



Financial Management

Module 14

May 2013

Solutions

Section A: All three questions to be attempted.

Section B: Two of the following three questions to be attempted.

Section A: All three questions to be attempted

Section A (70 marks in Total)

Question 1**Solution:**

a) i) Net asset valuation method

	€ mn
Total Assets	541
Current Liabilities	(€52)
Non-Current Liabilities	(€127)
Net Assets	<u>€363</u>
Excess value of Land & Buildings	€63
Reduction in value of Motor Vehicles	(€5)
Reduction in value of Motor Vehicles	(€17)
Reduction in value of Inventories	(€13)
	<u>€392</u>
Less: Preference Shares	(€50)
	<u>€342</u>

(4 marks)

ii) Dividend growth model method

Total Dividends of €30mn are expected to grow at 5% per year and Acme PLC has a cost of equity of 11%.

$$\text{Company Value} = \frac{\text{Div}_1}{r - g}$$

$$\text{Company Value} = \frac{\text{Div}_0 \times (1+g)}{r - g}$$

$$\text{Company Value} = \frac{€30\text{mn} \times 1.05}{0.11 - 0.05}$$

$$\text{Company Value} = €525.00 \text{ mn}$$

(4 marks)

iii) Earnings yield method

Profit after tax (earnings) is €55mn and the finance director of Acme PLC believes that an earnings yield of 12% per year is appropriate for valuation purposes.

Ignoring Growth:

$$\text{Company Value} = \frac{€55\text{mn}}{12\%} = €458.33 \text{ mn}$$

Alternatively, profits after tax (earnings) are expected to grow at a rate of 6% per year and this earnings growth can be incorporated into the earnings yield using the growth model.

With Growth

$$\text{Company Value} = \frac{€55\text{mn} \times 1.06}{12\% - 0.06}$$

$$\text{Company Value} = €971.67 \text{ mn}$$

(4 marks)

iv) Market capitalisation method

Acme PLC has 825,000 shares. (€66mn / 0.8 nominal value) and each share is worth €7.50.

The market value of equity is therefore:

$$82.5 \text{ mn} \times €7.50 = €619 \text{ mn}$$

(4 marks)

Question 1 part b)

Discuss the weaknesses of using the dividend growth model as a method of company valuation.

4 marks for a discussion of the above

The dividend growth model is commonly used to valuing ordinary shares and as part of the process of valuing companies, but there are a number of issues associated with its use for this purpose.

Some companies (particularly technology companies) pay zero dividends. How can the dividend growth model be used when no dividends are paid. Its use will depend on whether dividends are expected to be paid in the future. If dividends are forecast to be paid from a future date, the dividend growth model can be applied from that point to calculate a share price. This future share price can then be discounted to calculate the current ex dividend share price. Only in the case where no current dividend is paid and no future dividends are expected will the use of the dividend growth model not be possible.

The dividend growth model relies on the assumption of a constant future dividend growth. A constant dividend growth rate is however, in reality, very rare. In practice it may be better to consider the constant future dividend growth as an estimate of the average dividend growth rate.

However estimating the future dividend growth rate accurately is difficult in practice and the dividend growth model's results are highly sensitive to even small changes in growth rate. Often estimates of the future dividend growth rate are calculated using the historical dividend growth, but this implicitly assumes that the future will behave similarly to the past and is a dangerous assumption to make.

The dividend growth model also assumes a constant future cost of equity. Past experience however would suggest that we should expect the cost of equity to frequently change. The capital asset pricing model can be used to calculate the cost of equity, but this model relies on historical information and the future may vary significantly from the past.

Question 1 part c)

With the aid of a diagram explain why to an investor the benefit of diversification decreases as the diversification of the investor increases.

3 marks for explanation, 2 for diagram 5 Marks in Total)

