Financial Management
Module 14
November 2009

Suggested Solutions

Section A - Question 1

Part a:

4 marks each for parts (i) and (ii), 3 marks for part (iii) and 2 marks for part (iv) = 13 marks in all.

i) Net asset (liquidation) basis:

PV of bond:

As interest is paid semiannually:
The total number of periods over which the cash flows will be paid is 10 (2 X 5 years remaining).
The required rate of return on assets of this risk level is 12% / 2 = 6% semiannually.

The formula for the present value of a non callable redeemable bond is:
    = PV of the coupon payments + the PV of the redemption value of the debt
    PV = €250,000 x (8.11) + €5,000,000 x (0.675)
    (From PV annuity tables, n = 10, r = 4% and PV tables n = 5, r = 8% and)
    = €2,027,500+ €3,375,000 = €5,402,500

Change in the value of fixed assets:

If we assume that both buyer and seller would accept the revaluation of assets by the independent valuer, an assets valuation of equity would be as follows.

Adjusted Net Assets of LHW Ltd

	€million	€million
Balance sheet Figure		2.6
Estimated values of fixed assets		
Land & Buildings	2.0	
Plant & Machinery	4.0	
Fixtures and Fitting	1.2	
Motor Vehicles	0.35	
	9.0	
Less fixed assets in balance sheet		(1.45)
Current Assets:		
Nominal value of debtors in balance sheet	2.5	
20% reduction of value of debtors		(0.5)
Nominal value of 8% of debentures in balance sheet	(5.0)	
Redemption cost	(5.4)	
		(0.4)
Adjusted net Assets of LHW Ltd		0.2

(ii) P:E Ratio:

Choosing the appropriate earnings figure:
As a company with significant growth since its start up, it would not be correct to believe that past earnings are an appropriate measure for valuation. Future earnings should be used.

Usually if no other information about the future is available one would use the latest earnings figure and forecast that next year equals this year, i.e. €250,000. We could however take the average of forecast earnings based on the directors' assessment of growth prospects for the next three years:

Year	2009	2010	2011	Average
Profits	€262,500	€275,625	€316,969	€285,031

Choosing the appropriate ratio:
The only P/E ratio for an earnings basis valuation given is that of 14 times for the quoted company. This should be reduced by about 40%, to about 8.4, to allow for unquoted status. A share valuation on an expected earnings basis might be as follows:

P:E Ratio	Earnings	Valuation	# of Shares	Value per share
8.4	€250,000	€2,100,000	10,000,000	€0.210
8.4	€285,031	€2,394,263	10,000,000	€0.239

iii) Dividend yield with no growth

The gross dividend yield for shareholders in the quoted company was 10%, and it is reasonable to suppose that investors in LHW Ltd. would require at least this yield, (perhaps increased to allow for unquoted status, e.g. 14%). Again, usually if no other information about the future is available or one is unhappy with the forecasts given, one would use the latest dividend figure and forecast that next year equals this year, i.e. €100,000.

A yield basis valuation would therefore be:

€100,000 / 0.1= €1,000,000 = €0.10 per share.
Or €100,000 / 0.14 = €666,666.67 = €0.067 per share, (to allow for unquoted status).

iv) Dividend yield with growth

If one wished to use the forecast earnings, then as earnings are expected to increase by 5% a year for the next three years, with no further information we can assume g = its capital gains yield = 5%. The dividend yield for the quoted companies was only 10%. For LHW, an unquoted company, this could be increased by about 40% to 14%.

Since the required return for LHW = its dividend yield + its capital gains yield
That is to say: $r = (Div_1 / P_0) + g$
Thus r = 14% + 5% = 19%

Therefore using Gordon's dividend growth model:

$$P_0 = D_0(1+g) / (r - g) = 100,000(1.05) / (0.19 - 0.05) = €105,000 / 0.14 = €750,000$$ or €0.075 per share.

Summary:	Company	Per Share
Net Asset Value	€247,500	€0.025
P:E (Low)	€2,100,000	€0.210
P:E (High)	€2,394,263	€0.239
Div Yield (No Growth)	€666,666.67	€0.067
Div Yield (With Growth)	€750,000.00	€0.075

Part B

5 marks for discussion and 2 for application to the example = 7 in total.

