

Direct Costing Financial Statements

Purpose

Accounting has evolved slowly over many centuries. The first important complete treatise on the principles of accounting and bookkeeping was a book by Pacoli in the 1490s. The development of accounting principles and procedures are still continuing to evolve. In the early 1900s, many controversial issues were debated and some were resolved. In the 1950s and 1960s here in the USA, the lack of standardization in accounting was of primary concern.

One of controversial areas debated extensively in the 1930s and 1940s was the treatment of manufacturing overhead in the costing of inventory and cost of goods sold. The controversy was commonly labeled absorption costing versus direct costing. To understand the issues involved, a good understanding of the principles of cost accounting is helpful. The purpose of this chapter is to provide a conceptual foundation for understanding the effect that absorption costing and direct costing have on net income.

In direct costing, fixed manufacturing overhead is treated as an operating expense (period charge). Absorption costing regards fixed manufacturing overhead as a manufacturing cost properly included in inventory and cost of goods sold. Because of the difference in the treatment of fixed manufacturing overhead, a substantial difference in the measurement of net income can result.

Accounting for Manufacturing Overhead

Manufacturing overhead is one of the three major manufacturing costs. For the most part, materials and labor are considered direct costs and can be easily associated with a specific product or job. However, manufacturing overhead tends to be more intangible and difficult to trace to a product or job. For example, utility cost such as power and light is necessary to the production process, but it is not easily assignable to a product, job, or department. The main solution to distributing overhead cost has been the use of overhead rates. Rates are typically determined by dividing estimated overhead cost by some estimated measure of activity. Consequently, the rates are often called predetermined overhead rates. Activity bases for overhead typically used

are direct labor hours, direct labor cost, machine hours, and units of product. The conventional theory is that direct labor which is easily capable of being measured correlates directly with the amount of overhead being incurred. If product A has labor cost of \$100,000 and product B has labor cost of \$200,000, then 1/3 of the overhead would be allocated to product A and 2/3 to product B.

However, accountants quickly realized that manufacturing overhead varies in nature in that some overhead tends to be fixed and some tends to be variable. Variable cost was recognized to be caused by activity and to vary directly with changes in activity. If production doubled, for example, the variable overhead likewise doubled. However, fixed manufacturing as the term "fixed" implies remained the same regardless of the level of activity. A theory of accounting for fixed manufacturing overhead developed which stated that fixed overhead provides the capacity to produce and that the bases for application of fixed manufacturing overhead should be some estimate of capacity. The cost of buildings, machines, power plants, and some supervisory labor were labeled capacity costs. Consequently, in cost accounting theory four levels of capacity were developed: expected actual, normal, practical, and theoretical. Overhead rates for fixed manufacturing overhead were developed by dividing estimated fixed manufacturing overhead by some estimated capacity level. Because the selected measure of capacity was likely to be much greater than capacity actually utilized, the use of an overhead rate for fixed manufacturing overhead gave rise to under-applied fixed manufacturing overhead.

The methods developed for overhead, particularly fixed manufacturing overhead, at times can have a profound effect on net income. The choice of a capacity base and the method of application can cause significant variations in net income. Among cost accountants, it became quickly recognized that net income was not only a product of sales but also of the accounting for overhead. If production exceeded sales, then this difference caused cost of goods sold to be less and net income greater. If the difference between sales and production decreased, then this fact alone could cause net income to decrease compared to the previous year.

To illustrate, assume fixed manufacturing overhead is \$1,000,000 and the company is debating whether to make 50,000 units or 100,000 units of product. The estimated fixed manufacturing overhead cost per unit of product would, therefore, be either \$10.00 or \$20.00. If the company were to actually manufacture 50,000 units of product, then income would be less because cost of goods sold would be \$10 per product greater. If management is only concerned about short-term maximization of net income, then the obvious decision would be to make 100,000 units. However, if sales are only 50,000 and 100,000 units of product are manufactured, an excess inventory of 50,000 would exist. If the excess inventory is never sold or has to be sold at a big price decrease, then in the long-term the potential inventory loss could easily more than offset any short-term benefit of over producing. The problem is that the excess inventory is subject to a carrying cost which over time can be a significant out of pocket cost.

