

CA



THE INSTITUTE OF
CHARTERED ACCOUNTANTS
OF SRI LANKA

SUGGESTED SOLUTIONS

21404 – Strategic Financial Management

CA Professional (Strategic Level II) Examination
JUNE 2013

THE INSTITUTE OF CHARTERED ACCOUNTANTS OF SRI LANKA

Answer No. 01

a. **Determine the maximum price GSL should offer TPL for a cash acquisition.**

year	0	1	2	3	4	5	6	7
Incremental Cash Flow TPL		37,500,000	37,500,000	41,000,000	43,500,000	48,000,000	50,000,000	51500000
Terminal value							396,153,846	=51500000/(0.16-0.03)
Total Cash flow		37,500,000	37,500,000	41,000,000	43,500,000	48,000,000	446,153,846	
16% Discount factor		0.8621	0.7432	0.6407	0.5523	0.4761	0.4104	
Discounted value(PV)		32,328,750	27,870,000	26,268,700	24,025,050	22,852,800	183,101,538	
Cumulative PV	316,446,838							
No. of Shares of TPL	8,620,000							
Max. Price per share	Rs. 36.71*							

b.

(i) Highly leverage transaction (HLT)

HLT refers to the acquisition of a company by an “investor” using a significant proportion of debts (in percentage terms) to meet the purchase consideration i.e cost of acquisition

Company specific characteristics

- * Strategic positioning of the company within the industry
- * Growth opportunities.
- * Operating leverage.
- * Capital Expenditure requirements.
- * Working Capital requirements.
- * Cash flows.
- * Management capacity to operate effectively in a highly leverage situation.

(ii) ***If GSL planned to sell convertible debentures to finance 80% of the cash acquisition price found in (a) above, how might it would impact the firm. Clearly highlight pros and cons associated with it.***

Advantages:

1. Regardless of how profitable the company is, convertible bondholders receive only a fixed limited income until conversion. This is an advantage for the company because more of the operating income is available to ordinary shareholders.
2. If the GSL can raise debt at a lower rate compared to the cost of capital (16%), over years equity holders will be largely benefited.
3. As debt interest is tax deductible, the issue of convertible bonds would help to keep the cost of capital down up to the point of conversion.

4. The GSL does not have to worry about the repayment as the bond is convertible. (Assuming convertibility is not optional). As a result, the notional cost of bankruptcy will be less in the minds of those who will invest in the GSL bonds. So the company would be able to raise debt at low cost.

Disadvantages:

1. As the volume of debt planned to be raised is high GSL's debt equity ratio will go up substantially. Prospective investors will demand a high rate of interest. If the company is already indebted substantially, new issue will further aggravate the situation.
2. If the business conditions deteriorate in the future, income available for shareholders would become more volatile as a result of new debt.
3. There is high propensity to reduce the price of the share of GSL with the new issue of debt.
4. At the time of conversion, the composition of shareholding of GSL would change substantially. This could make a threat to the current shareholders with controlling interest.
5. Possible dilution of shares, in the event of conversion.

c. Determine whether Mr. Wetthasinghe's proposal of one to one share swap option would be acceptable to GSL?

As currently a share of GSL is estimated at Rs. 45 per share, it is **not worth to go for one to one** exchange with something worth less. (According to previous computations, the maximum value of TPL share is **Rs. 36.71**). In Wettasinghe's proposal, there is no meaning of what he said to offer GSL at Rs.40, when the offering ratio had been fixed. Therefore, here the exchange is a "share worth of Rs.40 with a share worth having maximum price of Rs. 36.71".

If this exchange takes place, GSL share price will go down as shown in the following calculation.

Value of GSL as of now	20,000,000 shares * Rs 45/-	Rs.	900,000,000
The incremental present value (as per computation under question (a) above)		Rs.	<u>316,446,838</u>
Total value of the firm after acquisition		Rs.	1,216,446,848
Total number of shares of GSL after acquisition			28,620,000

Price of the share after acquisition

(based on 1:1 Swap) (Rs. 1,216,446,848/28,620,000)

Rs. 42.50*

*However, the market response will not be exactly the same as above computation.

d. Calculate the ratio of exchange in a share swap acquisition if GSL pays Rs. 32 for a share of TPL?

