

CHAPTER 6

Master Budget

BUDGET DEFINED

A budget is

- ⦿ The quantitative expression of a proposed plan of action by management for a specified period.
- ⦿ An aid to coordinating what needs to be done to implement that plan.

A budget generally includes both the plan's financial and nonfinancial aspects.

- Financial aspects: expectations regarding the company's income, cash flows and financial position (proforma FSs).
- Nonfinancial aspects: units sold, number of employees..etc.

BUDGETING CYCLE:

1. Before the start of a fiscal year, managers at all levels take into account past performance, market feedback, anticipated future changes and other indicators to initiate plans for the next period.
2. Senior managers give subordinate managers a frame of reference (set of financial/nonfinancial expectations) against which they will compare actual results.
3. Managers and management accountants investigate any deviations from the plan.

ADVANTAGES OF BUDGETS

- ◉ Planning and coordination tool. (Ch06)
- ◉ Control tool: Provides a framework for judging performance and facilitating learning (Ch07).
 - Actual to budget comparisons
 - Performance reports
- ◉ Motivational tool: to motivate managers and other employees.

CHALLENGES IN ADMINISTERING A BUDGET

- ◉ Top down budgeting.
- ◉ Bottom up (participative) budgeting : lower-level employees and managers participate in the budgeting process because they have more specialized knowledge of day-to-day management.

TIME COVERAGE OF BUDGETS

The timeline for a budget is dependent on the motive for creating the budget.

- ◉ The most frequently used budget period is 1 year.
- ◉ Businesses may also use a **rolling (continuous budget)**.
 - This budget is always available for a specified future period, by continually adding a month, quarter, or year to the period just ended.

WORKING DOCUMENT: MASTER BUDGET

The master budget is at the core of the budgeting process. It expresses management's operating and financial plans for a specified period:

- Operating budgets
- Financial budgets

BASIC OPERATING BUDGET STEPS

1. The revenues budget (schedule 1)
2. The production budget (schedule 2)
3. The direct materials usage budget and direct materials purchases budget (schedule 3A and 3B)
4. The direct manufacturing labor budget (schedule 4)
5. Prepare the manufacturing overhead costs budget (schedule 5)
6. Prepare the ending inventories budget (schedule 6)

BASIC OPERATING BUDGET STEPS

- 7. The cost of goods sold budget (schedule 7)
- 8. The operating expense (period cost) budget (schedule 8)
- 9. The budgeted income statement (schedule 9)

BASIC FINANCIAL BUDGET STEPS

Based on the operating budgets:

1. The cash budget
2. The budgeted balance sheet

EXAMPLE - MASTER BUDGET

Alpha Furniture Company produces single class of tables. The following are available for 2022 budget.

Direct Materials	
Red Oak	12 board feet, \$7 per b.f
Granite	6 square feet, \$10 per s.f
Direct labor	4 hours, \$20 per hour
MOH - Operation	\$7,200,000
MOH - Setup	\$2,400,000
Expected sales in units	50,000 tables
Selling price	\$600
Target ending inventory	11,000 tables
Beginning inventory	1,000 tables
Beginning inventory - Direct Materials	70,000 b.f for red oak, 60,000 s.f for granite
Target ending inventory - Direct Materials	80,000 b.f for red oak, 20,000 s.f for granite
Nonmanufacturing Costs	\$6,500,000 (60% variable)
Tax rate	15%

BASIC OPERATING BUDGET STEPS

The Revenues Budget (schedule 1; the starting point)

S1 - Revenues Budget	
Sales in units	50,000
Selling price	<u>\$600</u>
Total sales revenues	\$30,000,000

BASIC OPERATING BUDGET STEPS

The Production Budget (schedule 2)

S2 - Production Budget	
Budgeted Sales in units (S1)	50,000
Plus: target ending F.G inventory	<u>11,000</u>
Total required units	61,000
Less: Beginning F.G inventory	<u>1,000</u>
Units to be produced	60,000

BASIC OPERATING BUDGET STEPS

The DM Usage Budget (schedule 3A)

