June 2013 Examination

QP Module B – Corporate Financing

Deloitte - Final Mock Exam (4 June 2013)

Suggested Answers

Question Paper	
Time allowed	3 hours
This paper is divided into two sections	ALL questions are compulsory
Section A	Case study questions
Section B	Essay/Short questions

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Section A

Answer 1

Marks

(a)

Project evaluation based on net present value

Based on the net present value, a project will be accepted if the present value of cash inflows exceeds the present value of cash outflows, i.e. if the sum of the discounted cash flows is positive.

In this case, the capital investment is RMB800 million and the relevant cost of capital, hence the required rate of return is 8%. Thus:

Present value of cash inflows, if successful:

Year			
1	$ 60 million x 0.9259 =	$ 55,554,000	
2	$ 62 million x 0.8573 =	$ 53,152,600	
3	$ 65 million x 0.7938 =	$ 51,597,000	
* 4 and thereafter	($ 70 million / 0.08) x0.7938 =$ 694,575,000		
	ACF∞ =PV3 DF3		
Present value		$ 854,878,600	2

Present value of cash inflows, if fair:
Year 1 and thereafter $ 50 million / 0.08 = $ 625,000,000 — 2

Thus net present value of cash flows =
If successful $ (854,878,600 – 800,000,000) = $ 54,878,600 — 2
If fair $ (625,000,000 – 800,000,000) = -$ 175,000,000 — 2

Expected net present value
=$ (54,878,600 x 0.7) + (-175,000,000 x 0.3)
=$ (38,415,020 – 52,500,000)
= -$ 14,084,980 — 2

Thus, based on the expected value the investment should not be made because of the negative net present value from the new investment. — 3

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(b)

Comment on JXL's profitability, liquidity and management efficiency

	2011	2010	
Profitability			
Gross profit margin = Gross profit / sales	900/3,000 = 30%	800/2,500 = 32%	1
Net profit margin = net profit / sales (PAT)	80/3,000 = 2.67%	120/2,500=4.80%	1
Return on capital employed = Operating profit / average capital employed	150/(½(1,370+1,240)) = 11.49%	195/(½(1,240+1,000)) = 17.41%	1

There has been a decrease in gross profit margin, net profit margin and return on capital employed. Although turnover has improved, profit margins have decreased. This may be due to inefficient controls on operating expenses and/or less effective marketing strategies. 1

Alternative ratios: **(1 mark per ratio)**
Return on equity (2011)
= Profit after tax / Equity
= 80/[½(770+690)]
= 10.96%

Return on asset (2011)
= Net operating profit after tax / Asset
= [80+50x(1-20/100)] / [½(1600+1430)
= 7.92%
Or
= Operating profit / Assets
=150 / [½(1600+1430)]
= 9.90%

Return on Sales = EBIT / Sales
2011: 150 / 3,000 = 5.00%
2010: 195 / 2,500 = 7.80%

	2011	**2010**	
Liquidity			
Current ratio = current assets / current liabilities	350 / 230 = 1.52	330 / 190 = 1.74	1
Quick ratio = quick assets / current liabilities	210 / 230 = 0.91	200 / 190 = 1.05	1
Interest cover = operating profit / interest	150 / 50 = 3.00	195 / 45 = 4.33	

↓ For profitability / capital structure

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Both current and quick ratios indicate that the liquidity position is worsening. This may be due to a longer credit term from suppliers and substantial outstanding accounts payable amounts being unpaid. 1

1

The interest cover is also worsening. This shows that the risk that profit (before interest) will become insufficient to cover interest payments is getting higher.

