

## Chapter 6 Valuation of inventory (存貨的計價)

### 6.2 Weighted average cost method (加權平均成本法)

Due to the firm bought goods at different prices at different times of the year, we need to find out the value of the inventory at the end of the financial year.

**The weighted average cost method (WAVCO)** is an inventory valuation method by which the cost of inventory is based on the average cost of goods available for sale during the period.

$$\text{Weight average cost per unit} = \frac{\text{Total cost of goods available for sale}}{\text{Total number of units available for sale}} \times 100\%$$

#### Example 1:

Given the following records of goods purchased and sold during the first year operation of a trading firm:

Purchases			Sales		
2015	Unit	Unit cost	2015	Unit	Unit price
Jan	10	\$3,000	May	8	\$5,000
Apr	10	\$3,400	Nov	24	\$6,000
Oct	20	\$4,000			

- (a) Calculate the weighted average cost per unit.  
(b) Calculate the cost of goods sold.  
(c) Calculate the closing inventory.

(a) \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

(b) \_\_\_\_\_  
\_\_\_\_\_

(c) \_\_\_\_\_  
\_\_\_\_\_

#### Example 2:

Tommy Company sells only one product and uses the weighted average cost method for inventory valuation. The following information for the month of March 2017 was available.

<u>Date</u>	<u>Details</u>	<u>Units</u>	<u>Cost/unit</u>
			\$
March 12	Purchases	500	40
March 20	Purchases	1500	36

  

<u>Date</u>	<u>Details</u>	<u>Units</u>	<u>Selling price/unit</u>
			\$
March 8	Sales	250	45
March 28	Sales	1600	39

The opening inventory as at 1 March 2017 included 400 units with an average cost of \$43 each. Compute the value of closing inventory as at 31 March 2017. Show your workings.

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

### 6.3 Lower of cost and net realisable value (成本與變現淨值孰低法)

The lower of cost and net realisable value is an application of the prudence concept, which requires assets to be valued at a lower figure to prevent assets or profits from being overstated. (成本與可變現淨值孰低法是穩健保守概念的一種應用，這需要資產進行估值處於較低的數字，以防止資產或利潤被高估。)

**Net realisable value = Selling price of an item – Cost to complete and to sell the item**

According to the **lower of cost and net realizable value**, the inventory whose net reliable value is lower than cost should be valued at net realizable value. These inventory items should therefore be written down. (按照成本與可變現淨值孰低法，如果某些貨品的可變現淨值低於成本，這些貨品便應按可變現淨值計價，並須要減值。)

#### Example 3:

Suppose a firm has 2,000 units of closing inventory with average cost per unit is \$182. However, 100 units of inventory were damaged and could be sold for \$150 per unit after the necessary handling charges \$100.

- (a) Calculate the Net realizable value and inventory loss of the damaged inventory.
- (b) Find the correct amount of closing inventory.
- (c) Prepare the necessary journal entries to record the inventory loss.

(a) \_\_\_\_\_

(b) \_\_\_\_\_

(c) \_\_\_\_\_

Journal		Dr	Cr
Details		\$	\$

#### Example 4:

Prepare the necessary journal entries to record the following. Narrations are not required.

- (i) On 31 December 2015, it was discovered that some goods costing \$32,250 had been damaged and could only be sold for \$22,200 after having them repaired for \$2,600 in January 2016. No adjustment had been made in the closing inventory for the above.
- (ii) Inventory as at 31 December 2014 had a cost of \$290,000. 20% of the inventory was slightly damaged and had a net realizable value of \$49,980. No adjustment had been made in the closing inventory for the above.

Journal		Dr	Cr
	Details	\$	\$
(i)			
(ii)			

## HKDSE (2020, 3)

Andy Company uses the weighted average cost method for inventory valuation. The information relates to the inventory of its single product is available:

- (i) There were 500 units of product in the opening inventory as at 1 February 2020, with an average cost of \$35 each.
- (ii) In February 2020, the company recorded the following:
  - On 10 February, 1,000 units of product were purchased at \$32,000.
  - On 14 February, 350 units of product were sold at \$45 each.
  - On 23 February, 400 units of product were sold at \$39 each.
  - On 29 February, 100 units of product were found to be obsolete and could only be sold for \$30 each.

