

SECTION A – CASE QUESTIONS

Answer 1(a)

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Subject: Valuation of AFL

The following gives the calculation of net asset value per share of AFL, evaluation of the common valuation bases of assets of AFL, and the shareholders' expectation to the proposed offer.

	\$m
Total value of assets	6,503
Less current liabilities	(1,666)
Less intangible assets (goodwill)	(182)
Less long term liabilities (273 + 154 + 70 + 63)	(560)
Net asset value of equity	<u>\$4,095</u>

Value per share = $\$4,095,000,000 / 29,197,000 = \140.25

Answer 1(b)

Historical basis: assets are valued at historical cost less depreciation expenses.

Replacement basis: cost that would be required to replace assets and continue using them to operate the business.

Realisable basis: if assets are to be sold, or the business as a whole broken up, it would be appropriate to value them at their realisable value.

In the case of Sunny Capital Partners, it seems that replacement cost basis is the most relevant because it plans to operate the assets of target on a continuous basis, without any immediate plan to dispose the assets.

Discounted cash flow method should be employed that reflects future earning power projection of the target in M&A valuation. The difference between the purchase consideration and the fair value is the goodwill upon acquisition. Any future impairment of this goodwill has to be periodically assessed and immediately realised in profit & loss.

Answer 1(c)

The net asset value per share may form the bottom line for the shareholders of Asian Foods when Sunny Capital makes an offer to buy their shares at \$119.

These shareholders may refuse to sell for less than the net asset valuation of \$140.25.

Answer 2

Debt ratio = $2,226 / 6,503 = 34\%$

Its debt ratio is significantly lower than the industry average because of relatively low reliance on machinery which would otherwise require more debt financing.

AFL has accumulated a high level of retained earnings which also explains the lower than industry debt equity ratio. It has sufficient profit plowback without reliance on debt. AFL actually has a net cash position.

Sunny Capital Partners would find it attractive because:

- (i) A buyer has more room to increase the financial leverage of AFL after acquisition.
- (ii) The buyer may acquire more machinery to improve its operating efficiency. The buyer may expect AFL to deliver a stronger financial results with a better Asian economic outlook.
- (iii) The potential interest rate rise in the future is not likely to hurt AFL that much with its low level of debt.
- (iv) Long term tangible and intangible asset quality affects future impairment.

Answer 3(a)

Manufacturing cycle efficiency
= value-added processing time / total processing time
= $9,920 / 19,120$
= 51.88%

Process productivity
= total boxes of ice-cream produced / value added processing time
= $1,850,000 / 9,920$
= 186.49 boxes per minute of value added time

Process quality yield
= good boxes ice-cream produced / total boxes of ice-cream produced
= $1,731,000 / 1,850,000$
= 93.57%

Throughput
= MCE * PP * PQY
= 51.88% * 186.49 * 93.57%
= 91 boxes per minute > 79. Hence it satisfies the fund's requirement.

Answer 3(b)

Throughput is one type of non-financial quantitative performance measure. It measures useful information, quantities of boxes produced in a certain time interval contained in cost management.

It makes sense as it is relevant to non-management employees who are generally more familiar with non-financial items, such as time and quantities. Besides, it is controllable by the employees, as an important performance measure criterion. It is also a good reflection of the leading indicators of manufacturing quality boxes of ice-cream, that create shareholder wealth.

Answer 3(c)

The level of inventory represented about three months of cost of sales.

It implies that the working capital management has room to improve. Not only is it probably costly, raw material of a perishable nature such as milk can be subject to contamination and require expensive refrigeration storage costs.

Answer 4(a)

Reporting earnings requires most costs incurred to developing new products to be expensed as incurred. Nevertheless, the organic food products being introduced may have a life cycle of six years or so. As a result, it may be appropriate to capitalise the research and development costs and amortise them over the life cycle of the organic food products. The current arrangement in accounting is that the research and development costs get expensed earlier than revenues from new products are realised. This has the effect of depressing current profits and overstating future profits.

