collections	76	90	125	100	391
Total Cash Available	85	95	130	105	415
Less Disbursement					
Purchase of inventory	40	58	36	32	166
Operating expense	36	42	54	48	180
Equipment Purchase	10	8	8	10	36
Dividends	2	2	2	2	8
Total disbursement	88	110	100	92	390
Expenses (Deficiency) cash available	(3)	(15)	30	13	25
Financing:					
Borrowing	8(3+5)	20	-	-	28
Repayment	-	-	(25)	(7)	(32)
Total financing	8	20	(25)	(7)	(4)
Cash Balance Ending	5	5	5	6	21

Exercise: 9-14

Requirement: 01

Schedule of expected cash collection

Particulars	**April**	**May**	**June**	**Total**
From Accounts Receivable	**$141000**	**$7200**		**148200**
From Budget Sales:				
April Sales				
$200000 x 20%	**40000**			
$200000 x 75%		**150000**		
$200000 x 4%			**8000**	**198000**
May Sales				
$300000 x 20%		**60000**		
$300000 x 75%			**225000**	**285000**
June Sales				
$250000 x 20%			**50000**	**50000**
Total Cash Collection	**181000**	**217200**	**283000**	**681200**

Requirement 2:

Particulars	**Months** April	May	June	**Total**
Cash Balance Beginning	26000	27000	20200	73200
Add. cash collection	181000	217200	283000	681200
Total cash collection	207000	244200	303200	754400
Less cash disbursement				
Merchandising purchase	108000	120000	180000	408000
Payroll	9000	9000	8000	26000
Lease Payment	15000	15000	15000	45000

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Advertising	70000	80000	60000	210000
Equipment Purchase	8000			8000
Total cash Disbursement	210000	224000	263000	697000
Excess/ Deficit Cash	(3000)	20200	40200	57400
Financing				
Borrowing	30000			30000
Repayments			(30000)	(30000)
Interest			(1200)	(1200)
Total financing	30000		(31200)	(1200)
Cash Balance ending	27000	20200	9000	56200

Requirement: 03

If the company needs $20000 minimum cash balance to start each month, then loan can not be repaid in full by June 30. If the loan is repaid in full, the cash balance will drop only to $ 9000 on June 30 as shown above. Some portion of loan will have to be carried over to July.

4. **Exercise 9-5**

1.	April	May	June	Total
February sales:				
$230000 x 10%	$23000			$ 23000
March sales:				
$2600000 70% 10%	182000	$26000		208000
April sales				
$300000 x 20% 70% 10%	60000	210000	$30000	300000
May sales				
$500000 x 20% 70%		100000	350000	450000
June sales				
$200000 x 20%			40000	40000
Total cash collection	$265000	$336000	$420000	$1021000

1. Accounts receivable at June 30:

From May sales: $500000 x 10%	$50000
From June sales: $200000 x (70% + 10%)	160000
Total accounts receivable	&210000

6. **Problem 9-13**

1. Schedule of expected cash collection:

	Month			
	July	August	September	Quarter
From accounts receivable:				
May sales				
$250000 x 3 %	$ 7500			$7500
June sales				
$300000 x 70% 3%	210000	$9000		219000
From budgeted sales:				
July				
$400000 x 25% 70% , 3%	100000	280000	$12000	392000
August				
$600000 x 25%, 70%		150000	420000	570000
September				
$320000 x 25%	—	—	80000	80000
Total cash collections	$317500	$439000	$512000	$1268500

2. Cash budget:

	Month			
	July	August	September	Quarter
Cash balance beginning	$44500	$28000	$ 23000	$44500
Add receipts:				
Collection from customers	317500	439000	512000	1268500
Total cash available	3621000	467000	535000	1313000
Less cash disbursements:				
Merchandise purchases	180000	240000	350000	770000
Salaries and wages	45000	50000	40000	135000

Advertising	130000	145000	80000	355000
Rent payments	9000	9000	9000	27000
Equipment purchases	10000	-	-	10000
Total cash disbursements	374000	444000	479000	1297000
Excess (deficiency) of receipts over disbursement	(12000)	23000	56000	16000
Financing:				
Borrowings	40000	--	--	40000
Repayments	--	--	(40000)	(40000)
Interest	--	--	(12000)	(12000)
Total financing	40000	--	(41200)	(12000)
Cash balancing ending	$28000	$23000	$14800	$14800

3. If the company needs$20000minium cash balance to start each month, than the loan cannot be repaid in full by September 30. If the loan is repaid in full, the cash balance will drop to only $14800 on September 30 ,as shown above . Some portion of the loan balance will have to be carried over to October, at which time the cash inflow should be sufficient to complete repayment.

