

Table of Contents

1.1 OBJECTIVES.....	5
1.2 FACETS OF CASH MANAGEMENT.....	6
Figure 1.1: Cash Management Cycle.....	6
1.2.1 Motives for Holding Cash	7
1.2.2 Cash Planning	7
1.2.3 Determining Optimum Cash Balance.....	8
1.3 METHODS OF CASH FLOW BUDGETING	11
① Check Your Progress 1.....	12
1.4 INVESTING SURPLUS CASH.....	13
Types of Short Term Investment Opportunities	13
1.5 CASH COLLECTION AND DISBURSEMENTS	14
1.6 TREASURY MANAGEMENT	15
1.6.1 Treasury Risk Management.....	16
1.6.2 Functions of the Treasury Department	17
② Check Your Progress 2.....	18
1.7 SUMMARY.....	19
1.8 SELF-ASSESSMENT QUESTIONS/EXERCISES.....	19
Solved Examples	20
Check Your Progress 1	26

1.0 INTRODUCTION

Cash is an important current asset for the operations of business. Cash is the basic input that keeps business running continuously and smoothly. Too much cash and too little cash will have a negative impact on the overall profitability of the firm as too much cash would mean cash remaining idle and too less cash would hamper the smooth running of the operations of the firm. Therefore, there is need for the proper management of cash to ensure high levels of profitability. Cash is money, which can be used by the firm without any external restrictions. The term cash includes notes and coins, cheques held by the firm, and balances in their (the firms) bank accounts.

It is a usual practice to include near cash items such as marketable securities and bank term deposits in cash. The basic characteristics of near cash items is that, they can be quickly and easily converted into cash without any transaction cost or negligible transaction cost.

In the recent years we have witnessed an increasing volatility in interest rates and exchange rates which calls for specialised skills known as Treasury Management. Recent years have also witnessed an expanding economy due to which there is an increased demand of funds from the industry.

1.1 OBJECTIVES

After going through this unit, you should be able to:

- understand the motives for holding cash;
- prepare cash budget;
- understand how surplus cash is invested;
- understand how to reduce collection float, and
- understand the role and function of treasury management.

1.2 FACETS OF CASH MANAGEMENT

Cash management is concerned with the management of:

- Cash inflows and outflows of the firm
- Cash flows within the firm
- Cash balances (financing deficit and investing surplus).

The process of cash management can be represented by the cash management cycle as shown in *Figure 1.1*.

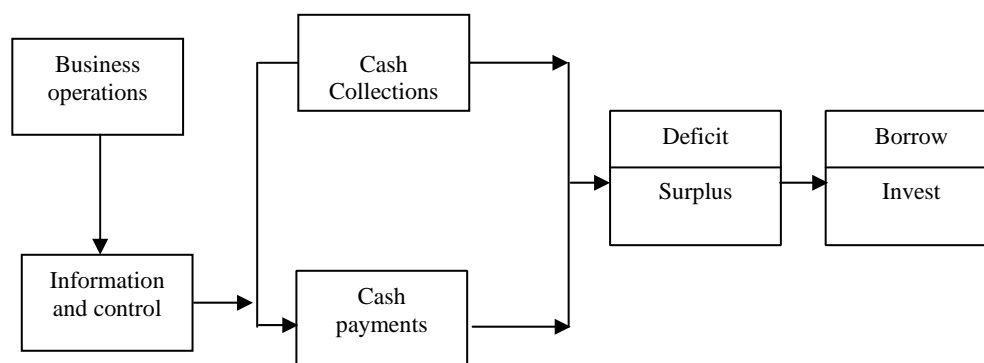


Figure 1.1: Cash Management Cycle

Sales generate cash which is used to pay for operating activities. The surplus cash has to be invested while deficit has to be borrowed. Cash management seeks to accomplish this cycle at minimum cost. At the same time it also seeks to achieve liquidity and control. Cash management assumes more importance than other current assets because cash is the least productive asset that a firm holds; it is significant because it is used to pay the firm's financial obligations. The main problem of cash management arises due to the difference in timing of cash inflows and outflows. In order to reduce this lack of synchronisation between cash receipts and payments the firm should develop appropriate strategies for cash management, encompassing the following:

- **Cash planning:** Cash inflows and outflows should be planned. Estimates regarding cash outflows and inflows for the planning period should be made to project cash surplus or deficit. Cash budget should be prepared for this purpose.
- **Managing cash flows:** Cash flows should be managed in such a way, that it, accelerates cash inflows and delays cash outflows as far as possible.

- **Optimum cash level:** The firm should decide about the optimum cash balance, which it should maintain. This decision requires a trade off between the cost of excess cash and the cost of cash deficiency.
- **Investing surplus cash and financing deficit:** Surplus cash should be invested in short term instruments so as to earn profits as well as maintain liquidity. Similarly, the firm should also plan in advance regarding the sources to finance short term cash deficit.

The cash management system design is influenced by the firm's products organisation structure, the market, competition and the culture in which it operates. Cash management is not a stand-alone function but it requires close coordination, accurate and timely inputs from various other departments of the organisation.

1.2.1 Motives for Holding Cash

The firm's need to hold cash may be attributed to the three motives given below:

- The transaction motive
- The precautionary motive
- The speculative motive.

Transaction Motive: The transaction motive requires a firm to hold cash to conduct its business in the ordinary course and pay for operating activities like purchases, wages and salaries, other operating expenses, taxes, dividends, payments for utilities etc. The basic reason for holding cash is non-synchronisation between cash inflows and cash outflows. Firms usually do not hold large amounts of cash, instead the cash is invested in market securities whose maturity corresponds with some anticipated payments. Transaction motive mainly refers to holding cash to meet anticipated payments whose timing is not perfectly matched with cash inflows.

