

Chapter 6: Inventory and Cost of Goods Sold

- When there are errors when counting inventory, there are various overstatements and understatements:
 - o When ending inventory in period 1 is overstated by X , cost of goods sold is then understated by X . This, in turn, makes gross profit overstated by X . This error carries over in period 2, where beginning inventory is now overstated by X . The cost of goods available for sale is then overstated by X . This, in turn, understates gross profit by X . Income tax is also understated due to the understatement in income. The errors in two consecutive periods counteract one another. Thus, in period three, all errors are corrected due to the counterbalancing effect.

	Period 1 Ending Inventory Overstated by \$5,000	Period 2 Beginning Inventory Overstated by \$5,000	Period 3 Correct
Sales revenue.....	\$100,000	\$100,000	\$100,000
Cost of goods sold:			
Beginning inventory.....	\$10,000	\$ 15,000	\$10,000
Purchases.....	50,000	50,000	50,000
Cost of goods available for sale.....	60,000	65,000	60,000
Ending inventory.....	(15,000)	(10,000)	(10,000)
Cost of goods sold.....	45,000	55,000	50,000
Gross profit.....	\$ 55,000	\$ 45,000	\$ 50,000
	\$ 100,000		

Source: The authors thank Professor Carl High for this example.

- o Similarly, understating ending balance of inventory by X in period one also overstates costs of goods sold by X . This understates gross profit by X . In period 2, the beginning balance of inventory is now understated by X . This makes the cost of goods available for sale also understated by X . This, in turn, overstates gross profit by X . Income tax is also overstated due to the overstatement in income. The errors in two consecutive periods counteract one another. Thus, in period three, all errors are corrected due to the counterbalancing effect.
- o Note that *ending inventory* and *gross profit* have a direct relationship.
- o Also note that *beginning inventory* and *gross profit* have an inverse relationship.

Inventory Error	Period 1		Period 2	
	Cost of Goods Sold	Gross Profit and Net Income	Cost of Goods Sold	Gross Profit and Net Income
Period 1 Ending inventory overstated	Understated	Overstated	Overstated	Understated
Period 1 Ending inventory understated	Overstated	Understated	Understated	Overstated

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- There are two important methods when inventory costing:
 - o **First-in, first-out (FIFO, periodic method)**
 - This method assumes that the beginning balance of inventory and the initial purchases of inventory are sold before the inventory purchased later in the period

Begin. bal.	(10 units @ \$11)	110	
Purchases:			
No. 1	(20 units @ \$14)	280	} 550
No. 2	(15 units @ \$16)	240	
No. 3	(15 units @ \$18)	270	
Ending bal.	(5 units @ \$16) = 80 (15 units @ \$18) = 270	350	

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- o **Weighted-average cost (Periodic method)**

- $Weighted - average\ cost\ per\ unit = \frac{\text{cost of goods available}}{\text{number of units available}}$
- Note that $cost\ of\ goods\ available = beginning\ inventory + purchases$

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$$\begin{aligned} \text{Cost of goods sold} &= \text{Number of units sold} \times \text{Weighted-average cost per unit} \\ &= 40 \text{ units} \times \$15 = \$600 \end{aligned}$$

$$\begin{aligned} \text{Ending inventory} &= \text{Number of units on hand} \times \text{Weighted-average cost per unit} \\ &= 20 \text{ units} \times \$15 = \$300 \end{aligned}$$

The following T-account shows the effects of weighted-average costing:

Inventory (at weighted-average cost-periodic)			
Begin. bal.	(10 units @ \$11)	110	
Purchases:			
No. 1	(20 units @ \$14)	280	
No. 2	(15 units @ \$16)	240	
No. 3	(15 units @ \$18)	270	
			Cost of goods sold (40 units @ average cost of \$15 per unit) 600
Ending bal.	(20 units @ average cost of \$15 per unit)	300	

- **Gross profit/margin percentage** is a ratio that measures the percent of each dollar that is considered profit. The remaining percent is the consumption of cost of goods sold. This percentage is calculated by the equation

$$\text{Gross profit percentage} = \frac{\text{Gross profit}}{\text{Net sales revenue}}, \text{ where}$$

$$\text{gross profit} = \text{COGAS} - \text{EBI}$$

- o If, for example, the gross profit percentage is 45%, each dollar of sales generates 45 cents of profit and cost of goods sold consumes 55 cents.
- o When estimating ending inventory using this percentage, the following steps are followed
 - First, note that

$$\text{ending inventory} = \text{beginning balance} + \text{purchases} - \text{cost of goods sold}$$
 where $\text{beginning balance} + \text{purchases} = \text{cost of goods available for sale}$
 - $\text{cost of goods sold}$ is an estimate that uses previous net sales revenue and subtracting the gross-profit margin percent of net sales revenue
 - This process is illustrated in the following example

Beginning inventory.....		\$18,000
Purchases.....		72,000
Goods available for sale.....		90,000
Cost of goods sold:		
Net sales revenue.....	\$100,000	
Less estimated gross profit of 42.3%.....	(42,300)	
Estimated cost of goods sold.....		\$57,700
Estimated cost of ending inventory.....		\$32,300

