
Answers

- 1 (a) Increasing the debt finance of a company relative to equity finance increases its financial risk, and therefore the company will need to be able to bear the consequences of this increased risk. However, companies face both financial risk, which increases as the debt levels in the capital structure increase, and business risk, which is present in a company due to the nature of its business.

In the case of Conejo Co, it could be argued that as its profits and cash flows have stabilised, the company's business risk has reduced, in contrast to early in its life, when its business risk would have been much higher due to unstable profits and cash flows. Therefore, whereas previously Conejo Co was not able to bear high levels of financial risk, it is able to do so now without having a detrimental impact on the overall risk profile of the company. It could therefore change its capital structure and have higher levels of debt finance relative to equity finance.

The predatory acquisition of one company by another could be undertaken for a number of reasons. One possible reason may be to gain access to cash resources, where a company which needs cash resources may want to take over another company which has significant cash resources or cash generative capability. Another reason may be to increase the debt capacity of the acquirer by using the assets of the target company. Where the relative level of debt finance is increased in the capital structure of a company through a financial reconstruction, like in the case of Conejo Co, these reasons for acquiring a company may be diminished. This is because the increased levels of debt would probably be secured against the assets of the company and therefore the acquirer cannot use them to raise additional debt finance, and cash resources would be needed to fund the higher interest payments.

Many tax jurisdictions worldwide allow debt interest to be deducted from profits before the amount of tax payable is calculated on the profits. Increasing the amount of debt finance will increase the amount of interest paid, reducing the taxable profits and therefore the tax paid. Modigliani and Miller referred to this as the benefit of the tax shield in their research into capital structure, where their amended capital proposition demonstrated the reduction in the cost of capital and increase in the value of the firm, as the proportion of debt in the capital structure increases.

- (b) Report to the board of directors (BoD), Conejo Co

Introduction

This report discusses whether the proposed financial reconstruction scheme which increases the amount of debt finance in Conejo Co would be beneficial or not to the company and the main parties affected by the change in the funding, namely the equity holders, the debt holders and the credit rating companies. Financial estimates provided in the appendices are used to support the discussion.

Impact on Conejo Co

Benefits to Conejo Co include the areas discussed in part (a) above and as suggested by the CFO. The estimate in appendix 3 assumes that the interest payable on the new bonds and the extra interest payable on the existing bonds are net of the 15% tax. Therefore, the tax shield reduces the extra amount of interest paid. Further, it is likely that because of the large amount of debt finance which will be raised, the company's assets would have been used as collateral. This will help protect the company against hostile takeover bids. Additionally, proposal 2 (appendix 3) appears to be better than proposal 1, with a lower gearing figure and a higher earnings per share figure. However, this is dependent on the extra investment being able to generate an after-tax return of 12% immediately. The feasibility of this should be assessed further.

Conejo Co may also feel that this is the right time to raise debt finance as interest rates are lower and therefore it does not have to offer large coupons, compared to previous years. Appendix 1 estimates that the new bond will need to offer a coupon of 3.57%, whereas the existing bond is paying a coupon of 5.57%.

The benefits above need to be compared with potential negative aspects of raising such a substantial amount of debt finance. Conejo Co needs to ensure that it will be able to finance the interest payable on the bonds and it should ensure it is able to repay the capital amount borrowed (or be able to re-finance the loan) in the future. The extra interest payable (appendix 3) will probably not pose a significant issue given that the profit after tax is substantially more than the interest payment. However, the repayment of the capital amount will need careful thought because it is significant.

The substantial increase in gearing, especially with respect to proposal 1 (appendix 3), may worry some stakeholders because of the extra financial risk. However, based on market values, the level of gearing may not appear so high. The expected credit migration from A to BBB seems to indicate some increase in risk, but it is probably not substantial.

The BoD should also be aware of, and take account of, the fact that going to the capital markets to raise finance will require Conejo Co to disclose information, which may be considered strategically important and could impact negatively on areas where Conejo Co has a competitive advantage.

Reaction of credit rating companies

Credit ratings assigned to companies and to borrowings made by companies by credit rating companies depend on the probability of default and recovery rate. A credit migration from A to BBB means that Conejo Co has become riskier in that it is more likely to default and bondholders will find it more difficult to recover their entire loan if default does happen. Nevertheless, the relatively lower increase in yield spreads from A to BBB, compared to BBB to BB, indicates that BBB can still be considered a relatively safe investment.

