td>
<td>52,000</td>
<td>60,000</td>
<td>75,000</td>
</tr>
<tr>
<td>31-60 days</td>
<td>38,000</td>
<td>41,000</td>
<td>55,000</td>
<td>69,000</td>
</tr>
<tr>
<td>61-90 days</td>
<td>14,000</td>
<td>19,000</td>
<td>25,000</td>
<td>31,000</td>
</tr>
<tr>
<td>91-120 days</td>
<td>5,000</td>
<td>7,000</td>
<td>11,000</td>
<td>13,000</td>
</tr>
<tr>
<td>Totals</td>
<td>95,000</td>
<td>119,000</td>
<td>159,000</td>
<td>179,000</td>
</tr>
</tbody>
</table>

Source: Primary

Collection agencies: Another tactic used by some companies to manage accounts receivable is to turn delinquent accounts over to a collection agency or another third party such as a bank. Usually these agencies have more time and resources to devote to collection on delinquent accounts.

Collection letters: Written letters are an inexpensive and flexible means of notifying a customer of a delinquent account.

Telephone delinquent accounts: A credit manager may telephone delinquent customers to remind them to pay on time or inform the customer of the consequences if payment is not received. A similar tactic is to personally visit the customers and encourage them to pay.

The results of this section indicate that 39 percent of the respondents use all of the above techniques to collect accounts receivable. Another 12 percent responded that all procedures except using collection agencies were used.
INVENTORY MANAGEMENT

Questions 12 and 13 concern the firm's inventory management.

Question 12: The firms were next asked to check all concepts used in the management of inventory at their firms. Thirty-five of those surveyed did not respond to this question. This lack of response is most likely due to the number of companies surveyed that do not hold inventories such as those in the financial services industry. All of the companies that did respond to the question used a combination of concepts for inventory management.

**FIFO Valuation:** This technique of inventory valuation causes inventory balances to reflect the cost of goods purchased recently and requires that goods purchased earlier in time are sold first (first-in, first-out). Assuming that prices are rising, inventories will have a greater value under FIFO valuation than under LIFO valuation.

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**Computerized Inventory Control:** This is a process whereby inventory balances are automatically maintained via a computer system.

**Just-in-Time:** This inventory management technique allows companies to minimize inventory levels by producing goods to meet products just-in-time for delivery to the customer. Some firms
ABSTRACT

Working capital management is an important aspect of financial management in most firms. Working capital is comprised of current assets in a firm which provide profitability and liquidity to a firm. Profitability ensures that fund employed efficiently to generate a maximum rate of return. Liquidity enables the firm to satisfy its financial obligations and avoid bankruptcy. The major current assets within working capital are cash, marketable securities, accounts receivable, and inventory. The current liabilities that detract from working capital are accounts payable, accruals and short-term debt.

A survey was sent to 60 financial executives to determine the current trends in implementing working capital management. Each respondent was asked to supply information on the company’s annual revenues, industry, cash management, marketable securities investments, accounts receivable, inventory management and short-term borrowing.

Many interesting observations were made from the surveys. Among these observations were the following: The most important features of a working capital system are cost, improvement in float, ease of use, and the consistency of results; the most important criterion of marketable securities are safety, yield, marketability; most firms devote a lot of effort in obtaining short-term finance; companies use
capital decisions within the firm. These two questions were asked to determine the level at which working capital decisions were made. The day-to-day decisions are mostly made by the VP-finance, treasurer, and controller level officers. The second most common response is specific managers assigned to each component of working capital (e.g. cash manager). The president of the firm is mentioned the least often as being responsible for day-to-day operations.

On the other hand, the president is the most often cited as the person ultimately responsible for working capital policy. The vice president of finance and controller were mentioned next. A lesser number of responding firm's working capital policies were overseen by the board of directors or an executive committee.

Question 4 was correlated to the size of the firm to determine if size had any relationship to responsibility. Of the firms that indicated the president was responsible for day-to-day operations, 37% were small firms, 63% medium. None of the presidents of large firms were responsible for the day-to-day management of working capital. This seems to indicate that as the size of a firm increases, working capital decisions are delegated to lower levels of management.

The attitude (conservative vs. aggressive) of firms toward its working capital policy is determined by question 6. To better define the respondent's definition of 'conservative' versus 'aggressive', a comparison between this answer and questions regarding security portfolio policy and yield objectives were conducted (see questions 21 and 23).
It would be expected that conservative firms would follow a buy and hold policy or use outside consulting rather than riding the yield curve or interest rate predicting. Of the firms that considered themselves conservative, over 75% followed a buy and hold policy or used external consulting. This data indicates that the conservative companies tend to follow more conservative portfolio policies.

The last question of the background information section describes a firm's working capital management as either centralized or decentralized. Since 90.5% of the firms responded that their management of cash flows was centralized, it seems that cash management is important enough to require the oversight of top management.

Cash Management

The cash management questions include ranking questions as well as 'choose one' questions. Tables giving total responses and percentage responses are given in Appendix D and Appendix E for choose one questions and ranking questions, respectively. The tables given for ranking questions present the total number of responses for each of the alternatives and the percentage ranking of that alternative based on the total number of responses.

Question R ranks the techniques used to determine optimal cash balances. As can be seen from the table of question R, subjective judgement and predetermined guidelines were cited most often for determining optimal cash balances. These
companies also ranked these highly (1st or 2nd in terms of importance). More advanced techniques such as computer simulation, cost balancing models, and regression analysis were not used as often, but companies that did employ more advanced techniques felt that they were very important. (Question 89 has been dropped from the analysis because of its ambiguity. Only 37 of the respondents answered this question.)

To determine the frequency of cash forecasting within firms, respondents were asked to indicate how often their firm forecasted cash needs (question 10). The survey response sheet, shown in Appendix D, shows that the frequency of forecasting varied substantially among firms. Almost 35% of the firms surveyed forecast their cash needs daily, and almost 34% forecast cash needs only once or twice a year.

The firms that forecast their cash needs only once or twice a year were primarily small firms - 87%. This seems to indicate that larger firms with greater cash flows would benefit more from frequent analysis. Also, these results could indicate that larger firms have developed more sophisticated forecasting models that allow them to predict cash flows in greater detail, providing more precise cash estimates.

When the financial officers were asked to estimate the cost of idle cash balances for their firm (question 11), 20.6% responded zero. There are two possible explanations for this answer. First, the financial officer may not consider the opportunity cost of cash as a relevant or significant cost in
financial analysis. The other possibility is that the firm has a policy of zero cash balances, in which case there would be no opportunity cost.

To determine what the respondents meant by zero cost, the responses for this question were compared to responses to question 14. Question 14 asks what criteria is used to indicate effective cash management. If the respondents who answered zero to the cost of idle cash also responded that low idle cash balances were very important, the theory that the firm has no idle cash would seem more appropriate.

The results of the comparison show that 77% of firms with a zero cost of idle cash ranked low idle cash balances very high (1st or 2nd in terms of importance). And, almost 92% ranked low idle cash balances as an indication of effective cash management. These results seem to indicate that idle cash is considered a liability by most firms. These firms try to maintain low idle cash balances to make the most efficient use of its working capital assets. Very few financial executives do not recognize the opportunity cost of idle cash.

An important indication of effective cash management is a firm’s attitude toward optimizing float. Questions 12 and 13 (found in Appendix E), determine techniques to increase positive float and decrease negative float.

To decrease negative float, firms employ various techniques such as lockbox systems, regional banking, cash discounts to customers, and written or verbal requests. All of these
were used by firms, but the use of lockboxes was ranked the most important, over 73% of the time. Regional banking was also considered very important. Cash discounts and verbal or written requests were ranked lower, 2nd or 3rd, indicating that these techniques are useful, but less important than the first two.

