

Cost Terms, Concepts and Classifications

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Cost and Cost Terminology

Cost is a resource spends to acquire either current or future economic benefits. It must be measured in term of monetary value

An **actual cost** is the cost incurred (a historical cost) as distinguished from budgeted costs.

A **cost object** is anything for which a separate measurement of costs is desired.

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Cost Classifications

Costs can be classified into four categories:

- Behavior
- Traceability
- Controllability
- Relevance

Any cost may be categorized using any one or a combination of the four different classifications.

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Manufacturing

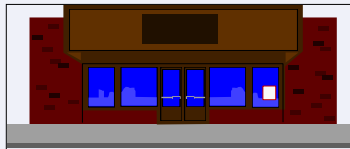
Manufacturing companies
purchase materials and components and
convert them into finished goods.

A manufacturing company must also develop,
design, market, and distribute its products.

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Merchandising

Merchandising companies
purchase and then sell tangible products
without changing their basic form.



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Service

Service companies
provide services or intangible
products to their customers.

Labor is the most significant cost category.

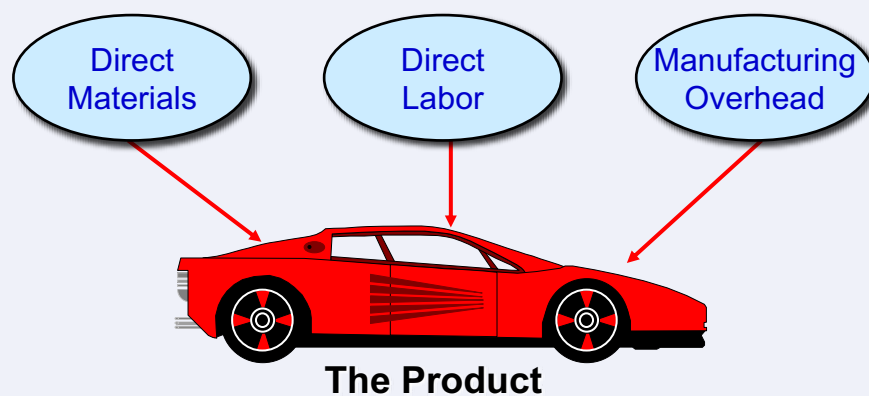
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Learning Objective 1

Identify and give examples of each of the three basic manufacturing cost categories.

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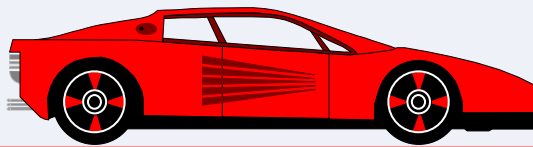
Manufacturing Costs



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Direct Materials

Raw materials that become an integral part of the product and that can be conveniently traced directly to it.

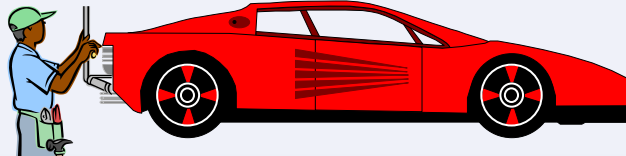


Example: A radio installed in an automobile

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Direct Labor

Those labor costs that can be easily traced to individual units of product.



Example: Wages paid to automobile assembly workers

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Manufacturing Overhead

Manufacturing costs that **cannot** be traced directly to specific units produced.

Examples: Indirect labor and indirect materials

Wages paid to employees who are not directly involved in production work.

Examples: maintenance workers, janitors and security guards.

Materials used to support the production process.

Examples: lubricants and cleaning supplies used in the automobile assembly plant.

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Non-manufacturing Costs

Selling Costs

Costs necessary to get the order and deliver the product.

Administrative Costs

All executive, organizational, and clerical costs.