The traditional method of accounting for overhead just described is called absorption costing. The term absorption implies that fixed manufacturing is absorbed into the cost of inventory and cost of goods sold by means of using manufacturing overhead rates. Absorption costing as pointed out by advocates of direct costing has an inherent and potentially serious flaw in that it is possible to manipulate net income by deliberately manufacturing more units than is required to meet the needs of the production budget. This flaw exists only in regard to fixed manufacturing overhead. In a company with only variable manufacturing overhead, the deliberate act of increasing production in excess of sales can not cause net income to become larger.

Some accounting theorists in the 1930s and 1940s began suggesting an alternative method of applying fixed overhead to inventory. It was argued that fixed manufacturing costs were not true inventory costs but were periodic costs and that this charge should be shown on the income statement as an operating expense. Fixed manufacturing overhead, it was argued, was not caused by the act of producing and, therefore, could not properly be called a production cost. Since fixed manufacturing overhead tends to remain the same from period to period, treating it as a periodic charge on the income statement is more appropriate. The proposed solution to the problem of absorption costing was called direct costing and in some cases variable costing. The term variable costing was often used because the argument now was that only variable manufacturing overhead was properly allocated to inventory. However, the real problem was not variable costs but fixed manufacturing overhead.

Most text books on cost accounting have a chapter devoted to discussing absorption costing versus direct costing. However, it should be pointed out now that the conflict between the two theories for the most part has been resolved in favor of absorption costing. Authoritative bodies such as the IRS and the FASB have not approved direct costing as an acceptable alternative for external financial statement reporting. However, direct costing is acceptable as part of an internal reporting system to management. The question that remains today is: is the use of direct costing a better means of reporting financial results to management for the purpose of making decisions?

Absorption Costing Versus Direct Costing

While the main difference between absorption costing and direct costing lies in the treatment of fixed manufacturing overhead, there are consequences that makes the two methods different in other respects:

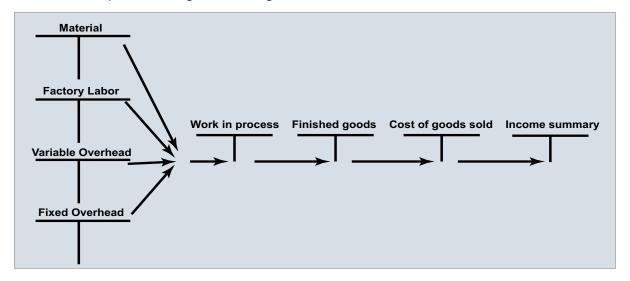
Basis Features of Absorption Costing - Absorption costing which is traditional cost accounting may be summarized as follows:

- 1. Both fixed and variable overhead are applied to inventory (work in process).
- 2. Manufacturing overhead is usually applied by means of a predetermined overhead rate. The single rate, in fact, consists of two rates: a fixed overhead cost rate and a variable overhead cost rate.
- 3. The use of a predetermined overhead rate generally will result in manufacturing overhead being over-applied or under-applied.
- 4. Under-applied overhead is generally charged to cost of goods sold or shown on the income statement as a separate line item.

- 5. The actual level of production then has an impact on net income. The greater the level of production relative to sales the less is underapplied overhead and the greater is net income.
- 6. The cost of inventory properly includes both fixed and variable manufacturing overhead.
- 7. Manufacturing overhead, except for under-applied overhead, therefore, becomes an expense only when the goods manufactured (finished goods) are sold.
- 8. Under absorption costing, net income is a function of both production and sales.

The advocates of absorption costing, by far the majority viewpoint, argue strenuously that fixed manufacturing cost is a necessary production cost because it makes production possible and, therefore, must be include in determining the cost of inventory. To not include fixed manufacturing overhead means that the cost of inventory is understated.

Absorption Costing can be diagramed in T-accounts as follows:



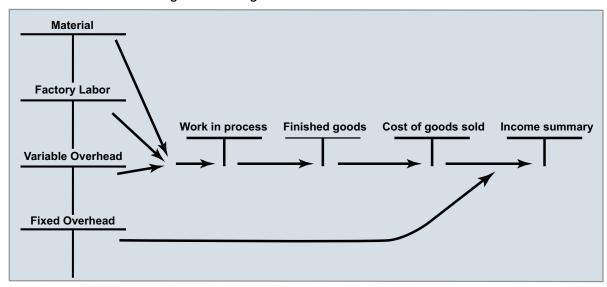
This diagram shows that before fixed manufacturing can be a deduction from net income it must first flow through the work in process and finished goods account. To the extent that finished goods is not sold, the amount of fixed manufacturing overhead in finished goods has been absorbed off the income statement.

