

## Exercise 1

### 1.1

Year	Months	Depreciation	Accumulated	Book Value
		Amount	Depreciation	
2018	6	20,000	20,000	145,000
2019	12	40,000	60,000	85,000
2020	12	40,000	100,000	45,000

As we can see above, the depreciation expense is \$40.000 a year, however, it is halved in 2018, as the PP&E is purchased July 2.

### 1.2

First, the total units produced is equal to the total of the "Units Produced" section plus an additional 6.000 units to account for 2021. Furthermore, the unit price of production is  $\frac{(145.000-25.000)}{45.000} = 2.67$ .

Year	Units	Depreciation	Accumulated	Book Value
	Produced	Amount	Depreciation	
2018	9000	24,000	24,000	145,000
2019	15000	40,000	64,000	81,000
2020	15000	40,000	104,000	41,000

### 1.3

31-Dec-20		DR	CR
Cash		32,000	
Accumulated Depreciation		100,000	
Loss on Sale of Asset		13,000	
PP&E			145,000

Yes, my answer would have been different had the asset been sold for the same amount September 30<sup>th</sup>, as the assets net book value would have further declined to \$25.000, leaving a gain on sale of asset of \$7.000.

1.4

Year	Months	Depreciation Amount	Accumulated Depreciation	Book Value
2018	6	20,000	20,000	145,000
2019	12	40,000	60,000	85,000
2020	12	18,750	78,750	66,250

1.5

Accounting for other types of long-term assets specifically differ in regard to intangible assets. For example, according to the FASB goodwill (a long-term intangible asset) is not to be amortized, meaning it essentially has an indefinite lifespan.

Furthermore, accounting for long-term assets such as patents, or similar assets, differs as such assets both have a useful- and a legal lifespan. In such a case we would make use of the shortest lifespan of the two.

## Exercise 2

2.1

As the total inventory unit is 500 and the total inventory value is \$1.500, the weighted average costing method would return a unit price of \$3.

Thus, considering the 400 units sold, the cost of goods sold would amount to \$1.200.

2.2

As we would have 100 units left of inventory after the sales, the ending inventory, assuming the LIFO costing method, would be equal to the first 100 units purchased:

$$100 * \$4 = 400$$

2.3

	FIFO
Revenue	2,000
Cost of Goods Sold	1,300
<b>Gross Profit</b>	<b>700</b>

2.4

	LIFO	FIFO
Revenue	2,000	2,000
Cost of Goods Sold	1,100	1,300
Net Income Before Taxes	900	700
Tax Rate	30%	30%
<b>Tax Expense</b>	<b>270</b>	<b>210</b>
Net Income After Taxes	630	490

As can be seen in the calculations above, MDI would report an artificially higher net income before taxes when using the LIFO costing method, resulting in a higher tax expense on the financial statements. However, as MDI reports their taxable income to the tax authorities using the FIFO costing method their cost of goods sold is higher, thus resulting in a lower taxable income.

	DR	CR
Tax Expense	270	
Deferred Tax Liability		60
Cash		210

This can be seen in the journal entry above, where the tax expense is said to be \$270, however, as MDI only pays taxes according to their taxable income equal to \$210 they still owe the remaining \$60 in taxes.

2.5

The results in Q2.1 would change in the sense that the COGS on the first sale would be calculated using the weighted average of the existing inventory, thus excluding the inventory purchased after the sale. Hence, the company, under the perpetual inventory system, would have sold off more expensive units of inventory relative to under the periodic inventory system.

The results in Q2.2 would change, as the change would result in the company being left with 50 units of inventory costing \$2/unit and 50 units of inventory costing \$4/unit.

The result in Q2.3 would be left unaffected.

The result in Q2.4 would be affected in the sense that the ending inventory would decrease, implying an increase in COGS, resulting in a lower disparity between the taxable incomes reported to the tax authorities and to the financial statement. However, the taxable income reported to the financial statement would still be greater than to the tax authorities.