It is not unusual to find that each method of valuation gives a very different answer. Here the range of values obtained for LHW ranged from €0.025 to €0.239 per share. This corresponds to a range of values from €247,500 to €2,394,263 for the company.

i) Net asset (liquidation) basis:

This is a rather conservative method of valuing based on historical cost; it is total assets (fixed and current) less liabilities divided by the number of shares to give an asset value per share. This measure is frequently used to estimate the value of private companies and is especially useful for property companies or firms with substantial amounts of fixed assets.

Here the valuation obtained was €0.025. If the views of the directors are correct and current market prices do not represent the Long term value of the assets then it is no wonder this is the lowest value obtained.

ii) Price Earnings ratio:

This measure is based on the price earnings ratio which is market price per share dividend by the earnings per share (measure of growth or future prospects); the PE ratio is multiplied by the profits and then divided by the number of shares; suited for public companies and obviously the higher the PE ratio the greater the value of the firm.

Potential purchasers would be more interested in future earnings than past earnings but often reliable forecasts of future earnings are not always obtainable. Also as the firm here is unquoted it is not possible to obtain a market price per share. Thus this method is not entirely suited. A quoted company can be used as a proxy but the figure for the P/E ratio must be adjusted. Here it was decreased by 40%.

Thus adjusted and using last year's earnings this method gives a value of €0.21. While adjusted to reflect its unquoted status and using forecast earnings it gives the highest value of €0.239.

iii) + iv) Dividend valuation methods:

This measure is based on gross dividends divided by the dividend yield; frequently used for companies that regularly pay dividends; hence relevant for public companies and not private ones; based on the rationale that dividends reflect the earnings capacity of the firm; future cash flows rather than assets or past events; inapplicable for a firm such as Ryanair which has never paid a dividend.

In this case the dividend yield method gives values for the company of €0.067 assuming no growth and €0.075 assuming estimated growth continues forever. These values for the company lie between the current NAV and those obtained using the P:E methods. A potential purchaser would, however, be more concerned with earnings than with dividends.

Summary

There is no single method which is most suitable. It depends. Net Asset basis is usually considered quite conservative and can serve as a base or minimum value. If a potential purchaser intended to buy the entire company an offer price of €0.025 or less should be considered too low. As the asset value of the company is quite low it is unlikely that it might attract the attention of an asset stripper. Therefore it is more likely that a valuation would be based on earnings.

The upper value of approximately €0.21 to €0.239 based on P:E is probably appropriate as a figure which Paul might wish to use as a "fair value". However it is possible that Tony might consider the mid values obtained using the dividend yield methods more appropriate!

Part C

2 marks for standard deviation, 2 marks for Beta and 1 mark for appropriate measure = 5marks in all.

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

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

$$\Rightarrow \text{beta}_i = \text{cov}_{im} / \sigma_m^2$$

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 $E(ri) = r_f + \{E(r_m).- r_f\}.\beta i$

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.

Question 2

Part A

14 marks for calculations.

<table>
<tr><td colspan="6" align="center">AWN Income Statements
(€ in thousands for years ended December 31)</td></tr>
<tr><td></td><td>2010</td><td>2011</td><td>2012</td><td>2013</td><td>2014</td></tr>
<tr><td></td><td>€</td><td>€</td><td>€</td><td>€</td><td>€</td></tr>
<tr><td>Sales (+10%)</td><td>121.00</td><td>169.40</td><td>220.22</td><td>264.26</td><td>290.69</td></tr>
<tr><td>- COGs (1 – 32% to 1 – 40%)</td><td>82.28</td><td>111.80</td><td>140.94</td><td>163.84</td><td>174.41</td></tr>
<tr><td>Gross profit (32% to 40%)</td><td>38.72</td><td>57.60</td><td>79.28</td><td>100.42</td><td>116.28</td></tr>
<tr><td>- Oper expenses (17% to 5%)</td><td>20.57</td><td>23.72</td><td>24.22</td><td>21.14</td><td>14.53</td></tr>
<tr><td>- Depreciation</td><td>15.00</td><td>17.50</td><td>20.00</td><td>22.25</td><td>23.98</td></tr>
<tr><td>Pre tax income</td><td>3.15</td><td>16.38</td><td>35.06</td><td>57.03</td><td>77.77</td></tr>
<tr><td>Taxes (12.5%)</td><td>0.39</td><td>2.05</td><td>4.38</td><td>7.13</td><td>9.72</td></tr>
<tr><td>Net income</td><td>2.76</td><td>14.33</td><td>30.67</td><td>49.90</td><td>68.05</td></tr>
<tr><td>+ Depreciation</td><td>15.00</td><td>17.50</td><td>20.00</td><td>22.25</td><td>23.98</td></tr>
<tr><td>- Current Assets</td><td>3.50</td><td>5.90</td><td>5.47</td><td>4.37</td><td>(0.78)</td></tr>
<tr><td>- Gross fixed assets</td><td>10.00</td><td>10.00</td><td>9.00</td><td>6.90</td><td>3.80</td></tr>
<tr><td>+ Accts pay (+ 15%)</td><td>2.88</td><td>3.45</td><td>3.62</td><td>3.14</td><td>1.88</td></tr>
<tr><td>Cash flow</td><td>7.13</td><td>19.38</td><td>39.83</td><td>64.02</td><td>90.89</td></tr>
</table>

