

**P R I S T I N E**

# **Financial Reporting and Analysis - III**

## Key issues in Inventories

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- Determining inventory costs
- Reporting of Inventories in Financial Statements
- COGS and Inventory valuation.
- Inventory Ratios
- Affects of choice of different inventory methods
- Adjustments to enable comparison
- LIFO Liquidation

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## Determining inventory costs

- Inventory accounting method
  - Affects the firm's income statement, balance sheet, and related financial ratios
  - Affects cash flow because taxes paid by the firm

- Relation between Inventory / COGS and Purchases

**Closing inventory = beginning inventory + purchases - COGS**

Purchases = Ending inventory - beginning inventory + COGS

COGS = purchases + beginning inventory - ending inventory

COGS + ending inventory = beginning inventory + purchases

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## Reporting of Inventories in Financial Statements

- **U.S. GAAP** requires inventory to be valued at LCM which is
  - Lower of cost or (costs included in inventory is explained in next slides)
  - Market Value equals to
    - Either Net realizable value (NRV) when replacement cost > NRV
    - OR**
    - (NRV – Normal Profit Margin) when replacement cost < NRV less normal profit margin
    - $NRV = \text{Expected sale realization from inventories} - \text{Selling costs}$
- **IFRS** requires inventory to be valued at lower of
  - Costs incurred or
  - Net realizable value (realizable value is netted off from selling costs)
- Exception: For commodity producers / dealers, inventory is reported at net realizable value hence any unrealized gains / loss over the costs are recognized in income statement under both IFRS and US GAAP

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- **In U.S. GAAP** once inventory is written down using LCM, new value replaces original cost and becomes the carrying cost of inventories. Hence while valuing the inventory in subsequent period only carrying value is considered and original costs are ignored and hence no write ups are allowed.
- However **in IFRS**, original costs will always have relevance and these are compared with net realizable value in subsequent accounting period and at lower of these two inventory is accounted for hence any write up till the original costs are allowed
  - For Example: In 2005 end, cost of inventory was \$100 and market value was \$90 In 2006, same goods remain in closing inventory whose new market value is \$95. What will be treatment under US GAAP and IFRS
  - In 2005, both standards will write down \$10 as market value is less the cost price
  - In 2006, US GAAP will compare current market price with carrying value. Since carrying value is lower at \$90, inventory will be valued at \$90 and no write ups.
  - However, in IFRS, original costs will be compared with realizable value and lower is taken. Hence inventory will be valued at \$95 and \$5 is written up.

# COGS and Inventory valuation: Rules for determining inventory cost

- Costs included in inventory
  - Purchase of raw material
  - Conversion cost of raw material including direct labor and direct expenses
  - Fixed production overheads (Allocated based on normal capacity levels)
  - Any other costs incurred on inventory for its present location and condition
- Costs not included
  - Period costs including SG&A, abnormal waste and most storage costs
- No difference in US GAAP and IFRS for inventory costs

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# COGS and Inventory valuation: Inventory Accounting Methods – IFRS / US GAAP

- Specific identification method (allowed both under IFRS and US GAAP)
- FIFO (allowed both under IFRS and US GAAP)
- Average cost (allowed both under IFRS and US GAAP)
- LIFO (allowed only under US GAAP)

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# COGS and Inventory valuation: Inventory Methods

Particulars	FIFO Method	LIFO Method	Weighted Average Method
Assumption	Item purchased first is assumed to be sold first	Item purchased Last is assumed to be sold first	Not affected by the physical flow of the inventory
Closing Inventory Value <b>(CI)</b>	Consists cost of goods which are purchased more recently	consists cost of goods which were purchased early including beginning inventory	Calculate weighted average cost of purchases to value Inventory in hand
Cost of Goods Sold <b>(COGS)</b> Value	consists cost of goods which were purchased early including beginning inventory	Consists cost of goods which are purchased more recently	Calculate weighted average cost of purchases to value cost of goods sold

	<b>FIFO Method</b>	<b>LIFO Method</b>	<b>Weighted Average Method</b>
In Rising Prices	<ul style="list-style-type: none"> <li>-Lowest COGS</li> <li>- Highest value of CI</li> <li>- Highest Earnings - high profit margins</li> <li>- Lowest cash flow because of highest taxes</li> </ul>	<ul style="list-style-type: none"> <li>-Highest COGS</li> <li>- Lowest value of CI</li> <li>- Lowest earnings and low profit margins</li> <li>- Highest cash flow due to lowest taxes</li> </ul>	<ul style="list-style-type: none"> <li>-All items are In middle of LIFO &amp; FIFO; for example</li> <li>- <math>COGS = LIFO &gt; WA &gt; FIFO</math></li> <li>- <math>CI = LIFO &lt; WA &lt; FIFO</math></li> <li>- Earnings: <math>LIFO &lt; WA &lt; FIFO</math></li> </ul>
	<p><b>-Ratios</b></p> <ul style="list-style-type: none"> <li>- high inventory hence high Working Capital and Highest Current Ratio (CR)</li> <li>- high inventory hence low inventory turnover ratio</li> </ul>	<p><b>-Ratios</b></p> <ul style="list-style-type: none"> <li>- Low inventory hence low working Capital and lowest Current Ratio (CR)</li> <li>- Low inventory hence high inventory turnover ratio</li> </ul>	<p><b>-Ratios</b></p> <ul style="list-style-type: none"> <li>- <math>CR - LIFO &lt; WA &lt; FIFO</math></li> <li>- Inventory Turnover Ratio = <math>LIFO &gt; WA &gt; FIFO</math></li> </ul>
Falling Prices	<b>Opposite Occurs</b>		

## Example – Inventory Costing

- Calculate Cost of goods sold and Closing inventory under FIFO, LIFO and WA Costs

Date	Particulars	Units	Price	Value
1/4/2009	Opening Inventory	100	10	1000
10/4/2009	Purchases	50	11	550
15/4/2009	Purchases	50	11.5	575
25/4/2009	Sales	150		
31/4/2009	Closing Inventory	50		

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