Duration indicates the time it takes to recover half the repayments of interest and capital of a bond, in present value terms. Duration measures the sensitivity of bond prices to changes in interest rates. A bond with a higher duration would see a greater fluctuation in its value when interest rates change, compared to a bond with a lower duration. Appendix 2 shows that a bond which pays interest (coupon) and capital in equal annual instalments will have a lower duration. This is because a greater proportion of income is received earlier and income due to be received earlier is less risky. Therefore, when interest rates change, this bond's value will change by less than the bond with the higher duration. The CEO is correct that the bond with equal annual payments of interest and capital is less sensitive to interest rate changes, but it is not likely that this will be a significant factor for a credit rating company when assigning a credit rating.

A credit rating company will consider a number of criteria when assigning a credit rating, as these would give a more appropriate assessment of the probability of default and the recovery rate. These criteria include, for example, the industry within which the company operates, the company's position within that industry, the company's ability to generate profits in proportion to the capital invested, the amount of gearing, the quality of management and the amount of financial flexibility the company possesses. A credit rating company will be much less concerned about the manner in which a bond's value fluctuates when interest rates change.

Impact on equity holders

The purpose of the financial reconstruction would be of interest to the equity holders. If, for example, Conejo Co selects proposal 1 (appendix 3), it may give equity holders an opportunity to liquidate some of their invested capital. At present, the original members of the company hold 40% of the equity capital and proposal 1 provides them with the opportunity to realise a substantial capital without unnecessary fluctuations in the share price. Selling large quantities of equity shares in the stock exchange may move the price of the shares down and cause unnecessary fluctuations in the share price.

If, on the other hand, proposal 2 (appendix 3) is selected, any additional profits after the payment of interest will benefit the equity holders directly. In effect, debt capital is being used for the benefit of the equity holders.

It may be true that equity holders may be concerned about the increased risk which higher gearing will bring, and because of this, they may need higher returns to compensate for the higher risk. However, in terms of market values, the increased gearing may be of less concern to equity holders. Conejo Co should consider the capital structure of its competitors to assess what should be an appropriate level of gearing.

Equity holders will probably be more concerned about the additional restrictive covenants which will result from the extra debt finance, and the extent to which these covenants will restrict the financial flexibility of Conejo Co when undertaking future business opportunities.

Equity holders may also be concerned that because Conejo Co has to pay extra interest to debt holders, its ability to pay increasing amounts of dividends in the future could be affected. However, appendix 3 shows that the proportion of interest relative to after-tax profits is not too high and any concern from the equity holders is probably unfounded.

Impact on debt holders

Although the current debt holders may be concerned about the extra gearing which the new bonds would introduce to Conejo Co, appendix 1 shows that the higher coupon payments which the current debt holders will receive would negate any fall in the value of their bonds due to the credit migration to BBB rating from an A rating. Given that currently Conejo Co is subject to low financial risk, and probably lower business risk, it is unlikely that the current and new debt holders would be overly concerned about the extra gearing. The earnings figures in appendix 3 also show that the after-tax profit figures provide a substantial interest cover and therefore additional annual interest payment should not cause the debt holders undue concern either.

The current and new debt holders would be more concerned about Conejo Co's ability to pay back the large capital sum in five years' time. However, a convincing explanation of how this can be achieved or a plan to roll over the debt should allay these concerns.

The current and new debt holders may be concerned that Conejo Co is not tempted to take unnecessary risks with the additional investment finance, but sensible use of restrictive covenants and the requirement to make extra disclosures to the markets when raising the debt finance should help mitigate these concerns.

Conclusion

Overall, it seems that the proposed financial reconstruction will be beneficial, as it will provide opportunities for Conejo Co to make additional investments and/or an opportunity to reduce equity capital, and thereby increasing the earnings per share. The increased gearing may not look large when considered in terms of market values. It may also be advantageous to undertake the reconstruction scheme in a period when interest rates are low and the credit migration is not disadvantageous. However, Conejo Co needs to be mindful of how it intends to repay the capital amount in five years' time, the information it will disclose to the capital markets and the impact of any negative restrictive covenants.