Part B

2 marks for perpetuity and 2 marks for calculation of maximum price = 4 marks in all.

The PV of a growing perpetuity may be found using the following formula:
$PV = C_1 / r – g$.

To find the "present Value" in 2013 of all future cash flows from year 2014 onwards
If you were in 2013, then next period (2014) the cash flow would be €90.89m and
thereafter it would decline by 5% p.a. and r = 13%.

PV_{2013} $= C_{2014} / r - g$
$= €90.89m / \{0.13 – (-0.05)\} = €90.89m / \{0.13 + 0.05\} = €90.89m / 0.18$
$= €504.92m$

€504.92m represents the value of all future cash flows from 2014 onwards in year 2013
money. This along with all the other cash flows must be brought back to year 2009
money, the "Present Value" in 2009.

	Year	Cash Flow	Discount Rate r = 13%	Present Value
2010	1	€7.13	0.885	€6.31
2011	2	€19.38	0.783	€15.18
2012	3	€39.83	0.693	€27.60
2013	4	€64.02	0.613	€39.26
2013	4	€504.92	0.613	€309.68
			PV =	€398.03

Thus the Present Value in 2009 of all future cash flows for AMV from GSL is €398.03m hence this is the maximum price they would pay for GSL.

Part C

5 marks for discussion on recent changes, 2 mark for comment = 7 marks in total

Shareholders and commentators have always been concerned about both the level and the suitability of directors' remuneration. However, following numerous scandals around the world since the 1990's and particularly since the near and actual collapse of many financial institutions, this concern has been growing in many parts of the world and there have been many reports in the area.

As a result, due to a mixture of companies following best practice and (mainly) due to legislative changes there has been an increase in the disclosure of directors' remuneration. More disclosure has resulted in more coverage of the area. The ensuing debate has spurred on shareholders to take a more proactive view of corporate governance generally and directors' remuneration in particular. Contentious situations such as the perceived overly generous compensation packages awarded to underperforming directors in the event of the early termination of their contract have increased the heat of this debate. Hence the view that such packages provide 'rewards for failure'.

While the Cadbury Committee was mainly concerned with restoring confidence in financial accounts, the Greenbury Committee published a Code which established principles for the determination of directors' remuneration. The Greenbury Code went beyond the Cadbury Code and required detailed disclosures on directors' remuneration to be given in the annual reports and accounts. The Greenbury Code, recommended that the remuneration committee should determine executive directors' remuneration and that this committee should be comprised solely of non-executive directors. It recommended that directors' service contracts be limited to one year (instead of the more usual three years then) and for more control over notice periods in directors' contracts. It also tackled the highly controversial area of compensation packages in the event of early termination of contracts. Most of the Greenbury Code principles have been adopted by The Stock Exchange in its Listing Rules.

Following Greenbury, Hampel added to the pressures on boards to disclose. Hampel's aim was to restrict the regulatory burden on companies and substitute principles for detail whenever possible. Hampel recommended that a remuneration committee should make sure that the company maintained contact with its major shareholders on matters affecting remuneration. As incorporated into the original Combined Code, the remuneration report "need not be a standard item of agenda for AGMs. But the board should consider each year whether the circumstances are such that the AGM should be invited to approve the policy set out in the report and should minute their conclusions."

Hampel recommended:

- A remuneration committee, made up of independent nonexecutive directors, be established to formulate the remuneration policy and devise individual remuneration packages for each executive directors.
- Remuneration committees use their judgement in formulating packages suitable for the specific circumstances of the company.
- The sum of these remuneration packages should not be excessive.
- Directors' contract periods should be reduced to one year or less if possible.
- That listed company accounts include a general statement on remuneration policy and that this should be the subject of a vote at the AGM.