Precautionary Motive: The precautionary motive is the need to hold cash to meet uncertainties and emergencies. The quantum of cash held for precautionary objective is influenced by the degree of predictability of cash flows. In case cash flows can be accurately estimated the cash held for precautionary motive would be fairly low. Another factor which influences the quantum of cash to be maintained for this motive is, the firm's ability to borrow at short notice. Precautionary balances are usually kept in the form of cash and marketable securities. The cash kept for precautionary motive does not earn any return, therefore, the firms should invest this cash in highly liquid and low risk marketable securities in order to earn some returns.

Speculative Motive: The speculative motive refers to holding of cash for investing in profit making opportunities as and when they arise. These kinds of opportunities are usually prevalent in businesses where the prices are volatile and sensitive to changes in the demand and supply conditions.

1.2.2 Cash Planning

Firms require cash to invest in inventory, receivables, fixed assets and to make payments for operating expenses, in order to increase sales and earnings and ensure the smooth running of business.

In the absence of proper planning the firm may face two types of situations: i) Cash deficit, and ii) Cash Surplus. In the former situation the normal working of the firm may be hampered and in extreme cases this type of situation may lead to liquidation of the firm. In the latter case the firm having surplus cash may be losing out on opportunities of earning good returns, as the cash is remaining idle. In order to avoid

these types of conditions the firms should resort to cash planning. Cash planning is a technique to plan and control the use of cash. It involves anticipating future cash flows and cash needs of the firm. The main objective of cash planning is to reduce the possibility of idle cash (which lowers the firms profitability) and cash deficits (which can cause the firms failure). Cash planning involves developing a projected cash statement from a forecast of cash inflows and outflows for a given period. These forecasts are based on present operations or anticipated future operations. The frequency of cash planning would depend upon the nature and complexity of the firms operations. Usually large firms prepare daily and weekly forecasts whereas medium and small firms prepare monthly forecasts.

Cash Forecasting and Budgeting

A cash budget is one of the most significant devices to plan and control cash receipts and payments. In preparation of a cash budget the following points are considered.

- Credit period allowed to debtors and the credit period allowed by creditors to the firm for goods and services.
- Payment of dividends, taxes etc., and the month in which such payments are to be made.
- Non-consideration of non-cash transactions (Depreciation). These type of transactions have no impact on cash flow.
- Minimum cash balance required and the amount of credit/overdraft limit allowed by the banks.
- Plan to deal with cash surplus and cash deficit situations.
- Debt repayment (time and amount).

Figure 1.2 highlights the cash surplus and cash shortage position over the period of cash budget for preplanning to take corrective and necessary steps.

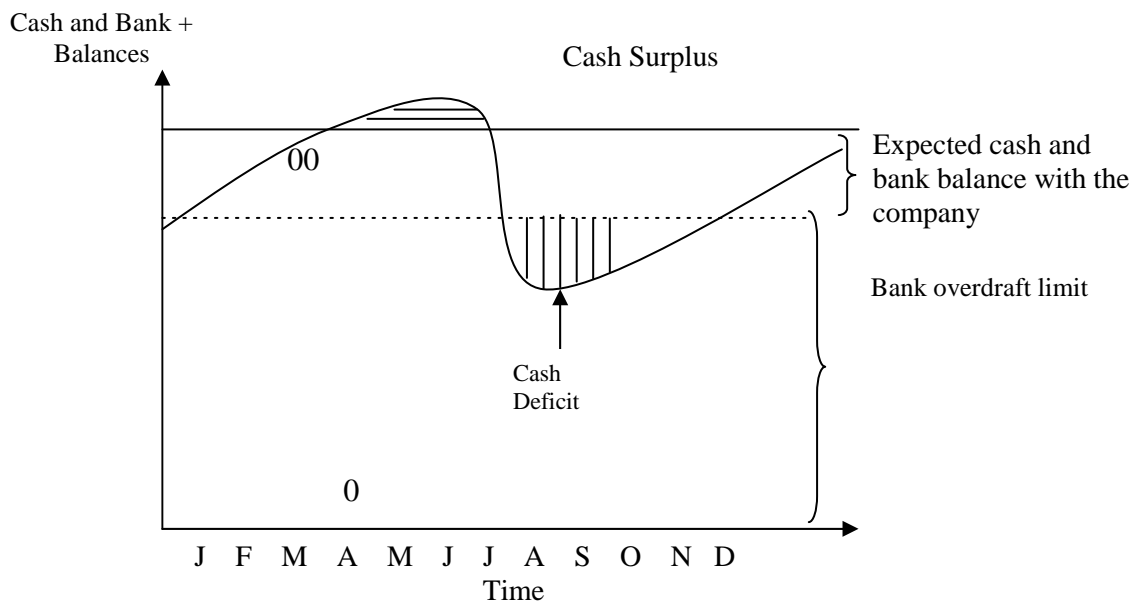


Figure 1.2: Cash surplus and cash deficit situations

1.2.3 Determining Optimum Cash Balance

One of the primary responsibilities of the financial manager is to maintain a sound liquidity position for the firm so that the dues are settled as and when they mature. Apart from this the finance manager has to ensure that enough cash is available for the smooth running of operating activities as well as for paying of interest, dividends and taxes. In a nut shell there should be availability of cash to meet the firm's obligation as and when they become due. The real dilemma which the finance manager faces is to decide on the quantum of cash balance to be maintained in such a

way that at any given point of time there is neither cash deficit nor cash surplus. Cash is a non-earning asset; therefore, cash should be maintained at the minimum level. The cost of holding cash is the loss of interest/return had that cash been invested profitably. The cost of surplus cash is the cost of interest/opportunities foregone. The cost of shortage/deficit of cash is measured by the cost of raising funds to meet the deficit or in extreme cases the cost of bankruptcy, restructuring and loss of goodwill. Cash shortage can result in sub-optimal investment decisions and sub-optimal financing decisions.