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Learning Objective 2

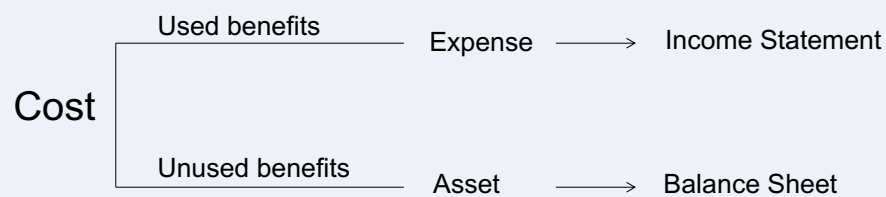
Distinguish between product costs and period costs and give examples of each.

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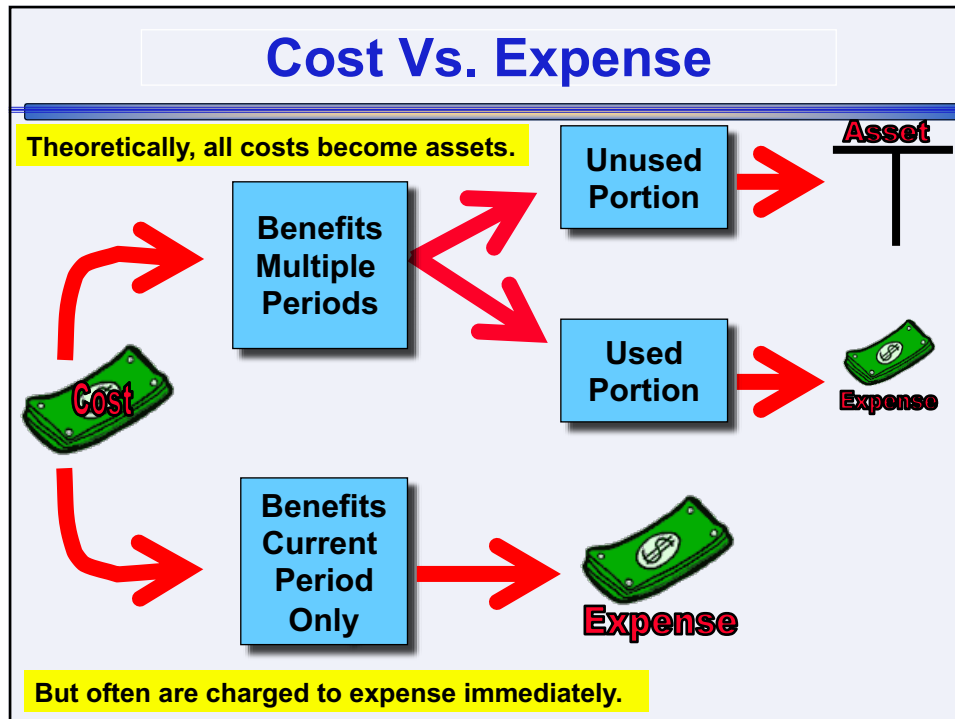
Cost or expense: what's the difference?

As already said, the amount of resources spent must be measured in term of monetary value.