In 2002, the UK Government passed legislation requiring what specific information in the remuneration report listed companies had to disclose in the annual accounts. They also give shareholders the opportunity to vote on the remuneration policy. While the vote is advisory, a significant minority vote against its policy is an obvious signal to the board that the policy should be reconsidered.

In practice, establishing a remuneration policy is easier said than done. It should be carried out in an open and transparent manner, by a remuneration committee composed only of independent non-executive directors. In addition to being an independent non-executive director, it is seen as best practice to prevent the chairperson of the company also being the chairman of the remuneration committee. The remuneration committee chairperson should be available to address and answer any questions in this area at the AGM.

The remuneration committee would be expected to:

- benchmark for comparable tasks and businesses
- seek professional advice
- link executive pay to the company's performance
- align directors interests with those of shareholders

However despite the fact that these recommendations have been incorporated into many if not all the financial institutions this has not prevented the suffering of their shareholders recently. Thus there is merit in the statement and perhaps we need to look again at executive remuneration. Both in the US, the UK and in Europe numerous proposals, (mainly legislative), have come forth suggesting ways to both limit executive remuneration in financial institutions and to tie in executive remuneration with the long term value of the institutions.

Question 3

Part A

3x2 marks for workings and 3*1 marks for the risks = 9 marks in all.

a) The Irish Organic Dairy Co Ltd needs to sell HK$3,000 x 1,000 = HK$3,000,000 in 3 months' time. Using forward cover, 3 month rate if you are selling HK$ = 10.6955 plus discount of 690bp = 10.7645
HK$3,000,000 / 10.7645 = €278,693.85

Using money market, borrow the present value of HK$3,000,000 at 8% p.a.
(2.5% above 5.5%)
(8%/4 = 0.02 or 2% over 3 months)
HK$3,000,000 / 1.02 = HK$2,941,176.47
Sell this now at 10.6585 = €275,946.57
This inflow will go to reduce Irish Organic Dairy Co Ltd's overdraft account as they have no surplus cash. Thus they will save interest on the overdraft account rather than earn it in a deposit account.

Add the savings from reducing the overdraft account by this amount at 3% p.a.
 (2% above 1%)
(3%/4 = 0.0075 or 0.75% for 3 months)
€275,946.57 x 1.0075 = €278,016.16

The final alternative would be to do nothing, and to sell HK$3,000,000 in 3 months' time at the exchange rate then prevailing. This would result in a gain if the Hong Kong dollar appreciated against the Euro, but a loss if it depreciated. The decision to hedge or not to hedge should be based on its costs and benefits. If the PV of the benefits of hedging outweighs the PV of the costs then it is a positive NPV decision to hedge and vice versa. However while it may be possible to calculate the NPV for using the forward or the money market cover, with the information given it is not possible to estimate the NPV if Irish Organic Dairy Co Ltd adopts the Wait and See approach.

Often where no definitive information is provided people assume that the value of a variable does not change from current levels. Thus if the current spot rate were to hold in 3 months' time the HK$3,000,000 would be worth HK$3,000,000 / 10.6955 = €280,491.80. This is however very unlikely, given that the forward rates are an unbiased estimator of the future spot rates! But as this sum is unhedged, unlike the forward cover or money market cover, we cannot be sure that even if the payment is made that we will achieve this amount. Therefore rather than being less risky than the other two approaches, as the Irish Organic Dairy Co Ltd's activity is manufacturing and not speculation, not hedging is more risky not less risky!

Summary:
Using forward cover, the value of HK$3,000,000 in 3 months €278,693.85
Using money market cover, the value of HK$3,000,000 in 3 months = €278,016.16
Using "Wait and see" approach, the value of HK$3,000,000 in 3 months = €280,491.80

While the "Wait and see" approach may be the most cost effective it is by far the riskiest. Hence the forward market cover appears to offer the best combination of cost and risk.

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.

"Wait and See" limitations:
- No certainty as to what the final value of the currency will be
- Decreases the reliability of future cash projections
- May need to hold larger amounts of liquid assets to cover open positions.

Part B

3x1 mark for each method = 3 marks in all.