The firm should maintain optimum – just enough neither too much nor too little cash balance. There are some models used to calculate the optimum cash balance that a firm ought to maintain. But the most widely known model is **Baumol's model**. It is chiefly used when cash flows are predictable.

Optimum Cash Balance: Baumol's Model

The **Baumol Model** (1952) considers cash management problem as similar to inventory management problem. As such the firm attempts to minimise the total cost, which is the sum of cost of holding cash and the transaction cost (cost of converting marketable securities to cash). The **Baumol model** is based on the following assumptions:

- the firm is able to forecast its cash need with certainty,
- the opportunity cost of holding cash is known and it does not change over time, and
- the transaction cost is constant.

Let us assume that the firm sells securities and starts with a cash balance of **C** rupees. Over a period of time this cash balance decreases steadily and reaches zero. At this point the firm replenishes its cash balance to **C** rupees by selling marketable securities. This pattern continues over a period of time. Since the cash balance decreases steadily therefore the average cash balance is $C/2$. This pattern is shown in *Figure 1.3*.

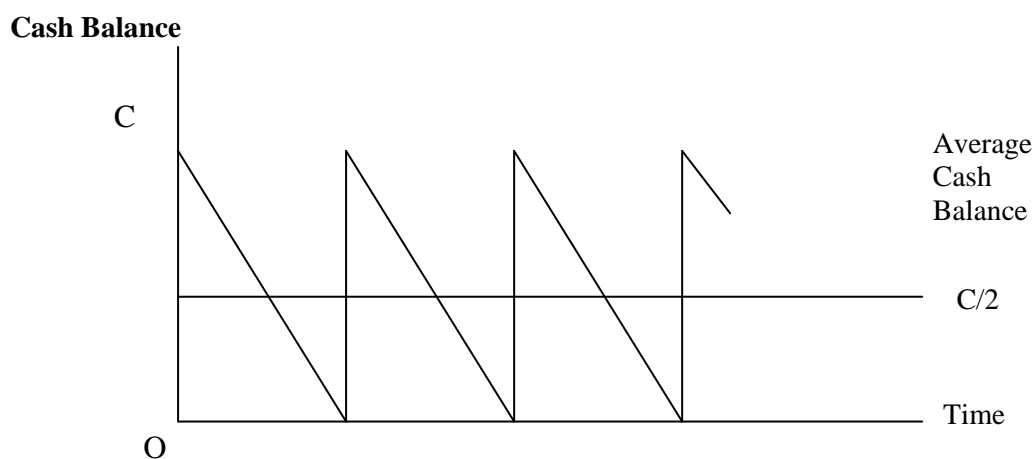


Figure 1.3: Pattern of Cash Balance: Baumol's Model

The firm incurs a holding cost for maintaining a cash balance. It is an opportunity cost, that is the return foregone on marketable securities. If the opportunity cost is **I**, then the firm's holding cost for maintaining an average cash balance is as follows:

$$\text{Holding Cost} = I (C/2).$$

The firm incurs a transaction cost whenever it converts its marketable securities to cash. Total number of transactions during the year would be the total fund requirement **T** divided by the cash balance **C** i.e., T/C . Since per transaction cost is

assumed to be constant and if per transaction cost is B the total transaction cost would be $B (T/C)$.

The total cost may be expressed as:

$$TC = I (C/2) + B (T/C)$$

Holding cost Transaction cost

where

C = Amount of marketable securities converted into cash per cycle

I = Interest rate earned on marketable securities

T = Projected cash requirement during the period

TC = Total cost or sum of conversion and holding costs.

The value of C which minimises TC may be found from the following equation

$$C^* = \sqrt{\frac{2bT}{I}}$$

The above equation is derived as follows:

Finding the first derivative of total cost function with respect to C. dTC

$$\frac{dTC}{dC} = -\frac{IT}{2C^2}$$

$$\frac{dTC}{dC} = -\frac{IT}{2C^2}$$

Setting the first derivative equal to zero, we obtain

$$-\frac{IT}{2C^2} = 0$$

Solving for C

$$C^* = \sqrt{\frac{2bT}{I}}$$

One can verify for second derivative condition ensuring C^* to be minimized.

Example 1.1: M/s Sunrise Industries estimates its total cash requirement at Rs. 20 million for the next year. The company's opportunity cost fund is 15 per cent per annum. The company will have to incur Rs. 150 per transaction when it converts its short term securities to cash. Determine the optimum cash balance. What is the total annual cost of the demand for optimum cash balance? How many deposits will have to be made during the year?

Solution:

$$C^* = \sqrt{\frac{2bT}{I}}$$

$$C^* = \sqrt{\frac{2(150)(2,00,000,00)}{.15}}$$

$$= \text{Rs. } 2,00,000$$

The annual cost will be:

$$TC = I (C/2) + B \left(\frac{T}{C} \right)$$

(C)

$$= 0.15 \left(\frac{2,00,000,00}{2,00,000,00} \right) + 150 \left(\frac{2,00,000,00}{2,00,000,00} \right)$$

$$= 15,000 + 15,000$$

$$= \text{Rs. } 30,000$$

In this financial year therefore, the company would have to make 100 conversions.