- The classified income statement has many calculations, including
 - o $net\ sales = sales\ revenue - sales\ returns \wedge allowances - sales\ discounts$
 where sales returns are merchandise items brought back by customers that decrease the cost of inventory, allowances are deductions from amounts customers owe due to merchandise defects that decrease the cost of inventory, and sales discounts are decreases in the cost of inventory that is earned by paying quickly.
 - o $net\ purchases = purchases - purchase\ return \wedge allowances - purchase\ discounts + freight \in i$
 Where freight in refers to cost of transportation cost to move goods from seller to us, the buyer
 - o $cost\ of\ goods\ available\ for\ sale = beginning\ balance + purchases$
 - o $cost\ of\ goods\ sold = Cost\ of\ goods\ available\ for\ sale - ending\ inventory$
 - o $earnings\ before\ income\ tax\ (EBIT \vee\ operating\ income) = sales\ revenue - cost\ of\ goods\ sold - operating$

Net Sales -COGS Gross Profit -Operating Expenses EBIT

-Interest Expense -Income Tax Net Income

- **Purchase discounts** are usually in the form $x / y \quad n / d$ where x is the discount, y is the number of days a customer has to pay to receive this return, and d is the number of days the customer has to pay the full amount.
 - o Example: a customer paid \$100,000 within the discount period to settle their account for items that are $5 / 10 \quad n / 30$. What is the discount?

$$\frac{100,000}{1-0.05} = \frac{100,000}{0.95} = 105,263.16$$

$$\text{Discount} = 105,263.16 - 100,000 = 5,263.16$$

- **Freight on board** is an important concept (refer to midterm 2, 2008)
 - o **Freight-on-board shipping** point refers to the situation where the purchaser pays for the transportation cost. The legal right to the goods moves into the possession of the buyer, and is thus accounted for in the buyer's inventory
 - o **Freight-on-board destination** refers to the situation where the seller pays for the transportation cost. The legal right to the goods purchased stays with the seller until the goods arrive at the buyer's dock, and is thus accounted for in the seller's inventory
- **Gross profit percentage** is calculated by the following

$$GP = \frac{\text{gross profit}}{\text{net sales revenue}}$$

- **Inventory turnover** is calculated by the following

$$\text{Turnover} = \frac{\text{cost of goods sold}}{\text{average inventory}} = (\text{cost of goods sold}) \div \frac{\text{Beginning inv.} + \text{ending inv.}}{2}$$

Chapter 7: Property, Plant, and Equipment, and Intangible Assets

- When the useful life of an asset is changed in the middle of its useful life (refer to , we must calculate the new depreciation per year through the following

$$\text{new annual depreciation} = \frac{\text{remaining depreciable carrying amount}}{\text{new estimated remaining useful life}}$$

$$\text{new annual depreciation} = \frac{\text{new cost} - \text{new salvage value}}{\text{new estimated remaining useful life}}$$

$$\text{new annual depreciation} = \frac{\text{historical value} - \text{accumulated depreciation at given point} - \text{new salvage value}}{\text{new estimated remaining useful life}}$$

- **Depreciation** refers to the account of the wearing out, growth to obsolescence, and the loss of value for property, plant, and equipment. This process begins directly when the asset is available for use and until it is removed. The measure of depreciation requires the asset's cost; the asset's estimated useful life; depreciable cost (

$cost - salvage\ value$); and the asset's estimated residual/scrap/salvage value, which is the estimated cash value of an asset at the end of its useful life. There are three methods when calculating depreciation:

o Straight-line method

- This method assigns a constant depreciation amount for each year of an asset's useful life. This method is chosen if the asset produces revenue evenly over time. It is calculated by the following

$$\text{straight - line depreciation per year} = \frac{\text{depreciable cost}}{\text{useful life, } \in \text{ years}}$$

$$\text{straight - line depreciation per year} = \frac{\text{cost} - \text{salvage value}}{\text{useful life, } \in \text{ years}}$$

Date	Asset Cost	Depreciation for the Year			Accumulated Depreciation	Asset Carrying Amount
		Depreciation Rate	Depreciation Cost	Depreciation Expense		
01-01-2014	\$41,000					\$41,000
31-12-2014		0.20*	× 40,000	= 8,000	\$ 8,000	33,000
31-12-2015		0.20	× 40,000	= 8,000	16,000	25,000
31-12-2016		0.20	× 40,000	= 8,000	24,000	17,000
31-12-2017		0.20	× 40,000	= 8,000	32,000	9,000
31-12-2018		0.20	× 40,000	= 8,000	40,000	1,000

* $\frac{1}{5 \text{ Years}} = 0.20$ per year

o Units-of-production method

- This method assigns a constant depreciation amount per each unit of output of an asset. This method is chosen if the asset depreciates with physical use rather than obsolescence. It is calculated by the following

$$\text{units - of - production depreciation per unit of output} = \frac{\text{depreciable cost}}{\text{useful life, } \in \text{ units of production}}$$

$$\text{units - of - production depreciation per unit of output} = \frac{\text{cost} - \text{salvage value}}{\text{useful life, } \in \text{ units of production}}$$

o Double-diminishing-balance method

- This method is an accelerated depreciation method where the beginning years of an asset yield the highest depreciation. This method is used if the asset generates the most revenue in the beginning of its useful life. This method is calculated by the following

$$DDB \text{ depreciation per year} = \frac{2}{\text{useful life, } \epsilon \text{ years}}$$