Report compiled by:

Date

Appendices:

Appendix 1: Change in the value of the current bond from credit migration and coupon rate required from the new bond (Question (b) (i))**Spot yield rates (yield curve) based on BBB rating**

1 year	2.20%
2 year	2.51%
3 year	2.84%
4 year	3.25%
5 year	3.62%

Bond value based on BBB rating

$$\$5.57 \times 1.0220^{-1} + \$5.57 \times 1.0251^{-2} + \$105.57 \times 1.0284^{-3} = \$107.81$$

$$\text{Current bond value} = \$107.80$$

Although the credit rating of Conejo Co declines from A to BBB, resulting in higher spot yield rates, the value of the bond does not change very much at all. This is because the increase in the coupons and the resultant increase in value almost exactly matches the fall in value from the higher spot yield rates.

Coupon rate required from the new bond

Take R as the coupon rate, such that:

$$(\$R \times 1.0220^{-1}) + (\$R \times 1.0251^{-2}) + (\$R \times 1.0284^{-3}) + (\$R \times 1.0325^{-4}) + (\$R \times 1.0362^{-5}) + (\$100 \times 1.0362^{-5}) = \$100$$

$$4.5665R + 83.71 = 100$$

$$R = \$3.57$$

Coupon rate for the new bond is 3.57%.

If the coupon payments on the bond are at a rate of 3.57% on the face value, it ensures that the present values of the coupons and the redemption of the bond at face value exactly equals the bond's current face value, based on Conejo Co's yield curve.

Appendix 2: Macaulay durations (Question (b) (ii))**Macaulay duration based on annual coupon of \$3.57 and redemption value of \$100 in year 5:**

$$[(\$3.57 \times 1.0220^{-1} \times 1 \text{ year}) + (\$3.57 \times 1.0251^{-2} \times 2 \text{ years}) + (\$3.57 \times 1.0284^{-3} \times 3 \text{ years}) + (\$3.57 \times 1.0325^{-4} \times 4 \text{ years}) + (\$103.57 \times 1.0362^{-5} \times 5 \text{ years})]/\$100$$

$$= [3.49 + 6.79 + 9.85 + 12.57 + 433.50]/100 = 4.7 \text{ years}$$

Macaulay duration based on fixed annual repayments of interest and capital:

$$\text{Annuity factor: } (3.57\%, 5 \text{ years}) = (1 - 1.0357^{-5})/0.0357 = 4.51 \text{ approximately}$$

Annual payments of capital and interest required to pay back new bond issue = $\$100/4.51 = \22.17 per \$100 bond approximately

$$[(\$22.17 \times 1.0220^{-1} \times 1 \text{ year}) + (\$22.17 \times 1.0251^{-2} \times 2 \text{ years}) + (\$22.17 \times 1.0284^{-3} \times 3 \text{ years}) + (\$22.17 \times 1.0325^{-4} \times 4 \text{ years}) + (\$22.17 \times 1.0362^{-5} \times 5 \text{ years})]/\$100$$

$$= [21.69 + 42.20 + 61.15 + 78.03 + 92.79]/100 = 3.0 \text{ years}$$

Appendix 3: Forecast earnings, financial position, earnings per share and gearing (Question (b) (iii))**Adjustments to forecast earnings**

Amounts in \$ millions	Current	Proposal 1	Proposal 2
Forecast after-tax profit	350.00	350.00	350.00
Interest payable on additional borrowing (based on a coupon rate of 3.57%) $3.57\% \times \$1,320\text{m} \times (1 - 0.15)$		(40.06)	(40.06)
Additional interest payable due to higher coupon $0.37\% \times \$120\text{m} \times (1 - 0.15)$		(0.38)	(0.38)
Return on additional investment (after tax) $12\% \times \$1,320\text{m}$			158.40
Adjusted profit after tax	<u>350.00</u>	<u>309.56</u>	<u>467.96</u>

Forecast financial position

Amounts in \$ millions	Current	Proposal 1	Proposal 2
Non-current assets	1,735.00	1,735.00	3,055.00
Current assets	530.00	489.56	647.96
Total assets	2,265.00	2,224.56	3,702.96
Equity and liabilities			
Share capital (\$1 per share par value)	400.00	280.00	400.00
Reserves	1,700.00	459.56	1,817.96
Total equity	2,100.00	739.56	2,217.96
Non-current liabilities	120.00	1,440.00	1,440.00
Current liabilities	45.00	45.00	45.00
Total liabilities	165.00	1,485.00	1,485.00
Total liabilities and capital	2,265.00	2,224.56	3,702.96
	Current	Proposal 1	Proposal 2
Gearing % (non-current liabilities/equity)	5.7%	194.7%	64.9%
Earnings per share (in cents)			
(adj profit after tax/no. of shares)	87.5c	110.6c	117.0c

Notes:

If gearing is calculated based on non-current liabilities/(non-current liabilities + equity) and/or using market value of equity, instead of as above, then this is acceptable as well.