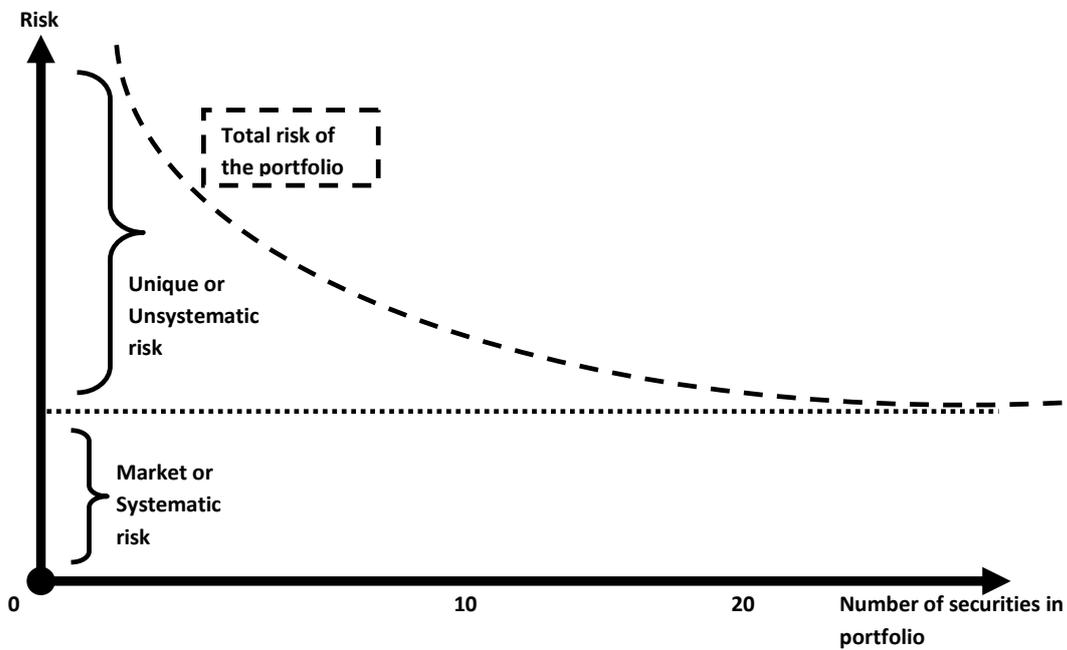
For an undiversified investor, standard deviation as a measure of risk is most appropriate. This can be broken down into unsystematic risk which is diversifiable and systematic risk which is undiversifiable.

As an investor adds more stocks to their portfolio, the unique or unsystematic risks of the individual stocks begin to cancel out. The portfolio's standard deviation declines. This effect is quite pronounced when diversification begins (i.e., when we have two stocks rather than one or three stocks rather than two).

Eventually as more assets were added to the portfolio all that would be left would be systematic or market risk which is undiversifiable. In the diagram below, Diagram. 1, we

see that with around 20 stocks we can obtain a portfolio that has a standard deviation almost as low as the standard deviation of the market portfolio.

However the rate of decrease in risk begins to level off as more and more of the unique risk is diversified away, the incremental diversification benefit becomes very small.



Question 2

Solution:

a) Inventories

i)

$$EOQ = \left[\frac{2 \times S \times D}{I \times V} \right]^{1/2}$$

$$EOQ = \left[\frac{2 \times 36,000 \times 60.00}{2.7392857 \times 2.8} \right]^{1/2}$$

$$EOQ = 750$$

Total Stocking Cost - Existing Supplier

Ordering Cost:

$$\frac{(3000 \times 12)}{750} = 48.00 \text{ Orders per annum}$$

$$48.00 \times \text{€}60.00 = \text{€}2,880.00$$

Holding Cost:

$$\text{Average Inventory} = \frac{(100 + 750)}{2} = 425$$

$$425 \times \text{holding cost of €}7.67 = \text{€}3,259.75$$

Purchase Cost

$$3000 \times 12 \text{ months} \times \text{€}4.00 \times 70\% = \frac{\text{€}100,800.00}{\text{€}106,939.75}$$

Total Stocking Cost

(5 Marks)

ii) Total Stocking Cost - New Supplier

<i>Ordering Cost:</i>			
$\frac{(3000 \times 12)}{1000}$	=	36.00	Orders per annum
36.00 × €150.00			€5,400.00
<i>Holding Cost:</i>			
Average Inventory	=	$\frac{(100 + 1000)}{2}$	= 550
550 × holding cost of €8.25		=	€4,537.50
<i>Purchase Cost:</i>			
3000 × 12 months × €4.00 × 70% × 87.5%		=	<u>€88,200.00</u>
Total Stocking Cost			<u>€98,137.50</u>

Comment

The new supplier's proposal is financially acceptable due to a saving of €8,802.25

(5 Marks)

b) Current Annual Cost of Receivables

Overdraft Interest	(42/365 × €7,000,000 × 10%)	€80,547.95
Bad Debts	(€7,000,000 × 6%)	€420,000.00
Administration Costs		€80,000.00
Total Costs		<u>€580,547.95</u>

Using Invoice Management Ltd. the annual cost would be:

Overdraft Interest	(35/365 × €7,000,000.00 × 10% × 10%)	€6,712.33
Overdraft Interest	(35/365 × €7,000,000.00 × 90% × 16%)	€96,657.53
Bad Debts	(€7,000,000.00 × 2.5%)	€175,000.00
Factor Admin Costs	(€7,000,000.00 × 4%)	€280,000.00
Total Costs		<u>€558,369.86</u>

Saving of €22,178.08

Recommendation:

Accept factor based on savings of €22,178.08

The factor's charges are greater than the bad debt savings so possibly try to negotiate a lower fee from the factor.

