Stock valuation methods

Two methods are used to calculate the cost of sales for the financial period and the value of stock on hand on the last day of the financial period.

###### First-in-first-out (FIFO) method

The assumption is that goods bought first are sold first:

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| **Sell goods in this order** | **OPENING STOCK**  **Stock on hand on FIRST day of financial year** |  |  |
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|  | **PURCHASES**  **Net purchases DURING financial year**  **(add sales returned) (subtract purchase returned)** |  |  |
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|  | **CLOSING STOCK**  **Stock on hand on LAST day of financial year** |  | **Value stock on hand in this order** |

Example

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| PERPETUAL INVENTORY SYSTEM |  | FIRST IN FIRST OUT |  | PERIODIC INVENTORY SYSTEM |
| Sales: 120 @ R50 = **R6 000**  + 150 @ R50 = **R7 500**  + 180 @ R50 = **R9 000**  = 450 @ R50 = **R22 500** | **Opening stock 100 units @ R10 = R1**  **000**  **Jan. Purchases 150 units @ R12 = R1 800**  **Sales 120 units @ R50**  **Feb. Purchases 160 units @ R14 = R2 240**  **Sales 150 units @ R50**  **Mar. Purchases 200 units @ R18 = R3 600**  **Sales 180 units @ R50** | Sales: 120 @ R50 = **R6 000** + 150 @ R50 = **R7 500** + 180 @ R50 = **R9 000** = 450 @ R50 =  **R22 500** |
| Cost of sales:  100 @ R10 = **R1 000**  + 20 @ R12 = **R240**  + 130 @ R12 = **R1 560**  +20 @ R14 = **R280**  + 140 @ R14 = **R1 960**  + R40 @ R18 = **R720**  = R5 760 | Units available: 100 + 150 +  160 + 200 = 610 units  Units sold: 120 + 150 + 180 =  450 units  Value of purchases: 1 000 +  1 800 + 2 240 + 3 600 = R8 640  Cost of sales = Total available for sale – value of stock on  hand |
| Value of closing stock: 160 @ R18 = R2 880 | Units on hand at year end: 610 – 450 = 160 units Value of closing stock:  160 @ R18 = R2 880 |

###### Weighted average method

Calculate the average cost per item purchased, weighted with regards to the number of units produced.

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| **PERPETUAL INVENTORY** |  | **OPENING STOCK**  **Stock on hand on FIRST day of financial year**  **Q x AP = TC** |  | **PERIODIC INVENTORY** |
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| **If perpetual inventory system is used, calculate AP after NEW sales has taken place** |  | **Add NET PURCHASES for**  **the period Q x AP = TC Q x AP = TC Q x AP = TC** |  | **If periodic inventory system is used, calculate AP at the end of the financial period** |
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|  |  | **CLOSING STOCK**  **Stock on hand on LAST day of financial year**  **Q x AP = TC** |  |  |

Example

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| PERPETUAL INVENTORY SYSTEM |  | WEIGHTED AVERAGE |  | PERIODIC INVENTORY SYSTEM |
| Sales: 120 @ R50 = R600 + 150 @ R50 = R750 + 180 @ R50 = R900 + 450 @ R50 = R2  250 | **Opening stock 100 units @ R10 Jan. Purchases 150 units @ R12 Sales 120 units @ R50**  **Feb. Purchases 160 units @ R14 Sales 150 units @ R50**  **Mar. Purchases 200 units @ R18 Sales 180 units @ R50** | Sales: 120 @ R50 = R600 + 150 @ R50 = R750 + 180 @ R50 = R900 + 450 @ R50 =  R2 250 |
| Find weighted average after each new purchase. Add the purchase to stock on hand: 100 @ R10,00 = R1 000  150 @ R12,00 = R1 800  250 @ R11,20 = R2 800  **(120 @ R11,20 = R1 344)**  130 @ R11,20 = R1 456  160 @ R14,00 = R2 240  290 @ R12,74 = R3 696  **(150 @ R12,74 = R1 912)**  140 @ R12,74 = R1 784  200 @ R18,00 = R3 600  340 @ R15,84 = R5384  **(180@R15,84 = R2 851)**  160 @ R15,84 = R2 533 Value  of closing stock | Find weighted average by adding total purchases for the year to opening stock:  100 @ R10,00 = R1 000  150 @ R12,00 = R1 800  160 @ R14,00 = R2 240  200 @ R18,00 = R3 600  610 @ R14.16 = R8 640  160 @ R14,16 = R2 266  Value of closing stock  **Cost of sales = (120 + 150 + 180) @ R14,16 = R6 372** |
| **Cost of sales:**  **1 344 + 1 912 + 2 851 = R6**  **107** | Value of closing stock: 160 @ R18 = R2 880 |

###### Reasons for using FIFO method

* + FIFO is simple and easy to use.
  + Closing stock is valued at realistic (current) prices.
  + Cost price is not estimated. Actual (real) prices are recorded.
  + Movement of inventory is logical: stock bought first is sold first.
  + If stock has a limited shelf life, old stock must be put at the front of the shelf and newer stock at the back.
  + FIFO is suitable for all types of businesses that sell goods of a simliar kind (homogenous goods).

