

Summary of Inventory Costing Methods خلاصة طرق كلفة الخزين

Illustration below summarizes the results for the three inventory costing methods for Samer Company. It shows sales revenue, cost of goods sold, and gross profit:

المثال التوضيحي ادناه يلخص نتائج الطرق الثلاثة لتحديد تكاليف الخزين في شركة سامر. يبين ايرادات المبيعات و كلفة البضاعة المباعة واجمالي الربح .

Summarized results of Inventory Costing Methods Illustration

	Average Cost	FIFO	LIFO
Sales Revenues	\$1,120	\$1,120	\$1,120
Cost of Goods Sold	635	632	648
Gross Profit	\$ 485	\$ 488	\$ 472

The illustration shows that FIFO produces the lowest cost of goods sold and the highest gross profit for Samer Company. Because operating expenses will be the same, regardless of which inventory method a company uses, net income is also the highest under FIFO when inventory costs are rising. Many companies prefer high income in order to attract investors and borrow on good terms. FIFO offers this benefit in a period of rising prices.

يبين الشكل ان الفايفو تعطي اقل كلفة بضاعة مباعة واعلى اجمالي ربح لشركة سامر. لان مصاريف التشغيل ستكون نفسها بغض النظر عن اي طريقة خزين تستخدم فان صافي الربح سيكون اعلى وفق طريقة فايفو عندما ترتفع كلفة الخزين. العديد من الشركات تفضل دخل عالي من اجل جذب المستثمرين والاقتراض بشروط جيدة. تعطي طريقة فايفو هذه المنافع في فترات ارتفاع الاسعار

LIFO results in the highest cost of goods sold and the lowest gross profit. Lower profits mean lower taxable income; thus, LIFO lets companies pay the lowest income taxes when inventory costs are rising. Low tax payments conserve cash, and that is the main benefit of LIFO. The downside of LIFO is that the company reports low net income.

تنتج اللايفو كلفة اعلى للبضاعة المباعة واقل اجمالي ربح لشركة سامر. وارباح اقل تعني دخل خاضع للضريبة اقل، لهذا تسمح طريقة لايفو للشركات بدفع ضريبة دخل اقل عند ارتفاع اسعار الخزين، دفع ضريبة اقل تنعكس على النقد وهذه هي فائدتها الرئيسية. الجانب السلبي لطريقة اللايفو هي ان الشركة تبلغ عن صافي دخل اقل.

The average-cost method generates amounts that fall between the extremes of FIFO and LIFO. Companies that seek a “middle-ground” solution, therefore, use the average-cost method for inventory.

طريقة متوسط الكلفة تعطي مبالغ تقع بين طريقتي الفايفو واللايفو والشركات التي تبحث عن حلول وسطى تستخدم هذه الطريقة لتحديد تكاليف الخزين

Because the specific identification method depends on the particular items sold, no generalization can be made about the effect of changing prices on gross profit.

ولان طريقة التحديد النوعي تعتمد على وحدات معينة مباعه ليس هناك تأثير لتغيير الاسعار على اجمالي الربح

Q 1- A

Assume the following data with regard to inventory for Karam Company:

Aug. 1	Inventory	40units @ 10\$per unit	\$ 400
8	Purchase	50units @ 11\$per unit	550
22	Purchase	35units @ 12\$per unit	420
Goods available for sale		125units	1,370\$
Aug. 15	Sale	45units	
28	Sale	25units	
Inventory, Aug. 31		55units	

Assuming that the inventory consists of 30units from the August 8purchase and 25units from the purchase of August .22

Instructions: calculate the cost of ending inventory and cost of goods sold.

Exercises:

Ex. 1:

Make the calculations asked for below given the following data:

Inventory data - May

May 1	Inventory	100 units @ \$4.00
5	Purchase	200 units @ \$5.00
6	Sale	250 units

RE: Using the perpetual inventory system, determine the cost of goods sold associated with the sale on May 6 under the following methods:

(a) average-cost, (b) FIFO, and (c) LIFO

Ex. 2:

Fawzi specializes in designer watches and leather goods. Assume Fawzi began June holding 10 wristwatches that cost \$50 each. During June, Fawzi bought and sold inventory as follows:

Jun 3	Sold 8 units for \$100 each
16	Purchased 10 units @ \$56 each

23 Sold 8 units for \$100 each

Instructions:

1. Prepare a perpetual inventory record for Fawzi using FIFO, LIFO, and Average cost.
2. Journalize all of Fawzi's inventory transactions for June under all three costing methods.
3. Show the computation of gross profit for each method.
4. Which method maximizes net income? Which method minimizes income taxes?