Proposal 1

Additional interest payable is deducted from current assets, assuming it is paid in cash and this is part of current assets. Reserves are also reduced by this amount.

Shares repurchased as follows: \$1 x 120m shares deducted from share capital and \$10 x 120m shares deducted from reserves. \$1,320m, consisting of \$11 x 120m shares, added to non-current liabilities.

Proposal 2

Treatment of additional interest payable is as per proposal 1.

Additional debt finance raised, \$1,320 million, is added to non-current liabilities and to non-current assets, assuming that all this amount is invested in non-current assets to generate extra income.

It is assumed that this additional investment generates returns at 12%, which is added to current assets and to profits (and therefore to reserves).

(Explanations given in notes are not required for full marks, but are included to explain how the figures given in appendix 3 are derived)

(Note: Credit will be given for alternative relevant presentation of financial positions and discussion)

2 (a) Proceeds from sales of EV clubs

Year (all figures \$m)	1	2	3	4
Free cash flows	390	419	455	490
Discount factor 12%	0.893	0.797	0.712	0.636
Present value	348	334	324	312
Present value	1,318			

Present value in Year 5 onwards = $\$490m \times 1.052 / (0.12 - 0.052) \times 0.636 = \$4,821m$

Total present value = $\$1,318m + \$4,821m = \$6,139m$

Desired sales proceeds (25% premium) = $\$6,139m \times 1.25 = \$7,674m$

Impact on statement of financial position (\$m)

Profit on sale = $\$7,674m - \$3,790m = \$3,884m$

Current assets adjustment = $\$2,347m + \$7,674m - (\$2,166m \times 1.5) = \$6,772m$

PPE adjustment = $\$6,772m - \$3,200m = \$3,572m$

	Original \$m	Sales proceeds \$m	Adjustments \$m	Final \$m
Assets				
Non-current assets	15,621	(3,790)	3,572	15,403
Current assets	2,347	7,674	(6,772)	3,249
Total assets	<u>17,968</u>			<u>18,652</u>
Equity and liabilities				
Called-up share capital	1,000			1,000
Retained earnings	7,917	3,884		11,801
Total equity	<u>8,917</u>			<u>12,801</u>
Non-current liabilities				
10% loan notes	3,200		(3,200)	–
Other loan notes	2,700			2,700
Bank loans	985			985
Total non-current liabilities	<u>6,885</u>			<u>3,685</u>
Current liabilities	2,166			2,166
Total equity and liabilities	<u>17,968</u>			<u>18,652</u>

Impact on eps (\$m)

	Current forecast	Revised forecast
Predicted post tax profits (\$454m x 10/4)	1,135	1,135
Less: profits from EV clubs		(454)
Add: interest saved, net of tax (\$3,200m x 10% x (1 – 0.2))		256
Add: return on additional non-current assets (\$3,572m x 12% x (1 – 0.2))		343
Add: return on additional current assets (\$902m x 7% x (1 – 0.2))		51
Adjusted profits	<u>1,135</u>	<u>1,331</u>
Number of shares	1,000 million	1,000 million
Adjusted eps	\$1.135	\$1.331

Impact on WACC**Equity beta**

$$V_e = \$15,750m \times 1.1 = \$17,325m$$

$$V_d = (\$2,700 \times 0.93) + \$985m = \$3,496m$$

$$\beta_e = 0.952 ((17,325 + 3,496 (1 - 0.2)) / 17,325) = 1.106$$

Revised cost of equity

$$k_e = 4 + (10 - 4)1.106 = 10.64\%$$

Revised WACC

$$WACC = 10.64 (17,325 / (17,325 + 3,496)) + 8 (1 - 0.2) (3,496 / (17,325 + 3,496)) = 9.93\%$$

- (b) Shareholders would appear to have grounds for questioning the sale of the EV clubs. It would mean that Eview Cinemas Co was no longer diversified into two sectors. Although shareholders can achieve diversification themselves in theory, in practice transaction costs and other issues may mean they do not want to adjust their portfolio.

The increase in gym membership brought about by the forthcoming sports festival could justify the predicted increases in free cash flows made in the forecasts. Although increased earnings per share are forecast once the EV clubs are sold, these are dependent on Eview Cinemas Co achieving the sales price which it desires for the EV clubs and the predicted returns being achieved on the remaining assets.

