Management Accountancy

Unit 3

Income Recognition, Measurement and Reporting

- Concept of variable and absorption costing
- Income statement under variable and absorption costing methods
- Profit reconciliation between variable and absorption costing approaches

After the completion of this unit, you should be able to:

- Understand the meaning of absorption costing and variable costing
- Appreciate the method of inventory valuation technique under variable and absorption costing
- Differentiate between variable and absorption costing
- Prepare the profit reconciliation between variable and absorption costing approaches, and explain the possible reasons

3.1 Reporting of net income under different situations for internal and external use

The main difference between absorption costing and variable costing are as follows :

S.N.	Variable Costing	Absorption Costing
1.	Only variable manufacturing costs are included in cost of production for inventory valuation purposes. It includes direct materials, direct labour and variable factory overhead in production costs. Inventorial cost for inventory valuation Direct Materials Cost + Direct Labour Cost + Variable Manufacturing Overheads Cost (VMOH) = Total Variable Manufacturing Cost	All the manufacturing costs are charged to cost of production for the inventory valuation purposes. According to this technique, direct material, direct labour, direct expenses, variable factory overhead and fixed factory overhead expenses are included in production cost. Inventorial cost for inventory valuation Direct Materials Cost (DM) + Direct Labour Cost (DL) + Variable Manufacturing Overheads Cost (VMOH) + Fixed Manufacturing Overhead Cost (FMOH) = Total Manufacturing Cost
2.	Cost are classified on the basis of behavior of cost, i.e., variable and fixed costs.	Cost are classified on the basis of function of cost, i.e., manufacturing and non-manufacturing costs.
3.	Over and under absorption of fixed manufacturing overhead does not arise as only variable cost is charged to product.	As it includes fixed manufacturing cost in stock valuation, the problem of over and under

		absorption of fixed manufacturing overhead arises.
4.	Managerial decision is made on the basis of contribution margin. If the sales exceed to total variable cost, contribution margin continues to increase.	Managerial decision is made on the basis of net income. If the sales revenue is more than total costs, it results profit.
5.	Variable costing is suitable for internal reporting.	Absorption costing is suitable for external reporting.
6.	Profit is result of only sales volume.	Profit is result of both production and sales volume.
7.	Income Statement Sales Revenue XXX Less: Total Variable Cost (VC) XXX Contribution Margin (CM) XXX Less: Fixed Cost (FC) XXX Profit XXX	Income Statement Sales Revenue XXX Less: Total Manufacturing Cost XXX Gross Margin (GM) XXX Less: Total Non-Manufacturing Cost XXX Profit XXX
8.	Contribution Margin = Sales Revenue – Variable Cost	Gross Margin = Sales Revenue – Manufacturing Cost

3.2 Results

The relationship between production, sales and income is presented as below :

Conditions	**Inventory Level**	**Profit Between Absorption Costing and Varaible Costing**
1. Sales is equal to production	No change in inventory level	No difference in profit
2. Sales less than production.	Increase in inventory level	Absorption costing reports more profit than Variable costing
3. Sales exceed to production	Decrease in inventory level	Absorption costing reports lesser profit than Variable costing

3.3 Reconciliation of net income between variable costing and absorption costing

It is clear from the above discussion that sometimes the profit reported by absorption costing may be different and sometimes equal. The different net income figure is reported on account of fixed manufacturing overhead recognised as expenses under the two methods. The net profit of both methods will be equal if the sales and products are equal. If the sales and production are different, the profit reported by variable costing and absorption costing will also differ. The amount of difference between the profits of two methods will be equal to difference between the amount of fixed overhead assigned to inventory on two methods.

i.e. [Difference in Profit between AC & VC] = [Difference in Fixed Cost Assigned to Inventory under AC & VC]

Profit Reconciliation Statement

Profit under Variable Costing	XXX
Profit under Absorption Costing	XXX
Profit difference between AC and VC	XXX
Opening stock	XXX
Closing stock	XXX
Increased/Decreased inventory level	XXX
Fixed Manufacturing Overhead Rate	$
Profit difference between AC and VC	XXX

ILLUSTRATION 1

A manufacturing Company with normal capacity of 80% furnished you the following information:

Production Units	40,000
Sales Units	50,000
Closing Stock	10,000 units
Fixed Factory Overhead Incurred	$ 2,40,000
Fixed Selling and Administrative Cost	$ 1,00,000

Variable Selling Cost per Unit $ 2

Selling Price per Unit $ 35

The installed production capacity of the plant is 60,000 units and manufactu-ring cost at normal capacity of 80% are budgeted as follows :

Direct Material Cost per Unit	$ 10
Direct Labour Cost per Unit	$ 5
Direct Expenses Cost per Unit	$ 4

Required: Income Statement under Variable and Absorption Costing.