The total value expected to pay for the shareholders of the TPL (8,620,000 * Rs. 32) = Rs. 275, 840,000

No. of GSL shares to be = 275,840,000

Issued to fund the purchased consideration = 42.50

= 6,490,353 shares

= **GSL new shares : TPL original shares**

Share Swap ratio = 6,490,353 : 8,620,000

= 0.75 GSL : 1 TPL

= 1 GSL : 1.33 TPL

- e. Determine the effect of above Swap in (d) would have on the EPS of the original shareholders of (a) of GSL and TPL in year 1.

	Rs.
	<u>Year 1</u>
Current earnings of GSL	105,000,000
Incremental earnings	<u>37,500,000</u>
Total	142,500,000
Total no of shares after acquisition	20,000,0000 + 6,490353
	<u>26,490,353</u>
Post merger earnings	Rs.142.5 mn
Post merger No. of shares	26,490,353
EPS after acquisition	<u>5.38</u>

	GSL	TPL
Pre acquisition EPS	5.25	3.29
Post acquisition EPS	<u>5.38</u>	<u>5.38</u>
TPL Effective increase $(3.86 - 3.3) / 3.3$	<u>0.13</u>	<u>2.09</u>
% change (+)	2.48%	63.5%

According to the above computations, acquisition is more beneficial to the TPL shareholders.

(Total 20 marks)

Answer No. 02

- (a) Possible effects of reduction of interest rates
- (i) Reduction of interest rates will increase borrowings, investments, consumables expected.
 - (ii) Cheaper borrowing costs leading to inflation.
 - (iii) Effect on financial assets e.g. price of existing debenture tend to increase.
 - (iv) Increased savings.
 - (v) Possible depreciation of exchange rate making exports more competitive and imports more expensive.
 - (vi) Shifting of funds from financial assets to capital assets.
 - (vii) Induce creation of economic problems.

Why do companies issue debentures rather than borrowing from banks?

- Term/s of issue
- Amount of capital
- Bank borrowing could be restrictive or expensive compared to debentures in spite of certain advantages.
- Image of the corporate
- Special tax incentives to the debenture holders

(b) (i) $10+150+200+1,500+20,000 = 21,860$

(ii)

Applications	Size	Application	Alloted	Refund
10	>Rs. 50 mn	Rs. 750 mn	Rs. 375 mn	Rs. 375 mn
150	>Rs. 5 – 50 mn	Rs. 1,500 mn	Rs. 1,125 mn	Rs. 375 mn
200	>Rs. 2 – 5m	Rs. 750 mn	Rs. 600 mn	Rs. 150 mn
1,500	>Rs. 0.5 – 2mn	Rs. 900 mn	Rs. 810 mn	Rs. 90mn
<u>20,000</u>	<Rs. 0.5	<u>Rs. 100 mn</u>	<u>Rs. 90 mn</u>	<u>Rs. 10mn</u>
21,860 =====		Rs. 4 bn =====	Rs. 3 bn =====	Rs. 1 bn =====

(iii) Finance cost = $1 \text{ bn} \times 15\% \times 1/52$
 = Rs. 2.88 mn

(iv) $V = \frac{76.25}{(1.09)^1} + \frac{76.25}{(1.09)^2} + \dots + \frac{76.25}{(1.09)^{10}} + \frac{1,000}{(1.09)^{10}}$
 = $76.25 \times (\text{cum } 9\%, 10\%) + 1000/(1.09)^{10}$
 = $76.25 \times 6.418 + 1,000 \times 0.422$
 = $489.37 + 422$
 = Rs. 911.37

Note: calculations based on effective interest rate of 8.6% also treated as a correct answer.