## Exercise 3

### 3.1

<i>1-Jan-19</i>	DR	CR
Cash	1,727,675	
Discount on Bond	272,325	
Bond Payable		2,000,000
<i>31-Dec-19</i>	DR	CR
Interest Expense	86,384	
Discount Amortized		86,384
<i>31-Dec-20</i>	DR	CR
Interest Expense	90,703	
Discount Amortized		90,703
<i>31-Dec-21</i>	DR	CR
Interest Expense	95,238	
Discount Amortized		95,238

### 3.2

Date	Cash Interest	Interest Expense	Discount Amortized	Carrying Value
01.01.2019				1,727,675.20
31.12.2019	-	86,384	86,384	1,814,059
31.12.2020	-	90,703	90,703	1,904,762
31.12.2021	-	95,238	95,238	2,000,000
<b>Total</b>	-	<b>272,324.80</b>	<b>272,324.80</b>	

On December 31, 2019, ABC should report their bond with a value of \$2.000.000 and a contra liability account called Discount on Bond with a debit value of \$185.941, resulting in a net book value of \$1.814.059.

On December 31, 2020, ABC should report their bond with a value of \$2,000,000 and a contra liability account called Discount on Bond with a debit value of \$95,238, resulting in a net book value of \$1,904,762.

An alternative to the above could be to just report the net value of the bond payable.

### 3.3

XYZ should report this on the balance sheet as a sale of a liability, thus debiting the bond payable for the full amount and crediting cash for the same.

If ABC, the purchasing company, is owned 90% by XYZ, then selling off debt to other Special Purpose Vehicle (SPV) of legal entity could be considered illegal, depending on the type of debt, as in the case of Enron where bad debt was sold off to SPV.

### 3.4

<u>1-Jan-19</u>	<u>DR</u>	<u>CR</u>
Cash	2,163,395	
Premium on Bond		163,395
Bond Payable		2,000,000

### 3.5

The least complex set of coupon rate and market-determined bond yield would be 0%, as this would mean the issue price of the bond is equal to the face value. Furthermore, there would be no interest payment or premium/discount to be amortized. Essentially meaning that the company would simply have to pay back the loan in full at the expiration date of the bond.

This would result in the following journal entries:

<u>1-Jan-19</u>	<u>DR</u>	<u>CR</u>
Cash	2,000,000	
Bond Payable		2,000,000

  

<u>31-Dec-21</u>	<u>DR</u>	<u>CR</u>
Bond Payable	2,000,000	
Cash		2,000,000

## Exercise 4

### 4.1

1-Jan-21		DR	CR
Cash		500,000	
	Additional Paid in Capital		440,000
	Common Shares		60,000

*Common Shares = 20.000 x \$3 = \$60.000*

2-Jan-21		DR	CR
Prepaid Rent		300,000	
	Cash		300,000

3-Jan-21		DR	CR
Inventory		40,000	
	Accounts Payable		40,000

*Inventory Unit Price = \$40.000 / 1.000 = \$40*

10-Jan-21		DR	CR
Accounts Receivable		5,000	
	Revenue		5,000
Cost of Goods Sold		4,000	
	Inventory		4,000

*COGS = \$40 x 100 = \$4.000*

30-Jan-21		DR	CR
Rent Expense		25,000	
	Prepaid Rent		25,000

*Rent Expense = \$300.000 / 12 = \$25.000*

10-Feb-21		DR	CR
Treasury Stock		25,000	
	Cash		25,000

11-Feb-21		DR	CR
Bad Debt Expense		500	
	Allowance for Doubtful Accounts		500

*Accounts Receivable from Customer A going bad.*

20-Feb-21		DR	CR
Accounts Receivable		24,000	
	Revenue		24,000
Cost of Goods Sold		16,000	
	Inventory		16,000

