ZAIN ACADEMY PRESENTS
2ND EDITION - 2019

Secret to Success is to
"Always Strive for Excellence"

CERTIFIED MANAGEMENT ACCOUNTANT (CMA), US - PART 2

A guide that summarizes all the key concepts required in a finance professional

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بِسْمِ اللَّهِ الرَّحْمَٰنِ الرَّحِيمِ

In the Name of Allāh, the Most Gracious, the Most Merciful

CERTIFIED MANAGEMENT ACCOUNTANT (CMA), US

PART 2 – FINANCIAL DECISION MAKING

STUDY NOTES

EFFECTIVE TILL 31 DECEMBER 2019

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About the Mentor

Muhammad Zain has passed Uniform Certified Public Accountant **(CPA)** exams from American Institute of Certified Public Accountants (AICPA), US in February 2018, Certified Management Accountant **(CMA)** exams from Institute of Management Accountants (IMA), US and Certified Internal Auditor **(CIA)** exams from Institute of Internal Auditors (IIA), US in March 2014. He has completed his Masters of Business Administration **(MBA)** in March 2010 from University of Karachi, Pakistan. He earned his Bachelors of Commerce **(BCOM)** from the same University in November 2007.

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He founded **Zain Academy** in 27 February2017 with the mission ***"Knowledge for ALL"*** and objective to *"disseminate education for all candidates who wish to change the landscape of our working environment, believe in continuous education and strive for the best."*

Readers are welcomed to contact him for ***online interactive sessions*** for any part of CPA, CMA or CIA.

13 September 2018

Dear **CMAs**,

السلام عليكم

peace be upon you

It is my great honor to present you the 2ND edition of **Certified Management Accountant (CMA) – Part 2 – Financial Decision Making** Study Notes.

These Study Notes are not copyrighted and are universally accessible to all. You are permitted to use these notes and distribute them to the other candidates as well.

I have tried to keep the materials simple, clear and concise. I welcome feedback from the potential readers. These materials are relevant till 31 December 2019. However, please do check the Facebook page https://www.facebook.com/zainacademy for updates. Extreme care is required when rendering professional advice to clients.

Readers are encouraged to provide a review / feedback on the materials on https://www.facebook.com/zainacademy/reviews/. This review will help prospective candidates to benefit from improvements in the materials.

I dedicate this work to my parents who have always believed in my abilities and guided me through the toughest of times.

May the **ALLAH**, **Creator of the Heavens and Earths** bless you **ALL** in this Life and in particular the Life Hereafter as well.

With Love and Care,

Muhammad Zain

CPA, CMA, CIA

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SECTION A – Financial Statement Analysis (Weightage 25%)

S.No	Questions	Answers
1.	What are the **five classifications of ratios**?	• **Liquidity ratios**, which measure the sufficiency of the firm's cash resources to meet its short-term cash obligations. • **Leverage, capital structure, solvency and earnings coverage ratios**, which evaluate the firm's ability to satisfy its debt and obligations for other fixed financing charges such as operating leases by looking at the mix of its financing sources and its historical earnings. • **Activity ratios**, which provide information on a firm's ability to manage efficiently its current assets (accounts receivable and inventory) and current liabilities (accounts payable). • **Profitability analysis**, which measures the firm's profit in relation to its total revenue or the amount of net income from each dollar of sales and its return on invested assets. • **Market ratios and earnings per share analysis**, or **shareholder ratios**, which describe the firm's financial condition in terms of amounts per share of stock.
2.	How is operating income calculated?	Sales or service revenues − Cost of goods sold (COGS) = **Gross profit** − Selling, general, and administrative expenses = **Operating income**
3.	How is EBIT calculated?	Operating income + Interest and dividend income +/− Non-operating gains/(losses) +/− G/L from operations of discontinued Component X including G/L on disposal of $XXXX (**before** tax) = **Earnings Before Interest and Taxes (EBIT)**
4.	What is **EBITDA**?	EBITDA stands for earnings before interest, taxes, depreciation and amortization. EBIT (earnings before interest and taxes) includes deductions for depreciation and amortization expensed. Therefore, EBITDA is EBIT plus depreciation and amortization expense, to "add back" the depreciation and amortization. EBITDA is used to analyze a company's earnings before interest and taxes as well as before the non-cash charges of depreciation and amortization.
5.	How is EBT calculated?	Earnings Before Interest and Taxes (EBIT) − Interest expense = **Earnings Before Taxes (EBT)**
6.	What is a vertical common-size financial statement?	A simple vertical common-size financial statement covers one year's operating results and expresses each component as a percentage of a total.

