
Answers

- 1 Up to 4 professional marks are available for the presentation of the answer, which should be in a report style.
- (i) The calculations and estimations for part (i) are given in the appendix. To assess whether or not the acquisition would be beneficial to Pursuit's shareholders, the additional synergy benefits after the acquisition has been paid for need to be ascertained.
- The estimated synergy benefit from the acquisition is approximately \$9,074,000 (see appendix), which is the post-acquisition value of the combined company less the values of the individual companies. However, once Fodder Co's debt obligations and the equity shareholders have been paid, the benefit to Pursuit Co's shareholders reduces to approximately \$52,000 (see appendix), which is minimal. Even a small change in the variables and assumptions could negate it. It is therefore doubtful that the shareholders would view the acquisition as beneficial to themselves or the company.
- (ii) The limitations of the estimates stem from the fact that although the model used is theoretically sound, it is difficult to apply it in practice for the following reasons.
- The calculations in part (i) are based on a number of assumptions such as the growth rate in the next four years, the perpetual growth rate after the four years, additional investment in assets, stable tax rates, discount rates and profit margins, assumption that debt is risk free when computing the asset beta. All these assumptions would be subject to varying margins of error.
- It may be difficult for Pursuit Co to assess the variables of the combined company to any degree of accuracy, and therefore the synergy benefits may be hard to predict.
- No information is provided about the pre-acquisition and post-acquisition costs.
- Although it may be possible to estimate the equity beta of Pursuit Co, being a listed company, to a high level of accuracy, estimating Fodder Co's equity beta may be more problematic, because it is a private company.
- Given the above, it is probably more accurate to present a range of possible values for the combined company depending on different scenarios and the likelihood of their occurrence, before a decision is made.
- (iii) The current value of Pursuit Co is \$140,000,000, of which the market value of equity and debt are \$70,000,000 each. The value of the combined company before paying Fodder Co shareholders is approximately \$189,169,000, and if the capital structure is maintained, the market values of debt and equity will be approximately \$94,584,500 each. This is an increase of approximately \$24,584,500 in the debt capacity.
- The amount payable for Fodder Co's debt obligations and to the shareholders including the premium is approximately \$49,116,500 [$4,009 + 36,086 \times 1.25$]. If \$24,584,500 is paid using the extra debt capacity and \$20,000,000 using cash reserves, an additional amount of approximately \$4,532,000 will need to be raised. Hence, if only debt finance and cash reserves are used, the capital structure cannot be maintained.
- (iv) If Pursuit Co aims to acquire Fodder Co using debt finance and cash reserves, then the capital structure of the combined company will change. It will also change if they adopt the Chief Financial Officer's recommendation and acquire Fodder Co using only debt finance.
- Both these options will cause the cost of capital of the combined company to change. This in turn will cause the value of the company to change. This will cause the proportion of market value of equity to market value of debt to change, and thus change the cost of capital. Therefore the changes in the market value of the company and the cost of capital are interrelated.
- To resolve this problem, an iterative procedure needs to be adopted where the beta and the cost of capital are recalculated to take account of the changes in the capital structure, and then the company is re-valued. This procedure is repeated until the assumed capital structure is closely aligned to the capital structure that has been re-calculated. This process is normally done using a spreadsheet package such as Excel. This method is used when both the business risk and the financial risk of the acquiring company change as a result of an acquisition (referred to as a type III acquisition).
- Alternatively an adjusted present value approach may be undertaken.
- (v) The Chief Financial Officer's suggestion appears to be a disposal of 'crown jewels'. Without the cash reserves, Pursuit Co may become less valuable to SGF Co. Also, the reason for the depressed share price may be because Pursuit Co's shareholders do not agree with the policy to retain large cash reserves. Therefore returning the cash reserves to the shareholders may lead to an increase in the share price and make a bid from SGF Co more unlikely. This would not initially contravene the regulatory framework as no formal bid has been made. However, Pursuit Co must investigate further whether the reason for a possible bid from SGF Co might be to gain access to the large amount of cash or it might have other reasons. Pursuit Co should also try to establish whether remitting the cash to the shareholders would be viewed positively by them.
- Whether this is a viable option for Pursuit Co depends on the bid for Fodder Co. In part (iii) it was established that more than the expected debt finance would be needed even if the cash reserves are used to pay for some of the acquisition cost. If the cash is remitted, a further \$20,000,000 would be needed, and if this was all raised by debt finance then a significant proportion of the value of the combined company would be debt financed. The increased gearing may have significant implications on Pursuit Co's future investment plans and may result in increased restrictive covenants. Ultimately gearing

might have to increase to such a level that this method of financing might not be possible. Pursuit Co should investigate the full implications further and assess whether the acquisition is worthwhile given the marginal value it provides for the shareholders (see part (i)).