Complexity of new markets (China, Japan and Korea) which introduce different language requirement which raise marketing costs. The distribution agents may also be different so scale benefit may not be achievable. The logistics of speedy delivery of high quality refrigerated dairy food products within a relatively short product expiry period may also be a challenge.

Typically, there is a substantial start-up cost such as marketing, promotion, and distribution-related expenses which the firm has to incur in order to build an infrastructure for the potential scale of business to be achieved in the future.

Answer 4(b)

The reported profits would have been higher for 2013. However, future profits would be lower because the development costs would have been capitalised and amortised under life-cycle costing rather than being expensed in the current period.

Answer 4(c)

Lee may simply have meant that the right time to invest heavily in future growth is when current operations are generating surplus cashflows. In managing growth, one of the objectives is to match the excess cash generated by sub-units charged with a harvest mission with the cash needs of sub-units charged with a growth mission. In the food processing context, this equates to matching excess cashflow generated by existing product lines with the cashflow needs of new products being developed.

Answer 4(d)

It looks like there are motivational elements in AFL's cost management system that encourage growth. Managers are willing to invest in future products at the expense of moderately depressing current reported profits. Managers would be very hesitant to act in this manner if their incentives are tied entirely to current profits.

The existing sales growth seems to be not catching up with margin growth. The operating margin appears to be attractive being over 35% in the past three years. Yet sales growth has remained at a single digit level. Either there is a production efficiency problem that limits the volume of products that can be supplied to meet demand or the existing market is saturated. In this connection, market extension in other Asian countries is a sound business decision for a relatively high margin product. Future improvement in automation may also enhance the margin and production efficiency further.

Answer 4(e)

It is not easy to recognise where a particular product stands in its life cycle.

There is a tendency for competitors to copy the leader very quickly.

The theoretical curve of a product life cycle does not always occur in practice. Some products have no maturity phase, and go straight from growth to decline.

* * * END OF SECTION A * * *

SECTION B – ESSAY / SHORT QUESTIONS

Answer 5(a)(i)

					Market Value	%
Bond:	200,000	x	1,000	x 0.975 =	195,000,000	25.243%
Preferred Stock:	2,250,000	x	50	=	112,500,000	14.563%
Common Stock:	7,500,000	x	62	=	465,000,000	60.194%
Total market value					772,500,000	100.000%

Rd = (after tax)	0.05636	[0.0675 x (1 - 0.165)]
Rp =	0.14	[0.07 x 100 / 50]
Re =	0.14056	[0.028 + 1.34 x (0.112 - 0.028)]
WACC =	0.119225	[25.243% x 0.05636 + 14.563% x 0.14 + 60.194% x 0.14056]
	i.e. 11.92%	

Answer 5(a)(ii)

At a low level of debt, cost of debt, being cheaper than cost of equity will reduce the WACC. Increased financial leverage (meaning higher fixed amount of periodic interest expenses) will reduce the free cash flow available, thereby

- (1) increasing the liquidity risk; and
- (2) reducing dividend and capital investment capacity.

This results in a higher cost of equity which is more than offset by the lower cost of debt. As such, a company would normally not borrow to the maximum level but instead strike a balance between debt and equity as external sources of long term finance.

Answer 5(b)(i)

The Director's suggestion is based on the Pecking Order Theory, which suggests the order of financing should be retained earnings first, followed by debt then, by issuing new shares. This priority is based on the magnitude of the issuing cost.

A company following this theory generally takes a conservative view in leverage and prefers to stay low in debt. Such a company usually has a stable positive operating cash flow as the source of financing, hence, generally does not need external financing.

Further, this company does not have or does not pursue a target capital structure.

Answer 5(b)(ii)

While the order of financing based on the Pecking Order Theory will save issuing costs, there are several implications that must be considered. In particular:

- The company will deviate from its current optimal capital structure. The WACC will not be at the lowest level. This will reduce the company's valuation and hence adversely affect its current high share price.
- As WACC can be used as the discount rate for capital budgeting analysis, not having a minimum WACC will cause profitable projects to be rejected. This is particularly important since EFG expects to have further investment for expansion.
- Retained earnings carries cost of equity, which is more expensive than debt and hence it is not cost efficient if used as a first source of finance.
- Deprive the company of financing flexibility to take advantage of capital market opportunity, i.e. low interest rate, high share price etc. as it is very likely that the company will have to opt for external financing as it has not accumulated a substantial cash balance.
- A related point is that financing through a long term bond which may have maturity over 10 years will provide funding stability. Using retained earnings first does not provide such stability as borrowing power is not guaranteed and the company may not be able to obtain the money in the future when retained earnings have been exhausted.