The proposed expansion of multiscreen cinemas may be a worthwhile opportunity, but the level of demand for big cinema complexes may be doubtful and there may also be practical problems like negotiating change of use. In Year 1 the EV clubs would be forecast to make a post-tax return on assets of $(454/3,790) = 12.0\%$ compared with 9.6% ($12\% \times 0.8$) on the additional investment in the cinemas.

Investors may also wonder about the motives of Eview Cinemas Co's board. Selling the EV clubs offers the board a convenient way of resolving the conflict with the management team of the EV clubs and investors may feel that the board is trying to take an easy path by focusing on what they are comfortable with managing.

There may be arguments in favour of the sale, however. The lower WACC will be brought about by a fall in the cost of equity as well as the fall in the cost of debt. A reduction in the complexity of the business may result in a reduction in central management costs.

Eview Cinemas Co may also be selling at a time when the EV clubs chain is at its most attractive as a business, in the period before the sports festival. The premium directors are hoping to obtain (on top of a valuation based on free cash flow figures which may be optimistic) suggest that they may be trying to realise maximum value while they can.

3 (a) Profitability

Revenues from the different types of store and online sales have all increased this year, despite a drop in store numbers. The increase in revenue this year may be largely due, however, to the government-induced pre-election boom in consumer expenditure, which appears unlikely to be sustained. Because the split of profits is not given, it is impossible to tell what has been the biggest contributor to increased profit. Profit as well as revenue details for different types of store would be helpful, also profit details for major product lines.

Improvements in return on capital employed derive from increases in profit margins and asset turnover.

The improvements in gross margins may be due to increased pressure being put on suppliers, in which case they may not be sustainable because of government pressure. The increased sales per store employee figures certainly reflects a fall in staff numbers, improving operating profit, although it could also be due to staff being better utilised or increased sales of higher value items in larger stores. If staff numbers continue to be cut, however, this could result in poorer service to customers, leading ultimately to decreased sales, so again it is questionable how much further High K Co can go.

The asset turnover shows an improvement which partly reflects the increase in sales. There have been only limited movements in the portfolio of the larger stores last year. The fall in non-current assets suggests an older, more depreciated, asset base. If there is no significant investment, this will mean a continued fall in capital employed and improved asset turnover. However, in order to maintain their appeal to customers, older stores will need to be refurbished and there is no information about refurbishment plans. Information about recent impairments in asset values would also be helpful, as these may indicate future trading problems and issues with realising values of assets sold.

Liquidity

The current ratio has improved, although the higher cash balances have been partly reflected by higher current liabilities. The increase in current liabilities may be due to a deliberate policy of taking more credit from suppliers, which the government may take measures to prevent. Being forced to pay suppliers sooner will reduce cash available for short-term opportunities.

Gearing

The gearing level in 2016 is below the 2014 level, but it would have fallen further had a fall in debt not been partly matched by a fall in High K Co's share price. It seems surprising that High K Co's debt levels fell during 2016 at a time of lower interest rates. Possibly lenders were (rightly) sceptical about whether the cut in central bank lending rate would be sustained and limited their fixed rate lending. Interest cover improved in 2016 and will improve further if High K Co makes use of revolving credit facilities. However, when High K Co's loans come up for renewal, terms available may not be as favourable as those High K Co has currently.

Investors

The increase in after-tax profits in 2015 and 2016 has not been matched by an increase in share price, which has continued to fall. The price/earnings ratio has been falling from an admittedly artificially high level, and the current level seems low despite earnings and dividends being higher. The stock market does not appear convinced by High K Co's current strategy. Return to shareholders in 2016 has continued to rise, but this has been caused by a significant % increase in dividend and hence increase in dividend yield. The continued fall in share price after the year end suggests that investors are sceptical about whether this increase can be maintained.

Revenue analysis

Town centre stores

High K Co has continued to close town centre stores, but closures have slowed recently and revenue increased in 2016. This suggests High K Co may have selected wisely in choosing which stores to keep open, although Dely Co believes there is no future for this type of store. Arguably though, town centre stores appeal to some customers who cannot easily get to out-of-town stores. Town centre stores may also be convenient collection points for customers using online click and collect facilities.