In order to increase positive float, "stretching" credit terms, and resorfe bank and centralized disbursing techniques were cited most often. All of these techniques were ranked highly in terms of importance. The smaller number of firms use bank drafts to meet payroll to improve positive float. The firms that do employ this technique consider it very important. Banker's acceptances are not a very popular technique and considering the ranking it received, it seems that companies that use banker's acceptances use it as a secondary technique.

Positive net float is one criteria used by some firms to indicate effective cash management (question 14). The most common technique for evaluating cash management effectiveness was low idle cash balances, followed by avoidance of cash shortages and a high return on marketable securities.

Companies that target low cash balances consider it very important. The avoidance of cash shortages was less important. High returns on marketable securities are ranked very high, 1st, only 3.3% of the time. This seems to indicate that a high return on marketable securities is desirable after other more important criteria have been met.
Accounts Payable

The third major section of the survey has to do with the management of accounts receivable. This section covers the firm's balance sheet position of receivables and payables, how credit information is obtained, and what credit ranking techniques are utilized. Almost 60% of the time, companies had more receivables on their books than payables. This indicates that these firms are net grantees of credit (question 15). This position is significant when determining the cost/benefit of payables and receivables. The cost of granting credit must be compared to the benefit of increased sales. The balance sheet position indicates their relative importance to the company.

After the amount of receivables has been determined, a measure of the quality of receivables has to be incorporated so that the company can decide who to extend credit to. Question 17 asks financial officers to rank the importance of quantitative measures of credit worthiness. Respondents were asked which of the 4C's of granting credit, character, capital, capacity, and conditions, is most important. The results, shown in Appendix E, show that all of the 4C's are used in making credit decisions. Capacity was ranked the most important more often than any other characteristic. The results indicate that capital is second and character of management is third. Even though economic conditions also are considered in credit granting decisions, it has less weight than the others.
When it comes to quantitative techniques used to judge credit worthiness (question 18), discriminant analysis and ratio analysis were cited most often. These techniques were also ranked very high in terms of importance. Cost-volume-profit analysis was used by fewer companies than the two previous techniques, but was considered very important by the companies that did use it. Sequential analysis was used by only six firms surveyed, and was not ranked very highly. These results indicate that it is used as a secondary or back-up technique.

**Short-Term Marketable Securities**

The marketable security strategies employed by a firm give insight into a firm's priorities. Different instruments provide varying amounts of risk and return. Results from question 19 indicate that the majority of firms invest in C.D.'s, treasury bills, and commercial paper for short-term investments. The 'other' responses for this question have been included in the table for question 19 since many similar responses were indicated. Eurodollars were not originally included in the choices for question 19, but 11 firms indicated eurodollars were used and were fairly important in their portfolios. Federal agency issues were not included in the portfolios of most of the firms, indicating that they do not represent an attractive investment for companies or do not meet security policy.

The characteristics of investment instruments that are considered most important are found in question 20. The
question asks respondents to rank the following characteristics: profitability, maturity, safety, and marketability. Safety was considered the most important overall. Profitability and marketability were the next most important. Maturity was cited least often as the most important characteristic of short-term marketable security characteristics. The results indicate that corporations tend to follow a rather conservative strategy in managing their marketable security portfolios.

The results from question 21 also indicate a conservative stance from many of the responding firms. The most conservative strategy, buy and hold, was used more than 61% of the time. The two more risky strategies, interest rate predicting and riding the yield curve combined, represent less than 30% of the firms surveyed.

Respondents were also asked to indicate how the appropriate amount of cash to be converted to securities is determined. The results will indicate the degree of sophistication for this decision. The majority of firms, approximately 51%, used subjective judgements to determine the amount for conversion. Established guidelines were cited 35% of the time. Only 5.3% of respondents used some type of cost conversion model. The answers to the questions in this section seem to indicate that firms realize the importance of investing excess cash, but it does not necessarily receive the top priority. This attitude may reflect company opinion that income from marketable securities is a secondary, less important inflow as compared to the firm's income.
resulting from operations. The annualized yield objective (question 23) results show that most firms have similar objectives. Over 58% of the firms target a yield between 10.0% and 11.9%. A yield objective in the range between 10.0% and 13.9% represent almost 84% of the firms. A comparison of the responses to this question and the size of the firm did not result in any significant differences. It seems that yield objectives for firms in general reflect the prevailing market yields of investment instruments at a certain point in time.

Loans and Other Financing

The objective of this section is to determine what types of financing firms use and what they are used for. The primary use for commercial loans from banks (question 24) is for specific needs as they arise, 38.5% of responses. Seasonal variations and regular part of financing are the second most common use of bank loans. Cyclical variations was reported 13.5% of the time as the use for bank loans. Over 15% of the firms responding to the survey generally do not have any bank loans.

The terms of the loans from banks are described in question 25. The most common type of loan cited was a simple interest loan or line of credit with compensating balance. The other types of loans listed in the questionnaire were not used as often; this may be due to the choice of the company or the bank.

The criteria used to measure the performance of the loan arrangement (question 26) was the next topic considered. The
effective interest rate was used as a criteria more often than
the others. It was also considered very important by those who
used it -- 97% ranked this criteria 1st or 2nd. Since more
firms cited effective interest rate as a criteria instead of the
stated interest rate, it can be surmised that firms take into
consideration other costs as well. The stated interest rate
was not ranked as highly as the effective rate. The amount of
funds available for use was often cited as a performance
criterion and was considered fairly important.

The annualized cost of bank loans (question 27) for the
various responding firms was in the 12.0 to 13.9% range. There
was also over 26% of firms with an annualized cost between 14.0% 
and 17.9%. These results were as expected. The cost of loans
for firms were around 2% to 4% greater than the yield they
anticipate from marketable security investments. Unlike the
results for marketable securities, though, there was a difference
between the cost of a loan for small and large companies. Of the
respondents that estimated their annualized loan cost to be low,
less than 12%, none were small firms. On the other hand, 86% of the
firms with a low estimated loan cost were large firms. The firms
indicating an annualized cost of over 14% were all small- or
medium-sized firms.

Since bank loans are not the only type of short-term 
financing available to a firm, question 28 asks respondents to
rank other types of short-term financing used and how important
each one is. The most common type of short-term financing,
beside bank loans, is trade credit. This type of credit is very important to firms and was always ranked 1st or 2nd. Some firms liquidate securities to meet short-term needs, while very few use factoring of accounts receivable or financing company loans. These last two types of financing are not very popular since they are often associated with poor financial standing.

CONCLUSION

The results of the survey have provided an insight to the types of working capital decisions firms make and how they are made. Some of the questions had very similar responses, others showed wide variations between responses. Whichever the case may be, one commonality does exist for almost all of the firms. The one common factor is that all firms of differing sizes, industries, and policies recognize the management of working capital as an important aspect of the firm's operations.

The next section of the paper will consider a working capital topic - float. This concept will be discussed in greater detail than previous discussions. The concept of float takes into consideration receivables management and payables management with the effects of bank float on both. Float was chosen as a topic for further discussion because it encompasses several aspects of working capital theory that were brought out in the survey.
APPENDIX A

WORKING CAPITAL SURVEY
WORKING CAPITAL SURVEY

Directions: Please answer only those questions that apply to your firm. For questions that ask you to 'Check One', check the single alternative that best describes your firm. For questions that ask you to rank the alternatives, use '1' as the most important number, '2' as the second, and so on. Please use each number only once, and rank only those alternatives that apply to your firm. Thank you for your time and consideration.