Short Term Cash Forecasts

The important objectives of short-term cash forecast are:

- determining operating cash requirement
- anticipating short term financing
- managing investment of surplus funds.

The short-term cash forecast helps in determining the cash requirement for a predetermined period to run a business. In the absence of this information the finance manager would not be able to decide upon the cash balances to be maintained. In addition to this the information given earlier would also be required to tie up with the financing bank in order to meet anticipated cash shortfall as well as to draw strategies to invest surplus cash in securities with appropriate maturities. Some of the other purposes of cash forecast are:

- planning reduction of short and long term debt
- scheduling payments in connection with capital expenditure programmes
- planning forward purchase of inventories
- taking advantage of cash discounts offered by suppliers, and
- guiding credit policy.

1.3 METHODS OF CASH FLOW BUDGETING

Cash budget is a detailed budget of income and cash expenditure incorporating both revenue and capital items. For control purposes the year's budget is generally phased into smaller periods e.g., monthly or quarterly. Since the cash budget is concerned with liquidity it must reflect changes in opening and closing balances of debtors and creditors. It should also focus on other cash outflows and inflows. The cash budget shows cash flows arising from the operational budgets and the profit and asset structure. A cash budget can be prepared by considering all the expected receipts and payments for budget period. All the cash inflow and outflow of all functional budgets including capital expenditure budgets are considered. Accruals and adjustments in accounts will not affect the cash flow budget. Anticipated cash inflow is added to the opening balance of cash and all cash payments are deducted from this to arrive at the closing balance of cash.

Format of Cash Budget

Period : First Quarter of 2005

Particulars	Months		
	Jan.	Feb.	March
	Rs.	Rs.	Rs.

Balance b/d	Receipts:			
Cash Sales				
	
Cash collected from Debtors		.....	.....	.....
Calls on Shares and Debentures		.....	.....	.....
Sales of Investments		.....	.....	.....
	<i>Cash Available (A)</i>	.....	.....	.....
Payments:				
Cash Purchases		.....	.....	.....
Payment to Creditors		.....	.....	.....
Wages and Salaries		.....	.....	.....
Expenses paid		.....	.....	.....
Dividend and Tax paid		.....	.....	.....
Repayment of Loans		.....	.....	.....
Purchase of Fixed Assets		.....	.....	.....
	<i>Total Payments (B)</i>	.....	.....	.....
Balance c/d (A-B)		.....	.....	.....

① Check Your Progress 1

- 1) ABC Co. wishes to arrange overdraft facilities with its bankers during the period April to June of a particular year, when it will be manufacturing mostly for stock. Prepare a Cash-Budget for the above period from the following data, indicating the extent to which the company would require the facilities of the bank at the end of each month:

(a)

Month	Sales Rs.	Purchases Rs.	Wages Rs.
February	1,80,000	1,24,800	12,000
March	1,92,000	1,44,000	14,000
April	1,08,000	2,43,000	11,000
May	1,74,000	2,46,000	10,000
June	1,26,000	2,68,000	15,000

- (b) 50% of the credit sales are realised in the month following sales and remaining 50% sales in the second month following. Creditors are paid in the following month of Purchase.

- (c) Cash in the Bank on 1st April (estimated) Rs. 25,000.

- 2) A company is expecting Rs. 25,000 cash in hand on 1st April 2005 and it requires you to prepare an estimate of cash position during the three months, April to June 2005. The following information is supplied to you.

Month	Sales Rs.	Purchase Rs.	Wages Rs.	Expenses Rs.
February	70,000	40,000	8,000	6,000
March	80,000	50,000	8,000	7,000
April	92,000	52,000	9,000	7,000
May	1,00,000	60,000	10,000	8,000
June	1,20,000	55,000	12,000	9,000

Other Information: (a) Period of credit allowed by suppliers is two months; (b) 25% of sale is for cash and the period of credit allowed to customers for credit sale is one month; (c) Delay in payment of wages and expenses one month; (d) Income tax Rs. 25,000 is to be paid in June 2005.

- 3) From the following forecast of income and expenditure prepare a cash Budget for three months ending 30th November. The Bank Balance on 1st September is Rs. 3,000.

Month	Sales Rs.	Purchase Rs.	Wages Rs.	Factory Exp.	Expenses Rs.
July	24,000	12,000	1,680	1,170	3,000
August	22,950	12,600	1,740	1,230	3,600
September	23,400	11,550	1,740	1,260	4,200
October	2,000	11,250	170	1,530	4,800
November	28,500	13,200	1,770	1,800	3,900

Other Information : (i) A sales commission @ 5% on sales which is due in the month following the month in which sales dues are collected is payable in addition to office expenses; (ii) Fixed Assets worth Rs. 19,500 will be purchased in September to be paid for in October; (iii) Rs. 5,000 in respect of debenture interest will be paid in October; (iv) The period of credit allowed to customers is two months and one month's credit is obtained from the suppliers of goods; (v) Wages are paid on an average fortnightly on 1st and 16th of each month in respect of dues for periods ending on the date preceding such days; (vi) Expenses are paid in the month in which they are due.

1.4 INVESTING SURPLUS CASH

The demand for working capital fluctuates as per the level of production, inventory, debtor's, creditors etc. The working capital requirements is not uniform throughout the year due to the seasonality of the product being manufactured and business cycles. Apart from this, the working capital requirement would also depend upon the demand of the product and demand-supply situation of the raw material. Interplay of all these variables would determine the need for working capital at any point of time.

In situations where the working capital requirement is reduced, it results in excess cash. This excess cash may be needed when the demand picks up. The firms may hold this excess cash as buffer to meet unpredictable financial needs. Since this excess cash does not earn any return the firms may invest this cash balance in marketable securities and other investment avenues.

