



Financial Management

Module 14

June 2009

Solutions

Question 1

(a)

Clubs'nPubs plc., (CNP)

Costs of Capital

Cost of Equity (using CAPM) = $R_f + [B_a \times (R - R_f)]$

$R_f = 5\%$

$R_m = 13\%$

$B_A = 1.4$

Cost of Equity (using CAPM) = $5\% + [1.4 \times (13\% - 5\%)]$
= $5\% + [1.4 \times (8\%)]$
= $5\% + [0.112]$
= **16.20%**

The 8% irredeemable debentures:

The yield on this can be estimated solving for K_d in the following perpetuity formula:

$P_o = I / K_d$. K_d = the after cost of debt

Note: Tax of 12.5% must be deducted from the interest payments.

i.e. interest is €4.00 per nominal €100, every six months.

Hence after tax payment = €4.00 = $(1 - 0.125) = €3.50$ per nominal €100

$P_o = I / K_d$ where: $P_o = €111.0$ and $I = €3.50$

⇒ $K_d = I / P_o = 3.5 / 111.11 = 3.15\%$ semi-annual = **6.30 % Annually**

Cost of preference shares

Its preference shares has a €10.00 nominal value

Dividend on the preference shares is 6%

Current market price of the preference shares is €12.50

Cost of preference shares is = Actual Dividend / current market price
= $(6\% \times €10.00) / €12.50$
= $(€0.60) / €12.50$
= $0.048 = 4.80\%$

Market Values of the capital Structure

The market value of equity

Current cum div share price	€24.50
Current numbers of shares	500,000
Expected dividend	€900,000
Expected dividend per share	€1.80
Current Ex div share price	€22.70
Current Equity Market Value	€11,350,000

The market value of the irredeemable Debt

$$\begin{aligned}
&= \text{the current market price, (ex div) per share} \times \# \text{ of shares issued} \\
&= €12.50 \times (8,000,000 / €10.00) \\
&= €12.50 \times (800,000) \\
&= €10,000,000
\end{aligned}$$

In Summary	Cost	Market Value
Ordinary Shares	16.20%	€11,350,000
Irredeemable Debt	6.30%	€11,111,000
Preference Share	4.80%	€10,000,000
		€32,461,000

$$\begin{aligned}
\text{Hence the WACC} &= K_{eg} \times \{E / (E+D+PS)\} + K_d \times \{D / (E+D+PS)\} + K_{ps} \times \{PS / (E+D+PS)\} \\
&= 16.20\% \times (\text{€}11,350,000 / \text{€}32,461,000) \\
&+ 6.30\% \times (\text{€}11,111,000 / \text{€}32,461,000) \\
&+ 4.80\% \times (\text{€}10,000,000 / \text{€}32,461,000) \\
&= 0.05664 + 0.02156 + 0.01479 \\
&= 0.09299 = \mathbf{9.30\%}
\end{aligned}$$

Alternatively	After Tax Cost	Market Value	Number Issued	Total Value	Proportion	% Return
Ordinary Shares	16.20%	€22.70	500,000	€11,350,000	35%	5.66%
Irredeemable Debt	6.30%	€111.11	100,000	€11,111,000	34%	2.16%
Preference Shares	4.80%	€12.50	800,000	€10,000,000	31%	1.48%
				€32,461,000	100%	9.30%

5 Marks for costs of Components of Capital
5 Marks for market value of the components of capital
3 Marks for WACC

[13 Marks]

(b)

Costs of Capital

Cost of Equity (using CAPM) = $R_f + [B_a \times (R_m - R_f)]$

$R_f = 5\%$

$R_m = 13\%$

$B_a = 2$

Cost of Equity (using CAPM) = $5\% + [2.0 \times (13\% - 5\%)]$
= $5\% + [2.0 \times (8\%)]$
= $5\% + [16.0\%]$
= **21.00%**

The 8% irredeemable debentures

The before tax yield is given in the question

$(1 - t)K_d$ = the after tax cost of debt

Note: tax of 12.5% must be deducted from the interest payments.

i.e. interest is €4.00 per nominal €100, every six months

Hence after tax payment = €4.00 = $(1 - 0.125) = €3.50$ per nominal €100

$P_o = I / K_d$ where : $P_o = €100.0$ and $I = €3.50$

⇒ $K_d = I / P_o = 3.5/100 = 3.50\%$ semi-annual = **7.00% annually**

Cost of preference shares

Its preference shares has a €10.00 nominal value

Dividend on the preference shares is 6%

Current market price of the preference shares is €10.00

Cost of preference shares is = Actual Dividend / Current market price
= $(6\% \times €10.00) / €10.00$
= $(€0.60) / €10.00$
= $0.06 = 6.00\%$