Ex. 3:

Ghanim Company had a beginning inventory balance that consisted of 4,000 units with a cost of \$12 per unit. Purchases and sales are shown in the schedule below. The schedule suggests that Ghanim should have 5,000 units on hand at the end of the year. Assume that Ghanim conducted a physical count of inventory and confirmed that 5,000 units were actually on hand.

Date	Purchases	Sales	Units on Hand
1 – Jan.			4,000
5 – Mar.	6,000 units@16		10,000

	each		
17 – Apr.		7,000 units@22 each	3,000
7 – Sep.	8,000 units@17 each		11,000
11 – Nov.		6,000 units@25 each	5,000

Instructions:

1. Prepare a perpetual inventory record for Ghanim using FIFO, LIFO, and Average cost.
2. Journalize all of Ghanim's inventory transactions for year under all three costing methods.
3. Show the computation of gross profit for each method.
4. Which method maximizes net income? Which method minimizes income taxes?

periodic inventory system

Calculate inventory cost under the periodic inventory system using various costing methods

احتساب كلفة الخزين في ظل نظام الجرد الدوري باستخدام طرق الكلفة المختلفة

1- Periodic في ظل هذه الطريقة فان خزين اخر المدة يأتي من الوحدات الاحدث للمشتريات والتي هي بكلفة \$47 للوحدة. طريقة فايفو في نظامي الجرد الدوري والمستمر دائما تعطي نفس النتائج لان الوحدات المشتراة قديما هي التي تباع اولاً. لذلك فلا فرق ان اعتمدت طريقة فايفو فان المشتريات الاولى هي دائما نفسها فيما اذا احتسبت كلفة البضاعة المباعة في تاريخ البيع (في الجرد المستمر) او في نهاية الفترة (في الجرد الدوري).

Inventory Record – First-in, first-out (FIFO) نظام الجرد الدوري - طريقة مايرد اولاً يصرف اولاً

Under FIFO, the ending inventory comes from the newest—the most recent—purchases, which cost \$47 per unit. Periodic and perpetual are always the same for FIFO because FIFO sells oldest inventory acquisitions first. Therefore, it does not matter when FIFO is calculated; the first purchase will always be the same whether we calculate cost of goods sold on the sale date (Perpetual) or at the end of the period (Periodic).

2- Periodic Inventory Record – First- out, first-in (LIFO) - طريقة مايرد اخرا يصرف اولاً

Under LIFO, the ending inventory comes from the oldest cost of the period—in this case the beginning inventory of two units that cost \$40 per unit, plus one unit of the first purchase at \$45 equal \$125 the cost of ending inventory.

في ظل هذه الطريقة فان خزيرن اخر المدة يأتي من الكلف الاقدم للفترة – في هذه الحالة خزيرن اول المدة والذي يتكون من وحدتين بكلفة \$40 للوحدة + وحدة واحدة من اول المشتريات بكلفة \$45 يساوي \$125 كلفة خزيرن اخر المدة.

3- Periodic Inventory Record – Average Cost - طريقة متوسط الكلفة

In the average-cost method, we compute a single average cost per unit for the entire period:

في ظل هذه الطريقة نحسب معدل كلفة واحد للفترة ككل:

$$\begin{array}{rclcl} \text{Cost of goods available} & \div & \text{Number of units available} & = & \text{Average cost per unit} \\ \$773 & \div & 17 \text{ units} & = & \$45.47 \end{array}$$

Then apply this average cost to compute ending inventory and cost of goods sold, as shown in the far right column in illustration below:

ثم نستخدم هذا المعدل لاحتساب خزيرن اخر المدة وكلفة البضاعة المباعة كما مبين في الجدول ادناه:

Illustration: Periodic Inventory System – Inventory Costing Methods

	FIFO	LIFO	Average Cost
Cost of Goods available	\$773	\$773	\$773
Ending Inventory			
FIFO (3 units x \$47)	(141)		
LIFO (2 units x \$40) + (1 units x \$45)		(125)	
Average (3 units x \$45.47)			(136)
Cost of Goods Sold	\$632	\$648	\$637

Journal Entries under Periodic System قيود اليومية وفقاً لنظام الجرد الدوري

The accounting in a periodic system is similar to a perpetual system, except for the following aspects:

المحاسبة في نظام الجرد الدوري مشابهة لنظام الجرد المستمر، عدا الامور التالية:

1. The periodic system uses four additional accounts; Purchases, Purchase discounts, Purchase returns and allowances, Freight in. In the perpetual system, all these costs go into the Inventory account.

For Samer Company, the journal entries under the various inventory costing methods (FIFO, LIFO, and average) in a periodic inventory follow the same data in illustration below:

1- نظام الجرد الدوري يستخدم اربع حسابات اضافية؛ المشتريات، خصم المشتريات، مردودات ومسموحات المشتريات، النقل للداخل. في نظام الجرد المستمر كل هذه الحسابات تذهب الى حساب الخزين.