###### Reasons for using weighted average method

* + With weighted average sporadic price increases are flattened (levelled).
  + The closing stock is valued at realistic (current) prices.
  + This is the best method to use when buying a lot of goods in small quantities.
  + The influence of a single purchase is reduced. Price changes do not dramatically affect average costs.

## Exercise 2.4

The owner of Boots for All buys leather boots from Namibia that they then sell to many retail outlets in South Africa. They use the FIFO method for all stock valuations and the periodic inventory system for the recording of inventory.

###### Information

Stock on hand (1 May 20.6)

May 1 Stock on hand: 200 pairs of boots at R1 500 each

Purchases (May 20.6)

May 3 Purchases of boots: 100 pairs of boots at R1 500 each May 6 Return of boots: 20 pairs of boots bought on 3 May

May 13 Purchases of boots: 90 pairs of boots at R1 600 each (plus R300 courier cost for overnight delivery)

May 19 Purchases of boots: 50 pairs of boots at R1 800 each

May 26 140 pairs of boots ordered at R1 650 each. The boots will be invoiced and delivered on 1 June 20.6.

Sales (May 20.6)

May 7 90 pairs of boots at R2 040

May 14 120 pairs of boots at R2 040

May 21 110 pairs of boots at R2 040

May 28 60 pairs of boots at R2 040

May 31 Number of boots sold for the month: 380 Total sales amount: R775 200

###### Instructions

1. Calculate the cost of sales for the month of May 20.6 using the FIFO method.

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1. Calculate the gross profit for the month of May 20.6.
2. Calculate the value of trading stock on hand on 31 May 20.6.
3. Calculate the cost of sales using the FIFO method for stock valuation and the perpetual inventory system for recording stock.

You need to calculate the price per pair of boots according to the weighted average method every time new stock was purchased due to the use of perpetual recording system:

1. The owner of Boots for All is unhappy that they decided to use the FIFO method of stock valuation for the business. He wonders if they should rather have used the weighted average method. The necessary calculations using the weighted average method are:

Cost of sales R591 986,80

Gross profit R183 213,20 Value of stock on hand R62 314,40

The owner has come to you for advice. Comment on:

* + The difference the two methods will have on the financial statements.
  + The reason for the figures being different.
  + Give advice as to whether they should change the stock valuation method or not.

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|  | Weighted average | FIFO + Periodic | FIFO + Perpetual |
| Cost of sales |  |  |  |
| Gross profit |  |  |  |
| Stock on hand |  |  |  |
| Comment: | | | |

## Exercise 2.5

The information relates to Rodrigues Clothing, for the financial year ended 30 June 2.12. The business sells locally manufactured T- shirts. The business uses the Proudly South African logo in all its advertisements.

###### Information

1. The business applies the perpetual inventory system and weighted average method of stock valuation.
2. Information for the year:

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|  | Units | Unit  price | Total  value |
| T-shirts on hand on 1 July 2.11 | 200 | R120 | R24 000 |
| Purchases during the year | 1 500 |  | R176 750 |
| Purchased on 31 August 2.11 | 350 | R140 | R49 000 |
| Purchased on 30 November 2.11 | 600 | R80 | R48 000 |
| Purchased on 31 January 2.12 | 550 | R145 | R79 750 |
| T- shirts on hand on 30 June 2.12 | ? |  |  |
| T-shirts sold during the year (before returns  were taken into account) | 1 430 |  |  |

1. Local manufacturers increased their prices on 15 November to R160 per unit for the Christmas season. The owner decided to buy T-shirts from street vendors at a much lower price on 30 November 2.11. He was not sure of where the vendors get their merchandise.
2. The business sold their T-shirts at R200 per T-shirt throughout the year.
3. During December 130 customers returned the T-shirts as they were of very poor quality. The street vendors did not want to take the T-shirts back. So the business donated these T-shirts to a shelter for the homeless. The business decided to sell the last 110 T-shirts of the batch, purchased on 30 November, at a price of R100.

###### Instructions

1. Calculate the value of the stock on hand on 30 June 2.12.

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1. Calculate the cost of sales for the year and comment on the situation.

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1. Calculate the total sales for the year.

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1. Calculate the gross profit for the year according to both stock systems.

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1. If Rodrigues Clothing purchased the T-shirts at R160 during November, theunit price according to the weighted average method would have been R146,32. All the T-shirts could have been sold at R200 each. The gross profit would be R76 762, 40. Give your view on the decision to purchase T-shirts from street vendors and the effect it had on the business.

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|  | **PUCHACES** |  | **RETURNS** | **AVAILABLE** |  | **SALES** |  |  | **STOCK** | **COST OF** | **CLOSING** |  |
| **DATE** | **NUMBER** | **PRICE p/u** |  |  | **07-May** | **14-May** | **21-May** | **28-May** | **UNSOLD** | **SALES** | **STOCK** |  |
| Opening Balance 1 May | 200 | 1500 |  |  |  |  |  |  |  |  |  |  |
| 03-May | 100 | 1500 |  |  |  |  |  |  |  |  |  |  |
| 13-May | 90 | 1600+300 |  |  |  |  |  |  |  |  |  |  |
| 19-May | 50 | 1800 |  |  |  |  |  |  |  |  |  |  |
| 26-May | 140 | 1650 |  | |  |  |  |  |  |  |  |  |
| TOTAL SALES |  |  |  |  |  |  |  |  |  |  |  |  |
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