In Summary	After Tax Cost	Proportion	% Return
Ordinary Shares	21.00%	25%	5.25%
Redeemable Debt	7.00%	45%	3.15%
Preference Shares	6.00%	30%	1.80%
		100%	10.20%

Alternatively

Hence the WACC = $K_{eg} \times \{E / (E+D+PS)\}$
+ $(1-t)K_d \times \{D / (E+D+PS)\}$
+ $K_{ps} \times \{PS / (E+D+PS)\}$
= $21.00\% \times 25\%$
+ $7.00\% \times 45\%$
+ $6.00\% \times 30\%$
= $5.25\% + 3.15\% + 1.80\% = 10.20\%$

As a result of the proposal risk increasing investment CNP's after-tax WACC rises from 9.3% to 10.2%. This result is consistent with expectations. It can be explained by the fact that the increased financial leverage resulted in a higher proportion of debt in the firm's capital structure. The tax-deductibility of the increased proportion of debt is more than compensated for the increased pre-tax costs of each source of financing, thereby raising CNP's WACC.

2 Marks for costs of the components of capital
2 Marks for market value of the components of capital
2 Marks for WACC

[6 Marks]

(c)

Only firms with no debt in their capital structure should use the cost of equity to discount project cash flows, and only those projects that are very similar to a firm's existing assets should be discounted using that rate.

Firms with both debt and equity should use the WACC as long as they are evaluating a project that is similar to their existing assets. When a firm is making an investment that is very different from its existing investments, then it shouldn't use the company's cost of equity or its WACC.

In part (a) we were asked to calculate the cost of capital that CNP should use as a discount rate when appraising new marginal investment opportunities. In this case the original WACC of 9.3% is appropriate.

In part (b) CNP is considering a major investment that is expected to increase its operating and financial leverage. In this case CNP is making an investment that is very different from its existing investments. It shouldn't use the company's original cost of equity 16.2% or its original WACC of 9.3%.

1 Mark for when firms should discount projects using the cost of equity.
2 Marks for when they should use the WACC.
1 Mark for when they should use neither
2 Marks for applying it to CNP

[6 Marks]

Total Marks 25

Question 2

(a)

The cost of capital, r , can be found by rearranging the terms in the dividend growth model,

$P_0 = D_1 / (r - g)$ so:

$r = (D_1/p_0) + g = (0.45/9) + 0.1 = 0.05 + 0.1 = 0.15 = 15\% = \text{the cost of capital}$

Investment A

NPV = PV of Benefits – PV of costs

PV of **benefits** = €1m x PVIFA (10yrs, 15%) + PVIF (2yrs, 15%) {CF / (r – g)}
 = €1m x 5.019 + 0.7561 {2.5m / (0.15 – 0.05)}
 = €5.019m + 0.7561 {2.5m / 0.1}
 = €5.019m + 0.7561 {25m}
 = €5.019m + 18.9025m = **€23.9215m**

PV of **Costs** = €3m + [PVIF (2yrs, 15%) x {€3.5m x PVIFA (20yrs, 15%)}]
 = €3m + [0.7561 x {€3.5m x 6.2593}]
 = €3m + [0.7561 x {€21.90755}]
 = 3m + [€16.5643m] = **€19.5643m**

Thus **NPV** = €23.9215 - €19.564 = €4,357,201

Thus as NPV of Investment A > 0 using the NPV decision criteria alone the firm should undertake the project. However Investment A and B are mutually exclusive, (as in “Alternatively NanoTech Plc. Has offered you the following deal”), therefore we must look at Investment B and see which has the highest NPV.

Investment B

Year	Cash Flows	r=15% Discount Factor	Present Value	r=20% Discount Factor	Present Value	r=16% Discount Value	Present Value	r= 17% Discount Factor	Present Value
€m	€m		€m		€m		€m		€m
1	-10	1	-10	1	-10	1	-10	1	-10
1-20	1	6.2593	6.2593	4.8696	4.8696	5.9288	5.9288	5.6278	5.6278
20	80	0.0611	4.8696	0.0261	2.088	0.0514	4.112	0.0433	3.464
		NPV=	1.1473	NPV=	-3.0424	NPV=	0.0408	NPV=	-0.9082

$$\text{IRR} = A + \frac{a}{a - b} \times (B - A)$$

where:

A=	15%	1.1473	= a
B=	20%	-3.0424	= b

$$\begin{aligned} \text{IRR} &= 15\% + 1.1473 / (1.1473 - -3.0424) \times (0.2 - 0.15) \\ \text{IRR} &= 15\% + 1.1473 / (4.1897) \times (0.05) \\ \text{IRR} &= 15\% + 0.2738 \times (0.05) \\ \text{IRR} &= 15\% + 0.0137 \\ \text{IRR} &= 16.37\% \end{aligned}$$