S3A- DM Usage Budget	Red Oak	Granite
Direct material to be used in production	(60,000*12) 720,000 b.f	(60,000*6) 360,000 s.f
DM cost per foot	<u>\$7</u>	<u>\$10</u>
Cost of DM to be used in productions	\$5,040,000	\$3,600,000
Total costs of DM to be used	\$8,640,000	

BASIC OPERATING BUDGET STEPS

The DM Purchases Budget (schedule 3B)

S3B- DM Purchases Budget	Red Oak	Granite
Direct material to be used in production (3A)	720,000 b.f	360,000 s.f
Plus: target ending DM inventory	<u>80,000</u>	<u>20,000</u>
Total required DM	800,000 b.f	380,000
Less: beginning DM inventory	<u>(70,000)</u>	<u>(60,000)</u>
DM purchases	730,000	320,000
DM cost per foot	<u>\$7</u>	<u>\$10</u>
Cost of DM purchases	\$5,110,000	\$3,200,000
Total costs of DM purchases	\$8,310,000	

BASIC OPERATING BUDGET STEPS

The Direct Labor Budget (schedule 4)

S4 - DL Budget	
Units to be produced (S1)	60,000
DLHs per unit	<u>4</u>
Total required DLHs	240,000
Wage rate per DLH	<u>\$20</u>
Total DL cost	\$4,800,000

BASIC OPERATING BUDGET STEPS

The MOH Budget (schedule 5)

S5- MOH Budget	
MOH - Operations	\$7,200,000
MOH - Setup	\$2,400,000
Total MOH Costs	\$9,600,000

BASIC OPERATING BUDGET STEPS

The Unit Costs of F.G (schedule 6-A)

S6A - Unit Costs of F.G	
Red Oak	\$84
Granite	60
Direct labor	80
MoH - (operations and setup)	160
Cost per F.G unit	\$384

BASIC OPERATING BUDGET STEPS

The Ending Inventories Budget (schedule 6-B)

S6B - Ending Inventories	
Direct Materials	
Red Oak (80,000*7)	\$560,000
Granite (20,000*10)	<u>200,000</u>
Cost of ending DM inventory	760,000
Finished Goods	
Cost of F.G (11,000 *384)	\$4,224,000

BASIC OPERATING BUDGET STEPS

The C.G.S Budget (schedule 7)

S7 - C.G.S Budget	
Beginning F.G inventory (1,000*384)	\$384,000
Plus: Manufacturing costs	
DM to be used (S3-A)	8,640,000
DL cost (S4)	4,800,000
MOH cost (S5)	<u>9,600,000</u>
Cost of goods available for sale	23,424,000
Less: finished Goods (6-B)	<u>\$4,224,000</u>
Cost of goods sold	\$19,200,000

BASIC OPERATING BUDGET STEPS

Nonmanufacturing Costs Budget (schedule 8)

S8 - Nonmanufacturing Costs Budget	
Variable costs	\$3,900,000
Fixed costs	2,600,000
Total Nonmanufacturing costs	6,500,000

BASIC OPERATING BUDGET STEPS

The Income Statement Budget (schedule 9)

S9 - Income Statement Budget	
Sales (S1)	\$30,000,000
Less: Cost of goods sold (S7)	<u>(19,200,000)</u>
Gross Margin	\$10,800,000
Less: Nonmanufacturing costs (S8)	<u>(6,500,000)</u>
O.I before tax	\$4,300,000
Less: income tax expense (15%)	<u>(645,000)</u>
Operating income	\$3,655,000

BASIC FINANCIAL BUDGET STEPS

The Cash Budget

- ◉ Schedule of expected cash receipts and disbursements.
- ◉ Multiperiod cash budget (monthly or quarterly)

THE CASH BUDGET -EXAMPLE

	Q1	Q2	Q3	Q4
Sales to customers	\$9,282,000	\$10,332,000	\$10,246,000	\$8,240,000
Disbursements:				
▪ Direct Materials	3,031,400	2,636,967	2,167,900	2,242,033
▪ Direct labor payroll	1,888,000	1,432,000	1,272,000	1,408,000
▪ Manufacturing OH	3,265,296	2,476,644	2,199,924	2,435,136
▪ Nonmanufacturing costs	2,147,750	2,279,000	2,268,250	2,005,000
▪ Machinery purchase	-		758,000	
▪ Income taxes	725,000	400,000	400,000	400,000

- ☐ Accounts receivables balance at the beginning of Q1 is \$1711,000.
- ☐ 80% of sales made in a quarter are collected in the same quarter and 20% are collected in the next quarter.
- ☐ Cash balance at the beginning of Q1 is \$300,000.
- ☐ Minimum cash balance at the end of each quarter should be \$320,000.
- ☐ The company can borrow or repay money at an interest rate of 12% per year (in multiples of \$1,000).