PART 1: BACKGROUND INFORMATION

1. Please indicate your firm's annual sales (gross revenues) for 1983 (round to the nearest million - $M)? (Check One)
   
   $ 1 M - 39 M   $100 M - 199 M   $500M - 999M
   40 M - 99 M   200 M - 499 M   1000+ M

2. Which best describes your firm’s primary business? (Check One)
   
   Manufacturing   Retail/Merch.   Financial Services
   Utility        Services (non-financial)

3. What type of policy does your firm have for the overall management of working capital? (Check One)
   
   Formal Policy   Informal Policy   No Policy

4. Please indicate who has the day-to-day responsibility for each component of your company's working capital? (Check One)

   Cash
   Loans
   Marketable Securities
   Pres. VP Fin. Trans. Contr. Other-Please Specify

5. Please indicate who has the ultimate responsibility for setting the overall goals of your firm’s working capital policy? (Check One)

   President VP-Finance Board of Directors
   Controller Treasurer Exec. Committee
   Other-Please Specify

6. How would you describe your company’s policy for the management of working capital? (Check One)

   Conservative Aggressive Situational
   Changes Over Time

7. Which best describes your firm’s management of cash flows? (Check One)

   Centralized Decentralized
   A-1
PART II: CASH MANAGEMENT

8. Which of the following techniques does your firm utilize in determining optimal cash balances? (Rank in terms of importance)
   - Computerized Simulation
   - Pre-determined Guidelines
   - Subjective Judgment (Rank)
   - Cost-Balancing Models
   - Regression Analysis
   - Other—Please Specify

9. Based upon what criteria did you estimate your answer to #8? (Check One)
   - T-Bills
   - Money Market
   - CD's
   - Commercial Paper
   - Other—Please Specify

10. Approximately how often does your firm forecast its cash needs? (Check One)
     - Annually
     - Semi-Annually
     - Monthly
     - Weekly
     - Daily
     - Other—

11. What would you estimate to be your firm's cost of idle cash balances at the present time? (Check One)
     - Zero
     - Less than 6.0%
     - 6.0% - 7.9%
     - 8.0% - 9.9%
     - 10.0% - 11.9%
     - 12.0% - 13.9%
     - Greater than 16.0%

12. What techniques are employed by your firm to decrease the length of time it takes to receive cash from creditors? (Rank)
     - Lock Box System
     - Offer Cash Discounts to Customers
     - Regional Banking
     - Written or Verbal Requests
     - Other—Please Specify

13. Which of the following techniques does your company use to allow down the outflow of cash payments? (Rank)
     - Remote Bank Disbursement
     - ’Stretching’ Credit Terms Offered by Suppliers
     - Payroll Via Bank Drafts
     - Banker’s Acceptances
     - Centralized Disbursement System
     - Other—

14. What criteria is used by your firm to indicate effective cash management?
     (Rank)
     - Low Idle Cash Balances
     - High Return on Marketable Securities
     - Avoidance of Cash Shortages
     - Short Cash Recovery Cycle
     - Positive Net Float
     - Other—

PART III: ACCOUNTS RECEIVABLE

15. In terms of net financing, which of the following positions is most common on your firm's balance sheets? (Check One)
     - Payables Greater Than Receivables
     - Payables Less Than Receivables
     - Payables Approximately Equal To Receivables

16. To what extent does your firm place importance on information received from internal credit sources vs. external credit sources? (Check One)
     - 100% Internal
     - 75% Internal - 25% External
     - 50% - 50%
     - 25% Internal - 75% External
     - 100% External
17. For companies that use internal credit analysis, which of the following characteristics does your firm consider when granting credit? (Rank)

- [ ] Character of Management
- [ ] Capacity to Meet Current Obligations
- [ ] Capital
- [ ] Economic Conditions

18. What quantitative techniques does your firm use in judging the creditworthiness of customers? (Rank)

- [ ] Ratio Analysis
- [ ] Discriminant Analysis
- [ ] Cost-Volume-Profit Model
- [ ] Sequential Analysis
- [ ] Other - Please Specify

PART IV: SHORT-TERM MARKETABLE SECURITIES

19. Which of the following instruments is regularly used by your firm for short-term investments? (Rank)

- [ ] U.S. Treasury Bills
- [ ] Certificates of Deposit
- [ ] Commercial Paper
- [ ] Federal Agency Issues
- [ ] Other - Please Specify

20. What characteristics of your marketable securities is most important to your firm? (Rank)

- [ ] Profitability
- [ ] Safety
- [ ] Necessity
- [ ] Marketability
- [ ] Other - Please Specify

21. What policy does your firm follow in managing its marketable security portfolio? (Check One)

- [ ] Buy and Hold Until Maturity
- [ ] Yield Curve
- [ ] Interest Rate Predicting
- [ ] Rely on External Consulting
- [ ] Other - Please Specify

22. How does your firm decide the appropriate amount of cash to be converted to marketable securities and vice versa? (Check One)

- [ ] Subjective Judgments
- [ ] Established Guidelines
- [ ] Conversion Cost Models
- [ ] Other - Please Specify

23. What is the annualized yield objective of your marketable securities portfolio at the present time? (Check One)

- [ ] Less than 6.0%
- [ ] 6.0%-7.9%
- [ ] 8.0%-9.9%
- [ ] 10.0%-11.9%
- [ ] 12.0%-13.9%
- [ ] 14.0%-15.9%
- [ ] Greater than 16.0%

PART V: LOANS AND OTHER FINANCING

24. What is the primary use for the short-term loans from your commercial bank? (Check One)

- [ ] Specific Needs Arise
- [ ] Temporary Cash Deficit Due to Cyclic Variations
- [ ] Temporary Cash Deficit Due to Seasonal Variations
- [ ] Regular and Continuous Part of Total Financing

A-3
PART V: (Con't)

25. Which of the following best describes the terms of typical short-term loans obtained by your firm from commercial banks? (Check One)

   - Simple Interest Loan
   - Loans with Compensating Balances
   - Line of Credit with Compensating Balance
   - Discounted Loans
   - Collateral Backed Loans
   - Other - Please Specify

26. What criterion are used to measure the performance of short-term loan arrangements? (Rank)

   - Amount of Funds Available for Use
   - Stated Interest Rate
   - Effective Interest Rate
   - Absence of Compensating Balances
   - Other - Please Specify

27. What do you estimate to be the annualized cost of short-term credit obtained from your commercial banks at the present time? (Check One)

   - Less than 8.0%
   - 8.0-9.9%
   - 10.0-11.9%
   - 12.0-13.9%
   - 14.0-15.9%
   - Greater than 16.0%

28. What other types of short-term financing does your firm use? (Rank)

   - Factoring Accounts Receivable
   - Loans from Finance Companies
   - Liquidation of Securities Held by Company
   - Trade Credit From Suppliers
   - Other - Please Specify

Thank you, once again, for your helpfullness in filling out this survey. Your cooperation has been greatly appreciated! ! ! !
APPENDIX E

LIST OF SURVEY RECIPIENTS
SURVEY RECIPIENTS

American Hospital Supply
One American Plaza
Evunoton, IL 60201
H.L. Wimm, Jr.
Treasurer
Mr. Wimm

Universal Foods Corp.
433 E. Michigan
Milwaukee, WI 53202
D.R. Essener
V.P. Finance
Mr. Essener

Bell & Howell
7100 McCormick Road
Chicago, IL 60645
J.D. Noel
V.P. Finance
Mr. Noel

Walgreen Co.
2200 Milpore Road
Deerfield, IL 60015
L.D. Jorndt
Treasurer
Mr. Jorndt

CSI Industries, Inc.
800 Jorie Blvd.
Oak Brook, IL 60521
J.E. Jones
Exec. V.P. Finance
Mr. Jones

Ace Hardware Corp.
2200 Kensington Ct.
Windsor, IL 60521
David P. Hednik
Treasurer
Mr. Hednik

Central Illinois Public Service
707 Combined Centre
Northbrook, IL 60062
H.N. Medvin
V.P. & CFO
Mr. Medvin

Allis-Chalmers
1205 S. 70th Street
Milwaukee, WI 53201
Paul R. Oldham
Treasurer
Mr. Oldham

Commonwealth Edison
One First National Plaza
Chicago, IL 60690
E.M. Roch
Treasurer
Mr. Roch