Answer 6(a)

Company A should acquire T1 since the D/E ratio of the group immediately after acquisition is 33%, meeting the objective. Calculation is as follows.

	A	T1	T2
All in HK\$'000 except %			
Asset	20,000	100,000	5,000
Liability	15,000	20,000	450
Equity	5,000	80,000	4,550
D/E ratio	300%	25%	10%
Combined Company			
		A+T1	A+T2
Asset		120,000	25,000
Liability		35,000	15,450
Equity		85,000	9,550
Fair value adjustment		20,000	450
D/E ratio		33%	$35,000 / (85,000 + 20,000)$
			155% $15,450 / (9,550 + 450)$

Answer 6(b)

Since Company A wants to reduce the D/E ratio upon acquisition, in addition to the traditional due diligence process, it needs to pay special attention to the liabilities and cash flows of both T1 and T2. Company A needs to investigate to ensure that:

- (1) no off balance sheet liabilities exist;
- (2) no future loan, long term lease or other long term liability commitment have been made;
- (3) bank debt should be properly reflected in the financial statements;
- (4) free cash flow should be positive; and
- (5) assets are of sound quality and have no impairment.

Answer 6(c)

The following areas should be considered:

- (1) T1 is a much larger company, hence post acquisition integration can be challenging. But given the purpose is to reduce D/E ratio, there should not be much operational integration.
- (2) Off balance sheet items may be difficult to evaluate given the target is a private company.

Answer 7(a)

Year	1	2	3	4	5
All figures are in \$'000					
Revenue	3,544	4,465	5,470	5,743	5,169
Cost of materials	709	893	1,094	1,149	1,034
Labour	1,164	1,607	2,258	2,597	2,715
Overhead	466	625	719	826	950
Total operating costs (cash flow)	2,339	3,125	4,071	4,572	4,699
Total operating profit	1,205	1,340	1,399	1,171	469

Answer 7(b)

Tax Saved from capital allowances

Year	0	1	2	3	4	5	6
All figures are in \$'000							
Tax Base	2,700	2,025	1,519	1,139	854	641	
Capital Allowance (25%)	675	506	380	285	214	641	
Written Down Value	2,025	1,519	1,139	854	640	0	
Tax saved from capital allowances	0	203	152	114	85	64	192

Answer 7(c)

Working Capital Requirements

Year	0	1	2	3	4	5
All figures are in \$'000						
Working capital requirements	270	354	447	547	574	0
Change of working capital requirements	-270	-84	-92	-100	-27	574

Answer 7(d)

NPV Analysis

Year	0	1	2	3	4	5	6
All figures are in \$'000							
Cost of investment	-2,700						
Operating profit		1,205	1,340	1,399	1,171	469	0
Tax effects							
- Operating profit			-361	-402	-420	-351	-141
- Capital Allowances		203	152	114	85	64	192
Working capital change	-270	-84	-92	-100	-27	574	0
Net cash flow	-2,970	1,323	1,039	1,010	809	757	51
Discount factor	1.000	0.833	0.694	0.579	0.482	0.402	0.335
Present Value	-2,970	1,103	721	585	390	304	17
NPV		150					

The investment should be done since NPV is positive.

Company P should consider the following qualitative factors:

- Competitive strategy: this investment may help in implementing the company's competitive strategies such as cost leadership / differentiation.
- Market share – the need to enhance or maintain market share.
- Barrier to entry / enter a market – the need to penetrate a new market or defend an existing market.
- There are estimation errors in the NPV calculation. This is particularly important when the NPV calculated is small.
- Any other investment that may offer a better return than this project.

* * * END OF EXAMINATION PAPER * * *