Answers

1 (a) The World Trade Organisation (WTO) was set up to continue to implement the General Agreement on Tariffs and Trade (GATT), and its main aims are to reduce the barriers to international trade. It does this by seeking to prevent protectionist measures such as tariffs, quotas and other import restrictions. It also acts as a forum for negotiation and offering settlement processes to resolve disputes between countries.

The WTO encourages free trade by applying the most favoured nation principle between its members, where reduction in tariffs offered to one country by another should be offered to all members.

Whereas the WTO has had notable success, some protectionist measures between groups of countries are nevertheless allowed and some protectionist measures, especially non-tariff based ones, have been harder to identify and control.

Mehgam could benefit from reducing protectionist measures because its actions would make other nations reduce their protectionist measures against it. Normally countries retaliate against each other when they impose protectionist measures. A reduction in these may allow Mehgam to benefit from increased trade and economic growth. Such a policy may also allow Mehgam to specialise and gain competitive advantage in certain products and services, and compete more effectively globally. Its actions may also gain political capital and more influence worldwide.

Possible drawbacks of reducing protectionist policies mainly revolve around the need to protect certain industries. It may be that these industries are developing and in time would be competitive on a global scale. However, inaction to protect them now would damage their development irreparably. Protection could also be given to old, declining industries, which, if not protected, would fail too quickly due to international competition, and would create large scale unemployment making such inaction politically unacceptable. Certain protectionist policies are designed to prevent 'dumping' of goods at a very cheap price, which hurt local producers.

(Note: Credit will be given for alternative relevant discussion)

(b) Report to the Board of Directors (BoD), Chmura Co

This report recommends whether or not Chmura Co should invest in a food packaging project in Mehgam, following Mehgam reducing its protectionist measures. It initially considers the value of the project without taking into account the offer made by Bulud Co to purchase the project after two years. Following this, Bulud Co's offer is considered. The report concludes by recommending a course of action for the BoD to consider further.

Estimated value of the Mehgam project and initial recommendation

The initial net present value of the project is negative at approximately $(451,000) [see Appendix 1]. This would suggest that Chmura Co should not undertake the project.

Bulud Co's offer is considered to be a real option for Mehgam Co. Since it is an offer to sell the project as an abandonment option, a put option value is calculated based on the finance director's assessment of the standard deviation and using the Black-Scholes option pricing (BSOP) model. The value of the put option is added to the initial net present value of the project without the option, to give the value of the project. Although Chmura Co will not actually obtain any immediate cash flow from Bulud Co's offer, the real option computation indicates that the project is worth pursuing because the volatility may result in increases in future cash flows.

After taking account of Bulud Co's offer and the finance director's assessment, the net present value of the project is positive at approximately $2,993,000 [see Appendix 2]. This would suggest that Chmura Co should undertake the project.

Assumptions

It is assumed that all the figures relating to variables such as revenues, costs, taxation, initial investments and their recovery, inflation figures and cost of capital are accurate. There is considerable uncertainty surrounding the accuracy of these, and in addition to the assessments of value conducted in appendices one and two, sensitivity analysis and scenario analysis are probably needed to assess the impact of these uncertainties.

It is assumed that future exchange rates will reflect the differential in inflation rates between the two countries. It is, however, unlikely that exchange rates will move fully in line with the inflation rate differentials.

It is assumed that the value of the land and buildings at the end of the project is a relevant cost, as it is equivalent to an opportunity benefit, even if the land and buildings are retained by Chmura Co.

It is assumed that Chmura Co will be given and will utilise the full benefit of the bi-lateral tax treaty and therefore will not pay any additional tax in the country where it is based.

It is assumed that the short-dated $ treasury bills are equivalent to the risk-free rate of return required for the BSOP model. And it is assumed that the finance director's assessment of the 35% standard deviation of cash flows is accurate.

It is assumed that Bulud Co will fulfil its offer to buy the project in two years' time and there is no uncertainty surrounding this. Chmura Co may want to consider making the offer more binding through a legal contract.

The BSOP model makes several assumptions such as perfect markets, constant interest rates and lognormal distribution of asset prices. It also assumes that volatility can be assessed and stays constant throughout the life of the project, and that the underlying asset can be traded. Neither of these assumptions would necessarily apply to real options. Therefore the BoD needs to treat the value obtained as indicative rather than definitive.