Alternative ratios more related to gearing or leverage rather than liquidity, like:

Long term debt to equity			**(1 mark**
= long term debt / equity	*600 / 770 = 0.779*	*550 / 690 = 0.797*	**per ratio)**
Long term debt to asset			
= long term debt / asset	*600 / 1,600 = 37.5%*	*550 / 1,430 = 38.46%*	
Total liabilities to equity	*(600+230) / 770 = 1.078*	*(550+190) / 690 = 1.072*	

Management efficiency

Inventory turnover period

Average inventory x 365	½ (140+130) x 36	½ (130+150) x 365	
---------------------------------	-------------------------	-----------------------	
Cost of goods sold	2,100 = 23.46 days	1,700 = 30.06 days	1
Or *inventory turnover*	*= 15.56 times*	*= 12.14 times*	

Accounts receivable collection period

Average receivable x 365	½ (160+150) x 365	½ (150+300) x 365	
----------------------------------	---------------------------	------------------------	
Sales	3,000 = 18.86 days	2,500 = 32.85 day	1
Or *debtor's turnover*	*= 19.35 times*	*= 11.11 times*	

Days payable outstanding

average payable x 365	½ (230+190)x365	½ (190+180)x365	
--------------------------------	--------------------------	-------------------------	
purchases	2,110 = 36.33 days	1,800 = 37.51 days	1
Or *creditors' turnover*	*= 10.05 times*	*= 9.73 times*	

* *2011 purchase = 2,100 + (140 - 130) = 2,110*

Operating Cycle

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The credit control policy has been tightened up as the accounts receivable collection period has been reduced. The inventory control has also been improved as the inventory turnover has become faster. The days payable outstanding is shortened, though the difference is not significant. This shows that the company has maintained its creditors settlement policy. 1

	12
Total	25

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Answer 2

	Marks
(a)	
The Stores Unit has adopted a focused differentiation strategy.	1
The Stores Unit seeks to provide highly perceived services to customers, that is, fast, convenient and 24-hour shopping services.	1
Such highly perceived services justify a higher price premium, which is evidenced by the highest gross profit margin (2012: 16.05%) and total profit margin (2012: 25.31%) amongst the three strategic units.	
The Mega-Mall Unit has adopted a low-price strategy.	1
The Mega-Mall Unit seeks to achieve a lower price than competitors, which is evidenced by the lowest gross profit margin (2012: 7.95%) and total profit margin (2012: 16.52%) amongst the three strategic units.	1
The Mega-Mall Unit also seeks to maintain similar perceived services to those offered by competitors, for example by offering a broad range of products to meet the customers' one-stop shopping needs to offset the inconvenience of the locations.	
The Supermarkets Unit has adopted a hybrid strategy. niche strategy	1
The Supermarkets Unit seeks to achieve differentiation by locating the supermarkets in densely populated residential areas to cater for customers' daily necessities.	1
The Supermarkets Unit also seeks to achieve lower prices by setting highly competitive pricing for promotional products.	1
	7
(b)	
Although GCS's three strategic business units are catering to quite different markets and customer needs, their businesses are principally the retailing of daily consumables.	1
GCS has therefore adopted related diversification through horizontal integration.	1
Research on the relationship between diversification and corporate performance suggests that related diversified companies perform better on average than either undiversified companies or highly diversified companies.	1
The reasons may be that related diversification benefits from both the economies of scale and the economies of scope to some extent.	1
In this sense, GCS may be right in its adoption of related diversification at the corporate level.	1
	5
Total	12

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Answer 3

	Marks
(a)	
Since the manager of the Shanghai Hub is responsible for investment decisions on opening new outlets and closing down existing ones, the manager has control over the assets employed by the hub.	1
The Shanghai Hub should therefore be classified as an investment centre for the purpose of performance evaluation.	1
The most commonly used financial performance measure for an investment centre is the return on investment, which is the ratio of the income report in the income statement and the amount of assets employed in the balance sheet.	1
Another conceptually sound but less widely used financial performance measure is the residual income (or economic value added), which is arrived at by subtracting a capital charge from the operating profit.	1
Based on the information given, the most appropriate financial performance measure for the Shanghai Hub would be the return on investment of non-current assets employed and working capital of 22.4% [83,000 / 432,000+(871,000-932,000)] in 2012.	
Return on investment of total assets employed of 6.4% [83,000/1,303,000] in 2012 may also be an appropriate financial performance measure.	2 **(2 marks for EITHER one)**
	6