Therefore the IRR lies around 16% so choose a discount rate 1% either side

$$\text{IRR} = A + \frac{a}{a - b} \times (B - A)$$

where:

A=	16%	0.0408	= a
B=	17%	-0.9082	= b

$$\begin{aligned} \text{IRR} &= 16\% + 0.0408 / (0.0408 - -0.9082) \times (0.17 - 0.16) \\ \text{IRR} &= 16\% + 0.0408 / (0.949) \times (0.01) \\ \text{IRR} &= 16\% + 0.0430 \times (0.01) \\ \text{IRR} &= 16\% + 0.0004 \\ \text{IRR} &= 16.04\% \end{aligned}$$

At 15%, the NPV of Investment B is also >0. Using the NPV decision criteria alone the firm should undertake the Investment B.

However even though the IRR for Investment B at 16.04% is bigger than the discount rate in Investment A, the NPV of Investment A is greater than the NPV if Investment B.

Hence as Investment A and B are mutually exclusive, Investment A should be chosen over Investment B.

- 1 Mark for Cost of capital
- 3 Marks for PV benefits
- 3 Marks for PV costs
- 1 Mark for NPV A
- 1 Mark for NPV B
- 3 marks for IRR B
- 1 mark for NPV A > NPV B

[13 Marks]

(b)

NPV is considered the academically preferred investment appraisal method.

- The NPV method works out the present values of all cash inflows & outflows of an investment at a target rate of return, & calculates out a net total.
- Projects with a positive NPV are deemed acceptable or viable. Projects that exhibit a negative NPV are considered to be unacceptable or not viable.

Strengths:

- The NPV takes into account the time value of money
- It is expressed in today's money terms
- It uses cash flow rather than accounting profits over the entire life of the project.
- It is the academically preferred method.

Weaknesses:

- It is not easily understood as pay-back or ARR
- The discount factor that is appropriate can be a complex decision.

Decision Rule: Choose the project with the highest (positive) NPV.

Internal rate of return, used more often by accountants than NPV

- Attempts to find the discount factor where $NPV = 0$
 - If the $IRR >$ the company's target rate of returns/cost of capital, then the project is viable.
 - Manual calculation involves finding two NPV; s at two discount rates and using a linear interpolation technique to find an approximate IRR.
- Otherwise use a spreadsheet to find IRR.

Strengths:

- It considers both the magnitude and the timing of the project's cash flows over the entire life of the project.
- IRR is measured as a percentage, which is easy to understand.

Weaknesses:

- It ignores the relative size or scale of investments.
- More than one IRR may result if the cash flows from projects are 'not conventional'.
- IRR should not be used to assess mutually exclusive projects.
- When projects are mutually exclusive, the NPV is a better criterion for making investment decisions.
- IRR assumes cash flows related to a project can be re-invested elsewhere at the IRR.

Discuss choice, students should say that NPV is superior to IRR because:

- Mutually exclusive projects can lead to total vs. average returns problem.
- If projects are not independent it can lead to capital constrained problem, (soft or hard rationing).
- Lending or borrowing, (investing or financing)?
- Multiple rates of return problem.
- Tem structure; (IRR assumes or does not change).

The NPV Criterion Decision rule states that to maximise shareholder wealth, all positive NPV projects should be accepted and all negative NPV projects should be rejected. The IRR

2 Marks each for NPV, IRR and Discussion

[2 x 3 Marks]

(c)

By its nature the future is uncertain. Hence planners must accept that financial plans for the future will rarely be completely accurate. Where forecasts are dependent on economic events, changes in the market or changes in an industry for example they will be very difficult to make. Financial forecasts should be based on realistic assumption. This will allow the forecasts to be compared to actual and expected performance. Companies should make contingency plans, for what they will do if the most likely predicted events fail to occur. They can also use risk management techniques such as hedging procedures could be put in place to protect against adverse movements in interest rates or foreign exchange rates for example.

While planners should accept uncertainty they should also try to consider the costs of forecasts being erroneous. Methods of assessing uncertainty are:

- Sensitivity analysis / “what if “questions.
- Best case / worse Case and most likely scenarios forecasts
- Probability distribution of possible outcomes
- Simulation models
- Statistical models

Sensitivity analysis;

Forecaster can try to cost erroneous forecast by carrying out **sensitivity analysis**. By asking “what id” questions and finding out the effects of changes in the underlying assumptions of the forecast.

e.g. what would be the effect of every one percent increase/decrease in the predicted inflation, sales, wages, interest rates etc. What would be the cost of every delay of one week / month? This approach can be used in conjunction with the probability distributions methods outlined below.

