AFC2019/2020_WRITTEN TEST_COVER for the DIGITAL VERSION on MSForms

Read each question carefully and choose the best response: indeed, there is only one correct answer per question!

Here you can find some reminders.

REMEMBER to:

- Keep your webcam switched on;
- Keep your microphone open;
- Share your desktop (and NOT a single section).

These three conditions are mandatory for taking the exam. If you do not respect these mandatory conditions, your test will be INVALIDATED.

If your connection falls, REMEMBER NOT TO REFRESH the browser. If you refresh, all answers previously given will get lost. If your connection falls more than once and/or for a long time, the professor reserves the right of verifying the validity of your written test.

Remind that wrong answers are penalized with MINUS 25% of the grade assigned to the related question. Therefore, remember to select an option only when you want to answer the question: once you have selected an option, you can change it, but you cannot come back and leave the question unanswered anymore.

If you want to WITHDRAW from the test (i.e., you want your test NOT TO BE checked), please answer "YES" to the last question. Answering to this specific question is mandatory.

The international convention for decimal and thousand separators is used – i.e., a comma is used to separate groups of thousands and a dot is used to separate decimals.

If you have read the above text, you can start with the test!

1. **You are required to evaluate the beta levered (BL) for Company A. You know a few data extracted from the 2019 Financial Statements:**
   - **Sales = 96,000 k€**
   - **EBT = 24,000 k€**
   - **Taxes = 6,000 k€**
   - **Financial leverage (D/E) = 0.5**

   You also know the following information about Company A:
   - **It uses CAPM to compute its cost of equity;**
   - **Cost of debt (2019) = 5.2%;**
   - **Market premium (2019) = 6%;**
   - **Risk free rate (2019) = 0.5%;**
   - **WACC (2019) = 7.0%.**

   What is the company beta levered (BL)?

(4 Points)

A. BL=1.60
B. BL=1.46
C. **BL=1.34**
D. BL=1.75

Solution

D/E= 0.5 → E = 67% of the capital structure and D=33% of the capital structure
E/(D+E) =67%
D/(D+E) =33%
tc=6,000/24,000 = 25%
Ke = [WACC – Kd(1-tc) *D/(D+E)] / E/(E+D)
Ke = [7% – 5.2% (75%) *33%] / 67% = 8.55%
BL = (Ke – rf) / (rm - rf)
BL = (8.55-0.5)/ (6.5 – 0.5) = 1.34

2. **Company B produces sports equipment. You know the following data taken from the Financial Statements of Company B:**

Company B data [k€] on December 31st, 2019:

- **EBT: 40,000 k€**
- **Taxes: 15,000 k€**
- **D&A: 22,000 k€**
- **Payables: 25,000 k€**
- **Receivables: 30,000 k€**
- **Inventories: 50,000 k€**

- **Financial Revenues: 1,500 k€**
- **Financial Expenses: 1,000 k€**
- **Debt: 10,000 k€**
- **Net Profit: 25,000 k€**

Company B data [k€] on December 31st, 2018:

- **EBT: 35,000 k€**
- **Taxes: 13,125 k€**
- **D&A: 18,000 k€**
- **Payables: 20,000 k€**
- **Receivables: 35,000 k€**
- **Inventories: 55,000 k€**
- **Financial Revenues: 1,500 k€**
- **Financial Expenses: 1,000 k€**
- **Debt: 10,000 k€**
- **Net Profit: 21,875 k€**

On top of the above data, you also know that:

- **The company has not invested in new assets in 2018 and 2019;**
- **Payout Ratio (2019) = 30%;**
- **No share capital changes have been registered in the last 2 years.**

Moreover, some estimates have been done:

- **WACC = 3% and ke = 8%. They are expected to remain stable in the following years;**
- **FCFF and FCFE computed for 2019 are expected to remain stable in the next years. Hence, taking 2019 as year 0, assumptions are reasonable for the next 2 years (2020 and 2021);**

Considering the available data, calculate the TV at year 2021 that is needed to estimate the EQUITY VALUE with DCF under the hypothesis of perpetuity with no growth.