Additional business risks

Before taking the final decision on whether or not to proceed with the project, Chmura Co needs to take into consideration additional risks, including business risks, and where possible mitigate these as much as possible. The main business risks are as follows:

Investing in Mehgam may result in political risks. For example, the current government may be unstable and if there is a change of government, the new government may impose restrictions, such as limiting the amount of remittances which can be made to the parent company. Chmura Co needs to assess the likelihood of such restrictions being imposed in the future and consider alternative ways of limiting the negative impact of such restrictions.

Chmura Co will want to gain assurance that the countries to which it will sell the packaged food batches remain economically stable and that the physical infrastructure such as railways, roads and shipping channels are maintained in good repair. Chmura Co will want to ensure that it will be able to export the special packaging material into Mehgam. Finally, it will need to assess the likelihood of substantial protectionist measures being lifted and not re-imposed in the future.

As much as possible, Chmura Co will want to ensure that fiscal risks such as imposition of new taxes and limits on expenses allowable for taxation purposes do not change. Currently, the taxes paid in Mehgam are higher than in Chmura Co's host country, and even though the bi-lateral tax treaty exists between the countries, Chmura Co will be keen to ensure that the tax rate does not change disadvantageously.

Chmura Co will also want to protect itself, as much as possible, against adverse changes in regulations. It will want to form the best business structure, such as a subsidiary company, joint venture or branch, to undertake the project. Also, it will want to familiarise itself on regulations such as employee health and safety law, employment law and any legal restrictions around land ownership.

Risks related to the differences in cultures between the host country, Mehgam, and the countries where the batches will be exported to would be a major concern to Chmura Co. For example, the product mix in the batches which are suitable for the home market may not be suitable for Mehgam or where the batches are exported. It may contain foods which would not be saleable in different countries and therefore standard batches may not be acceptable to the customers. Chmura Co will also need to consider the cultural differences and needs of employees and suppliers.

The risk of the loss of reputation through operational errors would need to be assessed and mitigated. For example, in setting up sound internal controls, segregation of duties is necessary. However, personal relationships between employees in Mehgam may mean that what would be acceptable in another country may not be satisfactory in Mehgam. Other areas where Chmura Co will need to focus on are the quality control procedures to ensure that the quality of the food batches is similar to the quality in the host country.

Recommendation

With Bulud Co's offer, it is recommended that the BoD proceed with the project, as long as the BoD is satisfied that the offer is reliable, the sensitivity analysis/scenario analysis indicates that any negative impact of uncertainty is acceptable and the business risks have been considered and mitigated as much as possible.

If Bulud Co's offer is not considered, then the project gives a marginal negative net present value, although the results of the sensitivity analysis need to be considered. It is recommended that, if only these results are taken into consideration, the BoD should not proceed with the project. However, this decision is marginal and there may be other valid reasons for progressing with the project such as possibilities of follow-on projects in Mehgam.

Report compiled by:

Date:

APPENDICES

Appendix 1: Estimated value of the Mehgam project excluding the Bulud Co offer

(Cash flows in MP, millions)

Year	**1**	**2**	**3**	**4**	**5**
Sales revenue (w2)	1,209·6	1,905·1	4,000·8	3,640·7	2,205·4
Production and selling costs (w3)	(511·5)	(844·0)	(1,856·7)	(1,770·1)	(1,123·3)
Special packaging costs (w4)	(160·1)	(267·0)	(593·7)	(572·0)	(366·9)
Training and development costs	(409·2)	(168·8)	0	0	0
Tax allowable depreciation	(125)	(125)	(125)	(125)	(125)
Balancing allowance					(125)
Taxable profits/(loss)	3·8	500·3	1,425·4	1,173·6	465·2
Taxation (25%)	(1·0)	(125·1)	(356·4)	(293·4)	(116·3)
Add back depreciation	125	125	125	125	250
Cash flows (MP, millions)	127·8	500·2	1,194·0	1,005·2	598·9

(All amounts in $, 000s)

Year	1	2	3	4	5
Exchange rate (w1)	76·24	80·72	85·47	90·50	95·82
Cash flows ($ 000s)	1,676·3	6,196·7	13,969·8	11,107·2	6,250·3
Discount factor for 12%	0·893	0·797	0·712	0·636	0·567
Present values ($ 000s)	1,496·9	4,938·8	9,946·5	7,064·2	3,543·9