Best case / worse Case and most likely scenarios forecasts

This is a very common approach in uncertain situations. It involves asking “what is the best case, (optimise), scenario?” “What is the worst case, (pessimistic), Scenario?” “What is the most likely scenario?” Forecasts can be prepared for each of these outcomes. This approach is also often used in conjunction with probability distributions methods outlined below.

Prepare a probability distribution of possible outcomes

A probability distribution can be prepared either in conjunction with the best case/worse case scenario or as an alternative to it. A probability distribution can be forecast either for the possible range of different outcomes or for any key variable in the business plan. The effects of changes in unknowns such as sales, materials, wages and other costs, Interest rates, foreign exchange rates, and so on can be prepared. From these probability distributions, forecasts can be made of the expected value of or alternatively the probability distribution of sales, profits or cash flow for example.

Simulation models

Simulation model are put together by assigning a range of random numbers to each possible value for each of the uncertain variables. These random numbers should exactly match their respective probabilities. This can be achieved for example by working upwards cumulatively from the lowest value to the highest value and assigning numbers that will match up to its probability groupings.

Statistical models

Statistical model can be used to predict likely outcomes given interdependent variables. Multi-variate models are becoming more common as computing power becomes cheaper and knowledge of their use becomes more widespread. With all these techniques there is a danger that while acknowledging risk and uncertainty they appear to be able to “control it” or at least “control for it”. This can give a false sense of security can be almost as dangerous as not acknowledging uncertainty in financial forecasts in the first place!

1 Mark for each technique

[6 Marks]

Question 3

Parts 1 - 4

By the nature of the question, answers should be in a report format.

It should start off by being correctly directed to Mr Smith as the managing director. A brief introduction should be followed by clearly structured sections dealing with each of the issues outlined in the question. If possible, an outline of its conclusions can be mentioned here. As with all reports a clear line of thinking should emerge, therefore if necessary, calculations and other supplementary material may be appended to the end of the report.

Since no information is given about market trends we may assume that current trends continue. Thus we will assume that 100,000 radiator covers will be required per year in the future.

	Original System	Using EOQ	Using EOQ	JIT
	Imported Rads	Imported Rads	Local Rads	Imported Rads
S = Forecast annual usage	100,000	100,000	100,000	100,000
D = Ordering cost per order	€25,000	€25,000	€5,000	N.A
I = Annual inventory holding charge as a proportion of V	30%	30%	30%	N.A
V = Cost per unit in stock	€10.00	€10.00	€10.50	€11.00
Q* = EOQ = $\sqrt{\frac{2 \times S \times D}{I \times V}}$	25,000	40,825	17,817	N.A
Number of deliveries per year	4.0	2.4	5.6	N.A

Annual Ordering Costs = $\frac{SD}{Q}$	€100,000	€61,237	€28,062	N.A
Annual Holding costs = $\frac{IVQ}{2}$	€37,500	€61,237	€28,062	N.A
Additional wholesale price cost	€ -	€ -	€50,000	100,000
Total Cost	€137,000	€122,474	€106,125	€100,000
Reduction in costs due to change		€15,026	€31,375	€37,500
Inventory costs per unit	€1.38	€1.22	€1.06	€1.00

From the table above we can see that using the current system, combining ordering costs and holding costs at €137,500, this is the highest cost alternative. If we are to continue with the current supplier and current system then we should decrease the orders from 4 to 2.4 (on average) per year with a consequent increase in order size from 25,000 per quarter to 40,825 every five months approximately. This will cut ordering costs from €100,000 to €61,237 enough to compensate for the increase in holding costs from €37,000 to €61,237. Thus total costs ordering and holding costs will fall from €137,500 to €122,474, a saving of €15,026 per year.

However even greater savings could be made by switching to a local supplier. We could increase the orders from 4 to 5.6 (on average) per year with a consequent reduction in order size from 25,000 per quarter to 17,817 every two months approximately. This will cut total costs of ordering and holding inventories by €81,375. However to this we must add the additional wholesale price increase of 5%. The wholesale cost of these items to rise from €10 x 100,000 = €1,000,000 to €10.50 x 100,000 = €1,050,000, an increase of €50,000 per annum. This will reduce the total savings of switching to the local supplier to just €31,375.

Switching to JIT system will add a 10% increase to the wholesale price, an additional €100,000 per annum. However as ordering and holding costs are eliminated, in total costs will fall from €137,500 originally to €100,000 a decrease of €37,500. This would be the biggest saving of all.