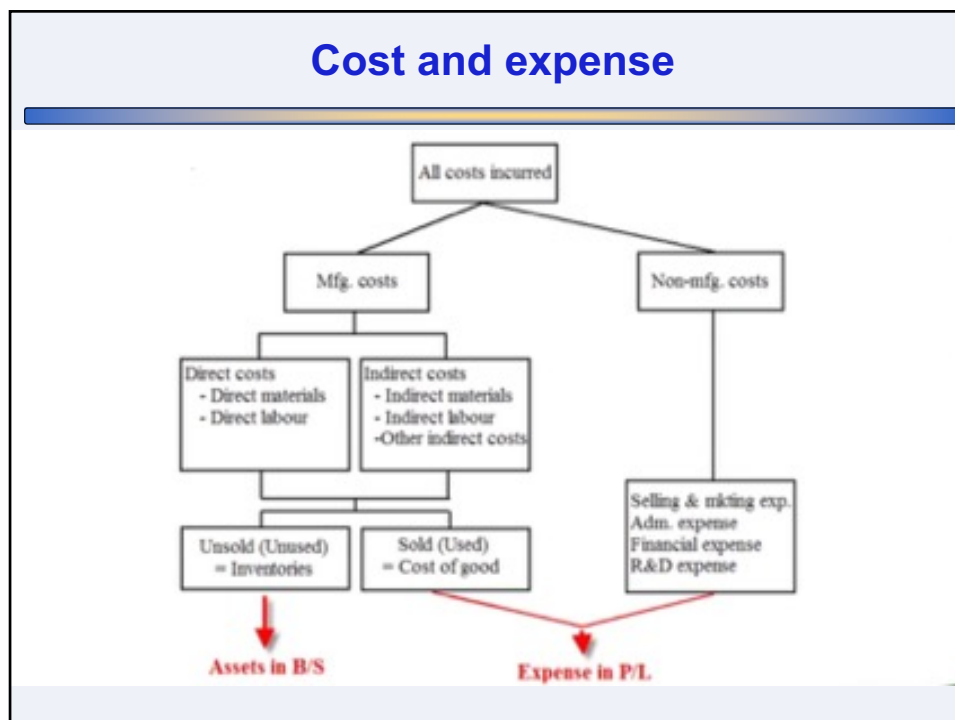
Once spent, the amount must be either recorded as an asset in balance sheet or an expense in income statement



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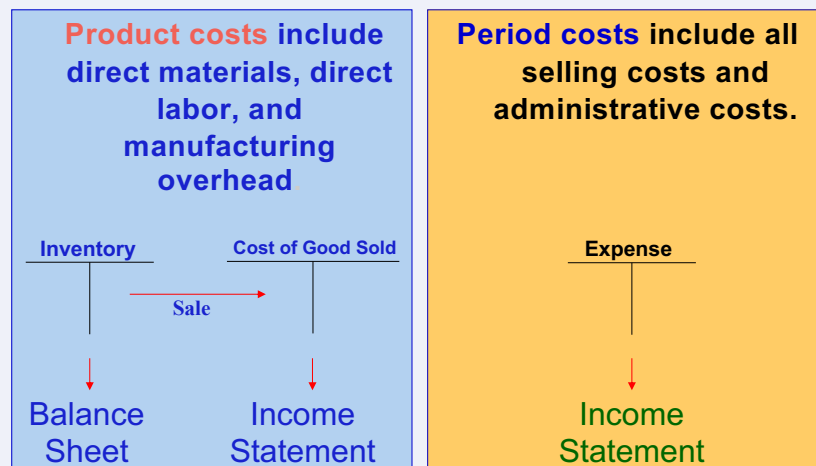


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Product Costs Versus Period Costs



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Quick Check ✓

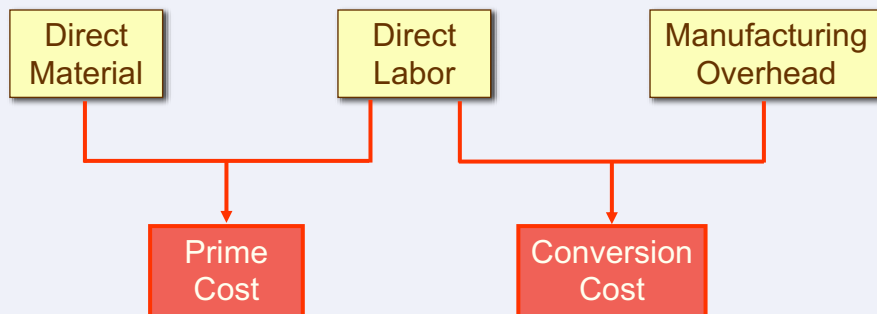
Which of the following costs would be considered a period rather than a product cost in a manufacturing company?