Basis Features of Direct Costing - The basic points of direct costing or variable costing as it is often called may be summarized as follows:

- 1. Fixed manufacturing overhead is not considered to be a production cost properly included in the cost of inventory.
- 2. Fixed manufacturing overhead is regarded as a periodic charge, an operating expense. Regardless of the level of activity, it remains the same in a given time period.

- 3. Fixed manufacturing is not caused by production. Even at zero level of activity, the cost would still remain.
- 4. An overhead rate is only needed for variable overhead.
- Because it is a cost of each accounting period and remains the same independent of production activity, it should be treated as an expense on the income statement.
- 6. The treatment of fixed manufacturing overhead as a periodic charge eliminates the distortion to net income caused by fluctuations in production relative to sales.
- 7. The cost of inventory should only consist of variable manufacturing costs. Variable overhead should be included in inventory, but not fixed manufacturing overhead.

Direct Costing can be diagramed in T-accounts as follows:



This cost flow diagram shows that fixed manufacturing overhead does not flow through inventory but rather is a direct charge against revenue on the income statement. When both cost flow diagrams are compared, the only difference between direct costing and absorption become quite obvious. The observed difference clearly is how fixed manufacturing overhead is handled. The accounting for variable costs including variable manufacturing overhead is also obviously the same as in direct costing.

Effect of Variations in Production Units and Sales Units

In order to fully understand the difference consequences of using absorption costing as opposed to using direct costing, the effect of production being more or less than units sold needs to be clearly understood. Some important relationships are the following:

> 1. When production units equals sales units, there is no difference in net income between absorption costing and direct costing. Under this

- condition, there is no change in the number of units of beginning and ending inventory.
- 2. When production (units) is greater than units sold, absorption costing will show greater net income than direct costing. In this instance, the inventory of finished goods has increased compared to beginning inventory Consequently, some fixed manufacturing overhead has been absorbed into inventory.
- 3. When production is less than units sold, absorption costing will show less net income than direct costing. In this instance, ending inventory in terms of units has decreased relative to beginning finished goods inventory.
- 4. Under direct costing, assuming sales is constant from period to period, net income will be the same regardless of the level of production.
- 5. Under absorption costing, even assuming sales is constant from period to period, net income will vary directly with changes in production. If production is increased, then net income will increase and if production is decreased net income will decrease.

Illustration of Effect of Production Changes on Net Income

In order to illustrate the impact of changes in production on net income, it is necessary to assume some production data as follows:

Price	\$40	Variable Cost per unit:	
Sales (units)	70	Material	\$3
Production (units)	80 (case 1)	Direct labor	\$5
Normal capacity	100 units	Manufacturing overhead:	
Fixed overhead rate	(\$1,000/100)	Variable	\$2
Other operating expens	es \$50	Fixed manufacturing overhead	\$1,000
		(actual o/h = planned)	

A number of important observations can be made from a careful examination of the income statements for both direct costing and absorption costing (see Figure 7.1).

- 1. As production increased by 10 units while sales remained constant, net income under absorption costing increased by \$100 (cases 1 - III). In case IV, net income decreased because production was less than sales. An increase in production of 10 units causes a \$100 decrease in under-applied overhead.
- 2. Under direct costing, net income remained the same at in all four cases at \$1,050. In direct costing the differences between production and sales had no effect on net income.
- 3. In absorption costing, the manufacturing cost per unit is \$20 while under direct costing it is \$10. In absorption costing, the total cost includes \$10 per unit for fixed manufacturing overhead while in direct costing none of the fixed overhead is included.