Since this excess cash balance is available only for a short period of time, it should be invested in highly safe and liquid securities. The three basic features – safety, maturity and marketability should be kept in mind while making investment decisions regarding temporary surplus cash. Here safety implies that the default risk (viz., payment of interest and principal amount on maturity) should be minimum. Since the prices of long-term securities are more sensitive to interest rate changes as compared to short-term securities the firms should invest in securities of short-term maturity. Marketability refers to convenience, speed and transaction cost with which a security or an investment can be converted into cash.

Types of Short Term Investment Opportunities

The following short-term investment opportunities are available to companies in India to invest their temporary cash surplus.

- a) **Treasury Bills:** Treasury Bills are short-term government securities, they are sold at a discount to their face value and redeemed at par on maturity. They are highly liquid instruments and the default risk is negligible.
- b) **Commercial Papers:** Commercial papers are short term, unsecured securities issued by highly creditworthy and large companies. The maturity of these instruments ranges from 15 days to one year. These instruments are marketable hence they are liquid instruments.
- c) **Certificate of Deposits:** Certificate of Deposits are papers issued by banks acknowledging fixed deposits for a specified period of time, they are negotiable instruments, this makes them liquid.
- d) **Bank Deposits:** Firms can deposit excess/surplus cash in a bank for a period of time. The interest rate will depend upon the maturity period. This is also a liquid instrument in the sense that, in case of premature withdrawal only a part of interest earned has to be foregone.
- e) **Inter-corporate Deposit:** Companies having surplus cash can deposit its funds in a sister or associate company or to other companies with high credit standing.
- f) **Money Market Mutual Funds:** Money market mutual funds invest in short term marketable securities. These instruments have a minimum lock in period of 30 days and returns are usually two percent above that of bank deposits with the same maturity.

1.5 CASH COLLECTION AND DISBURSEMENTS

Once the cash budget has been prepared and appropriate net cash flows established the finance manager should ensure that there does not exist a significant deviation between projected and actual cash flows. The finance manager should expedite cash collection and control cash disbursement. There are two types of floats, which would require the attention of finance managers.

1) **Collection Float:** Collection float refers to the gap between the time, payment is made by the customer/debtor and the time when funds are available for use in the company's bank account. In simple words it is the amount tied up in cheques and drafts that have been sent by the customers, but has not yet been converted into cash. The reasons for this type of collection float are:

- The time taken in postal transmission
- The time taken to process cheques and drafts by the company, and
- The time taken by banks to clear the cheques.

To reduce this float companies can use various techniques, which are as follows:

- a) **Concentration Banking:** When the customers of the company are spread over wide geographical areas then instead of a single collection centre the company opens collection centres at the regional level. The customers are instructed to remit payments to their specific regional centres. These regional centres will open bank accounts with the branches of banks where it has collection potential. These branches will telegraphically or electronically

transfer the collected amount to the Head Office bank account. This system accelerates cash inflows.

- b) **Lock Box System:** In this system, the customers are advised to mail their payments to a post office box hired by the firm for collection purposes near their area. The payments are collected by local banks who are authorised to do so. They credit the payments quickly and report the transaction to the head office.
- c) **Zero Balance Account:** In this type of account any excess cash is used to buy marketable securities. Excess cash is the balance remaining after the cheques presented against this account are cleared. In case of shortage of cash marketable securities are sold to replenish cash.
- d) **Electronic Fund Transfer:** Through electronic fund transfer the collection float can be completely eliminated the other benefit of electronic fund transfer is instant updation of accounts and reporting of balances as and when required without any delay.

2) **Payment Float:** Cheques issued but not paid by the bank at any particular time is called payment float. Companies can make use of payment float, by issuing cheques, even if it means as per books of account an overdraft beyond permissible bank limits. The company should be very careful in playing this float in view of stringent provisions regarding the dishonouring of cheques, loss of reputation etc.

1.6 TREASURY MANAGEMENT

Treasury management is defined as “the corporate handling of all financial matters, the generation of external and internal funds for business, the management of currencies and cash flows and the complex strategies, policies and procedures of corporate finance”.

In today’s exceptionally volatile financial markets and complex business environment, successful companies are directing their efforts aggressively to strengthen their treasury management strategy and tactics for accelerating cash flow, ensuring better management of unused cash, enhancing the performance of near cash assets, optimising their capital structure and financing arrangements, identifying and managing treasury risks and introducing more efficient and control oriented processes. The role of the Treasury function is rapidly changing to address these challenges in an effort to achieve and support corporate goals.

Cash has often been defined as “King” and it is. However, it is no longer good enough just to mobilise and concentrate cash and then invest it overnight with pre-tax returns barely exceeding 5% when the cost of short and longer-term debt is significantly greater. The entire treasury cycle needs to be evaluated more closely. Questions such as, how can we harvest our cash resources better, where can we achieve the most efficient utilisation of our financial resources, and what are our alternative needs to be answered. Treasurers and Chief Financial Officer (CFOs) need to get closer to the process of the overall treasury cash and asset conversion cycle (sales/revenue generation/cash flow) to better understand how, when and where cash will flow and then to take steps to enhance its utilisation.

An effective, and efficient treasury management operations predicts, analyses and resolves the following questions which arise during business operations.

- Do and will we have enough cash flow and funds available?
- Are our near cash assets effectively utilised?
- Should we pay down debt? Take on more debt?
- Should we hedge our interest and currency risk exposures?
- Where do our risks exist? What is the impact of those risks?
- How effective is our risk identification and control processes?
- How are these risks being mitigated? Are the methods adopted for mitigating risk effective?
- Do we have enough experienced human resources?
- Do we have the right tools and technology?
- Are we actively identifying opportunities to unlock value?
- Are we implementing effectively and are alternatives properly evaluated? •
Are our Financial Risks managed within a reasonable tolerance level?

