
UNIT 13 CASH AND TREASURY MANAGEMENT

Structure

Page Nos.

- 13.0 Introduction
- 13.1 Objectives
- 13.2 Facets of Cash Management
 - 13.2.1 Motives for Holding Cash
 - 13.2.2 Cash Planning
 - 13.2.3 Determining Optimum Cash Balance
- 13.3 Methods of Cash Flow Budgeting
- 13.4 Investing Surplus Cash
- 13.5 Cash Collection and Disbursements
- 13.6 Treasury Management
 - 13.6.1 Treasury Risk Management
 - 13.6.2 Functions of the Treasury Department
- 13.7 Summary
- 13.8 Key Words
- 13.9 Solutions/Answers to Check Your Progress
- 13.10 Self-Assessment Questions/Exercises

13.0 INTRODUCTION

In corporate, cash management is also known as treasury management. Business managers, corporate treasurers, and chief financial officers are typically the main individuals responsible for overall cash management strategies, cash-related responsibilities and stability analysis. It is the process that involves collecting and managing cash flows from the operating, investing, and financing activities of a company. 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 are 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 specialized 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.

13.1 OBJECTIVES

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

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

13.2 FACETS OF CASH MANAGEMENT

Cash management assumes more importance than 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 in some profitable way.

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 surplus cash has to be invested while deficit has to be borrowed.

The process of cash management can be represented by the cash management cycle as shown in *Figure 13.1*.

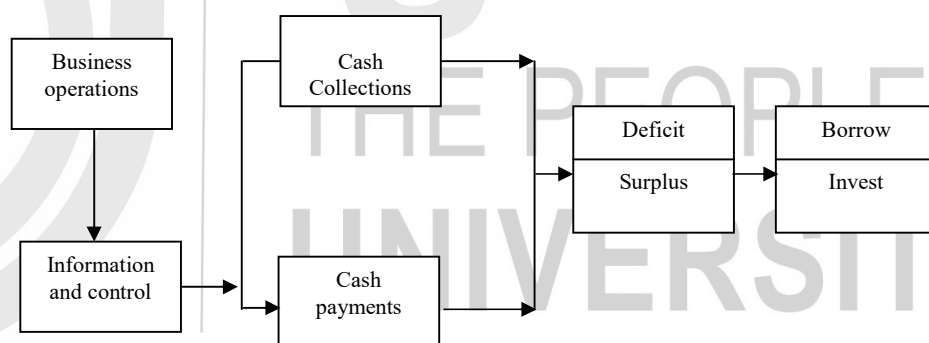


Figure 13.1: Cash Management Cycle

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 synchronization 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.

13.2.1 Motives for Holding Cash

The Motives for Holding Cash is simple, the cash inflows and outflows are not well synchronized, and i.e. sometimes the cash inflows are more than the cash outflows while at other times the cash outflows could be more. Hence, the cash is held by the firms to meet the certain as well as uncertain situations. The firm's need to hold cash may be attributed to the three motives. Let us discuss these motives in details:

- 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-synchronization 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.

13.2.2 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 firm's profitability) and cash deficits (which can cause the firm's 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.

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

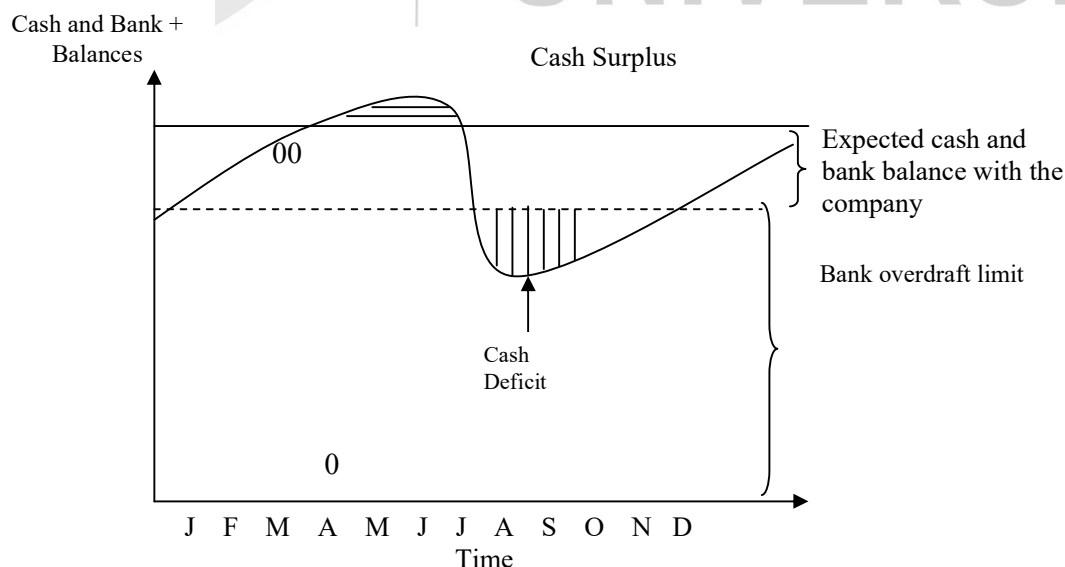


Figure 13.2: Cash surplus and cash deficit situations

13.2.3 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 13.3*.