(v) 60% - Rs. 1.8 bn
 SLIBOR increase = 2% for 2 years
 = $\text{Rs. } 1.8 \text{ bn} \times 2\% \times 2$
 = Rs. 72 mn

(vi) Y₁ cost
 Fixed cost - $\text{Rs. } 1.2 \text{ bn} \times \text{Rs. } 15.25\%$ = Rs. 183 mn
 Floating - $\text{Rs. } 1.8 \text{ bn} \times \text{Rs. } 17\%$ = Rs. 306 mn
 - Refund = Rs. 2.884mn
 Application cost of issue, 2% x 3 bn = Rs. 60 mn
Rs. 551.88

 Effective finance cost = Rs. 551.88
Rs. 3,000
 = 18.4%

(c) Factors that affect the price volatility of debentures.

- i. yield
- ii. maturity
- iii. coupon
- iv. inflation
- v. rating
- vi. convexity

(Total 20 marks)

Answer No. 03

(a) In the context of Value Based Management (VBM) CFO will face a number of challenges especially in the modern world in which any business will be subject to various internal and external pressures. Failure to meet the challenges could lead to business distress. CFO, being an important team member of an effective organization, will have to ensure improving its financial health and support meeting challenges in the business frontier.

VBM is mainly concerned with creating value and avoid value destruction . If a business is not run efficiently, it is subject to value destruction. On the other hand if run efficiently, it could create value.

On account of the above CFO will have to ensure:

- Protecting value and supporting value creation.
- Improving cash flows
- Identifying “maximizing” and “minimizing” risks.
- Identification of segments in the ‘Boston Matrix’
- Application of investment portfolio management principles.
- Financing etc.

(b) (i)

<u>MVA</u>		
No. of ordinary shares	=	2 million
Mkt value of ordinary shares @ Rs. 15	=	Rs. 30 million
Less: book value of equity	=	Rs. <u>21 million</u>
MVA	=	Rs. <u>9 million</u>

Note: Other alternative methods are also considered as correct

$$\text{OPAT} = \text{EBIT} (1 - T) = 10000 \times (1 - 0.3) = 7,000$$

Capital employed (net assets)

$$\begin{aligned} &= \text{Total assets} - (\text{accounts payable} + \text{accruals}) \\ &= 41,600 - (3,800 + 2,800) \\ &= 41,600 - (6,600) \\ &= \underline{\underline{\text{Rs. 35,000}}} \end{aligned}$$

$$\begin{aligned} \text{Cost of capital} &= W_d \times K_d (1 - t) + W_e \times K_e \\ \text{Mkt value of equity} &= 30 \text{ million} \\ \text{Mkt value of debt} &= 14 \text{ Mn} \\ \therefore \text{ Total Mkt value} &= 30 \text{ Mn} + 14 \text{ Mn} = \text{Rs. } 44 \text{ Mn} \end{aligned}$$

$$\begin{aligned} W_e = 30/44 &= 0.6818 \\ W_d = 14/44 &= 0.31818 \end{aligned}$$

$$\begin{aligned} \therefore \text{WACC} &= 0.15 \times 0.6818 + .10 \times 0.7 \times 0.31818 \\ &= 12.454\% \end{aligned}$$

$$\begin{aligned} \text{EVA} &= 7,000 - (0.12454 \times 35,000) \\ &= 7,000 - 4359 \\ &= \mathbf{2641} \end{aligned}$$

The MVA compares the market value of equity with the book value of Equity (ordinary shares and retained earnings) Market value of equity depends on the market value of ordinary shares. Positive MVA implies that the company has created value. This signifies the company's to earn higher profits and with the high demand for shares in a company with a positive MVA, the company shares price tend to go up capacity.

(Note: instead of value creation if value destructions are expected MVA could be negative and share prices tend to be lower).

EVA, denotes the company ability to earn higher profits than the cost of capital. Leading to value additively, when EVA is higher, the profitability of the company will be higher and the demand for shares in such a company will be more leading to higher share price.