*COGS = \$40 x 400 = \$16.000*

28-Feb-21		DR	CR
Rent Expense		25,000	
	Prepaid Rent		25,000

*Rent Expense = \$300.000 / 12 = \$25.000*

21-Mar-21		DR	CR
Bad Debt Expense		2,400	
	Allowance for Doubtful Accounts		2,400

*Accounts Receivable from Customer B going bad.*

<u>24-Mar-21</u>	DR	CR
Accounts Receivable	14,000	
Revenue		14,000
Cost of Goods Sold	8,000	
Inventory		8,000

*COGS = \$40 x 200 = \$8,000*

<u>30-Mar-21</u>	DR	CR
Cash	4,000	
Deferred Revenue		4,000

<u>31-Mar-21</u>	DR	CR
Rent Expense	25,000	
Prepaid Rent		25,000

*Rent Expense = \$300,000 / 12 = \$25,000*

#### 4.2

Trial balance:

<u>Account</u>	<u>DR</u>	<u>CR</u>
Cash	179,000	
Accounts Receivable	43,000	
Allowance for Doubtful Accounts		2,900
Inventory	12,000	
Prepaid Rent	225,000	
Accounts Payable		40,000
Deferred Revenue		4,000
Common Shares		60,000
Additional Paid in Capital		440,000
Treasury Stock	25,000	
Revenue		43,000
Cost of Goods Sold	28,000	
Rent Expense	75,000	
Bad Debt Expense	2,900	
<b>TOTAL</b>	<b>589,900</b>	<b>589,900</b>

#### 4.3

Income statement:

<b>Revenue</b>	<b>43,000</b>
<i>Expenses:</i>	
Cost of Goods Sold	28,000
Rent Expense	75,000
Bad Debt Expense	<u>2,900</u>
<b>Total Expenses</b>	<b>105,900</b>
<b>Net Income Before Tax</b>	<b>(62,900)</b>

4.4

Cash flow statement:

Cash Collected from Customers	4,000
Cash Paid in Prepaid Rent	(300,000)
<b>Cashflow from Operating Activities</b>	<b>(296,000)</b>
<b>Cashflow from Investing Activities</b>	<b>-</b>
Proceeds from Issuance of Shares	500,000
Cost of Repurchase of Issued Shares	(25,000)
<b>Cashflow from Financing Activities</b>	<b>475,000</b>
<b>Net Cashflow</b>	<b>179,000</b>

4.5

Balance sheet:

<b>Assets</b>		<b>Liabilities</b>	
Cash	179,000	Accounts Payable	40,000
Accounts Receivable, net	40,100	Deferred Revenue	4,000
Inventory	12,000	<b>Total Current Liabilities</b>	<b>44,000</b>
Prepaid Rent	225,000	<b>Stockholder's Equity</b>	
<b>Total Current Assets</b>	<b>456,100</b>	Common Shares	60,000
		Additional Paid in Capital	440,000
		Treasury Stock	(25,000)
		Retained Earnings	(62,900)
		<b>Total Stockholder's Equity</b>	<b>412,100</b>
<b>Total Assets</b>	<b>456,100</b>	<b>Total Liabilities &amp; S.E.</b>	<b>456,100</b>

4.6

Both the revenue from Customer D and E should not be booked in the first quarter following the matching principal, as the products or service has not been delivered, but simply paid for (in the example of Customer D). However, with regard to the CFO of DEE's comment on the revenue recognition of those sales, this would be outright fraud and cooking the books in favor of the CFO's motives.



## Exercise 5

5.1

Common Dividends per Share	\$ 5.04
<u>Earnings per Share</u>	<u>\$ 6.35</u>
<b>Dividend Payout Ratio</b>	<b>79.4%</b>

$$\text{Calculation} = \frac{\text{Common Dividends per Share}}{\text{Earnings per Share}}$$

5.2

Net Income	4,730.50
Preferred Dividends	-
<u>Average Common Stockholder's Equity</u>	<u>(8,017.60)</u>
<b>Return on Common Stockholder's Equity Ratio</b>	<b>(0.59)</b>

$$\text{Calculation} = \frac{\text{Net Income} - \text{Preferred Dividends}}{\text{Average Common Stockholder's Equity}}$$

5.3

Looking at the Shareholder's Equity as a whole, it is clear to see that the equity deficit is caused by buybacks of shares, resulting in the high contra-equity account, Treasury Stock. Thus, the ROE for 2020 does not capture the financial performance of McDonalds' Corp.

