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FINANCIAL ACCOUNTING 3e

IFRS EDITION

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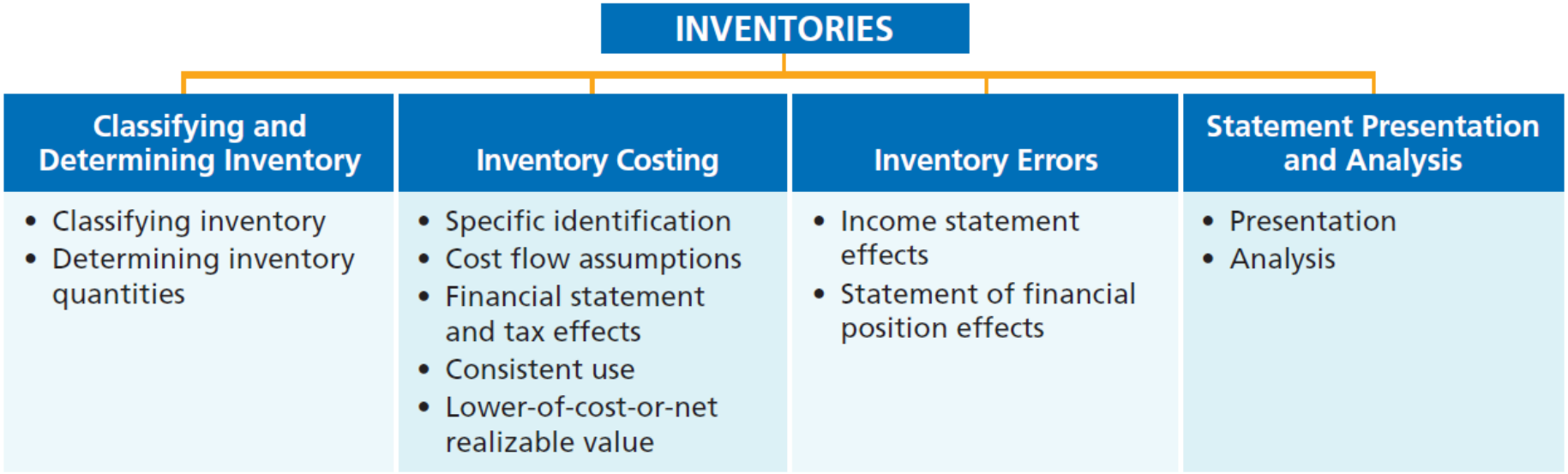
PREVIEW OF CHAPTER 6



Financial Accounting

IFRS 3rd Edition

Weygandt • Kimmel • Kieso

CHAPTER

6 Inventories

LEARNING OBJECTIVES

After studying this chapter, you should be able to:

1. Discuss how to classify and determine inventory.
2. Explain the accounting for inventories and apply the inventory cost flow methods.
3. Explain the financial effects of the inventory cost flow assumptions.
4. Explain the lower-of-cost-or-net realizable value basis of accounting for inventories.
5. Indicate the effects of inventory errors on the financial statements.
6. Discuss the presentation and analysis of inventory.

Lower-of-Cost-or-Net Realizable Value

Learning Objective 4
Explain the lower-of-cost-or-net realizable value basis of accounting for inventories.

When the value of inventory is lower than its cost

- companies must "write down" the inventory to its **net realizable value**.

Net realizable value: Amount that a company expects to realize (receive from the sale of inventory).

Lower-of-Cost-or-Net Realizable Value

Illustration: Assume that Gao TV has the following lines of merchandise with costs and market values as indicated.

	Units	Cost per Unit	Net Realizable Value per Unit	Lower-of-Cost-or-Net Realizable Value
Flat-screen TVs	100	NT$600	**NT$550**	NT$ 55,000 (NT$550 × 100)
Satellite radios	500	**90**	104	45,000 (NT$90 × 500)
DVD recorders	850	50	**48**	40,800 (NT$48 × 850)
DVDs	3,000	**5**	6	15,000 (NT$5 × 3,000)
Total inventory				NT$155,800

Illustration 6-11
Computation of lower-of-cost-or-net realizable value

LO 4

Inventory Errors

Learning Objective 5
Indicate the effects of inventory errors on the financial statements.

Common Causes:

- Failure to count or price inventory correctly.
- Not properly recognizing the transfer of legal title to goods in transit.
- Errors affect both the income statement and statement of financial position.