(b)	
Since the manager of the supermarket SH-SM is responsible decisions regarding daily operations, including the product mix and extent of promotional discount, the manager has control over the revenue as well as the operating costs.	
Since control over the asset employed is limited, e.g. to the level of inventory, the supermarket SH-SM should therefore be classified as a profit centre for the purpose of performance evaluation.	2
A common financial performance measure for a profit centre is the contribution margin, which reflects the spread between revenue and variable expenses. A close approximate of the contribution margin based on the information given is the gross profit margin of 14.11% [531/3,762].	1
Another financial performance measure for a profit centre is the controllable profit, which reflects the spread between revenue and expenses controllable by the supermarket manager, excluding non-controllable items. A close approximate of the controllable profit based on the information given is the gross profit plus other income of HK$1,338,000 [HK$531,000+HK$807,000].	1

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The supermarket manager's control over the distribution and selling costs and administrative costs, which are likely to be mainly of premises rental, employee costs, and other fixed expenses, is likely to be limited.

Another possible financial performance measure for a profit centre would be the direct profit, which includes all revenue and expenses directly attributable to the profit centre, whether or not they are controllable by the manager of the profit centre. 1

A close approximate of the direct profit based on the information given is the operating profit of HK$169,000.

The financial measure most appropriate to SH-SM should be the controllable profit, which is approximated by the gross profit plus other income in this case, since it includes only those items that are under the manager's control. 1

The contribution margin of SH-SM (approximated by the gross profit) ignores the other income on display and promotion which is significant in the supermarket's revenue and profit.

The direct profit is a good performance measure for the profit centre, but not for the performance of the profit centre's manager. 1

7

Total 13

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Section B

Answer 4

	Marks
(a)	
Pecking order theory suggests that companies have a preferred order in which they seek to raise finance, beginning with retained earnings. The advantages of using retained earnings are that issue costs are avoided by using them, the decision to use them can be made without reference to a third party, and using them does not bring additional obligations to consider the needs of finance providers.	2
Once available retained earnings have been allocated to appropriate uses within a company, its next preference will be for debt. One reason for choosing to finance a new investment by an issue of debt finance, therefore, is that insufficient retained earnings are available and the investing company prefers issuing debt finance to issuing equity finance.	
Debt finance may also be preferred when a company has not yet reached its optimal capital structure and it is mainly financed by equity, which is expensive compared to debt. Issuing debt here will lead to a reduction in the WACC and hence an increase in the market value of the company. One reason why debt is cheaper than equity is that debt is higher in the creditor hierarchy than equity, since ordinary shareholders are paid out last in the event of liquidation. Debt is even cheaper if it is secured on assets of the company. The cost of debt is reduced even further by the tax efficiency of debt, since interest payments are an allowable deduction in arriving at taxable profit.	2 2
Debt finance may be preferred where the maturity of the debt can be matched to the expected life of the investment project. Equity finance is permanent finance and so may be preferred for investment projects with long lives.	1
	7
(b)	
Annual interest paid per foreign bond = 500 x 0.061 = 30.5 pesos	1
Redemption value of each foreign bond = 500 pesos	1
Cost of debt of peso-denominated bonds = 7% per year	1
Market value of each foreign bond = (30.5 x 4.100) + (500 x 0.713) = 481.55 pesos	
Current total market value of foreign bonds = 16m x (481.55/500) = 15,409,600 pesos	1
	4
(c)	
Interest payment in one year's time = 16m x 0.061 = 976,000 pesos	1
Now, Boluje will enter into a 12month forward contract with a bank to sell HK$ at the forward rate of 6.07 pesos/HK$.	1
Hence, cost of forward market hedge = 976,000/6.07 = $160,790	1
The uses of forward contract have hence eliminated the transaction risk that arose in 12 months time. i.e. it remove all potential loss as well as gain on the interest cost payment.	
	3

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(d)

Boluje receives peso income from its export sales and makes annual peso-denominated interest payments to bond-holders. It could consider opening a peso account in the overseas country and using this as a natural hedge against peso exchange rate risk. 1

Boluje Co could consider using lead payments to settle foreign currency liabilities. This would not be beneficial as far as peso denominated liabilities are concerned, as the peso is depreciating against the HK dollar. It is inadvisable to lag payments to foreign suppliers, since this would breach sales agreements and lead to loss of goodwill. 1

Foreign currency derivatives available to Boluje Co could include currency futures, currency options and currency swaps.