If Irish Organic Dairy Co Ltd had used the forward contract then they would still have a binding contract to sell HK$3,000,000 on the 31st of September. To offset this transaction, Irish Organic Dairy Co Ltd would have to buy HK$3,000,000 at whatever spot rate happens to be prevailing at that time. Given that the forward rates are the best estimator of future spot rates then it is most likely that this will cost Irish Organic Dairy Co LtdHK$3,000,000 / 10.7235 = €279,759.41
(Note: 3 month rate if you are buying HK$ = 10.6585 plus discount of 650bp = 10.7235)

As the insurance payout will only be €200,000, Irish Organic Dairy Co Ltd will have to add probably €79,759.41 to this and then pay to have it converted into HK$3,000,000. Then the bank will convert this back into Euro. (In actual fact, in this situation banks will usually just make the customer pay the charges without actually demanding receipt of the HK$3,000,000).

Had they used money market cover they would owe the bank HK$3,000,000. So similarly they would most likely have to pay €279,759.41. Again, as the insurance payout will only be €200,000, Irish Organic Dairy Co Ltd will have to add probably €79,759.41 to this and then pay to have it converted into HK$3,000,000. Since they used the borrowed money to reduce their overdraft Irish Organic Dairy Co Ltd have no surplus funds. So they would have to borrow probably €79,759.41.

Had they adopted the "Wait and See" approach, there would be no liability to pay the HK$3,000,000. Hence the €200,000 insurance payout will be just enough to cover the amount spent on manufacturing and shipping. Hence the "Wait and See" would have been the best approach!

Part C

2 marks for each technique, (max 4) = 8 in total

The main forms of internal hedging techniques available are:
- Netting
- Matching
- leading and lagging
- Multicurrency billing system
- Pre-Emptive Price Variation

Netting applies where the head office and its foreign subsidiaries net off intra-organisational currency flows at the end of each period, leaving only the balance exposed to risk and hence in need of hedging.
Note: there can be bilateral (involving only pairs of companies) or multilateral netting performed by the central treasury where several subsidiaries interact with the head office.

Matching is similar in concept to netting but involves third parties. A company, (usually a bank), strives to match as far as possible its currency inflows by amount and timing with its expected outflows. E.g. an Irish co. exporting to the US and thus anticipating US$ receipts could match this payment by arranging a dollar outflow, perhaps by contracting to import from the US.
Note: There are two types of matching; "Natural Matching" implies the inflow and outflow are in the same currency. "Parallel Matching" implies the inflow and outflow are in a currency that closely shadows the "natural Match", e.g. Canadian$ outflows to US$ inflows.

Leading and Lagging is a devise for speeding up or delaying payments when a change in the value of a currency is expected. This requires an element of forecasting future exchange rate movements, and therefore carries an element of speculation, (the opposite of hedging!).

- if you expect the foreign currency to appreciate relative to the domestic currency
- Speed up payables and slow down repatriating foreign money and vice versa if the foreign currency to depreciate.

A **Pre-Emptive Price Variation** is to change the contract price if you expect the foreign currency to appreciate. But this is asking the customer to bear the foreign exchange risk. Competitors may not do so ☐ your firms competitiveness may decrease.

Section B

Question 4

Part (i):
The strategic issues that arise from pursuing growth through organic growth.
1 mark for discussion on organic growth, 1 mark for each strategic issues, max 4, 5 marks in all.

Organic growth involves a firm expanding its customer or product base using their own internal resources. Alternatively this can be achieved through acquisitions or mergers. Although both can have a similar result in terms of growth they can each have different strategic effects on the expanding firm. A company which is planning to grow must decide on whether to pursue a policy of organic growth or acquisitions or mergers, or a combination of the two.

This decision is likely to be a function of the:

- Long-term of objectives of the firm
- Current state of the industry and its prospects
- Technological change in the industry
- Size and strength of actual and potential competitors
- Likely reaction of competitors to an acquisition
- Likely reaction of the government to an acquisition

Irrespective of how it is achieved, growth especially when it is achieved by diversifying into new markets or into new products can cause strategic problems and lead to "corporate indigestion". This can be seen in terms of Customer Relation Management, (CRM), problems, an increase in human resources issues, "span of control" and decisions making issues, and in increase in alienation of stakeholders from each other.

A company pursuing a policy of organic growth should take account of the following strategic issues:

- Optimal scale of production - organic growth will allow the firm to choose the level of production it requires. Mergers and acquisitions are "lumpy". The firm must absorb entire firms, with whatever level of production that entails and what ever resources they contain. The firm buys the head office functions of other companies and there will either be fewer economies of scale, or more redundancies.