SOLUTION:

Installed Capacity of the Plant = 60,000 units

Normal Capacity = 60,000 × 80%

= 48,000 units.

Actual Output = 40,000 units.

$$\text{Fixed Factory Cost per Unit} = \frac{2,40,000}{48,000}$$

= $ 5 per unit

Under Absorption of Fixed Cost = (48,000 - 40,000) × 5

= $ 40,000.

Opening Stock in Units = Closing Stock + Sales - Production

= 10,000 + 50,000 - 40,000

= 20,000 units.

Income Statement under Variable Costing

		$	$
Sales Revenue –50,000 units @ $ 35 each			17,50,000
Less :	Variable Cost of Sales :		
	Direct Material @ $ 10 per unit	4,00,000	
	Direct Labour @ $ 5 per unit	2,00,000	
	Direct Expenses @ $ 4 per unit	1,60,000	
	Total Variable Manufacturing Cost	7,60,000	
Add :	Opening Stock (20,000 × 19)	3,80,000	
		11,40,000	
Less :	Closing Stock (10,000 × 19)	1,90,000	
	Variable Cost of Sales		9,50,000
	Gross Contribution Margin		8,00,000
Less :	Variable Selling Cost (40,000 × 2)		80,000
	Net Contribution Margin		7,20,000
Less:	Fixed Cost :		
	Factory Overhead	2,40,000	
	Selling and Administrative	1,00,000	
	Total Fixed Cost		3,40,000
	Net Income		3,80,000

Income Statement under Absorption Costing

		$	$
Sales Revenue–50,000 units @ $ 35 each			17,50,000
Less :	Manufacturing Cost of Sales :		
	Direct Material @ $ 10 per unit	4,00,000	
	Direct Labour @ $ 5 per unit	2,00,000	
	Direct Expenses @ $ 4 per unit	1,60,000	
	Fixed Manufacturing Cost @ $ 5 per unit	2,00,000	
	Total Manufacturing Cost	9,60,000	
Add :	Opening Stock [20,000 units @ $ 24 per unit]	4,80,000	
		14,40,000	
Less :	Closing Stock [10,000 units @ $ 24 each]	2,40,000	
	Total Cost of Sales		12,00,000
	Gross Profit before Adjustment		5,50,000
Less :	Under Absorption of Fixed Overhead		40,000
	Gross Profit after Adjustment		5,10,000
Less :	Non-manufacturing Cost :		

Variable Selling Cost	80,000	
Fixed Selling and Administrative Cost	1,00,000	
		1,80,000
Net Income		3,30,000

ILLUSTRATION 2

A Company had the following relevant information for two yea$:

Variable Manufacturing Cost per Unit		$ 15
Selling Price per Unit		$ 25
Fixed Manufacturing Overhead (at Normal Capacity of 1,50,000 units)		$ 7,50,000
Fixed Selling Expenses		$ 1,00,000
Fixed Administrative Expenses		$ 2,25,000
Variable Selling Expenses		5% of sales.
Production Volume :	19 × 1	1,70,000 units.
	19 × 2	1,40,000 units.
Sales Volume :	19 × 1	1,40,000 units.
	19 × 2	1,60,000 units.