(10 Marks)

Question 2 Part c)

What factors should managers consider when determining a company's collection policy?

5 marks for a discussion of the above

The approach to collections may be a function of the industry and the competitive environment. For many delinquent accounts, a reminder, form letter, telephone call, or visit may facilitate customer payment. At a minimum, the company should generally suspend further sales until the delinquent account is brought current.

When these actions fail to generate customer payment, it may be necessary to negotiate with the customer for past-due amounts and report the customer to credit bureaus.

It is possible that the goods were sold with a lien attached, collateral pledged against the account, or additional corporate or personal guarantees given. In these cases, the company should utilize these options for obtaining payment.

Generally as a last resort, the account can be turned over to a collection agency or referred to a solicitor for direct legal action.

Question 3; Part a)

Outline the costs, advantages and disadvantages of both a forward market hedge and a money market hedge. In your answer show all relevant calculations relating to the two alternative types of currency hedge methods assuming (i) you could fund the dollar amount required out of current funds or (ii) you have currently no spare funds and will use the expected euro receipts to fund the dollar amount required.

10 marks for strategies, 2.5 marks for comments = 12.5 marks in all.

What the answer requires is that the expected payment of \$2m in five months' time will be paid and that HibOil Ltd. wishes to "lock in" the current value of this now using either a forward market hedge or a money market hedge so as to avoid currency risk.

We are told that we expect a payment of €3m also in five months' time. This is obviously of interest but it is not explicitly stated that from these funds the \$2m will be sourced. As these receipts are in Euro there is no need to hedge this €3m.

Using the rates given in the question HibOil Ltd. should choose the lowest cost of the following strategies.

Assuming that HibOil Ltd. have the required funds at hand they could:

- 1) Simply convert into dollars the required euro amount today from funds already held by HibOil Ltd. and save in dollars for the five months to pay off the \$2m.
- 2) Simply enter into a forward contract to buy \$2m in five months. For comparison purposes value the cost of this strategy in terms of investing the Euro equivalent today.

Assuming that HibOil Ltd. do not have the required funds at hand they could:

- 3) Borrow today the required funds in Euro, convert to dollars today and save in dollars for the five months to pay off the \$2m and pay off the euro loan in five months' time with the receipts they expect in Euro.
- 4) Simply enter into a forward contract to buy \$2m in five months. For comparison purposes value the cost of this strategy in terms of borrowing the Euro equivalent today.

Strategy 1:

If saving in dollars then you would need to save $\$FV/(1+r)^t$ today to have \$2m in five months' time, i.e. $\$2m/(1+0.025)^{(5/12)} = \$2m/(1.025)^{(0.4167)} = \$1,979,528.32$ today.

This will cost in Euro today: $\$1,979,528.32 / 1.3100 = €1,511,090.32$ today.

Strategy 2:

We will need to purchase \$2m in five months' time.

The five month buying rate is $1.3100 - 0.01 = \$1.3000$

Hence we could fix at $\$2m / 1.3000 = €1,538,461.54$ approximately in five months' time.

For comparison purposes the cost of this strategy in terms of the opportunity cost in Euro equivalent today would be found by saving in Euro.

You would need to save $€FV/(1+r)^t$ today to have €1,538,461.54 in five months' time, i.e. $€1,538,461.54 / (1+0.03)^{(5/12)}$

i.e. $€1,538,461.54 / (1.03)^{(0.4167)} = €1,519,629.79$ today.

Thus if HibOil Ltd. have the required funds at hand then the money market hedge at €1,511,090.32 today is cheaper than the forward contract at €1,519,629.79 today.

Strategy 3:

However if HibOil Ltd. do not have the required funds at hand and wish to use the money market hedge then they must borrow today the required funds in Euro, convert to dollars today and save in dollars for the five months to pay off the \$2m and pay off the euro loan in five months' time with the receipts they expect in Euro.

As we saw with strategy 1 if saving in dollars then you would need to save $\$FV/(1+r)^t$ today to have \$2m in five months' time, i.e. $\$2m/(1+0.025)^{(5/12)} = \$2m/(1.025)^{(0.4167)} = \$1,979,528.32$ today.

This will cost in Euro today: $\$1,979,528.32 / 1.3100 = \text{€}1,511,090.32$ today. As this must be borrowed this will cost us $\text{€}PV \times (1+r)^t = \text{€}1,511,090.32 \times (1 + 0.055)^{(5/12)} = \text{€}1,511,090.32 \times (1.055)^{(0.4167)} = \text{€}1,545,179.54$ in five months' time.

Strategy 4:

Simply enter into a forward contract to buy \$2m in five months. For comparison purposes value the cost of this strategy in terms of borrowing the Euro equivalent today

As we saw with strategy 2 we will need to purchase \$2m in five months' time. The five month buying rate is \$1.3000.

