Cost &
Management Accounting

References

1. Managerial Accounting -11th Edition
   By: Garrison/Noreen/Brewer,
   Mc Graw Hill Publication

2 Cost Accounting – A Managerial Emphasis- 11th Edition
   By: Horngren, Datar, & Foster
   Pearson Education Publication

3 Management Accounting
   By: Khan & Jain
   Mc Graw Hill Publication

Managerial Accounting vs. Financial Accounting

	Financial Accounting	Managerial Accounting
1. Users	Investors, creditors, and other external users	Managers, employees, and other internal users
2. Time focus	Historical perspective	Future emphasis
3. Emphasis	Objectivity and Verifiability	Relevance for planning and control
4. Importance	Precision of information	Timeliness of information
5. Subject focus	Summarized data for the whole organization	Detailed segment reports of an organization
6. Requirements	Structured and often controlled by GAAP	Relatively flexible (no GAAP)

Cost Estimation & Management

- COST: Resources sacrificed or forgone to achieve a specific objective. Usually measured as the monetary amount that must be paid to acquire goods & service.

- COST OBJECT: Any activity or item for which a separate measurement of cost is desired. Any change made in any of the cost drivers will cause a change in the total cost

- Expl.: No of units produced, No. of set-ups, No. of items distributed etc.

Cost System

- A costing system accounts for costs in two basic stages – Accumulation & then assignment/ allocation.

1. Cost Accumulation: Collection of cost data in an organized way by means of an accounting system – eg. Raw materials used, fuel consumed, labour payment etc.

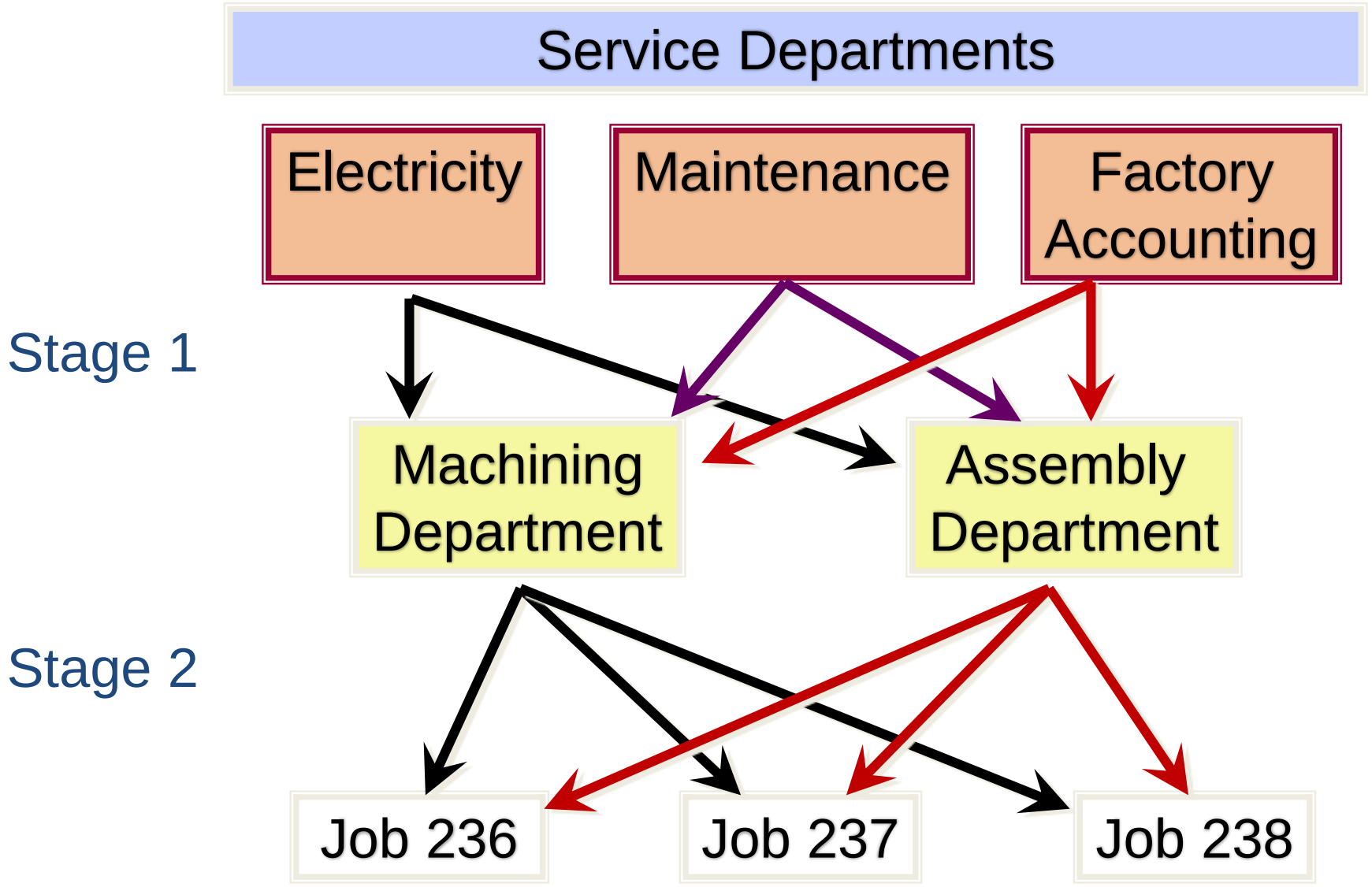
2. Cost Allocation: After accumulation, cost system allocates or traces the cost to cost objects.