Income Statement Effects

Inventory errors affect the computation of cost of goods sold and net income **in two periods.**

Illustration 6-12
Formula for cost of goods sold

Beginning Inventory	+	Cost of Goods Purchased	−	Ending Inventory	=	Cost of Goods Sold

When Inventory Error:	Cost of Goods Sold Is:	Net Income Is:
Understates beginning inventory	Understated	Overstated
Overstates beginning inventory	Overstated	Understated
Understates ending inventory	Overstated	Understated
Overstates ending inventory	Understated	Overstated

Illustration 6-13
Effects of inventory errors on current year's income statement

LO 5

Income Statement Effects

Inventory errors affect the computation of cost of goods sold and net income **in two periods**.

- An error in ending inventory of the current period will have a **reverse effect on net income of the next accounting period**.
- Over the two years, the total net income is correct because the errors **offset each other**.
- Ending inventory depends entirely on the accuracy of taking and costing the inventory.

LO 5

Income Statement Effects

Illustration 6-14
Effects of inventory errors on two years' income statements

	2016		2017	
	Incorrect	Correct	Incorrect	Correct
Sales	€ 80,000	€ 80,000	€ 90,000	€ 90,000
Beginning inventory	20,000	20,000	12,000	15,000
Cost of goods purchased	40,000	40,000	68,000	68,000
Cost of goods available	60,000	60,000	80,000	83,000
Ending inventory	12,000	15,000	23,000	23,000
Cost of good sold	48,000	45,000	57,000	60,000
Gross profit	32,000	35,000	33,000	30,000
Operating expenses	10,000	10,000	20,000	20,000
Net income	€ 22,000	€ 25,000	€ 13,000	€ 10,000

Combined income for 2-year period is correct.

(€3,000)
Net income understated

€3,000
Net income overstated

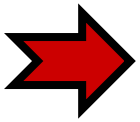
LO 5

Income Statement Effects

Question

Atlantis Company's ending inventory is understated NT$122,000. The effects of this error on the current year's cost of goods sold and net income, respectively, are:

a. understated, overstated.



b. overstated, understated.

c. overstated, overstated.

d. understated, understated.

LO 5

Statement of Financial Position Effects

Effect of inventory errors on the statement of financial position is determined by using the basic accounting equation: Assets = Liabilities + Equity.

Errors in the ending inventory have the following effects.

Ending Inventory Error	Assets	Liabilities	Equity
Overstated	Overstated	No effect	Overstated
Understated	Understated	No effect	Understated

Illustration 6-15
Effects of ending inventory errors on statement of financial position

> DO IT!

LCNRV Basis; Inventory Errors

(a) Tracy Company sells three different types of home heating stoves (wood, gas, and pellet). The cost and net realizable value of its inventory of stoves are as follows.

	Cost	Net Realizable Value
Gas	NT$ 84,000	NT$ 79,000
Wood	250,000	280,000
Pellet	112,000	101,000

Determine the value of the company's inventory under the lower-of-cost-or-net realizable value approach.

Total inventory value is the sum of these amounts, **NT$430,000**.

LO 5

> DO IT!

LCNRV Basis; Inventory Errors

(b) Visual Company overstated its 2016 ending inventory by NT$22,000. Determine the impact this error has on ending inventory, cost of goods sold, and equity in 2016 and 2017.

	2016	2017
Ending inventory	NT$22,000 overstated	No effect
Cost of goods sold	NT$22,000 understated	NT$22,000 overstated
Equity	NT$22,000 overstated	No effect

Statement Presentation and Analysis

Learning Objective 6
Discuss the presentation and analysis of inventory.

Presentation

Statement of Financial Position - Inventory classified as current asset.

Income Statement - Cost of goods sold is subtracted from sales.

There also should be disclosure of the

1) major inventory classifications,
2) basis of accounting (cost or LCNRV), and
3) costing method (specific identification, FIFO, or average-cost).

Statement Presentation and Analysis

Analysis

Inventory management is a double-edged sword

1. **High Inventory Levels -** may incur high carrying costs (e.g., investment, storage, insurance, obsolescence, and damage).
2. **Low Inventory Levels** – may lead to stock-outs and lost sales.