Present value of cash flows approx. = $26,990,000

PV of value of land, buildings and machinery in year 5 = (80% x MP1,250m + MP500m)/95·82 x 0·567 approx. = $8,876,000
PV of working capital = MP200m/95·82 x 0·567 approx. = $1,183,000

Cost of initial investment in $ = (MP2,500 million + MP200 million)/72 = $37,500,000

NPV of project = $26,990,000 + $8,876,000 + $1,183,000 – $37,500,000 = $(451,000)

Workings

1. **Exchange rates**

Year	1	2	3	4	5
MP/$1	72 x 1·08/1·02 = 76·24	76·24 x 1·08/1·02 = 80·72	80·72 x 1·08/1·02 = 85·47	85·47 x 1·08/1·02 = 90·50	90·50 x 1·08/1·02 = 95·82

2. **Sales revenue (MP million)**

Year	1	2	3	4	5
	10,000 x 115,200 x 1·05 = 1,209·6	15,000 x 115,200 x $1·05^2$ = 1,905·1	30,000 x 115,200 x $1·05^3$ = 4,000·8	26,000 x 115,200 x $1·05^4$ = 3,640·7	15,000 x 115,200 x $1·05^5$ = 2,205·4

3. **Production and selling (MP million)**

Year	1	2	3	4	5
	10,000 x 46,500 x 1·1 = 511·5	15,000 x 46,500 x $1·1^2$ = 844·0	30,000 x 46,500 x $1·1^3$ = 1,856·7	26,000 x 46,500 x $1·1^4$ = 1,770·1	15,000 x 46,500 x $1·1^5$ = 1,123·3

4. **Special packaging (MP million)**

Year	1	2	3	4	5
	10,000 x 200 x 76·24 x 1·05 = 160·1	15,000 x 200 x 80·72 x $1·05^2$ = 267·0	30,000 x 200 x 85·47 x $1·05^3$ = 593·7	26,000 x 200 x 90·50 x $1·05^4$ = 572·0	15,000 x 200 x 95·82 x $1·05^5$ = 366·9

Appendix 2: Estimated value of the Mehgam project including the Bulud Co offer

Present value of underlying asset (Pa) = $30,613,600 (approximately)
(This is the sum of the present values of the cash flows foregone in years 3, 4 and 5)

Price offered by Bulud Co (Pe) = $28,000,000

Risk free rate of interest (r) = 4% (assume government treasury bills are valid approximation of the risk free rate of return)

Volatility of underlying asset (s) = 35%

Time to expiry of option (t) = 2 years

d_1 = [ln(30,613·6/28,000) + (0·04 + 0·5 x $0·35^2$) x 2]/[0·35 x $2^{1/2}$] = 0·589
d_2 = 0·589 – 0·35 x $2^{1/2}$ = 0·094

$N(d_1)$ = 0·5 + 0·2220 = 0·7220
$N(d_2)$ = 0·5 + 0·0375 = 0·5375

Call value = $30,613,600 x 0·7220 – $28,000,000 x 0·5375 x $e^{-0·04 \times 2}$ = approx. $8,210,000
Put value = $8,210,000 – $30,613,600 + $28,000,000 x $e^{-0·04 \times 2}$ = approx. $3,444,000

Net present value of the project with put option = $3,444,000 – $451,000 = approx. $2,993,000

(Note: Credit will be given for relevant discussion and recommendation)

2 (a) Using forward rate agreements (FRAs)

FRA rate 4·82% (3–7), since the investment will take place in three months' time for a period of four months.

If interest rates increase by 0·9% to 4·99%

Investment return = 4·79% x 4/12 x $48,000,000 =	$766,400
Payment to Voblaka bank = (4·99% – 4·82%) x $48,000,000 x 4/12 =	$(27,200)
Net receipt =	$739,200
Effective annual interest rate = 739,200/48,000,000 x 12/4 =	4·62%

If interest rates decrease by 0·9% to 3·19%

Investment return = 2·99% x 4/12 x $48,000,000 =	$478,400
Receipt from Voblaka Bank = (4·82% – 3·19%) x $48,000,000 x 4/12 =	$260,800
Net receipt =	$739,200
Effective annual interest rate (as above)	4·62%

Using futures

Need to hedge against a fall in interest rates, therefore go long in the futures market. Awan Co needs March contracts as the investment will be made on 1 February.