APPENDIX TO QUESTION 1

Part (i)

Interest is ignored as its impact is included in the companies' discount rates

Fodder cost of capital

$$K_e = 4.5\% + 1.53 \times 6\% = 13.68\%$$

$$\text{Cost of capital} = 13.68\% \times 0.9 + 9\% \times (1 - 0.28) \times 0.1 = 12.96\% \text{ assume } 13\%$$

Fodder

$$\text{Sales revenue growth rate} = (16,146/13,559)^{1/3} - 1 \times 100\% = 5.99\% \text{ assume } 6\%$$

$$\text{Operating profit margin} = \text{approx. } 32\% \text{ of sales revenue}$$

Fodder Co cash flow and value computation (\$000)

Year	1	2	3	4
Sales revenue	17,115	18,142	19,231	20,385
Operating profit	5,477	5,805	6,154	6,523
Less tax (28%)	(1,534)	(1,625)	(1,723)	(1,826)
Less additional investment (22c/\$1 of sales revenue increase)	(213)	(226)	(240)	(254)
Free cash flows	3,730	3,954	4,191	4,443
PV (13%)	3,301	3,097	2,905	2,725
				\$(000)
PV (first 4 years)				12,028
PV (after 4 years) $[4,443 \times 1.03 / (0.13 - 0.03)] \times 1.13^{-4}$				28,067
Firm value				40,095

Combined Company: Cost of capital calculation

$$\text{Asset beta (Pursuit Co)} = 1.18 \times 0.5 / (0.5 + 0.5 \times 0.72) = 0.686$$

$$\text{Asset beta (Fodder Co)} = 1.53 \times 0.9 / (0.9 + 0.1 \times 0.72) = 1.417$$

$$\text{Asset beta of combined co.} = (0.686 \times 140,000 + 1.417 \times 40,095) / (140,000 + 40,095) = 0.849$$

$$\text{Equity beta of combined company} = 0.849 \times (0.5 + 0.5 \times 0.72) / 0.5 = 1.46$$

$$K_e = 4.5\% + 1.46 \times 6\% = 13.26\%$$

$$\text{Cost of capital} = 13.26\% \times 0.5 + 6.4\% \times 0.5 \times 0.72 = 8.93\%, \text{ assume } 9\%$$

Combined Co cash flow and value computation (\$000)

Sales revenue growth rate = 5.8%, operating profit margin = 30% of sales revenue

Year	1	2	3	4
Sales revenue	51,952	54,965	58,153	61,526
Operating profit	15,586	16,490	17,446	18,458
Less tax (28%)	(4,364)	(4,617)	(4,885)	(5,168)
Less additional investment (18c/\$1 of sales revenue increase)	(513)	(542)	(574)	(607)
Free cash flows	10,709	11,331	11,987	12,683
PV (9%)	9,825	9,537	9,256	8,985
				\$(000)
PV (first 4 years)				37,603
PV (after 4 years) $[12,683 \times 1.029 / (0.09 - 0.029)] \times 1.09^{-4}$				151,566
Firm value				189,169

$$\text{Synergy benefits} = 189,169,000 - (140,000,000 + 40,095,000) = \$9,074,000$$

$$\text{Estimated premium required to acquire Fodder Co} = 0.25 \times 36,086,000 = \$9,022,000$$

$$\text{Net benefit to Pursuit Co shareholders} = \$52,000$$

- 2 (a) The information provided enables Casasophia Co to hedge its US\$ income using forward contracts, future contracts or option contracts.

Forward contracts

Since it is a dollar receipt, the 1.3623 rate will be used.

$$\text{Locked in receipt} = \text{US\$}20,000,000 / 1.3623 = \text{€}14,681,054$$

The hedge fixes the rate at 1.3623 and is legally binding.

