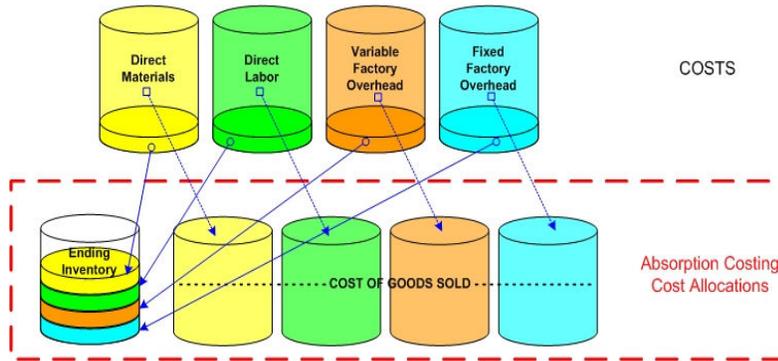


Absorption Costing or Full Costing System:

Definition and explanation:



Absorption costing is a costing system which treats all costs of production as product costs, regardless of them being variable or fixed. The cost of a unit of product under absorption costing method consists of direct materials, direct labor and both variable and fixed overhead. Absorption costing allocates a portion of fixed manufacturing overhead cost to

each unit of product, along with the variable manufacturing cost. Because absorption costing includes all costs of production as product costs, it is frequently referred to as **full costing method**.

Marginal, Variable or Direct Costing:

Definition and explanation:

Variable costing is some time referred to as **direct costing** or **marginal costing**. It is a costing system under which those costs of production that vary with output are treated as product costs. This would usually include direct materials, direct labor and variable portion of manufacturing overhead. **Fixed manufacturing cost is not treated as a product costs under variable costing**. Rather, fixed manufacturing cost is treated as a period cost and, like selling and administrative expenses, it is charged off in its entirety against revenue each period. Consequently the cost of a unit of product in inventory or cost of goods sold under this method does not contain any fixed overhead cost. To complete this summary comparison of absorption and variable costing, we need to consider briefly the handling of **selling and administrative expenses**. **These expenses are never treated as product costs, regardless of the costing method in use**. Thus under either absorption or variable costing, both variable and fixed selling and administrative expenses are always treated as period costs and deducted from revenues as incurred.

The concepts explained so far are illustrated below

Cost classifications--Absorption versus variable costing		
Absorption Costing		Variable Costing
Product cost	Direct materials Direct Labor Variable Manufacturing overhead	Product cost
	Fixed manufacturing overhead	
Period cost	Variable selling and administrative expenses Fixed selling and administrative expenses	Period cost

Unit Cost Computation/Calculation:

To illustrate the computation/calculation of unit product costs under both absorption and variable costing consider the following example.

Example:

A small company that produces a single product has the following cost structure.

Number of units produced	6,000
Variable costs per unit:	
Direct materials	\$2
Direct labor	\$4
Variable manufacturing overhead	\$1
Variable selling and Administrative expenses	\$3
Fixed costs per year:	
Fixed manufacturing overhead	\$30,000
Fixed selling and administrative expenses	\$10,000

Required:

1. Compute the unit product cost under absorption costing method.
2. Compute the unit product cost under variable / marginal costing method.

Unit product Cost Absorption Costing Method	
Direct materials	\$2
Direct labor	\$4
Variable manufacturing overhead	\$1

Total variable production cost	\$7
Fixed manufacturing overhead	\$5

Unit product cost	\$12
	=====
Unit product Cost Variable Costing Method	
Direct materials	\$2
Direct labor	\$4
Variable manufacturing overhead	\$1

Unit product cost	\$7
	=====

(The \$30,000 fixed manufacturing overhead will be charged off in total against income as a period expense along with selling and administrative expenses)

Under the absorption costing, notice that all production costs, variable and fixed, are included when determining the **unit product cost**. Thus if the company sells a unit of product and absorption costing is being used, then \$12 (consisting of \$7 variable cost and \$5 fixed cost) will be deducted on the income statement as cost of goods sold. Similarly, any unsold units will be carried as inventory on the balance sheet at \$12 each.

Under variable costing, notice that all variable costs of production are included in product costs. Thus if the company sells a unit of product, only \$7 will be deducted as cost of goods sold, and unsold units will be carried in the balance sheet inventory account at only \$7.