- The depreciation amount is calculated for every year until the depreciation reducing the carrying amount of the asset below its salvage value. At this point, the depreciation for said year is calculated manually

Date	Asset Cost	Depreciation for the Year			Accumulated Depreciation	Asset Carrying Amount
		DDB Rate		Asset Carrying Amount		
01-01-2014	\$41,000					\$41,000
31-12-2014		0.40	×	\$41,000	=	\$16,400
31-12-2015		0.40	×	24,600	=	9,840
31-12-2016		0.40	×	14,760	=	5,904
31-12-2017		0.40	×	8,856	=	3,542
31-12-2018					=	4,314*
						40,000
						1,000

*Last-year depreciation is the amount needed to reduce the asset's carrying amount to the residual value (\$5,314 - \$1,000 = \$4,314).

o Sum-of-years-digits method

- Also an accelerated depreciation method, the initial years of an assets useful life are assigned higher depreciation amounts. This method is used if the asset generates the most revenue in the beginning years of its useful life. It is calculated by the following

$$\text{Depreciation for } n\text{th year} = \frac{(\text{depreciable cost})(N - n + 1)}{\sum \text{-of- years digits}}$$

$$\text{Depreciation for } n\text{th year} = \frac{(\text{cost} - \text{salvage value})(N - n + 1)}{\sum \text{-of- years digit s}}$$

- Where n is the remaining years of useful life left for an asset, N is

the total useful life of an asset, and $\sum \text{-of- years digits} = \frac{N(N+1)}{2}$

Sum-of-years'-digits (SYD)

SYD for a 5-year asset = $1+2+3+4+5= 15$

SYD for N-year asset = $N \times (N+1) / 2$

Annual depreciation expense = $(\text{Cost} - \text{SV}) \times n/\text{SYD}$

For the first year of an asset that has N years useful life, $n = N$

Afterwards, reduce n by one for each subsequent year

Year	n	Dep. Exp.	Acc. Dep.	Book Value
0				100,000
1	5	26,667	26,667	73,333
2	4	21,333	48,000	52,000
3	3	16,000	64,000	36,000
4	2	10,667	74,667	25,333
5	1	5,333	80,000	20,000

Depreciation expense = $(100,000 - 20,000) \times 5/15$

Depreciation expense = $(100,000 - 20,000) \times 4/15$

Depreciation expense = $(100,000 - 20,000) \times 3/15$

- **Accumulated amortization** refers to the total allocation of the cost of an intangible asset with a finite life over its useful life. Essentially, it is the total depreciation of an intangible asset at a given time point.
- **Carrying value** refers to the book value of an asset of any given time. The book value is subject to accumulated depreciation, thus

Carrying value of an asset = historical cost – accumulated depreciation

- **Amortizable cost** refers to the portion of an intangible asset's cost that is subject to amortization. The amortized cost is the historical cost of this asset minus the accumulated amortization until a given time point.
- **Basket purchases** refer to when several assets are bought as a package. To account for basket purchases, the following method is used
 - o Determine the fair value of each asset
 - o Divide each asset's fair value by the total fair value of the basket to determine each asset's percentage of total fair value
 - o Multiply each percentage by the total cost paid for the basket to determine the cost of each asset
 - o To account for each asset, the assets are debited at the final cost of each asset and the amount of cash spent on total cost is credited

Asset	Fair Value	Total Fair Value	Percentage of Total Fair Value	Total Cost	Cost of Each Asset
Land	\$ 300,000	÷ \$3,000,000	= 10%	× \$2,800,000	= \$ 280,000
Building	2,700,000	÷ 3,000,000	= 90	× 2,800,000	= 2,520,000
Total	\$3,000,000		100%		\$2,800,000

If Great-West pays cash, the entry to record the purchase of the land and building is

Land.....	280,000	
Building.....	2,520,000	
Cash.....		2,800,000
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ASSETS	=	LIABILITIES + SHAREHOLDERS' EQUITY
+ 280,000		
+ 2,520,000	=	0 + 0
- 2,800,000		
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- o Note that total assets does no change, but rather the make-up of total assets is altered
- There are two types of subsequent costs or expenditures for an asset
 - o **Capital expenditures**, which refer to changes made to an asset that increases capacity or extends an asset's useful life. Capital expenditures are added to the asset account.
 - o **Revenue/operating expenditures**, which refer to changes made to an asset that does not extend an asset's useful life nor increases its capacity, but rather maintains an asset or restores working order. This type of expenditure is recorded as expenses.
- The derecognition of an asset refers to when an asset is no longer useful or has been sold. When this occurs, the related accounts are removed from the company's books and the gains/losses are recorded. The following steps are to be taken for different types of derecognition
 - o **Disposal**
 - If the asset has a historical cost of X and has zero residual value at the time of disposal, the accumulated depreciation X is debited and the historical cost of the asset is credited

Accumulated Depreciation—Machinery.....	50,000	
Machinery.....		50,000
To dispose of a fully depreciated machine.		
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ASSETS	=	LIABILITIES + SHAREHOLDERS' EQUITY
+ 50,000		
- 50,000	=	0 + 0
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- If an asset has a historical cost of X but is disposed of before its full depreciation at an accumulated depreciation of Y , the accumulated depreciation Y and the loss on the disposal of the asset $X - Y$ is debited. The historical cost of the asset X is credited

Accumulated Depreciation—Store Fixtures.....	3,000	
Loss on Disposal of Store Fixtures.....	1,000	
Store Fixtures.....		4,000
To dispose of store fixtures.		

