

Prof. Aida R. Lozada Rivera, CPA, MBA, Ph.D.

aida.lozada@upr.edu

**University of Puerto Rico
Río Piedras Campus
Business School**



BALANCE SHEET

CURRENT ASSETS:

- Cash and Equivalents
- Account Receivable
- **INVENTORY**
- Prepaid Expenses
- Supplies

This presentation contains information, in addition to the material prepared and provided by the professor, from:

1. Financial Accounting, David Spiceland, 6th Ed., McGraw-Hill
2. Intermediate Accounting, David Spiceland, 11th Ed., McGraw-Hill
3. Intermediate Accounting, Donald Kieso, 18th Ed., Wiley
4. Other: Official Websites

INVENTORY

Products

- bought for the purpose of selling
- produced for the purpose of selling

INVENTORY

COMPANIES AND INVENTORY

Wholesale and Retail:

- purchase finished goods and sale without modification

❖ Manufacturing:

- Raw materials: principal component of the product
- Work in process: products that are not yet complete
- Finished goods: goods that have been completed in the manufacturing process and ready to sale


INVENTORY


RETAIL: INVENTORY ACCOUNT

INVENTORY	
+	-
Beginning Balance	
Ending Balance	

MANUFACTURING: INVENTORY ACCOUNTS

RAW MATERIAL		WORK IN PROCESS		FINISHED GOODS	
+	-	+	-	+	-
Beginning Balance		Beginning Balance		Beginning Balance	
Ending Balance		Ending Balance		Ending Balance	





INVENTORY: PRESENTATION

ABC **RETAIL** COMPANY

12/31/2001

Schedule of Inventory

Inventory	\$1,000,000
-----------	-------------

ABC **MANUFACTURING** COMPANY

12/31/2001

Schedule of Inventory

Raw Material	\$100,000
Work in Process	\$200,000
Finished Goods	<u>\$300,000</u>
	\$600,000

INVENTORY

When the company sells the Inventory it becomes an expense: Cost of Goods Sold

Example: Sold Inventory for \$100,000. Cost \$25,000.

Dr. Cash	50,000		
Dr. Account Receivable	50,000		
Cr. Sales Revenue		100,000	
Dr. Cost of Goods Sold	25,000		
Cr. Inventory			25,000

CASH		ACCOUNT RECEIVABLE		SALES REVENUE	
+	-	+	-	-	+
50,000		\$50,000			100,000

COST OF GOODS SOLD		INVENTORY	
+	-	+	-
25,000			25,000

Cost of Goods Sold
Expense Account- Income Statement

INVENTORY: COSTS

purchase price

+

other costs necessary to get the Inventory available for sale

Examples:

- Transportation
- Shipping costs (“freight in”)
- Insurance
- Taxes
- Storage (before sale) and after sale when necessary and certain conditions are met

Manufacturing

- Material (list above)
- Labor
- Other Manufacturing Costs

INVENTORY: ACCOUNTING SYSTEMS

PERPETUAL: Update Inventory account after every purchase and sale.

- Can determine how many goods are on hand on any date without having to take a physical count.

Purchase of Inventory

Dr. Inventory	100,000
Cr. Cash	70,000
Cr. Account Payable	30,000

Sale of Inventory

Dr. Cash	100,000
Dr. Acc. Receivable	25,000
Cr. Sales Revenue	125,000

Record CGS

Dr. Cost of Goods Sold	100,000
Cr. Inventory	100,000

INVENTORY		CASH		ACCOUNT PAYABLE	
+	-	+	-	-	+
\$0			\$200,000		
\$100,000			\$70,000		\$30,000
	\$100,000	\$100,000			
ACCOUNT RECEIVABLE		SALES REVENUE		COST OF GOODS SOLD	
+	-	-	+	+	-
\$25,000			125,000		
				\$100,000	

INVENTORY ACCOUNTING SYSTEMS

PERIODIC:

- No update Inventory account after every purchase, sale, and return.
- The physical inventory count is carried out at the end of the period and the cost of goods sold is determined by difference.