### REQUIRED:

- (a) Calculate the weighted average cost of product per unit.
- (b) Calculate the net realizable value of the obsolete product.
- (c) Compute the value of closing inventory as at 29 February 2020.
- (d) Prepare an extract of the income statement for the month ended 29 February 2020, showing the calculation of gross profit.
- (e) An accounts clerk in Andy Company said, 'If only 5 units instead of 100 units of product were obsolete on 29 February 2020, no inventory adjustments would be required since the loss was insignificant.' Explain whether you agree with the accounts clerk or not.

(a) \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

(b) \_\_\_\_\_  
\_\_\_\_\_

(c) \_\_\_\_\_  
\_\_\_\_\_

(d)

**Andy Company**  
**Income statement for the year ended 29 February 2020**

	\$		\$

(e) \_\_\_\_\_  
\_\_\_\_\_

## 6.4 Goods sent or received on a sale or return basis (銷售或退回方式)

When goods are sent on a sale or return basis and remain unsold on the date of inventory count (the supplier's), these goods should be included in the supplier's inventory but excluded from the customer's inventory. (當貨品以銷售或退回方式送到客戶手上而在客戶庫存盤點時尚未售出，這些貨物應包括在供應商的存貨，而不包括在客戶的存貨)

### Example 5:

As at 31 March 2016, the closing inventory of a clock wholesaler was valued at \$45,500. Subsequent investigation of inventory records revealed that a batch of clock priced at \$4,200 had been sent to a customer on a sale or return basis but remained unsold by 31 March 2016. These clocks had not been included in the closing inventory. A uniform mark-up of 50% was applied throughout the year ended 31 March 2016.

- (a) If the total sales of the company are \$150,000, find the correct amount of the sales.
- (b) Compute the correct value of closing inventory.
- (c) Prepare the journal entries necessary to record the inventory adjustment.

(a) \_\_\_\_\_

(b) \_\_\_\_\_

(c)

Journal		Dr	Cr
Details		\$	\$

### Example 6:

Prepare the necessary journal entries to correct the following. Narrations are not required.

- (i) A purchase order from a customer for goods at an invoice price of \$15,000, with a mark-up of 25%, was received on 30 December 2016. The goods would be delivered to the customer on 15 January 2017. These goods were not included in the closing inventory as the order had been recorded as credit sales on 30 December 2016.
- (ii) In December 2016, goods invoiced of \$30,000 were sent to a customer on a sale-or-return basis. These had been recorded as credit sales for the year. As at 31 December 2016, 75% of these goods were accepted by the customer. The remaining 25% had been included in the closing inventory at cost.
- (iii) Included in the closing inventories were goods at \$10,000 received from Royce Limited on a sale or return basis. No other entries had been made in respect of these goods in the books.

Journal		Dr	Cr
	Details	\$	\$
(i)			
(ii)			
(iii)			

## 6.6 Normal vs. abnormal inventory loss (正常與非正常存貨損失)

### Normal inventory loss (正常存貨損失)

A normal inventory loss refers to the loss of inventory that is expected in the ordinary course of business due to factors such as physical deterioration and obsolescence. This kind of inventory loss will be treated as part of the cost of goods sold for the period. (正常存貨損失是指企業在日常業務過程中出現的存貨損失，常見原因包括實物損耗和過時。這種存貨損失會被視作期內銷售成本的一部分。正常存貨損失不需記錄及記帳的原因是在盤點時已經減去了正常存貨損失，所以在計算銷貨成本時已經處理了正常存貨損失，所以不需要為正常存貨損失作任何會計記帳。)

1. The loss is identified in the course of valuing inventory (進行存貨計價時發現損失)

There is no need to make specific journal entries for the loss. (無須作出記帳分錄記錄虧損)

2. The loss is identified after inventory valuation (完成存貨計價後才發現損失)

Dr Profit and loss account (cost of goods sold)