Cost Allocation
Direct vs. Indirect Costs

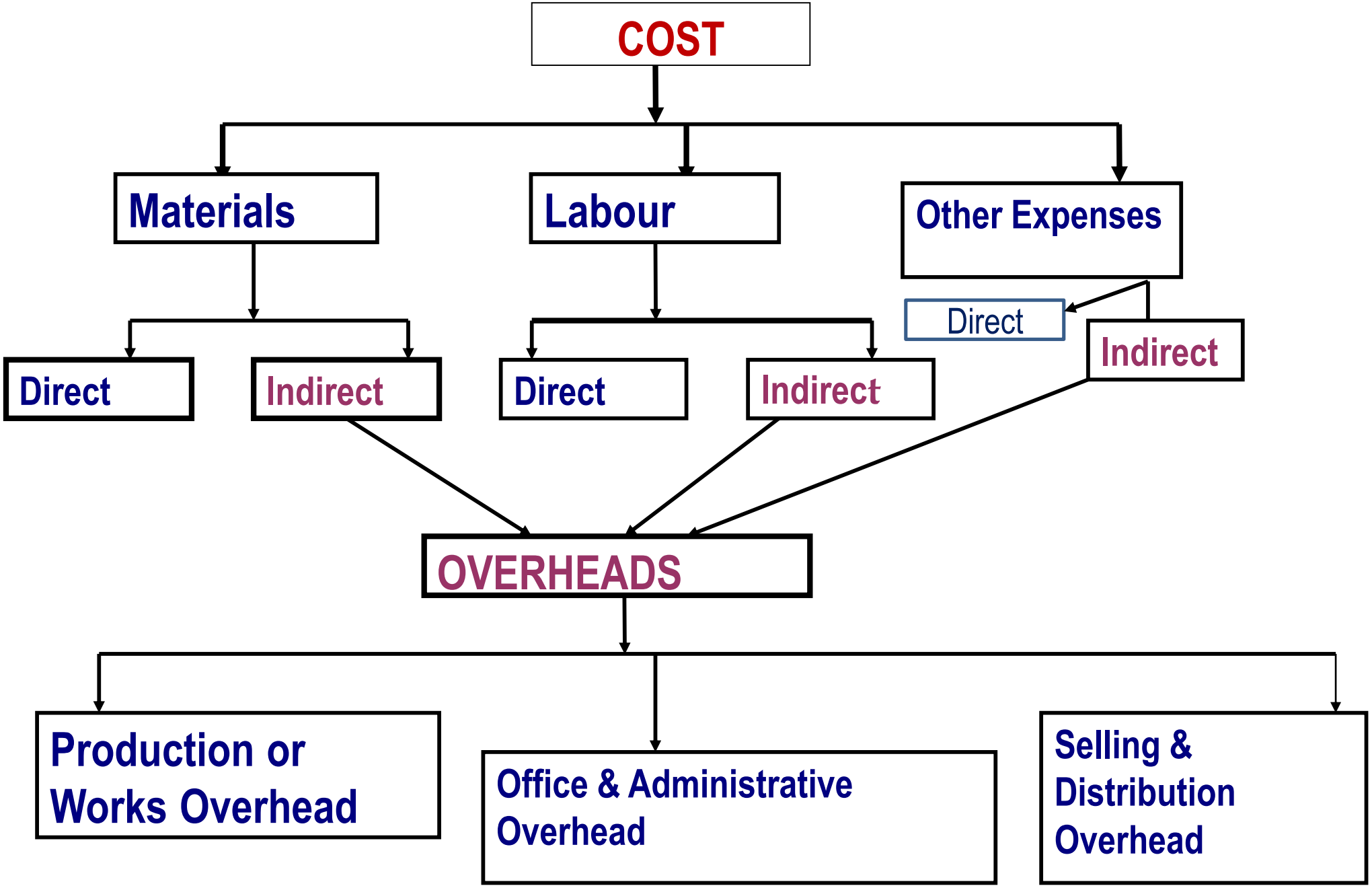
- Direct Costs of a cost object are related to the particular cost object & can be traced to it in an economically feasible (cost effective) way.
- Eg.: Cost of can or bottle is a direct cost of a soft drink producer.
- 'Cost Tracing' is used to describe the assignment of direct cost to particular cost object.