Original

Chapter - 6

Master Budget (MB) and Flexible Budget

01. Concept of MB:

A budget that immerses the planned activities of all the sub units of an enterprise like sales, purchases, productions, finance etc is called MB. A budget is a pre lustration of plans is terms of numerical figures according according to predetermined period.

02. Components of MB:

A) Operating Budgets:

- Sales budget
- Purchase budget
- Production budget
- Cost of production budget
- Cost of goods sold budget
- Operating expenses budget
- Budgeted income statement

B) Financial Budgets:

- Capital budget
- Cash budget
- Budgeted balance sheet.

03. Advantages of MB:

- Means of communicating management plans.
- Forces FM to think ahead their plans.
- Provides a means of allocating financial resources effectively.
- Aids FM in coordinating their efforts effectively.
- Defines properly the goals &objectives that can serve as benchmarks for evaluating actual performances.
- Can uncover potential bottlenecks before they occur.

04. Preparation of main MB:

4.1. Sales Budget:
It is the starting point of budgeting because production & inventory levels, purchases & operating expenses all are geared to the rate of sales activities. It is a statement of cash and credit sales & collection of cash from credit sales.

Purchase Budget :
It is a statement of desired ending inventory plus cost of goods sold less opening inventory. It shows cash &credit purchases and payments for credit purchases.

Production & Cost of production Budget:
It is a statement of sales plus closing inventory less opening inventory. All this should be in terms of quantity. Whenever, quantity of production will be multiplied by the rate of cost of production per unit, we shall get cost of production.

Cash Budgeting

Concepts of Cash Budget and Cash Budgeting

Cash budget is a schedule of estimated cash receipts, cash disbursements and cash balances of a firm over specified period of time. It is an important technique of cash planning and control. The task of preparing cash budget is known as cash budgeting. The net cash position, surplus or deficiency of a firm as it moves from one budgeting sub – period to another is highlighted by the cash budget. Therefore, the financial management of a firm should project the future cash receipts, cash disbursements with various cash balances, subtract the disbursements from the receipts to determine net cash flows and then select that cash balance which maximizes the present value of the net cash flows.

Such projection of cash receipts (cash inflows) and cash disbursements (cash outflows) is known as cash budgeting.

Purposes of Cash Budget

The main purpose of a cash budget is to determine the requirements of cash in advance for a particular period of time in order to smooth running of a firm. To achieve the main purpose the following specific purposes should be considered :

i) To coordinate the timings of cash needs,

ii) To pin point the period(s) when there is likely to be excess cash,

iii) To enable a firm having sufficient cash to take advantage of cash discount on its accounts payable

iv) To help arrange requisite funds on the most favorable terms and prevent the accumulation of excess funds.

Elements of Cash Budget

The following are the main elements of cash budgeting system:

i) Selection of time period to be covered by the budget. It is known as planning horizon. It should be determined in the light of the circumstances and requirements of a particular case.

ii) Selection of the factors that have a bearing on cash flows.

Cash flows may be two types which are presented below:

Operating Cash Flows:

Inflows	Outflows
1. Cash sales of Inventories	1. Accounts Payable
2. Collection of Accounts Receivables	2. Purchase of Raw Materials
3. Disposal of Fixed Assets	3. Payroll
	4. Overhead Expenses
	5. Maintenance Expanses
	6. Purchase of Fixed Assets

Financial Cash Flows

Inflows	Outflows
1. Loans	1. Tax Payments
2. Sale of Securities	2. Repayment of Loan
3. Interest Receipts	3. Repurchase of share
4. Dividend Receipts	4. Interest Paid
5. Rent Receipts,	5. Dividend Paid
6. Refund of tax	6. Rent Paid

Preparation of Cash Budget and Format for a Cash Budget

After the time span of the cash budget has been decided and the pertinent operating and financial cash flows have been identified, the final step is the preparation of cash budget. While preparing cash budget one has to consider the flowing main points:

i) Target or minimum cash balance which a firm desires to maintain in order to run its business smoothly,

ii) Net cash flows which is determined by estimating the cash disbursements and cash receipts expected to be generated each period.