		For example, fixed assets will not be stated as a dollar amount but rather will be stated as a percentage of total assets. Each expense item will be stated as a percentage of total revenue.
7.	What is horizontal trend series analysis?	Horizontal trend analysis is used to evaluate trends for a single business over a period of several years. The first year is the base year, and amounts for subsequent years are presented not as dollar amounts but as percentages of the base year amount, with the base year assigned a value of 100%, or 100.
8.	How is working capital calculated?	Current Assets − Current Liabilities = **Working Capital**
9.	How is the current ratio calculated?	<u>Current Assets</u> Current Liabilities
10.	How is the quick ratio calculated?	<u>Cash + Net Receivables + Marketable Securities</u> Current Liabilities
11.	How is the cash ratio calculated?	<u>Cash & Cash Equivalents + Marketable Securities</u> Current Liabilities
12.	How is the cash flow ratio calculated?	<u>Operating Cash Flow</u> Period-End Current Liabilities
13.	How is the net working capital ratio calculated?	<u>Net Working Capital</u> Total Assets
14.	What is financial leverage?	The use of debt to increase earnings.
15.	How is the financial leverage ratio calculated?	<u>Total Assets</u> Total Equity
16.	How is the degree of financial leverage calculated?	<u>% [of future] Change in Net Income</u> % [of future] Change in EBIT (Earnings Before Interest and Taxes)
17.	What is operating leverage?	Operating leverage measures the use of fixed operating costs to generate greater operating profit.
18.	How is the degree of operating leverage calculated?	<u>% [of future] Change in EBIT</u> % [of future] Change in Sales
19.	What does degree of total leverage measure?	Degree of total leverage expresses the degree to which a company uses fixed costs in its operations as well as the degree to which the company uses fixed rate financing in its capital structure.
20.	How is the degree of total leverage calculated?	<u>% [of future] Change in Net Income</u> % [of future] Change in Sales

21.	How is the debt to equity ratio calculated?	Total Liability Total Equity
22.	How is the long-term debt to equity ratio calculated?	Total Debt – Current Liabilities Total Equity
23.	How is the debt to total assets ratio calculated?	Total Liabilities Total Assets
24.	How is the times interest earned ratio calculated?	Earnings before Interest and Taxes (EBIT) Interest Expense
25.	How is the fixed charge coverage ratio calculated?	Earnings Before Fixed Charges and Taxes Fixed Charges
26.	How is the cash flow to fixed charges ratio calculated?	Adjusted Operating Cash Flow Fixed Charges
27.	How is the accounts receivable turnover ratio calculated?	Net Annual Credit Sales Average Gross Accounts Receivable
28.	How is the number of days receivables held ratio calculated?	365 Receivables Turnover
29.	How is the inventory turnover ratio calculated?	Annual Cost of Goods Sold Average Inventory
30.	How is the days sales in inventory ratio calculated?	365 Inventory Turnover
31.	How is the accounts payable turnover ratio calculated?	Annual Credit Purchases Average Accounts Payable
32.	How is the days purchases in payables ratio calculated?	365 Accounts Payable Turnover
33.	How is the operating cycle calculated?	Days Sales in Inventory + Days Sales in Receivables = Operating Cycle
34.	How is the cash cycle calculated?	Days Sales in Inventory + Days Sales in Receivables – Days Purchases in Payables = Cash Cycle
35.	How is the total asset turnover ratio calculated?	Sales Average Total Assets