- Indirect costs of a cost object are related to the particular cost object but can not be traced to it in a cost effective way.
- Eg.: Cost of Quality – Control personnel conducting tests on multiple soft-drink products.
- 'Cost Allocation' is used to describe the assignment of indirect costs to particular cost object.

Cost Allocation



Elements of Cost



Cost Sheet / Statement of Cost

- A document which provides for assembly of the detailed cost of a cost centre or cost unit

- Prepared as per ‘output costing’ or ‘unit costing’ or ‘single costing’ method usually used in following industries:

1.Production consists of a single product or few varieties of same product with variations in size, shape, quality etc.,

2.Production is uniform & on continuous basis

- Brick Works, Cement, Quaries, Brewaries, Dairies, Steel Mills, Paper Mills, Sugar Mills etc.

Statement of Cost

Direct Material
(+) Direct Labour
PRIME COST
(+) Factory Overheads
WORKS/FACTORY/
MANUFACTURING COST
(+) Office & Administrative Overheads
COST OF PRODUCTION
(+) Selling & Distribution Overheads
COST OF SALES

Inventoriable Costs/
Unexpired Costs/
Manufacturing Cost

Period Costs/
Expired Costs/
Non- Manufacturing Expenses

"Factory overheads' are not expenses – they are part of Inventoriable cost & will funnel into the expense stream only when the inventoriable costs are released as 'COGS'.

Merchandising Firm

- Op. Inventory
- Add, Purchases
  - Less, Returns & Allowances
  - Less, Discount
  - Add, Freight In
- Cost of Goods available for sale
- Less, Cl. Inventory
- Cost of Goods Sold
- Add, O & A Overhead
- Add, S&D Overhead
- Cost of Sales

Manufacturing Firm

- Direct Materials:
  - Op. Inventory of RM
  - Add, Net Purchases of RM
  - RM available for use
  - Less, Cl. Inventory of RM
- Direct Labour
- Direct Expense
- Prime Cost
- Add, Manufacturing Overhead (IM, IL & IE)
- Total Manufacturing Cost