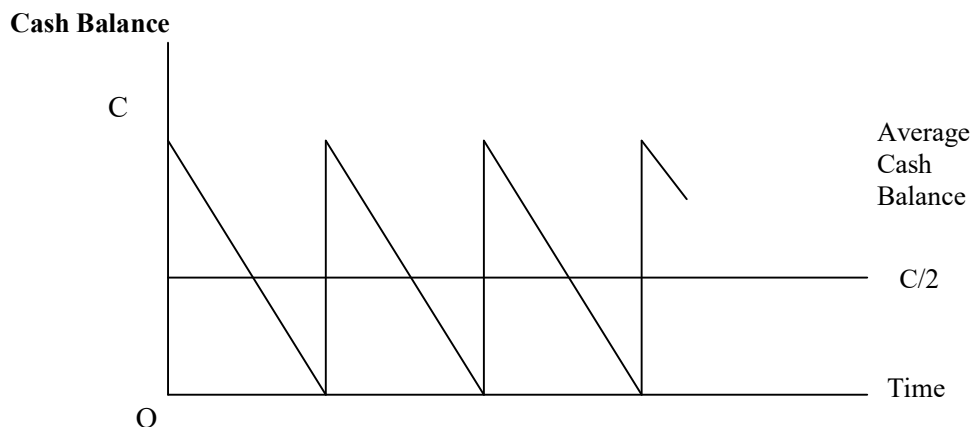


Figure 13.3: Pattern of Cash Balance: Baumol's Model

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 B the total transaction is cost would be $B (T/C)$.

The total cost may be expressed as:

$$TC = \underbrace{I (C/2)}_{\text{Holding cost}} + \underbrace{B (T/C)}_{\text{Transaction cost}}$$

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 .

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

Setting the first derivative equal to zero, we obtain

$$\frac{I}{2} - \frac{bT}{C^2} = 0$$

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:

$$\begin{aligned} C^* &= \sqrt{\frac{2bT}{I}} \\ C^* &= \sqrt{\frac{2(150)(2,00,000,00)}{.15}} \\ &= \text{Rs. } 2,00,000 \end{aligned}$$

The annual cost will be:

$$\begin{aligned} TC &= I (C/2) + B \left(\frac{T}{C} \right) \\ &= 0.15 \left(\frac{2,00,000,00}{2} \right) + 150 \left(\frac{2,00,000,00}{2,00,000} \right) \\ &= 15,000 + 15,000 \\ &= \text{Rs. } 30,000 \end{aligned}$$

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.

13.3 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 2021

Particulars	Months		
	Jan.	Feb.	March
Balance b/d	Rs.	Rs.	Rs.
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)	.....	.....	.....

☛ Check Your Progress 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.

- A company is expecting Rs. 25,000 cash in hand on 1st April 2021 and it requires you to prepare an estimate of cash position during the three months, April to June 2021. 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 2021.

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.

13.4 INVESTING SURPLUS CASH

The demand for working capital fluctuates as per the level of production, inventory, debtor's, creditors etc. The working capital requirements are 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 surplus cash.

- 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.

13.5 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 times, 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 dishonoring of cheques, loss of reputation etc.

13.6 TREASURY MANAGEMENT

The role of the corporate treasurer is constantly evolving. Traditional corporate structures have been transformed over the last few decades, meaning the role of the treasurer is more varied, strategic and crucial to the day-to-day running of businesses than at any other time. 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, optimizing 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 mobilize 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 operation predicts analyses and resolves the following questions which arise during business operations.

- Do and will we have enough cash flow and funds available?

Working Capital Management

- Are our near cash assets effectively utilized?
- 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 optimizing 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.

13.6.1 Treasury Risk Management

Treasury risk management may be best defined as overseeing a company's working capital, which includes making strategic plans on the best ways to keep the enterprise solvent. This involves monitoring funds to maintain liquidity, and lowering the organization's financial and operational risks. 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 mobilization/consolidation of cash, improving effectiveness of lockboxes; cheque clearing, credit card payments, wire transfer systems, and electronic commerce initiatives to optimize 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 maximize the utilisation of financial resources and minimize their cost.
- 3) **Cash Management Controls:** Assess and improve controls to minimize 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 asset-liability mix. Financial risk management includes forex and interest rate management apart from managing equity and commodity prices and mitigating risks associated with them.

13.6.2 Functions of the Treasury Department

One of the main functions of treasury management is to determine the proper levels of cash or cash equivalents to allow businesses the ability to meet their financial obligations. Having a treasury management system (TMS) in place is crucial to ensure that a business successfully manages their financial risk. There are various functions of a treasury department. Let us discuss these functions one by one:

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 globalization 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 unfavorable movement in currency prices are evened 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 minimizes 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.

Check Your Progress 2

1. Optimizing 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)

4. State whether the following statements are true or false

- i) There is a time gap between cash inflows and cash outflows.
- ii) Lock box system is a method for accelerating cash outflows.
- iii) Bank float refers to the time taken by bank in collecting cheques.
- iv) Cash management is a trade off between the cost of carrying cash and the need of maintaining liquidity.
- v) A firm should always keep a large balance of cash as to meet the contingencies.