The income statements prepared under absorption costing and variable costing usually produce different net operating income figures. This difference can be quite large. Here we will explain the basic reason of this difference in income. The explanation for this difference needs two separate income statements: one under absorption costing and other under variable costing. We will prepare two income statements that will produce different income figures and then explain the reasons of difference. Consider the following example:

Example:

Following data relates to a manufacturing company:

Number of units produced each year	6,000
Variable cost per unit:	
Direct materials	\$2
Direct labor	\$4
Variable Manufacturing Overhead	\$1
Variable selling and Administrative expenses	\$3
Fixed costs per year:	
Fixed manufacturing overhead	\$30,000
Fixed selling and administrative expenses	\$10,000
Units in beginning inventory	0
Units produced	6,000
Units Sold	5,000
Units in ending inventory	1,000
Selling price per unit	\$20

Required:

1. Prepare income statements using:
 - a. Absorption costing system
 - b. Variable costing system
2. Prepare a reconciliation schedule

Absorption Costing Income Statement

Sales (5,000 units×\$20 per unit)	\$100,000

Less cost of goods sold:	
Beginning inventory	\$0
Add Cost of goods manufactured (6,000 units×\$12per unit)	\$72,000

Goods available for sale	\$72,000
Less ending inventory	\$12,000

Cost of goods sold	\$60,000

Gross Margin (\$100,000 – \$60,000)	\$40,000

Less selling and administrative expenses	
Variable selling and administrative expenses (5,000 × 3)	\$15,000
Fixed selling and administrative expenses	\$10,000

	\$25,000

Net operating income (\$40,000 – \$25,000)	\$15,000
	=====

Variable Costing Income Statement

Sales (\$5,000units×\$20 per unit)	\$100,000

Less variable expenses:	
<i>Variable cost of goods sold:</i>	
Beginning inventory	\$0
Add variable manufacturing costs (6,000 units×\$7 per unit)	\$42,000

Goods available for sale	\$42,000
Less ending inventory (1,000 units×\$7 per unit)	\$7,000

Variable cost of goods sold	\$35,000
variable selling and administrative expenses (5,000 units × \$3 per unit)	\$15,000

	50,000

Contribution margin (\$100,000 – \$50,000)	50,000

Less fixed expenses:	
Fixed manufacturing overhead	\$30,000
Fixed selling and administrative expenses	\$10,000

	\$40,000

Net operating Income (\$50,000 – \$40,000)	\$10,000
	=====

Reconciliation Statement for Marginal and Absorption Costing

Marginal Costing Net Income	\$ 10,000
Add: (Closing Inventory in units – Opening Inventory in units) x FOAR (1,000 – 0) x (\$30,000 ÷ 6,000)	\$ 5,000
Absorption Costing Net Income	<u>\$15,000</u>

The income statements prepared have different net operating income figures. Now we will explain why net operating income is different under both the costing systems.

Explanation:

Several points can be noted from the income statements prepared above:

Under absorption costing if inventories increase then some of the fixed manufacturing costs of the current period will not appear on the income statement as part of cost of goods sold. Instead, these costs are deferred to a future period and are carried on the balance sheet as part of the inventory account. Such a deferral of cost is known as fixed manufacturing overhead deferred in inventory. The process involved can be explained by referring to income statements prepared above. During the current period 6,000 units have been produced but only 5,000 units have been sold leaving 1,000 unsold units in the ending inventory.

Under the absorption costing system each unit produced was assigned \$5 in fixed overhead cost. Therefore each unit going into inventory at the end of the period has \$5 in fixed manufactured overhead cost attached to it, or a total of \$5,000 for 1,000 units (1,000 × \$5). This fixed manufacturing overhead cost of the current period deferred in inventory to the next period, when hopefully these units will be taken out of inventory and sold. This deferral of \$5,000 of fixed manufacturing overhead costs can be clearly seen by analyzing the ending inventory under the absorption costing method:

Variable manufacturing costs (1000units × \$7 per unit)	\$7,000
Fixed manufacturing overhead costs (1,000 × \$5 per unit)	\$5,000

Total ending inventory value	\$12,000
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In summary, under absorption costing, of the \$30,000 in fixed manufacturing overhead costs incurred during the period, only \$25,000 (\$5,000 per unit) has been included in the cost of goods sold. The remaining \$5,000 (1,000 units not sold \$5 per unit) has been deferred in inventory to the next period.

Under variable costing method the entire \$30,000 in fixed manufacturing overhead costs has been treated as an expense of the current period (see the bottom portion of the variable costing income statement).

