CHAPTER IV

MANAGEMENT OF CASH

In the previous chapter a profile of tyre industry with specific reference to tyre companies under study was made. Now we shall take of management of various components of working capital, one by ones. In this chapter we shall analyse management of cash and bank balance.

Cash does not enter into the profit and loss account of an enterprise, hence cash is neither profit nor loss, but without cash, profit (loss) remains meaningless for an enterprise owner. Profit is a liability, and like any other liability it is nominal in nature; cash is the real thing which an enterprise manager learns the hard way in day-to-day payment of obligations. He cannot manage to pay a supplier’s bill or salaries and wages by simply making profit; he needs cash to do it. He also cannot pay dividend (share of profit) to the shareholders except through cash alone. So having right amount of cash balance is utmost important for any organisation.

CONCEPT AND OBJECTIVE OF CASH MANAGEMENT

Cash management is concerned with the managing of (i) Cash flows into and out of the firm, (ii) Cash flows within the firm, and (iii) Cash balances held by the firm at a point of time by financing deficit or investing surplus cash. It can be represented by a cash management cycle as shown in Figure 4.1. Sales generated cash, which has to be disbursed out. The surplus cash has to he invested while deficit has to he borrowed. Cash management seeks accomplish this cycle at a minimum cost. At the same time it also seek to achieved liquidity and control. Cash management assumes more importance then other current assets because cash is the most significant and the least
productive asset that a firm holds. It is significant because it is used to pay the firm's obligations. However cash is unproductive. Unlike fixed assets or inventories, it does not produce goods for sale. Therefore, the aim of cash management is to maintain adequate control over cash position to keep the firm sufficiently liquid and to use excess cash is some profitable way.

![Diagram](image)

**Figure 4.1**

The management of cash is also important because it is difficult to predict cash flows accurately, particularly the inflows, and there is no perfect coincidence between the inflows and outflows of cash. During some periods, cash outflows will exceed cash inflows, because payments for taxes, dividends, or seasonal inventory build up. At other times, cash inflow will be more than cash payments because there may be large cash sales and debtors may be realized in large sums promptly. Cash management is also important because cash constitutes the smallest portion of the total current assets, yet management's considerable time is devoted in managing it. In recent past, a number of innovations have been done in cash management techniques. An obvious aim of the firm now a days is to manage its cash affairs in such a
way as to keep cash balance at a minimum level and to invest the surplus cash in profitable investment opportunities.

In order to resolve the uncertainty about cash flow prediction and lack of synchronization between cash receipt and payments, the firm should develop appropriate strategies for cash management. The firm should evolve strategies regarding the following four facets of cash management.

- **Cash Planning**: Cash inflows and outflows should be planned to project cash surplus of deficit for each period of the planning period. Cash budget should be prepared for the purpose.
- **Managing the cash flows**: The flow of cash should be properly managed. The cash inflows should be accelerated while, as far as possible, the cash outflows should be decelerated.
- **Optimum cash level**: The firm should decide about the appropriate level of cash balances. The cost of excess cash and danger of cash deficiency should be matched to determine the optimum level of cash balances.
- **Investing surplus cash**: The surplus cash balances should be properly invested to earn profits. The firm should decide about the division of such cash balance between alternative short-term investment opportunities such as bank deposits, marketable securities, or inter-corporate lending.

The ideal cash management system will depend on the firm's products, organization structure, competition, culture and options available. The task is complex, and decision taken can affect important areas of the firm. For example, to improve collections if the credit period is reduced. It may affect sales. However, in certain cases, even without fundamental changes, it is
possible to significantly reduce cost of cash management system by choosing a right bank and controlling the collection properly.

MOTIVES FOR HOLDING CASH

The firm’s need to hold may be attributed to the following three motives:¹

- The Transaction Motive
- The Precautionary Motive
- The Speculative Motive

The Transaction Motive

The transactions motive requires a firm to hold cash to conduct its business in the ordinary course. The firm needs cash primarily to make payments for purchases, wages and salaries, other operating expenses, taxes, dividends etc. The need to hold cash would not arise if there were perfect synchronization between cash receipts and cash payments, i.e., enough cash is received when the payment has to be made. But cash receipts and payments are not perfectly synchronized. For those periods, when cash payments exceed cash, the firm should maintain some cash balance to be able to make required payments. For transactions purpose, a firm may invest its cash in marketable securities. Usually, the firm will purchase securities whose maturity corresponds with some anticipated payments, such as dividends, or taxes in the future. Notice that the transaction motive mainly refers to holding cash to meet anticipated payments whose timing is not perfectly matched with cash receipts.

Precautionary Motive

The precautionary motive is the need to hold cash to meet contingencies in the future. It provides a cushion or buffer to withstand some unexpected emergency. The precautionary amount of cash depends upon the predictability of cash flows. If cash flows can be predicted with accuracy, less cash will be maintained for an emergency. The amount of precautionary cash is also influenced by the firm’s ability to borrow at short notice when the need arises. Stronger the ability of the firm to borrow at short notice less the need for precautionary balance. The precautionary balance may be kept in cash and marketable securities. Marketable securities play an important role here. The amount of cash set aside for precautionary reasons is not expected to earn anything; therefore, the firm should attempt to earn some profit on it. Such funds should be invested in high-liquid and low-risk marketable securities. Precautionary balance should, thus, be held more in marketable securities and relatively less in cash.