Analysis

Inventory turnover measures the number of times on average the inventory is sold during the period.

$$\text{Inventory Turnover} = \frac{\text{Cost of Goods Sold}}{\text{Average Inventory}}$$

Days in inventory measures the average number of days inventory is held.

$$\text{Days in Inventory} = \frac{\text{Days in Year (365)}}{\text{Inventory Turnover}}$$

Analysis

Illustration: Esprit Holdings (HKG) reported in a recent annual report a beginning inventory of HK$3,209 million, an ending inventory of HK$3,254 million, and cost of goods sold for the year ended of HK$12,071 million. The inventory turnover formula and computation for Esprit Holdings are shown below.

Cost of Goods Sold	÷	Average Inventory	=	Inventory Turnover
HK$12,071	÷	$\frac{\text{HK\$3,209 + HK\$3,254}}{2}$	=	3.7 times

Illustration 6-17
Inventory turnover formula and computation for Esprit Holdings (in millions)

Days in Inventory: Inventory turnover of 3.7 times divided into 365 is approximately **99 days**. This is the approximate time that it takes a company to sell the inventory.

LO 6

ACCOUNTING ACROSS THE ORGANIZATION

Improving Inventory Control with RFID

Many large retailers have improved their inventory control with the introduction of radio frequency identification (RFID). Much like bar codes, which tell a retailer the number of boxes of a specific product it has, RFID goes an additional step, helping to distinguish one box of a specific product from another. RFID uses technology similar to that used by keyless remotes that unlock car doors. Companies currently use RFID to track shipments from supplier to distribution center to store. Other potential uses include monitoring product expiration dates and acting quickly on product recalls. Many companies also anticipate faster returns and warranty processing using RFID. This technology will further assist managers in their efforts to ensure that their store has just the right type of inventory, in just the right amount, in just the right place.

> DO IT!

Early in 2017, Seoul Company switched to a just-in-time inventory system. Its sales, cost of goods sold, and inventory amounts for 2016 and 2017 are shown below.

	2016	2017
Sales revenue	₩2,000,000	₩1,800,000
Cost of goods sold	1,000,000	910,000
Beginning inventory	290,000	210,000
Ending inventory	210,000	50,000

Determine the inventory turnover and days in inventory for 2016 and 2017.

	2016		2017	
Inventory turnover	———	=	———	=
Days in inventory				

LO 6

APPENDIX 6A Perpetual Inventory System

Learning Objective 7
Apply the inventory cost flow methods to perpetual inventory records.

Illustration 6A-1
Inventoriable units and costs

Lin Electronics
Astro Condensers

Date	Explanation	Units	Units Cost	Total Cost	Balance in Units
1/1	Beginning inventory	10	HK$100	HK$ 1,000	10
4/15	Purchases	20	110	2,200	30
8/24	Purchases	30	120	3,600	60
9/10	Sale	55			5
11/27	Purchases	40	130	5,200	45
				HK$12,000	

Assuming the **Perpetual** Inventory System, compute Cost of Goods Sold and Ending Inventory under FIFO and average-cost.

LO 7

First-In-First-Out (FIFO)

Date	Purchases	Cost of Goods Sold	Balance (in units and cost)
January 1			(10 @ HK$100) HK$1,000
April 15	(20 @ HK$110) HK$2,200		
August 24	(30 @ HK$120) HK$3,600		
September 10			
November 27	(40 @ HK$130) HK$5,200		

Illustration 6A-2
Perpetual system–FIFO

Cost of Goods Sold

Ending Inventory

LO 7

Average-Cost

Date	Purchases	Cost of Goods Sold	Balance (in units and cost)
January 1			(10 @ HK$100) HK$ 1,000
April 15	(20 @ HK$110) HK$2,200		(30 @ HK$106.667) HK$ 3,200
August 24	(30 @ HK$120) HK$3,600		(60 @ HK$113.333) HK$ 6,800
September 10		(55 @ HK$113.333) HK$6,233	(5 @ HK$113.333) HK$ 567
November 27	(40 @ HK$130) HK$5,200		(45 @ HK$128.156) HK$5,767

Illustration 6A-3
Perpetual system–average-cost method

Cost of Goods Sold

Ending Inventory

LO 7

APPENDIX 6B Estimating Inventories

Learning Objective 8
Describe the two methods of estimating inventories.

Gross Profit Method

Estimates the cost of ending inventory by applying a gross profit rate to net sales.