Futures Contracts

This hedging strategy needs to show a gain when the Dollar exchange rate depreciates against the Euro and the underlying market shows a loss. Hence, for a US\$ receipt, the five-month futures contracts (two-month is too short for the required hedge

period) need be bought, that is a long position needs to be adopted. It is assumed that the basis differential will narrow proportionally to the time expired. However, when the contract is closed out before expiry, this may not be the case due to basis risk, and a better or worse outcome may result.

Predicted futures rate = $1.3698 - (1/3 \times (1.3698 - 1.3633)) = 1.3676$ (when the five-month contract is closed out in four months' time)

Expected receipt = $US\$20,000,000/1.3676 = €14,624,159$

Number of contracts to be bought = $€14,624,159/€125,000 = 117$ contracts

[OR: Futures lock-in rate may be estimated from the spot and five-month futures rate:

$1.3698 - (1/5 \times (1.3698 - 1.3618)) = 1.3682$

$US\$20,000,000/1.3682 = €14,617,746$

$€14,617,746/€125,000 = 116.9$ or 117 contracts (a slight over-hedge)]

This is worse than the forward rate. In addition to this, futures contracts require margin payments and are marked-to-market on a daily basis, although any gain is not realised until the contracts are closed out.

Like the forward contracts, futures contracts fix the rate and are legally binding.

Option Contracts

Options have an advantage over forwards and futures because the prices are not fixed and the option buyer can let the option lapse if the rates move favourably. Hence options have an unlimited upside but a limited downside. However, a premium is payable for this benefit.

Casasophia Co would purchase Euro call options to protect itself against a weakening Dollar to the Euro.

Exercise Price: \$1.36/€1

€ receipts = $20,000,000/1.36 = 14,705,882$ or 117.6 contracts

117 call options purchased

€ receipts = $117 \times 125,000 = €14,625,000$

Premium payable = $117 \times 0.0280 \times 125,000 = US\$409,500$

Premium in € = $409,500/1.3585 = €301,435$

Amount not hedged = $US\$20,000,000 - (117 \times €125,000 \times 1.36) = US\$110,000$

Use forwards to hedge amount not hedged = $US\$110,000/1.3623 = €80,746$

Total receipts = $14,625,000 - 301,435 + 80,746 = €14,404,311$

Exercise Price: \$1.38/€1

€ receipts = $20,000,000/1.38 = 14,492,754$ or 115.9 contracts

115 call options purchased

€ receipts = $115 \times 125,000 = €14,375,000$

Premium payable = $115 \times 0.0223 \times 125,000 = US\$320,563$

Premium in € = $320,563/1.3585 = €235,968$

Amount not hedged = $US\$20,000,000 - (115 \times €125,000 \times 1.38) = US\$162,500$

Use forwards to hedge amount not hedged = $US\$162,500/1.3623 = €119,284$

Total receipts = $14,375,000 - 235,968 + 119,284 = €14,258,316$

Both these hedges are significantly worse than the forward or futures contracts hedges. This is due to the high premiums payable to let the option lapse if the prices move in Casasophia Co's favour. With futures and forwards, Casasophia Co cannot take advantage of the Dollar strengthening against the Euro. However, this needs to be significant before the cost of the premium is covered.

Conclusion

It is recommended that Casasophia Co use the forward markets to hedge against the Dollar depreciating in four months time against the Euro in order to maximise receipts. However, Casasophia Co needs to be aware that forward contracts are not traded on a formal exchange and therefore default risk exists. And the exchange rate is fixed once the contract is agreed.

- (b) Amount expected from US\$ receipts is €14,681,054 assuming that forward contracts used.
 Invested for two months = $€14,681,054 \times (1 + (60/360 \times 0.0180)) = €14,725,097$ say €14,725,000 approximately.

Expected spot rate (E(s)) in 12 months (using purchasing power parity) =

$E(s) = 116 \times 1.097/1.012 = 125.7$

Expected spot rate in 6 months

$116 + (125.7 - 116)/2 = 120.9$

Investment Amount required = $MShs 2,640,000,000/120.9 = €21.84m$

Loan finance required = $21.84 - 14.73 = €7.11m$

Casasophia Co will need to raise just over €7 million in loans in addition to the receipts from the USA to finance the project in Mazabia. This is on the assumption that the future spot rate follows the purchasing power parity conditions.

[Tutorial Note: Casasophia Co could also consider whether it may be more beneficial to transfer funds directly from the USA to Mazabia instead of converting them into Euros first. This would save transaction costs of converting first into Euros and then into MShs, and also the costs related to using the forward markets. The rates for investing the funds in the USA for two months and the exchange rate between US\$ and MShs are not given, but if these were available a comparative analysis could be conducted. In these circumstances the amount of loan finance required would possibly be lower.]