Required:

- 1- Prepare the schedule of cash collections.
- 2- Prepare the cash budget.

1: SCHEDULE OF CASH COLLECTIONS

	Q1	Q2	Q3	Q4
Beginning AR balance	\$1,711,000			
Q1 Sales	7,425,600	\$1,856,400		
Q2 Sales	-	8,265,600	\$2,066,400	
Q3 Sales	-	-	8,196,800	\$2,049,200
Q4 Sales	-	-	-	6,512,000
Total collections from customers	\$9,136,600	\$10,122,000	\$10,263,200	\$8,561,200

2: CASH BUDGET

A Stylistic Furniture						
Cash Budget						
For Year Ending December 31, 2014						
	Quarter 1	Quarter 2	Quarter 3	Quarter 4	Year as a Whole	
	\$ 300,000	\$ 320,154	\$ 320,783	\$ 324,359	\$ 300,000	
Cash balance, beginning						
Add receipts						
Collections from customers	9,136,600	10,122,000	10,263,200	8,561,200	38,083,000	
Total cash available for needs (x)	9,436,600	10,442,154	10,583,983	8,885,559	38,383,000	
Deduct disbursements						
Direct materials	3,031,400	2,636,967	2,167,900	2,242,033	10,078,300	
Direct manufacturing labor payroll	1,888,000	1,432,000	1,272,000	1,408,000	6,000,000	
Manufacturing overhead costs	3,265,296	2,476,644	2,199,924	2,435,136	10,377,000	
Nonmanufacturing costs	2,147,750	2,279,000	2,268,250	2,005,000	8,700,000	
Machinery purchase			758,000			
Income taxes	725,000	400,000	400,000	400,000	1,925,000	
Total disbursements (y)	11,057,446	9,224,611	9,066,074	8,490,169	37,080,300	
Minimum cash balance desired	320,000	320,000	320,000	320,000	320,000	
Total cash needed	11,377,446	9,544,611	9,386,074	8,810,169	37,400,300	
Cash excess (deficiency)*	\$ (1,940,846)	\$ 897,543	\$ 1,197,909	\$ 75,390	\$ 0	
Financing						
Borrowing (at beginning)	\$ 1,941,000	\$ 0	\$ 0	\$ 0	\$ 1,941,000	
Repayment (at end)	0	(846,000)	(1,095,000)	0	(1,941,000)	
Interest (at 12% per year)**	0	(50,760)	(98,550)	0	(149,310)	
Total effects of financing (z)	1,941,000	(896,760)	(1,193,550)	0	(149,310)	
Cash balance, ending***	\$ 320,154	\$ 320,783	\$ 324,359	\$ 395,390	\$ 395,390	
*Excess of total cash available — Total cash needed before financing						
**Note that the short-term interest payments pertain only to the amount of principal being repaid at the end of a quarter. The specific computations regarding interest are $\$846,000 \times 0.12 \times 0.5 = \$50,760$; $\$1,095,000 \times 0.12 \times 0.75 = \$98,550$. Also note that <i>depreciation does not require a cash outlay</i> .						
***Ending cash balance = Total cash available for needs (x) — Total disbursements (y) + Total effects of financing (z)						



This work is protected by United States copyright laws and is provided solely for the use of instructors in teaching their courses and assessing student learning. Dissemination or sale of any part of this work (including on the World Wide Web) will destroy the integrity of the work and is not permitted. The work and materials from it should never be made available to students except by instructors using the accompanying text in their classes. All recipients of this work are expected to abide by these restrictions and to honor the intended pedagogical purposes and the needs of other instructors who rely on these materials.