By optimising the treasury operations and related risk management process, the companies can reap significant benefits such as:

- Improve cash flows, enhance return or reduce interest expense.
- Put money on the table.
- Reduce excessive and unnecessary costs.
- Introduce more effective technologies.
- Enhance the utilisation of near cash assets.
- Better control and mitigate operational and financial risks.
- Streamline banking structure.
- Strengthen controls and procedures.

1.6.1 Treasury Risk Management

A few of the main focus areas of treasury operations are as follows:

- 1) **Cash Flow-Receipts and Disbursements:** Accelerating the collection of cash receipts and mobilisation/consolidation of cash, improving effectiveness of lockboxes; cheque clearing, credit card payments, wire transfer systems, and electronic commerce initiatives to optimise cash utilisation. Design and operate effective and control oriented payment and disbursement systems.
- 2) **Bank and Financial Institution Relations:** Assess global banking and financial institutions relationships among themselves as well as with domestic ones and identify ways to maximize the value of these relationships. Enhance the value received from banking and financial products and implement more efficient processes and account structures to strengthen global cash and treasury risk management. Review capital structure and financing arrangements to maximise the utilisation of financial resources and minimise their cost.
- 3) **Cash Management Controls:** Assess and improve controls to minimise exposure to fraud and other such risks. This also strengthens and supports internal control initiatives.
- 4) **Cash Forecasting and Information Reporting:** Improve the reliability, accuracy and timeliness of data from domestic and international cash forecasting models and processes; and improve the effectiveness of treasury information reporting.
- 5) **International Cash Management:** Optimize global cash and treasury risk Management by improving Foreign Exchange (FX) management system.

- 6) **FX and Interest Rate Management:** Evaluate foreign exchange and interest rate practices and strategy to identify, measure, manage and monitor these activities. Also, assess opportunities for improvement.

The two main focus areas of treasury operations are: (i) Fund management, and (ii) Financial risk management. The former includes cash management and assetliability mix. Financial risk management includes forex and interest rate management apart from managing equity and commodity prices and mitigating risks associated with them.

1.6.2 Functions of the Treasury Department

The important functions of a treasury department are as follows:

a) Setting up corporate financial objectives

- Financial aim and strategies
- Financial and treasury policies
- Financial and treasury systems.

b) Liquidity Management

- Working capital management
- Money transmission and collection management
- Banking relationships.

c) Funding Management

- Funding policies and procedures
- Sources of funds (Domestic, International, Private, Public)
- Types of fund (Debt, equity, hybrid).

d) Currency Management

- Exposure policies and procedures
- Exchange dealings including, hedging, swaps, future and options
- Exchange regulation.

e) Corporate Finance

- Business acquisitions and sales
- Project finance and joint ventures.

The main functions of the treasury department can be broadly classified as follows:

- a) raising of funds
- b) managing interest rate and foreign exchange exposure, and
- c) maintenance of liquidity.

Raising of funds is not a regular activity. During normal operations the funds which have already been raised are used for operations, but when the firm opts for new projects, or when the firms go for backward and forward integration, additional amount of funds are required. In these cases the treasury department has to look out for different sources of funds and decide upon the source. The treasury department

will also decide the manner in which funds are to be raised viz., it should be either be through a public issue or private placement, through debt or equity.

With the growing globalisation of economies all over the world, companies are increasingly exporting and importing goods and services. This gives rise to the problem of foreign exchange exposure. For example, company A exports goods worth Rs.44, 000, as of today which is equivalent to \$1000 assuming an exchange rate of Rs.44 = 1\$. The payment for this export order will be received after 3 months. During this intervening period if the Indian rupee appreciates in comparison to dollar by 5% i.e., Rs. 41.80 = 1\$ the effective receipt after 3 months would be Rs.41, 800 only. In order to avoid this the company could take a forward cover through which the unfavourable movement in currency prices are evend out.

The main function of the treasury department is to maintain liquidity. Liquidity here implies the ability to pay in cash the obligations that are due. Corporate liquidity has two dimensions viz., the quantitative and qualitative aspects. The qualitative aspects refer to the ability to meet all present and potential demands on cash in a manner that minimises costs and maximizes the value of the firm. The quantitative aspect refers to quantum, structure and utilisation of liquid assets.

Excess liquidity (idle cash) leads to deterioration in profits and decreases managerial efficiency. It may also lead to dysfunctional behaviour among managers such as increased speculation, unjustified expansion and extension of credit and liberal dividend. On the other hand a tight liquidity position leads to constraints in business operations leading to, reduced rate of return and missing on opportunities. Therefore, the most important challenge before the treasury department is to ensure the ‘proper’ level of cash in a firm.

① **Check Your Progress 2**

- 1) Optimising treasury operations results in:
.....
.....
.....
- 2) The main focus areas of treasury operations are:

a)
.....

b)
.....

c)
..... d)
.....
- 3) The main functions of treasury department are:

a)
.....

b)
.....

c)
.....

d)
- 18

1.7 SUMMARY

In this unit we have discussed the motives for holding cash balances. Further we have discussed cash deficit /surplus situation and how this can be contained through the use of various models. Cash planning and forecasting is an important component of cash management and the principal tool for effective cash management is cash budget. We have also dealt with, how a firm can invest surplus cash and the type of instruments that a firm should opt for. We have also examined collection float and payment float and the ways and means to reduce collection float. In the last section we have discussed the various functions of the treasury department and how an effective and efficient treasury department will bring down the financial cost and mitigate risks.