- (c) Calculate expected forward rates

Year	Interest Rate Parity
	Forward rate [MShs/1€]
½ year	$128 \times 1.108/1.022 = 138.77$ $128 + (138.77 - 128)/2 = 133.4$
1-5 years	$133.4 \times 1.108/1.022 = 144.6$
2-5 years	$144.6 \times 1.108/1.022 = 156.8$
3-5 years	$156.8 \times 1.108/1.022 = 170.0$

Present Value calculations (Present values in six months)

	Year 1	Year 2	Year 3	Total
Income (MShs, million)	1,500	1,500	1,500	
Income (€ million, based on forward rates)	10.37	9.57	8.82	
Discounted Income (€ million at 12%)	9.26	7.63	6.28	23.17

Net present value = €23.17m – €21.84m = €1.33m

The calculation of the forward rates based on the interest rate parity indicates that the MShs rates are depreciating against the Euro because the Mazabia base rates at 10.8% are higher than the European country's local base rates at 2.2%. However, even where the forward rates are fixed, based on interest rate parity, the project is worthwhile for Casasophia Co.

According to the purchasing power parity, future spot currency rates will change in proportion to the inflation level differentials between two countries. Hence if Mazabia's inflation level is higher than the European Union, its currency will depreciate against the Euro.

Given that the inflation level in Mazabia is expected to range from 5% to 15% over the next few years, there is uncertainty over the NPV of the project in Euros if the swap is not accepted. The swap fixes the future exchange rates, although Casasophia Co will lose out if the inflation rate is lower than 9.7%, since the future spot rate will depreciate by less than what is predicted by the forward rates. The situation will be opposite if the level of inflation is higher than 9.7%.

Casasophia Co will also need to consider the risk of default by the local bank. Casasophia Co may ask Mazabia's government to act as guarantor to reduce this risk. Overall, if such an agreement could be reached, it would probably be beneficial to agree to the swap to ensure a certain level of income.

Casasophia Co may also want to explore whether it is possible for the grant funding from the European Union being paid to it directly, to reduce its exposure to the likely depreciation of MShs.

- 3 (a) In order to calculate the duration of the two bonds, the present value of the annual cash flows and the price or value at which the bonds are trading at need to be determined. To determine the present value of the annual cash flows, they need to be discounted by the gross redemption yield (i).

Gross Redemption Yield

Try 5%

$$60 \times 1.05^{-1} + 60 \times 1.05^{-2} + 60 \times 1.05^{-3} + 60 \times 1.05^{-4} + 1,060 \times 1.05^{-5} = 60 \times 4.3295 + 1,000 \times 0.7835 = 1,043.27$$

Try 4%

$$60 \times 4.4518 + 1,000 \times 0.8219 = 1,089.01$$

$$i = 4 + [(1,089.01 - 1,079.68)/(1,089.01 - 1,043.27)] = 4.2\%$$

Bond 1 (PV of cash flows)

$$60 \times 1.042^{-1} + 60 \times 1.042^{-2} + 60 \times 1.042^{-3} + 60 \times 1.042^{-4} + 1,060 \times 1.042^{-5}$$

$$\text{PV of cash flows (years 1 to 5)} = 57.58 + 55.26 + 53.03 + 50.90 + 862.91 = 1,079.68$$

$$\text{Market price} = \$1,079.68$$

$$\text{Duration} = [57.58 \times 1 + 55.26 \times 2 + 53.03 \times 3 + 50.90 \times 4 + 862.91 \times 5]/1,079.68 = 4.49 \text{ years}$$

Bond 2 (PV of Coupons and Bond Price)

$$\text{Price} = 40 \times 1.042^{-1} + 40 \times 1.042^{-2} + 40 \times 1.042^{-3} + 40 \times 1.042^{-4} + 1,040 \times 1.042^{-5}$$

$$\text{PV of cash flows (years 1 to 5)} = 38.39 + 36.84 + 35.36 + 33.93 + 846.63 = 991.15$$

$$\text{Market Price} = \$991.15$$

$$\text{Duration} = [38.39 \times 1 + 36.84 \times 2 + 35.36 \times 3 + 33.93 \times 4 + 846.63 \times 5] / 991.15 = 4.63 \text{ years}$$

