Inventory

Topics to be Discussed

- Composition of inventory
- Determining quantity
  - perpetual inventory method
  - periodic inventory method
- Inventory valuation
  - costs to be included
  - methods of assigning cost
  - consistency concept

Composition of inventory

Manufacturing Company

finished goods	asset items held for sale in the ordinary course of business
work in process	goods in the course of production
raw materials and supplies	items to be used or consumed directly or indirectly in production

Product-Handling Company

merchandise inventory	asset items held for sale in the ordinary course of business

Objective of inventory measurement

to properly match inventory costs against related revenues

Determining quantity

Periodic inventory system

no record is kept at the time of sale of the number or cost of the units sold. The quantity of goods on hand determined by physical count

Purchase

Purchases	500	
Accounts Payable		500

Sale

Account Receivable	800	
Sales		800

Perpetual inventory system

a continuous record is maintained of items entering into and issued from inventory

Purchase

Merchandise Inventory	500	
Accounts Payable		500

Sale

Account Receivable	800	
Sales		800
Cost of Goods Sold	350	
Merchandise Inventory		350

Inventory valuation

Costs to be included
- include all costs necessary to prepare the goods for sale
  - manufacturing entity
    - direct materials
    - direct labor
    - direct and indirect factory overhead
  - merchandising concern
    - purchase price
    - freight-in
    - insurance
    - warehousing
    - any other costs incurred in preparation of goods for sale

Methods of assigning cost

	Units	Unit Cost	Total Cost	Retail Value
Inventory 1/1/x5	100	$5	$ 500	$1,000
Purchase 4/12/x5	25	6	150	250
Purchase 7/15/x5	75	8	600	750
	200		$1,250	$2,000
Sale 3/18/x5	30			
Sale 6/20/x5	60			
	90			

Determine the cost to be assigned to the 110 units in ending inventory

specific identification
- difficulties

1.

2.

3.

first-in, first-out (FIFO)

beginning inventory and earliest purchases assumed to be first sold

example (periodic inventory method)

Purchase 7/15/x5	75 @ $8	$600
Purchase 4/12/x5	25 @ $6	150
Inventory 1/1/x5	10 @ $5	50
		$800

last-in, first-out (LIFO)

most recent purchases assumed to be first sold

example (periodic inventory method)

Inventory 1/1/x5	100 @ $5	$500
Purchase 4/12/x5	10 @ $6	60
		$560

weighted average

each unit cost weighted by the number of units acquired at that cost

example (periodic inventory method)

total cost/total units = $1,250/200 = $6.25

110 units x $6.25 = $687.50

Comparison of inventory methods

FIRST-IN FIRST-OUT METHOD

Time Period

	Beg.	1	2	3
Beginning inventory (1 unit)				
Purchases (1 unit)				
Sales (1 unit)				
Cost of Good Sold				
Gross Margin				
Ending Inventory (1 unit)				
"WEALTH"				
Cash				
Units of Inventory				
Effective Income				

LAST-IN FIRST-OUT METHOD

Time Period

	Beg.	1	2	3
Beginning inventory (1 unit)				
Purchases (1 unit)				
Sales (1 unit)				
Cost of Good Sold				
Gross Margin				
Ending Inventory (1 unit)				
"WEALTH"				
Cash				
Units of Inventory				
Effective Income				

Comparison of inventory methods (continued)

- advantages of LIFO versus FIFO - <u>in periods of rising prices</u>
  - shows a truer income picture
  - smooths out fluctuations in income stream
    - ☛ matches current costs with current revenues
  - lower income figure reduces tax liability
    - ☛ if used for tax purposes, must be used for financial reporting purposes (LIFO conformity rule)
  - conserves cash due to lower taxes
- disadvantages of LIFO versus FIFO
  - inventory on balance sheet may be grossly understated
  - poor approximation of actual flow of inventory
  - income is distorted when inventory is liquidated (LIFO liquidation)
  - income can be distorted by making or deferring end-of-period purchases
  - current cost income not measured (CGS should be cost to replace goods - NIFO)

Inventory cost methods in practice

	Number of Companies			
	2006	2005	2004	2003
<u>Methods</u>				
First-in first-out (FIFO)	385	385	386	384
Last-in first-out (LIFO)	228	229	239	251
Average cost	159	155	169	167
Other	30	30	27	31
<u>Use of LIFO</u>				
All inventories	11	16	20	26
50% or more of inventories	109	113	108	120
Less that 50% of inventories	88	76	85	77
Not determinable	20	24	26	28
Companies Using LIFO	228	229	239	251

Lifo Reserve

THE KROGER COMPANY

The Kroger Company is one of the largest grocery retailers in the United States based on annual sales. The company also manufactures and processes food for sale in its supermarkets.

CONSOLIDATED BALANCE SHEETS

(in millions)	January 30, 2010	January 31, 2009
Assets		
Current Assets:		
Cash and temporary cash investments	$ 424	$ 263
Deposits In-Transit	654	631
Receivables	909	944
FIFO Inventory	5,705	5,659
LIFO Reserve	(803)	(754)
Prefunded employee benefits	300	300
Prepaid and other current assets	261	209
Total Current Assets	7,450	7,252

1. Summary of Significant Accounting Policies

Inventories

Inventories are stated at the lower of cost (principally on a LIFO basis) or market. In total, approximately 97% in 2009 and 98% in 2008 of inventories were valued using the LIFO method. Cost for the balance of the inventories was determined using the FIFO method. Replacement cost was higher than the carrying amount by $803 million at January 30, 2010 and $754 million at January 31, 2009.

Lifo Reserve - the cumulative, pre-tax effect on income between the results obtained using LIFO and the results obtained using a more current cost inventory valuation method (e.g., FIFO)

If The Kroger Company had used FIFO rather than LIFO, how much higher would profits be for the year ended January 30, 2010?

	Year 1			Year 2	
Lifo	$1	$2	$3	$5	$6
Fifo	$1	$2	$3	$5	$6

	Year 1		Year 2	
	Lifo	Fifo	Lifo	Fifo
Sales				
CGS				
Profit				
Ending Inventory				
Lifo Reserve				
Difference In Income				

Recording a write-down of inventory

Loss on Writedown of Inventories	XX	
Inventory		XX