Contd…

- Add, Opening WIP Inventory
- Less, Closing WIP Inventory
- Cost of Goods Manufactured
- Add, Office & Administrative Overhead (IM, IL & IE)
- Cost of Production
- Add, Opening Inventory of FG
- Less, Closing Inventory of FG
- Cost of Goods Sold
- Add, Selling & Distribution Overhead (IM, IL & IE)
- Cost of Sale

Computation of Cost Sheet

From the following information, prepare a cost sheet for period ended on 31st March 20XX (Amount in '00 ₹)

- Opening stock of raw materials - ₹12,500
- Purchases of raw materials- ₹1,36,000
- Closing stock of raw materials- ₹8,500
- Direct wages - ₹54,000
- Direct expenses - ₹12,000
- Factory overheads 100% of direct wages
- Opening WIP & closing WIP are ₹14,100 & ₹9,500 respectively
- Office & administrative overheads 20% of works cost
- Selling & distribution overheads- ₹26,000
- Cost of opening stock of finished goods-₹12,000
- Cost of Closing stock of finished goods-₹15,000
- Profit on cost 20%

Items Excluded from Cost

- Following items are of financial nature & thus not included while preparing a 'Statement of Cost'

- Cash discount, Interest payment, preliminary expenses written off, goodwill written off, Provision for taxation & bad debts, donations, Payment of income tax & dividend, profit/ loss on sale of fixed assets etc.

- Scrap Treatment: unavoidable residual material arising in certain manufacturing process – deducted either from factory overheads or factory cost while preparing a cost sheet

Costs Classification by Relevance

- Sunk Cost - All costs incurred in the past that cannot be changed by any decision made now or in the future -should not be considered in decisions/Irrelevant

- Out-of-pocket cost - requires future outlays of cash - associated with a particular decision - relevant for future decisions (wages of the person setting up a machine for a new production run)

- Opportunity Cost - potential benefit that is given up when one alternative is selected over another

Costs Classification by Behavior

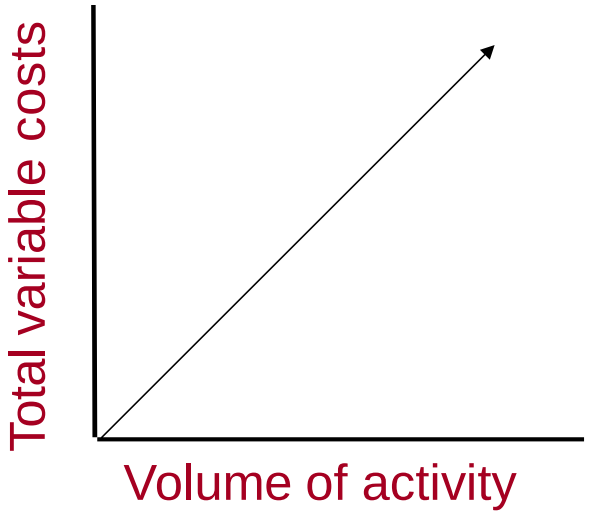
- Cost behavior refers to
  - how a cost will react to changes in the level of business activity.

- Fixed costs
  - remain fixed within the relevant range for a given period of time despite wide changes in the related level of total activity or volume - period costs i.e. Lease rental, Insurance of factory buildings etc.

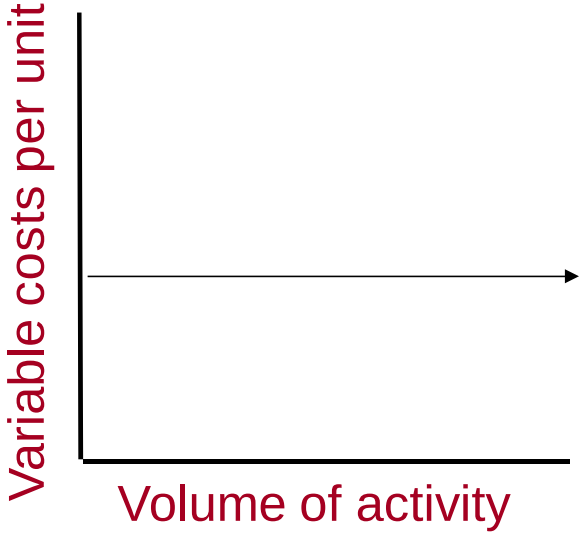
- Variable costs
  - change in proportion to changes in the volume of activity – mostly product costs i.e. Direct Material Cost, Direct Labour Costs, power, repair etc.