(5 Points)

A. TV is around 681,250 k€
B. TV is around 692,969 k€
C. TV is around 2,056,250 k€
D. TV is around 315,625 k€

Solution

The first step consists in calculating the FCFF and FCFE at the end of 2019.
To do so, some preliminary steps are needed:

- Tax rate = Taxes / EBT = 37.5%
- EBIT = EBT – financial revenues + financial expenses = 39,500 k€
- Taxes on EBIT = 37.5% * 39,500 k€ = 14,812.5 k€

- Dividends of 2019 = Payout ratio 2019 * Net Profit 2018 = 6,563 k€
- Delta NWC = (receivables 2019 – recevables 2018) – (payables 2019-payables 2018) + (inventories 2019 – inventories 2018) = (30,000 – 35,000) – (25,000 – 20,000) + (50,000 – 55,000) = - 15,000 k€

FCFE can be calculated as:

EBIT	**39,500 k€**
Taxes on EBIT	- 14,812.5 k€
D&A	+ 22,000 k€
Delta Capex	- 0 k€
Delta NWC	- (- 15,000) k€
FCFF	**61,687.5 k€**
Financial expenses (net of taxes)	- 1,000 * (1-0,375) = 625 k€
Financial interests (net of taxes)	+ 1,500 * (1-0,375) = 937.5 k€
Delta debt	+ 10,000 – 10,000 = 0 k€
Dividends paid	- 6,563 k€
No delta share capital	0 k€
FCFE	**55,437.5 k€**

FCFE at the end of the year 2021 = FCFE at the end of 2019

Ke = 8%

TV at year 2 = 55,437.5 k€ / 0.08 = 692,969 k€

3. **Company XYZ is organized into three business units (A, B, C) that are NOT legally separated entities. Those business units are profit centres and have exchanges of products and services among them throughout a predefined transfer prices policy. Assuming that you want to design a reporting system at the business unit level, which of the following indicators would NOT be adequate for this purpose?**

(2 Points)

A. Return on Investment
B. Interest Coverage Ratio
C. Ebit Margin
D. Average Collection Period of Trade Receivables

Solution
Being profit centres, the business units are not responsible for how investments in assets are funded and are not knowledgeable of the specific sources of capital used for their assets; as a result, they should not be controlled on their capability to cover the cost of a specific loan

4. **Assuming that only the Balance Sheet of the last fiscal year is available, which of the following accounting-based indicators can be computed?**

(2 Points)

A. ROE, Net Working Capital, Quick Ratio
B. ROE, Quick Ratio, Assets Turnover Ratio
C. ROE, Current Ratio, CAPEX
D. Net Working Capital, Average Collection Period of Trade Receivables, Equity

Solution

A. Right answer
B. The value of Revenues is missing for computing the Assets Turnover Ratio
C. The value of CAPEX is missing and it is not computable with just one fiscal year
D. The value of Revenues is missing for computing the ACPTR

5. **Value drivers are defined as earlier predictors of value generation because…**

(2 Points)

A. They are interconnected in cause-effect relationships in balanced scorecards
B. They allow anticipating an increase in the probability of occurrence of an adverse event
C. They are the backbone of the reporting system at the responsibility centre level
D. None of the proposed answers

Solution

Value drivers are defined as earlier predictors of value generation because they monitor the current and future capability of an enterprise to generate Enterprise Value/Equity Value by improving its FCFF/FCFE throughout the components of the Value Tree

6. **Considering the process for the development of the operating budgets, which of the followings statements is RIGHT?**

A. Assuming the same data, those enterprises that will make the forecasts through an Income Statement by function (or by destination) will find an EBIT higher than the EBIT forecasted by those enterprises that will use an Income Statement by nature because in the former the variation of inventories will not be taken into account
B. Once all operating budgets have been drafted, the Chief Financial Officer can carry out a preliminary evaluation of the expected results against the targets set by the Chief Executive Officer through EBIT MARGIN and ROI (Return On Investment)
C. If an enterprise pays financial interests to banks for their loans at the end of every fiscal year, the amount of financial interests included in the forecasted operating budgets is the same amount that is included in the forecasted cash flow statements because in this case there is no difference between the accrual and cash flow perspectives
D. None of the proposed answers

(2 Points)

Solution

A. The forecast EBIT does not depend on the choice of the Income Statement Structure
B. The value of ROI cannot be computed because the value of Capital Invested is not still available at the end of operating budgets
C. Financial interests are not included in the operating budgets
D. Right answer

7. **Which of the followings statements concerning Dual Transfer Price systems is RIGHT?**

(2 Points)

A. Dual transfer prices are needed when the two business units cannot find an agreement on the transfer price during the negotiation process
B. Dual transfer prices are needed when the corporate level wants to integrate the two business units even if it is not efficient from an economic perspective
C. Dual transfer prices are applied when the market price is not available and the business units are not able to find an agreement on a cost-based transfer price
D. In a dual transfer price system, the buyer unit buys at variable product cost and the selling units sells at full product cost