Convenience stores

High K Co has invested heavily in these since 2003. The figures in 2014 suggest it may have over-extended itself or possibly suffered from competitive pressures and saturation of the market. The 2016 results show an improvement despite closures of what may have been the worst-performing stores. The figures suggest Dely Co's decision to close its convenience stores may be premature, possibly offering High K Co the opportunity to take over some of its outlets. Maintaining its convenience store presence would also seem to be in line with High K Co's commitment to be responsive to customer needs. Profitability figures would be particularly helpful here, to assess the impact of rental commitments under leases.

Out-of-town stores

Although the revenue per store for out-of-town stores has shown limited improvement in 2016, this is less than might have been expected. The recent consumer boom would have been expected to benefit the out-of-town stores particularly, because expenditure on the larger items which they sell is more likely to be discretionary expenditure by consumers which will vary with the business cycle. Where Dely Co sites its new out-of-town stores will also be a major issue for High K Co, as it may find some of its best-performing stores face more competition. High K Co again may need to consider significant refurbishment expenditure to improve the look of these stores and customer experience in them.

Online sales

Online sales have shown steady growth over the last few years, but it is difficult to say how impressive High K Co's performance is. Comparisons with competitors would be particularly important here, looking at how results have changed over the years compared with the level of investment made. It is also impossible to tell from the figures how much increases in online sales have been at the expense of store sales.

Conclusion

If High K Co's share price is to improve, investors need it to make some sort of definite decision about strategy the way its competitors have since its last year end. What the chief executive has been saying about flexibility and keeping a varied portfolio has not convinced investors. If High K Co is to maintain its competitive position, it may well have no choice but to make a significant further investment in online operations. Possibly as well it could review where its competitor is closing convenience stores, as it may be able to open, with limited investment, new stores in locations with potential.

However, it also must decide what to do about the large out-of-town stores, as their performance is already stagnating and they are about to face enhanced competition. High K Co will also need to determine its dividend policy, with maybe a level of dividend which is considered the minimum acceptable to shareholders allowed for in planning cash outflows.

Appendix

	2014	2015	2016
Profitability			
Gross profit %	4.33	5.07	6.19
Operating profit %	0.87	1.70	2.91
Asset turnover (sales revenue/(total assets – current liabilities))	2.36	2.42	2.53
Return on capital employed % (operating profit % x asset turnover)	2.05	4.11	7.36
Liquidity			
Current ratio	0.84	1.29	1.69
Solvency			
Gearing (non-current liabilities/non-current liabilities + share capital) (Market values of share capital) %	37.6	36.8	32.5
Interest cover	1.63	3.54	7.12
Investors			
Dividend cover	0.35	1.29	1.71
Price/earnings ratio	54.46	12.15	5.52
Return to shareholders			
Dividend yield %	5.30	6.36	10.60
Share price gain/(loss) %	(9.00)	(5.65)	(3.29)
Total	(3.70)	0.71	7.31
Revenue/store (\$m)			
Town centre	31.91	33.05	33.93
Convenience	5.41	5.66	5.99
Out-of-town	46.45	46.16	46.46
Store revenue per store staff member (\$000)	247	258	272

(Note: Credit will be given for alternative relevant calculations and discussion. Candidates are not expected to complete all of the calculations or evaluation above to obtain the available marks.)

- (b) High K Co has not raised any equity finance over the last five years. Its falling share price means that a new share issue may not be successful. It may not only need debt finance to be renewed, but additional funding to be obtained.

High K Co intends to make more use of revolving credit facilities, which it need not draw on fully, rather than loans, which will mean that its finance costs are lower than on ordinary debt. However, these facilities are likely to be at floating rates, so if the government increases the central bank rate significantly, they could come at significant cost if High K Co decides to utilise them fully.

Finance costs on new debt, whatever form it takes, may therefore be significant and lower interest cover. High K Co may have to investigate selling some of the stores it owns either outright or on a sale or leaseback basis.

4 (a) Forward rate agreement

FRA 5.02% (4–9) since the investment will take place in four months' time for a period of five months.

If interest rates increase by 1.1% to 5.3%

	D
Investment return $5.0\% \times 5/12 \times D27,000,000$	562,500
Payment to bank $(5.3\% - 5.02\%) \times 5/12 \times D27,000,000$	(31,500)
Net receipt	<u>531,000</u>
Effective annual interest rate $531,000/27,000,000 \times 12/5$	4.72%

If interest rates fall by 0.6% to 3.6%

	D
Investment return $3.3\% \times 5/12 \times D27,000,000$	371,250
Receipt from bank $(5.02\% - 3.6\%) \times 5/12 \times D27,000,000$	159,750
Net receipt	<u>531,000</u>
Effective annual interest rate as above	4.72%

Futures

Go long in the futures market, as the hedge is against a fall in interest rates. Use March contracts, as investment will be made on 31 January.