Variable Costs

Total variable costs change when activity changes



Variable costs per unit do not change as activity increases



Examples of Variable Costs

1. *Merchandising companies* – cost of goods sold
2. *Manufacturing companies* – direct materials, direct labor, and variable overhead
3. *Merchandising and manufacturing companies* – commissions, shipping costs, and clerical costs such as invoicing
4. *Service companies* – supplies, travel, and clerical

Is Labour a Variable or a Fixed Cost?

The behavior of wage and salary costs can *differ across countries*, depending on labor regulations, labor contracts, and custom.

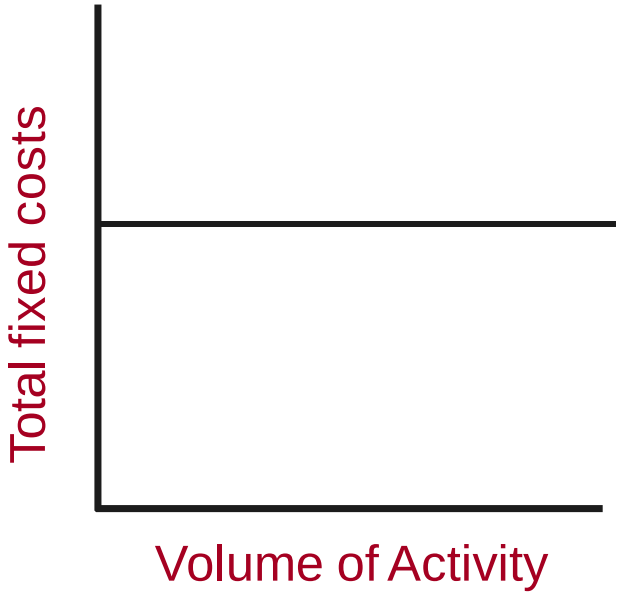
In *France*, *Germany*, *China*, and *Japan*, management has little flexibility in adjusting the size of the labor force. Labor costs are more fixed in nature.

In the *United States* and the *United Kingdom*, management has greater latitude. Labor costs are more variable in nature.

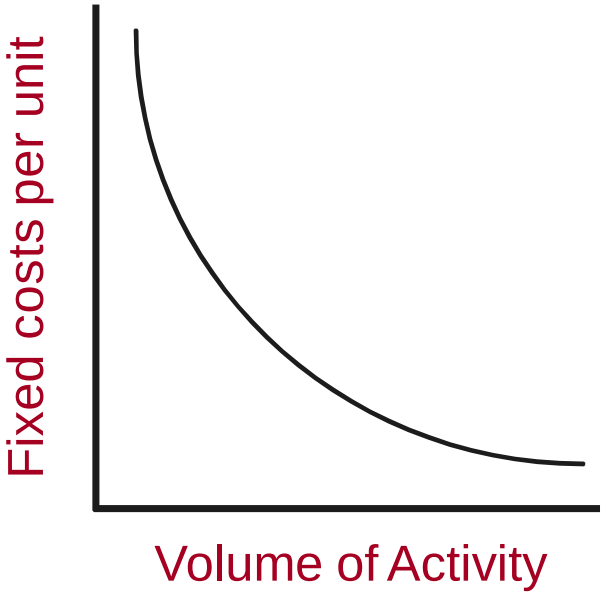
Within countries managers can view labor costs differently depending upon their strategy. Most companies in the *United States* continue to view direct labor as a variable cost.