Solution

A. Dual transfer prices are not aimed to solve the negotiation process (typically they do not come after negotiation because it is clear from the beginning that negotiation will lead nowhere.
B. Right answer
C. Dual transfer prices are typically not applied in this situation
D. The two values are set by the corporate level case by case (and usually the price for the selling unit does not equal the pure variable cost, if not in very special cases)

8. **Mondo Inc. is a well-established IT company developing platforms and applications for navigation & sports. Know-how and intangible assets play a key role in value generation. In 2019 it has received an interesting offer of acquisition from Alma company. Alma is a worldwide leader in the technological market, growing through mergers and acquisitions with small and medium companies.**

Mondo Inc. decided to carry out a valuation to understand its price on the market and hired a consulting company. The consulting company collected all actual data to make a valuation. Among the others, Net Income = 17 million $ and EBITDA = 49 million $. Applying the discounted cash flow method and taking into account the expected market growth, the overall price of Mondo Inc. should be around 289 million dollars.

However, the top management of Mondo Inc. is not fully convinced by these numbers because they know that the market was doing very well and that the growth previsions were too optimistic. As a result, they asked the consultancy company to carry out also a

relative valuation. The consulting company identified six companies similar to Mondo in terms of growth, risk and cash flow profiles and provided the following data for 2019:

	Stock Price ($)	Market capitalization (thousands $)	Earning per share ($)	EBITDA/ EV	P/E
3D mapping					
Mapsme	33.00	74,250	2.48	7.10	13.30
Mappe	48.39	39,075	3.36	7.30	14.40
Trails					
Wayto	34.89	10,697	1.83	9.90	19.10
Strava	25.86	1,152	2.13	5.10	12.10
Navigators					
Navigation	47.11	15,537	3.41	6.30	13.80
WE	13.58	2,708	0.61	4.40	22.30
Average values for companies belonging to S&P 500	N/A	N/A	69.76	N/A	15.60

Calculate the equity value of Mondo Inc. using the relative valuation method and the most appropriate data.

(4 Points)

A. Equity value = 258 million $
B. Equity value = 265 million $
C. **Equity value = 269 million $**
D. Equity value = 289 million $ (for well-established companies, relative valuation and DCFs offer the same result)

Solution

A. Wrong: this is the value of Equity Value (E), computed as the average of the values of comparable companies, excluding the two smaller companies: 15,15 * 17 = 258 million $
B. Wrong: in this case E is computed using the market index, 15,6 *17 = 265 million $
C. Right: This is the value of E computed using all (i.e six) comparable companies: 15,83 *17 = 269 million $
D. Wrong: This is the value resulting from the application of a DCF method, and not from a relative valuation

9. **You are trying to calculate the value of ROA for Company Alpha in 2019. You do not have access to the complete Financial Statements, but just to the following data:**

- **Total Assets = 150 mln €**
- **Total (Current and Non-Current) Liabilities = 80 mln €**
- **Asset Turnover Ratio (ATR) = 2**
- **Corporate tax rate = 35%**
- **Financial Revenues = 2 mln €**
- **Financial Expenses = 7 mln €**
- **ROE = 15%**

Based on these data above:

(5 Points)

A. ROA (2019) is about 7%
B. ROA (2019) is about 14%
C. ROA (2019) is about = 10.8%
D. None of the proposed answers

Solution:
Equity = 150 (total assets) – 80 (total liabilities) = 70 mln €
*Revenues = 150 (total assets) * 2 (asset turnover ratio) = 300 mln €*
*EBIT = 300 (Revenues) * EBIT MARGIN (=X) = 300 * X mln €*
*EBT = 300 * X (EBIT) + 2 (Financial Revenues) – 7 (Financial Expenses) = 300 * X – 5*
*Net Profit = (300 * X – 5) (EBT) – [(300 * X – 5) (EBT) * 0,35 (Corporate Tax Rate)] = (195 * X – 3,25)*
*ROE = 15% = [(195 * X – 3,25)/ 70]*
EBIT MARGIN= X = 7,05 %
*ROA = ROS * ATR = 7,05% * 2 = 14,01%*

10. **Considering the "matching principle", which of the following statements does NOT refer to a consequence of this principle?**

(2 Points)

A. Equipment must be depreciated
B. Buying raw materials for the warehouse does not affect the EBIT
C. Financial costs associated with bank loans must be paid by the end of each year
D. Period costs must be included in the Income Statement of the fiscal year when they are incurred

Solution
Financial costs must be paid according to the specific contract. Moreover, the accrual principle does not refer to cash outflows, i.e. the term "paid" reinforces that this statement is not a consequence of the "matching principle"