American Forge & Machine Co.
935 Dundee Rd.
Elgin, IL 60120
William M. Murphy
Treasurer
Mr. Murphy

Dean Foods
3600 N. River Road
Franklin Park, IL 60131
W.D. Fischer
V.P. Finance
Mr. Fischer

Nuvatec, Inc.
3110 Woodcreek Dr.
Downers Grove, IL 60115
H.L. Peterson
President
Mr. Peterson
Abbott Foods, Inc.
2400 Harrison Rd.
Columbus, OH 43204
John Fentimore
Exec. V.P. Finance
Mr. Fentimore

Abell-Howe Co.
7747 W. VanBuren St.
Forest Park, IL 60130
Warren J. Haeger
Treasurer
Mr. Haeger

ACDC Inc.
Kugler Mill Rd./81 Ash Rd.
Cincinnati, OH 45236
Patrick A. Mayer
Treasurer
Mr. Mayer

Aelectrico, Inc.
55800 Currents Rd.
Hicksville, OH 44086
Arley P. Athey
Treasurer
Mr. Athey

Affordable Inn, Inc.
322 N. 45th Street
Mount Vernon, IL 62864
D. Bruce Geary
Treasurer
Mr. Geary

Alpha Construction
1340 W. 171st Street
Hazel Crest, IL 60429
Robert Arquilla
Treasurer
Mr. Arquilla

Air Con Refrigeration & Heating
123 Lake Street
Waukegan, IL 60085
Anna Abdul
Treasurer
Ms. Abdul

American State Bank
211 N. Main
Bloomington, IL 61701
Phillip A. Weber
Vice President
Mr. Weber

A&A Manufacturing Co.
2300 S. Calhoun Road
New Berlin, WI 53151
Ruth E. O'Rourke
Treasurer
Ms. Ruth O'Rourke

American Trans Air Inc.
2141 S. High School Road
Indianapolis, IN 46243
Jerry Taylor
Treasurer
Mr. Taylor

AAV Companies
81100 Selon Road
Cleveland, OH 44130
Michael Cannon
Treasurer
Mr. Cannon

Amos Lanes Inc.
3444 Cleveland Ave.
Columbus, OH 43224
Ronald Beach
Treasurer
Mr. Beach
Racon Van Bus Glass Co. Inc.
811 S. Neil
Champaign, IL 61820
Rodney Van Buskirk
Treasurer
Mr. Buskirk

Bank of Hickory Hills
7800 W. 95th Street
Oak Lawn, IL 60457
David D. Lambertson
Exec. V.P.
Mr. Lambertson

BancSystems Association, Inc.
28500 Clemens Road
Cleveland, OH 44116
Hohn A. Lalak
Treasurer
Mr. Lalak

Bank of Park Forest
99 Indianwood Blvd.
Park Forest, IL 60469
Daniel G. Kaplan
Sr. V.P.
Mr. Kaplan

Bank of Burlington
200 N. Pine
Burlington, WI 53105
James F. Fauman
Exec. V.P. & Cashier
Mr. Fauman

Bank of Wheaton
211 S. Wheaton
Wheaton, IL 60187
Julian B. Tylka
Sr. V.P.
Mr. Tylka

Bank of Elmhurst
200 N. York Rd.
Elmhurst, IL 60126
Thomas Cullen
Exec. V.P. Finance
Mr. Cullen

United Bank of Loves Park
5817 N. Second Street
Rockford, IL 61111
Mark Martens
Cashier
Mr. Martens

Bank of Homewood
2034 Ridge Road
Homewood, IL 60430
William W. Addy
Exec. V.P.
Mr. Addy

North Bank
330 S. State Street
Peoria, IL 61608
John M. Walters
Sr. V.P.
Mr. Walters

Bank of Highland Park
First & Central
Highland Park, IL 60035
Franc G. Krecovich
Sr. VP Cashier
Mr. Krecovich

Weling Consultants
1001 16th Street
Hollin, IL 61265
R.L. Nanni
Treasurer
Mr. Nanni
Clinton Watch Co.
1114 S. Water Ave.
Chicago, IL 60605
Seymour Weinberg
Treasurer
Mr. Weinberg

American Nickeloid Co.
W. Main Street
Peru, IL 61354
George Mace
Treasurer
Mr. Mace

AAR Corporation
2100 Touhy Avenue
Elk Grove Village, IL 60007
R.A. Cameron
V.P. Finance
Mr. Cameron

American Tire Corp.
1311-35 W. Lake Street
Chicago, IL 60607
Allen Martine
Treasurer
Mr. Martine

Abbott Laboratories
Abbott Park
North Chicago, IL 60064
J.A. Hanley
Treasurer
Mr. Hanley

Arthur Andersen & Co.
60 W. Washington Street
Chicago, IL 60602
William C. Ingersoll
Treasurer
Mr. Ingersoll

R. S. Corcoran Co.
500 Old Hickory Road
New Lenox, IL 60451
Violet Recker
Treasurer
Ms. Recker

Zenith Controls, Inc.
830 W. 40th Street
Chicago, IL 60609
Claire Shore
Treasurer
Ms. Shore

National Can Corp.
8101 Higgins Road
Chicago, IL 60631
R. A. Steitz
Treasurer
Mr. Steitz

Motorola C&I, Inc.
1309 Algonquin Road
Schaumburg, IL 60196
Ray Howell
Controller
Mr. Howell

American National Bank & Trust Co.
33 N. LaSalle Street
Chicago, IL 60609
Robert E. Lindquist
V.P. Finance
Mr. Lindquist

Standard Federal Savings
4192 S. Archer Ave.
Chicago, IL 60647
Robert L. Andersen
Sr. V.P., Treasurer
Mr. Andersen
<table>
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<th>Company</th>
<th>Address</th>
<th>City, State, Zip</th>
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<td>3500 W. 127th Street</td>
<td>Blue Island, IL 60406</td>
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<td>Lakewood Engineering &amp; Mfg. Co.</td>
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<td>Finance</td>
</tr>
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<td></td>
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<td>Mr. Spieser</td>
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<td></td>
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<td>Sunstrand Corp.</td>
</tr>
<tr>
<td></td>
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<td>4751 Harrison</td>
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<td></td>
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<td>Rockford, IL 61101</td>
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<tr>
<td></td>
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<td>C.F. Lenke</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Treasurer</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Mr. Lenke</td>
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</tbody>
</table>
Hayman Corp.
3505 N. Pinckney Ave.
Chicago, IL 60618
William Ruekberg
Treasurer
Mr. Ruekberg

Heights Finance Corp.
Drawer B
Peoria, IL 61611
Herbert E. Stoller
Sr. V.P. Finance
Mr. Geis

Hinsdale Federal Savings & Loan
Grant Square
Hinsdale, IL 60521
Kenne P. Bristol
Exec. V.P. Treasurer
Mr. Bristol

Vuclear Data Inc.
500 Park Pkwy.
Itasca, IL 60143
C. Stewart Havens
Treasurer
Mr. Havens

Hollistic Corp.
600 E. Plainfield
Lagrange, IL 60525
John McKenna
Treasurer
Mr. McKenna

Helene Curtis Industries Inc.
6401-51 W. North Ave.
Chicago, IL 60639
S. Richard Wynn
Ex. V.P. Treasurer
Mr. Wynn

Home Federal Savings & Loan Ass'n.
16 W. Spring Street
Elgin, IL 60120
Lyle M. Dolan
Treasurer
Mr. Dolan

Walter E. Heller International
105 W. Adams
Chicago, IL 60603
Francis D. Pedersen
V.P. Finance
Mr. Pedersen

Hoosemaker's Furniture Inc.
1013 Nutterfield Rd.
Downers Grove, IL 60515
Arthur R. Landen
Treasurer
Mr. Landen