In describing some of the issues that might arise in the operation of an inventory control system notes should be taken from the following:

1. Arguments for and against adopting EOQ over the current system.
2. Arguments for and against using the new local supplier over the current supplier.
3. Arguments for and against adopting EOQ over JIT system involving outsourcing.

(1). Arguments for adopting EOQ over the current system could include:

- Demand for radiator covers is assumed known and predictable.
- Quantity ordered shows little seasonal variation over time.
- While inventory holding costs are increased in the new situation than in the current, reduction in inventory ordering costs is significant by comparison.

Arguments against could be:

- Past assumptions may not hold in the future, demand may change both in quantity and variability.
- Not all possible relevant information is given in the question; other variables not mentioned could impact.
- As the average number of radiator covers in stock is considerably reduced, there is a higher likelihood of a shortage or stock out.
- No mention is made of the effects of a shortage or stock out or in need to maintain a safety stock.

(2). Arguments for using the new local supplier over the current supplier:

- Reduction in delivery time from two weeks to one should reduce the likelihood of a shortage or stock out.
- As demand for radiator covers is assumed known and predictable, less inventories in stock is acceptable.
- Cost savings compared to current supplier using EOQ or current system.

Arguments against could include:

- No information on track record of (un)reliability.
- No information on guarantees or quality
- No cost savings compared to current supplier using JIT.

(3). Arguments for and against adopting EOQ over JIT system involving outsourcing could include:

(Note: some of the arguments against adopting an EOQ system and could apply even more forcefully apply against a JIT system, particularly the possibility of a shortage / stock out.)

- Outsourcing involves a reduction in ownership and control.
- Morale may suffer as staff may feel that their jobs or prospects are under threat.
- Using JIT they would have to rely upon quick response and delivery from their overseas supplier.
- Using JIT they would probably be dependent upon on-line or equivalent ordering systems that are vulnerable to attack and breakdown.
- No information on back up arrangements that would need to be made in the event of being let down by current suppliers.
- No cost benefit by comparison to local supplier.

Arguments against adopting EOQ over JIT system involving outsourcing could include:

- Outsourcing carries many benefits as well as risks, particularly but not exclusively costs.
- Outsourcing is increasing in both size and scope.
- May be used for activities regarded as ancillary to the core activities of the firm.
- If we wish to stick with the current supplier, JIT is the lower cost option.
- Supplies ordered in as they were needed.
- The JIT system as outlined here potentially frees up management and staff time from stock control duties.

(5) In reaching conclusions and making recommendations candidates would be expected to take account of the fact that inventory control is an important part of the financial planning and control system. Inventories are often controlled by a variety of departments; each with their own interests in maintaining stocks at a high level. It often falls to the financial management department to ensure that conflicting interests are kept in balance. The goal of financial management in this context is that the investment in total inventory yields the largest possible NPV. Optimum inventory control is however compromised by many real world factors which hinder its achievement.

10 Marks for workings

8 Marks for the report

2 Marks for Recommendations

[20 Marks]

Section A – Question 4

(a)

Agency problems arise from the separation of ownership and control.

Ownership is widely spread

Day to Day control is in the hands of a few managers, (small overall share of ownership).

Agency Costs arise due to:

1. Costs of monitoring
2. Bonding costs

Most of the attention in the literature has been focused on (a) shareholders and managers: e.g.

- Excessive expenditure on perquisites
- Low risk survival strategies
- “satisficing” behaviour.

Attempts to minimise this behaviour include internal and external methods

Internal methods are schemes agreed by shareholders to try to align the interests of the manager with the shareholders, e.g. share option schemes.

External methods rely on the capital markets to recognise where a manager is failing to maximise the value of a firm and hence leave scope for a profitable takeover.

As Jensen and Meckling, (1976), show ultimately it is the shareholders who will bear the agency costs so it is in their best interests to minimise them.

So a company might attempt to minimise such problems so as to reduce the cost of capital for the company and hence increase firm value.

2 Marks for explaining Principal – Agent conflicts

3 Marks for applying to Irish financial institutions

[5 Marks]

(b)

- Weak form efficiency – A form of the theory that suggests you can't beat the market by knowing past prices.
- Semi-strong efficiency – Perhaps the most controversial form on theory, it suggests you can't consistently beat the market using publicly available information. That is, you can't win knowing what everyone else knows.
- Strong form efficiency – The form of the theory that states no information of any kind can be used to beat the market. Evidence shows this form does not hold.

In a strongly efficient market, finance directors will be alert to the fact that market prices are an accurate reflection of their company's financial prospects, and that if they behave in a manner which results in bad financial decisions, the share price will quickly fall to compensate for the worsening prospects.