Speculative Motive

The speculative motive relates to the holding of cash for investing in profit making opportunities as and when they arise. The opportunity to make profit may arise when the security prices changes. The firm will hold cash, when it is expected that interest rates will rise and security prices will fall. Securities can be purchased when the interest rate is expected to fall; the firm will benefit by the subsequent fall in interest rates and increase in security prices. The firm may also speculate on materials prices. If it is expected that material’s prices will fall, the firm can postpone materials’ purchasing and make purchases in future when price actually falls. Some firms may hold cash for speculative purposes. By and large, business firms do not engage in
speculations. Thus, the primary motives to hold cash and marketable securities are: the transactions and the precautionary motives.

DETERMINING THE LEVEL OF CASH BALANCES

Cash Planning

Cash flows are inseparable parts of the business operations of firms. A firm needs cash to invest in inventory, receivable and fixed assets and to make payment for operating expenses in order to maintain growth in sales and earnings. It is possible that firm may be making adequate profits, but may suffer from the shortage of cash as its growing needs may be consuming cash very fast. The ‘cash poor’ position of the firm can be corrected if its cash needs are planned in advance. At times, a firm can have excess cash with it if its cash inflows exceed cash outflows. Such excess cash may remain idle. Again, such excess cash flows can be anticipated and properly invested if cash planning is restored to. Thus, cash planning can help to anticipate the future cash flows and needs of the firm and reduces the possibility of idle cash balances (which lowers firm’s profitability) and cash deficits (which can cause the firm’s failure).

Cash planning is a technique to plan and control to use of cash. It projects the financial condition of the firm by developing a projected cash statement from a forecast of expected cash inflows and outflows for a given period. The forecasts may be based on the present operation or the anticipated future operations. Cash plans are very crucial in developing the overall operating plans of the firm.

Cash planning may be done on daily, weekly, monthly basis. The period and frequency of cash planning generally depends upon the size of the firm and philosophy of management. Large firms prepare daily and weekly
forecasts. Medium size firms usually prepare weekly and monthly forecasts. Small firms may not prepare formal cash forecasts because of the non-availability of information and small-scale operations. But, if the small firms prepare cash projections, it is done on a monthly basis. As a firm grows and business operations become complex, cash planning becomes inevitable for its continuing success.

METHOD FOR DETERMINING THE OPTIMUM CASH LEVEL

The various methods for the determining optimum cash balance may broadly be classified in 3 categories:

(i) Conventional Methods

(ii) Statistical & Mathematical

(iii) Inventory Models

(i) Conventional Methods

The various traditional methods that are available for the determination of optimum cash balance are:

Receipt & Payment Method: The most important and primary method of short-term cash forecasting is the receipts and payments method. Under this method, the timings and quantum of the expected cash receipts and cash payments, during the budget period, are computed. It includes all types of receipts and payments, irrespective of their classifications (into expenses and expenditures, etc.) on the strict principles of accounting. The various items of cash receipts and payments, and the basis on which these may be estimated, are given hereunder:
(i) Estimated sales – (cash and credit sales)
(ii) Production plans
(iii) Purchase plan
(iv) Financing plan, and
(v) Capital expenditure budget.

And, out of all these items, the most important and pivotal item seems to be the estimate of sales (both cash sales and credit sales) because, the various other plans and estimates are directly based upon the sales figure. Therefore, the companies would do well if some special care is taken while estimating the level of sales, so that it may be as near accurate as possible. Thus, within a period of 2/3 years, the system of sales estimates may get stabilised, after periodical review of the gaps between the estimated and actual figures, and by taking the required corrective steps, from time to time.

**Adjusted Net Income Method:** This method of cash forecasting involves the tracing of working capital flows. It is sometimes called the sources and uses approach. Two objectives of the adjusted net income approach are: (i) to project the company’s need for cash at a future date and (ii) to show whether the company can generate the required funds internally, and if not, how much will have to be borrowed or raised in the capital market.

It is, in fact, a projected cash flow statement based on Performa financial statements. It generally has three sections: sources of cash, uses of cash and the adjusted cash balance. This procedure helps in adjusting estimated earnings on an accrual basis to a cash basis. It also helps in anticipating the working capital movements.
In preparing the adjusted net income forecasts items such as net income, depreciation, taxes, dividends etc., can easily be determined from the company's annual operating budget. Normally difficulty is faced in estimating working capital changes; especially the estimates of accounts receivable (debtors) and inventory pose problem because they are influenced by factors such as fluctuations in raw-material costs, changing demand for the company's products and possible delays in collections. Any error in predicting these items can make the reliability of forecast doubtful.

The benefits of the adjusted net income method are:

- It highlights the movements in the working capital items, and thus helps to keep a control on a firm's working capital.
- It helps in anticipating a firm's financial requirements.

The major limitation of this method is:

- It fails to trace cash flows, and therefore, its utility in controlling daily cash operations is limited.