Henry Service Co.
1011 N. East Street
Cambridge, IL 61241
Jerry Rodgers
Treasurer
Mr. Rodgers

Horace Mann Life Insurance
#1 Horace Mann Plaza
Springfield, IL 62711
Thomas Arisman
Treasurer
Mr. Arisman

Heritage/Pullman Bank
1000 E. 11th Street
Chicago, IL 60628
Robert E. Lerner
V.P. Cashier
Mr. Lerner
Standard Oil of I and
200 E. Randolph Dr.
Chicago, IL 60601
William R. Hutchinson
Treasurer
Mr. Hutchinson

Nussbaum Trucking
Rt. 51 N.
Normal, IL 61761
Robert Walder
Treasurer
Mr. Walder

Northern Trust Corp.
50 S. LaSalle Street
Chicago, IL 60675
Thomas P. Marrie
Sr. V.P., Treasurer
Mr. Marrie

Northwest Federal Savings & Loan
1901 W. Irving Park Road
Chicago, IL 60611
Robert H. Jones
Treasurer
Mr. Jones

Jeune Companies Inc.
3725 N. East River Road
Chicago, IL 60631
John M. Balch
V.P., Treasurer
Mr. Balch

Franklin Life Insurance
Franklin Square
Springfield, IL 62713
John Akers
Treasurer
Mr. Akers

Household International
1700 Wolf Road
Des Plaines, IL 60016
J. B. Gunderson
Treasurer
Mr. Gunderson

Hyre Electric Co.
2320-26 W. Ogden Ave.
Chicago, IL 60608
R. C. Freeman
Treasurer
Mr. Freeman

ICA Inc.
5725 E. River Road
Chicago, IL 60631
James Poraziss
Treasurer
Mr. Poraziss

Illini Electric Co-Op
1605 S. Neil
Champaign, IL 61820
W.B. Champion, Jr.
Finance
Mr. Champion

Illinois Agriculture Assoc.
1701 Towanda Ave.
Bloomington, IL 61701
Robert Weldon
Treasurer
Mr. Weldon

Illinois Central Gulf RR Co.
233 N. Michigan Ave.
Chicago, IL 60601
Sandor A. Loey
Treasurer
Mr. Loey
Illinois Cereal Mills, Inc.
616 N. Jefferson
Paris, IL 61944
T. Alan Russell
Treasurer
Mr. Russell

Peerless of America
5800 N. Pulaski Road
Chicago, IL 60644
James E. Purcell
V.P. Finance
Mr. Purcell

Illinois Foundation Seeds
Rt. 45 S
Champaign, IL 61820
Floyd S. Ingersoll
Treasurer
Mr. Ingersoll

Illinois Range Co.
708 W. Central
Mount Prospect, IL 60056
Edward T. Krakowisk
Treasurer
Mr. Krakowisk

Illinois Tool Works
6501 W. Higgins Road
Chicago, IL 60631
David R. Smith
V.P. Finance
Mr. Smith

L & W Supply Corp.
101 S. Wacker
Chicago, IL 60606
Robert R. Hogan
Treasurer
Mr. Hogan

Lake-Cook Farm Supply
1000 Executive Way
Des Plaines, IL 60018
Huncy Andersen
Treasurer
Mr. Andersen
APPENDIX C

June 25, 1984

Dear Financial Executive:

Good Day! My name is Barbara Byrne, I am a Finance Major at Northern Illinois University and a member of the University Honors Program. As such, I am required to write a thesis. Under the supervision of Dr. Roger L. Miller of the NU Finance Department, I am studying the handling of working capital accounts, specifically in their relationship to cash management.

As a financial executive, your expertise would provide a valuable insight into this topic. I would like to enlist your cooperation in developing data for the thesis.

I would greatly appreciate your taking a few minutes to complete the enclosed survey, and to make any additional comments you feel might be helpful. This is an anonymous survey, ensuring confidentiality for you, your firm, and of the data supplied. A self-addressed, return envelope is enclosed for your convenience. The results of this survey will be analyzed during the fall semester. Your responses, if at all possible, by the end of August would be appreciated.

Thanking you in advance for your cooperation, I remain

Respectfully yours,

Barbara A. Byrne

Enclosures
## APPENDIX D

### BACKGROUND INFORMATION

<table>
<thead>
<tr>
<th>(Question)</th>
<th>Total Responses</th>
<th>Percentage Responses</th>
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<tr>
<td><strong>(1) SIZE:</strong></td>
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<td></td>
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<tr>
<td>Small Firms-$1MM-99MM Sales</td>
<td>22</td>
<td>34.97%</td>
</tr>
<tr>
<td>Medium Firms-$100MM-499MM Sales</td>
<td>18</td>
<td>28.57%</td>
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<tr>
<td>Large Firms-$500MM-1000MM Sales</td>
<td>22</td>
<td>34.97%</td>
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<tr>
<td>Manufacturing</td>
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<td>Retail/Merchandising</td>
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<td>Non-Financial Services</td>
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<td>17.57%</td>
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<td>Financial Services</td>
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<td>Utilities</td>
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<td><strong>(3) WORKING CAPITAL POLICY:</strong></td>
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<tr>
<td>Formal Policy</td>
<td>20</td>
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<tr>
<td>Informal Policy</td>
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<td>61.33%</td>
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<tr>
<td>No Policy</td>
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<td><strong>(6) WORKING CAPITAL CHARACTER:</strong></td>
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<td>Conservative</td>
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<td>Aggressive</td>
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<td>Situational</td>
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<tr>
<td>Changes Over Time</td>
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<td><strong>(7) MANAGEMENT OF CASH FLOWS:</strong></td>
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<td>Decentralized</td>
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<td>Centralized</td>
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A-16
### Cash Management

#### Frequency of Cash Forecasting:

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<td>Annually</td>
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<td>Semi-Annually</td>
<td>7</td>
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<td>Monthly</td>
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<td>Weekly</td>
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<td>Daily</td>
<td>22</td>
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<tr>
<td>Quarterly</td>
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<td><strong>Total</strong></td>
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#### Cost of Idle Cash:

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<td>6.0% - 7.9%</td>
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<td>8.0% - 9.9%</td>
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<td>10.0% - 11.9%</td>
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</tr>
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<td>12.0% - 13.9%</td>
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<td>14.0% - 15.9%</td>
<td>6</td>
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<tr>
<td>Greater than 16.0%</td>
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<td><strong>Total</strong></td>
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### Accounts Receivable

#### Balance Sheet Position:

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<td>Payables Greater Than Receivables</td>
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<td>Payables Less Than Receivables</td>
<td>53</td>
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<td>Payables Equal To Receivables</td>
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<td><strong>Total</strong></td>
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#### Primary Use for Commercial Loans:

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<td>Specific Needs As They Arise</td>
<td>20</td>
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<td>Cyclic Variations</td>
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<td>Seasonal Variations</td>
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<td>Regular &amp; Continuous Financing</td>
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<td><strong>Total</strong></td>
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#### Typical Loan:

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<td>Simple Interest</td>
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<td>Loans w/ Compensating Balance</td>
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<td>Line of Credit / Comp. Balance</td>
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<td>Discounted Loans</td>
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<td>Collateral Backed Loans</td>
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<td>Other</td>
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<td><strong>Total</strong></td>
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#### Annualized Cost of Loans:

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<td>8.0% - 9.9%</td>
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<td>12.0% - 13.9%</td>
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<td>14.0% - 15.9%</td>
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<td>16.0% - 17.9%</td>
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<td>Greater Than 18%</td>
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<td><strong>Total</strong></td>
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APPENDIX E