1.8 SELF-ASSESSMENT QUESTIONS/EXERCISES

- 1) How do cash flow problem arise? What steps are suggested to overcome the problem?
- 2) What are the reasons for holding cash balance?
- 3) Explain the Baumol model of cash management.
- 4) Write a short note on 'Cash Conversion Cycle'.
- 5) Write short notes on the following:
 - Lock Box system • Zero Balance Accounts.
- 6) How is temporary cash surplus managed?
- 7) What is cash flow budget? What are the methods used in the preparation of cash flow budget?
- 8) Treasury management mainly deals with working capital management and financial risk management. Explain.
- 9) Prepare the Cash Budget of Fashion Fabrics for the months April 2005 to July 2005 (four months) from the details given below:

(i) Estimated Sales: (Rs.)

February 2005	12,00,000
March 2005	12,00,000
April 2005	16,00,000
May 2005	20,00,000
June 2005	18,00,000

July 2005	16,00,000
August 2005	14,00,000

- (ii) On an average 20% sales are cash sales. The credit sales are realised in the third month (i.e., January sales in March).
- (iii) Purchases amount to 60% of sales. Purchases made in a month are generally sold in the third month and payment for purchasing is also made in the third month.
- (iv) Variable expenses (other than sales commission) constitute 10% of sales and there is a time lag of half a month in these payments.
- (v) Commission on sales is paid at 5% of sales value and payment is made in the third month.
- (vi) Fixed expenses per month amount to Rs. 75,000 approximately.
- (vii) Other items anticipated: **Due**

Interest payable on deposits	1,60,000	(April, 2002)
Sales of old assets	12,500	(May 2002)
Payments of tax	80,000	(June, 2002)
Purchase of fixed assets	6,50,000	(July 2002)

- (viii) Opening cash balance Rs. 1,50,000.

Solved Examples

Example 1: Company Ltd. has given the following particulars. You are required to prepare a cash budget for three months ending 31st December 2005.

				Rs.
Months	Sales	Materials	Wages	Overheads
August	40000	20400	7600	3800
September	42000	20000	7600	4200
October	46000	19600	8000	4600
November	50000	20000	8400	4800
December	60000	21600	9000	5000

Credit terms are:

- (ii) Sales/debtors - 10%
Sales are on cash basis. 50% of the credit sales are collected in the

following month and the balance too is collected in the following months:

Creditors Material 2 months
 Wages 1/5 month.
 Overheads 1/2 month.

(iii)

Cash balance on 1st October, 2005 is expected to be Rs. 8000.

(iv)

Machinery will be installed in August, 2005 at the cost of Rs. 100,000. The monthly instalment of Rs. 5000 will be payable from October onwards.

(v)

Dividend at 10% on preference share capital of Rs.300,000 will be paid on 1st December 2005.

(vi)

Advance to be received for sale of vehicle Rs. 20,000 in December.

(vii)

Income-tax (advance) to be paid

in
December
Rs. 5,000.

Solution:

(i) Cash collected from debtors:

Particulars	Aug.	Sept.	Oct.	Nov.	Dec.
Cash Sales 10%	4,000	4,200	4,600	5,000	6,000
Credit sales 90%	36,000	37,800	41,400	45,000	54,000
Collection debtors					
1 st Month 50%			18,900	20,700	22,500
2 nd Month 50%			18,000	18,900	20,700
Total			36,900	39,600	43,200

(ii) Since the period of credit allowed by suppliers is two months the payment for a purchase of August will be paid in October and so on.

(iii) $\frac{4}{5}$ th of the wages is paid in the month itself and $\frac{1}{5}$ th will be paid in the next month and so on.(iv) $\frac{1}{2}$ of the overheads is paid in the month itself and $\frac{1}{2}$ will be paid in the next month and so on.**XYZ Company Ltd.****Cash budget for three months-October to December 2005**

(Rs)

Particulars	Oct.	Nov.	Dec.
Opening cash balance	8000	11780	18360
Receipts			
Cash Sales	4600	5000	6000
Collection from debtors	36900	39600	43200
Advance from sale of vehicle	-	-	20000
Total	49500	56380	87560
Payments			
Materials (creditors)	20400	20000	19600
Wages	7920	320	8880
Overheads	4400	4700	4900
Machinery (monthly instalment)	5000	5000	5000
Preference dividend	-	-	30000
Income-tax advance	-	-	5000
Total	37,720	38,020	73,380
Closing balance	11,780	18,360	14,180

Example 2: On 30th September 2002 the balance sheet of M.Ltd. (retailer) was as under:

Liabilities	Rs.	Assets	Rs.
Equity shares of Rs.10 each fully paid	20000	Equipment (at cost)	20000
Reserve	10000	Less: Depreciation	5000
			15000

Trade creditors	40000	Stock	20000
Proposed dividend	15000	Trade debtors	15000
		Balance at bank	35000
	85,000		85,000

The company is developing a system of forward planning and on 1st October 2005 it supplies the following information:

Month		Sales		Purchases
		Credit	Cash	Credit
September 2005	Actual	15000	14000	40000
October 2005	Budget	18000	5000	23000
November 2005	Budget	20000	6000	27000
December 2005	Budget	25000	8000	26000

All trade debtors are allowed one month's credit and are expected to settle promptly.

All trade creditors are paid in the months following delivery. On 1st October 2005 all equipments were replaced at a cost of Rs. 30,000. Rs.14, 000 was allowed in exchange for the old equipment and a net payment of Rs. 16,000 was made. The proposed dividend will be paid in December 2005.