Beginning Balance of Inventory	\$400,000
Add: *Net purchases (purchases plus freight-in less returns and discounts)	\$100,000
Cost of Goods Available for Sale	\$500,000
Less: Ending Balance of Inventory (by physical count)	\$75,000
Cost of Goods Sold (by difference)	\$425,000

* Temporary accounts

INVENTORY ACCOUNTING SYSTEMS

PERIODIC: TRANSACTIONS

Example

Purchase of Inventory

Dr. Purchases

200,000

Cr. Cash

200,000

Sale of Inventory

Dr. Cash

300,000

Cr. Sales Revenue

300,000

PHYSICAL UNITS INCLUDED IN INVENTORY

1. Items in the **possession** of the company (**stores, warehouses**)

2. Goods that are in transit

- Contract term: *f.o.b. shipping point
 - Inventory belongs to the buyer from shipping point.
 - Buyer is responsible for Inventory while in transit.
- Contract term: *f.o.b. destination
 - The inventory belongs to the buyer when they arrive at the destination.
 - Seller is responsible for Inventory while in transit.

*free on board

3. Goods on consignment

- The owner (Consignor) physically transferred the Inventory to the other company (Consignee).

Retains legal title.

Consignor

Inventory is included
in the Consignor's records,
until it is sold.



Consignee

INVENTORY

PERPETUAL SYSTEM			PERIODIC SYSTEM		
INVENTORY	500,000		PURCHASES	500,000	
ACCOUNT PAYABLE		500,000	ACCOUNT PAYABLE		500,000
Purchases Inventory on account (2/10, n/30).					
INVENTORY	50,000		FREIGHT IN	50,000	
CASH		50,000	CASH		50,000
Freight cost paid by ABC.					
ACCOUNT PAYABLE	100,000		ACCOUNT PAYABLE	100,000	
INVENTORY		100,000	PURCHASES RETURNS		100,000
ABC returned merchandise to supplier.					
ACCOUNT PAYABLE (\$550,000 less return of \$100,000)	450,000		ACCOUNT PAYABLE	450,000	
INVENTORY (Final Cost after discount \$400,000 x .02)		9,000	PURCHASES DISCOUNTS		9,000
CASH		441,000	CASH		441,000
ABC paid the Inventory within the discount period					
CASH	1,000,000		CASH	1,000,000	
SALES REVENUE		1,000,000	SALES REVENUE		1,000,000
COST OF GOODS SOLD	361,000		NO ENTRY		
INVENTORY		361,000			
ABC sold all the Inventory. (Cost					
Beginning Inventory is \$0 and Ending Inventory is \$80,000.					
CGS = \$361,000 (500,000 + 50,000 - 100,000 - 9,000 - 80,000)					
NO ENTRY			COST OF GOODS SOLD	361,000	
			ENDING INVENTORY	80,000	
			PURCHASES RETURNS	100,000	
			PURCHASES DISCOUNT	9,000	
			PURCHASES		500,000
			FREIGHT IN		50,000
			To close temporary or nominal accounts		

INVENTORY

INVENTORY COST: COST FLOWS ASSUMPTIONS

Cost Flows Assumptions are used to determine the Cost of Inventory sold and the cost of Ending Inventory.

➤ **First-in, first-out (FIFO)**

Assumes first units purchased are first ones sold

➤ **Last-in, first-out (LIFO)**

Assumes last units purchased are first ones sold

➤ **Weighted-average cost**

Assumes each unit of inventory has a equal cost

Not an assumption

Specific identification

Matches each unit of inventory with its actual cost

INVENTORY

PERPETUAL SYSTEM

DATE	TRANSACTION	UNITS	COST	TOTAL
January 7, 2021	Beginning Balance	100	\$10	\$1,000
April 25, 2021	Purchases	150	\$11	\$1,650
		250		\$2,650
March 2, 2021	Sold	25		
August 26, 2021	Sold	160		
		185		
Units in Ending Inventory		65		

TRANSACTIONS

DATE	TRANSACTION	UNITS	COST	TOTAL
January 7, 2021	Beginning Balance	100	\$10	\$1,000
April 25, 2021	Purchases	150	\$11	\$1,650
		250		\$2,650
March 2, 2021	Sold	25		
August 26, 2021	Sold	160		
		185		
Units in Ending Inventory		65		

FIFO: COST FLOWS ASSUMPTIONS

FIFO: PERPETUAL

DATE	TRANSACTION	UNITS	COST
January 7, 2021	Beginning Balance	100 - 25 - 75 = 0	\$10
March 2, 2021	Sold	25	
April 25, 2021	Purchases	150 - 85 = 65	\$11
August 26, 2021	Sold	160	