The flowing figure 14.1 presents the Format for a Cash Budget

Particulars	Months					
A. Cash Inflows						
1. Cash sales of Inventories						
2. Collection of Accounts Receivables						
3. Disposal of Fixed Assets						
4. Loans						
5. Sale of Securities						
6. Interest Receipts						
7. Dividend Receipts						
8. Rent Receipts,						

efund of tax						
B Cash Outflows						
1. Accounts Payable						
2. Purchase of Raw Materials						
3. Payroll						
4. Overhead Expenses						
5. Maintenance Expanses						
6. Purchase of Fixed Assets						
7. Tax Payments						
8. Repayment of Loan						
9. Repurchase of share						
10. Interest Paid						
11. Dividend Paid						
12. Rent Paid						
C Net Cash Flows (A- B)						
D Beginning Cash Balance						
E... Ending Cash Balance						
F. Target/Minimum Cash Balance						
G. Surplus (deficit) Cash (E – F)						

Methods

There are three methods of preparation of cash budget namely : i) Maintaining Target/Minimum Cash Balance, ii) Scheduling of Receipts and Disbursement Method and iii) Combination of (i) and (ii). The following paragraphs follow discussion on each of the methods:

i) **Maintaining Target/Minimum Cash Balance:** Under this method, the firm desires to maintain a target or minimum cash balance in order to conduct its business without interruption. As a result, if the net cash flows and the beginning cash balance together which comprise the ending cash balance exceeds the target cash balance, that exceeding amount is treated as surplus cash balance. On the other hand, if the ending cash balance is lower than the target cash balance that shortfall amount is considered as deficit cash balance.

ii) **Scheduling of Receipts and Disbursements Method :** Under this method, the net cash flow is determined by deducting total cash disbursements from total cash receipts. Whenever the total receipts exceed the total disbursement, the exceeding balance is called positive net cash flow. On the other hand, when total cash disbursement exceed the total receipts the exceeding balance is termed as negative cash flow which is unexpected for a firm.

iii) **Combination of (i) and (ii) methods :** Under this method, both the target method and scheduling method are followed simultaneously. This method is regarded as the best one since it considers both the target and scheduling methods.

Problems and Solutions

Unilever Ltd. wants to prepare a cash budget for the months of September through December. From the following information prepare the cash budget and state if the company will need to invest excess funds or borrow funds during these months :

1. Sales were $50,000 in June and $60,000 in July. Sales have been forecasted to be $65,000, 72,000, $63,000, $59,000 and $56,000 for the months of August, September, October, November and December respectively. In the past, 10% of sales were on cash basis and the collections were 50% in the first month, 30% in the second month and 10% in the third month following the sales.
2. Every 4 months 500 of dividends from investments are expected. The first dividend payment was received in January.
3. Purchases are 60% of sales, 15% of which are paid in cash, 65% are paid 1 month later and the rest is paid 2 months after purchase.
4. $8,000 dividends are paid twice a year in March and September.
5. Monthly rent is $2,000.
6. Taxes are paid $6,500 payable in December.
7. A new equipment will be purchased in October for $2,300.
8. $1,500 interest will be paid in November.

9. $1,000 loan payments are paid every month.
10. Wages and salaries are $1,000 + 5% of sales in each month.
11. August's ending cash balance is $3,000.
12. The company would like to maintain a minimum cash balance of $10,000.

Solution

Unilever Ltd.