**Other Conventional Method:** In other traditional techniques, namely, a certain percentage of current assets, a certain percentage of sales, cash in terms of number of days of current obligations, etc., the average relationship between the two attributes in the past is used to make future predictions. The techniques might not yield accurate estimations in a growing economy. That's why they are not popular with the organisations.

(ii) **Statistical & Mathematical Methods**

The statistical and mathematical methods for cash forecasting
Probability Distribution Method

Linear Regression Method

Linear Programming Model

**Probability Distribution Method**: A probability distribution\(^1\) may be defined as a range of estimates of the likely future outcomes. The expected value is defined as the most likely or average estimate of the cash inflows. It might be determined by totalling the cash inflows over a period of time and dividing it by the number of days in the period.

The probability distribution highlights the fact that a forecasted value is a single value usually at the centre of a possible range of values. The firm may forecast a cash level. The actual value may be above or below this level. Thus, in forecasting future cash levels we have point estimates and a range of possible values, which is depicted in the following figure by a bell-shaped curve.

\[\text{Graph showing a bell-shaped curve.}\]

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One distinguishing point of probability distribution is that it highlights the fact that cash forecast is not a point estimate rather it will be a expected value or a range of possible cash levels. The exact level will be determined by real business forces. In a stable environment, a firm will have more compact probability distribution. In a less stable environment where wide fluctuations are likely, the expected value may be same but the range of inflows and outflows may differ significantly.

**Linear Regression Method**: The second statistical tool that may be used for cash forecasting is the line of linear regression, whereby past collected data is systematically arranged and analysed to give it the shape of a linear line which is used for future predictions. This may be done by fitting a line of best fit i.e. the sum of squares of deviations of actual from expected values is the least. The linear regression line takes the following general form:

\[ Y = a + bx \]

Where \[ x \] = The independent value

\[ Y \] = The dependent value or the predicted value

\[ a \] = The minimum constant value of the dependent value

\[ b \] = The rate of growth of the dependent value

Cash flows may be related to sales volumes. The past data about cash flows and sales may be analysed to determine the degree of co-variability between the two and give it the shape of a regression line to be used for future cash predictions for the given levels of sales.

The regression analysis assists the analyst in making more accurate estimates, but they must be used with care for several reasons:
(i) The linear relationship may not be accurate. The real relationship may be curvilinear and a more powerful statistical technique may be needed to express it.

(ii) The degree of covariability between the two variables may change in future and thus the predicted values may not tend closer to the actual ones.

(iii) The present economic system is not so simple so as to describe it in the form of a two variable relationship. Thus, some additional statistical technique is needed to supplement the results as obtained by the use of linear regression method.

**The Linear Programming Model**: Under linear programming model an attempt has been made to produce more authentic and reliable results by interrelation larger number of variables. The model was designed to optimise operating decisions subject to various financial constraints including the opportunity cost of the long term funds. From time to time various linear programming models have been developed to deal with the problem of optimising cash balance within the present framework of financial constraints. One such model known as the ‘ORGLER MODEL’ is as follows:

The Orgler’s model is the most comprehensive of the linear programming models because it takes into consideration a number of constraints and it possesses the ability to forecast even during uneven periods. The various constraints that are accounted for by the Orgler’s model may be as follows:

(i) Payments: Payments here refer to accounts payable which are subject to credit terms as specified by the creditors and which are due for payments during the period under consideration. The payments other
than accounts payable can also be suitably incorporated in this model provided they are controllable.

(ii) Short-term financing: This constraint includes all sources of short-term financing except sale from securities. The availability of short-term financing affects other financing also so it must be properly accounted for.

(iii) Sale from securities: This constraint related to the proceeds of sale of securities. Here it is assumed that the securities are sold out at the beginning of the day.

(iv) Minimum cash balance: This model further assumes a certain minimum level of cash that must be maintained by the organisation all the times. This is the minimum cash balance which is needed to keep the organisation in the functioning state.

(v) Cash flows: This category of constraints covers other cash receipts and payments which are beyond the manager’s control.

The Orgler’s model, with the above mentioned constraints is assumed to be quite complete and comprehensive. However, it is not free from limitations. The main limitation being its comprehensiveness. For big organisation it is impossible to define all the constraints so as to be included in the model and thus attaining realistic results. Another drawback is that it requires continuous updating of the model with the changing business scenario, which calls for more maintenance time and expense. Further, this model is based upon the assumption that cash flows and interest rates are known in advance with certainty, which is an unrealistic assumption. Last but not the least, this model being more sophisticated, is beyond the comprehension of the user with normal skills. It requires comparatively longer time to develop the initial model. Thus because of these limitations it is also not very popular among the users.
(iii) **Inventory Models**

There are broadly three types of models that are available for cash forecasting under this head, namely:

**Baumol Model**: The Baumol cash management model provides a formal approach for determining a firm’s optimum cash balance under certainty.\(^1\) It considers cash management similar to an inventory management problem. As such, the firm attempts to minimize the sum of the cost of holding cash (inventory of cash) and the cost of converting marketable securities to cash.

The Baumol’s model makes the following assumptions:

- The firm is able to forecast its cash needs with certainty.
- The firm’s cash payments occur uniformly over a period of time.
- The opportunity cost of holding cash is known and it does not change over time.
- The firm will incur the same transaction cost whenever it converts securities to cash.