Currency futures are standardised contracts for the purchase or sale of a specified quantity of a foreign currency. These contracts are settled on a quarterly cycle, but a futures position can be closed out any time by undertaking the opposite transaction to the one that opened the futures position. Currency futures provide a hedge that theoretically eliminates both upside and downside risk by effectively locking the holder into a given exchange rate, since any gains in the currency futures market are offset by exchange rate losses in the cash market, and vice versa. 2

In practice however, movements in the two markets are not perfectly correlated and basis risk exists if maturities are not perfectly matched. Imperfect hedges can also arise if the standardised size of currency futures does not match the exchange rate exposure of the hedging company.

Initial margin must be provided when a currency futures position is opened and variation margin may also be subsequently required.

Boluje Co could use currency futures to hedge both its regular foreign currency receipts and its annual interest payment.

Currency options give holders the right, but not the obligation, to buy or sell foreign currency. Over-the-counter (OTC) currency options are tailored to individual client needs, while exchange-traded currency options are standardised in the same way as currency futures in terms of exchange rate, amount of currency, exercise date and settlement cycle. An advantage of currency options over currency futures is that currency options do not need to be exercised if it is disadvantageous for the holder to do so. Holders of currency options can take advantage of favourable exchange rate movements in the cash market and allow their options to lapse. The initial fee paid for the options will still have been incurred, however. 2

Currency swaps are appropriate for hedging exchange rate risk over a longer period of time than currency futures or currency options. A currency swap is an interest rate swap where the debt positions of the counterparties and the associated interest payments are in different currencies. A currency swap begins with an exchange of principal, although this may be a notional exchange rather than a physical exchange. During the life of the swap agreement, the counterparties undertake to service each others' foreign currency interest payments. At the end of the swap, the initial exchange of principal is reversed. 1

7

Total **21**

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Answer 5

	Marks
(a)	
YV Co does not currently have any long-term debt and so the current weighted average cost of capital (WACC) is the same as the current cost of equity, which is 12%.	1
Current market capitalisation = 10m x $4.10 = $41 million	
If the company issues $4m of bonds at par with an after-tax cost of debt of 10.14% x (1-0.3) = 7.1%, the WACC will be [(41m x 12) + (4m x 7.1)]/45m = 11.6%	2
The effect of the bond issue is therefore to reduce the WACC from 12% to 11·6% per year.	1
This calculation assumes that the current share price does not change as a result of the bond issue. In reality, the share price might change as a result of the change in financial risk. This calculation also assumes that the overdraft is not relevant in calculating the WACC, when in reality the size of the overdraft might make it a significant factor.	
Note: WACC calculations that include the overdraft are also acceptable.	4
(b)	
Interest coverage ratio The current interest coverage ratio of 4.4 times is just over half of the sector average value of 8 times, although before the fall in profit it was 22 times. As a result of the bond issue, the interest coverage ratio would fall to 2.6 times, which is a dangerously low level of cover.	2
Gearing Whether the bond issue has an effect on gearing depends on whether the gearing calculation includes the overdraft. If the overdraft is excluded, gearing measured by the debt/equity ratio on a market value basis increases from zero to 9.8%. If the overdraft is included, there is no change in gearing, since the bond issue replaces an equal amount of the overdraft. Given the sector average debt/equity of 10%, there does not appear to be any concerns about gearing as a result of the bond issue.	2
Security It is very likely that the bond issue would need to be secured against the tangible non-current assets of YV Co, especially in light of the recent decline in profitability. However, the bond issue is for $4 million while the tangible non-current assets of YV Co have a value of only $3 million. It is not known whether the intangible non-current assets can be used as security, since their nature has not been disclosed.	2
Advisability of using the bond issue to reduce the overdraft Considering the significant decrease in the interest coverage ratio as a result of the bond issue and the lack of tangible non-current assets to offer as security, it appears that the proposed bond issue cannot be recommended and would probably be unsuccessful. YV Co should therefore consider alternative sources of finance in order to reduce the overdraft.	