SHAREHOLDERS'		
ASSETS	= LIABILITIES +	EQUITY
+3,000	= 0	-1,000 Loss
-4,000		

o **Sale**

- If the asset has a historical cost of X , accumulated depreciation to the date of sale of Y , and receive a cash amount of C at the time of sale: cash of amount C and accumulated depreciation of Y is debited, the asset is credited at Y . If there is a loss on sale (where cash and accumulated depreciation is less than the historical cost of the asset), we debit the loss to balance the account. If there is a gain on sale (cash and accumulated depreciation is greater than the historical cost of the asset), we credit the gain on sale to balance the account
- Say, for example, fixtures bought on January 1st, 2011 at a historical cost of \$10,000, a useful life of 10 years, and no residual value. They decide to sell the asset on September 30th, 2014. The following steps are taken

Sept. 30	Depreciation Expense (\$10,000/10 years × 9/12).....	750	
	Accumulated Depreciation—Fixtures.....		750
	To update depreciation.		

Fixtures		Accumulated Depreciation—Fixtures	
Jan. 1, 2011	10,000		
		Dec. 31, 2011	1,000
		Dec. 31, 2012	1,000
		Dec. 31, 2013	1,000
		Sep. 30, 2014	750
		Balance	3,750

Cash received from sale of the asset.....		\$7,000
Carrying amount of asset sold:		
Cost.....	\$10,000	
Less accumulated depreciation.....	<u>(3,750)</u>	<u>6,250</u>
Gain on sale of the asset.....		<u>\$ 750</u>

Sept. 30	Cash.....	7,000	
	Accumulated Depreciation—Fixtures.....	3,750	
	Gain on Sale of Fixtures.....		750
	Fixtures.....		<u>10,000</u>
	To sell fixtures.		

ASSETS	=	LIABILITIES	+	SHAREHOLDERS' EQUITY
+ 7,000				
+ 3,750	=	0	+	+750 Gain
-10,000				

- o Note that gains and losses on the disposal of income appear on the income statement as other income (expenses)
- When trying to determine the cost of an asset, we take into consideration all the costs incurred to bring the asset to its location and specific state for intended use. This includes property, plant, and equipment's purchase price, any taxes, commissions, and any other amounts paid to allow the asset to be ready for use. For different assets, there are different related costs. The major one's are covered in the following
 - o **Land** has a total cost consisting of the purchase price, real estate commission, survey fees, legal fees, any back property taxes, and any fees required to grade, clear, and demolish the land of any unwanted things. The total cost does not consist of land improvements (i.e. sprinklers, fences, etc.) because they are subject to depreciation

- o For example, Canadian Tire signs a \$300,000 note payable to acquire land with \$24,000 of related costs. The following occurs

Purchase price of land.....		\$300,000
Add related costs:		
Real estate commission.....	\$10,000	
Back property tax.....	8,000	
Removal of building.....	5,000	
Survey fee.....	<u>1,000</u>	
Total related costs.....		<u>24,000</u>
Total cost of land.....		<u>\$324,000</u>

Land.....	324,000	
Note Payable.....		300,000
Cash.....		<u>24,000</u>
To record the purchase of land.		

ASSETS	=	LIABILITIES	+	SHAREHOLDERS' EQUITY
+ 324,000		+ 300,000	+	0
-24,000				

- o **Building construction** has a total cost consisting of architectural fees, building permits, contractors' charges, and payments for materials, labour, and overhead. Interest on money borrowed may also be included.
- o **Buying a new or old building** has a total cost consisting of purchase price, brokerage commission, sales and taxes paid, and all expenditures bought to repair/renovate the building to its intended use.
- o **Machinery and equipment** have a total cost consisting of purchase price, transportation costs, insurance costs, sales and taxes, purchase commission, installation costs, and testing costs until the asset is up and running.

Chapter 9: Liabilities

- When bonds are issued, they are either issued at **premium** or **discount**. The following criteria are considered
 - o When the stated interest rate/coupon rate is equal to the market rate/yield rate, the bond is issued at face value
 - o When the stated rate is less than the market rate, the bond is issued at a discount, a price less than its face value

- Note that interest expense

$(\text{effective market rate} * \text{previous carrying value})$ is increasing in subsequent periods and is always greater than interest payments $(\text{effective coupon rate} * \text{face value})$

- $\text{bond discount amortization} = (\text{interest expense}) - (\text{interest payment})$

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$\text{bond discount accounting balance} = (\text{previous carrying amount}) - (\text{bond discount amortization})$

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$\text{discounted bond carrying value} = (\text{face value}) - (\text{bond discount accounting balance})$

- The following example is the effective interest rate method where the interest expense is dependent on the previous carrying value

Issue date = Jan 1 2014, maturity date = Jan 1 2019, face value = \$100,000, Price = \$96,149, coupon rate=9%, yield rate=10%

