

### Question 03

(a) Discuss about the effectiveness of operational risk management of each segment with two (02) recommendations for the parent company in strengthening the bottom line. (Your answer should include the degree of operating leverage (DOL) calculations, explaining the challenges in interpreting the arrived numbers, and why DOL does not seem to be relevant in the current context of the company). (10 marks)

### Question 02

#### Interest rate Risk Management

#### December 2014 – ACCA

Keshi Co is a large multinational company with a number of international subsidiary companies. A centralised treasury department manages Keshi Co and its subsidiaries' borrowing requirements, cash surplus investment and financial risk management. Financial risk is normally managed using conventional derivative products such as forwards, futures, options and swaps.

Assume it is 1 December 2014 today and Keshi Co is expecting to borrow \$18,000,000 on 1 February 2015 for a period of seven months. It can either borrow the funds at a variable rate of LIBOR plus 40 basis points or a fixed rate of 5.5%. LIBOR is currently 3.8% but Keshi Co feels that this could increase or decrease by 0.5% over the coming months due to increasing uncertainty in the markets.

The treasury department is considering whether or not to hedge the \$18,000,000, using either exchange-traded March options or over-the-counter swaps offered by Rozu Bank.

The following information and quotes for \$ March options are provided from an appropriate exchange. The options are based on three-month \$ futures, \$1,000,000 contract size and option premiums are in annual %.

March calls	Strike price	March puts
0.882	95.50	0.662
0.648	96.00	0.902

Option prices are quoted in basis points at 100 minus the annual % yield and settlement of the options contracts is at the end of March 2015. The current basis on the March futures price is 44 points; and it is expected to be 33 points on 1 January 2015, 22 points on 1 February 2015 and 11 points on 1 March 2015.

Roza Bank has offered Keshi Co a swap on a counterparty variable rate of LIBOR plus 30 basis points or a fixed rate of 4.6%, where Keshi Co receives 70% of any benefits accruing from undertaking the swap, prior to any bank charges. Roza Bank will charge Keshi Co 10 basis points for the swap.

Keshi Co's chief executive officer believes that a centralised treasury department is necessary in order to increase shareholder value, but Keshi Co's new chief financial officer (CFO) thinks that having decentralised treasury departments operating across the subsidiary companies could be more beneficial. The CFO thinks that this is particularly relevant to the situation which Suisen Co, a company owned by Keshi Co, is facing.

Suisen Co operates in a country where most companies conduct business activities based on Islamic finance principles. It produces confectionery products including chocolates. It wants to use Salam contracts instead of commodity futures contracts to hedge its exposure to price fluctuations of cocoa. Salam contracts involve a commodity which is sold based on currently agreed prices, quantity and quality. Full payment is received by the seller immediately, for an agreed delivery to be made in the future.

**Required:**

**(a) Based on the two hedging choices Keshi Co is considering, recommend a hedging strategy for the \$18,000,000 borrowing. Support your answer with appropriate calculations and discussion.** (15 marks)

**(b) Discuss how a centralised treasury department may increase value for Keshi Co and the possible reasons for decentralising the treasury department.** (6 marks)

## Answer

### (a) Using traded options

Need to hedge against a rise in interest rates, therefore buy put options.

Keshi Co needs 42 March put option contracts ( $\$18,000,000/\$1,000,000 \times 7 \text{ months}/3 \text{ months}$ ).

Expected futures price on 1 February if interest rates increase by 0.5% =  
 $100 - (3.8 + 0.5) - 0.22 = 95.48$

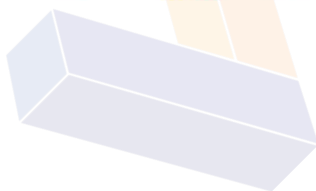
Expected futures price on 1 February if interest rates decrease by 0.5% =  
 $100 - (3.8 - 0.5) - 0.22 = 96.48$

#### If interest rates increase by 0.5% to 4.3%

Exercise price	95.50	96.00
Futures price	95.48	95.48
Exercise?	Yes	Yes
Gain in basis points	2	52
Underlying cost of borrowing 4.7% x 7/12 x \$18,000,000	\$493,500	\$493,500
Gain on options 0.0002 x \$1,000,000 x 3/12 x 42	\$2,100	
0.0052 x \$1,000,000 x 3/12 x 42		\$54,600
Premium 0.00662 x \$1,000,000 x 3/12 x 42	\$69,510	
0.00902 x \$1,000,000 x 3/12 x 42		\$94,710
Net cost	\$560,910	\$533,610
Effective interest rate	5.34%	5.08%