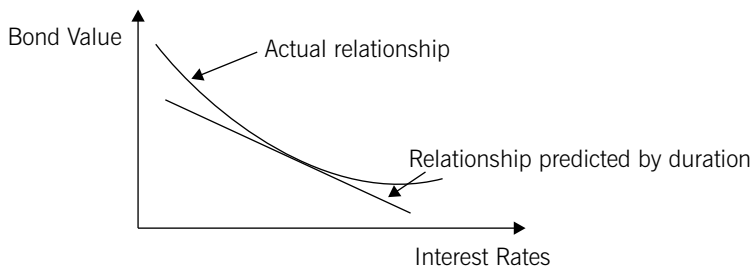
- (b) The sensitivity of bond prices to changes in interest rates is dependent on their redemption dates. Bonds which are due to be redeemed at a later date are more price-sensitive to interest rate changes, and therefore are riskier.

Duration measures the average time it takes for a bond to pay its coupons and principal and therefore measures the redemption period of a bond. It recognises that bonds which pay higher coupons effectively mature 'sooner' compared to bonds which pay lower coupons, even if the redemption dates of the bonds are the same. This is because a higher proportion of the higher coupon bonds' income is received sooner. Therefore these bonds are less sensitive to interest rate changes and will have a lower duration.

Duration can be used to assess the change in the value of a bond when interest rates change using the following formula:

$$\Delta P = [-D \times \Delta i \times P] / [1 + i], \text{ where } P \text{ is the price of the bond, } D \text{ is the duration and } i \text{ is the redemption yield.}$$

However, duration is only useful in assessing small changes in interest rates because of convexity. As interest rates increase, the price of a bond decreases and vice versa, but this decrease is not proportional for coupon paying bonds, the relationship is non-linear. In fact, the relationship between the changes in bond value to changes in interest rates is in the shape of a convex curve to origin, see below.



Duration, on the other hand, assumes that the relationship between changes in interest rates and the resultant bond is linear. Therefore duration will predict a lower price than the actual price and for large changes in interest rates this difference can be significant.

Duration can only be applied to measure the approximate change in a bond price due to interest changes, only if changes in interest rates do not lead to a change in the shape of the yield curve. This is because it is an average measure based on the gross redemption yield (yield to maturity). However, if the shape of the yield curve changes, duration can no longer be used to assess the change in bond value due to interest rate changes.

(Note: Credit will be given for alternative benefits/limitations of duration)

4 (a) Net Present Value without the option to delay the decision

Year	Current	1	2	3	4	5	6
Cash flows (\$)	-7m	-7m	-35m	25m	18m	10m	5m
PV (11%) (\$)	-7m	-6.31m	-28.42m	18.28m	11.86m	5.93m	2.68m

$$\text{Net Present Value} = \$(-2.98 \text{ million})$$

On this basis the project would be rejected.

Value of option to delay the decision until the film is released and its popularity established. Black-Scholes Option Pricing model is used to value the call option.

Present value of project's positive cash flows discounted to current day:

$$\$18.28m + \$11.86m + \$5.93m + \$2.68m = \$38.75m$$

Variables:

$$\text{Current price } (P_a) = \$38.75m$$

$$\text{Exercise price } (P_e) = \$35m$$

$$\text{Exercise date} = 2 \text{ years}$$

$$\text{Risk free rate} = 3.5\%$$

$$\text{Volatility} = 30\%$$

$$d_1 = [\ln(38.75/35) + (0.035 + 0.5 \times 0.30^2) \times 2] / (0.30 \times 2^{1/2}) = 0.6170$$

$$d_2 = 0.6170 - (0.30 \times 2^{1/2}) = 0.1927$$

Using the Normal Distribution Table provided

$$N(d_1) = 0.5 + 0.2291 + 0.7 \times (0.2324 - 0.2291) = 0.7314$$

$$N(d_2) = 0.5 + 0.0753 + 0.3 \times (0.0793 - 0.0753) = 0.5765$$

$$\text{Value of option to delay the decision} = 38.75 \times 0.7314 - 35 \times 0.5765 \times e^{-0.035 \times 2} = 28.34 - 18.81 = \$9.53\text{m}$$

$$\text{Overall value of the project} = \$9.53\text{m} - \$2.98\text{m} = \$6.55\text{m}$$

Since the project yields a positive net present value it would be accepted.