لشركة سامر، فان قيود اليومية وفقا لمختلف طرق تقييم الخزين (الفايفو، اللايفو، المعدل) في نظام الجرد الدوري تتبع نفس القيود في الجدول ادناه:

Illustration: Periodic inventory Journal Entries (All purchases and sales on account)

SAMER COMPANY JOURNAL			
Date 2011	Particulars	Debit	Credit
July 5	Purchases Accounts Payable (Purchased inventory on account 6 x \$45)	270	270
15	Accounts receivable Sales Revenues (Sales on account 4 x \$80)	320	320
15	No entry for cost of goods sold		
26	Purchases Accounts Payable (Purchased inventory on account 9 x \$47)	423	423
31	Accounts receivable Sales Revenues (Sales on account 10 x \$80)	800	800
31	No entry for cost of goods sold		

2. The end-of-period entries are more extensive in the periodic system because we must close out the beginning inventory balance and set up the cost of the ending inventory as in illustration below:

2- قيود نهاية الفترة اكثر شمولية في نظام الجرد الدوري لاننا يجب ان نغلق رصيد اول المدة وتثبيت كلفة خزين اخر الفترة كما موضح في الجدول ادناه.

Illustration: Periodic inventory System – FIFO Closing Entries

SAMER COMPANY JOURNAL			
Date 2011	Particulars	Debit	Credit

July 31	Cost of Goods Sold	80	
	Inventory (Beginning)		80
	(Transfer beginning inventory to cost of goods sold)		
	Inventory (Ending).....	141	
	Cost of Goods Sold		141
	(Record ending inventory physical count)		
	Cost of Goods Sold	693	
	Purchases		693
	(Transfer net purchases to cost of goods sold)		
	Income Summery	632	
	Cost of Goods Sold		632
	(Close cost of goods sold)		

3. Cost of goods sold in a periodic system is computed by the formula in following illustration:

3- كلفة البضاعة المباعة في نظام الجرد الدوري تحسب بالمعادلة في الجدول ادناه.

Illustration: Periodic inventory System – Cost of goods sold formula

	Specific Identification Method	Average Cost Method	FIFO Method	LIFO Method
Sales Revenues	\$1,120	\$1,120	\$1,120	\$1,120
Cost of Goods Sold:				
Beginning inventory	\$ 80	\$ 80	\$ 80	\$ 80
Purchases	<u>693</u>	<u>693</u>	<u>693</u>	<u>693</u>
Cost of goods available for sale	\$773	\$773	\$773	\$773
Less: Ending inventory	<u>(134)</u>	<u>(136)</u>	<u>(141)</u>	<u>(125)</u>
Cost of goods sold	\$639	\$637	\$632	\$648
Gross Profit	\$481	\$483	\$488	\$472

Effects of inventory costing methods on the Financial Statements تأثير طرق الخزين المختلفة على الكشوفات المالية

Illustration above shows the four methods of inventory costing are widely used. Each method has its advantages and disadvantages— none is perfect. Among the factors managers should consider in choosing an

inventory costing method are the trend of prices and the effects of each method on financial statements, income taxes, and cash flows.

المثال التوضيحي اعلاه وضح الطرق الاربع لتحديد تكاليف الخزين المستخدمة بشكل واسع. كل طريقة لها مزاياها وعيوبها – ولا توجد طريقة مثالية. من بين عوامل عديدة يجب على الادارة الاخذ بالاعتبار عند اختيار طريقة تحديد كلفة الخزين اتجاه الاسعار وتأثير كل طريقة على الكشوفات المالية، ضرائب الدخل والتدفقات النقدية.

As illustration above summarizes how the four inventory costing methods have different effects on the cost of goods sold on income statement and inventory on the balance sheet when a company uses the periodic inventory system, the rank of the results is the same as under the perpetual inventory system, but some amounts have changed. In periods of rising prices, FIFO yields the highest inventory valuation, the lowest cost of goods sold, and hence a higher net income; LIFO yields the lowest inventory valuation, the highest cost of goods sold, and thus a lower net income. The gross profit under the average-cost method falls between the gross profits produced by LIFO and FIFO, so this method clearly has a less pronounced effect.

المثال التوضيحي اعلاه لخص كيف ان الطرق الاربع لتحديد تكاليف لها تأثير مختلف على كلفة البضاعة المباعة في كشف الدخل والخزير في الميزانية العمومية عندما تستخدم الشركة نظام الجرد المستمر، مدى النتائج متشابه مع نظام الجرد المستمر ولكن بعض المبالغ متغيرة. في فترات ارتفاع الاسعار، فايفو تنتج اعلى تقييم للخزير، اقل كلفة بضاعة مباعة ومن ثم اعلى صافي دخل، لايفو تنتج اقل تقييم للخزير، اعلى كلفة بضاعة مباعة ومن ثم اقل صافي دخل. اجمالي الربح تحت طريقة معدل الكلفة يقع بين اجمالي الربح الناتج من طريقتي لايفو وفايفو، لذا فان طريقة المعدل لها تأثير اقل وضوح.

