

FIN201 Corporate Finance II Questions – Set III
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Information for Questions 1 to 6: A firm is ready to issue debt and equity to finance itself. From investors it finds out that it can issue debt of face value \$1,000,000 with coupon payments of 4% forever (a perpetuity of \$40,000) for a price of \$1,200,000, and the expected value of coupons are \$40,000. Equity sells for a price of \$1,800,000 and has expected dividends of \$80,000 forever (also a perpetuity). There is no preferential tax treatment of debt (over equity).

Question 1: What is the R_D (rate at which debt is discounted)?

- A) 3.33%
- B) 6.67%
- C) 10%
- D) 13.33%

Question 2: What is R_E , (rate at which equity is discounted)? (2 points)

- A) 2.22%
- B) 4.44%
- C) 8.88%
- D) 10%

Question 3: What is the WACC? (2 points)

- A) 2%
- B) 3%
- C) 4%
- D) 5%

Information for Questions 4 to 6: Suppose the same firm decides to use a different capital structure. It issues debt of face value \$2,000,000 (same 4% coupons) and the investors offer \$2,000,000 for this debt. This debt is now risky and the expected cash flow every period from holding this debt is \$70,000 rather than the promised coupons of \$80,000. Assume that Modigliani-Miller holds.

Question 4: What is the new value of equity? (4 points)

- A) 1,000,000
- B) 2,000,000
- C) 3,000,000
- D) 4,000,000

Question 5: What is now the new R_E ? (6 points)

- A) 2%
- B) 3%
- C) 4%
- D) 5%

Question 6: What is now the new R_D ? (6 points)

- A) 3.5%
- B) 4%
- C) 4.5%
- D) 5%

Information for Questions 7 to 9: Consider a world in which Modigliani-Miller holds. A firm is ready to issue debt and equity to finance itself. It has expected revenues of \$200,000 a year forever and a discount rate R_A for these revenues of 8%. This revenue is to be split between the debt holders and the equity holders. It offers debt of face value \$1,000,000 with coupon payments of 5% forever and these payments are riskless (a perpetuity of \$50,000 for sure every year). The riskless rate of discount is 4%.

Question 7: What is the total value of the firm's revenues?

- A) 2,500,000
- B) 3,000,000
- C) 3,500,000
- D) 4,000,000

Question 8: What is the price the debt buyers will pay for the debt of face value \$1,000,000?

- A) 750,000
- B) 1,000,000
- C) 1,250,000
- D) 1,500,000

Question 9: The remaining revenues after paying the debt-holders go to the equity-holders. How much will equity-holders pay for the equity?

- A) 1,750,000
- B) 1,500,000
- C) 1,250,000
- D) 1,500,000

Question 10: I) If all MM assumptions are true except that debt gets preferential tax treatment, then we should see all firms choose capital structures with 100% debt. II) The value of the debt tax shield is greater when the corporate income tax rate is lower.

I&II are: A) FT B) FF C) TT D) TF

Information for Questions 11 and 12: Consider a world in which Modigliani-Miller does not hold, specifically debt gets preferential tax treatment. A firm is allowed to subtract interest paid to debt holders as an expense for tax purposes, but is not allowed to subtract dividends paid to equity-holders as an expense. A firm which has expected revenues (after costs, but before interest and taxes) of \$5,000,000 forecast for every year beginning next year (say this firm lasts forever). These revenues will never be lower than \$4,000,000. The firm is thinking of raising money.

The corporate tax rate is 34%. The two alternative capital structures it is considering are:

Capital Structure 1) Issue only 1,000,000 equity shares. All revenues are divided equally among equity holders.

Capital Structure 2) Issue 100,000 bonds of face value \$1,000 each and coupons of 4%, and 1,000,000 equity shares.

Question 11: What total expected revenues can the firm return to its investors every year if it uses Capital Structure 1?(2 points)

- A) 4,000,000
- B) 3,400,000
- C) 3,300,000
- D) 5,000,000

Question 12: What total expected revenues can the firm return to its investors every year if it uses Capital Structure 2?(2 points)

- A) 5,000,000
- B) 4,660,000
- C) 4,000,000
- D) 2,600,000

Question 13: Which of the following is not a reason why Modigliani-Miller may not hold in the real world?

