Accounting for Inventory – Cost flow assumption

- \( \text{Inv}_{EB} = \text{Inv}_{BB} + \text{Purchase/Production} - \text{COGS} \)

- Cost Flow Assumptions
  - Specific Identification: used when specific products can be tracked (e.g. cars)
  - FIFO (First In, First Out): COGS are assumed to be equal to the costs of the oldest available units in the financial records.
  - LIFO (Last In, First Out): COGS are assumed to be equal to the costs of the most recently purchased units in the financial records.
  - Averaging: COGS are assumed to be equal to a per-unit weighted average cost at the end of the period
# Accounting for Inventory
– a comparison of LIFO and FIFO

<table>
<thead>
<tr>
<th></th>
<th>Income Statement</th>
<th>Balance Sheet</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>LIFO</strong></td>
<td>New costs</td>
<td>Old costs</td>
</tr>
<tr>
<td></td>
<td>(if LIFO liquidation, then new costs and old costs)</td>
<td></td>
</tr>
<tr>
<td><strong>FIFO</strong></td>
<td>Old costs</td>
<td>New costs</td>
</tr>
</tbody>
</table>
Accounting for inventory – tax consideration

- LIFO conformity rule: if a firm uses LIFO for tax purpose, it must also use LIFO for financial reporting purpose.

- Given the tax effects, what types of firms would you expect to choose each inventory method?
Accounting for inventory

- LIFO Reserve

- LIFO Reserve = Ending Inv (FIFO) – Ending Inv (LIFO) = cumulative difference in FIFO – LIFO inventory

- Change in LIFO Reserve = COGS (LIFO) – COGS (FIFO)

- Cumulative tax savings by using LIFO = LIFO Reserve * tax rate

- Tax savings for a particular year by using LIFO = change in LIFO Reserve * tax rate
Accounting for inventory – LIFO Reserve

LIFO Inventory + LIFO Reserve = FIFO Inventory

<table>
<thead>
<tr>
<th>BB</th>
<th>COGS</th>
<th>BB</th>
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</thead>
<tbody>
<tr>
<td>Purchase</td>
<td>Change</td>
<td>Purchase</td>
</tr>
</tbody>
</table>

| EB   | EB   | EB   |

6
Summary of accounting for inventory

- Matching principle requires a cost flow assumption, leading to different accounting methods (LIFO vs. FIFO).
- Computation is trivial, but implications not: LIFO and FIFO produces temporary difference in accounting numbers.
- No accounting method is innately superior: choice depends upon business environment, incentives of users, possibility of manipulation, etc.
- Disclosure available to make numbers comparable across firms.