No. of contracts needed = $48,000,000/$2,000,000 x 4 months/3 months = 32 contracts.

Basis
Current price (on 1/11) – futures price = total basis
(100 – 4·09) – 94·76 = 1·15
Unexpired basis = 2/5 x 1·15 = 0·46

If interest rates increase by 0·9% to 4·99%

Investment return (from above) =	$766,400
Expected futures price = 100 – 4·99 – 0·46 = 94·55	
Loss on the futures market = (0·9455 – 0·9476) x $2,000,000 x 3/12 x 32 =	$(33,600)
Net return =	$732,800
Effective annual interest rate = $732,800/$48,000,000 x 12/4 =	4·58%

If interest rates decrease by 0·9% to 3·19%

Investment return (from above) =	$478,400
Expected futures price = 100 – 3·19 – 0·46 = 96·35	
Gain on the futures market = (0·9635 – 0·9476) x $2,000,000 x 3/12 x 32 =	$254,400
Net return =	$732,800
Effective annual interest rate (as above) =	4·58%

Using options on futures

Need to hedge against a fall in interest rates, therefore buy call options. As before, Awan Co needs 32 March call option contracts ($48,000,000/$2,000,000 x 4 months/3 months).

If interest rates increase by 0·9% to 4·99%

Exercise price	94·50	95·00
Futures price	94·55	94·55
Exercise ?	Yes	No
Gain in basis points	5	0
Underlying investment return (from above)	$766,400	$766,400
Gain on options (0·0005 x 2,000,000 x 3/12 x 32, 0)	$8,000	$0
Premium		
0·00432 x $2,000,000 x 3/12 x 32	$(69,120)	
0·00121 x $2,000,000 x 3/12 x 32		$(19,360)
Net return	$705,280	$747,040
Effective interest rate	4·41%	4·67%

If interest rates decrease by 0·9% to 3·19%

Exercise price	94·50	95·00
Futures price	96·35	96·35
Exercise ?	Yes	Yes
Gain in basis points	185	135
Underlying investment return (from above)	$478,400	$478,400
Gain on options		
(0·0185 x 2,000,000 x 3/12 x 32)	$296,000	
(0·0135 x 2,000,000 x 3/12 x 32)		$216,000
Premium		
As above	$(69,120)	
As above		$(19,360)
Net return	$705,280	$675,040
Effective interest rate	4·41%	4·22%

Discussion

The FRA offer from Voblaka Bank gives a slightly higher return compared to the futures market; however, Awan Co faces a credit risk with over-the-counter products like the FRA, where Voblaka Bank may default on any money owing to Awan Co if interest rates should fall. The March call option at the exercise price of 94·50 seems to fix the rate of return at 4·41%, which is lower than the return on the futures market and should therefore be rejected. The March call option at the exercise price of 95·00 gives a higher return compared to the FRA and the futures if interest rates increase, but does not perform as well if the interest rates fall. If Awan Co takes the view that it is more important to be protected against a likely fall in interest rates, then that option should also be rejected. The choice between the FRA and the futures depends on Awan Co's attitude to risk and return, the FRA gives a small, higher return, but carries a credit risk. If the view is that the credit risk is small and it is unlikely that Voblaka Bank will default on its obligation, then the FRA should be chosen as the hedge instrument.

(b) The delta value measures the extent to which the value of a derivative instrument, such as an option, changes as the value of its underlying asset changes. For example, a delta of 0·8 would mean that a company would need to purchase 1·25 option contracts (1/0·8) to hedge against a rise in price of an underlying asset of that contract size, known as the hedge ratio. This is because the delta indicates that when the underlying asset increases in value by $1, the value of the equivalent option contract will increase by only $0·80.

The option delta is equal to $N(d_1)$ from the Black-Scholes Option Pricing (BSOP) formula. This means that the delta is constantly changing when the volatility or time to expiry change. Therefore even when the delta and hedge ratio are used to determine the number of option contracts needed, this number needs to be updated periodically to reflect the new delta.