Let us assume that the firm sells securities and starts with a cash balance of C rupees. As the firm spends cash, its cash balance decreases steadily and reaches to zero. He firm replenishes its cash balance to C rupees by selling marketable securities. This pattern continues over time. Since the cash balance decreases steadily, the average cash balance will be: \( C/2 \). This pattern is shown in figure:

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Baumole model for cash balance

The firm incurs a holding cost for keeping the cash balance. It is an opportunity cost; that is, the return foregone on the marketable securities. If the opportunity cost is \( k \), then the firm’s holding cost for maintaining an average cash balance is as follows:

\[
\text{Holding cost} = k = \frac{C}{2}
\]

The firm incurs a transaction cost whenever it converts its marketable securities to cash. Total number of transaction during the year will be total funds requirement, \( T \), divided by the cash balance, \( C \), i.e. \( T/C \). The per transaction cost is assumed to be constant. If per transaction cost is \( c \), then the total transaction cost will be

\[
\text{Transaction cost} = c \left( \frac{T}{C} \right)
\]

The total annual cost of the demand for cash will be:

\[
\text{Total cost} = k\left(\frac{C}{2}\right) + c\left(\frac{T}{C}\right)
\]

What is the optimum level of cash balance \( C^* \)? We know that the holding cost increases as demand for cash, \( C \), increases. However, the transaction cost reduces because with increasing \( C \) the number of transaction
will decline. Thus, there is a trade-off between the holding cost and the transaction cost.

The optimum cash balance, C, is obtained when the total cost is minimum. The formula for the optimum cash balance is as follows:

\[ C = \sqrt{\frac{2CT}{K}} \]

The Miller-ORR Approach: In this approach the forecast about optimum cash level is made upon the assumption that cash moves in a random (stochastic) manner rather than in a deterministic manner. For predicting cash requirement, the use of two components of working capital, namely, cash and marketable securities, has been made. It assumes that cash when not needed is utilised in the purchase of securities from the market and when there is cash shortage situation that is made up by disposing off securities in the market. This model requires fixation of ‘The Maximum Cash Balance Limit’ and ‘The Minimum Cash Balance Limit’ by the user. The Miller-Orn model of cash control is clearly illustrated by the following graph:
This model incidentally overlooks the fact that the cash manager exercises over the disbursements and there is high degree of certainty in the short term predictions of cash requirement. Further it limits the use of cash only to marketable securities and thus ignoring other useful and convenient modes of short-term utilisation of cash such as short-term bank deposits, which is the most extensively used alternative on the Indian business screen. For these limitations, this model is not very helpful to the organisations in the solution of the related cash flow problems.

**Uncertainty Model – Stone**\(^1\): This model is based on the argument that average cash (bank) balance is determined by bank’s requirement of maintaining compensatory bank balance in current account when an overdraft is taken.\(^2\) The objective functioning, therefore, shifts from balancing opportunity cost and security transaction costs to *minimising* transaction costs subject to the constraint that the average balance must always equal the target balance. According to Stone, cash flows can be divided into two parts; one which is random and the other which can be forecasted. He, therefore, uses control-limits similar to that in Miller and Orr model except that he prescribes two sets of limits; outer limits and inner limits. When cash (bank) balance reaches the outer limit, the finance manager does not trigger securities purchase, as in the case of Miller and Orr model, but checks with the forecasts for the next pre-determined days (which are normally a few days only, say three days). If he finds that the forecasted cash flow is expected to move within the inner limits, i.e. the balance is closer to target balance, he does not order any securities transactions and hence, saves on transaction costs. If,


\[^2\] As of now, firms in India are not required to maintain any compensatory balance which is a well established practice in the United States. However Stone’s model still has practical relevance in India for firms who set up control limits on their own.
however, the forecasted cash balance is outside the inner limit's, i.e. the closing balance is far away from the target balance, he orders buying or selling of securities to the extent that closing balance at the end of predetermined days become equal to the target balance.

The three models discussed above are based on a range of assumptions— from deterministic (Baumol) to purely random (Miller and Orr) and then a combination of both (Stone). In real-life situations cash flows are expected to fit into any or a combination of these assumptions. This coupled with intuitive judgement of the finance manager may ultimately lead to the development of a cash management model uniquely suitable for a firm. We should point out here that none of the above models have earned unqualified success. Often, simple rules of thumb have been found to be performing just as well.\textsuperscript{1} The moral of these findings is that none of these cash management models should be applied mechanistically.

It has been point in practice that companies are still using traditional methods of cash forecasting i.e. The Receipt and Disbursement method and the net adjusted balance method. The other statistical method and advanced inventory models are not in use for the reason mentioned earlier.

**CONTROL OF CASH FLOWS**

Control of cash flows requires adherence of actual cash flows to the budgeted ones as far as possible. The available technique for the exercise of control over cash flows is the preparation of a Cash Budget and Cash Reports. Once the cash budget is ready and the optimum net cash balance is known, the financial manager should aim that the actual cash flows in the projected

manner without significant variations. However, if there are marked variations as reported by the cash report that may be the outcome of wrong or improper implementation of the budgets. Hence corrective action should be taken in the form of revising the budgets if warranted by the circumstances and by exercising control over cash flows. The objective of cash control is achieved by accelerating cash collections as far as possible and delaying cash payments to the maximum possible.