Step 1:	Net Sales	−	Estimated Gross Profit	=	Estimated Cost of Goods Sold	
Step 2:	Cost of Goods Available for Sale	−	Estimated Cost of Goods Sold	=	Estimated Cost of Ending Inventory	

Illustration 6B-1
Gross profit method formulas

LO 8

Gross Profit Method

Illustration: Kishwaukee Company's records for January show net sales of $200,000, beginning inventory $40,000, and cost of goods purchased $120,000. The company expects to earn a 30% gross profit rate. Compute the estimated cost of the ending inventory at January 31 under the gross profit method.

Illustration 6B-2
Example of gross profit method

Step 1:	
Net sales	$200,000
Less: Estimated gross profit (30% × $200,000)	60,000
Estimated cost of goods sold	**$140,000**
Step 2:	
Beginning inventory	$ 40,000
Cost of goods purchased	120,000
Cost of goods available for sale	160,000
Less: Estimated cost of goods sold	140,000
Estimated cost of ending inventory	**$ 20,000**

Retail Inventory Method

Company applies the cost-to-retail percentage to ending inventory at retail prices to determine inventory at cost.

Step 1:	Goods Available for Sale at Retail	−	Net Sales	=	Ending Inventory at Retail
Step 2:	Goods Available for Sale at Cost	÷	Goods Available for Sale at Retail	=	Cost-to-Retail Ratio
Step 3:	Ending Inventory at Retail	×	Cost-to-Retail Ratio	=	Estimated Cost of Ending Inventory

Illustration 6B-3
Retail inventory method formulas

LO 8

Retail Inventory Method

Illustration:

Illustration 6B-4
Application of retail inventory method

	At Cost	At Retail
Beginning inventory	$14,000	$ 21,500
Goods purchased	61,000	78,500
Goods available for sale	$75,000	100,000
Net sales		70,000
Step (1) Ending inventory at retail =		**$ 30,000**
Step (2) Cost-to-retail ratio $75,000 ÷ $100,000 = 75%		
Step (3) Estimated cost of ending inventory = $30,000 × 75% =	**$22,500**	

Note that it is not necessary to take a physical inventory to estimate the cost of goods on hand at any given time.

APPENDIX 6C LIFO Inventory Method

Learning Objective 9
Apply the LIFO inventory costing method.

Last-In-First-Out (LIFO)

- **Under IFRS,** LIFO is **not permitted** for financial reporting purposes.
- Assumes latest goods purchased are first to be sold.
- **Seldom coincides** with actual physical flow of merchandise, except for **goods stored in piles**, such as coal or hay.

Last-In-First-Out (LIFO)

Illustration 6C-1
Allocation of costs–LIFO method

Cost of Goods Available for Sale

Date	Explanation	Units	Unit Cost	Total Cost
Jan. 1	Beginning inventory	10	HK$100	HK$ 1,000
Apr. 15	Purchase	20	110	2,200
Aug. 24	Purchase	30	120	3,600
Nov. 27	Purchase	40	130	5,200
	Total	100		**HK$12,000**

Step 1: Ending Inventory

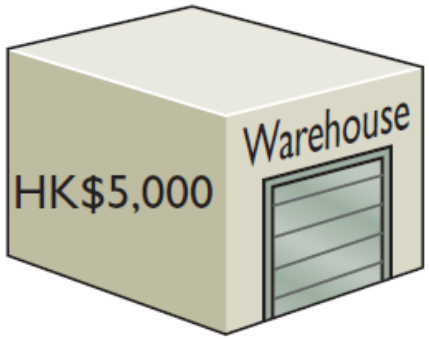
Date	Units	Unit Cost	Total Cost
Jan. 1	10	HK$100	HK$ 1,000
Apr. 15	20	110	2,200
Aug. 24	15	120	1,800
Total	45		**HK$5,000**

Step 2: Cost of Goods Sold

Cost of goods available for sale	HK$12,000
Less: Ending inventory	5,000
Cost of goods sold	**HK$ 7,000**

LO 9

Last-In-First-Out (LIFO)