#### If interest rates decrease by 0.5% to 3.3%

Exercise price	95.50	96.00
Futures price	96.48	96.48
Exercise?	No	No
Gain in basis points	0	0
Underlying cost of borrowing 3.7% x 7/12 x \$18,000,000	\$388,500	\$388,500
Gain on options	\$0	\$0
Premium 0.00662 x \$1,000,000 x 3/12 x 42	\$69,510	\$94,710
Net cost	\$458,010	\$483,210
Effective interest rate	4.36%	4.60%



### Using swaps

	Keshi Co	Roza Bank offer	Basis differential
Fixed rate	5.5%	4.6%	0.9%
Floating rate	LIBOR + 0.4%	LIBOR + 0.3%	0.1%

Prior to the swap, Keshi will borrow at LIBOR + 0.4% and swaps this rate to a fixed rate. Total possible benefit is 0.8% before Roza Bank's charges.

Keshi Co borrows at	LIBOR + 0.4%
From swap Keshi Co receives	LIBOR

Keshi Co gets 70% of the benefit	
Advantage (70% x 0.8 – 0.10)	0.46%
Keshi Co's effective borrowing rate (after swap)	5.04%

#### Alternatively (Swap)

From swap Keshi Co receives	LIBOR
Keshi Co pays	4.54%
Effective borrowing rate (as above)	4.54% + 0.4% + 0.10% = 5.04%

### Discussion and recommendation

Under each choice the interest rate cost to Keshi Co will be as follows:

	Doing nothing	95-50 option	96-00 option	Swap
If rates increase by 0.5%	4.7% floating; 5.5% fixed	5.34%	5.08%	5.04%
If rates decrease by 0.5%	3.7% floating; 5.5% fixed	4.36%	4.60%	5.04%

Borrowing at the floating rate and undertaking a swap effectively fixes the rate of interest at 5.04% for the loan, which is significantly lower than the market fixed rate of 5.5%.

On the other hand, doing nothing and borrowing at the floating rate minimises the interest rate at 4.7%, against the next best choice which is the swap at 5.04% if interest rates increase by 0.5%. And should interest rates decrease by 0.5%, then doing nothing and borrowing at a floating rate of 3.7% minimises cost, compared to the next best choice which is the 95-50 option.

On the face of it, doing nothing and borrowing at a floating rate seems to be the better choice if interest rates increase or decrease by a small amount, but if interest rates increase substantially then this choice will no longer result in the lowest cost.

The swap minimises the variability of the borrowing rates, while doing nothing and borrowing at a floating rate maximises the variability. If Keshi Co wants to eliminate the risk of interest rate fluctuations completely, then it should borrow at the floating rate and swap it into a fixed rate.

(b) Free cash flows and therefore shareholder value are increased when corporate costs are reduced and/or income increased.

Therefore, consideration should be given to how the centralised treasury department may reduce costs and increase income. The centralised treasury department should be able to evaluate the financing requirements of Keshi Co's group as a whole and it may be able to negotiate better rates when borrowing in bulk. The department could operate as an internal bank and undertake matching of funds. Therefore it could transfer funds from subsidiaries which have spare cash resources to ones which need them, and thus avoid going into the

costly external market to raise funds. The department may be able to undertake multilateral internal netting and thereby reduce costs related to hedging activity. Experts and resources within one location could reduce duplication costs.

The concentration of experts and resources within one central department may result in a more effective decision-making environment and higher quality risk monitoring and control. Further, having access to the Keshi Co group's entire cash funds may give the company access to larger and more diverse investment markets. These factors could result in increasing the company's cash inflows, as long as the benefits from such activity outweigh the costs.

Decentralising Keshi Co's treasury function to its subsidiary companies may be beneficial in several ways. Each subsidiary company may be better placed to take local regulations, custom and practice into consideration. An example of custom and practice is the case of Suisen Co's need to use Salam contracts instead of conventional derivative products which the centralised treasury department may use as a matter of course.

Giving subsidiary companies more autonomy on how they undertake their own fund management may result in increased motivation and effort from the subsidiary's senior management and thereby increase future income. Subsidiary companies which have access to their own funds may be able to respond to opportunities quicker and establish competitive advantage more effectively.

Question 02

**July 2021 Q2**