Accelerating Cash Collections

A firm can reduce its demand for cash by speeding up collections or in other words by reducing the float period. The whole period between placing an order and the time funds become available to the firm for use can be divided in three parts

(i) The time span between receipt of an order and execution of an order i.e. the order processing float.

(ii) The time taken by the buyer in honouring the bills i.e. the buyer float.

(iii) The time between the moment when the payment is made by the customer and the moment the funds become available to the firm for use. In other words the time lag for which the funds remain in transit i.e. the deposit float.

It is the last phase of float mentioned above, which is most crucial. The firms employ different techniques to reduce the time for which the funds remain in transit. Some of the important techniques in normal practice are

(i) Concentration Banking.
(ii) Lock Box System.
(iii) Collection of Payments Personally.
Concentration Banking

The concentration banking is a useful technique of expediting collections. Under this technique a large concern having its operations over a wide territory functions through a network of collection centres spread over the areas where it has its branches. All the branches may not have collection centres. The collection centres collect the cheques from the customers within their territory and deposit the same in their local bank accounts. These centres then transfer such collected funds to the central bank account as directed by the head office on daily basis. Thus, it saves mailing and processing time.

Lock Box System

Under this system the firm hires a number of post office boxes at different centres where its customers are located. The firm’s main bank is required to pick up collections from these local boxes on daily basis. The main advantage of Lock Box System is that the cheque is deposited immediately on its receipt as the collection is handled by the bank itself. The bank handles the collections comparatively at a lower cost.

Collection of Payments Personally

Under this method, local sales representatives collect the payments and send them directly to the head office. This is more personalised and effective way of expediting the collections. The drawback is the time taken by the local representatives in the submission of collections to the main bank account.

INADEQUACY OF CASH AND ITS FINANCING

Inadequacy of cash or shortage of cash is a situation when cash outflows exceed cash inflows during a certain period. Such shortages of cash
should be immediately made up, otherwise it will bring discredit to the concern or it may even cause liquidation of the concern inspite of strong financial position in the long run. A concern may provide for such temporary shortages by:

(i) Resorting to Short Term Bank Loans.
(ii) Resorting to Discounting of Bills.
(iii) Disposing off Marketable Securities.
(iv) Postponing Payments.
(vi) Utilising Short-Term Loans other than Bank Loans etc.

Cash shortages even for a short period pose many problems for the concern. It breaks down the morale of the management which weakens its negotiating power with the suppliers and the bankers. The concern may not be in a position to avail cash discount due to its inability to honour its commitment in time. Bankers try to overcharge for their loans. In other words, the whole working atmosphere starts turning unfavourable. Hence, it calls for prompt remedial measure.

INVESTMENT OF SURPLUS FUNDS

Cash surplus is a situation where cash inflows exceeds cash outflows during a certain period. Such surplus fund should be invested in a manner which is safe and relatively liquid. There are, in fact several options available to the companies, depending upon the varying degree of risks and liquidity and the matching income generation.

Some safe avenues of investment are:
(i) Ready Forward

This represents the deal of sale of some specified securities, to be purchased back (by the seller itself) at a later date (i.e., forward), at a ready (i.e., predetermined) price. That is why, the term, ‘Ready Forward’.

Under this arrangement, the banks (and some other organizations) may sell (some of the specified securities only) to a company, at a certain price, but on the condition that the same securities will be bought back by the seller, on a stipulated date, and at a (somewhat) higher price, mutually agreed upon at the time of the sale itself.

This way the bank may unload some of the specified securities (purchased by it to meet its requirements of SLR (Statutory Liquidity Ratio) to invest/advance the funds, so generated, elsewhere, at a higher yield. And, the company concerned is also able to park its surplus funds for a short period, safely and with sure liquidity.

And, the price difference (between the purchase and resale price) is the yield to the company, instead of the interest on the invested amount.

(ii) Treasury Bills

Investments of treasury bills are safe enough, as these are issued by the Reserve Bank of India on behalf of the Government of India.

These are issued for a period of 91 days, 182 days and 364 days, and at a discount. Thus, the rate of interest is the function of the rate of discount and the period of maturity.
(iii) **Certificates of Deposits (CDs)**

The certificates of deposits, are issued by the banks for a specified amount and for a specified period. These (unlike the Term Deposits) are negotiable, too. It may be issued in “bearer” form, too, (besides in the registered form).

Further, these are traded even in the secondary market. These are issued at a specified rate of interest, where the yield is somewhat higher than even Treasury Bills.

(iv) **Commercial Papers (CPs)**

These are the unsecured money market instruments, issued in the form of promissory notes, in physical or dematerialised form, and at a discount to the face value).

(v) **Public Deposits**

Public deposits are unsecured deposits, solicited and accepted by large and small companies, mainly for meeting their working capital requirements.

(vi) **Inter-Corporate Deposits (ICDs)**:

These are the unsecured deposits made by one corporate body with another. The maturity period, however, varies from minimum “one-day notice” to maximum six months.