Hence we could fix at $\$2m / 1.3000 = \text{€}1,538,461.54$ approximately in five months' time.

Thus if HibOil Ltd. do not have the required funds at hand then the money market hedge at $\text{€}1,545,179.54$ in five months' time is more expensive than the forward contract at $\text{€}1,538,461.54$ approximately in five months' time.

So overall the choice of strategy will depend on how HibOil Ltd. finances the payment.

This example shows us both the advantages and disadvantages of a forward market hedge. If we have the funds to hand and low opportunity costs for the funds then we can get the benefit of the saving rate. The money market hedge can be used both as a measuring stick to compare with alternative means of hedging and also it can be used for negotiating the best rates should you need to use an alternative method.

However if you do not have the funds at hand then borrowing can increase the cost versus alternative means of hedging. Unless purchasing the forward contract, the euro funds are required today as there is a requirement to purchase the foreign currency today. With the forward contract payment is only required in the future.

In addition:

Forward cover's limitations:

- generally only available for short periods
- not available for all markets and currencies, and
- relatively inflexible as you must complete the transaction, (unlike currency options)

Money market cover limitations:

- you take on credit risk
- involves higher transaction costs.

Question 3; Part b)

Briefly discuss three of the following four types of risk and explain how these risks can be alleviated in a multinational corporation:

2.5 marks for each risk and how it can be alleviated, (max 3) = 7.5 marks in all.

Transactions risk is that exposure to exchange rate risk faced by a firm that is vulnerable to an adverse change in the value of any of its cash flows as a result of exchange rate movements. Almost every firm is exposed to exchange rate risk to some degree, even if it operates strictly in one country and has cash flows in only one currency. Such a firm will face exchange rate risk if (1) it produces a good or service that competes with imports in the home market, or (2) it uses as a production input an imported product or service. This exchange rate risk cannot be eliminated, but it can be hedged (transferred to a third party) using financial contracts.

Translation and economic risks relate to those additional complexities involved with operating internationally if they have affiliates or subsidiaries on the ground in a foreign country. One such complication arises when MNCs translate costs and revenues denominated in foreign currencies to report on their financial statements, which, of course, are denominated in the home currency. This type of risk is called translation exposure or accounting exposure. In other words, foreign exchange rate fluctuations affect individual accounts in the financial statements.

A more important risk element concerns economic exposure, which is the overall impact of foreign exchange rate fluctuations on the firm's value. A firm faces economic exposure when exchange rate changes affect its cash flows, even those cash flows not specifically tied to transactions in other currencies. What can managers do about these risks? MNCs manage their economic exposures both by using sophisticated currency derivatives and by matching costs and revenues in a given currency.

Political risk refers to actions taken by a government that have a negative impact on the value of foreign companies operating in that country. Macro political risk means that all foreign firms in the country will be subject to political risk because of political change, revolution, or the adoption of new policies by a host government. Micro political risk, on the other hand, refers to a foreign government targeting punitive action against an individual firm, a specific industry, or companies from a particular foreign country.

There are both positive and negative approaches that MNCs may be able to adopt to cope with political risk. Negative approaches include taking a trade dispute with a host country to the World Trade Organization or threatening to with-hold additional investments from a country unless an MNC's demands are met. Firms may also negotiate agreements with host governments that build in costs that the host government must bear if it breaches the terms of the original agreement. Positive approaches for MNCs include working proactively to develop environmental and labour standards in a country, and generally attempting to become perceived as a domestic company by the host country's citizenry.

Section B

Question 4

Explain with the aid of diagrams if and/or how the proportion of debt and equity in a firm, i.e. its capital structure, affects its WACC.

8 marks for the discussion of the above and 7 marks for diagrams, 15 marks in total.

This question is important but unfortunately the answer is controversial!

It is important because we learn from traditional capital structure theory that if we minimise WACC we maximise stock price.

So does capital structure affects WACC?

The answer depends on what assumptions we make! If there are no

- 1) Corporate or personal taxes
- 2) Bankruptcy costs
- 3) Asymmetric information
- 4) Agency costs

Then WACC will not change as long as the overall risk of the firm does not change.

Given the above assumptions then as more cheap debt replaces increasingly more expensive equity, WACC will not change.

Hence capital structure will not matter {Modigliani and Miller Proposition I (No Taxes)}.