36.	How is the fixed asset turnover ratio calculated?	<u>Sales</u> Average Net Property, Plant, and Equipment
37.	How is profit margin calculated?	<u>Net Income after Interest and Taxes</u> Net Sales
38.	How is book value per share calculated?	<u>Total Stockholders' Equity – Preferred Equity</u> Number of Common Shares Outstanding
39.	How is the market-to-book ratio calculated?	<u>Market Price per Share</u> Book Value per Share
40.	What are basic earnings per share and diluted earnings per share?	• **Basic earnings per share (BEPS)** is the earnings per share for all common shares that were actually outstanding during the period. • **Diluted earnings per share (DEPS)** is the earnings per share that would have resulted if all potentially issuable and dilutive common shares had been issued on the first day of the period (or, if issued during the period, on the date of issue).
41.	How is BEPS calculated?	<u>Income Available to Common Stockholders (IAC)</u> Weighted-Average Number of Common Shares Outstanding (WANCSO)
42.	How is income available to common shareholders calculated?	Net Income – Noncumulative preferred dividends **DECLARED** (whether or not paid) and/or – Cumulative preferred dividends **EARNED** (whether or not declared) = **Income Available to Common Stockholders (IAC)**
43.	How are shares issued during the year treated in calculating WANCSO?	They are considered outstanding only for the time after they are issued.
44.	How are shares reacquired during the year treated in calculating WANCSO?	They are considered outstanding only for the time period **before** they are reacquired.
45.	How are shares issued as part of a stock split during the year treated in calculating WANCSO?	They are considered to be outstanding for the entire year in which they are issued. Additionally, they are considered to have been outstanding from January 1 of the first year presented. This will require a recalculation of EPS for those previous periods.
46.	How are shares issued as part of a stock dividend during the year treated in calculating WANCSO?	They are considered to be outstanding for the entire year in which they are issued. Additionally, they are considered to have been outstanding from January 1 of the first year presented. This will require a recalculation of EPS for those previous periods.

	What are the three steps to determine the impact of options and warrants on DEPS?	1) Assume that all the options or warrants were exercised on January 1. 2) Take the cash from the exercise and assume that the company purchases back from the market as many shares as possible at the **average price** for the year. 3) Net the shares issued (#1) and shares repurchased (#2) to determine net shares issued. **Note**: If the exercise price is higher than the average market price the option or warrant is antidilutive and not included in DEPS.
47.	How is the EPS Effect calculated for convertible bonds?	<u>Interest on the Bonds × (1 – Tax Rate)</u> # of Shares the Bonds are Converted Into
48.	How is the EPS Effect calculated for convertible preferred shares?	Dividends Earned (if cumulative) **and/or** <u>Declared (if noncumulative)</u> # of Shares the Preferred Shares are Converted Into
49.	How is the price/earnings ratio calculated?	<u>Market Price per Common Share</u> Basic Earnings per Share (annual)
50.	How is the price/EBITDA ratio calculated?	<u>Market Price per Common Share</u> EBITDA per Share
51.	How is earnings yield calculated?	<u>Basic Earnings Per Share (annual)</u> Current Market Price Per Common Share
52.	How is the dividend yield calculated?	<u>Annual Dividends Per Common Share</u> Current Market Price Per Share
53.	How is the dividend payout ratio calculated?	<u>Annual Dividends Per Common Share</u> Basic Earnings Per Share
54.	How is shareholder return calculated?	(Ending Stock Price – Beginning Stock Price) <u>+ Annual Dividends Per Share</u> Beginning Stock Price
55.	How is gross profit margin calculated?	<u>Gross Profit</u> Net Sales
56.	How is operating profit margin percentage calculated?	<u>Operating Income</u> Net Sales
57.	How is net profit margin percentage calculated?	<u>Net Income</u> Net Sales