There are three types of ICDs:

(i) Call Deposits – i.e., payable on demand, on one-day notice. But, usually, it takes around two to three days, to effect the actual payment.
(ii) Three Months Deposits.

(iii) Six Months Deposits (which is the maximum maturity period permitted).

(vii) Purchase/Discount of Demand/Time Bills:

As the demand bills and the (usance) bills are purchased and discounted, respectively, by the bank, such facility may be granted even by the companies, which are flush with surplus funds, though temporarily.

The exact action shall vary from company to company depending upon the size of surplus funds the time for which cash is surplus and the opportunities for short term utilisation of fund.

**CASH PLANNING IN SELECTED TYRE COMPANIES**

As explained above there are various ways in which scientific cash management can be carried out. What precise measures are undertaken to manage cash differs from company to company. The present researcher carried out personal interviews at the selected company to identify the cash planning practices. The major corner stone of the cash management practices are as under:

(i) The companies prepare a detail cash plan every month. These cash plans indicate expected inflow outflow and the balance in the beginning and end.

(ii) The periodicity of plans is justified by the finance departments on the grounds that the period is neither too long nor too big.
(iii) Ideally preparation of such plans on daily basis is considered more desirable as far as theory of financial management is concerned. However preparation of daily cash plans is severely discouraged in practice by practical considerations. The business set up and movement of cash is rendered very complex by the enormously large number of transactions, distance between head office, factory, branches and dealers. This complexity renders preparation of daily plans unfeasible. Similarly, yearly cash plans also have limited utility. Cash is the most liquid component of the working capital and hence needs to be monitored constantly. Therefore, companies find monthly plans to be of greater practical utility.

(iv) Tyre industry functions through a network of branches, sales depots and dealers. They are spread throughout the country as well as foreign countries. The issue of cash management focuses on the management of cash inflows and outflows. And the issue is unique to the tyre companies. Cash outflows involve payment for raw materials, wages, overhaul expenditure capital goods etc. These outflows are routed through and are concentrated at the factory. On the other hand, major cash inflows in the form of sales revenues and collection from customers take place as different branches. The head office bears the responsibility of reconciling these cash outflows and inflows. The Head Office finally decides the optimal level of cash of the company. Branches are instructed to submit weekly reports of the cash to the head office along with details of funds transferred to head office.

CASH FORECASTING BY SELECTED TYRE COMPANIES

Theoretically numbers of techniques have evolved for forecasting cash. However it was found that the modern and statistical techniques are not being
used despite most managers having M.B.A. & C.A. degrees. The reason explained by respondent during interview was their skepticism and doubt regarding the practical utility of theoretical mathematical formulas and methods. The companies were found to be using traditional techniques of forecast namely the receipt and disbursement method and the adjusted net income method. These techniques were appreciated by the managers as there were simple in use and easy to understand. As far computerisation of the methods was concerned the companies have created spread sheets for using these methods.

Management of Cash Surplus and Cash Shortage Situation

Companies under study meet their working capital requirements through cash credit limits. In case of surplus cash situation the companies resort to lower utilisation of cash credit limit to ensure lower interest cost. However, if money can be invested at higher return (i.e., call money market) than the interest rate of bank, then investment for short periods is made duly keeping in view the security aspect. Further, companies under study are by large profit making companies and normally do not face situation of cash shortage. Even if such a situation arises, then it is managed by availing loan under current account, availing longer credit from suppliers and putting more pressure on marketing personnel to ensure speedy collections.

EVALUATION OF CASH MANAGEMENT PERFORMANCE OF SELECTED COMPANIES

The present section is aimed at analysing the performance of cash management in the selected tyre companies of India. The cash management rests on 3 major pillars namely:
(i) Cash should be available with the company in adequate quantity so that
day to day obligations are met with ease and credit worthiness of the
company is not compromise.

(ii) There should be a reasonable degree of control over the cash flows.

(iii) The utilisation of surplus cash must be profitable.

To examine the state of cash management on the basis of above three
criteria comprehensive ratio analysis has been carried out. The following
sections discuss :

(i) Adequacy of cash

(ii) Degree of control over cash flows

(iii) Utilisation of surplus cash.

Adequacy of Cash in Selected Tyre Companies

Cash, which is idle assets but very significant for the sustained
functioning of a company, should be just sufficient. There are various
mathematical models, discussed earlier in this chapter, available for
calculating the financial needs of a company. Now we shall analyse the
performance of selected tyre companies in India with regard to adequacy of
cash. The various ratios that are helpful for such evaluation may be :

(i) Current ratio

(ii) Quick ratio

(iii) Cash in term of number of days of current obligation

(iv) Net cash flows to current liability ratio
Current Ratio: The current ratios of the selected tyre companies are presented in table 4.1. It can be observed from the table that over the period under study the average current ratio in case of MRF & Ceat is above the traditional benchmark 2. It is 2.82 in case of MRF & 2.07 in case of Ceat. The variability is higher in case of Ceat. This variability is manifest in the fact that coefficient of variation in the current ratio of Ceat is 14% whereas it is only about 10% in case of MRF. Higher variability in case of Ceat is due to the fact that over the years the ratio has been declining particularly since the year 2001. In case Apollo the current ratio has always been less than 2 over 1996 and 2005. It may however been mentioned that inspite of low C.R. in case of Apollo and Ceat it does not appear that it is sign of inadequacy the reason is that both the companies have higher return on capital employed.