Figure 7.1

Absorption Co	sting				Direct Costing				
	I	II	III	IV		I	II	III	IV
Production (units)	80	90	100	60	Production (units)	80	90	100	60
Sales (units)	70	70	70	70	Sales (units)	70	70	70	70
Sales	\$2,800	\$2,800	\$2,800	\$2,800	Sales Variable Expenses	\$2,800	\$2,800	\$2,800	\$2,800
Expenses					Cost of goods so	ld 700	700	700	700
Cost of goods.sold	1 \$1,400	\$1,400	\$1,400	\$1,400	Other variable	0	0	0	0
Other expenses	50	50	50	50		\$ 700	\$700	\$ 700	\$700
Under-applied o/	h 200	100	0	400	0(3)(3				
					Contribution margir	1 \$2,100	\$2,100	\$2,100	\$ 2,100
Total expenses	\$1,650	\$1,550	\$1,450	\$1,850	Fixed expenses				
					Manufacturing	\$1,000	\$1,000	\$1,000	\$1,000
					Other operating	50	50	50	50
						\$1,050	\$1,050	\$1,050	\$1,050
Net income	\$1,150 =====	\$1,250 =====	\$1,350 =====	\$950 ———	Net income	\$1,050 ====	\$1,050 ====	\$1,050 ===	\$1,050 ====
Ending inventory	\$200	\$400	\$600	\$200)	Ending inventory	\$ 100	\$ 200	\$ 300	(\$ 100)
Cost per unit Material	\$ 3				Cost per unit Material		\$ 3		
Direct labor	\$ 5				Direct labor		\$ 5		
Manufacturing:	+ 3				Manufacturing (variable)	\$ 2		
Variable rate	\$ 2					,			
Fixed rate	\$10								
	\$20 ===						\$10		

- 4. Ending inventory is greater under absorption costing than direct costing by \$10 per unit, the amount of the fixed overhead rate. In absorption costing, fixed overhead is included in the cost of inventory whereas in direct costing it is excluded.
- 5. The direct costing income statement above was based on costvolume-profit principles and clearly delineated all variable and fixed expenses. However, the point needs to be made that this separation of fixed and variable expenses is not a requirement and is strictly an optional choice. As a matter of practice when direct costing is used, a separation of fixed and variable cost is made and contribution margin is shown. However, even under absorption costing, variable and fixed costs may be shown.

Mathematical Equations for Direct Costing Absorption Costing

In chapter 7, the principles of cost-volume-profit analysis are presented mathematically. The cost-volume-profit net income equation was presented as follows:

$$I = P(Q^s) - V^d(Q^s) - (F^m + F^{ga} + F^s)$$

 $V^d = V^m + V^l + V^o + V^s + V^{ga}$

 V^d - Variable cost rate in direct costing

This equation is, in fact, the equation for the direct costing viewpoint. In order to easily compute break even point and target income point, it is necessary to adopt a direct costing approach to income measurement. The basic assumption of cost-volume-profit analysis is that during the period of analysis production units equals sales units. Otherwise, it is necessary to assume direct costing when there is a difference in production and sales. A similar equation for absorption may be created; however, because fixed overhead is considered to be a production cost and because there is the possibility of a variation in production units and sales units, the equation is considerably more complex.

The mathematical model for absorption costing is:

$$I = P(Q^{s}) - V^{a}(Q^{s}) - F^{gas} - (F^{m} - (Q^{m}) \frac{F^{m}}{Q^{p}})$$

$$V^{a} = V^{m} + V^{l} + V^{o} + (F^{m}/Q^{p}) + V^{s} + V^{ga}$$

I - net income F^m - fixed manufacturing

P - price **F**^{gas} - fixed gen., admin., and selling expenses

 Q^s - quantity sold V^a - absorption costing Variable cost

rate

Q^m - quantity manufactured (Note: **V**^a includes the fixed manufacturing overhead rate)

Q^p - quantity planned (capacity)

 V^m - variable material rate V^{ga} - variable gen. & admin. exp. rate

V^o - variable overhead rate

V^s - variable selling exp. rate

 V^d - direct costing variable cost rate

The expression, $(F^m - (Q^m)) \frac{F^m}{Q^p}$) is under-applied fixed manufacturing overhead.

Important Concepts in Direct Costing and Absorption Costing

The study of absorption costing and direct costing is rich in accounting concepts.

The study of absorption costing versus direct costing should be based on an understanding of the following concepts:

1.	Absorption costing	10.	Quantity manufactured
2.	Direct costing (variable)	11.	Fixed overhead rate
3.	Capacity	12.	Variable overhead rate
4.	Inventory changes	13.	Period charges
5.	Quantity sold	14.	Cost of inventory
6.	Planned quantity	15.	Under-over-applied overhead
7.	Variable costs (direct)	16.	Contribution margin
8.	Fixed expenses	17.	Fixed manufacturing cost
9.	Manufacturing costs		

Since direct costing is not an acceptable method for external reporting to stockholders and other external parties, the question of its value must be raised. When used it must be done only internally and for some perceived benefit to management in their role as decision makers. Advocates of direct costing believe (1) that direct costing eliminates misleading fluctuations in net income caused by using absorption costing and (2) eliminates the tendency on the part of some management to deliberately over produce to gain only a temporary boost in net income. A third advantage is that the use of direct costing will encourage management to use income statements that show all expenses as fixed and variable and to rely more on the concept of contribution margin in their decision-making.