Semi-annual	Interest	Interest	Bond	Bond	Carrying
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interest date	payment	expense	discount amortization	discount accounting balance	value
Jan 1 2014				\$3,851	\$96,149
Jun 1 2014	\$4,500	\$4,807	\$307	\$3,544	\$96,456
Jan 1 2015	\$4,500	\$4,823	\$323	\$3,221	\$96,779
Jun 1 2015	\$4,500	\$4,839	\$339	\$2,882	\$97,118
Jan 1 2016	\$4,500	\$4,856	\$356	\$2,526	\$97,474
Jun 1 2016	\$4,500	\$4,874	\$374	\$2,152	\$97,848
Jan 1 2017	\$4,500	\$4,892	\$392	\$1,760	\$98,240
Jun 1 2017	\$4,500	\$4,912	\$412	\$1,348	\$98,652
Jan 1 2018	\$4,500	\$4,933	\$433	\$915	\$99,085
Jun 1 2018	\$4,500	\$4,954	\$454	\$461	\$99,539
Jan 1 2019	\$4,500	\$4,961*	\$461*	\$0*	\$100,000

- The following example is the straight line method where the interest expense is constant, dependent on the bond discount balance

Semi-annual interest date	Interest payment	Interest expense	Bond discount amortization	Bond discount accounting balance	Carrying value
Jan 1 2014				\$3,900	\$96,100
Jun 1 2014	\$4,500	\$4,890	\$390	\$3,510	\$96,490
Jan 1 2015	\$4,500	\$4,890	\$390	\$3,120	\$96,880
Jun 1 2015	\$4,500	\$4,890	\$390	\$2,730	\$97,270
Jan 1 2016	\$4,500	\$4,890	\$390	\$2,340	\$97,660
Jun 1 2016	\$4,500	\$4,890	\$390	\$1,950	\$98,050
Jan 1 2017	\$4,500	\$4,890	\$390	\$1,560	\$98,440
Jun 1 2017	\$4,500	\$4,890	\$390	\$1,170	\$98,830
Jan 1 2018	\$4,500	\$4,890	\$390	\$780	\$99,220

Jun 1 2018	\$4,500	\$4,040	\$460	\$545	\$100,545
Jan 1 2019	\$4,500	\$3,955*	\$545*	\$0*	\$100,000

- The following example is the straight line method where interest expense is constant and dependent on the initial bond premium accounting balance

Semi-annual interest date	Interest payment	Interest expense	Bond premium amortization	Bond premium accounting balance	Carrying value
Jan 1 2014				\$5,000	\$105,000
Jun 1 2014	\$4,500	\$4,000	\$500	\$4,500	\$104,500
Jan 1 2015	\$4,500	\$4,000	\$500	\$4,000	\$104,000
Jun 1 2015	\$4,500	\$4,000	\$500	\$3,500	\$103,500
Jan 1 2016	\$4,500	\$4,000	\$500	\$3,000	\$103,000
Jun 1 2016	\$4,500	\$4,000	\$500	\$2,500	\$102,500
Jan 1 2017	\$4,500	\$4,000	\$500	\$2,000	\$102,000
Jun 1 2017	\$4,500	\$4,000	\$500	\$1,500	\$101,500
Jan 1 2018	\$4,500	\$4,000	\$500	\$1,000	\$101,000
Jun 1 2018	\$4,500	\$4,000	\$500	\$500	\$100,500
Jan 1 2019	\$4,500	\$4,000	\$500	\$0	\$100,000

- To calculate the carrying value/book value at time t for a premium bond using the straight line method, calculate the following

$$CV_t = BV_t = F + (n - t)(\text{bond premium amortization})$$

where n is the

total number of periods and t is the period in question

- When having journal entries interest bearing notes, the following steps are taken

- o On the issuance date, debit cash and credit notes payable for the price of the note
- o The first interest payment (usually six months after issuance) debits interest expense and credits cash for the amount equal to $\frac{(\text{interest rate})(\text{price})}{2}$. This is the same for every interest payment date prior to maturity
- o On the final day of the year (December 31st), an adjusting entry is required. Interest expense is debited and interest payable is credited for an amount equal to $\frac{(\text{interest rate})(\text{price})}{2} \frac{\text{months passed} \in \text{period}}{\text{total months} \in \text{period}}$
- o On the interest payment date immediately after the adjusting entry, cash is credited for the interest payment $\frac{(\text{interest rate})(\text{price})}{2}$. The debits include the interest payable recorded on the previous adjusting entry and an interest expense equal to $\frac{(\text{interest rate})(\text{price})}{2} \frac{\text{months since ad justing entry}}{\text{total months} \in \text{period}}$
- o If the date of maturity falls on a date directly after the adjustment journal entry date, the following is required. Cash is credited for the face value of the note plus the interest payment. Debits include notes payable for the amount found in the previous adjusting entry, interest expense for the remaining months in the period, and notes payable for the amount of face value.