Thus M&M (1958) say that the value of a firm and its investment decisions should be independent of its capital structure. {See Case 1 below}

As taxes do exist:

And as interest payments can be deducted before taxes are charged, it appears that (in a risk-free world) it would be best to finance the firm with 100% debt! {Modigliani and Miller Proposition I (with Taxes) (1963)} {See Case 2 below}

And as bankruptcy risks also exist:

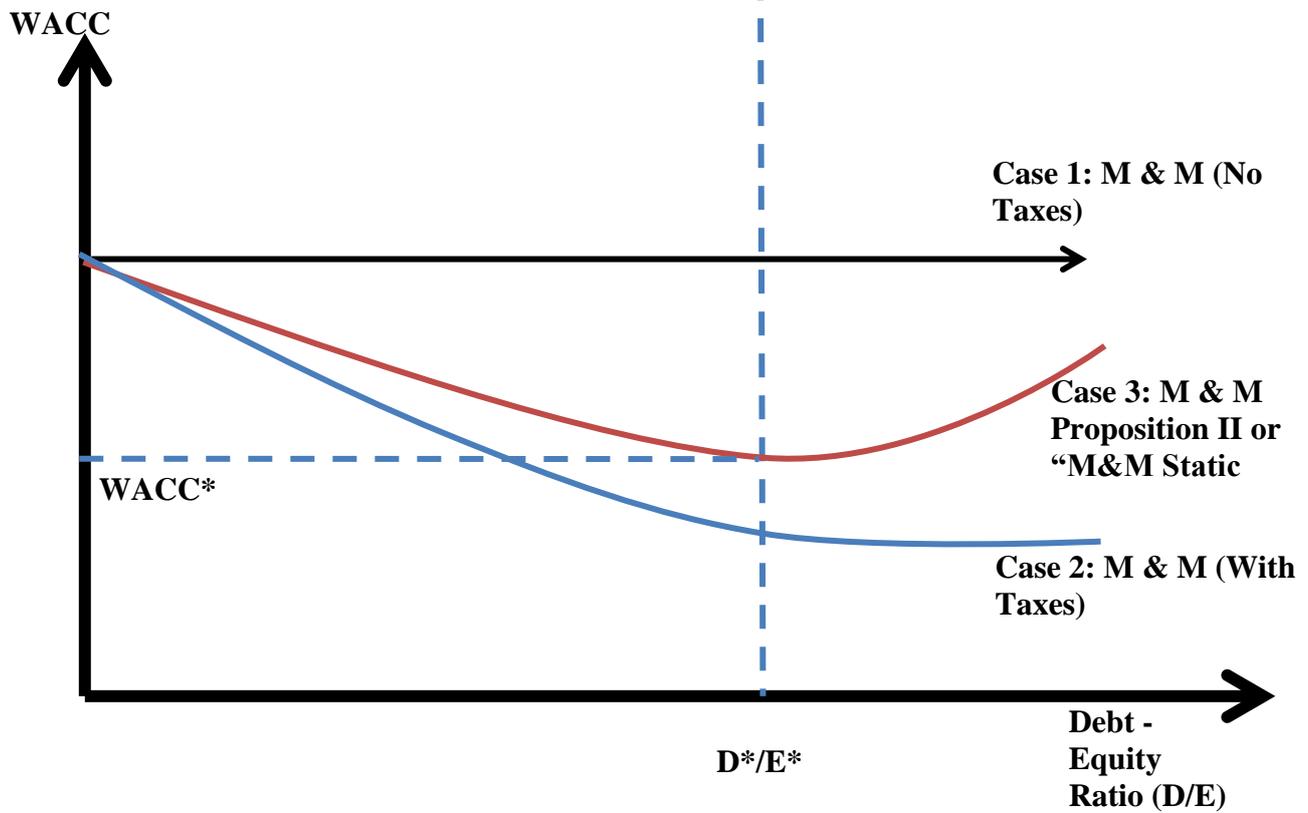
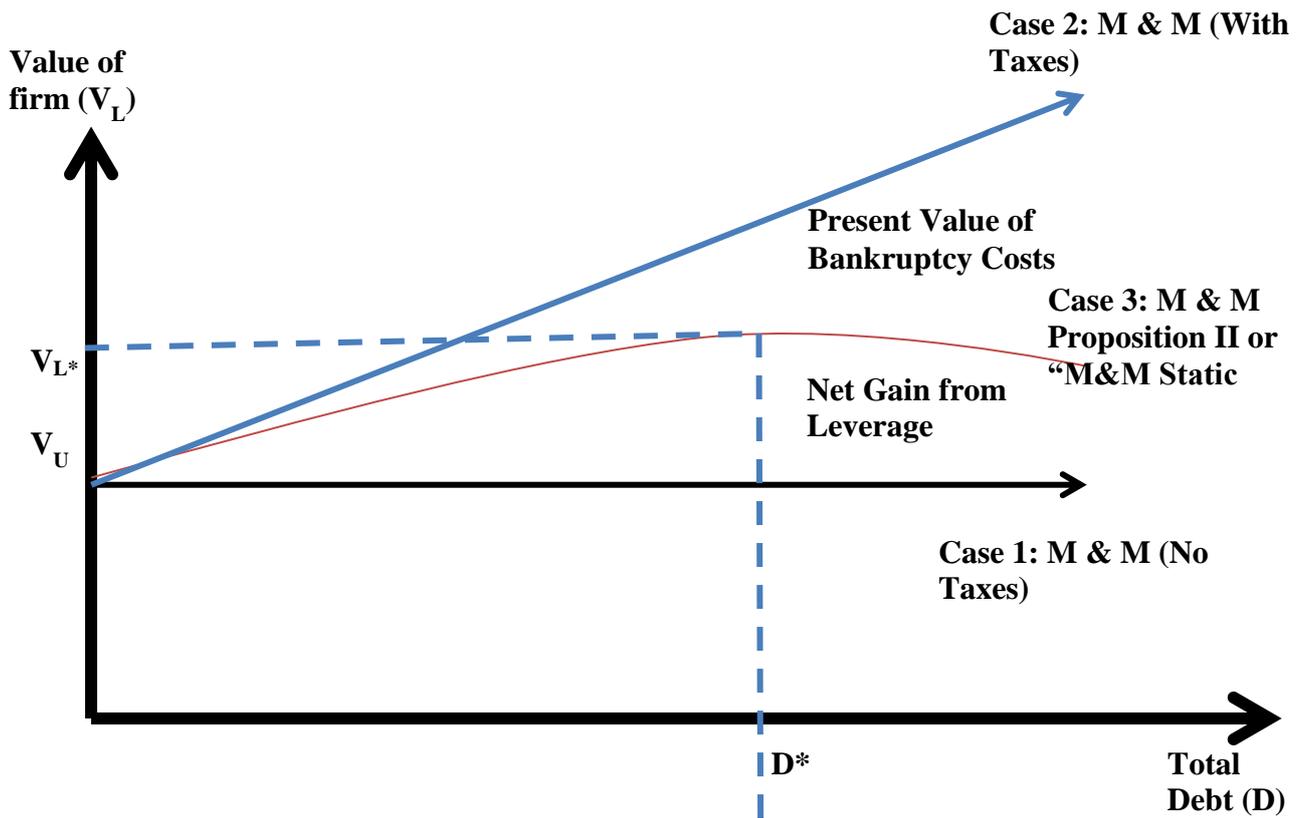
With more debt comes more financial leverage hence more financial risk and hence more risk of bankruptcy, known as Modigliani-Miller Proposition II or "M&M Static Theory"