Examination of Effect of Direct Costing on Inventory Cost

The main argument against direct costing is that it understates the value of ending inventory. It is true that direct costing creates a smaller inventory value. Proponents of absorption costing argue that fixed manufacturing overhead is a true production cost because it makes production possible. The effect on inventory value can seen more clearly if we create a hypothetical company that has only fixed manufacturing over head and no variable costs at all. That is, the product can be manufactured without any paid labor or any need to buy raw materials. For example, let's assume that the product is made of rocks which are in abundance for free and that the business is family run where family members work free. Furthermore, to complete this extreme example the following is assumed:

Fixed manufacturing overhead		\$1,000
Production capacity		100 units
Price of produc	ct	\$15
	Period 1	Period 2
Production	100 units	0 units

Based on this information income statements for periods 1 and 2 would show the following

Period 1 Income Statements			
Absorption Costing		Direct costing	
Sales	-0-	Sales	-0-
Cost of goods sold	-0-	Cost of goods sold	-0-
Gross profit	-0-	Gross profit	-0-
Expenses		Expenses	
Selling	-0-	Selling	-0-
	-0-	Fixed manufacturing overhead	\$1,000
Net income	-0-		\$1,000
		Net income (loss)	(\$1,000)
Inventory (100 units)	\$1,000	Inventory	-0-

For the period 1, two completely different net income pictures are painted. Absorption costing shows income to be zero and ending inventory to be \$1,000. Direct costing shows the business operating at a loss of \$1,000 and that the ending inventory has a zero cost. Which point of view is correct many years ago was the subject of considerable debate.

Period 2	Inco	ome Statements	
Absorption Costing		Direct costing	
Sales Cost of goods sold	\$1,500 1,000	Sales Cost of goods sold	\$ 1,500 -0-
Gross profit	500	Gross profit	1,500
Expenses Selling	-0-	Expenses Selling	-0-
Under-applied fixed overhead	1,000 1,000	Fixed manufacturing overhead	1,000
Net income (loss)	(\$ 500)		1,000
		Net income	\$ 500
Inventory (0 units)	-0-	Inventory (0 units)	-0-

In period 2, direct costing shows net income to be \$500 and under absorption costing a net loss of \$500 is reported. Absorption costing shows the loss to be greater when the company had sales. As long as it is manufacturing at capacity under absorption costing, the company will not show a loss. Proponents of direct costing would point out this does not seem to be reasonable. However, proponents of absorption costing would argue that in period 1, direct costing shows the value of inventory to be zero. They would argue that a zero value assigned to inventory is unrealistic. Both absorption costing and direct costing show that for the two periods combined the company lost \$500.

Reconciling Absorption Costing and Direct Costing Net Incomes

As the difference between production and sales increases, the difference in net incomes between absorption costing and direct costing increases. The reason, as explained previously, concerns the amount of fixed manufacturing overhead being absorbed into inventory. The difference in net incomes can easily be reconciled by the following procedure:

Step 1	For absorption costing and direct costing separately compute the chain inventory:			
		Absorption costing	Direct Costing	
	Ending inventory	\$	\$	
	Less Beginning inventory	\$	\$	
	Change in inventory	\$	\$	
Step 2	Compute the difference in the	e change in inventory	y :	
	Absorption costing change	e \$	_	
	Direct costing change	\$		
	Difference in the change	\$		

The difference in the change in inventory will be equal to the difference in net incomes. In short, as the amount of fixed overhead in inventory increases the difference in net income increases. The above calculation is simply a method of computing the amount of fixed manufacturing overhead in inventory.