1. On May 1, 2014, Uhuru Inc. signed a 1 year, \$30,000 **interest only**, note payable with an interest rate of 12%, payable semi-annually

Prepare the necessary journal entries for Uhuru Inc. (the borrower) from May 1, 2014 to May 1, 2015

May 1, 2014 (Issuance date)

Cash	30,000		
		Note Payable	30,000

November 1, 2014 (Interest payment)

Interest Expense	1,800		
		Cash	1,800

December 31, 2014 (Year-end adjusting entry)

Interest Expense	600		
		Interest Payable	600

May 1, 2015 (Interest payment and maturity of Note Payable)

Interest Expense	1,200		
Interest Payable	600		
Note Payable	30,000		
		Cash	31,800

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- There are two types of leases
 - o **Finance leases**, which refer to leases that transfer all risks and rewards of the rented asset to the lessee, even though the formal legal title may remain with the lessor
 - o **Operating leases**, which refer to leases in which the risks and rewards of the asset in question remain with the lessor. To be considered an operating lease, four conditions set by the IFRS need to be satisfied
 - The lease term is 75% or more of the asset's expected economic life
 - The ownership is transferred to the lessee at the end of the lease term
 - The lease contract permits the lessee to purchase the asset at a price that is lower than its fair market value
 - The present value of the lease payments is 90% or more of the fair market value of the asset when the lease is signed
- There are two types of liabilities; **current liabilities** where the obligations are due within a year, and **long-term liabilities** where the obligations are due beyond a year. Current liabilities are of two kinds: **known amounts** and **estimated amounts**.
- Current liabilities are made up of many accounts
 - o Accounts payable, trade A/P - amounts owed for goods and services bought on account

- o Notes payable due within a year - used to borrowing cash or to purchase goods
 - Say, for example, you use a six month note to purchase \$8,000 worth of inventory at an interest rate of 10%

2014 Oct. 1	Inventory..... 8,000 Note Payable, Short-Term..... Purchase of inventory by issuing a six-month 10% note payable.	8,000	8,000
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This transaction increases both an asset and a liability:

ASSETS	=	LIABILITIES	+	SHAREHOLDERS'	EQUITY
+8,000	=	+8,000	=		

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2014 Dec. 31	Interest Expense (\$8,000 × 0.10 × 3/12)..... 200 Interest Payable..... Adjusting entry to accrue interest expense at year-end.	200	200
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Liabilities increase, and equity decreases because of the expense:

ASSETS	=	LIABILITIES	+	SHAREHOLDERS'	EQUITY
0	=	+200	=	-200	Interest Expense

2015 Mar. 31	Note Payable, Short-Term..... 8,000 Interest Payable..... 200 Interest Expense (\$8,000 × 0.10 × 3/12)..... 200 Cash [\$8,000 + (\$8,000 × 0.10 × 6/12)]..... Payment of a note payable and interest at maturity.	8,400	8,400
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ASSETS	=	LIABILITIES	+	SHAREHOLDERS'	EQUITY
-8,400	=	-8,000	=	-200	Interest Expense
					- 200

- o Current portion of long-term debt - the amount of long-term debt due within a year
- o Unearned revenues - the goods and services owed to a customer that has paid in advance
 - Say, for example, WestJet receives \$800 for a round trip on September 1st that departs on September 26th and arrives on October 10th

Sept. 1	Cash..... Advance Ticket Sales..... To record cash received for future return airfare from Vancouver to Montreal.	800 800				
	<table border="0"> <tr> <td style="border-top: 1px solid black; border-bottom: 1px solid black;">Advance Ticket Sales</td> <td style="border-right: 1px solid black; text-align: right;">800</td> </tr> </table>	Advance Ticket Sales	800			
Advance Ticket Sales	800					
Sept. 26	Advance Ticket Sales..... Ticket Revenue (\$800/2)..... To record revenue earned that was collected in advance.	400 400				
	<table border="0"> <tr> <td style="border-top: 1px solid black; border-bottom: 1px solid black;">Advance Ticket Sales</td> <td style="border-right: 1px solid black; text-align: right;">400</td> </tr> <tr> <td style="border-top: 1px solid black; border-bottom: 1px solid black;">Ticket Revenue</td> <td style="border-right: 1px solid black; text-align: right;">400</td> </tr> </table>	Advance Ticket Sales	400	Ticket Revenue	400	
Advance Ticket Sales	400					
Ticket Revenue	400					
Oct. 10	Advance Ticket Sales..... Ticket Revenue (\$800/2)..... Earned revenue that was collected in advance.	400 400				

- o Sales tax payable - the tax levied by the government
- o Goods and services tax payable - the remaining portion of GST owed to the government
- o Property taxes payable - the tax a company owes for taking up property
- o Income taxes payable - amount of income tax still owed at year-end
- o Employee-related liabilities - amount owed for things like salary, pensions, employment insurance, etc.
- o Estimated liabilities reported on the balance sheet
- o Contingent liabilities and commitments
 - Contingent liabilities refer to a situation involving an uncertainty to possible gain (gain contingency) or loss (loss contingency). It will be resolved if future events fail to occur. There are certain principles to follow when accounting and recording loss contingencies

Possibility	Loss can be reasonably estimated	Loss cannot be reasonably estimated
Likely	Accrue + note disclosure	Note disclosure
Not likely	No disclosure	No disclosure
Undeterminable	Note disclosure*	Note disclosure*