Thus the trade-off: the tax-related benefits of leverage are offset by the debt's risk-related costs.

After some point the cost of debt will increase hence the WACC will start to increase as more debt is added and hence the value of the firm will start to decrease.

Therefore, there is an optimal point of most value of the firm. {See Case 3 below}

Later theories also argue that leverage clearly can matter for a variety of reasons e.g. the effect of taxes, information and agency costs (e.g. Pecking Order theory, Jensen and Meckling 1976, Myers, 2001 etc.).



Question 5 Part a) Discuss the differences, advantages and disadvantages between payback and NPV.

3 marks for the differences and 2 marks for advantages and disadvantages, 5 marks in total.

Payback

The payback period is the length of time (in years) it takes to recover the cash invested a project. A project's annual cash flows are used to determine the payback period.

A project is worth the investment if its payback period is less than or equal to a predetermined time scale in which it is given to pay for itself.

NPV

- Difference between PV of future benefits and present value of capital invested, discounted at company's cost of capital
- NPV decision rule is to accept all projects with a positive NPV
- With mutually exclusive projects, select project with highest NPV
- Regarded as the best investment appraisal method by academics

Discussion on adv. Vs disadvantages of Payback Vs. NPV.

The see the "trick" here it is best to imagine a project with a very long payback but with a positive NPV. A growing perpetuity might be such an example. Imagine that revenues are expected to grow by 10% per annum forever. But it will take a long time to get back your investment. Using the formula $NPV = PV \text{ Revenue} - PV \text{ Costs}$ where the PV of the revenue = $C1 / (r - g)$ this allows us to value today huge sums of money long into the future. Thus the project would be rejected by payback even though it has a positive N.P.V. This is because even with discounting payback ignores the huge sums of money past the cut-off date. N.P.V. values all cash flows in today's money terms.

NPV is preferred by academics because:

- It meets the assumed primary financial objective of financial management, the maximisation of shareholder wealth, through maximisation of the company's share price. This is achieved by maximising investment NPV.
- It takes account of the time value of money.
- It discounts cash flows, which is what investors are concerned with, rather than accounting profit.
- Risk can be taken into account by adjustments to the discount rate.
- Inflation can be incorporated into both cash flows and discount rate.
- There is an easy decision rule: accept projects with a positive NPV.