- Human resources – organic growth will allow the firm to offer its original staff greater opportunities and responsibilities. Similarly where the firm does not have the required expertise within itself, targeted recruitment to select the best people can be used. In mergers and acquisitions the firm has little control over the number and skills of the staff of those businesses it absorbs.

- Capital resources – similar to human resources, capital resources can be used and obtained more efficiently with organic growth. The location of new outlets or offices for example can be most advantageously placed to maximise operational efficiency. In mergers and acquisitions the firm has little control over existing locations. This can lead to duplication and/or gaps in distribution networks for example

- Cost – how will resources to allow for the growth be obtained? Retained profits? New / additional equity? Increase in borrowing? How much can it afford? Is "over trading" a serious risk?

Part (ii)
The strategic issues that arise from pursuing growth through mergers and acquisitions.
1 mark for each strategic issue on M & A, max 5, 5 marks in all.

A company pursuing a policy of growth through mergers and acquisitions should take account of the following strategic issues:

- Time - mergers or acquisitions allows a firm to increase its market share or enter a new market more quickly than might be incurred if the firm tried to expand organically. As "time is money", the ability to enter a market or increase market share fast by mergers or acquisitions could be the cheapest way to expand.

- Cost – cost savings could be achieved by mergers or acquisitions due to synergy. Alternatively due to a "premium for control", acquisitions might be the most expensive way to expand. This may be particularly true if it is resisted by the directors of the target company or the government under the terms of competition legislation. However at least acquisitions can be made by means of share exchange unlike organic growth which requires funding in cash.

- Regulation / legislation / culture – mergers or acquisitions can allow for an easy entry into a market, particularly a foreign market where organic growth would be forbidden / restricted / meet local opposition. Alternatively organic growth is unlikely to result in referral to competition authorities while mergers or acquisitions often do. Similarly the customers / government may not appreciate the new (foreign) owners.

- Assimilation - Mergers and acquisitions can lead to quicker entry into a new market but it could also lead to problems of assimilating new employees and new operating systems. Likewise staff need to assimilate an increasing range of products, suppliers, customers and markets. This can lead to a large strain on staff at all levels but particularly management and lead to "corporate indigestion" mentioned earlier.

- Strategy - mergers and acquisitions will be most successful when they allow the strategic objectives of the firm to be achieved at a lower cost and / or faster than would they be by organic growth. Mergers and acquisitions are probably only desirable if organic growth alone cannot achieve the strategic objectives that a company has set itself. However their purpose should be to increase long term shareholder wealth and not just short term profits.

Part (iii)
The advantages to achieving growth by conglomerate diversification.
1 mark for each advantage, Max 5 = 5 marks in all.

- Risk is spread. By entering new products into new markets, the organisation can obtain protection against failure of one or more of the firm's existing range.
- The firm's overall profitability and flexibility might improve through acquisition in industries which have better economic characteristics than those of the acquiring firms. (But shareholders can invest in those industries directly.)
- Management might wish to escape from the present business into another.
- Greater business 'substance' or 'status' might mean better access to capital markets.
- A company pursuing a policy of conglomerate diversification can quickly take advantage of profit opportunities which develop by acquiring a subsidiary company in the new product-market area.
- Conglomerate diversification and concentric diversification offer the chance of growth without creating a monopoly which would attract state regulation. This is an example of system goals overtaking mission.
- The firm can use surplus cash on the questionable assumption that managers are always better judges than shareholders.
- The firm can exploit under-utilised resources.
- Synergistic possibilities include:

    1. A company which needs cash in the short term obtaining a cash-rich company or a company with large cash surpluses in the short term
    2. Using a company's image and reputation in one market to develop into another where corporate image and reputation could be vital ingredients for success

Part (iv)
The disadvantages to achieving growth by conglomerate diversification.
1 mark for each disadvantage, Max 5 = 5 marks in all.

- The dilution of shareholders' earnings if diversification is into growth industries with high P/E ratios.
- Profitable businesses will be milked to support ailing ones.
- Resource allocation will be a political rather than an economic process, as different divisions compete with each other.
- The organisation might suffer more in conditions of recession, if more than one activity suffers from the recession. British Aerospace suffered when its property development subsidiary hit a slump in the commercial property market.
- The management of the acquiring firm may interfere in the running of the acquisition, to the detriment of its operations.