Quick Ratio: This ratio is more rigorous test of liquidity of a firm. It indicates whether the firm is in a position to meet its currently maturing obligation or not. Traditionally of 1:1 is regarded as ideal. The quick ratios of the selected tyre companies are presented in table 4.2 annexed to this chapter. It can be seen from the table that the average quick ratio in case of MRF has been 1.67. With a coefficient of variation of 11%. Likewise on an average quick ratio was 1.66 with a coefficient of variation of 12.65% in case of Ceat and 1.16 and 9.48% respectively in case of Apollo. This indicates that quick assets have always exceeded current liabilities in case of companies under study. It shows that there is scope for reducing the level of quick assets and therefore the investment in working capital. However purely from the point of adequacy, the ratios portray a happy picture.

If we examine the ratios over 10 year period from 1996 to 2005, it can be seen that in case of all the companies the quick ratio has registered a
decline presumably it indicates improvement in the efficiency of working capital management.

**Cash in Terms of Number of Days of Current Liabilities**: This ratio tells us how many days of current liabilities are kept in the firm of cash. In this regard the ratio is presented in table 4.3 attached to this chapter. It can be seen from the table that average number of days is about 58 in case of MRF, 55 in case of Ceat and 66 in case of Apollo. However when we look at the trend interesting revelations are made. In case of MRF the ratio has fallen from 71 days to 41. In case of Ceat there is a very sharp fall from about 61 days in 1996 to as low as 19 days in 2005. In contrast Apollo has registered an increase in this ratio. It has increase from about 58 days in 1996 to 71 days in 2005. Thus the cash holding for meeting the current liabilities is falling. In case of MRF and Ceat but is rising in case of Apollo.

The coefficient of variation is the lowest in case of Apollo which means that variability of the ratio is least in case of this company. However coefficient of variation in Ceat is 40% and in MRF 30%. However the variability in ratio is not alarming. The rise and fall in these ratios is more or less consistent.

**Net Cash Flow to Current Liability Ratio**: Net cash flow of funds to current liabilities ratio is the ratio of net flow of funds to average current liabilities. Funds, here, mean working capital.¹ Net flow of funds means profits before taxes plus depreciation and other non-cash charges. So far, no standard cut-off point has been laid down to distinguish between liquid and

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¹ The term funds can be used to refer to cash, and it is possible to prepare a statement of sources and applications of cash. However, for general financial reporting purposes, the statement reporting the changes in working capital is more useful since it is somewhat less subject to manipulation. For example, the cash balance may be temporarily increased by deferring the payment of accounts payable, but this action does not change the net working capital [Harold Bierman, Jr., op. cit., p.628].
non-liquid firms or solvent and insolvent firms. Some scholars hold the view that a firm to be actually liquid and solvent should have 100 percent or more net flow of funds to cover current liabilities. However, this view does not seem to be valid because a firm with less than 100 percent net funds flow relative to current liabilities may also be actually liquid and solvent because as long as funds flow is positive it would provide added safety to current creditors. Moreover all current liabilities do not have to be paid off at the same time. Some keep getting new lease of life through renewals and some need to be paid only after a certain time gap. If any positive flow of funds is generated in the mean time before payments become due that would contribute to the liquidity position of the firm. Therefore, presence of positive funds from operations is sign of existence of liquidity. Thus, ratio of net funds flow to current liabilities may also be utilised to study liquidity. The higher the ratio, the greater the degree of liquidity and solvency of the firm.

Table 4.4 attached to this chapter, presents ratio of net cash flows to current liabilities relating to selected tyre companies. It can be seen from the table that net cash flows are .70 i.e. 70% on the average in case of MRF over the 10 year period as a whole. This percentage is only 8% in case of Ceat and 29% in case of Apollo. This implies that cash flow generation is MRF and Ceat is much more than in Apollo. However, the position of Apollo can not be considered poor in this regard because over the years it has remained comfortable except in 2001 when it fell to only 16%. In 2003 it suddenly short up to 51% to come down in the next 2 years.

This sort of fluctuation in net cash flow is observable in case of Ceat and MRF also. Position of Ceat from the point of view of this ratio is very poor. In 2005 this ratio was only 3% whereas it was 18% in 1996. The

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position of the company was very bad in 2001 when this ratio was on .01 i.e. 1%. However, it recovered the very next year when the ratio went up to 5% and than to 11% in 2003. Since then it has once again falling. This implies that operation are not generating much cash. In case of Apollo net cash flows are .29 i.e. 29% on the average over the study period of 10 years. There is not much deviations in the cash flows over a period in time, the standard deviation is only .1.

As far as MRF is concerned the ratio has remained consistently high although there has been gradual decline since 1999. In 2005 it was 40%.

We can conclude that cash is adequate but Ceat is likely to face difficulties in future because its Net Cash Flow to Current Liability ratio is relatively low.