To illustrate assume the following:

Variable costs (per unit of product)		
Cost of goods manufactured	\$	10
Selling	\$	20
Price	\$	100
Capacity	2	2,000 units
Beginning inventory		
Units		100
Absorption costing	\$ 3	,500
Direct costing	\$ 1	,000
Fixed manufacturing overhead	\$50	0,000
Production	1	,500 units
Sales	1	000 units

Figure 7.2

	Absorption Costing	Direct Costing
Sales (1,000 x \$100)	\$100,000	\$100,000
Variable expenses:		
Cost of goods sold (\$10 x 1,000)	10,000	10,000
Selling (1,000 x \$20)	20,000	20,000
	\$ 30,000	\$ 30,000
Contribution margin	\$ 70,000	\$ 70,000
Fixed expenses		
Cost of goods sold (1,000 x \$25)	\$ 25,000	\$ -0-
Under-applied F M/O (500 x @ \$25)	12,500	-0-
Fixed manufacturing overhead		50,000
	\$ 37,500	\$ 50,000
Net income	<u>\$ 32,500</u>	<u>\$ 20,000</u>
Beginning inventory	\$ 3,500	\$ 1,000
Ending inventory	\$ 21,000	\$ 6,000

In this example, the difference in net income is \$12,500 (\$32,500 - \$20,000) (see Figure 7.2). This difference in net incomes can be reconciled as follows:

	Absorption Costing	Direct Costing
Ending inventory	\$21,000	\$6,000
Beginning inventory	\$ 3,500	\$1,000
Change in inventory	\$17,500	\$5,000
Difference in	change	
Absorption	on costing change	\$17,500
Direct co	sting change	\$ 5,000
Change i	in difference	\$12,500

The difference can also be explained as the increase in fixed manufacturing overhead in inventory:

Increase in inventory (units)	500
Fixed manufacturing overhead rate	\$25
Increase in fixed mfg. overhead	\$12,500

Income Statement Formats for Absorption Costing and Direct Costing

As can be seen from the above illustrations, different formats for both absorption costing and direct costing have been used. The contribution margin format in most text books is generally used with direct costing. However, this is not a requirement. Other

than showing fixed manufacturing overhead as a separate line item on the income statement, there is no requirement to show any other costs as fixed or variable. However, the general practice in preparing direct costing is to identify all costs are fixed and variable. Nevertheless, as shown above even with absorption costing, it is also possible to show all costs as either fixed or variable. Which format to use is determined at the discretion of the management accountant and the preference of management.

Summary

The issue of absorption costing versus direct costing for purposes of external reporting has long been settled in favor of absorption costing. Financial reports to stockholders, banks, Internal Revenue Service, and other regulatory agencies are required to be based on absorption costing. However, for purposes of reporting to management, direct costing may be used. If the business in question is subject to considerable variation in production and sales from period to period and the amount of fixed manufacturing overhead is quite large, then management may prefer for internal reporting purposes to have income reported based on direct costing. If there is little or no significant variation in sales and production from operating period to period, then either method will result in approximately the same net incomes. Only when inventory fluctuates greatly will direct costing make a real difference in the amount of net income reported. Whether or not direct costing is used, it is still possible to identify and use fixed and variable cost on the income statement.

QUESTIONS

- Q. 6.1 What are the major characteristics of absorption costing?
- Q. 6.2 What are the major characteristics of direct costing?
- Q. 6.3 What is the fundamental weakness of absorption costing, according to the advocates of direct costing?
- What argument is made to support the idea that fixed manufacturing Q. 6.4 overhead is not a manufacturing cost?
- Q. 6.5 What is the main difference in the treatment of cost between absorption costing and direct costing?
- Q. 6.6 Draw a cost flow diagram of absorption costing.
- Q. 6.7 Draw a cost flow diagram of direct costing.
- Q. 6.8 In comparing absorption costing and direct costing, explain the effect of the following:
 - a. Production is greater than sales
 - b. Production is equal to sales
 - c. Production is less than sales
- Q. 6.9 What are the main arguments against direct costing?

- Q. 6.10 The term "absorption" has reference to what specific manufacturing cost?
- Q. 6.11 Prepare an outline of the income statement for absorption costing:
 - a. Using a conventional format
 - b. Using a cost-volume-profit format
- Q. 6-12 Prepare an outline of the income statement for direct costing:
 - a. Using a conventional format
 - b. Using a cost-volume-profit format
- Q. 6.13 Explain why absorption costing causes net income to increase as production become larger relative to sales.
- Q. 6.14 How can the difference in net income between absorption costing and direct costing be reconciled?