Ending inventory

HK$1,000

HK$2,200

HK$1,800

HK$1,800

HK$5,200

Cost of goods sold

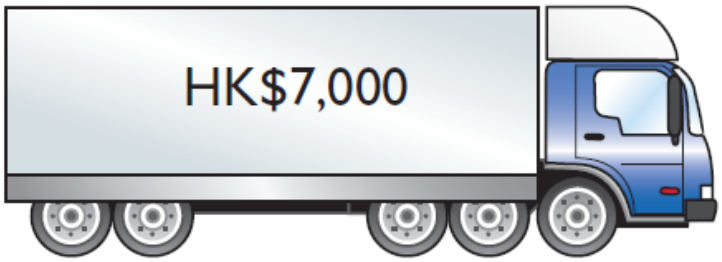


Illustration 6C-1
Allocation of costs–LIFO method

Date	Units	Unit Cost	Total Cost
Nov. 27	40	HK$130	HK$ 5,200
Aug. 24	15	120	1,800
Total	55		**HK$7,000**

Illustration 6C-2
Proof of COGS

LO 9

A Look at U.S. GAAP

Learning Objective 10
Compare the accounting for inventories under IFRS and U.S. GAAP.

Key Points

- The requirements for accounting for and reporting inventories are more principles-based under IFRS. That is, GAAP provides more detailed guidelines in inventory accounting.
- IFRS requires companies to use the same cost flow assumption for all goods of a similar nature. GAAP has no specific requirement in this area.

Similarities

- The definitions for inventory are essentially similar under GAAP and IFRS. Both define inventory as assets held-for-sale in the ordinary course of business, in the process of production for sale (work in process), or to be consumed in the production of goods or services (e.g., raw materials).
- Who owns the goods—goods in transit or consigned goods—as well as the costs to include in inventory, are accounted for the same under GAAP and IFRS.

A Look at U.S. GAAP

Key Points

Differences

- Both GAAP and IFRS permit specific identification where appropriate. IFRS actually requires that the specific identification method be used where the inventory items are not interchangeable (i.e., can be specifically identified). If the inventory items are not specifically identifiable, a cost flow assumption is used. GAAP does not specify situations in which specific identification must be used.
- A major difference between IFRS and GAAP relates to the LIFO cost flow assumption. GAAP permits the use of LIFO for inventory valuation. IFRS prohibits its use. FIFO and average-cost are the only two acceptable cost flow assumptions permitted under IFRS.

LO 10

A Look at U.S. GAAP

Key Points

Differences

- When testing to see if the value of inventory has fallen below its cost, IFRS defines market as net realizable value. Net realizable value is the estimated selling price in the ordinary course of business, less the estimated costs to complete and sell. In other words, net realizable value is the best estimate of the net amounts that inventories are expected to realize. GAAP, on the other hand, defines market as essentially replacement cost. The GAAP method of inventory valuation is often referred to as the lower-of-cost-or-market (LCM).

LO 10

A Look at U.S. GAAP

Key Points

Differences

- Under GAAP, if inventory is written down under the lower-of-cost-or-market valuation, the new basis is now considered its cost. As a result, the inventory may not be written back up to its original cost in a subsequent period. Under IFRS, the write-down may be reversed in a subsequent period up to the amount of the previous write-down. Both the write-down and any subsequent reversal should be reported on the income statement.
- IFRS generally requires pre-harvest inventories of agricultural products (e.g., growing crops and farm animals) to be reported at fair value less cost of disposal. GAAP generally requires these items to be recorded at cost.

LO 10

A Look at U.S. GAAP

Looking to the Future

One convergence issue that will be difficult to resolve relates to the use of the LIFO cost flow assumption. As indicated, IFRS specifically prohibits its use. Conversely, the LIFO cost flow assumption is widely used in the United States because of its favorable tax advantages. In addition, many argue that LIFO from a financial reporting point of view provides a better matching of current costs against revenue and, therefore, enables companies to compute a more realistic income.

LO 10

A Look at U.S. GAAP

GAAP Self-Test Questions

Which of the following should not be included in the inventory of a company using GAAP?

a) Goods held on consignment from another company.

b) Goods shipped on consignment to another company.

c) Goods in transit from another company shipped FOB shipping point.

d) None of the above.

LO 10

A Look at U.S. GAAP

GAAP Self-Test Questions

Which method of inventory costing is prohibited under IFRS?

a) Specific identification.

b) FIFO.

c) LIFO.

d) Average-cost.

LO 10

A Look at U.S. GAAP

GAAP Self-Test Questions

Specific identification:

a) must be used under IFRS if the inventory items are not interchangeable.

b) cannot be used under IFRS.

c) cannot be used under GAAP.

d) must be used under IFRS if it would result in the most conservative net income.

LO 10

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