Fixed Cost

- Total fixed costs remain unchanged when activity changes within a relevant range: rent, insurance premiums, or loan payments



- Fixed costs per unit decline as activity increases

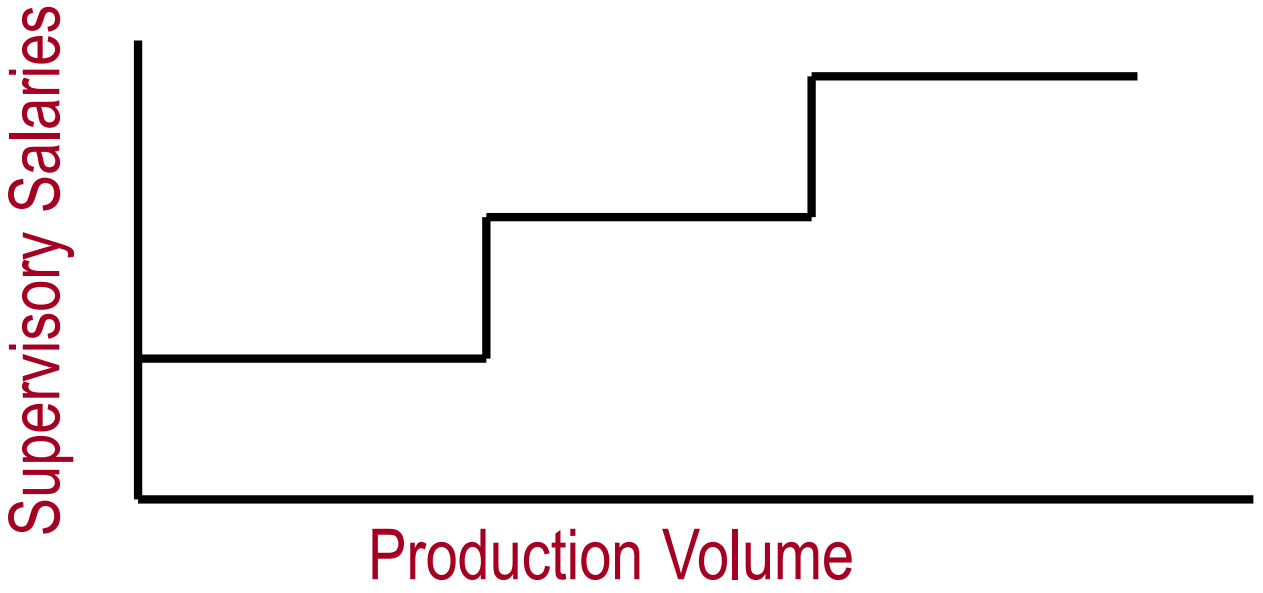


Relevant Range – Step Cost

Step-Wise Costs

remain fixed over limited ranges of volumes but increase by a lump sum when volume increases beyond maximum amounts.

Example: additional production supervisors must be added when another shift is added.