COST OF GOODS SOLD

25	\$10	\$250
75	\$10	\$750
85	\$11	\$935
		\$1,935

ENDING INVENTORY

65	\$11	\$715	\$715
TOTAL COST			\$2,650

TRANSACTIONS

DATE	TRANSACTION	UNITS	COST	TOTAL
January 7, 2021	Beginning Balance	100	\$10	\$1,000
April 25, 2021	Purchases	150	\$11	\$1,650
		250		\$2,650
March 2, 2021	Sold	25		
August 26, 2021	Sold	160		
		185		
Units in Ending Inventory		65		

LIFO: COST FLOWS ASSUMPTIONS

LIFO: PERPETUAL

DATE	TRANSACTION	UNITS	COST		
January 7, 2021	Beginning Balance	100 -10-90-25 = 65	\$10		
March 2, 2021	Sold	25			
April 25, 2021	Purchases	150 -150 = 0	\$11		
August 26, 2021	Sold	160			

COST OF GOODS SOLD

	150		\$11	\$1,650	
	10		\$10	\$100	
	25		\$10	\$250	\$2,000

ENDING INVENTORY

	65		\$10	\$650	\$650
	TOTAL COST				\$2,650

TRANSACTIONS

DATE	TRANSACTION	UNITS	COST	TOTAL
January 7, 2021	Beginning Balance	100	\$10	\$1,000
April 25, 2021	Purchases	150	\$11	\$1,650
		250		\$2,650
March 2, 2021	Sold	25		
August 26, 2021	Sold	160		
		185		
Units in Ending Inventory		65		

WEIGHTED AVERAGE: COST FLOWS ASSUMPTIONS

WEIGHTED AVERAGE: PERPETUAL						
DATE	TRANSACTION	UNITS	COST	REMAIN		
January 7, 2021	Beginning Balance	100 -25 = 75	\$10			
March 2, 2021	Sold	25		75	\$10	\$750
April 25, 2021	Purchases	150	\$11	150	\$11	\$1,650
August 26, 2021	Sold	160		225		\$2,400
COST OF GOODS SOLD						
	25		\$10	\$250		
	160	$\$2,400/225 = \10.67	\$10.67	\$1,707		
						\$1,957
ENDING INVENTORY						
	65		\$10.67	\$694		\$694
	TOTAL COST					\$2,650

INVENTORY COST: COST FLOWS ASSUMPTIONS

PERPETUAL SYSTEM

COMPARISON

FIFO: PERPETUAL					LIFO: PERPETUAL					WEIGHTED AVERAGE: PERPETUAL							
DATE	TRANSACTION	UNITS	COST		DATE	TRANSACTION	UNITS	COST		DATE	TRANSACTION	UNITS	COST		REMAIN		
January 7, 2021	Beginning Balance	$100 - 25 - 75 = 0$	\$10		January 7, 2021	Beginning Balance	$100 - 10 - 90 - 25 = 65$	\$10		January 7, 2021	Beginning Balance	$100 - 25 = 75$	\$10				
March 2, 2021	Sold	25			March 2, 2021	Sold	25			March 2, 2021	Sold	25			75	\$10	\$750
April 25, 2021	Purchases	$150 - 85 = 65$	\$11		April 25, 2021	Purchases	$150 - 150 = 0$	\$11		April 25, 2021	Purchases	150	\$11		150	\$11	\$1,650
August 26, 2021	Sold	160			August 26, 2021	Sold	160			August 26, 2021	Sold	160			225		\$2,400
COST OF GOODS SOLD					COST OF GOODS SOLD					COST OF GOODS SOLD							
	25		\$10	\$250		150		\$11	\$1,650		25		\$10	\$250			
	75		\$10	\$750		10		\$10	\$100		160		$\$2,400 / 225 = \10.67	\$10.67	\$1,707		
	85		\$11	\$935		25		\$10	\$250								\$1,957
ENDING INVENTORY					ENDING INVENTORY					ENDING INVENTORY							
	65		\$11	\$715		65		\$10	\$650		65		\$10.67	\$694			\$694
	TOTAL COST			\$2,650		TOTAL COST			\$2,650		TOTAL COST						\$2,650