13.7 SUMMARY

In this unit, we have discussed the motives for holding cash balances like transaction motive, precautionary motive and speculative motive. 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 like raising of funds, managing interest rate and foreign exchange exposure, and maintenance of liquidity and how an effective and efficient treasury department will bring down the financial cost and mitigate risks.

13.8 KEY WORDS

Bank Float: in the banking system, refers to money briefly counted two times because of the delays in check processing. Float is built as soon as the check is deposited. The customer's account is credited by the bank. However, the payers' bank takes some time to send payment on the check. Until the payers bank clears the check, the check amount is displayed both in the payers and recipients bank.

Cash Float: Cash float is the term for the total amount of checks in between the time when the check is written and taken off the books of the payer, but not out of their bank account, and before it's in the bank account of the payee, even though they already would have recorded it in their books.

Collection Float: The term refers to the deposit that is not yet available to use. Or, the amount that a customer deposit, but is still to reach to the company.

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.

Lock Box System: A lockbox system is an arrangement of several lockboxes that are strategically placed near geographic clusters of company customers, so that aggregate mail time from the customers to the lockboxes is minimized. A lockbox system is encouraged by banks, which earn a fixed monthly fee for each lockbox, as well as a servicing charge for each payment processed.

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.

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.

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.

13.9 SOLUTIONS/ANSWERS TO CHECK YOUR PROGRESS

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.).
4. i)-T, ii)-F, iii)-T, iv)-T, v)-F

13.10 SELF-ASSESSMENT QUESTIONS/EXERCISES

- 1) Explain various methods of investing surplus cash. What criteria a firm should use in investing marketable securities?
- 2) “Efficient cash management will aim at maximizing the cash inflows and showing cash outflows”. Discuss.

- 3) How do cash flow problem arise? What steps are suggested to overcome the problem?
- 4) What are the reasons for holding cash balance? Explain
- 5) Explain the Baumol Model of cash management.
- 6) Write short notes on the following:
 - Lock Box system
 - Zero Balance Accounts
 - Cash Conversion Cycle
- 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 2021 to July 2021 (four months) from the details given below:

- (i) Estimated Sales: **(Rs.)**

February 2021	12,00,000
March 2021	12,00,000
April 2021	16,00,000
May 2021	20,00,000
June 2021	18,00,000
July 2021	16,00,000
August 2021	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, 2021)
Sales of old assets	12,500	(May 2021)
Payments of tax	80,000	(June, 2021)
Purchase of fixed assets	6,50,000	(July 2021)

- (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 2021.

(i) 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, 2021 is expected to be Rs. 8000.
- (iv) Machinery will be installed in August, 2021 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.3,00,000 will be paid on 1st December 2021.
- (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) 4/5th of the wages is paid in the month itself and 1/5th will be paid in the next month and so on.
- (iv) 1/2 of the overheads is paid in the month itself and 1/2 will be paid in the next month and so on.

XYZ Company Ltd.

Cash budget for three months-October to December 2021

(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 2018 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
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 2021 it supplies the following information:

Month		Sales	Purchases
		Credit	Cash
September 2021	Actual	15000	14000
October 2021	Budget	18000	5000
November 2021	Budget	20000	6000
December 2021	Budget	25000	8000

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 2021 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 2021.

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 2022 (to be paid in October 2021). You are required to prepare a cash budget for the months of October November, and December 2021.

Solution:

Cash Budget of M. Ltd. for the quarter ending 31st December 2021

(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
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 2021:

- (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 2021 (actual)	1,00,000
February 2021 (actual)	1,20,000
March 2021 (actual)	1,50,000
April 2021 (budgeted)	170,000

May 2021 (budgeted)	1,40,000
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**Cash and Treasury
Management**

(Rs.)

Inventory on 31 st March 2021	2,25,400
Closing cash balance on 31 st March, 2021	30,000
Gross purchases made in March 2021	1,00,000

(vi) Selling general and administration expenses budgeted for April 2021 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 2021

Particulars		(Rs.)
Opening balance		30,000
Collection from Sales:		
Cash Sales	(20% of Rs. 1,70,000)	34,000
Collection against Credit Sales		
Feb. 2018 Sales	(25% of Rs. 96,000)	24,000
March, 2018 Sales	(34% of Rs. 1,20,000)	36,000
April, 2018 Sales	(40% of Rs. 1,36,000)	54,400
Total		1,78,400
Payments		
For purchases:		
March 2018	(Rs. 1,00,000 × 98% × 1/2)	49,000
April 2018	(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 2018	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, 2018	30,000	29,400

Example 4: Prepare a cash budget for the three months ended 30th September 2021 based on the following information:

(Rs.)

Cash in bank on 1 st July, 2021	25000
Monthly salaries and wages (estimated)	10000
Interest payable in August 2021	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.

**Working Capital
Management**

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 purchases are in cash and balance is paid in next month.

Solution:**Cash Budget for three months-July 2021 to September 2021**

		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