- A. Manufacturing equipment depreciation.
- B. Property taxes on corporate headquarters.
- C. Direct materials costs.
- D. Electrical costs to light the production facility.
- E. Sales commissions.

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Classifications of Costs

Manufacturing costs are often classified as follows:

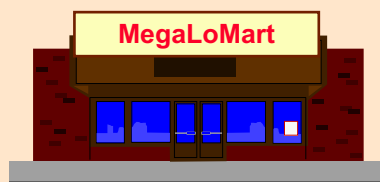


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Comparing Merchandising and Manufacturing Activities

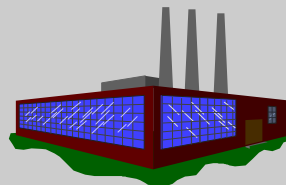
Merchandisers . . .

- ♦ Buy finished goods.
- ♦ Sell finished goods.



Manufacturers . . .

- ♦ Buy raw materials.
- ♦ Produce and sell finished goods.



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Balance Sheet	
Merchandiser Current assets ◆ Cash ◆ Receivables ◆ Prepaid Expenses ◆ Merchandise Inventory	Manufacturer Current Assets ◆ Cash ◆ Receivables ◆ Prepaid Expenses ◆ Inventories • Raw Materials • Work in Process • Finished Goods

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Learning Objective 3
Prepare an income statement including calculation of the cost of goods sold.

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The Income Statement

Cost of goods sold for manufacturers differs only slightly from cost of goods sold for merchandisers.

Merchandising Company

Cost of goods sold:	
Beg. merchandise inventory	\$ 14,200
+ Purchases	<u>234,150</u>
Goods available for sale	\$ 248,350
- Ending merchandise inventory	<u>(12,100)</u>
= Cost of goods sold	<u>\$ 236,250</u>

Manufacturing Company

Cost of goods sold:	
Beg. finished goods inv.	\$ 14,200
+ Cost of goods manufactured	<u>234,150</u>
Goods available for sale	\$ 248,350
- Ending finished goods inventory	<u>(12,100)</u>
= Cost of goods sold	<u>\$ 236,250</u>

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Basic Equation for Inventory Accounts

Beginning
balance

+

Additions
to inventory

=

Ending
balance

+

Withdrawals
from
inventory

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Quick Check ✓

If your inventory balance at the beginning of the month was \$1,000, you bought \$100 during the month, and sold \$300 during the month, what would be the balance at the end of the month?

- A. \$1,000.
- B. \$ 800.
- C. \$1,200.
- D. \$ 200.

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Learning Objective 4



Prepare a schedule of cost of goods manufactured.

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Schedule of Cost of Goods Manufactured

Calculates the cost of raw material, direct labor and manufacturing overhead used in production.

Calculates the manufacturing costs associated with goods that were finished during the period.



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Product Cost Flows

Raw Materials	Manufacturing Costs	Work In Process
Beginning raw materials inventory		
+ Raw materials purchased		
= Raw materials available for use in production		
– Ending raw materials inventory		
= Raw materials used in production		

As items are removed from raw materials inventory and placed into the production process, they are called direct materials.

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Product Cost Flows		
Raw Materials	Manufacturing Costs	Work In Process
Beginning raw materials inventory + Raw materials purchased = Raw materials available for use in production – Ending raw materials inventory = Raw materials used in production	Direct materials + Direct labor + Mfg. overhead = Total manufacturing costs	Conversion costs are costs incurred to convert the direct material into a finished product.

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Product Cost Flows		
Raw Materials	Manufacturing Costs	Work In Process
Beginning raw materials inventory + Raw materials purchased = Raw materials available for use in production – Ending raw materials inventory = Raw materials used in production	Direct materials + Direct labor + Mfg. overhead = Total manufacturing costs	Beginning work in process inventory + Total manufacturing costs = Total work in process for the period
All manufacturing costs incurred during the period are added to the beginning balance of work in process.		