- A conglomerate will only be successful if it has a high quality of management and financial ability at central headquarters, where the diverse operations are brought together. Otherwise it lacks a common purpose.
- Failure in one of the businesses will drag down the rest, as it will eat up resources.
- Lack of management experience in the business area can spell trouble. Japanese steel companies have diversified into areas completely unrelated to steel, such as personal computers, with limited success.

Part (v)
Describe the two basic types of leases available and explain the advantages and disadvantages of leasing.
1 mark for basic types, 2 x 2 marks for advantages and disadvantages, = 5 marks in total.

The two basic types of leases available to a business are operating leases and financial leases.

An operating lease is typically a contractual arrangement whereby the lessee agrees to make periodic payments to the lessor, often for five years or less, to obtain an asset's ser vices. The lessee generally receives an option to cancel the lease by paying a cancellation fee.

A financial (or capital) lease is longer term than an operating lease. Financial leases are non-cancellable and therefore obligate the lessee to make payments over a predefined period.

The advantages of leasing are

- the ability of the lessee to depreciate land, which is prohibited if the land were purchased,
- the use of sale-leaseback arrangements may permit the firm to increase its liquidity by converting an asset into cash, which can then be used as working capital,
- leasing provides 100 percent financing,
- the maximum claim of lessors if a lessee becomes bankrupt is three years of lease payments along with reclaiming the asset,
- the lessee may avoid the cost of obsolescence if the lessor fails to accurately anticipate the obsolescence of assets and sets the lease payment too low,
- the lessee avoids many of the restrictive covenants t hat are usually included as part of a long-term loan, and
- in the case of low-cost assets leasing may provide the firm with needed financing flexibility.

The disadvantages of leasing are

- a lease does not have a stated interest cost,
- at the end of the term of the lease agreement, the lessor realises the salvage value,
- the lessee is generally prohibited from making improvements on the leased property or asset without the approval of the lessor, and
- if a lessee leases an asset that subsequently becomes obsolete, it still must make lease payments over the remaining term of the lease.

Part (vi)
Describe the main features of and explain what are the main attractions to the investor and to the issuer of convertible bonds.
1 mark for main features, 2 x 2 marks for advantages and disadvantages, = 5 marks in total.

Convertible bonds are fixed return securities that may be converted into ordinary shares of a company at pre-determined date(s) and at a pre-determined rate at the option of the holder. Often the terms of the conversion may seem to be less attractive at conversion dates further away. This reflects expected share price growth.

At the conversion date or dates, the holder has the option to convert the stock into ordinary shares or continue to hold the stock and earn the fixed interest until the bond matures. However, if the investor decides to convert the bond into ordinary shares, they cannot convert the ordinary shares back into the original fixed security. The conversion premium is the difference between the nominal issue value of the bonds and the conversion value at the date of issue. From the issuers viewpoint the larger the conversion premium the better as less shares need be issued for a given amount of capital raised. However to be acceptable and valuable to investors the premium must reflect the growth prospects of the issuers ordinary share price.

Attractions of convertible bonds to the investor:

- The price of the convertible bond in effect includes an option to buy the ordinary shares.
- The potential value of the conversion rights.
- Interest income which would not be received if the investor simply bought a call option on the shares.

Attractions of convertible bonds to the issuer:

- The interest cost to the company is lower than for conventional, non-convertible stock.
- Most issuers expect the bonds to be converted and hence view them as delayed equity.
- Thus EPS is not immediately affected as it would with the issue of ordinary shares.
- If bond is converted into equity then this removes the necessity to raise funds to redeem the initial loan stock

Question 5

Part A

2 marks for explaining Principal – Agent conflicts, 3 marks for applying to debt = 5 marks in all.

Agency problems arise from the separation of ownership and control.
Most of the attention in the literature has been focused on shareholders and managers. But it also applies to lenders and borrowers.

Agency Costs arise due to:

1. Costs of monitoring
2. Bonding costs

In the shareholder and manager context:
Ownership is widely spread
Day to day Control is in the hands of a few managers, (small overall share of ownership)

This leads to the rise of so called "managerialism" = the self serving behaviour by managers at the shareholders expense, 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 shareholder 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.

Similarly Jensen and Meckling, (1976), show that a firm has an incentive to minimise agency costs between themselves and potential lenders.

However the Credit boom and bust is littered with Principal – Agent problems. The lending officials were given large bonuses for increasing their lending irrespective of the quality of the borrower.

Often the lenders securitised the borrowings and therefore took no direct risk should the borrower default.