58.	How is EBITDA margin calculated?	EBITDA Net Sales
59.	How is return on assets calculated?	Net Income Average Total Assets
60.	How is return on equity calculated?	Net Income Average Total Equity
61.	How is return on common equity calculated?	Net Income – Preferred Dividends Average Book Value of Common Equity
62.	How is return on assets calculated?	Net Income Average Total Assets
63.	What are four factors that can impact the calculation of income?	1) Accounting estimates 2) Accounting methods 3) Incentives for disclosure 4) Diversity among users
64.	How is the sustainable growth rate calculated?	Return on Common Equity × (1 – Dividend Payout Ratio)
65.	How are transactions denominated in foreign currency accounted for?	1) On the date the transaction is entered into, it is recorded using the exchange rate on that date. 2) At the end of each reporting period the value of the receivable or payable is adjusted to the current value using the exchange rate at that date. 3) When the transaction is settled, it is adjusted to the current value using the exchange rate on that date.
66.	Where is the gain or loss on a foreign currency denominated transaction reported?	It is reported on the income statement in the period it occurs as a non-operating gain or loss.
67.	What are the three currencies potentially involved in a foreign subsidiary?	1) The **currency of record** is the currency the foreign entity uses to keep its books. 2) The **functional currency** is the currency of the primary economic environment in which the foreign entity operates. It is the currency in which the entity generates and expends cash. 3) The **reporting currency** is the currency used in the financial statements of the foreign entity.
68.	When is a remeasurement required?	Remeasurement must be done prior to consolidation when the foreign entity's currency of record is different from its functional currency.
69.	When is a translation done?	A translation is done when the financial statements of the subsidiary are in a functional currency that is not the US Dollar.

70.	Where do the gains or losses from remeasurement and translation get reported?	Gains or losses from remeasurement are recognized on the income statement. Gains or losses from translation are reported in accumulated other comprehensive income.
71.	What are two methods to adjust financial statements to remove the effect of inflation?	1) Constant dollar accounting (also called general price-level) 2) Current cost accounting
72.	What is off-balance sheet financing?	Any form of funding that avoids placing owners' equity, liabilities, or assets on a firm's balance sheet.
73.	What are four common ways of off-balance sheet financing?	1) Operating leases to finance acquisition of assets 2) Special-purpose entities, or SPEs, now called variable interest entities 3) Sale of receivables, also called factoring 4) Joint ventures, in which two or more “parent” companies agree to share capital, technology, human resources, risks, and rewards in the formation of a new entity to be managed under their shared control.
74.	What are some of the common **changes or corrections** to **financial statements**?	• A change in an accounting **principle**, in other words, a change from one Generally Accepted Accounting Principle to another Generally Accepted Accounting Principle; • A change in **reporting entity**, such as changes in entities included in combined financial statements or other consolidation changes; • A **correction of an error**, such as a mathematical mistake, a mistake in applying a principle, and other errors; or • A change in accounting **estimate**, such as a change in estimated warranty costs.
75.	What are the three methods of accounting for changes or corrections?	1) Retrospective application 2) Restatement 3) Prospective adjustment
76.	What is a change in accounting principle, and how are such changes accounted for?	A change in accounting principle is a change from one accepted GAAP principle to another accepted GAAP principle. These changes are accounted for using **retrospective application**.
77.	What is a change in reporting entity and how is it accounted for?	A change in reporting entity can occur if consolidated financial statements are prepared in place of separate statements for each individual entity or if a change takes place in the subsidiaries or companies that are included in the consolidation. A change in reporting entity is accounted for **retrospectively**.
78.	What is a correction of error and how is it accounted for?	Errors can result from mathematical mistakes, mistakes in applying an accounting principle, oversight, or misuse of facts. Errors are corrected using **restatement**.
79.	What are changes in accounting estimates and how are they accounted for?	Changes in estimates are a change in any estimate used in accounting. Examples include a change in the bad debt percentage, the useful life