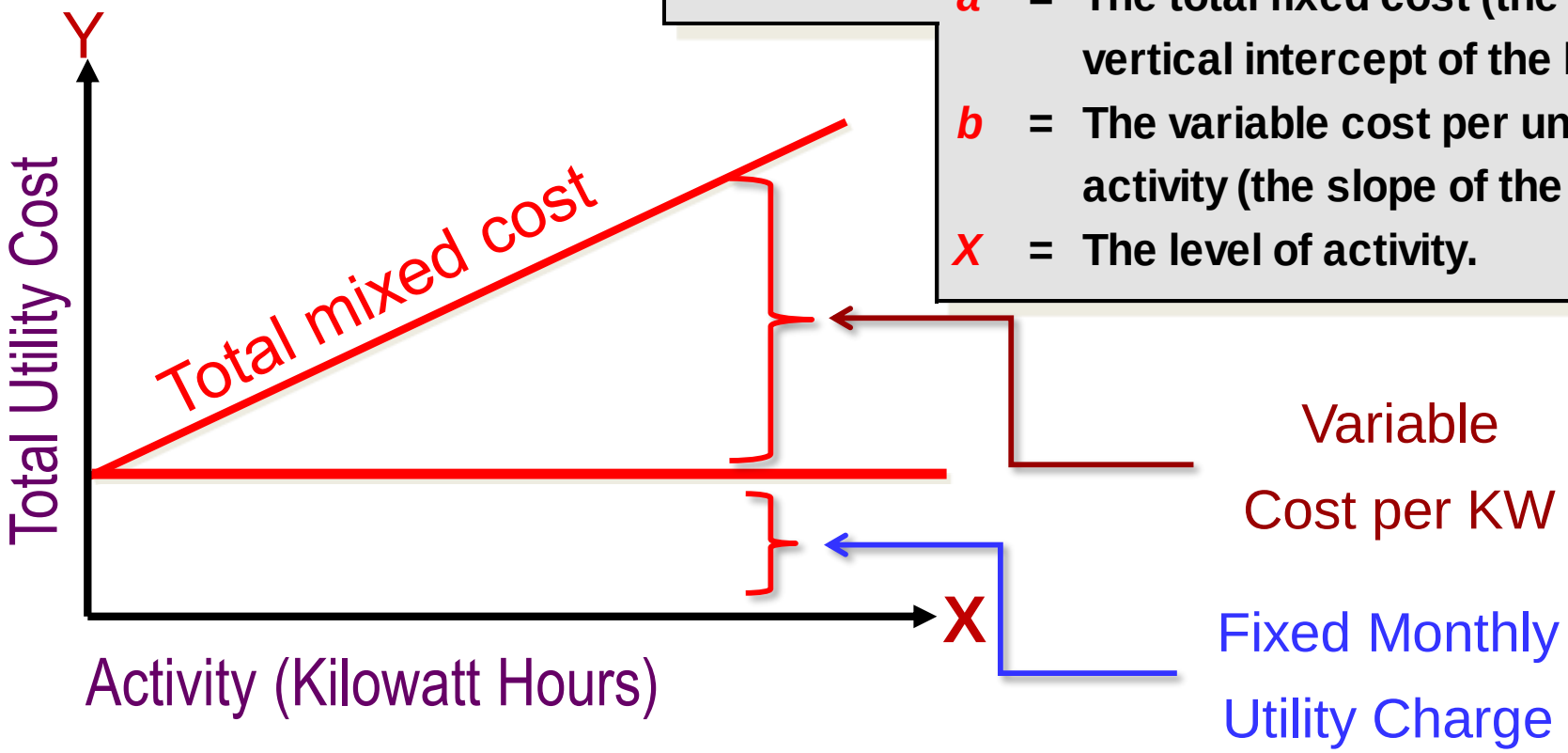


Mixed Costs:
(Semi- fixed/ Semi-variable costs)

The total mixed cost line can be expressed as an equation: $Y = a + bX$

Where:

- Y = The total mixed cost.
- a = The total fixed cost (the vertical intercept of the line).
- b = The variable cost per unit of activity (the slope of the line).
- X = The level of activity.



Estimating Cost – Volume Relationship (TC = TFC + (UVC * X)

1. Judgment Method: Using judgment in deciding how much of cost of each item or category will vary with volume & what will be the amount of fixed cost.

Appropriate where;
Cost estimation for a situation where historical data are irrelevant *viz,* a proposal to introduce a new product with a new process.

The reliability of the results depends on the experience & skill of the estimator.