3 (a) Combined company, cost of capital

Asset beta
(1·2 x 480 + 0·9 x 1,218)/(480 + 1,218) = 0·985
Equity beta
0·985 x (60 + 40 x 0·8)/60 = 1·51
Cost of equity
2% + 1·51 x 7% = 12·57%

Cost of capital
12·57% x 0·6 + 4·55% x 0·8 x 0·4 = 9·00%

Combined company equity value
Years 1 to 4 ($ millions)

Year	1	2	3	4
Free cash flows before synergy (growing at 5%)	226·80	238·14	250·05	262·55
Synergies	20·00	20·00	20·00	20·00
Free cash flows	246·80	258·14	270·05	282·55
PV of free cash flows at 9%	226·42	217·27	208·53	200·17

(Note: the present value (PV) figures are slightly different if discount table factors are used, instead of formulae. Full credit will be given if discount tables are used to calculate PV figures.)

Total PV of cash flows (years 1 to 4) = $852·39 million
Total PV of cash flows (years 5 to perpetuity) = 262·55 x 1·0225 /(0·09 – 0·0225) x $1·09^{-4}$ = $2,817·51 million

Total value to firm = $3,669·90 million

Value attributable to equity holders = $3,669·90 million x 0·6 = $2,201·94 million

Additional value created from the combined company = $2,201·94 million – ($1,218 million + $480 million) = $2,201·94 million – $1,698·00 million = $503·94 million (or 29·7%)

Although the equity beta and therefore the risk of the combined company is more than Makonis Co on its own, probably due to Nuvola Co's higher business risk (reflected by the higher asset beta), overall the benefits from growth in excess of the risk free rate and additional synergies have led to an increase in the value of combined company of just under 30% when compared to the individual companies' values.

However, a number of assumptions have been made in obtaining the valuation, for example:

- The assumption of growth of cash flows in perpetuity and whether this is realistic or not;
- Whether the calculation of the combined company's asset beta when based on the weighted average of market values is based on good evidence or not;
- It has been assumed that the figures such as growth rates, tax rates, free cash flows, risk free rate of return, risk premium, and so on are accurate and do not change in the future.

In all these circumstances, it may be appropriate to undertake sensitivity analysis to determine how changes in the variables would impact on the value of the combined company, and whether the large increase in value is justified.

(b) Value of Nuvola equity = $2·40 x 200m shares = $480m
30% premium: 1·3 x $480m = $624m
50% premium: 1·5 x $480m = $720m

New number of shares = 210m + ½ x 200m = 310m

Loss in value per share of combined company, if 50% premium paid instead of 30% premium = ($720m – $624m)/310m shares = $0·31/share.

This represents a drop in value of approx. 5·3% on original value of a Makonis Co share ($0·31/$5·80).

(c) The amount of cash required will increase substantially, by about $96 million, if Makonis Co agrees to the demands made by Nuvola Co's equity holders and pays the 50% premium. Makonis Co needs to determine how it is going to acquire the additional funds and the implications from this. For example, it could borrow the money required for the additional funds, but taking on more debt may affect the cost of capital and therefore the value of the company. It could raise the funds by issuing more equity shares, but this may not be viewed in a positive light by the current equity holders.

Makonis Co may decide to offer a higher proportion of its shares in the share-for-share exchange instead of paying cash for the additional premium. However, this will affect its equity holders and dilute their equity holding further. Even the current proposal to issue 100 million new shares will mean that Nuvola Co's equity holders will own just under 1/3 of the combined company and Makonis Co's shareholders would own just over 2/3 of the combined company.

Makonis Co should also consider what Nuvola Co's equity holders would prefer. They may prefer less cash and more equity due to their personal tax circumstances, but, in most cases, cash is preferred by the target firm's equity holders.

4 **(a)** Current and non-current liabilities = $387m + $95m = $482m

Sale of assets of supermarkets division
Proportion of assets to supermarkets division
Non-current assets = 70% x $550m = $385m; Current assets = 70% x $122m = $85·4m

Sale of assets = $385m x 1·15 + $85·4m x 0·80 = $511·07m

Sale of supermarkets division as a going concern
Profit after tax attributable to the supermarkets division: $166m/2 = $83m

Estimate of value of supermarkets division based on the PE ratio of supermarket industry: $83 x 7 = $581m

Although both options generate sufficient funds to pay for the liabilities, the sale of the supermarkets division as a going concern would generate higher cash flows and the spare cash of $99m [$581m – $482m] can be used by Nubo Co for future investments. This is based on the assumption that the value based on the industries' PE ratios is accurate.