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Alternative sources of finance

Given the recent fall in profit before interest and tax from $5 million to $1 million, any potential investor would initially seek reassurances that YV Co would continue to be a viable business. The reason for the decline in profitability needs to be determined and the longer-term sustainability of the company needs to be confirmed before further financing is considered. **1**

If longer-term viability is assured, the need for further finance could be reduced by taking measures to reduce costs and increase income, for example through improved working capital management. If the company pays dividends, consideration could be given to reducing or passing the dividend in order to increase the flow of retained earnings in the company. **1**

Given the problems with interest coverage and security, and the lack of availability of further overdraft finance, equity finance is the first alternative choice that could be considered. While no information has been provided on recent share price changes or on the dividend policy of YV Co, existing shareholders could be consulted about a rights issue. Using a discount to the current market price of 20% gives a rights issue price of $3·28. A 1 for 8 rights issue at this price would raise $4.1 million, increasing the interest coverage ratio to 50 (1m/0·02m) if the proceeds were used to reduce the overdraft to $400,000. **2**

If shares were offered to new shareholders, the dilution of existing ownership and control would be small, given that $4 million is only 9% of $45 million (41 + 4). New shareholders would be unlikely to invest, however, if no dividend were on offer.

Sale and leaseback would not raise sufficient finance, given that tangible non-current assets are only $3 million, but this avenue could be explored in conjunction with another source of finance. Other finance sources that could be considered include convertible bonds or bonds with warrants attached. **1**

Improved working capital management could also decrease the amount of finance required. **1**

	12
Total	**16**

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Answer 6

	Marks

(a)

Advantages claimed for the use of activity based budgeting include the following:

- Resource allocation is linked to a strategic plan for the future, prepared after considering alternative strategies. Traditional budgets tend to focus on resources and inputs rather than on objectives and alternatives.

- New high priority activities are encouraged, rather than focusing on the existing planning model. Activity based budgeting focuses on activities. This allows the identification of the cost of each activity. It also allows the ranking of activities where financial constraints limit the range of activities that may be achieved. — **2 marks per point up to 6 marks**

- There is more focus on efficiency and effectiveness and the alternative methods by which they may be achieved. Activity based budgeting assists in the operation of a total quality philosophy.

- It avoids arbitrary cuts in specific budget areas in order to meet the overall financial targets. Non-value added activities may be identified as those which should be eliminated.

- It tends to increase management commitment to the budget process. This should be achieved since the activity analysis enables management to focus on the objectives of each activity. Identification of primary and secondary activities and non-value added activities should also help in motivating management in activity planning and control.

The effectiveness of activity based budgeting may be limited because of its complexity and its acceptance by management. For example accurate identification of activities and the cost drivers which determine the level of resources required for each activity may be difficult to achieve. — **6**

(b)

Current research on budgeting indicates that some organisations claim that they have abandoned the major annual budget preparation exercise ('Beyond Budgeting' – Hope & Fraser (2003). It has been argued that a number of adverse impacts result from the budget. Examples of such impact are: — **1**

- Annual budgeting adds little value and takes up too much valuable management time.
- Too heavy reliance on budgetary control in managing performance has an adverse impact on management behaviour.
- The use of budgeting as a base for communicating corporate goals, setting objectives, assisting continuous improvement, etc. is seen as contrary to its original purpose as a financial control mechanism.
- Most budgets are not based on a rational causal model of resource consumption and are, therefore, of little use in determining strategy.
- The process has insufficient external focus from which to derive targets or benchmarks.

2 marks per point up to 6 marks

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– The argument may be put that increased focus on knowledge or intellectual capital through competent managers, skilled workforce, effective systems, loyal customers and strong brands is more likely to yield improved business effectiveness.

(Alternative relevant uses and comments would be accepted in all parts of the answer).

	7
Total	13

***** End of Final Mock Exam *****
(Suggested Answers)

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