- (ii) Intellectual capital (IC) or "knowledge based equity" plays an important role in the overall performance of an enterprise, as it deals with knowledge and skills of employees. The difference between market value and the book value of an entity could be attributable to IC.

IC should recognized as a strategic resource which will lead to competitive advantage and increased financial performance.

- (iii) EVA is linked to operating profit (OP) and it motivates management to make decisions that focus on the growth of a company. As EVA considers the time value of money, it is a more accurate measurement of residual income rather than mere "net income" of a firm. An increase in OP is beneficial to a company and this could be achieved by motivating the staff, application of improved operational managerial techniques etc.

EVA can be achieved by:

- (i) increasing OP, without increasing assets.
- (ii) reducing wastage
- (iii) increasing the NPV of capital invested.
- (iv) determining assets which do not earn sufficient returns visa visa cost of capital.

A sound compensation plan could motivate management to improve shareholders wealth. An option is a financial instrument that entitles the bearer to buy shares of an organization's shares at a certain price during a certain period of time or under certain conditions. Share options incentivize the executives by providing a direct link between a "staff comfort" and company share price performance. This also allows a firm to attract/ retain highly motivated employees/ entrepreneurs. However, offering share options are also subject to criticism, e.g.: accounting maneuvers in Enron, WorldCom, as it has been found that fixation of share prices have been linked to excessive risk taking and an excessive fixation on share prices. The accounting treatment of share options have also been a debatable issue. The rise of share option compensation has increased the incentives for companies to misreport key information. Companies have increased their reliance on pro forma earnings and similar techniques, which can include hypothetical transactions. Again, many companies just find it difficult to present financial information that complies with fuzzy and evolving accounting standards. Studies have found that the performance impact of options will be limited because of reasons such as free-rider problems, accounting myopia or line-of-sight arguments Much of the financial literature does not find evidence of a link between options and business performance

Accordingly, share option schemes in EVA linked plans will have to be considered carefully.

(Total 20 marks)

Answer No. 04

(a) **Importance of Asset allocation & capital rationing**

Asset allocation and its adjunct capital rationing are important aspects of financial management.

Asset allocation is an investment strategy that allows leveraging investment risk by allocating it among different classes of assets, including equities, fixed income such as debenture, funds, and cash (e.g CD,T-Bills. Because different classes of assets have different levels of risk and react differently to market fluctuations, asset allocation is a powerful tool to anticipate market changing conditions and increase a portfolio's return.

Any security-specific selection decision is preceded, either implicitly or explicitly, by an asset allocation decision. Asset allocation is therefore the most fundamental of investment decisions. A proper asset allocation plan can help reduce investment risk portfolio volatility because through diversification portfolio risk is spread on different classes of assets. In doing so, the growth opportunity is not limited to particular securities, but can take advantage of the opportunities derived by a mix of securities that react differently under different market conditions. Asset allocation can also help reduce. By investing in a mix of securities across different asset classes, investors can create a well-diversified portfolio. Modern Portfolio Management demands "Dynamic asset allocation " It refers to strategies that continually adjust a portfolio's allocation in response to changing market conditions. The most popular use of these strategies is portfolio insurance. Broadly speaking, portfolio insurance is any strategy that attempts to remove the downside risk faced by a portfolio. If the investor can make accurate short-term forecasts, tactical asset allocation has the potential to enhance returns. Thus in asset allocation, it is important to give due consideration to returns and risks.

An important general rule of corporate finance is that each project must be chosen on the basis of its own merits, irrespective of financing. The two decisions - selection of best project and selection of appropriate method of financing - must be studied separately because the financing source mix could change over time and must be independent of projects started. No organization will have unlimited capital to invest in all identified projects. Even if the capital is not an issue, investments in projects need to be carefully evaluated, e.g. apart from risks and returns of investment opportunities, portfolio effect, value additively, exit strategies, etc. need due recognition in asset allocation. This necessitates consideration of capital rationing, which may be in the form of soft capital rationing or hard capital rationing. Under capital rationing situations a firm having more acceptable investment opportunities is concerned with the selection of an investment out of many investment proposals ranked in the descending order of the rate or return. Thus, Capital Rationing helps Capital Budgeting, which is an integral part of Financial Management.