*disclose the nature of the contingency and either the estimated amount of loss contingency or the fact that the estimate cannot be reasonably determined

- When accrued liabilities (expenses like salary/wages payable, interest payable, and income tax payable) are not adjusted results in the understatement of total expenses, total liabilities, and the overstatement of net income
- On May 1st, 2013, a company issues a 5-year, 8% note payable for \$50,000. The note promises 10 equal payments of \$6,165 beginning on November 1st, 2013

Date	Payment	Interest	Principal repaid	Carrying Value
May 1 2013				\$50,000
November 1 2013	\$6,165	\$2,000	\$4,165	\$45,835
May 1 2014	\$6,165	\$1,833	\$4,332	\$41,503
November 1 2014	\$6,165	\$1,660	\$4,505	\$36,998
May 1 2015	\$6,165	\$1,480	\$4,685	\$32,313
November 1 2015	\$6,165	\$1,293	\$4,872	\$27,441
May 1 2016	\$6,165	\$1,098	\$5,067	\$22,374
November 1 2016	\$6,165	\$895	\$5,270	\$17,104
May 1 2017	\$6,165	\$684	\$5,481	\$11,623
November 1 2017	\$6,165	\$465	\$5,700	\$5,923
May 1 2018	\$6,165	\$242*	\$5,923*	\$0*

- **Debt ratio** is calculated by

$$\text{debt ratio} = \frac{\text{total liabilities}}{\text{total assets}}$$

- **Leverage ratio** is calculated by

$$\text{leverage ratio} = \frac{\text{total assets}}{\text{total shareholder s' equity}}$$

- **Times-interest-earned** is calculated by

$$i - \text{interest} - \text{earned} = \frac{\text{operating income}}{\text{interest expense}}$$

Chapter 10: Shareholders' Equity

- Corporations have the following characteristics
 - o Separate legal entity; which refers to the fact that it exists apart of its owners, the shareholders'
 - o Continuous life and transferability of ownership; corporations have continuous lives regardless of changes in ownership
 - o Limited liability; shareholders' have no personal obligation to pay off the corporation's debts, where the most a shareholder can lose is the cost of the investment
 - o Separation of ownership and management; shareholders' own the company, but elect a board of directors to manage the business
 - o Corporate taxation; corporations must pay income taxes separate from those borne by its shareholders
 - o Government regulation; responsibility of failure to pay debts lies solely on the corporation, not the shareholders

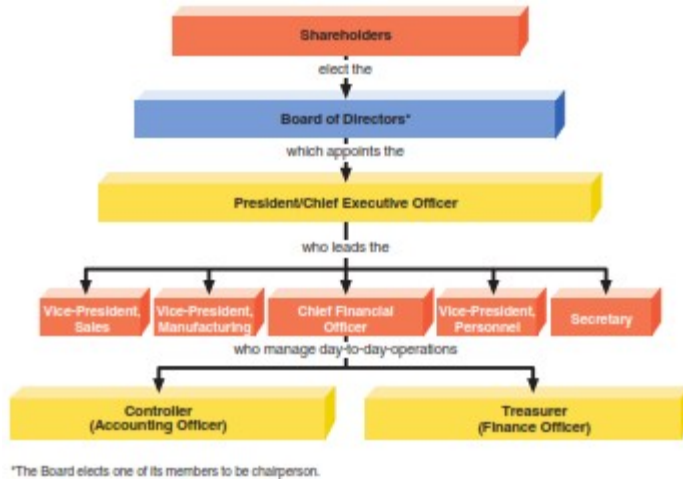
Advantages and disadvantages of a corporation

Advantages

1. Can raise more capital than a proprietorship or partnership
2. Continuous life
3. Ease of transferring ownership
4. Limited liability of shareholders'

Disadvantages

1. Separation of ownership and management
2. Corporate taxation
3. Government regulation



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- Shareholders have the following four basic rights
 - o The right to sell the shares
 - o The right to vote
 - o The right to receive dividends
 - o The right to receive residual interest upon liquidation
- **Shareholders' equity** refers to the ownership interest in the assets of a corporation of the shareholders' and has four common and separate components
 - o Share capital (amount contributed by shareholders to receive shares)
 - o Contributed surplus (any amount contributed in excess of share capital)
 - o Accumulated other comprehensive income (accumulation of past earnings not included in retained earnings)
 - o Retained earnings (net income of a corporation since inception, less any net losses and dividends declared)
- **Shares** are either
 - o Common; where the four basic rights are given unless specified otherwise
 - o Preferred; the owners of these shares receive dividends and assets (if liquidation occurs) before the common shareholders. These shareholders, however, do not have voting rights
- When issuing shares, the following occurs

- o For cash issuances, cash is debited and common share capital is credited

2014			
Jan. 8	Cash	5,000,000	
	Common Share Capital		5,000,000
	To issue common shares at \$50.00 per share (100,000 × \$50.00).		

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- o For issuances for assets other than cash, the assets are debited and common share capital is credited

2014			
Nov. 12	Equipment	4,000	
	Building	120,000	
	Common Share Capital		124,000
	To issue common shares in exchange for equipment and a building.		