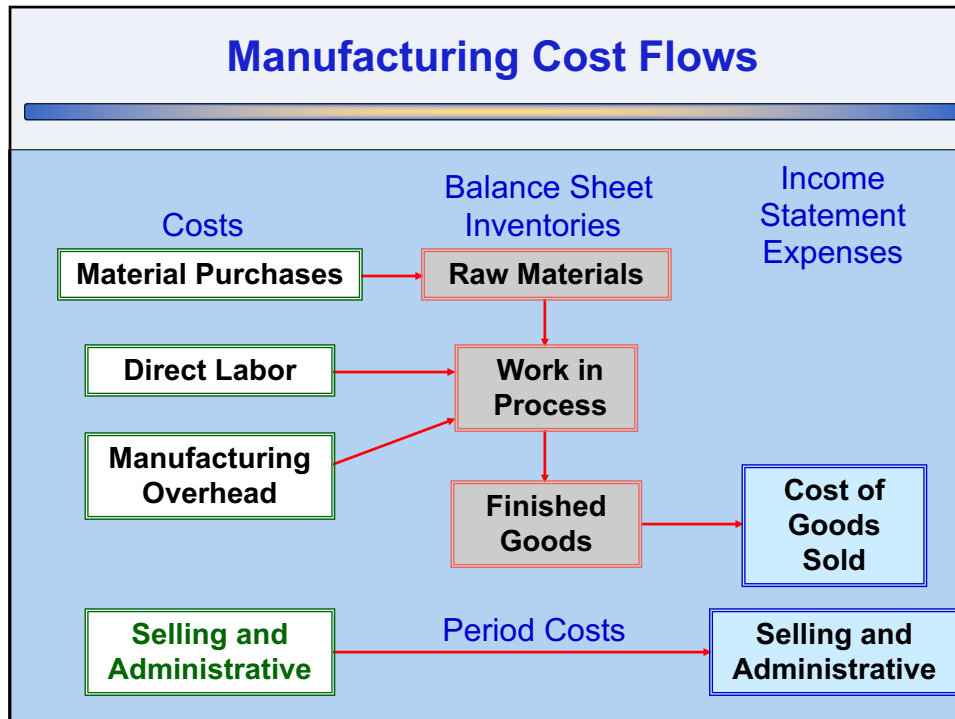
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Product Cost Flows		
Raw Materials	Manufacturing Costs	Work In Process
Beginning raw materials inventory	Direct materials	Beginning work in process inventory
+ Raw materials purchased	+ Direct labor	+ Total manufacturing costs
= Raw materials available for use in production	+ Mfg. overhead	= Total work in process for the period
- Ending raw materials	= Total manufacturing costs	- Ending work in process inventory
Costs associated with the goods that are completed during the period are transferred to finished goods inventory.		= Cost of goods manufactured

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Product Cost Flows	
Work In Process	Finished Goods
Beginning work in process inventory	Beginning finished goods inventory
+ Manufacturing costs for the period	+ Cost of goods manufactured
= Total work in process for the period	= Cost of goods available for sale
- Ending work in process inventory	- Ending finished goods inventory
= Cost of goods manufactured	Cost of goods sold

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Quick Check ✓

Beginning raw materials inventory was \$32,000. During the month, \$276,000 of raw material was purchased. A count at the end of the month revealed that \$28,000 of raw material was still present. What is the cost of direct material used?

- A. \$276,000
- B. \$272,000
- C. \$280,000
- D. \$ 2,000

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Quick Check ✓

Direct materials used in production totaled \$280,000. Direct labor was \$375,000 and factory overhead was \$180,000. What were total manufacturing costs incurred for the month?

- A. \$555,000
- B. \$835,000
- C. \$655,000
- D. Cannot be determined.

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Quick Check ✓

Beginning work in process was \$125,000. Manufacturing costs incurred for the month were \$835,000. There were \$200,000 of partially finished goods remaining in work in process inventory at the end of the month. What was the cost of goods manufactured during the month?