This means that the effect of an efficient market is that it keeps managers alert to the consequences of their decisions. In an inefficient world, prices may take a while to adjust to reflect poor planning or control, but in a semi-strong or strong market environment this will not be true. It can thus be said that the efficient markets hypothesis encourages higher quality financial management. In a similar vein, it also serves to discourage the artificial manipulation of accounting information, as the truth will quickly be realised, and prices adjusted accordingly.

The dramatic rise and fall of Irish financial institution shares could be seen as an example of a speculative bubble. However a speculative bubble would be an invalidation of the Efficient Market Hypothesis (EMH).

There have been cases where shareholders and the market were not fully informed about the true situation inside Irish financial institutions. Directors could try to boost stock price temporarily by disseminating a deceptively rosy picture of the financial institution prospects. However, it is difficult to imagine how a manager can act in the stockholders' best interests by deceiving them.

The value of a share is the discounted value of all expected future dividends. Even if the investor plans to hold a stock for only 5 years, for example, then, at the time that the investor plans to sell the stock, it will be worth the discounted value of all expected dividends from that point on. In fact, that is the value at which the investor expects to sell the stock. Since all securities in an equivalent risk class must be priced to offer the same expected return, the market capitalisation rate must equal the opportunity cost of capital of investing in a share, even an Irish financial institution share. An implication of this is that, on average, the typical market participant cannot earn excessive profits from a particular trading strategy.

However, that does not mean that Irish financial institutions could not outperform the market over a particular investment horizon. Certain companies who do well for a period of time get a lot of attention from the financial press. Similarly the companies who do not do well generally get considerable attention from the financial press too.

Financial bubbles are not unknown in history and they are examples of markets participants not behaving rationally. However the fact that shares eventually return to their "true" values could be said to show that markets are efficient in the long run.

1 Mark for 3 types

4 Marks for applying to Irish financial institutions

[5 Marks]

(c)

The demise and decline of financial institutions across the globe has shown very clearly how we are all stakeholders in financial institutions, even ones we may never have heard of or bank with, (e.g. the demise of many Icelandic banks and the subsequent “contagion effects” across the world but especially in Ireland!).

Corporate social responsibility (CSR) is just one part of good corporate governance. CSR in financial institutions show how they relate to the wider society, such as the environment, the community, its staff, suppliers and customers. Financial institutions take up CSR policies to demonstrate that they are good ‘corporate citizens’ and that they work within an ethical code of conduct. In particular good corporate governance principles of fairness and openness apply. While society expects all companies to behave in a responsible way it particularly expects financial institutions to do so. By so doing a financial institution will maintain its good reputation while all who do not will lose theirs. For a financial institution, its reputation is vital. By being perceived to be good corporate citizens financial institutions were treated with a more relaxed regulatory environment. This made it easier for them to achieve their goals by cooperation with the regulators and also reduced the likelihood of yet more regulation.

Failure to behave responsibly towards the environment or with due regard for safety may damage a company’s reputation – and hence its profits and ability to raise funds in the market.

Internationally, governments and institutional investors are putting increasing pressure on financial institutions to demonstrate good CSR. Financial institutions must disclose in their annual reports that they have assessed the significant reputational risks that could affect their business. CSR can be said to provide some ‘quality assurance’ for all stakeholders not just shareholders.

The exit of the main directors in the surviving financial institutions and their replacement with “new blood” is seen as trying to re-establish credibility in the new boards.

2 Marks for explaining CSR

3 Marks for applying to Irish financial Institutions

[5 Marks]

Total Marks 15

Question 5

(a)

Cash management is crucial to a business because, irrespective of its profitability, a business will fail if it is unable to provide sufficient cash to pay what it owes. It is possible for a profitable business to become insolvent through overtrading: when a business is growing the growth in the need for cash to fund working capital grows faster than sales, and a business needs to provide sufficient long term capital to allow for this.

The objective of cash management is to keep the amount invested in cash to a minimum, while keeping enough cash to facilitate foreseeable needs. Firms need to calculate their optimum cash balance because holding cash balances is expensive. It has a cost – opportunity cost. On the other hand, the higher the cash balances, the greater the opportunity cost incurred. It is necessary for almost all businesses to hold some cash. Borrowing cash or selling securities to replenish cash balances will incur transaction costs. The more frequently a firm needs to replenish its cash balances, the higher the total transaction costs. Therefore the larger the cash balances, the lower the transaction costs.

Factors affecting the size of the minimum cash balance:

- The need to meet unexpected cash needs
- The company's need to maintain its credit rating by lenders and trade creditors
- The ability to take advantage of trade discounts that become available for cash payments
- Business risk

By shortening the cash cycle a firm can improve profitability and liquidity and can enhance shareholder value. This can be achieved by:

- shortening the stock period.
- improving credit control
- slowing down the payments period.