INVENTORY: PERPETUAL SYSTEM

ABC COMPANY 12/31/2001 Schedule of Inventory

	FIFO	LIFO	WEIGHTED AVERAGE
Inventory	\$715	\$650	\$694

ABC COMPANY For the period ended 12/31/2001 Schedule of Cost of Goods Sold

	FIFO	LIFO	WEIGHTED AVERAGE
Revenues	\$10,000	\$10,000	\$10,000
Cost of Goods Sold	(\$1,935)	(\$2,000)	(\$1,957)
GROSS PROFIT	\$8,065	\$8,000	\$8,046

TRANSACTIONS

DATE	TRANSACTION	UNITS	COST	TOTAL
January 7, 2021	Beginning Balance	100	\$10	\$1,000
April 25, 2021	Purchases	150	\$11	\$1,650
		<u>250</u>		<u>\$2,650</u>
March 2, 2021	Sold	25		
August 26, 2021	Sold	160		
		<u>185</u>		
Units in Ending Inventory		65		

FIFO: COST FLOWS ASSUMPTIONS

FIFO: PERIODIC				
DATE	TRANSACTION	UNITS	COST	
January 7, 2021	Beginning Balance	100 - 100 = 0	\$10	
April 25, 2021	Purchases	150 - 85 = 65	\$11	
March 2, 2021	Sold	25		
August 26, 2021	Sold	160		
		<u>185</u>		
Units in Ending Inventory		65		
COST OF GOODS SOLD				
		<u>185</u>		
		100	\$10	\$1,000
		85	\$11	\$935
				<u>\$1,935</u>
ENDING INVENTORY				
		65	\$11	\$715
	TOTAL COST			<u>\$2,650</u>

TRANSACTIONS

DATE	TRANSACTION	UNITS	COST	TOTAL
January 7, 2021	Beginning Balance	100	\$10	\$1,000
April 25, 2021	Purchases	150	\$11	\$1,650
		<u>250</u>		<u>\$2,650</u>
March 2, 2021	Sold	25		
August 26, 2021	Sold	160		
		<u>185</u>		
Units in Ending Inventory		65		

LIFO: COST FLOWS ASSUMPTIONS

LIFO: PERIODIC

DATE	TRANSACTION	UNITS	COST		
January 7, 2021	Beginning Balance	100 - 35 = 65	\$10		
April 25, 2021	Purchases	150 - 150 = 0	\$11		
March 2, 2021	Sold	25			
August 26, 2021	Sold	160			
		<u>185</u>			
Units in Ending Inventory		65			
COST OF GOODS SOLD					
		<u>185</u>			
		150	\$11	\$1,650	
		35	\$10	\$350	\$2,000
ENDING INVENTORY					
		65	\$10	\$650	\$650
	TOTAL COST				\$2,650

TRANSACTIONS

DATE	TRANSACTION	UNITS	COST	TOTAL
January 7, 2021	Beginning Balance	100	\$10	\$1,000
April 25, 2021	Purchases	150	\$11	\$1,650
		<u>250</u>		<u>\$2,650</u>
March 2, 2021	Sold	25		
August 26, 2021	Sold	160		
		<u>185</u>		
Units in Ending Inventory		65		

WEIGHTED AVERAGE: COST FLOWS ASSUMPTIONS

WEIGHTED AVERAGE: PERIODIC					
DATE	TRANSACTION	UNITS	COST	REMAIN	
January 7, 2021	Beginning Balance	100 - 35 = 65	\$10		
April 25, 2021	Purchases	150 - 150 = 0	\$11		
March 2, 2021	Sold	25			
August 26, 2021	Sold	160			
		<u>185</u>			
Units in Ending Inventory		65			
AVERAGE COST PER UNIT = TOTAL COST \$2,650 / 250 = \$10.6					
COST OF GOODS SOLD					
	185		\$10.60	\$1,961	
					\$1,961
ENDING INVENTORY					
	65		\$10.60	\$689	\$689
	TOTAL COST				\$2,650