RESPONSES FOR RANKING QUESTIONS
## QUESTION 12

### RANKING OF TECHNIQUES TO DETERMINE OPTIMAL CASH BALANCES

<table>
<thead>
<tr>
<th>Technique</th>
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<tr>
<td>Computer Disimulation</td>
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<td>Subjective Judgment</td>
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<td>Predetermined Guidelines</td>
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<td>Cost Balancing Models</td>
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<td>Regression Analysis</td>
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<td>Other</td>
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### RANKING OF TECHNIQUES TO DECREASE NEGATIVE FLOW

<table>
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<th>Technique</th>
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<td>Regional Ranking System</td>
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<td>Cash Discounts</td>
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<td>Written or Verbal Requests</td>
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<td>Other</td>
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A-18
### QUESTION 26

**RANKING OF CRITERIA FOR PERFORMANCE OF LOANS**

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<td>Funds Available</td>
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<td>Stated Interest Rate</td>
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<td>Effective Interest Rate</td>
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<td>No Compensating Balances</td>
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<td>Other</td>
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### QUESTION 28

**RANKING OF TYPES OF SHORT TERM FINANCING**

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<td>Postponing Amounts Rece.</td>
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<td>Financing Dr. Loans</td>
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<td>Liquidation of Securities</td>
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<td>Trade Credit</td>
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<td>Other</td>
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A-20
### Ranking of Short Term Investments

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<td>C.O.'s</td>
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<td>30.7</td>
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<tr>
<td>Commercial Paper</td>
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<td>Federal Agency Issues</td>
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<td>Other</td>
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<td>28.7</td>
<td>20.0</td>
<td>6.7</td>
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*Other responses included: 6 responded repo's; 9 responded money market instruments; 3 overthe-counter securities: 1 nonuse deposit: 1 master note

### Ranking of Marketable Security Characteristics

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<th>Characteristic</th>
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<td>Marketability</td>
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FLOAT

Almost every management decision in business— to hire or fire, buy or sell, lend or borrow—ultimately affects the cash flow process. Therefore, it is critical that the financial manager understand cash flow and learn ways to optimize it. An important concept in the optimization of cash flow is called float. Float by its definition, according to Webster’s dictionary, is "an amount of money represented at any one time by checks outstanding and in process of collection." Or, in other words, float is the time lapse between receiving or making payments. Properly managed, float expands cash capability, increases earnings, and reduces potential cash flow problems.

The management of float encompasses two major objectives, accelerating cash flow into the business and decelerating cash flow out of the business. The amount of time it requires for a firm to receive its cash flows is referred to as negative float. Since negative float represents an amount of cash that cannot be utilized until it is received, the goal of the cash manager is to reduce negative float. By reducing negative float, cash becomes available to the firm sooner and can be employed in some useful purpose.

Deferring cash flow out of the business is referred to as positive float. The longer the financial manager holds onto the cash before making payments, the longer he can use that money within the firm. Therefore, the goal is to increase positive float. Occasionally, financial managers accept the goal of
decreasing negative float, but may find the increase of positive float harder to accept because prompt payment is critical to a firm's credit worthiness. However, if cash disbursement can be delayed without violating that principle, the financial manager can enjoy an increase in cash capability as well as a strong credit position.

There are two other aspects of float that can affect both the positive and negative float of a firm. Since much of the cash flow between firms and customers is transacted via the U.S. Postal Service, mail float must be taken into consideration. Mail float is the time it takes a check sent through the mail to be received by the bank or firm. The second type of float that should be noted is bank float. If a bank uses the Federal Reserve Bank to process its checks, it will have to wait a period of time for the check to clear. This time lapse represents a period when the funds remain unavailable to the firm, even though the payment has been received.

The important thing to note about mail float and bank float is that they represent external factors that are not under the control of the financial manager. The financial manager will have little success attempting to speed up the postal office. Also, the Federal Reserve's regular check clearing process is a standardized operation. The fact that these two external factors are not within the control of the financial manager does not mean that he is unable to improve cash flow. Instead of using these two established systems, the financial officer of the firm can
bypass these systems to improve cash flow. For example, the company could employ couriers or other mail services to speed up collection, or make use of local clearing houses to reduce bank float. These alternatives may not always be available, however, or they may be too costly. In these instances, bank float and mail float must be estimated as closely as possible and other alternatives for minimizing float should be employed. Figure 2 provides a diagram showing the factors of the total cash conversion period.

Now that the meaning of float is understood, the financial manager must determine the value of that float. The proper use of float can basically create an interest-free loan for a firm. For example, if ABC company writes a check for $1 million on January 1 to XYZ company and it takes two days for XYZ to receive the check through the mail, another two days to process and deposit the check, and another two days for the check to clear, ABC will have the funds in its bank account until January 6. This represents five days of interest on the $1 million payment for ABC. If ABC earns 10% annually on its funds, it will have earned $1380 ($1,000,000 x .10 x 5/360) of interest during the float period.

Unfortunately, the problem of float for ABC is more complex than that because the firm is also receiving checks. If the above example were reversed, ABC would have faced $1380 of opportunity cost of funds during period. Therefore, it is important for the firm to accelerate its cash receipts while consecutively decelerating its payments.

26
Figure 2

CASH CYCLE

NET FLOAT

NEGATIVE FLOAT

SALE

BILLING

AVERAGE COLLECTION PERIOD

RECEIPT OF PAYMENT

PROCESSING OF RECEIPT

DEPOSIT

INCREASE OF CASH BALANCE

POSITIVE FLOAT

PURCHASE ORDER

RECEIPT OF BILL

AVERAGE PAYMENT PERIOD

PAYMENT

PROCESSING OF PAYMENT

DEPOSIT

DECREASE OF CASH BALANCE
Another example will better explain this concept. If ABC receives $50,000 a day, but also makes payments of $50,000 a day, it can still make use of float. If ABC can accelerate cash receipts so that it only takes three days until the check is cleared, while simultaneously decelerating payments so that it takes seven days for payment checks to clear, ABC will have four days of net float.

Net float is positive float minus negative float. A successful manager will end up with a positive net float when at all possible. The positive net float obtained by ABC, in the example, will be worth \( \frac{4}{360} \times 50,000 \times 0.10 = 55.56 \) per day or $20,000 per year.

It is obvious that there are substantial gains to be acquired from the proper handling of float. These gains are maximized when covering checks at the latest possible date and depositing checks received the earliest possible date.

Both reducing negative float and increasing positive float have associated costs. Therefore, the benefits of float should be increased up to a point where the costs of improvement equal the benefits of improvement. To determine ways to improve a firm's cash flow position, alternatives to decrease negative float will first be discussed and then alternatives to increasing positive float will be considered.
ACCELERATING CASH FLOW
(DECREASING NEGATIVE FLOAT)

Negative float, or collection float, is the amount of time required to receive payments from customers. Negative float represents a hidden cost of accounts receivable financing. When a firm extends credit to customers, it gives up the use of cash for that credit period. The additional money (interest income) that could be generated with this cash is the cost of receivables to the firm. In order to justify the use of accounts receivable, instead of cash sales only, bottom-line benefits of accounts receivable should be examined. The increase in sales due to credit extension should outweigh the cost of extending credit. If not, the firm should not bother with it. Assuming the firm has analyzed the situation and finds credit extension worthwhile, the objective of the financial manager becomes improving the cash collection cycle.

There are three basic ways to improve the cash collection system. The simplest method is for a firm to make written or verbal requests for earlier payment. As the survey indicated, many firms use this method, but alone it does not effectively optimize the cash flow. Other methods also need to be employed. The second major alternative for improving collections is offering cash discounts to customers as an economic incentive to remit payments sooner. The third possibility is to reduce the delay from the time the customer mails the check to the time the check clears. This third alternative attempts to reduce negative float.
and will be considered in further detail.

Regional Banking

One possible way for a firm to reduce negative float is to employ a regional banking system. The regional banking system reduces negative float by reducing mail float. Under this system, a firm creates collection points strategically located near customers. The customers then make their payments to the local bank instead of the corporate office. The system reduces the amount of time it takes to receive cash payments from its customers. There are three criteria a financial officer should consider when selecting banks for collection purposes:

1. Does the bank clear its own checks?
2. Does the bank operate in a city that has a Federal Reserve Bank?
3. What are the service charges of the bank (including compensating balances)?