Ex. 4:

Presented below is information related to radios for the Couples Company for the month of July.

Date	Transaction	Units In	Unit Cost	Total	Units Sold	Selling Price	Total
July 1	Balance	100	\$4.10	\$ 410			
6	Purchase	800	4.30	3,440			
7	Sale				300	\$7.00	\$2,100
10	Sale				300	7.30	2,190
12	Purchase	400	4.51	1,804			
15	Sale				200	7.40	1,480
18	Purchase	300	4.60	1,380			
22	Sale				400	7.40	2,960
25	Purchase	500	4.58	2,290			
30	Sale				200	7.50	1,500
	Totals	2,100		\$9,324	1,400		\$10,230

Ex. 5:

Amwaj Company uses a periodic inventory system. For April, when the company sold 600 units, the following information is available.

	<u>Units</u>	<u>Unit Cost</u>	<u>Total Cost</u>
April 1 inventory	250	\$10	\$ 2,500
April 15 purchase	400	12	4,800
April 23 purchase	<u>350</u>	13	<u>4,550</u>
	1,000		\$11,850

Instructions: Compute the April 30 inventory and the April cost of goods sold using the average cost method.

Ex. 6:

Assume the following data with regard to inventory for Karam Company:

Aug. 1 Inventory	40 units @ \$10 per unit	\$ 400
8 Purchase	50 units @ \$11 per unit	550
22 Purchase	<u>35 units @ \$12 per unit</u>	<u>420</u>
Goods available for sale	<u>125 units</u>	<u>\$1,370</u>
Aug. 15 Sale	45 units	
28 Sale	<u>25 units</u>	
Inventory, Aug. 31	55 units	

Assuming that the inventory consists of 30 units from the August 8 purchase and 25 units from the purchase of August 22.

Instructions: calculate the cost of ending inventory and cost of goods sold.

Ex. 7:

The following table summarizes the beginning inventory, purchases, and sales of Zaid Company's single product during May:

Date	Item	Units	Cost	Total	Sale Units
May 1	Beginning inventory	2,800	\$20	\$56,000	
8	Purchase	1,200	22	26,400	
10	Sale				\$3,200
24	Purchase	1,600	24	38,400	
Total		5,600		\$120,800	\$3,200

Instructions:

1. Assuming that the company uses the periodic inventory system, compute the cost that should be assigned to ending inventory and to cost of goods sold using (a) the average-cost method, (b) the FIFO method, and (c) the LIFO method.
2. Assuming that the company uses the perpetual inventory system, compute the cost that should be assigned to ending inventory and to cost of goods sold using (a) the average-cost method, (b) the FIFO method, and (c) the LIFO method.
3. Compute inventory turnover and days' inventory on hand under each of the inventory cost flow assumptions in instruction 1. What conclusion can you draw from this comparison?

Ex. 8:

Jabber Company sells one product. Presented below is information for January for the Company.

Jan. 1 Inventory	100 units @ \$6 each
4 Sale	80 units @ \$8 each
11 Purchase	150 units @ \$6.50 each
13 Sale	120 units @ \$8.75 each
20 Purchase	160 units @ \$7 each
27 Sale	100 units @ \$9 each

Jabber uses the FIFO cost flow assumption. All purchases and sales are on account.

Instructions:

- a) Assume Jabber uses a periodic system. Prepare all necessary journal entries, including the end of month closing entry to record cost of goods sold. A physical count indicates that the ending inventory for January is 110 units.
- b) Compute gross profit using the periodic system.
- c) Assume Jabber uses a perpetual system. Prepare all necessary journal entries.
- d) Compute gross profit using the perpetual system.

Ex. 9:

Mazin Inc. had the following transactions in its first month of operations.

Date	Purchases	Sold or Issued	Balance
March 2	2,000 @ \$4.00		2,000 units
15	6,000 @ \$4.40		8,000 units

19		4,000 units	4,000 units
30	2,000 @ \$4.00		6,000 units

Instructions:

- 1- Calculate Goods Available for Sale
- 2- Assume that Mazin Inc.'s 6,000 units of inventory consists of 1,000 units from the March 2 purchase, 3,000 from the March 15 purchase, and 2,000 from the March 30 purchase. Compute the amount of ending inventory and cost of goods sold.
- 3- Use FIFO and LIFO to compute the amount of inventory and cost of goods sold under the perpetual and periodic systems. Show who (FIFO or LIFO) would be get the same amount whether a perpetual or periodic system is used and why?