INVENTORY COMPARISON

PERIODIC SYSTEM

FIFO: PERIODIC						LIFO: PERIODIC						WEIGHTED AVERAGE: PERIODIC					
DATE	TRANSACTION	UNITS	COST			DATE	TRANSACTION	UNITS	COST			DATE	TRANSACTION	UNITS	COST	REMAIN	
January 7, 2021	Beginning Balance	100 - 100 = 0	\$10			January 7, 2021	Beginning Balance	100 - 35 = 65	\$10			January 7, 2021	Beginning Balance	100 - 35 = 65	\$10		
April 25, 2021	Purchases	150 - 85 = 65	\$11			April 25, 2021	Purchases	150 - 150 = 0	\$11			April 25, 2021	Purchases	150 - 150 = 0	\$11		
March 2, 2021	Sold	25				March 2, 2021	Sold	25				March 2, 2021	Sold	25			
August 26, 2021	Sold	160				August 26, 2021	Sold	160				August 26, 2021	Sold	160			
		185						185						185			
Units in Ending Inventory		65				Units in Ending Inventory		65				Units in Ending Inventory		65			
COST OF GOODS SOLD						COST OF GOODS SOLD						COST OF GOODS SOLD					
		185						185						185			
		100	\$10	\$1,000				150	\$11	\$1,650					\$10.60	\$1,961	
		85	\$11	\$935	\$1,935			35	\$10	\$350	\$2,000						\$1,961
ENDING INVENTORY						ENDING INVENTORY						ENDING INVENTORY					
		65	\$11	\$715	\$715			65	\$10	\$650	\$650			65	\$10.60	\$689	\$689
	TOTAL COST				\$2,650		TOTAL COST				\$2,650		TOTAL COST				\$2,650

INVENTORY: PERIODIC SYSTEM

ABC Company 12/31/2001 Schedule of Inventory

	FIFO	LIFO	WEIGHTED AVERAGE
Inventory	\$715	\$650	\$689

ABC Company For the period ended 12/31/2001 Schedule of Cost of Goods Sold

	FIFO	LIFO	WEIGHTED AVERAGE
Revenues	\$10,000	\$10,000	\$10,000
Cost of Goods Sold	(\$1,935)	(\$2,000)	(\$1,961)
	\$8,065	\$8,000	\$8,039

INVENTORY: VALUATION

FIFO

LOWER OF COST OR NET REALIZABLE VALUE (LCNRV)

Companies report inventory at the **lower of cost or net realizable value (LCNRV)**.

Estimated Selling Price

(Disposal Cost)

***Net Realizable Value**

*The net amount a company expects collect in cash from the sale.

Example: Cost of Inventory \$100. Selling Price \$105 and Disposal Cost \$10. (NRV = \$105 - \$15 = \$90)

Cost \$100

vs

VRV \$90

The company should reduce the Inventory account for \$10 and recognize a los for **\$10**.

INVENTORY

LIFO

LOWER OF COST OR NET REALIZABLE VALUE (LCM)

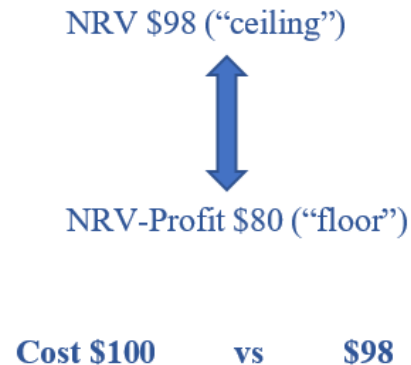
Companies Report inventory using the **lower of cost or market (LCM)**.

Marker Value:

1. Replacement Cost: Inventory market cost (purchases or reproduction), except

- Market should not be greater than the NRV or “ceiling”
- Market should not be less than NRV less normal profit margin “floor”.

Example: Cost \$100 / Replacement Cost \$99.



Cost \$100 vs \$98

The company should reduce the Inventory account for \$2 and recognize a los for \$2.

INVENTORY ERRORS

CORRECT AMOUNT		
	<u>2020</u>	<u>2021</u>
Beginning Balance	\$1,000	\$200
Add: Purchases	\$4,000	\$5,000
Less: Ending Inventory	\$200	\$500
Cost of Goods Sold	\$4,800	\$4,700
	\$9,500	
INCORRECT AMOUNT		
	<u>2020</u>	<u>2021</u>
Beginning Balance	\$1,000	\$100
Add: Purchases	\$4,000	\$5,000
Less: Ending Inventory	\$100	\$500
Cost of Goods Sold	\$4,900	\$4,600
	\$9,500	

CGS overstated by \$100

CGS understated by \$100