Degree of Control Over Cash Flows Among Tyre Companies

One of the major objectives of cash management from the stand point of increasing return on investment is to economise on cash holding without impairing the overall liquidity requirement of a concern. This is possible by effective control over cash flows. The following important ratios indicate control of cash flows:

(i) Cash to Current Assets Ratio
(ii) Cash Turnover to Sales
(iii) Cash to Current Liability Ratio.

(i) **Cash to Current Assets Ratio**: Holding of unnecessary cash adversely affects the profitability of a concern, since idle cash as an asset is not only devoid of earning power, but on the contrary, it involves cost of retention.
Moreover, in an inflationary economy cash loses purchasing power as well. Proportion of cash to current assets directly affect the profitability of a concern. The lower is the ratio; the greater is the profitability of a concern and vice versa. Further, a downward trend in this ratio over the period of time indicates decreasing level of cash availability whereas an upward trend reveals increase of level in cash availability.

Table 4.5 annexed to this chapter shows that the average cash to current assets ratio is 11% in Apollo, 7% in Ceat and 6% in case of MRF over the study period. This implies from profitability point of view MRF manage to work with lesser cash as compared to Ceat and Apollo.

Cash to Current Assets ratio has increased from 9% in 1996 to 12% in 2005 in Apollo tyres indicating increase level of cash availability over a period of time.

In case of Ceat this ratio is declining from 7% in 1996 to 3% in the year 2005 which indicates decreasing level of cash availability.

As far as MRF is concerned the position is like Ceat. The ratio is declining from 9% in 1996 to 4% in the year 2005, which is good from profitability point of view. Variability of cash to current assets ratio can be judged from co-efficient of variation. It is 18.18%, 28.57% and 33.33%, for Apollo, Ceat and MRF respectively. It implies that variability is least in Apollo tyres and maximum in MRF.

(ii) Cash Turnover in Sales Ratio: Higher cash turnover in sales indicates effective utilisation of cash resources. If a concern cash turnover its cash work faster frequency of times, it can finance greater volume of sales with relatively lesser cash resources. This will increase the profitability of the
concern. Moreover such a company would not require proportionate increase in cash resources with increase in its sales.

Table 4.6 annexed to this chapter exhibits cash to sales ratio of sample companies over the study period, this ratio is 21.98, 22.19 and 42.98 times for Apollo tyres, Ceat and MRF respectively. This clearly indicates that cash turnover ratio is higher in MRF as compared to Apollo & Ceat. In which it is more or less same. The perusal of the table 4.6 clearly indicates that MRF has been managing their cash more effectively than Apollo and Ceat. Cash turnover ratio of Ceat has improved significantly over the study period i.e. from 18.94 times in 1995-96 to 49.05 times in 2004-05. In case of Apollo this ratio has declined from 25.19 times in 1995-96 to 20.25 times in 2004-05. MRF has slightly improved this ratio, from 35.93 times in 1995-96 to 64.31 times in 2004-05.

(iii) Cash to Current Liabilities Ratio: Lower cash to current liability ratio indicates better utilisation of cash and vice-versa.

The ratio is presented in table 4.7 attached to this chapter, shows that there is not much difference among the three companies as far as this ratio is concerned. On an average over a period of 10 years. It is 15% in Ceat, 18% in Apollo and 16% in MRF Cash to current liability ratio has declined in case of Ceat Ltd. which has come down from .17 i.e. 17% to .05 i.e. 5% from the year 1995-96 to 2004-05 depicting better utilisation of cash. Similarly, in MRF also this ratio has declined from .19 i.e. 19% to .11 i.e. 11%. But in case of Apollo it has slightly increased from 16% to 19% indicating requirement of further strengthening the cash flow system.
Utilisation of Surplus Cash by Tyre Companies Under Study

These are several occasions when the companies are having some surplus funds, which they may of course, require, but after some time. Such surplus funds are invested in some safe avenues of investment, which may be safe and relatively liquid, and which can earn some reasonable interest too, during the intervening period. We found that tyre companies invest their surplus fund in following investments depending on their time horizon and willingness to take note at different point of time.

(i) Treasury bills
(ii) Certificate of deposits with banks (CDs)
(iii) Commercial papers (CPs)
(iv) Inter corporate deposits (ICDs)
(v) Marketable securities
(vi) Purchase and discount of bills

Out of the above mentioned alternatives inter-corporate deposits and deposits with the banks are most common investment avenue followed by tyre companies. MRF and Apollo also park their surplus fund occasionally in stock market when stock marketing is in good shape.
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|       | AVERAGE | 586.53 | 349.95 | 1.7 | 819.29 | 408.16 | 2.07 | 811.35 | 287.46 | 2.82 |
|       | STDEV | 167.67 | 116.17 | 0.11 | 103.46 | 111.27 | 0.29 | 210.06 | 70.86 | 0.29 |
|       | COVAR | 28.59 | 33.2 | 6.47 | 12.63 | 27.26 | 14.01 | 25.89 | 24.65 | 10.28 |

**CURRENT RATIO = CURRENT ASSETS / CURRENT LIABILITIES**
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* CASH / CURRENT LIABILITIES * 365
## Table 4.4

### NET CASH FLOWS TO CURRENT LIABILITIES

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* CASH / CURRENT ASSETS

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*SALE / CASH

(Rs/Crare)