Proportion of assets remaining within Nubo Co
30% x ($550m + $122m) = $201·6m

Add extra cash generated from the sale of $99m

Maximum debt capacity = $300·6m

Total additional funds available to Nubo Co for new investments = $300·6m + $99m = $399·6m

(b) A demerger would involve splitting Nubo Co into two separate companies which would then operate independently of each other. The equity holders in Nubo Co would continue to have an equity stake in both companies.

Normally demergers are undertaken to ensure that each company's equity values are fair. For example, the value of the aircraft parts production division based on the PE ratio gives a value of $996m (12 x $83m) and the value of the supermarkets division as $581m. If the current company's value is less than the combined values of $1,577m, then a demerger may be beneficial. However, the management and shareholders of the new supermarkets company may not be keen to take over all the debt.

Nubo Co's equity holders may view the demerger more favourably than the sale of the supermarkets division. At present their equity investment is diversified between the aircraft parts production and supermarkets. If the supermarkets division is sold, then the level of their diversification may be affected. With the demerger, since the equity holders will retain an equity stake in both companies, the benefit of diversification is retained.

However, the extra $99m cash generated from the sale will be lost in the case of a demerger. Furthermore, if the new aircraft parts production company can only borrow 100% of its asset value, then its borrowing capacity and additional funds available to it for new investments will be limited to $201·6m instead of $399·6m.

(c) With a Mudaraba contract, the profits which Pilvi Co makes from the joint venture would be shared according to a pre-agreed arrangement when the contract is constructed between Pilvi Co and Ulap Bank. Losses, however, would be borne solely by Ulap Bank as the provider of the finance, although provisions can be made where losses can be written off against future profits. Ulap Bank would not be involved in the executive decision-making process. In effect, Ulap Bank's role in the relationship would be similar to an equity holder, holding a small number of shares in a large organisation.

With a Musharaka contract, the profits which Pilvi Co makes from the joint venture would still be shared according to a pre-agreed arrangement similar to a Mudaraba contract, but losses would also be shared according to the capital or other assets and services contributed by both the parties involved in the arrangement. Therefore a value could be put to the contribution-in-kind made by Pilvi Co and any losses would be shared by Ulap Bank and Pilvi Co accordingly. Within a Musharaka contract, Ulap Bank can also take the role of an active partner and participate in the executive decision-making process. In effect, the role adopted by Ulap Bank would be similar to that of a venture capitalist.

With the Mudaraba contract, Pilvi Co would essentially be an agent to Ulap Bank, and many of the agency issues facing corporations would apply to the arrangement, where Pilvi Co can maximise its own benefit at the expense of Ulap Bank. Pilvi Co may also have a propensity to undertake excessive risk because it is essentially holding a long call option with an unlimited upside and a limited downside.

Ulap Bank may prefer the Musharaka contract in this case, because it may be of the opinion that it needs to be involved with the project and monitor performance closely due to the inherent risk and uncertainty of the venture, and also to ensure that the revenues, expenditure and time schedules are maintained within initially agreed parameters. In this way, it may be able to monitor and control agency related issues more effectively and control Pilvi Co's risky actions and decisions. Being closely involved with the venture would change both Pilvi Co's and Ulap Bank's roles and make them more like stakeholders rather than principals and agents, with a more equitable distribution of power between the two parties.

Nubo Co's concerns would mainly revolve around whether it can work with Ulap Bank and the extra time and cost which would need to be incurred before the joint venture can start. If Pilvi Co had not approached Ulap Bank for funding, the relationship between Nubo Co and Pilvi Co would be less complex within the joint venture. Although difficulties may arise about percentage ownership and profit sharing, these may be resolved through negotiation and having tight specific contracts. The day-to-day running, management and decision-making process could be resolved through negotiation and consensus. Therefore having a third party involved in all aspects of the joint venture complicates matters.