Often these securitised assets were insured by Credit Default Swaps which further increased the moral hazard problems.

Often the borrower received 100% loans (or similar) with the property itself being the only security. This meant that they took advantage of any upside but the holders of the securitised assets / the issuers of Credit Default Swaps faced the downside.

Should borrowers and in particular large developers be similarly bailed out by the government / NAMA, then this passes on from Irish Financial Institutions to taxpayers the classic principle – agent problem applying to debt of "heads I win tails you lose"!

Part B

1 mark for 3 types, 4 marks for applying to debt = 5 marks in all.

- <u>Weak form efficiency</u>—A form of the theory that suggests you can't beat the market by knowing past prices.

- <u>Semi-strong form efficiency</u>—Perhaps the most controversial form of the 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.

- 3. <u>Strong form efficiency</u>—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, investors will be alert to the fact that market prices are an accurate reflection of their investments prospects, and that if they behave in a manner which results in bad investment decisions, their investment value will quickly fall due to worsening prospects.

This means that the effect of an efficient market is that it keeps investors alert to the consequences of their decisions. In an inefficient world, prices may take a while to adjust to reflect poor investment decisions, 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 investment. 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 and International property 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 investors and the market where not fully informed about the true situation inside financial institutions. Lenders could try to boost property prices temporarily by disseminating a deceptively rosy picture of the property market prospects. However, it is difficult to imagine how a lender can be said to be acting in their shareholders' best interests by deceiving the people they lend to.

The value of a property is the discounted value of all expected future returns, both rents and capital gains. Even if the investor plans to hold a property for only 5 years, for example, then, at the time that the investor plans to sell the property, it will be worth the discounted value of all expected returns from that point on. In fact, that is the value at which the investor expects to sell the property. Since all assets 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 an asset, even Irish property. 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 and International property could not outperform the market over a particular investment horizon. Investments that do well for a period of time get a lot of attention from the financial press. Similarly investments that 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 property may eventually return to its "true" value could be said to show that markets are efficient in the long run.

Part C

2 marks for explaining CSR, 3 marks for applying to Irish financial institutions = 5 marks in all.

The decline of property prices across the globe has shown very clearly how "contagion effects" in one market, (the financial markets in the US and Iceland) can cross the world and spread to other markets, especially the property market.

Corporate social responsibility (CSR) is just one part of good corporate governance. Due to bad corporate governance even if you have never bought an Irish bank share, following their recapitalisation by the Irish government, all citizens have become equity shareholders in the major Irish Financial Institutions.

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 lend responsibly damaged Irish Financial Institutions reputations. Their profits collapsed as did their ability to raise funds in the market, hence the need for the Irish Government "Bank Bailouts" and the introduction of NAMA.

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.

Good CSR would mean that Irish Financial Institutions would not have lent so recklessly despite the short term profitability of doing so.

Question 6

Parts A

2 marks for discussion, 1 mark for each technique, (max 5) = 7 in total

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 a market or changes in an industry for example they will be very difficult to make. Financial forecasts should be based on realistic assumptions. 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 if" 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 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 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, (optimistic), 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 models 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!

Part B

3 marks for when firms should discount projects using the cost of equity, 3 marks for when they should they use the WACC, 2 mark for when they should use neither = 8 marks in total.

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.

The Weighted Average Cost of Capital, (WACC) for a company is a simple weighted average of the market value of its debt, with the weights corresponding to proportion of that capital in the overall capital structure of the firm. It should be used:

- When the project is small relative to the overall size of the company.
- When the project has the same degree of business risk as the company has now.
- When the weighted average cost of capital reflects the company's long-term future capital structure, and capital costs. If this were not so, the current weighted average cost would become irrelevant because eventually it would not relate to any actual cost of capital.
- When new investments must be financed by new sources of funds: retained earnings, new share issues, new loans and so on.
- When the cost of capital to be applied to project evaluation reflects the marginal cost of new capital.

The Weighted Average Cost of Capital, (WACC) should not be used:

- If the new investments undertaken has different business risk characteristics from the company's existing operations. As a consequence, the return required by investors might go up (or down) if the investments are undertaken, because their business risk is perceived to be higher (or lower).
- If the finance that is raised to fund a new investment substantially changes the capital structure and the perceived financial risk of investing in the company. Depending on whether the project is financed by equity or by debt capital, the perceived financial risk of the entire company might change. This must be taken into account when appraising investments.