- A. \$1,160,000
- B. \$ 910,000
- C. \$ 760,000
- D. Cannot be determined.

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Quick Check ✓

Beginning finished goods inventory was \$130,000. The cost of goods manufactured for the month was \$760,000. And the ending finished goods inventory was \$150,000. What was the cost of goods sold for the month?

- A. \$ 20,000.
- B. \$740,000.
- C. \$780,000.
- D. \$760,000.

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Brief Summary of Cost Concepts and their Classification

- Financial reporting:
 - Cost vs Expense
 - period costs vs product costs
 - COGM
 - COGS

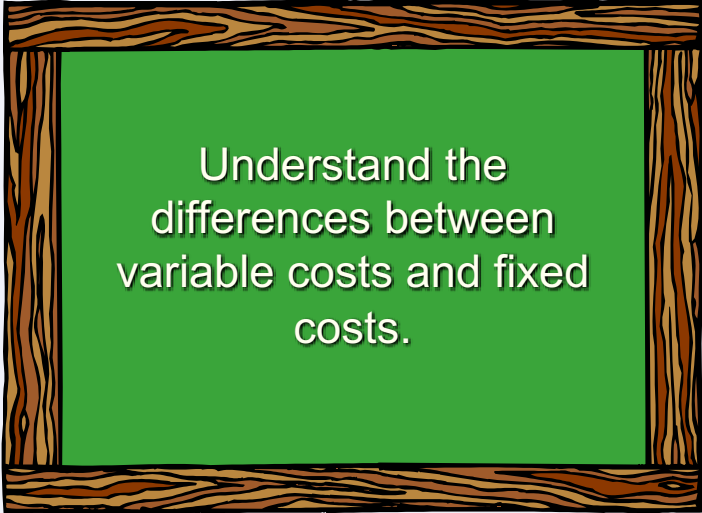
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Now we focus on:

- Predicting cost behavior
- Assigning costs to cost objects
- Making Business Decision

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Learning Objective 5



Understand the
differences between
variable costs and fixed
costs.

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Cost Classifications for Predicting Cost Behavior



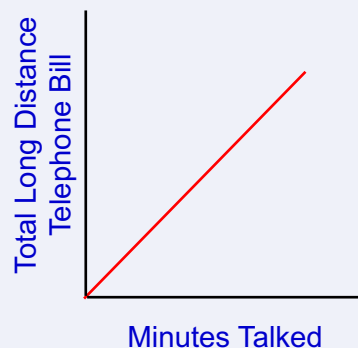
How a cost will react to changes in the level of activity within the relevant range.

- ♦ Total **variable costs** change when activity changes.
- ♦ Total **fixed costs** remain unchanged when activity changes.

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Variable Cost

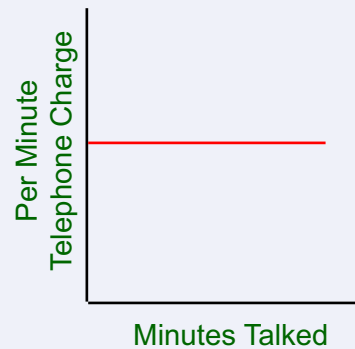
Your **total long distance** telephone bill is based on how many minutes you talk.



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Variable Cost Per Unit

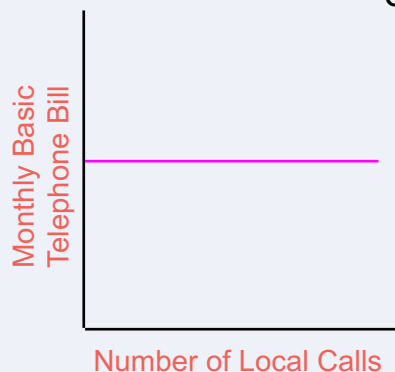
The **cost per long distance minute** talked is constant. For example, 10 cents per minute.