Cash Budget for the Months of September to December

(In Dollar)

Particulars	**September**	**October**	**November**	**December**
A. Cash Receipts/Inflows :				
Cash sale (10% of sales)	7,200	6,300	5,900	5,600
Collections of Accounts Receivables(i)				
50% in the 1st month following sales	32,500	36,000	31,500	29,500
30% in the second month following sales	18,000	19,500	21,600	18,900
10% in the 3rd month following sales	5,000	6,000	6,500	7,200
Cash Dividend (3rd Installment)	500	-	-	-
Total Cash Receipts	63,200	67,800	65,500	61,200
B. Cash Disbursements/Outflows				
15% cash purchases (ii)	6,480	5,670	5,310	5,040
65% are paid one month later	28,080	24,570	23,010	21,840
20% are paid two months after	8,640	7,560	7,030	6,720
Dividend payment	8,000	-	-	-
Rent	2,000	2,000	2,000	2,000
Taxes	-	-	-	6,500

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Purchase of Equipment	-	2,300	-	-
Interest	-	-	1,500	-
Loan repayment	1,000	1,000	1,000	1,000
Wages and Salaries	4,600	4,150	3,950	3,800
Total Cash Disbursement	58,800	47,260	43,850	46,900
C. Net Cash Flows (A - B)	4,400	20,540	21,650	14,300
D. Beginning Cash Balance(iii)	3,000	7,400	27,940	49,590
E. Ending Cash Balance	7,400	27,940	49,590	63,890
F. Minimum Cash Balance	10,000	10,000	10,000	10,000
G. Surplus (Deficit) Cash (E- F)	(2,600)	17,940	39,590	53,890

Summary :

The company will need to invest surplus funds during October, November and December. But it will need to borrow fund during September in order to meet its deficit cash.

Notes :

(i) a. In September, 50% are collected from August's sale and so on for other months.

b. In September 30% are collected from July's sales and so on for other months.

c. In September 10% are collected from June's sales and so on for other months.

(ii) Total purchases for September, October November and December are 60% of the sales of the

respective months i.e., $43,200, 37,800, 35,400 and 33,600.

(iii) August's ending cash balance is the beginning balance for September and so on for other

months

Review Questions

Short Questions

1. Define cash budget and cash budgeting.
2. What are the purposes of cash budget? Explain.
3. Discuss the elements of cash budget.
4. Show the format for a cash budget.

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Broad Questions

1. What are the methods of preparation of cash budget? Explain in detail.
2. Describe the main elements of cash budget.
3. How do you prepare a cash budget?

Review Problem

Problem – 1

Consider the balance sheet of Beximco Textile Ltd. The company has received a large order and anticipates the need to go to its Bank to increase its borrowing. As a result, it has to forecasts its cash requirements for January, February and March. The company collects 20% of its sales in the month of sale, 70% in subsequent month and 10% in the second month after sale. All sales are on credit.

(in '000)

	Tk.		Tk.
Cash	50	Accounts Payable	360
Accounts Receivable	530	Bank Loan	400
Inventories	545	Accruals	212
Net Fixed Assets	1836	Long – term debt	450
		Common Stock	100
Total	2961	Retained Earnings	1439
		Total	2961

Purchases of raw materials are made in the month prior to the sale an amount to 60% of sales in subsequent month. Payments for these purchases occur in the month after the purchase. Labor costs are expected to be 1,50,000 in January, 2,00,000 in February and 1,60,000 in March. Other expenses are expected to be 1,00,000 par month. Actual sale are as follows (in '000):

November 500, December 600, January 600, February 1,000, March 650, April 750.

Required :

a) Preparation of cash budget for the month of January, February and March.

b) Determine the amount of additional bank borrowings necessary to maintain a minimum cash balance of 50,000 taka.

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Requirement-1:
Schedule of expected Cash Collection:

Particulars	July	August	September	Total
May Sales ($430000x 10%)	43000			43000
June Sales				
$540000 x 70%	378000			
$540000 x 10%		54000		432000
July Sales				
$600000 x 20%	120000			
$600000 x 70%		420000		
$600000 x 10%			60000	600000
August Sales				
$900000 x 20%		180000		
$900000 x 70%			630000	810000
September Sales				
$500000 x 20%			100000	100000
Total Cash Collection	541000	654000	790000	1985000

Requirement 2:
Accounts Receivable on September 30:
From August Sales (900000 x 10%) =$90000
From September Sales (500000x 80%) = $400000
= $490000

Exercise: 9-7

Particulars	Quarter				Year
Cash Balance Beginning	9	5	5	5	24

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