Hence by taking into account the option to delay the decision, the project should be accepted for investment.

- (b) The option to delay the decision has given MMC's managers the opportunity to monitor and respond to changing circumstances before committing to the project, such as a rise in popularity of this type of genre of films in the next two years or increased competition from similar new releases or a sustained marketing campaign launched by the film's producers before its launch. Although the project looks unattractive at present, it may not be the case if the film on which it is based is successful. The option pricing formula requires numerous assumptions to be made about the variables, the primary one being the assumption of volatility. It therefore does not provide a correct value but an indication of the value of the option to delay the decision. Hence it indicates that the management should consider the project further and not dismiss it, even though current conventional net present value is negative.

The option to delay the decision may not be the only option within the project. For example, the gaming platform that the company needs to develop for this game may have general programmes which may be used in future projects and MMC should take account of these. Or if the film is successful, it may lead to follow-on projects involving games based on film sequels.

(Note: credit will be given for alternative relevant comments)

5 (Solution note: Question 5 can be answered in a variety of ways and the suggested answer below is indicative. Credit will be given for reasonable answers considering alternatives or additions to the two issues discussed below.)

The directors' overarching aim should be to maximise Mezza Co's long-term value and thereby maximise the value to its shareholders. Hence any decision should be made with this aim as the primary objective. However, the directors should also try to minimise the negative consequences resulting from the implementation of the project, taking into account the company's responsibility to its stakeholders.

The first key issue to consider is whether the new project would add value to the company. Initially it would appear that the investment into the new venture may be beneficial to the company. The product would be meeting market needs for a substantial period of time, as a tool in tackling climate change. It would possibly enhance the company's corporate reputation in helping to tackle the negative impact of climate change. Furthermore, it may enable the research subsidiary company to undertake future research and development projects in similar products.

However, whether the positive factors described above lead to an increase in the value of the company warrants further discussion and investigation. The company needs to assess the likely income the investment will generate and take account of the inherent risk of the venture. Presumably this is a new product and therefore it is likely that the uncertainty and risk to income flows will be significant. The directors should also take account of the fact that their remuneration package contains share options and these may induce them to act in an overly risky manner, where they would benefit from increasing share prices but not lose if the share price falls. This may not be beneficial to the shareholders or other stakeholders who do not hold such options.

Due diligence procedures for the project need to be undertaken before the decision is made. The company's directors need to undertake a full assessment of how realistic the estimates of revenues and income are likely to be. They would also need to assess the likelihood of competitors and alternative products which may affect the future sales of the product. A full investigation of the uncertainties and risks needs to be undertaken, possibly using techniques such as sensitivity, probability and project duration analysis. Risks need to be accounted for in the assessment of the likely value added. This would be of particular importance if the directors are to convince the shareholders and other stakeholders that they are not taking unacceptable levels of risk. Realistic time scales need to be determined of how long it would take to commercialise the product, perhaps by considering how other companies undertook similar projects. The adequacy of the expertise and infrastructure required by the company needs to be assessed.

The second key issue for the directors to consider is the location of the plant product. There are a number of factors which would make the location ideal for Mezza Co. The location provides the ideal conditions for the plant to grow in the quantity required for commercialisation. The relationship with the government is strong and the government wants to develop new industries, hence the project is likely to be seen in a positive light. It is possible therefore that many legal and administrative barriers would be reduced to enable production to commence quickly. Finally, Mezza Co has the infrastructure it needs in place and therefore set-up costs are likely to be significantly lower. These factors would provide financial benefits for Mezza Co and may make the investment viable.

However, there are ethical and environmental concerns in using this area for the project. It may be perceived that the relationship with the government is too close and this will prevent proper scrutiny by the government. The livelihood of the affected fishermen needs to be considered, as well as the impact on the wildlife and the environment. Going ahead with the project may result in a significant negative impact on Mezza Co's reputation and possibly contradicts with the company's (and the directors') values. Therefore, the dilemma that the directors face is that the project would be perceived as helping the global environment but damaging the local environment.