Advantages of payback period:

- Simple concept to understand
- Easy to calculate (provided future cash flows have been calculated)
- Uses cash, not accounting profit
- Takes risk into account (in the sense that earlier cash flows are more certain)

Disadvantages of payback period:

- Considers cash flows within the payback period only: says nothing about project as a whole
- Ignores size and timing of cash flows
- Ignores time value of money (although discounted payback can be used)
- It does not really take account of risk

Advantages of NPV:

- Takes account of time value of money
- Uses cash flow, not accounting profit
- Takes account of all relevant cash flows over life of project
- Can take account of conventional and non-conventional cash flows, as well as changes in discount rate during project
- Gives absolute measure of project value

Disadvantages of NPV:

- Project cash flows may be difficult to estimate (but applies to all methods).
- Accepting all projects with positive NPV only possible in a perfect capital market.
- Cost of capital may be difficult to find.
- Cost of capital may change over project life, rather than being constant.

Question 5 Part b) Discuss the differences, advantages and disadvantages between IRR and ARR.

3 marks for the differences and 2 marks for advantages and disadvantages, 5 marks in total.

Internal Rate of Return (IRR)

IRR is discount rate which gives zero NPV for project.

Decision rule is to accept all projects with an IRR greater than company's cost of capital or target rate of return.

Linear interpolation or extrapolation gives an approximate value of IRR.

Accounting Rate of Return (ARR) is also known as the Return on Capital Employed (ROCE) and Return on Investment (ROI)

ARR can be defined as:

$$\frac{\text{average annual accounting profit} \times 100}{\text{average investment}}$$

Where average investment is:

$$(\text{initial investment} + \text{scrap value})/2$$

ARR can also be defined as:

$$\frac{\text{average annual accounting profit} \times 100}{\text{initial investment}}$$

Average annual accounting profit can be calculated from project cash flows by taking off depreciation.

Accounting profit is not cash flow.

Simple decision rule: accept project if ROCE is equal to or greater than target value, i.e. current company or division ROCE.

If projects are mutually exclusive, select project with highest ROCE.

Advantages of return on capital employed:

- Gives value in familiar percentage terms
- Can be compared with primary accounting ratio, ROCE
- Relatively simple concept compared to DCF methods, such as NPV and IRR
- Can compare mutually exclusive projects
- Considers whole of project, unlike payback

Disadvantages of return on capital employed:

- Uses accounting profit rather than cash

- Profit not directly linked to primary financial objective of shareholder wealth maximisation
- Uses average profits and hence ignores timing of profits
- Ignores time value of money
- Relative measure and so ignores size of initial investment

Question 5 Part c) Rank the four above investment appraisal methods and explain your choice.

1 mark for ranking and 4 marks for explaining choice, 5 marks in total.

1. NPV
2. IRR
3. Payback
4. ARR

Discuss why NPV is superior to IRR.

- If IRR used to compare mutually exclusive projects, this can lead to the total vs. average returns problem and the wrong project may be selected: NPV always gives correct selection advice
- A problem of applying IRR to projects with non-conventional cash flows is that multiple IRRs may be found: again, NPV gives correct selection advice.
- Term structure: NPV can accommodate changes in discount rate during project, but IRR ignores them; (IRR assumes r does not change).
- NPV method assumes that cash flows can be reinvested at a rate equal to the cost of capital: IRR method assumes that cash flows can be reinvested at a rate equal to IRR.
- If projects are independent this can lead to the capital constrained problem, (soft or hard rationing)
- Lending or borrowing, (investing or financing)?

Conclusion

- NPV is academically preferred as an investment appraisal method – it has no major defects and is consistent with Shareholder wealth maximisation.
- IRR comes a close second and can prove to be a useful alternative.
- ARR and payback are flawed as investment appraisal methods but payback is often used as an initial screening method.

Question 6 Part a)

If, as some say, dividends are irrelevant, why do analysts fret over dividend changes? In your answer choose a recent example of a company that changed its dividend policy and / or engaged in share repurchasing. Discuss the reasons for the change and comment on the effects the policy had on the company's share price.

8 marks for outlining the different views, 7 marks for the discussion of the example = 15 marks in all.

Nobody disputes that dividends and share repurchases matter. However the question is does dividend policy matter? Dividend policy and share repurchases deal with the timing of payments, not the amounts ultimately paid. They are irrelevant only when the timing of payments doesn't affect the present value of all future payments. Dividend policy and / or engaging in share repurchasing are among the most controversial issues of corporate finance. The controversy surrounds the question - do dividends increase the value of a firm?

Three views:

- The prevailing wisdom was that increased dividend payouts increase firm value.
- Modigliani and Miller (MM) argued that a firm's value is decided by the success of its investments and not by how it pays dividends.
- Finally a radical view suggests that due to the differential taxation of dividends and capital gains, dividends will reduce the firm's value as they are taxed at a higher rate.