The ending inventory figure under the variable costing method is \$5,000 lower than it is under the absorption costing method. The reason is that under variable costing; only the variable manufacturing costs are assigned to units of product and therefore included in the inventory:

Variable manufacturing costs (1000units × \$7 per unit)	\$7,000
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The \$5,000 difference in ending inventories explains the difference in net operating income reported between the two costing methods. Net operating is \$5,000 higher under absorption costing since, as explained above, \$5,000 of fixed manufacturing overhead cost has been deferred in inventory to the next period under that costing method. Hopefully, when the units relating to this \$5,000 fixed cost will be sold in the next period the cost attached to these units will be included in the cost of goods sold of the next period. This is called fixed manufacturing overhead cost released from inventory.

The absorption costing system makes no distinction between fixed and variable costs; therefore, it is not well suited for CVP computations, which are important for good planning and control. To generate data for cost volume profit (CVP) analysis, it would be necessary to spend considerable time reworking and reclassifying costs on the absorption statement.

The variable costing approach to costing units of product works very well with the contribution approach to the income statement, since both concepts are based on the idea of classifying costs by behavior. The variable costing data could be immediately used in cost volume profit (CVP) calculations.¹

Variable costing has the following main advantages:

1. The data that are required for **cost volume profit (CVP) analysis** can be taken directly from a variable costing format income statement. These data are not available on a conventional income statement based on absorption costing.
2. Under variable costing, the profit for a period is not affected by changes in inventories. Other things remaining the same (i.e. selling prices, costs, sales mix, etc.), profits move in the same direction as sales when variable costing is in use.
3. Managers often assume that unit product costs are variable costs. This is a problem under absorption costing, since unit product costs are a combination of both fixed and variable costs. Under variable costing, unit product costs do not contain fixed costs.
4. The impact of fixed costs on profits is emphasized under the variable costing and contribution approach. The total amount of fixed costs appears explicitly on the income statement. Under absorption, the fixed costs are mingled together with the variable costs and are buried in cost of goods sold and in ending inventories.
5. Variable costing data make it easier to estimate the profitability of products, customers, and other segments of the business. With absorption costing, profitability is obscured by arbitrary allocations of fixed costs.
6. Variable costing ties in with cost control methods such as standard costs and flexible budgets.
7. Variable costing net operating income is closer to net cash flow than absorption costing net operating income. This is particularly important for companies having cash flow problems.

Variable costing has the following main disadvantages:

1. The separation of costs into fixed and variable is difficult and sometimes gives misleading results.
2. Normal costing systems also apply overhead under normal operating volume and this shows that no advantage is gained by marginal costing.
3. Under marginal costing, stocks and work in progress are understated. The exclusion of fixed costs from inventories affect profit, and true and fair view of financial affairs of an organization may not be clearly transparent.
4. Volume variance in standard costing also discloses the effect of fluctuating output on fixed overhead. Marginal cost data becomes unrealistic in case of highly fluctuating levels of production, e.g., in case of seasonal factories.
5. Application of fixed overhead depends on estimates and not on the actual data and as such there may be under or over absorption of the same.
6. Control affected by means of budgetary control is also accepted by many. In order to know the net profit, we should not be satisfied with contribution and hence, fixed overhead is also a valuable item. A system which ignores fixed costs is less effective since a major portion of fixed cost is not taken care of under marginal costing.
7. In practice, sales price, fixed cost and variable cost per unit may vary. Thus, the assumptions underlying the theory of marginal costing sometimes becomes unrealistic. For long term profit planning, absorption costing is the only answer.ⁱⁱ

Advocates of absorption costing argue that all manufacturing costs must be assigned to products in order to properly match the costs of producing units of product with the revenues from the units when they are sold. The fixed costs of depreciation, taxes, insurance, supervisory, salaries, and so on, are just as essential to manufacturing products as are the variable costs.

Advocates of variable costing argue that fixed manufacturing costs are not really the costs of any particular unit of product. These costs are incurred to have the capacity to make products during a particular period and will be incurred even if nothing is made during the period. Moreover, whether a unit is made or not, the fixed manufacturing cost will be exactly the same. Therefore, variable costing advocates argue that fixed manufacturing costs are not part of the costs of producing a particular unit of product and thus the matching principle dictates that fixed manufacturing costs should be charged to the current period.

At any rate, absorption costing is the generally accepted method for preparing mandatory external financial reports and income tax returns. Probably because of the cost and possible confusion of maintaining two separate costing systems-one for external reporting and one for internal reporting-most companies use absorption costing for both external and internal reports.ⁱⁱⁱ

ⁱ http://www.accountingformanagement.com/income_comparison_of_variable_and_absorption_costing.htm

ⁱⁱ <http://www.scribd.com/doc/11954195/marginal-costing-and-absorption-costing>

ⁱⁱⁱ http://www.accountingformanagement.com/variable_and_absorption_costing.htm