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Fixed Cost

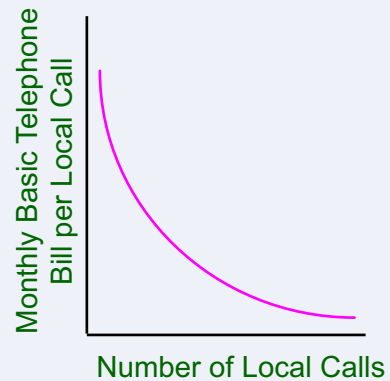
Your monthly **basic telephone bill** probably does not change when you make more local calls.



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Fixed Cost Per Unit

The average fixed cost **per local call** decreases as more local calls are made.



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Cost Classifications for Predicting Cost Behavior

Behavior of Cost (within the relevant range)		
Cost	In Total	Per Unit
Variable	Total variable cost changes as activity level changes.	Variable cost per unit remains the same over wide ranges of activity.
Fixed	Total fixed cost remains the same even when the activity level changes.	Average fixed cost per unit goes down as activity level goes up.

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Quick Check ✓

Which of the following costs would be variable with respect to the number of cones sold at a Baskins & Robbins shop? (There may be more than one correct answer.)

- A. The cost of lighting the store.
- B. The wages of the store manager.
- C. The cost of ice cream.
- D. The cost of napkins for customers.

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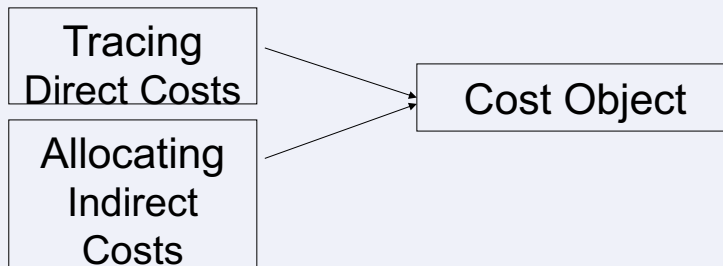
Learning Objective 6

Understand the
differences between direct
and indirect costs.

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Cost and Cost Terminology

Cost Assignment is both:

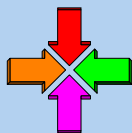


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Assigning Costs to Cost Objects

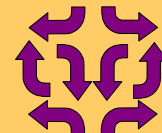
Direct costs

- Costs that can be easily and conveniently traced to a unit of product or other cost object.
- Examples: direct material and direct labor



Indirect costs

- Costs that cannot be easily and conveniently traced to a unit of product or other cost object.
- Example: manufacturing overhead



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Is depreciation a direct or indirect cost?

Depreciation can be either a direct or an indirect cost, or it can be both direct and indirect

Let's illustrate this with the depreciation of a machine used in Department 23 of a manufacturer. The depreciation on that machine is a *direct cost for Department 23*. It is direct because it is traceable to Department 23 without any allocation.

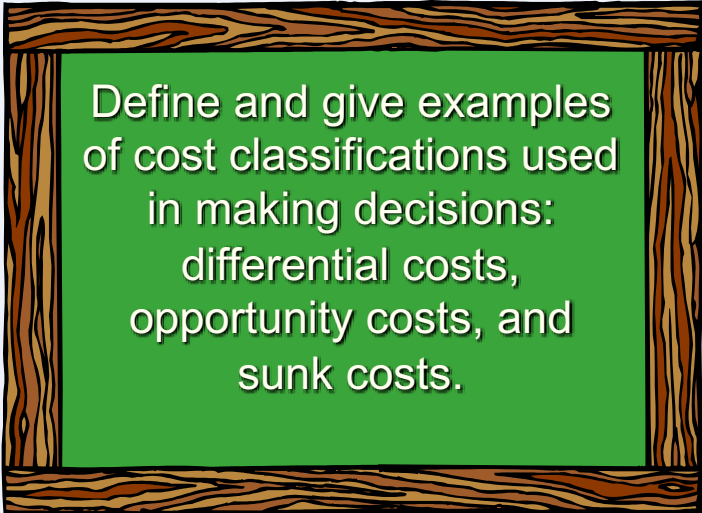
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Is depreciation a direct or indirect cost?