(b) (i)

2013			2014			2015			2016			NPV		Ran king	Select	
	Rs.	D F	PV	Rs.	DF	PV	Rs	DF	PV	Rs.	DF	PV	Rs.	PI	Y ₁	Y ₂
A	-50	1	-50	-40	0.9	-36	80	0.83	66.4	80	0.75	60	40.4	0.81	2	*
B	-60	1	-60	35	0.9	31.5	35	0.83	29.05	20	0.75	15	15.55	0.26	4	
C	-40	1	-40	30	0.9	27	45	0.83	37.35	55	0.75	41.25	65.6	1.64	1	*
D	-65	1	-65	20	0.9	18	40	0.83	33.3	50	0.75	37.5	23.7	0.36	3	*
E				-70	0.9	-63	55	0.83	45.65	65	0.75	48.75	31.4	0.5		1*
F				-80	0.9	-72	45	0.83	37.35	60	0.75	45	10.35	0.15		2
	-215			105												
Ava liable	160			190 - 85 = 175												

Selection of projects

C	40
A	50
D	65
B	<u>5</u>
	<u>160</u>

(ii) If projects are indivisible it must be done in its entirety or not at all and for the optimum use of capital investment, a trial and error method could be and the ranking of projects under capital rationing is more difficult than ranking divisible projects. In such a situation depending on the available funds the best combination of projects i.e. the best portfolio which will maximize the NPV should be considered. Any remaining funds should be invested in financial securities rather than allowing them to idle in order to enhance earnings or profitability of the available funds.

Note: Reducing initial investment and delay some projects also considered as alternative answers.

$$(c) (i) \text{ Maximize NPV : } 40.4X_A + 15.55X_B + 65.6X_C + 23.7X_D + 31.4X_E + 10.35X_F$$

$$\text{Subject to 2013 : } 50X_A + 60X_B + 40X_C + 65X_D = 160$$

$$\therefore \text{ 2014 : } 40X_A - 35X_B - 30X_C - 20X_D + 70X_E + 80X_F \leq 90$$

X_A, X_B, X_C, \dots represent proportion of each project to be undertaken with a view to maximizing NPV capital constraints imposed in 2013 and 2014.

We may include further variables on the constraints to accommodate the unutilized funds

- (ii) There are number of limitations in using linear programming technique under capital rationing.
- (1) Linear programming (LP) is based upon relative relations between input and output i.e. input and output are additive, multiplicative and divisible. But the relation between input and output are not always linear. Thus, LP technique is normally applicable to models when variable are linearly related in practice it may not be the case.
 - (2) The LP model assumes that inputs and outputs can be fractional. This is not always the case in the real world. For instance, if a business is trying to find out how many people it should have on staff during peak business hours, this can't be a fraction.. If even one variable involved has to be in integer form, linear programming is not a suitable technique. LP also assumes that projects are divisible and the returns of the projects are in proportion to the invested in each.
 - (3) Factors such as uncertainty, weather conditions etc. are not taken into consideration. LP is also based on the assumption that cash flows and available resources are known with certainty, i.e. uncertainty ignored. Due to this restrictive assumption, linear programming cannot be applied to a wide variety of problems where values of the coefficients are probabilistic.
 - (4) Linear programming takes into account a single objective only, i.e., profit maximization or cost minimization. However, in today's dynamic business environment, there is no single universal objective for all organizations.

Answer No. 05

- (a) The importance of finance for SME growth and innovation has been a subject of various discussions, seminars, forums. The upshot of such discussions have led to formulation of many policies and schemes to provide financial assistance to SME sector. It is said that SME's cannot grow and innovate without bank credit. Basically this is correct as bank finance is one of the available financing modes to the SME sector. However, bank finance has proved to be restrictive or sometimes prohibitive as banks are not willing to take risks. Furthermore, banks tend to support large company borrowers rather than SMEs, because of other considerations, such as profitability, volume of business etc. Absence of collateral or weak collateral is another factor hindering availability of bank finance to the SME sector. However, the development banks may consider more than the commercial banks in financing SME sector business.