Number of contracts = $D27,000,000/D500,000 \times 5 \text{ months}/3 \text{ months} = 90 \text{ contracts}$

Basis

Current price (1 October) – futures price = basis

$(100 - 4.20) - 94.78 = 1.02$

Unexpired basis on 31 January = $2/6 \times 1.02 = 0.34$

If interest rates increase by 1.1% to 5.3%

	D
Investment return as above	562,500
Expected futures price: $100 - 5.3 - 0.34 = 94.36$	
Loss on the futures market: $(0.9436 - 0.9478) \times D500,000 \times 3/12 \times 90$	(47,250)
Net return	<u>515,250</u>
Effective annual interest rate $515,250/27,000,000 \times 12/5$	4.58%

If interest rates fall by 0.6% to 3.6%

	D
Investment return as above	371,250
Expected futures price: $100 - 3.6 - 0.34 = 96.06$	
Profit on the futures market: $(0.9606 - 0.9478) \times D500,000 \times 3/12 \times 90$	144,000
Net receipt	<u>515,250</u>
Effective annual interest rate as above	4.58%

Options on futures

Buy call options as need to hedge against a fall in interest rates. As above, 90 contracts required.

If interest rates increase by 1.1% to 5.3%

Exercise price	94.25	95.25
Futures price as above	94.36	94.36
Exercise?	Yes	No
Gain in basis points	11	0
	D	D
Investment return (as above)	562,500	562,500
Gain from options $(0.0011 \times 500,000 \times 3/12 \times 90)$	12,375	0
Premium		
$0.00545 \times D500,000 \times 3/12 \times 90$	(61,313)	
$0.00098 \times D500,000 \times 3/12 \times 90$		(11,025)
Net return	<u>513,562</u>	<u>551,475</u>
Effective interest rate		
$513,562/27,000,000 \times 12/5$	4.56%	
$551,475/27,000,000 \times 12/5$		4.90%

If interest rates fall by 0.6% to 3.6%

Exercise price	94.25	95.25
Futures price as above	96.06	96.06
Exercise?	Yes	Yes
Gain in basis points	181	81
Investment return (as above)	371,250	371,250
Gain from options		
Gain from options: $0.0181 \times D500,000 \times 3/12 \times 90$	203,625	
Gain from options: $0.0081 \times D500,000 \times 3/12 \times 90$		91,125
Premium as above	<u>(61,313)</u>	<u>(11,025)</u>
Net return	<u>513,562</u>	<u>451,350</u>
Effective interest rate		
$513,562/27,000,000 \times 12/5$	4.56%	
$451,350/27,000,000 \times 12/5$		4.01%

Discussion

The forward rate agreement gives the highest guaranteed return. If Wardegul Co wishes to have a certain cash flow and is primarily concerned with protecting itself against a fall in interest rates, it will most likely choose the forward rate agreement. The 95.25 option gives a better rate if interest rates rise, but a significantly lower rate if interest rates fall, so if Wardegul Co is at all risk averse, it will choose the forward rate agreement.

This assumes that the bank which Wardegul Co deals with is reliable and there is no risk of default. If Wardegul Co believes that the current economic uncertainty may result in a risk that the bank will default, the choice will be between the futures and the options, as these are guaranteed by the exchange. Again the 95.25 option may be ruled out because it gives a much worse result if interest rates fall to 3.6%. The futures give a marginally better result than the 94.25 option in both scenarios but the difference is small. If Wardegul Co feels there is a possibility that interest rates will be higher than 5.41%, the point at which the 94.25 option would not be exercised, it may choose this option rather than the future.

(b) Regional functions compared with national functions

Organising treasury activities on a regional basis would be consistent with what is happening in the group overall. Other functions will be organised regionally. A regional treasury function may be able to achieve synergies with them and also benefit from information flows being organised based on the regional structure.

If, as part of a reorganisation, some treasury activities were to be devolved outside to a bank or other third party, it would be simpler to arrange for a single provider on a regional basis than arrange for separate providers in each country.

A regional function will avoid duplication of responsibilities over all the countries within a region. A regional function will have more work to do, with maybe a greater range of activities, whereas staff based nationally may be more likely to be under-employed. There may be enough complex work on a regional basis to justify employing specialists in particular treasury areas which will enhance the performance of the function. It may be easier to recruit these specialists if recruitment is done regionally rather than in each country.