The depreciation of this same machine will be an *indirect cost of the products* manufactured with that machine. It is indirect because the depreciation is *allocated* to the products. Perhaps the machine in Department 23 has depreciation of \$50,000 per year (cost of machine of \$500,000 divided by 10 years of useful life). The \$50,000 of annual depreciation is then *allocated* to products based on the number of hours that products use the machine. For example, if the manufacture expects 20,000 machine hours of use in the current year, then it *allocates* \$2.50 ($\$50,000/20,000$) per machine hour to each product using the machine. If Product #189 requires one hour of this machine's time, Product #189 will have \$2.50 as part of its indirect costs. Indirect manufacturing costs are also referred to as manufacturing overhead, factory overhead or burden.

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Learning Objective 7



Define and give examples of cost classifications used in making decisions: differential costs, opportunity costs, and sunk costs.

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Cost Classifications for Decision Making

- Every decision involves a choice between at least two alternatives.
- Only those costs and benefits that differ between alternatives are relevant in a decision. All other costs and benefits can and should be ignored.

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Differential Cost and Revenue

Costs and revenues that differ among alternatives.

Example: You have a job paying \$1,500 per month in your hometown. You have a job offer in a neighboring city that pays \$2,000 per month. The commuting cost to the city is \$300 per month.

Differential revenue is:
 $\$2,000 - \$1,500 = \$500$

Differential cost is:
 $\$300$

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Opportunity Cost

The potential benefit that is given up when one alternative is selected over another.

Example: If you were not attending college, you could be earning \$15,000 per year. Your opportunity cost of attending college for one year is \$15,000.

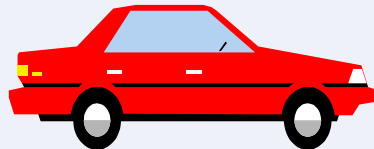


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Sunk Costs

Sunk costs have already been incurred and cannot be changed now or in the future. They should be ignored when making decisions.

Example: You bought an automobile that cost \$10,000 two years ago. The \$10,000 cost is sunk because whether you drive it, park it, trade it, or sell it, you cannot change the \$10,000 cost.



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Quick Check ✓

Suppose you are trying to decide whether to drive or take the train to Portland to attend a concert. You have ample cash to do either, but you don't want to waste money needlessly. Is the cost of the train ticket relevant in this decision? In other words, should the cost of the train ticket affect the decision of whether you drive or take the train to Portland?

- A. Yes, the cost of the train ticket is relevant.
- B. No, the cost of the train ticket is not relevant.

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Quick Check ✓

Suppose you are trying to decide whether to drive or take the train to Portland to attend a concert. You have ample cash to do either, but you don't want to waste money needlessly. Is the annual cost of licensing your car relevant in this decision?

- A. Yes, the licensing cost is relevant.
- B. No, the licensing cost is not relevant.

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Quick Check ✓

Suppose that your car could be sold now for \$5,000. Is this a sunk cost?

- A. Yes, it is a sunk cost.
- B. No, it is not a sunk cost.

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Classification by Controllability

Costs can be

- **Controllable** – a cost which can be affected (controlled) at the hierarchical level which is being measured
- **Uncontrollable** – a cost which cannot be affected (controlled) at the hierarchical level which is being measured

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Different Costs?

**Product costs are
computed in different ways
for different purposes/uses.**

**So, we have different cost concepts
for different purposes**

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Summary of of Cost Classifications

- Financial reporting
- Predicting cost behavior
- Assigning costs to cost objects
- Decision making
- Controllability