Nubo Co may feel that it was not properly consulted about the arrangements between Pilvi Co and Ulap Bank, and Pilvi Co would need to discuss the involvement of Ulap Bank with Nubo Co and gets its agreement prior to formalising any arrangements. This is to ensure a high level of trust continues to exist between the parties, otherwise the venture may fail.

Nubo Co may want clear agreements on ownership and profit-sharing. They would want to ensure that the contract clearly distinguishes them as not being part of the Musharaka arrangement which exists between Pilvi Co and Ulap Bank. Hence negotiation and construction of the contracts may need more time and may become more expensive.

Nubo Co may have felt that it could work with Pilvi Co on a day-to-day basis and could resolve tough decisions in a reasonable manner. It may not feel the same about Ulap Bank initially. Clear parameters would need to be set up on how executive decision making will be conducted by the three parties. Therefore, the integration process of bringing a third partner into the joint venture needs to be handled with care and may take time and cost more money.

The above issues would indicate that the relationship between the three parties is closer to that of stakeholders, with different levels of power and influence, at different times, as opposed to a principal–agent relationship. This would create an environment which would need ongoing negotiation and a need for consensus, which may make the joint venture hard work. Additionally, it would possibly be more difficult and time consuming to accomplish the aims of the joint venture.

(Note: Credit will be given for alternative relevant comments and suggestions for parts (b) and (c) of the question)

				Marks
1	**(a)**	Role of the World Trade Organisation		4–5
		Benefits of reducing protectionist measures		2–3
		Drawbacks of reducing protectionist measures		2–3
			Max	**9**
	(b)	**(i)** Future exchange rates predicted on inflation rate differential		1
		Sales revenue		1
		Production and selling costs		1
		Special packaging costs		2
		Training and development costs		1
		Correct treatment of tax and tax allowable depreciation		2
		Years 1 to 5 cash flows in $ and present values of cash flows		2
		Ignoring initial investigation cost and additional taxation in Chmura Co host country		1
		Correct treatment of land, buildings, machinery and working capital		2
		Net present value of the project		1
				14
		(ii) Inputting correct values for the variables		2
		Calculation of d_1 and d_2		2
		Establishing $N(d_1)$ and $N(d_2)$		2
		Call value		1
		Put value		1
		Value of the project		1
				9
		(iii) Estimated value and initial recommendation		2–3
		Up to 2 marks per assumption discussed		5–6
		Up to 2 marks per additional business risk discussed		5–6
		Overarching recommendation(s)		1–2
			Max	**14**
		Professional marks		
		Report format		1
		Structure and presentation of the report		3
				4
			Total	**50**
2	**(a)**	Calculation of impact of FRA for interest rate increase and decrease		2
		Decision to go long on futures		1
		Selection of March futures and options		1
		Unexpired basis calculation		1
		Impact of interest rates increase/decrease with futures		3
		Decision to buy call options		1
		Impact of interest rates increase/decrease with options		5
		Discussion (up to 2 marks available for general explanation of the products' features)		5–6
			Max	**19**
	(b)	1–2 marks per well explained point	**Max**	**6**
			Total	**25**

				Marks
3	**(a)**	Market values of Makonis Co and Nuvola Co		1
		Combined company asset beta		1
		Combined company equity beta		1
		Combined company: cost of capital		1
		Combined company value: years 1 to 4		3
		Combined company value: years 5 to perpetuity		1
		Combined company value: value to equity holders and additional value		2
		Comment and discussion of assumptions		3–4
			Max	**13**
	(b)	Payment if 30% premium paid		1
		Payment if 50% premium paid		1
		Estimate of impact on Makonis Co's equity holders		3
				5
	(c)	Additional amount payable if 50% premium paid instead of 30% premium		1
		Discussion of how Makonis Co would finance the additional premium		6
				7
			Total	**25**
4	**(a)**	Sale of supermarkets division's assets		1
		Sale of supermarkets division as going concern		1
		Advice		2
		Extra cash after liabilities are paid		1
		Maximum debt which can be borrowed		1
		Additional funds available to Nubo Co		1
				7
	(b)	1–2 marks per relevant point	**Max**	**6**
	(c)	Discussion of why Ulap Bank might prefer a Musharaka contract		6–7
		Discussion of the key concerns of the joint venture relationship		5–6
			Max	**12**
			Total	**25**