The dividend irrelevancy argument of MM assumes a world of perfect capital markets. Given the assumptions used by MM, it is very hard to dispute their claim. MM's position was a direct challenge to the traditional view, which held that high payout ratios tend to increase the value of the firm. One of the cornerstones of this position is that cash dividends today are valued more highly than cash dividends in the future because future cash dividends are more risky. While there is still debate on the issue, it appears that the traditional position has weakened considerably and there is more acceptance of the general wisdom of MM's argument.

Part of the controversy and confusion about dividends arises from the way the issue is framed. In order to decide whether dividends add value to the firm, one has to keep other variables like investment policy and debt policy constant. The dividend policy has to be isolated from capital budgeting and borrowing decisions. This would clearly imply that dividend policy trade-off is between retaining earnings for reinvestment and paying dividends and financing the investments with newly issued stocks. Keep this in mind throughout the discussion on the merits of dividends. In other words, dividend policy issue is not about paying off any excess funds the company has; but whether a company should pay out earnings as dividends when it can profitably reinvest the same.

A financial manager needs to understand the issue and trade-off involved in order to be able to make the right decisions.

Answers should include a discussion on how a change in dividend policy and / or a share repurchase often results in the value of a firm changing.

In addition the answer should discuss:

- How dividends are paid.
- The effects on other stakeholders.
- The effect of taxation.
- The information content of a change in dividend policy and / or share repurchases.

Recent examples should be used to elaborate the above.

OR

b) Answer all parts below:

i) In dividend policy, what is meant by the “information content effect”, (also known as the “signalling hypothesis”)?

3 marks for a discussion of the above

The reaction to information conveyed by the maintenance of an existing level of dividends or an increase or decrease in dividends is the information content effect.

Points should include a discussion of how a change in dividends maybe a signal of a change in the future amount of dividends (as opposed to simply a rearrangement over time).

Managers hate to cut dividends, so won't raise dividends unless they think raise is sustainable. So, investors view dividend increases as signals of management's view of the future

Therefore, a stock price increase at time of a dividend increase could reflect higher expectations for future EPS, not a desire for dividends

ii) In dividend policy, what is meant by the “clientele effect”?

3 marks for a discussion of the above

Different groups of investors, or clienteles, prefer different dividend policies

Firm's past dividend policy determines its current clientele of investors

Clientele effects impede changing dividend policy. Taxes & brokerage costs hurt investors who have to switch companies

iii) What is meant by a “residual dividend policy” and what are the advantages and disadvantages of such a policy?

1 marks for a discussion of “residual dividend policy” and 2 marks for advantages and disadvantages, 3 marks in total.

To implement a a residual dividend policy one would first estimate the retained earnings needed for the capital budget then pay out any leftover earnings (the residual) as dividends.

A residual dividend policy minimises flotation and equity signalling costs, hence minimises the WACC

Advantages: a residual dividend policy minimises new stock issues and flotation costs.

Disadvantages: Results in variable dividends, sends conflicting signals, increases risk, and doesn't appeal to any specific clientele.

Conclusion: Consider residual policy when setting target pay-out, but don't follow it rigidly.

iv) Why might a firm engage in a “share repurchase” and what are the advantages and disadvantages of doing so?

1 marks for a discussion of a “share repurchase” and 2 marks for advantages and disadvantages, 3 marks in total.

Stock Repurchases

Repurchases: Buying own stock back from stockholders

Reasons for repurchases:

- As an alternative to distributing cash as dividends
- To dispose of one-time cash from an asset sale
- To make a large capital structure change.

Advantages of Repurchases

Stockholders can tender or not

Helps avoid setting a high dividend that cannot be maintained

Repurchased stock can be used in take-overs or resold to raise cash as needed

Income received is capital gains rather than higher-taxed dividends

Stockholders may take as a positive signal-- management thinks stock is undervalued

Disadvantages of Repurchases

May be viewed as a negative signal (firm has poor investment opportunities)

IRS could impose penalties if repurchases were primarily to avoid taxes on dividends

Selling stockholders may not be well informed, hence be treated unfairly

Firm may have to bid up price to complete purchase, thus paying too much for its own stock

v) Compare and contrast a stock dividend and a stock split.

3 marks for a discussion of the above

Stock dividend: Firm issues new shares in lieu of paying a cash dividend. If 10%, get 1 share for each 10 shares owned.

Stock split: Firm increases the number of shares outstanding, say 2:1.

- Both increase the number of shares outstanding, so “the pie is divided into smaller pieces.”
- Unless the stock dividend or split conveys information, or is accompanied by another event like higher dividends, the stock price falls so as to keep each investor’s wealth unchanged.
- In imperfect markets if there’s a widespread belief in an “optimal price range” for stocks then stock splits can be used to keep the price in the optimal range
- Stock splits generally occur when management is confident, so are interpreted as positive signals