2. High – Low Method

1. Estimate total costs at each two volume levels, which identifies two points on the line – the upper & lower limits of the relevant range are selected for the purpose

2. Subtract total cost at lower volume from the higher one & also subtract the corresponding lower volume from the higher

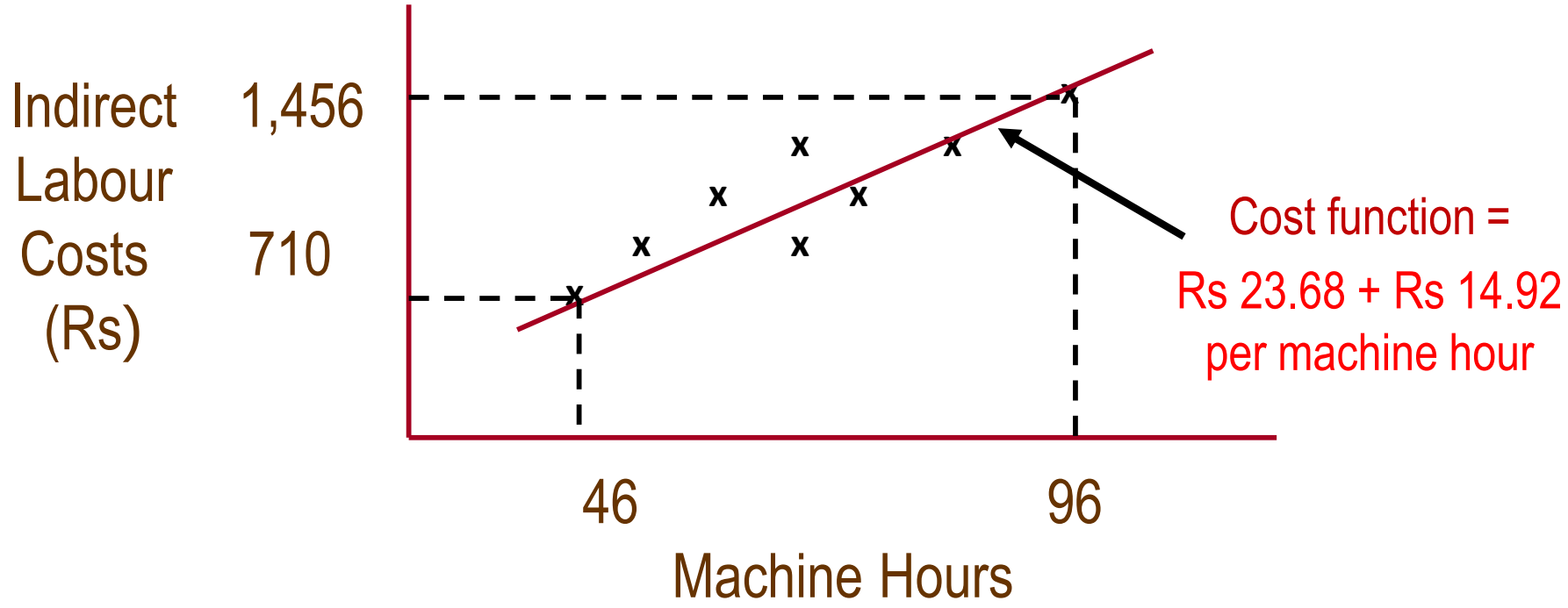
3. Divide the difference in cost by difference in volume to arrive at the Unit Variable Cost (UVC)

4. Multiply either of the volumes by UVC & subtract the result from the total cost at that volume to arrive at the Fixed Cost

The High-Low Method – An Example

Month	Machine Hours	Total Maintenance Cost (Rs)
January	51	784.6
February	46	710
March	52	799.52
April	57	874.12
May	68	1038.24
June	96	1456
July	88	1336.64

Scatter diagram with High-Low Method of Cost Estimation



Variable cost= Change in cost / Change in volume

= (Rs 1,456 – Rs710) / (96 - 46) = Rs 14.92 per MH

Fixed cost= Mixed cost at high point - variable cost

= Rs 1,456 - (96 x Rs 14.92)= Rs 23.68 per week

4. Linear Regression - Method of Least Square

This approach provides two mathematical properties that are missing in all previous methods.

$\Sigma y = na + b \Sigma x$.....(1)
$\Sigma xy = a \Sigma x + b \Sigma x2$ .....(2)

Where Σy = Total cost; Σx = Total Volume
a= Total Fixed cost;
b= Variable cost per unit;
n= No. of time period
Σxy = Cost, time, volume summed