THE UNIVERSITY OF MELBOURNE

FNCE10002 Principles of Finance
Semester 1, 2019

Capital Structure and Payout Policy II
Tutorial Questions for Week 11

*This tutorial is divided into two parts. The answers to the questions in Part I need to be submitted at the **beginning** of your tutorial. All answers must be **handwritten** and in **original** (photocopies/emails will not be accepted). Please follow the instructions on the Tutorial Hand-in Sheet available on the LMS via the Tutorials link. The answers to questions in Part II do not need to be submitted and will be discussed in your tutorial. Please make sure that you have worked through these questions and are prepared to discuss them if called upon by your tutor.*

Note that questions flagged as "EXM" are past exam questions that I've used in this subject or subjects similar in scope to this subject, while those flagged as "TXT" are sourced from the textbook. Detailed answers to the questions in Part II will only be provided in tutorials. Brief answers may be provided via the LMS after a time lag. This policy is in place to ensure that you attend your tutorials regularly and receive timely feedback from your tutor. If you are unsure of any answer you should check with your tutor, a pit stop tutor, online tutor or me.

Part I: Answers to be Submitted to Your Tutor

A. Problems

A1.[EXM] The following information relates to the ACB Ltd which is considering the following two alternative capital structures. Use the assumptions underlying Modigliani and Miller's zero tax method and assume that all cash flows are perpetual.

	All Equity	Debt and Equity
Earnings before interest	$600,000	$600,000
Interest on debt (at 10%)*	--	$150,000
Earnings to shareholders	$600,000	$450,000
Cost of equity	15%	18%
Market value of equity**	$4,000,000	$2,500,000
Market value of debt	--	$1,500,000
Market value of the firm	$4,000,000	$4,000,000

* Interest on debt = 0.10(1500000) = $150,000.

** Market value of equity, $E_U = V_U$ = 600000/0.15 = $4,000,000.
Market value of equity, E_L = 450000/0.18 = $2,500,000.

Assuming zero personal taxes, calculate the total market value of the firm for the two capital structures where the corporate tax rate is 30%. (*Hint:* Note that the market value of the unleveraged firm will change as the after-tax earnings to shareholders will change.)

A2. EJH Company has a market capitalization of $1 billion and 20 million shares outstanding. It plans to distribute $100 million through an open market share repurchase. *Assume perfect capital markets*.

a) What will the price per share of EJH be right before the share repurchase?

b) How many shares will be repurchased?

c) What will the price per share of EJH be right after the share repurchase?

A3. TXT Delta Corporation earned $2.50 per share during 2017 and paid cash dividends of $1.00 per share. During 2018, Delta earned $3.00 per share and the firm's managers expect to earn this amount per share in 2019 as well.

a) What was Delta's payout ratio for 2017?

b) If Delta's managers wish to follow a constant dollar payout dividend policy, what dividend per share did they declare in 2018? What dividend will they declare in 2019?

c) If Delta's managers wish to follow a constant payout ratio dividend policy, what dividend per share did they declare in 2018? What dividend will they declare in 2019?

Part II: Submission of Answers Not Required

B. Short Answer Questions

Provide brief responses to the following questions.

B1. EXM For each of the following statements indicate whether the statement is true or false and *briefly* explain why.

a) In a classical tax system, it is obvious that firms should use as much debt as possible. It is cheaper than using equity and interest paid on debt is also tax deductible.

b) The probability of financial distress will be negligible for firms with low levels of debt. So, a low level of debt will not result in any increase in the cost of equity.

B2. TXT All else being equal, which company would face a greater level of financial distress, a software-development company or a hotel chain? Why would financial distress costs affect the companies so differently? *Explain*.

B3. EXM What do you understand by the term "dividend irrelevance" in the context of the Modigliani and Miller analysis of dividend policy? This analysis seems to contradict our analysis in week 4 where we showed that the market price (and value) of a firm's shares depends on the discounted value of the stream of future dividends. Explain why this is *not* the case.

C. Problems

C1. TXT You are the manager of a financially distressed company with $3 million in debt outstanding that will mature in three months. Your company currently has $2 million cash on hand.

Assume that you are offered the opportunity to invest in either of the two projects described below.

Project 1: The opportunity to invest $2 million in riskfree Australian Treasury bills, with a 4% annual interest rate (implying a quarterly interest rate of 1 per cent).

Project 2: A high-risk gamble with a $2 million investment, which will pay off $2.4 million in two months if successful (probability = 0.4), but will only pay $400,000 if unsuccessful (probability = 0.6).

a) Compute the expected *payoff* for each project. If you were operating the company in the shareholders' best interests, which one would you adopt, and why?

b) Which project would you accept if the company was unlevered, and why?

C2.[TXT] Advanced Vehicle Enterprises (AVE) follows a policy of paying out 50% of its net income as cash dividends to its shareholders each year. The company plans to do so again this year, during which AVE earned $100 million in net profits after tax. The company has 40 million shares outstanding and pays dividends annually.

a) What is the company's dollar dividend payment per share each year?

b) Assuming that AVE's share price is $54.00 per share immediately before its ex-dividend date, what is the expected price of AVE shares on the ex-dividend date if capital markets are perfect?

C3. KMS Ltd has assets with a market value of $500 million, $50 million of which are cash. It has debt of $200 million and 10 million shares outstanding. *Assume perfect capital markets.*

a) What is its current share price?

b) If KMS distributes $50 million as a dividend, what will its share price be after the dividend is paid?

c) If instead, KMS distributes $50 million as a share repurchase, what will its share price be once the shares are repurchased?

C4.[EXM] SMK Ltd has $250 million of excess cash. The firm has no debt and 500 million shares outstanding, with a current market price of $15 per share. SMK's board has decided to pay out this cash as a one-time special dividend. *Assume perfect capital markets.*

a) What is the ex-dividend price of a share?

b) If the board instead decided to use the cash to do a one-time share repurchase what is the price of the shares once the repurchase is complete?

c) Which policy, in part (a) or (b), makes investors in the firm better off? *Explain.*