Regional centres can carry out some activities on a regional basis which will simplify how funds are managed and mean less cost than managing funds on a national basis. These include pooling cash, borrowing and investing in bulk, and netting of foreign currency income and expenditure.

Regional centres could in theory be located anywhere in the region, rather than having one treasury function based in each country. This means that they could be located in the most important financial centres in each region or in countries which offered significant tax advantages.

From the point of view of Wardegul Co's directors and senior managers, it will be easier to enforce common standards and risk management policies on a few regional functions than on many national functions with differing cultures in individual countries.

Regional functions compared with global function

Wardegul Co is being reorganised on a regional basis because of the demands of its global expansion. As discussed above, reorganising treasury functions regionally will be consistent with the way other functions are organised. Reorganising the treasury function regionally will be one way of dealing with the problem of having a single, overstretched, global function.

A regional function could employ experts with knowledge of the regulations, practices and culture of the major countries within the region. It may be more difficult for a global function to recruit staff with local expertise.

There may be practical issues why individual countries prefer to deal with regional functions rather than a global function, for example, a regional function will be based in the same, or similar, time zone as the countries in its region.

A regional function may have better ideas of local finance and investment opportunities. There may, for example, be better alternatives for investment of the surplus funds than the centralised function has been able to identify.

**Professional Level – Options Module, Paper P4
Advanced Financial Management**

September/December 2017 Sample Marking Scheme

		<i>Marks</i>
1 (a)	Being able to bear higher levels of financial risk	Up to 3
	Better protection from predatory takeover bids	Up to 3
	Taxation benefit of higher levels of debt finance	Up to 2
		Max 7
(b) (i) (Appendix 1)	Conejo Co's yield curve based on BBB rating	1
	Bond value based on BBB rating and spot yield rates	1
	Comment on reason for virtually no change in value	1
	Calculation of the coupon rate of the new bond	2
	Comment on coupon rate	1
		6
(ii) (Appendix 2)	Duration based on annual coupon and balloon payment of \$100 in year 5	2
	Amount of fixed annual repayments of capital and interest	2
	Duration based on annual equivalent payments	2
		6
(iii) (Appendix 3)	Financial position, proposal 1	3
	Financial position, proposal 2	3
	Interest payable on additional new debt finance	1
	Interest payable on higher coupon for current debt finance	1
	Return on additional investment	1
	Gearing calculations	1
	Earnings per share calculations	1
		11
(iv) (Discussion in report)	Impact on Conejo Co	Up to 6
	Credit migration, credit rating agencies and CEO's opinion	Up to 6
	Impact on Conejo Co's equity holders	Up to 4
	Impact on Conejo Co's debt holders: current and new	Up to 3
		Max 16
Professional marks for part (b)		
Report format		1
Structure and presentation of the report		3
		4
		Total 50

		<i>Marks</i>
2	(a) PV of free cash flows Years 1–4	1
	PV of free cash flows Years 5 onwards	2
	Desired sales proceeds	1
	Impact on statement of financial position	4
	Impact on eps	5
	Impact on WACC	
	Equity beta – cinemas	2
	Revised cost of equity – cinemas	1
	Revised WACC	1
		<hr/> 17
(b)	Arguments against sale	4–5
	Arguments for sale	4–5
	<hr/> Max 8	
	Total 25	
3	(a) Ratios	
	Profitability	1–2
	Liquidity	1
	Solvency	1–2
	Investor	3–4
	Other ratios and trends	2–3
		<hr/> Max 10
	Discussion	
	Profitability	2–3
	Liquidity	1–2
Gearing	1–2	
Investor	2–3	
Stores and online sales	3–4	
Conclusion	1–2	
	<hr/> Max 11	
(b)	1 mark per relevant point	Max 4
		Total 25
4	(a) Impact of FRA for rate increase and decrease	2
	Go long on futures	1
	Selection of March futures and options	1
	Number of contracts	1
	Basis calculation	1
	Impact of interest rate increase/decrease with futures	3
	Buy call options	1
	Premium calculations	1
	Exercise options?	1
	Impact of interest rate increase/decrease with options	3
	Discussion	3–4
		<hr/> Max 18
	(b)	Regional functions compared with national functions
	Regional functions compared with global function	3–4
	<hr/> Max 7	
	Total 25	