		of an asset, or a warranty expense estimate. These changes are considered normal, recurring changes and adjustments. Changes in estimates are treated **prospectively**.
80.	What are accounting profit and economic profit?	• **Accounting profit** is the profit that is calculated on the income statement as revenues minus explicit costs. These are the costs for which the company actually has to make a payment to another party. • **Economic profit** is the amount by which total revenue exceeds the **total economic costs** of the company, which include all of the firm's explicit costs plus the relevant implicit (opportunity) costs.
81.	What are the three determinants of earnings quality?	1) The company's business environment. 2) Its selection and application of accounting principles. 3) The character of its management.
82.	What are the determinants of earnings persistence?	1) Earnings variability 2) Earnings trend 3) Management incentives 4) Earnings management
83.	How is a **gain or loss** from **re-measurement** reported?	A re-measurement gain or loss is reported on the income statement in the continuing operations section.
84.	How is a **gain or loss** from **translation** reported?	Translation gains and losses are recognized directly in stockholders' equity as a component of accumulated other comprehensive income on the translated balance sheet.
85.	How is DEPS **calculated**?	1. Calculate BEPS. 2. Calculate the EPS Effect of warrants and options. 3. If warrants or options are dilutive, add their effect to WANCSO and calculate Intermediate DEPS. 4. Calculate the EPS Effect of convertible bonds or convertible preferred shares. 5. Rank the EPS Effects from convertible securities, from the most dilutive to the least dilutive. 6. In the correct order from the most dilutive to the least dilutive, add the effect of each convertible security to both IAC and WANCSO to calculate Intermediate DEPS for each security until reaching a security that is antidilutive. 7. Calculate the final Diluted EPS.
86.	How is the **effective tax rate** calculated?	The effective tax rate is calculated as income tax expense divided by income from continuing operations before income taxes.
87.	How is the **sustainable growth rate calculated**?	**Sustainable Growth Rate = Return on Common Equity Sustainable × (1 - Dividend Payout Ratio)**
88.	What are **activity ratios**?	Activity ratios provide information about a firm's ability to efficiently manage its resources—specifically its current assets, accounts receivable and inventory—and its ability to effectively manage its accounts payable.

89.	What are **comparative financial statements**?	Comparative financial statements state each item of the financial statement not as a numerical amount, but rather as a percentage of a relevant base amount.
90.	What are the **advantages** of **successfully using financial leverage**?	• When the interest expense paid on the debt capital is less than the return earned from the investment of the debt capital (in other words, less than return on assets), the excess return benefits the equity investors. • Interest paid is tax-deductible, and its tax deductibility effectively reduces interest as an expense.
91.	What is solvency?	Solvency is the ability of the company to pay its long-term obligations as they come due. In contrast to liquidity, which is the ability to pay short-term obligations, solvency is the ability to pay long-term obligations.
92.	What is the **functional currency**?	The functional currency is the currency of the primary economic environment in which the foreign entity operates. It is the currency in which the entity generates cash and expends cash.

SECTION B – Corporate Finance (Weightage 20%)

S.No	Questions	Answers
1.	What is return?	Return is income received by an investor on an investment.
2.	What is the rate of return and how is it calculated?	Rate of return is the return expressed as a percentage of the principal amount invested. Return Received for **One Year's** Investment **Average** Balance of Amount Invested
3.	What is interest rate risk?	The risk that the value of an investment will change over time as a result of changes in the market rate of interest.
4.	What is reinvestment rate risk?	The risk that money invested in an instrument that matures cannot be reinvested in another investment that will provide the same, or a higher, level of return.
5.	What is purchasing power risk?	The risk that the purchasing power of a fixed amount of money will decline as the result of an increase in the general price level (inflation).
6.	What is liquidity risk?	The possibility that an investment cannot be sold (converted into cash) for its market value. Whenever an investment must be discounted significantly in order to be sold, the investment has a high level of liquidity risk.
7.	What is foreign exchange risk?	The risk that a transaction denominated in a foreign currency will be impacted negatively by changes in the exchange rate.
8.	What is credit risk?	Credit risk, also known as default risk, is the risk that a borrower of money will not be able to pay the interest and repay the principal on a debt as it becomes due.
9.	What is political risk?	The risk that something will happen in a country that will cause an investment's value to change or even become worthless.
10.	What are some examples of **political risks**?	• Expropriation • War • Blockage of fund transfers • Inconvertible currency • Government bureaucracy, regulations, and taxes • Corruption • Attitude of consumers • Foreign country's business culture
11.	What is business risk?	The variability of a firm's earnings before interest and taxes (EBIT).
12.	What is total risk?	Total risk is the risk of a **single asset** taken by itself and not balanced against the risks of any other investments. Total risk is defined as the variability of the asset's relative expected returns and is also sometimes called **standalone risk.**