Required: (i) Income statement for the two yea$ under absorption and Variable Costing.
(ii) Reconciliation of the differences in net income for two yea$

SOLUTION:

Income Statement (Under Variable Costing)

	19 ×1	**19 ×2**
Sales Revenue @ $ 25 per unit (a)	35,00,000	40,00,000
Less : Variable Manufacturing Cost of Sales :		
Variable Manufacturing Cost @ $ 15 each	25,50,000	21,00,000
Add : Opening Stock @ $ 15 each	–	4,50,000
	25,50,000	25,50,000
Less : Closing Stock @ $ 15 each	4,50,000	1,50,000
Variable Manufacturing Cost of Sales (b)	21,00,000	24,00,000
Gross Contribution Margin (a - b)	14,00,000	16,00,000
Less : Variable Selling Expenses (5% of Sales)	1,75,000	2,00,000
Net Contribution Margin (c)	12,25,000	14,00,000
Less : Fixed Overhead :		
Manufacturing Overhead	7,50,000	7,50,000
Administrative Overhead	2,25,000	2,25,000
Selling Overhead	1,00,000	1,00,000
Total Fixed Overhead (d)	10,75,000	10,75,000
Net Income (c-d)	1,50,000	3,25,000

WORKING NOTES:

Closing Stock = Opening Stock + Production – Sales

$19 \times 1 = 0 + 1{,}70{,}000 - 1{,}40{,}000 = 30{,}000$ units.

$19 \times 2 = 30{,}000 + 1{,}40{,}0000 - 1{,}60{,}000 = 10{,}000$ units.

(ii) Income Statement (Under Absorption Costing)

	19 ×1	19 ×2
Sales Revenue @ $ 25 per unit (a)	35,00,000	40,00,000
Less : Manufacturing Cost of Sales :		
Variable Manufacturing Cost @ $ 15 each	25,50,000	21,00,000
Fixed Manufacturing Cost @ $ 5 each	8,50,000	7,00,000
Total Manufacturing Cost	34,00,000	28,00,000
Add : Opening Stock @ $ 20 each	–	6,00,000
	34,00,000	34,00,000
Less : Closing Stock @ $ 20 each	6,00,000	2,00,000
Manufacturing Cost of Sales (b)	28,00,000	32,00,000
Gross Profit before Adjustment (a - b)	7,00,000	8,00,000
Add : Over-absorption of Fixed Overhead	1,00,000	–
Less : Under Absorption of Fixed Overhead	–	1,00,000
Gross Profit after Adjustment	8,00,000	7,50,000
Less : Non-manufacturing Cost :		
Fixed Administrative Expenses	2,25,000	2,25,000
Variable Selling Expenses	1,75,000	2,00,000
Total Non-manufacturing Cost	5,00,000	5,25,000
Net Income	3,00,000	2,25,000

WORKING NOTES:

Normal Fixed Manufacturing Overhead $= \frac{7{,}50{,}000}{1{,}50{,}000} = \$\ 5.$

Over Absorption of Fixed Overhead :

Year 19×1 $= (1{,}70{,}000 - 1{,}50{,}000)$ units $\times \$\ 5$

$= \$\ 1{,}00{,}000.$

Under Absorption of Fixed Overhead :

Year 19×2 $= (1{,}50{,}000 - 1{,}40{,}000)$ units $\times \$\ 5$

$= \$\ 50{,}000.$

Reconciliation Statement

	19 ×1	19 ×2
Net Income as per Absorption Costing	3,00,000	2,25,000
Net Income as per Variable Costing	1,50,000	3,25,000
Difference in Profit	1,50,000	(1,00,000)
Beginning Inventory in Units	–	30,000
Ending Inventory in Units	30,000	10,000
Difference in Inventory	30,000	(20,000)
Normal Fixed Manufacturing Overhead/Unit	$ 5	$ 5
Difference in Stock Valuation	1,50,000	(1,00,000)

Alt. Method:

Reconciliation Statement

	19 ×1	19 ×2
Net Income as per Absorption Costing	3,00,000	2,25,000
Less : Fixed Overhead in Closing Stock @ $ 5	1,50,000	50,000
	1,50,000	1,75,000
Add: Fixed Overhead in Opening Stock @ $ 5	0	1,50,000
Net Income as per Variable Costing	1,50,000	3,25,000

Alt. Method:

Reconciliation Statement

Difference in Profit (AC – VC)	1,50,000	(1,00,000)
Fixed Overhead in Opening Stock	0	1,50,000
Less : Fixed Overhead in Closing Stock	1,50,000	50,000
Diff. in Stock Valuation	1,50,000	(1,00,000)

References

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