Cr Inventory account

### Abnormal inventory loss (非正常存貨損失)

An abnormal inventory loss refers to the loss of inventory that is unexpected in the ordinary course of business due to factors such as theft, fire and flooding. This kind of inventory loss will be treated as an expense for the period. (非正常的存貨損失是指在企業的日常業務過程中出現的不可預期存貨損失。常見原因包括盜竊，火災或水災等。這種存貨損失會被視作期內的費用)

1 If the abnormal inventory loss is identified before or in the course of valuing inventory, the following entries will be made: (如果企業在進行存貨計價時或之前出現非正常的存貨損失，所需記帳如下:)

Dr Abnormal inventory loss account (非正常存貨損失帳戶)

Cr Purchases account

2 If the abnormal inventory loss is ascertained after the valuation of year-end inventory, it should be recorded as follows: (如果企業在完成期末存貨計價後才確定出現非正常的存貨損失，所需記帳如下:)

Dr Abnormal inventory loss account

Cr Inventory

If compensation is received from the firm's insurer, the following entries will be made: (如果企業已從或將會從保險公司收到賠償金，所需記帳如下:)

Dr Cash/Bank/Insurer's account

Cr Abnormal inventory loss account

The net balance of the abnormal inventory loss account will be transferred to the profit and loss account at the end of the accounting period: (非正常存貨損失帳戶的淨額會在會計期末轉到損益帳戶:)

Dr Profit and loss account

Cr Abnormal inventory loss account

### Example 7: (在進行存貨計價時或之前出現非正常的存貨損失)

Wilson Wong operates a trading business and has a year-end date of 31 December. On the evening of 5 November 2014, a fire broke out at the warehouse and destroyed part of inventory costing \$49,800. The inventory was insured and the insurance company agreed on 10 December 2014 to make a compensation payment by cheque equivalent to 60% of the loss. Prepare the journal entries for the inventory loss, insurance compensation and transferring to profit and loss for the year ended 31 December 2014.

The Journal				
Date			Dr	Cr
2014		Details	\$	\$

**Example 8: (在完成期末存貨計價後才確定出現非正常的存貨損失)**

Wilson Wong operates a trading business and has a year-end date of 31 December. On the evening of 30 December 2014, a fire broke out at the warehouse and destroyed part of inventory costing \$49,800 **after the stock taking**. The inventory was insured and the insurance company agreed on 31 December 2014 to make a compensation payment by cheque equivalent to 60% of the loss. Prepare the journal entries for the inventory loss, insurance compensation and transferring to profit and loss for the year ended 31 December 2014.

The Journal				
Date			Dr	Cr
2014		Details	\$	\$

**Example 9: (在完成期末存貨計價和編製財務報表後才確定出現非正常的存貨損失)**

Wilson Wong operates a trading business and has a year-end date of 31 December. On the evening of 30 December 2014, a fire broke out at the warehouse and destroyed part of inventory costing \$49,800 **after the stock taking and preparing financial statement**. The inventory was insured and the insurance company agreed on 31 December 2014 to make a compensation payment by cheque equivalent to 60% of the loss. Prepare the journal entries for the inventory loss, insurance compensation and transferring to profit and loss for the year ended 31 December 2014.

The Journal				
Date			Dr	Cr
2014		Details	\$	\$

## Exhibit 6.4

### **Trial Balance as at 31 March 2015**

	Dr	Cr
	\$	\$
Sales		2,164,000
Purchases	1,460,000	
Inventory	310,000	
Wages and salaries	172,000	
Rent	180,000	
Sundry expenses	23,000	
Office equipment	400,000	
Accumulated depreciation: Office equipment		100,000
Trade receivables	92,800	
Trade payables		105,500
Allowance for doubtful accounts		3,500
Capital		402,000
Drawings	60,000	
Bank	77,200	
	<u>2,775,000</u>	<u>2,775,000</u>

Additional information:

- 1 Inventory as at 31 March 2015 was valued at \$280,000
- 2 An allowance of 5% was to be made for doubtful accounts.
- 3 Office equipment was to be depreciated at 25% using the straight-line method.
- 4 Some of the goods in the warehouse were stolen by theft on 1 March 2015. It was determined that inventory loss amounted to \$80,000 and half of the loss would be covered by insurance. No entries were made for this event.

### Income Statement for the year ended 31 March 2015

[illegible]