The following expenses will be paid: Wages Rs. 3000 per month Administration Rs. 1500 per monthly rent Rs. 3600 for the year upto 30th September 2006 (to be paid in October 2005). You are required to prepare a cash budget for the months of October November, and December 2005.

Solution:

Cash Budget of M. Ltd. for the quarter ending 31st December 2005

(Rs.)

Particular	October	November	December	Total
Opening Balance	35,000	(9,100)	(12,600)	35000
Cash receipts				
Sales				
Cash sales of current month	5000	6000	8000	19000
Collection of credit sales of previous month	15000	18000	20000	53000
Cash Payment				
Payment to creditors (of preceding month purchase)	40000	23000	27000	90000
Payment for new equipment	16000	-	-	16000
Wages	3000	3000	3000	9000
Administration expenses	1500	1500	1500	4500
Rent	3600	-	-	3600
Dividend	-	-	15000	15000
Total (B)	64100	27500	46500	138100

**Working Capital
Management**

Closing Balance	9100	12600	31100	31100
Total (A)	55,000	1,49,000	15,400	1,07,000

Example 3: From the following details furnished by a business firm, prepare its Cash Budget for April 2005:

- (i) The sales made and collection obtained conform to the following pattern:

Cash Sales	20%
Credit Sales	40% collected during the month of sales 30% collected during the first month following the month of sale 25% collected during the second month following the month of sale 5% become bad debts

- (ii) The firm has a policy of buying enough goods each month to maintain its inventory at 2.5 times the following month's budgeted sales.
- (iii) The firm is entitled to 2% cash discount on all its purchases if bills are paid within 15 days and the firm avails of all such discounts.
- (iv) Cost of goods sold without considering the cash discount is 50% of the sales value at normal selling prices. The firm records inventory net of discount.
- (v) Other information:

Sales

(Rs.)

January 2005 (actual)	1,00,000
February 2005 (actual)	1,20,000
March 2005 (actual)	1,50,000
April 2005 (budgeted)	170,000
May 2005 (budgeted)	1,40,000

(Rs.)

Inventory on 31 st March 2005	2,25,400
Closing cash balance on 31 st March, 2005	30,000
Gross purchases made in March 2005	1,00,000

- (vi) Selling general and administration expenses budgeted for April 2005 amounts to Rs. 45,000 (includes Rs. 10,000 towards depreciation).
- (vii) All transactions take place at an even pace in the firm.

Solution:**Cash Budget for April 2005**

Particulars	(Rs.)
Opening balance	30,000
Collection from Sales:	

Cash Sales	(20% of Rs. 1,70,000)	34,000
Collection against Credit Sales		
Feb. 2002 Sales	(25% of Rs. 96,000)	24,000
March, 2002 Sales	(34% of Rs. 1,20,000)	36,000
April, 2002 Sales	(40% of Rs. 1,36,000)	54,400
Total		1,78,400
Payments		
For purchases:		
March 2002	(Rs. 1,00,000 × 98% × 1/2)	49,000
April 2002	(Rs. 29,400 × 12)	14,700
Selling, general and Admn. Expense excluding depreciation		35,000
Total		98,700
Budget Closing Cash balance		79,700

Working Notes:

Purchase Budget	Gross	Net
Desired ending inventory	1,75,000	1,71,500
Add Cost of Sales for April 2002	85,000	83,300
Total requirements	2,60,000	2,54,800
Deduct beginning inventory	2,30,000	2,25,400
Purchases to be made in April, 2002	30,000	29,400

Example 4: Prepare a cash budget for the three months ended 30th September 2005 based on the following information:

(Rs.)

Cash in bank on 1 st July, 2005	25000
Monthly salaries and wages (estimated)	10000
Interest payable in August 2005	5000

(Rs.)

Estimated	June	July	August	September
Cash sales (actual)	1,20,000	140000	152000	121000
Credit sales	100000	80000	140000	120000
Purchases	160000	170000	240000	180000
Other expenses	18000	20000	22000	21000

Credit sales are collected 50% in the month of sale and 50% in the following month.

Collections from credit sales are subject to 10% discount if received in the month of sale and to 5% if received in the month following. 10% of the purchase are in cash and balance is paid in next month.

Solution:

Cash Budget for three months-July 2005 to September 2005

		July	August	September
Opening Balance	(i)	25,000	57,500	96,500
Receipts				

Sales: Cash		1,40,000	1,52,000	1,21,000
Credit Current month		36,000	63,000	54,000
Previous month		47,500	38,000	66,500
Total Receipts	(ii)	2,23,500	2,53,000	2,41,500
Total Cash	(iii) = (i)+(ii)	2,48,500	3,10,500	3,38,000
Payments:				
Purchases Cash		17,000	24,000	18,000
Credit (Previous Month)		1,44,000	1,53,000	2,16,000
Other expenses		20,000	22,000	21,000
Interest		-	5,000	-
Salaries and Wages		10,000	10,000	10,000
Total Payment	(iv)	1,91,000	2,14,000	2,65,000
Closing Balance	(iii)-(iv)	57,500	96,500	73,000

1.9 SOLUTIONS/ANSWERS

Check Your Progress 1

- 1) Cash Balance – April Rs. 56,000; O/D required – May Rs. 47,000 but assumed Rs. 50,000, June Rs. 1,20,000 Total Rs. 1,70,000.
- 2) Closing Cash Balance: April Rs. 53,000; May Rs. 81,000 and June Rs. 91,000.
- 3) Closing Cash Balance September Rs. 7,200 October Rs. 15,185 (Cr.); November Rs. 11,653 (Cr.).