For cash budgeting purposes, cash management (flow forecasts) is important as it is necessary for firms to know when they will have cash surpluses and cash deficits. Knowing when these deficits and surpluses occur will allow the firm to know when they will need to replenish their cash stock or when they will be investing their surpluses.

4 Marks for discussion on Cash management

3 Marks for application

[7 Marks]

(b)

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.

5 Marks for dividend policy

3 Marks for example

[8 Marks]

Total Marks 15

Question 6

(i)

The role of the Chairman is to act as the leader of the board of directors and to be responsible for the successful carrying out of the policies set by the board. The Chairman has the most important role in external relations with all the stakeholders and investors in the company.

As a direct employee of the company, the Chief Executive Officer (CEO) is the highest ranking executive director. The CEO is therefore personally accountable to the board for both all decisions made by all the executive management and the results of those decisions.

Thus these two positions are the most dominant on the board of directors. Should these two positions be held by the same person then that person could have such a powerful influence on decision-making that other board members would not feel comfortable to confront or call to account such a strong director. Likewise it may also be easier said than done for all aspects of an issue to be well thought-out before decisions are made.

Should the dominant director also play a key role in selecting non-executive directors, these NEDs may feel compromised in vigorously offering the challenge needed for long-term success. It would not be unreasonable to suspect that maximising shareholder value might be sacrificed and that they might manage the company for their own personal benefit rather than in the interests of all shareholders. Many examples of Poor corporate governance that led to the setting up of the Cadbury Committee were in companies run by domineering chairmen and chief executives, such as Asil Nadir (Polly Peck) and Robert Maxwell (Mirror Group).

Reasons given by listed companies for defying the code include that given by Morrisons in the UK, that basically no one understood the supermarket business better their CEO who they also made chairman. While that was somewhat acceptable while the group was performing strongly once the results began to slip this blatant breach of the Combined Code was no longer deemed acceptable and the company followed the code and separated out the roles of CEO and Chairman to two different people.

1 Mark for role of Chairman

1 Mark for role of the CEO

3 Marks for why its inappropriate to combine roles

[5 Marks]

(ii)

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.

2 Marks for transactions risk

2 Marks for Translation risk

1 Mark for contrast

[5 Marks]

(iii)

While it is possible for investors to avoid risk by only investing in risk free investments e.g. short term Government paper the expected returns will be low. Generally it is accepted that investors need a higher reward to take on higher levels of risk. Similarly, investors accept that the higher the return they can expect, the higher the level of risk they will have to bear, and vice versa. So it is important that we know what is meant by risk and how we measure it.

Standard deviation, or total risk, is the square root of the weighted average deviation of the returns on the individual stocks in a portfolio from the mean return, E.g. for a two asset portfolio, the Standard Deviation

$$(\text{= "the total risk of the portfolio"}) = \sigma_p = \sqrt{\{x_1^2\sigma_1^2 + x_2^2\sigma_2^2 + 2x_1x_2\rho_{12}\}}$$

The standard deviation or total risk of so called 'risky investments' can be broken down into two forms, namely: unsystematic risk which is diversifiable and systematic risk which is undiversifiable.

For an investor with an undiversified portfolio, it is total risk or standard deviation which is the most appropriate measure of risk.

The risk-return relationship an investor will be willing to accept will be a personal decision, influenced to a great extent by their attitude to risk i.e. their degree of risk aversion. While total risk is composed of unique risk and market risk, the market only compensates for market risk. There is no return for taking on unique risk that is diversifiable.

The systematic risk remaining in a portfolio reveals how that portfolio responds to changes in the value of the market portfolio. Some shares will be more cyclical and hence more responsive to changes in the value of the market portfolio. These are considered inherently more risky than other portfolios. Any investor wishing to invest in such shares must accept the associated level of risk which is undiversifiable.

The systematic risk of a security is incorporated into the beta term of the capital asset pricing model. Beta is the slope of a regression line, and it equals the covariance of the return on a security with the return on the market divided by the variance of the market return:

$$\beta_i = \text{cov}_{im} / \sigma_m^2$$

Beta measures the sensitivity of a stock's return to the return on the market portfolio. The market portfolio is a portfolio of all assets in the economy. In practice a broad stock market index, such as the S&P Composite, is used to represent the market. By definition the Beta of the market portfolio is one and that of the risk free asset is zero. While beta does not directly measure risk, it is a crucial risk indicator, reflecting the extent to which the returns on the single asset move with the market.