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- A company may repurchase/buy back its shares for the following reasons
 - o The need to fulfill future commitments, for example, conversions of bonds and preferred shares into common shares
 - o The increase in market price by decreasing the number of shares available to the public
 - o Avoiding the takeover by an outside party
- Before a company declares dividends, it must have
 - o Retained earnings in excess of the dividends
 - o Enough cash to pay the dividends
- For cash dividends, there are three important dates
 - o The date of declaration, where it is now a legal obligation to pay the dividends and must debit retained earnings and credit dividends payable

June 19	Retained Earnings*	50,000	
	Dividends Payable		50,000
	Declared a cash dividend.		

- o The date of record, which is the date after the declaration that is the cut-off date for registered shareholders to qualify to receive dividends
- o The date of payment, where the dividends are paid to the shareholders registered before the date of record. Dividends payable is debited and cash is credited

July 10	Dividends Payable	50,000	
	Cash		50,000
	Paid cash dividend.		

- A company may issue stock dividends. The total dollar value of stock dividends is calculated by multiplying the number of shares to be issued by the market price of shares on the declaration date

$$\$ \text{ value of stock dividend} = (\text{no. of stock being issued}) (\text{market value on declaration date})$$

For example, a 2% stock dividend is declared where a company has 300,000,000 shares outstanding at a market value of \$200 each

- o On the date of declaration, we debit retained earnings and credit stock dividends distributable

Retained earnings 1,200,000,000

Stock dividend distributable 1,200,000,000

- o On the date of payment, we debit stock dividends distributable and credit common shares

Stock dividends distributable 1,200,000,000

Common shares 1,200,000,000

- o Reasons why a company may issue stock dividends rather than cash dividends are

- To continue dividends but conserve cash
- To reduce per-share market price of its shares
 - If, for example, a company has 100,000 outstanding common shares at a value of \$10 each and a total value of \$1,000,000 and issues a 10% stock dividend, the new market price is

$$\frac{1,000,000}{100,000 * 1.1} = 9.09$$

- Dividends of preferred shares are expressed as a percentage of the share's stated value or dollar figure. Common shareholders receive dividends if the declared dividends are enough to pay the preferred shareholders in full
 - o Say, for example, a company has 100,000 shares of \$1.50 cumulative preferred shares outstanding in addition to common shares. If The company declares a

\$1,000,000 cash dividend,

Preferred dividend (100,000 shares × \$1.50 per share)	\$ 150,000
Common dividend (remainder: \$1,000,000 – \$150,000)	850,000
Total dividend	<u>\$1,000,000</u>

- o And amount declared of \$150,000 or lower results in the common shareholders receiving no dividends
- If preferred shares are **cumulative** and the company passes the dividend (fails to pay), any passed dividends on cumulative shares are said to be **in arrears**. Cumulative preferred shareholders must receive all dividends in arrears plus the current year's dividends before paying common shareholders. Unless otherwise stated, preferred shares are non-cumulative
 - o Say, for example, a company passes the 2013 preferred dividend of \$150,000 and declares a \$500,000 dividend in 2014 and pays it on September 6th

2014	Retained Earnings	500,000	
Sept. 6	Dividends Payable, Preferred (\$150,000 × 2)		300,000
	Dividends Payable, Common (\$500,000 – \$300,000)		200,000
	To declare a cash dividend.		

- When companies want to increase or decrease the market-price-per-share without altering its assets, liabilities, or shareholders' equity, it can declare a **stock split**. Stock splits increase or decrease the number of shares issued and outstanding. The price per share decreases roughly proportionally with the split
 - o A company's per share market price is \$400 dollars with 4 billion shares initially issued and outstanding. The company executes a 3-for-1 stock split in which each shareholder receives three stocks for every one they have. This results in a market price decreasing to about \$ 133.33 and 12 billion stocks issued and outstanding

Transaction	Assets =	Liabilities +	Shareholders' equity
Issuance of shares	Increase	No change	Increase
Repurchase of shares	Decrease	No change	Decrease
Declaration of cash	No change	Increase	Decrease

dividends

Payment of cash dividends	Decrease	Decrease	No change
Declaration and distribution of stock dividends	No change	No change	No change
Stock splits	No change	No change	No change

- **Fair value/market price** of a share refers to the price a willing buyer will pay a willing seller to acquire the share
- **Book value** refers to the dollar value of net assets a common shareholder would receive for each share after any preferred shareholders have received their share of the company's asset first

$$\text{Book value per common share} = \frac{\text{total shareholder's equity} - \text{preferred shareholder's equity}}{\text{number of common shares outstanding}}$$

- The **DuPont analysis** consists of the following

$$(\text{Return on asset}) * (\text{leverage ratio}) = \text{Return on Equity}$$

$$(\text{net profit margin}) (\text{asset turnover}) (\text{leverage ratio}) = \text{return on equity}$$

$$\frac{\text{net income}}{\text{net sales}} \frac{\text{net sales}}{\text{average total assets}} \frac{\text{average total assets}}{\text{average common shareholder's equity}} = \text{ROE} \quad \text{where}$$

average common shareholders' equity is total shareholders' equity less preferred shareholders equity. The higher the return, the more successful a company is

- When reporting in the statement of cash flows, the following occurs
 - o Issuance of common shares, inflow
 - o Repurchase of shares, outflow
 - o Cash dividends, outflow