5.4

Net Income	4,730.50
<u>Average Total Assets</u>	<u>50,068.80</u>
<b>Unadjusted Return on Asset Ratio</b>	<b>9.45%</b>

$$\text{Calculation} = \frac{\text{Net Income}}{\text{Average Total Assets}}$$

Unadjusted ROA differs from ROE in the sense that ROA looks at the firm as whole, which can be seen by the fact that it considers all assets. Whereas, ROE solely looks on the equity side, which does

not reflect the whole value of the balance sheet. ROE is aimed to analyze the return on the equity invested into the company, not the return of all of the utilized assets.

5.5

Net Income	6,172.40
Average Total Assets	50,068.80
<b>Return on Asset Ratio</b>	<b>12.33%</b>

$$\text{Calculation} = \frac{\text{Net Income} + \text{Interest Expense, Net of Tax}}{\text{Average Total Assets}}$$

5.6 \*\*\* SOME OF IT IS OWNED BY FRANCHISE

The unadjusted ROA shows the performance of the firm assuming interest expenses as a part of the operational activities. As opposed to the ROA, which assumes that McDonald's Corp. interest expenses not to be a part of the operational activities.

Considering the nature of the business, more specifically the franchising nature contributing with more than half of the revenue. Thus, the nature of the debt may not necessarily be primarily related to the operating activities, and therefore, looking at the regular ROA may best capture the performance of McDonald's Corp.

5.7

	2020	2019
Current Assets	6,243.20	3,557.90
Current Liabilities	6,181.20	3,621.00
<b>Cash flow from Operations to Current Liabilities Ratio</b>	<b>1.01</b>	<b>0.98</b>

$$\text{Calculation} = \frac{\text{Current Assets}}{\text{Current Liabilities}}$$

5.8

Cash flow from Operations	6,265.20
<u>Average Current Liabilities</u>	<u>4,901.10</u>
<b>Cash flow from Operations to Current Liabilities Ratio</b>	<b>1.28</b>

$$\text{Calculation} = \frac{\text{Net Cash Provided by Operating Activities}}{\text{Average Current Liabilities}}$$

### 5.9

Both debt and equity investors may be interested in the Current Ratio to gauge the firms' ability to pay off its current liabilities within the next 12 months. Furthermore, it speaks to the general level of liquidity of a firm. As a debt investor you may be more hesitant to invest short-term into a firm, which could potentially already be showing signs of liquidity struggles. The same goes for equity investors, however, they would not add to the already existing current liabilities.

Similar to the previous point, both debt and equity investors are interested in the Cash flow from Operations to Current Liabilities Ratio, as this is a way to gauge the a firm's ability to pay off its current liabilities using the cash generated from operating activities.

All in all, both ratios measure the liquidity of a firm, and thus, the inherent risk of investing. A firm which, in these cases, have very high ratios could be deemed as more safe investments or investments with potential to scale through the use of leverage.

### 5.10

Net Income	4,730.50
<u>Net Sales</u>	<u>19,208.70</u>
<b>Profit Margin Ratio</b>	<b>24.6%</b>

### 5.11

Under the assumption that McDonald's Corp.'s is operated out of the U.S., they would have to comply with the U.S. GAAP resulting in interest expenses being counted as a part of the firms' operating activities. This would result in a lower cash flow from operations.

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Similarly, under the FASB McDonald's Corp. may be prohibited from amortizing certain intangible assets resulting in a higher taxable income.

Most significantly, McDonald's Corp. may be depreciating their assets using the double-declining-balance (DDB), which would result in higher expenses, and thus, a lower net income.