CAPM states that $E(r_i) = r_f + \{E(r_m) - r_f\} \cdot \beta_i$

Unlike standard deviation, Beta is not a measure of total risk but a measure of relative risk, the risk of an asset relative to the market. Beta is also a measure of market risk. Market risk accounts for most of the risk of a well-diversified portfolio.

For an investor with a diversified portfolio, it is the beta not the standard deviation of the portfolio which is the most appropriate measure of risk.

2 Marks for standard deviation

2 Marks for Beta

1 Mark for appropriate measure

[5 Marks]

(iv)

This is however certainly not a new one. In the 1990's in the UK, many of the state-owned utility industries were privatised. The directors of the newly established listed companies were seemingly been given extravagant remuneration for basically the same jobs.

The Greenbury Report recommended that:

- Listed companies include a statement on directors' remuneration in annual report and accounts,
- Executive directors remuneration be decided by a committee of non-executive directors and
- Other recommendations on remuneration policy such as an executive director's service contract be for no more than one year.

However rather than the perception at the time that naming and shaming would reduce directors remuneration the publication and increased disclosures following Greenbury resulted in generally higher remuneration. Pay in most cases increased as boards wished their company to be seen to be attractive to “the best and the brightest”.

Policies which were perceived as ‘rewards for failure’ when directors who might be forced to resign for poor performance would still collect large severance packages in lieu of notice under their contracts – frequently including much of the benefits and bonuses too.

There is growing concern about bonuses and performance related pay where the criteria on which these schemes are based are less than obvious. Often rewards seemed to be disproportionate to the increase (and sometime decrease!) in shareholder wealth.

The current falls in share price has angered many shareholders who are far less likely to agree generous packages in the current climate. Voluntary reductions in remuneration packages by executive and non-executive board members are not unusual now. Likewise many of the share options are so far “under water” that they have no chance of ever being exercised and hence have no motivating effect for management.

3 Marks for discussion on remuneration

2 Marks for examples

[5 Marks]

(v)

After an organisation has decided to replace an asset it needs to consider two issues, namely:

- should the replacement be an identical asset or not?
- what is the optimum time/cycle to replace the asset?

In each case there may be different life spans attaching to each possible replacement asset/identical replacement cycle.

To compare the options consistently the analyst will first determine the NPV of each option. Thereafter, the equivalent annual cost approach to asset replacement will be used to equate on a consistent basis the annual cost of each option regardless of duration.

This is achieved as follows:

Equivalent Annual Cost = NPV of each option/Annuity factor for duration of option.

The option with the lowest equivalent annual cost will be the optimal choice.

4 Marks for outlining the approach

1 Mark for explaining decision criteria

[5 Marks]

(vi)

The co-efficient of correlation, “r” or in Greek “ρ” “Rho”, is a measure of the strength and type (positive or inverse) of the relationship between two variables. For a two stock portfolio the co-efficient of correlation shows how the returns on each of the stocks co vary with each other. It is determined by a mathematical analysis of past returns on the two shares.

In a two stock portfolio the co-efficient of correlation does not appear in (and hence does not effect) the equation for the return of the portfolio $E(R_p) = x_1R_1 + x_2R_2$ where x_1 and x_2 are the weights of asset 1 and 2 respectively in the portfolio.

However “ ρ_{12} ” “Rho₁₂”, (the correlation of stock 1 with stock 2), does appear in the equation for the Standard Deviation of a two asset portfolio. The standard deviation is a measure of the total risk of that portfolio. Hence the co-efficient of correlation does affect the risk of that portfolio.

E.g. for a two asset portfolio, the Standard Deviation (= “the total risk of the portfolio”)
 $= \sigma_p = \sqrt{\{x_1^2\sigma_1^2 + x_2^2\sigma_2^2 + 2x_1x_2\rho_{12}\}}$

The range of values of the co-efficient of correlation is from -1, (perfect negative correlation i.e. if stock 1 increased by 10% then stock 2 would decrease by 10% and vice versa), to +1, (perfect positive correlation i.e. if stock 1 increased by 10% then stock 2 would increase by 10% and vice versa). Zero correlation would imply no correlation between the two stocks. In general most shares tend to be positively correlated to each other to some degree, as the price of stock 1 increase, stock 2 increases too and vice versa.

An example of shares likely to have a strong positive correlation would be those in similar industries e.g. Ryan Air PLC and Aer Lingus PLC. An example of shares likely to have a strong negative correlation would be those in industries that performed best at opposite ends of the economic cycle e.g. a luxury goods manufacturer such as LVMH and a firm that specialises in insolvency work.

1 Mark for outlining the co-efficient of correlation

1 Mark for effects on return

3 Marks for effects on risk and in 2 stock portfolio.

[5 Marks]

Total Marks 15