As long as the value of the float (as determined in previous examples) is greater than the additional service charges, a regional banking system should be employed. In general, large firms that have widely dispersed customers benefit from regional banking systems.

Lockbox Collection Systems

Another possibility for the decreasing of negative float is the utilization of a lockbox system. A lockbox is a post office box where payments are received and handled by a bank.
The lockbox system is a means of eliminating processing float. In a lockbox arrangement, the bank is responsible for monitoring the box periodically. The bank microfilms the checks and deposits them immediately. Then, the microfilm is sent to the firm for processing. Since the check has been deposited before any bookkeeping procedure begins, processing float is completely eliminated.

For large firms with widely dispersed customers, a system of lockboxes can be maintained in strategically located cities, similar to a regional banking system. C.A. Batlin describes the use and importance of lockboxes:

"Lockbox systems play an integral role in the cash management efforts of firms. By placing lockboxes, or collection accounts, in strategic geographical locations, instructing customers to send payments to the appropriate lockbox, and authorizing its bank to process the checks, a firm can accelerate its receipt of cash, making those funds available more quickly than would be possible if customers remitted directly to the firm. The additional cash generated by this system serves to increase the firm's earnings directly." [1]

The following analysis of a lockbox system will be established with the maximization of profit as its goal. Keeping this goal in mind, the optimal lockbox system will increase cash through interest income up to the point where the cost of additional lockboxes equals the value of additional interest income.

A simple lockbox model will be employed first. Assume a firm has customers in three major areas, Chicago, New York, and San Francisco. The firm has credit accounts that provide the
following sales volumes:

<table>
<thead>
<tr>
<th>LOCATION</th>
<th>DAILY SALES VOLUME</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chicago</td>
<td>$100,000</td>
</tr>
<tr>
<td>New York</td>
<td>$50,000</td>
</tr>
<tr>
<td>San Francisco</td>
<td>$20,000</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>$170,000</strong></td>
</tr>
</tbody>
</table>

The combination of the three cities provides a total sales volume of $170,000. By multiplying the daily sales volume of the three cities by their respective collection times, the average negative float is determined. The figures below exemplify the negative float without the use of a lockbox collection system. (Assume all payments are received in corporate headquarters in New York.)

<table>
<thead>
<tr>
<th>LOCATION</th>
<th>DAILY SALES VOLUME</th>
<th>COLLECTION TIME</th>
<th>AVE. FLOAT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chicago</td>
<td>$100,000</td>
<td>2.1 days</td>
<td>$270,000</td>
</tr>
<tr>
<td>New York</td>
<td>$50,000</td>
<td>1.7 days</td>
<td>$85,000</td>
</tr>
<tr>
<td>San Francisco</td>
<td>$20,000</td>
<td>3.2 days</td>
<td>$66,000</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>$170,000</strong></td>
<td></td>
<td><strong>$421,000</strong></td>
</tr>
</tbody>
</table>

What the total negative float amount reflects is the average amount of sales volume in transit at any point in time.

Using sequential analysis, the optimal number of lockboxes can be found. The optimal solution for this lockbox example is given in Figure 3 on the following page. As can be seen, a lockbox in a given city reduces the collection time to one day. With a lockbox system, all of the processing time is eliminated since checks are deposited before processing. Under simple lockbox analysis it can be seen that a lockbox located in New York
**Figure 3**  
**LOCKBOX ANALYSIS**

### 1 BOX ANALYSIS

<table>
<thead>
<tr>
<th></th>
<th>Chicago</th>
<th>New York</th>
<th>San Francisco</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chicago</td>
<td>$100,000</td>
<td>$110,000</td>
<td>$110,000</td>
</tr>
<tr>
<td>New York</td>
<td>$50,000</td>
<td>$50,000</td>
<td>$100,000</td>
</tr>
<tr>
<td>San Fran.</td>
<td>$20,000</td>
<td>$20,000</td>
<td>$20,000</td>
</tr>
<tr>
<td>Gross Float</td>
<td>$260,000</td>
<td>$260,000</td>
<td>$260,000</td>
</tr>
</tbody>
</table>

### 2 BOX ANALYSIS

<table>
<thead>
<tr>
<th></th>
<th>Chicago &amp; New York</th>
<th>Chicago &amp; San Francisco</th>
<th>New York &amp; San Francisco</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chicago</td>
<td>$100,000</td>
<td>$100,000</td>
<td>$110,000</td>
</tr>
<tr>
<td>New York</td>
<td>$50,000</td>
<td>$50,000</td>
<td>$50,000</td>
</tr>
<tr>
<td>San Fran.</td>
<td>$20,000</td>
<td>$20,000</td>
<td>$20,000</td>
</tr>
<tr>
<td>Gross Float</td>
<td>$190,000</td>
<td>$220,000</td>
<td>$180,000</td>
</tr>
</tbody>
</table>

### 3 BOX ANALYSIS

<table>
<thead>
<tr>
<th></th>
<th>Chicago, New York, San Francisco</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$100,000</td>
</tr>
<tr>
<td></td>
<td>$50,000</td>
</tr>
<tr>
<td></td>
<td>$20,000</td>
</tr>
<tr>
<td>Gross Float</td>
<td>$270,000</td>
</tr>
</tbody>
</table>
reduces the amount of gross float better than lockboxes located in
the other two cities. A combination of New York and San Francisco
provides the lowest gross float in a two box analysis. And,
finally, by comparing the one, two, and three box gross float
figures, it can be seen that three boxes reduce float more
than any other combination.

The analysis, however, is not complete. There are costs
associated with maintaining lockboxes that must also be taken into
consideration. An analysis including the costs of maintaining
lockboxes is provided in Figure 4 on the following page.

First, the improvement of the lockbox system was determined
by subtracting the gross float with the system from the gross
float without the system. Next, it is assumed that the banks in
each of the cities require a $10,000 minimum balance plus a fee
of $15,000 a year to maintain the lockbox. The cost of one
lockbox would be ($10,000 + $15,000) $25,000. Two boxes would be
($10,000 + $15,000 x 2) $50,000, etc. Figure 4 shows that the
optimal solution would be to have one lockbox in the New York
area.

In reality, lockbox optimal solutions are often determined by
large commercial banks using sophisticated computer programs. "A
lockbox analysis (used by managing consultants and large
corporations) will simulate float for alternative systems by
selecting new lockbox methods that minimize float cost and lockbox
charges." Reducing lockbox costs, however, should result in
total float improvement.
### FIGURE 4

**OPTIMAL LOCKBOX LOCATION ANALYSIS**

<table>
<thead>
<tr>
<th>Number of Lockboxes</th>
<th>Gross Float Without Lockboxes</th>
<th>Gross Float With Lockboxes</th>
<th>Float Improvement</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Box System</td>
<td>$359,000</td>
<td>$204,000</td>
<td>$155,000</td>
</tr>
<tr>
<td>2 Box System</td>
<td>$359,000</td>
<td>$180,000</td>
<td>$179,000</td>
</tr>
<tr>
<td>3 Box System</td>
<td>$359,000</td>
<td>$170,000</td>
<td>$189,000</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Float Improvement</th>
<th>Required Balance &amp; Fee</th>
<th>Total Improvement</th>
</tr>
</thead>
<tbody>
<tr>
<td>$155,000</td>
<td>$25,000</td>
<td>$130,000*</td>
</tr>
<tr>
<td>$179,000</td>
<td>$50,000</td>
<td>$129,000</td>
</tr>
<tr>
<td>$189,000</td>
<td>$75,000</td>
<td>$114,000</td>
</tr>
</tbody>
</table>

* Best Alternative
More sophisticated analyses for the optimization of lockboxes are available than the example provided in Figure 4, but sophisticated statistical models show that the proper use of lockboxes can provide a decrease in negative float and a subsequent increase in the firm's profitability.