In spite of various schemes, SMEs have not been able to obtain necessary bank finance, both in Sri Lanka and mainly overseas. However, it is important to recognize that bank finance is not the only available means of finance to SMEs e.g. venture capital, leasing, local and foreign formed ventures are some of the other methods. Thus SMEs need to consider other alternatives as well, if they want to grow and innovate.

- (b) Debt service cover ≥ 1.5 times

$$\text{Capital} = 4\text{bn}/8 = 500 \text{ Mn}$$

$$\text{Interest} = 4000 \times 9\% + 3500 \times 9\% = 675 \text{ Mn}$$

$$\text{Total debt service} = 1000 + 675 = 1,675 \text{ Mn}$$

- (i) EBIT bases on debt service cover

$$\frac{\text{EBITDA}}{\text{Debt service Payment}} = 1.5$$

Debt service Payment

$$\text{EBITDA} = 1.5 \times 1,675 = \text{Rs. 2,512.50 Mn}$$

- (ii) EBIT based on debt to EBIT ratio

$$\frac{\text{Debt}}{\text{EBITDA}} \leq 2.5$$

$$\frac{4 \text{ bn}}{\text{EBITDA}} \leq 2.5$$

$$\text{EBITDA} = \text{Rs. 1,600 Mn}$$

- (iii) EBIT based on interest cover ratio

Interest cover ≥ 3.5 times

$$\text{EBIT} = 3.5 \times 675$$

$$\therefore \text{EBIT} = \text{Rs. 2,362.50 Mn}$$

(c) Negative Pledge

A provision in a loan agreement between a borrower and a lender prohibiting the borrower from pledging certain earmarked assets belonging to him without the consent of the lender. A . ‘negative pledge’ is in effect, not a pledge but a contractual obligation.

Haircut

Haircut refers to the reduction of a certain percentage (%) from the market value of the collateral involved in a transaction e.g. Repo. The percentage depends on the risk associated with the holding assets. Obviously lower the percentage in a haircut, higher the leverage would be.

PariPassu

Refers simply ‘treating all parities the same “or” an equal footing e.g. in the distribution of assets., when a new issue of shares is made, on the same footing with existing shares for the purposes of dividend payments.

Default interest

This refers to the penal interest imposed by the lender on the borrower, in the event of a default /or violating the provisions of loan covenants.

Basis point

Basis point ((bips) is the smallest unit equal to 1/100 of 1%. This is mainly used in quoting financial instruments such as treasury bills, debentures etc. Movement of bips has an impact on the market value of a financial instrument.

(d)	(i)	EBIT	=	1500	
		Depreciation	=	<u>300</u>	
		EBITDA	=	<u>1800</u>	
		Debt service cover			
		<u>1800</u>	=	1.075	not satisfied
		1675			
		Interest cover			
		<u>1500</u>	=	2.22	not satisfied
		675			
		Debits EBITDA			
		<u>4,000</u>	=	2.22	not satisfied
		1,800			

(ii)	EBIT	=	1500
	EBITDA	=	1800
	DSC ratio	=	1.5
	DSC	=	$\frac{\text{EBITDA}}{\text{Debt service (capital + interest)}}$
	Capital interest } per annum	=	$\frac{1800}{1.5}$
	∴ Annual payment	=	1200
	Semi annual payment	=	600
	PV of loan	=	$\text{PMT} \times \left(\frac{1 - \frac{1}{(1+r)^n}}{r} \right)$
		=	$600 \times \left(\frac{1 - \frac{1}{(1.09)^8}}{0.09} \right)$
		=	600×5.534
		=	3,320.89
	Land should be sold at	=	$4000 - 3320$
		=	Rs. 680
		=	===



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