13.	What is unsystematic risk?	Risk that is specific to a particular company or to the industry in which the company operates.
14.	What is systematic risk?	Systematic risk is any risk that could affect **all** investments.
15.	What is market risk?	Market risk is risk inherent in an investment that is traded on a market simply because it is traded on a market and is subject to market movements. Market risk is a systematic risk.
16.	What is **foreign exchange risk**?	Foreign exchange risk is the risk that a transaction denominated in a foreign currency will be impacted negatively by changes in the exchange rate.
17.	What is **industry risk**?	Industry risk is risk that is specific to a particular industry.
18.	What is interest rate risk?	Interest rate risk (sometimes called **price risk**) is the risk that the value of the investment will change over time as a result of changes in the market rate of interest.
19.	What is **inventory** financing?	In inventory financing the creditor buys and retains title to the inventory. The debtor then acts as his trustee in the selling of the inventory and also assumes the risk of loss of the inventory.
20.	What is industry risk?	Risk that is specific to a particular industry.
21.	What is the **capital asset pricing model (CAPM)**?	The capital asset pricing model (CAPM) uses the security or portfolio's risk and the market rate of return to calculate the investors' required return. The theory behind the CAPM is that **investors will price investments so that the expected return on a security or a portfolio will be equal to the risk-free rate plus a risk premium** proportional to the risk, or "beta," for that investment.
22.	What is beta in the CAPM formula?	A measurement of the systematic risk of a security or a portfolio.
23.	What is the capital asset pricing model formula?	**R = $R_F + \beta(R_M - R_F)$** R = Investors' required rate of return R_F = Risk-free rate of return β = Beta coefficient R_M = Market's required rate of return
24.	What is a portfolio?	A collection of assets that are managed as a group.
25.	What is the idea behind diversification?	Diversification combines securities in ways that reduce risk. Different types of investments often change in market value in opposite directions, so when one asset's market price decreases, another asset's market price might increase to offset the loss.
26.	What is asset allocation?	The process of selecting assets for a portfolio to achieve the best risk/return tradeoff possible.
27.	What does the coefficient of correlation measure?	The coefficient of correlation measures the relationship between two variables. It expresses how closely connected, or correlated, the two variables are and the extent to which a change in one variable has historically resulted in a change in the other.
28.	What are the sources of external funds?	1) Long-term debt 2) Preferred stock

		3) Common stock
29.	How is the yield of a debt security calculated?	Yield of a Treasury security of the same term + Default premium + Liquidity premium +/− Premium or Discount for tax status +/− Premium or Discount for special provisions = **Yield of debt security**
30.	How is a yield curve prepared?	By graphing the rates and terms for each security.
31.	What are the shapes of the yield curve?	1) Upsloping (normal) 2) Downsloping 3) Flat 4) Humped
32.	What are the four theories used to explain the slope of the yield curve?	1) Pure (Unbiased) Expectations Theory 2) Liquidity Premium (Preference) Theory 3) Segmented Markets Theory 4) Preferred Habitat (Composite) Theory
33.	Under the pure expectations theory, what determines the yield curve?	The yield curve is determined exclusively by expectations in the market of future short-term interest rates.
34.	Under the liquidity premium theory, what determines the yield curve?	The yield curve is determined by: 1) The market's expectations for future interest rates. 2) A liquidity premium for holding a less-liquid security. The liquidity premium increases as the term gets longer.
35.	Under the segmented markets theory, what determines the yield curve?	Because the cash needs of different groups and investors vary, each group chooses securities that meet their forecasted cash needs and not because of expected future interest rates. Interest rates for each maturity term are determined by the interplay of supply and demand for that term.
36.	What is the preferred habitat theory?	Preferred habitat theory is a hybrid theory, or a compromise, that agrees with parts of the segmented markets theory and parts of the pure expectations theory.
37.	What are uses of the yield curve?	1) Forecasting interest rates 2) Forecasting recessions 3) Making investment decisions 4) Making financing decisions
38.	What are the **advantages** of issuing bonds?	• The bond issuer has no loss of control or ownership. • The total cost of the bonds is limited and known because the interest rate that is used to calculate the cash paid for interest is constant throughout the life of the bond. • Bonds have an advantage over stock, because the interest that is paid on the bonds is tax-deductible as an expense of the business. • If the bonds are callable, or otherwise can be retired early, the company has the flexibility to eliminate the interest payment if there is no longer a need for the