EXERCISES

Exercise 6.1 • Direct Costing Versus Absorption Costing

You have been given the following information:

Beginning inventory (units)	0
Units sold this year	10,000
Units manufactured this year	15,000
Capacity to manufacture	20,000
Material used	\$ 30,000
Direct factory labor	\$ 45,000
Variable manufacturing overhead	\$ 60,000
Fixed manufacturing overhead	\$ 140,000
Selling expenses	\$ 60,000
General and administrative expenses	\$ 30,000
Sales	\$ 400,000

Required:

Based on the above information, prepare income statements assuming both direct costing and absorption costing. The fixed overhead rate is to be based on capacity to manufacture.

Income Statements			
	Direct Costing	Absorption Costing	

2.	absorption costing.	under both direct costing and
3.	The difference in net income between costing can be explained by computing	
4.	What would be the difference in net in 15,000 rather than 10,000?	ncome had actual sales been
Exercise 6.2		
	Widget Company just completed its first ye presented by the company's accountant:	ar of operations. The following
	Fixed manufacturing overhead	\$5,000
	Normal capacity	1,000 units
	Variable overhead rate	\$6.00
	Actual production	1,000 units
	Units sold (price per unit - \$50.00)	800 units
	Direct labor per unit	\$10.00
	Material cost per unit	\$5.00
	Expenses (selling and general & admin.)	\$10,000
Required	d:	
Compute	net income first assuming absorption costing	g and then direct costing.

Acme Manufacturing Company Income Statement

		Direct Costing		
	\$2,800	Sales		\$2,800
		Variable expenses:		
1,120		Cost of goods sold	420	
350		Selling	200	
200				620
	\$1,670	Contribution margin		\$2,180
		Fixed expenses		
		Fixed mfg. overhead	1,000	
		Selling	150	1,150
	\$1,130 	Net income		\$1,030 ======
	\$ 160	Ending inventory		\$ 60
	350	1,120 350 200 \$1,670	\$2,800 Sales Variable expenses: Cost of goods sold Selling \$1,670 Contribution margin Fixed expenses Fixed mfg. overhead Selling \$1,130 Net income	\$2,800 Sales Variable expenses: 1,120 Cost of goods sold 420 350 Selling 200 200 \$1,670 Contribution margin Fixed expenses Fixed mfg. overhead 1,000 Selling 150 \$1,130 Net income

The Acme Manufacturing Company started operations on January 1. On December 31, the above comparative income statements were presented by the company's management accountant to management. The above statements were prepared based on the following data.

R	٩V	er	111	e	da	ita:
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Sales	70 units
Price	\$40
Beginning inventory:	
units	0
cost	0
Manufacturing data:	
Manufacturing costs per unit:	
Direct material	\$1
Direct labor	\$2
Variable overhead	\$3
Fixed manufacturing overhead	\$1,000
Capacity	100 units
Units manufactured	80 units
Operating expenses:	
Variable selling (total)	\$200
Fixed selling	\$150

Required:					
1.	Compare net income under direct costing with absorption costing ne income. Which is greater?				
	List all the differences that you observe in the direct costing income statement:				
2.	Now use the direct costing/absorption costing tool. Enter the above data as requested by the program. (If the software package is not available then you will have to manually make the required computations.)				
3.	Change units manufactured to 90 units. What effect did this change have on net income under:				
	a. Absorption costing?				
	b. Direct costing?				
4.	Now change the units manufactured to 60 units. What effect did this change have on net income under:				
	a. Absorption costing?				
	b. Direct costing?				
5.	Using the direct costing/absorption costing tool, enter the starting leve of activity as 60. Set the increment in production at 10 units.				
	What happen to net income as production increased but sales remained the same?				
6.	Explain why net income increased under absorption costing?				
7.	What general rules can be stated concerning net income, production and sales?				
	a				
	b				

8.	What is the manufacturing cost per unit under?					
	a. Absorption cos	sting				
	b. Direct costing					
9.	What general rule can be go between absorption costing inventory?	•				
10.	Assume that on January 1, the Acme Company had 20 units of inventory on hand. Costs of these units were:					
		Absorption Costing	Direct Costing			
	Number of units	20	20			
	Total cost	320	120			
	Now compute net income again assuming absorption costing and direct costing. What is the difference in absorption costing and direct costing income?					
	What general rule can be income?	e given to explain the	e difference in ne			