- A) Government regulations that increase amount of information disclosed by firms.
- B) Taxes.
- C) Management's personal preferences may be counter to value maximization.
- D) Management may possess superior information compared to investors.

Question 14: I) The cause of Risk-shifting is management seeking to maximize the payoff to equity investors rather than seeking to maximize the revenues of the firm.
II) In a situation of asymmetric information, management issue debt to prove to investors that the firm has good future prospects.

I&II are: A) FT B) FF C) TT D) TF

Question 15: I) Management is usually more invested in debt of firms compared to equity.

II) The Trade-off Theory for Capital Structure is that firms trade off the tax advantage of more debt against the increased expected bankruptcy costs.

I&II are: A) FT B) FF C) TT D) TF

Question 16: I) Degree of Total Leverage (DTL) is defined as the Degree of Operating Leverage (DOL) divided by the Degree of Financial Leverage (DFL)

II) In the Modigliani-Miller world, Dividend Policy does not matter.

I&II are: A) FT B) FF C) TT D) TF

Question 17: I) The Bird in Hand Theory of Gordon and Litner says that investors prefer the firm keep the profits rather than pay out cash dividends.

**II) Dividend decreases convey information about better future prospects for firms.
I&II are: A) FT B) FF C) TT D) TF**

Question 18: I) Tax Preference theory argues that dividends are not “irrelevant” because capital gains is taxed at a lower rate compared to dividends.

II) If an equity owner dies and inheritors do not have to pay capital gains tax (with the cost basis being set to the price as of the day of death), this favors firms paying out dividends rather than retaining profits.

I&II are: A) FT B) FF C) TT D) TF

Question 19: I) The Clientele Effect says that dividend changes are taken as signals by the market about future firm prospects.

II) Retirees preferring that the firm pay out dividends rather than reinvest would be an example of the Signaling Effect.

I&II are: A) FT B) FF C) TT D) TF

Information for Questions 20 and 21: Suppose a firm has a rate of return on invested capital (ROK) equal to 8%, and this does not change as amount of capital invested changes. The firm has invested capital of \$100M. The fraction of profits retained by the firm is 30%.

Question 20: The amount of dividends paid out by the firm is:

- A) 2.4M**
- B) 5.6M**
- C) 8M**
- D) 30M**

Question 21: The rate of growth of dividends for the firms is:

- A) 2.4%**
- B) 5.6%**
- C) 8%**
- D) Cannot be determined from information provided**

Question 22: I) The Residual Dividend Model says that a firm retains profits it requires for financing its investment opportunities and maintaining its target Capital Structure and pays out remaining profits as dividends.

II) As per the Modigliani-Miller ideas, firms that retain more dividends grow faster than their competitors and are thus more valuable.

I&II are: A) FT B) FF C) TT D) TF

Question 23: I) The amount of dividend payments are declared on the Holder-of-Record Date.

II) The owners of stocks to whom dividends will be paid are listed on the Holder-of-Record Date.

I&II are: A) FT B) FF C) TT D) TF

**Question 24: I) The Ex-dividend Date is the date by which a buyer must purchase the stock if he or she wishes to receive the dividend for that period
II) If the Holder-of-record Date is March 15 then a buyer who purchases the stock on March 14 will not receive dividends for the prior period.
I&II are: A) FT B) FF C) TT D) TF**

Answer Key:

1) A

2) B

3) C

4) A Answer: As MM holds, the total of value of debt and equity remains unchanged after capital structure change.

5) D Answer: First calculate total cash flow produced by assets (sum of cash to debt and cash to equity in previous capital structure). Next calculate cash to equity in new capital structure. As cash to equity and value of equity are now known, the rate of return to equity may be found.

6) A

7) A

8) C

9) C Answer: Modigliani-Miller and total value of the firm.

10) D

11) C

12) B

13) A

14) C

15) A

16) A

17) B

18) D

19) B

20) B

21) A

22) D

23) A

24) C

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