The directors could take a number of steps to reduce or eliminate this negative impact. Given that the fishermen do not have a significant 'voice' or power, Mezza's board could try to hide the issue, but it is unlikely that their personal values would allow such a situation. The directors could speak with the leaders of the fishermen's community to explain the benefits and consequences on the fishermen, possibly offering the fishermen priority to the new jobs that the project would create. They could influence, and work with the government, to part-develop the area for tourists and also leave areas for the fishermen to continue their activity. This may be possible if the whole area is not needed for plant cultivation at once. These additional wealth enhancing opportunities may convince the fishermen of the merits of the project. The company could continue looking for alternative areas to cultivate the crop and possibly engage in research and development to create crops which are not harmful to the fish stock and the wildlife. However, these steps would cost money and Mezza Co needs to balance revenues it is likely to receive against the additional costs.

In terms of the relationship with the government, Mezza Co may be able to demonstrate that it worked with the government to improve the livelihood of the fishermen. It could also ensure that it follows due process in terms of legal and administrative requirements, even though this would possibly delay the product's launch.

Mezza Co needs to consider the likely positive benefits against the costs, both direct and to the wider community, before taking on the project. It needs to consider the impact on long term value creation, and corporate reputation would be a major factor in determining this. Although Maienar's government may try to approve the project quickly, Mezza Co should consider the full impact of the proposed project, alternatives and consequences, and try to manage the entire process to ensure that there isn't an overall negative impact on the company's reputation.

		<i>Marks</i>
1	(i) Ignore interest in calculations	1
	Estimate of cost of capital of Fodder Co	1
	Estimates of growth rates and profit margins for Fodder Co	2
	Estimate of intrinsic value of Fodder Co	3
	Equity beta of combined co	3
	Cost of capital of combined company	1
	Estimate of value of combined company	3
	Synergy benefits, value to Pursuit Co shareholders and conclusion	<u>2–3</u>
	Max	<u>16</u>
	(ii) 1 to 2 marks per each point discussed	
	Credit will be given for alternative, relevant points	Max 4
	(iii) Estimate of the increase in debt capacity after acquisition	1
	Estimate of the funds required to acquire Fodder Co	1
	Conclusion	<u>1</u>
	Total	<u>3</u>
	(iv) Explanation of the problem of the changing capital structure	2
Explanation of the resolution of the problem using the iterative process	<u>2</u>	
Total	<u>4</u>	
(v) Assessment of suitable defence	2–3	
Assessment of viability	<u>2–3</u>	
Credit will be given for alternative, relevant points	Max 5	
Professional Marks		
Report format	1	
Layout, presentation and structure	<u>3</u>	
Total	<u>4</u>	
Total	<u>36</u>	
2	(a) Forward contract calculation	1
	Forward contract comment	1
	Futures contracts calculations	3
	Futures contracts comments	2–3
	Option contracts calculations	4
	Option contracts comments	2–3
	Conclusion	<u>1</u>
	Max	<u>15</u>
	(b) Income from US\$ after six months	1
	Expected spot rate in six months	2
	Investment amount required	1
	Loan finance required	1
	Comments	<u>1</u>
	Max	<u>5</u>
	(c) Estimates of forward rates	3
	Estimates of present values and net present value in Euros	3
	Discussion	<u>4–5</u>
	Max	<u>10</u>
	Total	<u>30</u>

		<i>Marks</i>
3	(a) Calculation of gross redemption yield	2
	PV of cash flows and duration of bond 1	3
	PV of cash flows, price and duration of bond 2	4
	Total	<u>9</u>
(b)	Duration as a single measure of sensitivity of interest rates	3–4
	Explanation of convexity	2–3
	Explanation of change in shape of yield curve and other limitations	2–3
	Max	<u>8</u>
Total	<u>17</u>	
4	(a) Value of project without considering option to delay decision and conclusion	2
	Current price variable (P_a) for BSOP formula	1
	Additional cost (P_e) for BSOP formula	1
	Other variables for BSOP formula	1
	Calculation of $N(d_1)$	2
	Calculation of $N(d_2)$	2
	Value of the option to delay decision	1
	Revised value of project and conclusion	2
	Total	<u>12</u>
	(b) 1 to 2 marks per well explained point	Max <u>5</u>
Total	<u>17</u>	
5	Over-arching corporate aim	1–2
	Discussion of the project adding value and issues relating to return and risk	3–4
	Possible suggestions for mitigating the negative issues to above discussion	3–4
	Discussion of the ethical and environmental issues	3–4
	Possible suggestions for mitigating the ethical and environmental issues	3–4
	Other relevant key issues and suggestions for mitigation	2–3
	Max	<u>17</u>