Wire Transfers

A third method of decreasing negative float that eliminates one of the most inefficient aspects of float - mail service is called wire transfers. The wire transfer process collects payments for large purchases through an electronic network within the banking system. This process transfers money from a customer's account to the firm's account in a matter of hours. The elimination of days required for checks to transfer using the postal service as well as the check clearing process, allows a firm to collect its funds almost immediately.

Although wire transfers are extremely attractive to the receiving firm, its use is not as widespread as some firms would like. The major problem preventing wire transfers is that cash flow conscious managers realize the value of their float as well, and are reluctant to make payment by wire transfer. Because the benefits of positive float are significant for the paying firm, it is often difficult for the receiving firm to persuade the financial manager to use wire transfers. Since the increase of positive float, slowing down of payments, is also important to the manager in his net float position, this topic will be discussed in the next
DECELERATING CASH OUTFLOWS
(INCREASING POSITIVE FLOAT)

The prompt payment of a firm's accounts payable is naturally important, but a firm's method of payment can affect its cash conversion period. Most businessmen recognize the benefits of accelerating cash flow into the business. Decelerating cash flows out of the business is simply another method of achieving the same goal. Achieving the optimum cash disbursement period is a method of increasing a firm's cash capability and bottom line benefits.

The maximum cash disbursement period can be broken down into two complementary cash management practices: 1) Liability management, and 2) float management. In both instances, the objective remains the same - to retain cash in the business for as long as possible.

Liability Management

Liability management is the guiding principle of the financial manager; it is a policy of not paying bills until due. Some managers believe that they should never abuse a creditor's consideration and should not exceed the requirements set by the payment terms. Other firms maintain a policy of 'stretching' credit terms so as to take advantage of every possible bit of float. Paying bills after the credit period does improve a firm's float, but risks good relations with creditors. To prevent this type of policy on the part of customers, many firms charge for
late payments.

If stretching credit terms does not result in any negative repercussions, such as an explicit charge or poor service, then the financial manager will benefit from such a policy. The results of the survey indicated that quite a few firms follow such a policy and rank it very high in terms of importance. These results indicate that some financial managers find the benefits of this policy outweigh the negative effects. On the other hand, several financial managers responding to the survey indicate they are adamantly opposed to such a policy. For those financial officers that do not consider stretching credit terms a viable alternative for improving positive float, other methods are available.

Centralized Disbursement

"Corporate cash managers, whose lives are devoted to squeezing pennies out of dollars and millions out of billions, have become enamored of an ingenious banking arrangement known as controlled disbursement. The use of a controlled disbursement system attempts to exploit the dollar potential in check clearing float. Controlled disbursement allows the financial manager to reduce idle cash and put the cash into operating assets so as to make the most efficient use of working capital funds.

Controlled disbursement, also called remote disbursement, is a banking system that increases the distance between the location of the bank on which the check is drawn and the recipient of the
check. If, for example, a company in Chicago paid a firm in New York $1,000,000 by check drawn on a bank in San Francisco, the Chicago firm may be able to pick up an extra two or three days of float. The use of the $1,000,000 for the three day period would be worth ($1,000,000 x .10 x 3/360) $833 assuming a 10% rate on invested funds. This is equivalent to $30,000 per year for the Chicago firm.

Some firms have found controlled disbursement to be quite profitable. National Distillers approximates that its controlled disbursement system is worth $3 million a year.9 The use of this type of system has grown substantially over the last few years. According to a survey conducted by Greenwich Research Associates of 1,640 private and public companies, 21% used remote disbursement in 1983 increasing to 25% in 1984. Also 4% of the firms indicated that they intend to begin a remote disbursement system in 1985.10

The use of controlled disbursement systems has been disapproved by the Federal Reserve Board since 1979. The Fed is concerned with such a system because they feel that it puts small businesses at a disadvantage. Many small firms do not have the capacity or resources to set up such systems and are therefore forced to wait for funds that are received from large corporations. But, the large banks and corporations did not want to give up the advantage. That is the primary reason 'remote' disbursement has been changed to 'controlled' disbursement. Despite the Fed's attempts to discourage the use of controlled disbursing, such accounts are still flourishing. For large companies, controlled
disbursement represents a large source of cash. Corporations will not give up this float without a fight. Controlled disbursement systems are not the only means a firm has to increase its positive float.

Centralized Disbursing

Another popular method for increasing positive float is centralized disbursing. A centralized disbursing system brings all the payments of the firm into a single location so that a control system can be established. By centralizing the disbursing function, the financial officer of the firm can ensure that payments are being made according to the firm's policies. For example, if a firm has a policy of stretching payments to suppliers ten days beyond the credit period, the financial manager can make sure this policy is followed so as to optimize positive float.

Another procedure that can be used by firms to increase positive float is to meet payroll obligations using bank drafts instead of checks. A bank draft is a payment instrument that is 'redeemable' at a particular bank. When the draft is presented to the bank, funds are not released immediately, instead the bank presents the draft to the company, at which time the funds are made available. The use of bank drafts gives a company an additional day of float. The use of bank draft for payroll is normally only found in large companies that have extensive payroll obligations. One such firm is AT&T.
CONCLUSION

Companies vary in the intensity with which they pursue the optimization of float. Some firms utilize every available method to decrease negative float and increase positive float to squeeze out every nickel of float improvement. Other firms realize the importance of float, but consider certain practices as contradictory to firm policy.

In order to determine the areas for float improvement, the various elements of working capital were discussed. The interrelationship between the working capital accounts provided the basis for the cash cycle. The understanding of the cash cycle is the basis for improving float. Accelerating the speed of cash inflow from accounts receivable, and decelerating the outflow of cash from accounts payable, were the means for improving the firm's overall net float position.

Next, a survey was conducted of firms of different sizes and industries to determine the importance placed on various aspects of the working capital components. The results of the survey showed that most firms find the managing of working capital an important part of a firm's financial management. The methods used by firms to improve their respective positions varied to a great extent. This variation of responses is partially attributed to the size of the firm. Also, the industry influences a firm's policies. But, a certain amount of variation is also due to a company's individual level of sophistication and establishment of priorities.
The third section of the paper developed a discussion of some of the alternatives available for improving float. To decrease negative float, a firm can extend written or verbal requests to customers, use a lockbox system, offer cash discounts, employ a regional banking system, or any combination of these alternatives. The results of the survey indicate that all of these methods for decreasing negative float are used by firms. The use of lockboxes was cited most often as a method for accelerating cash inflow, and it was also ranked the highest in terms of importance.

On the other side of the coin, a firm can use techniques to accelerate the outflow of cash to improve float. Some of the methods examined were remote or controlled disbursing, centralized disbursing, bank drafts, and stretching credit terms. Again, one or all of these methods could be employed in any combination to increase positive float.

The important determination of the financial manager's performance in terms of optimizing float is the amount and net position of float. In order to make use of float, the firm should try to maintain positive net float. Positive net float means that the firm receives its cash faster than it disburses cash. The net float in days multiplied by the average flow of cash and interest rate will determine the firm's overall benefit from float.

As the benefits of float become more important to firms, they will also become more difficult to obtain. A cash conscious manager may develop a controlled disbursing system to improve his
company's positive float. The problem is that one of the firm's customers may also be using this system. It will be increasingly difficult for a financial manager to improve net float when other firms will be trying to do the same. Also, the Fed has been gradually squeezing float since 1979 by speeding up its operational efficiency and improving its courier service. Under the Fed's new schedule, "more checks can be cleared by a bank the day they arrive, and fewer will be delayed until the next day." Nevertheless, companies will continue to play the float game against one another.
REFERENCES


References (Con't)


