ACT LEADING TREASURY PROFESSIONALS

MCT ADVANCED DIPLOMA

GENERAL EXAMINATION

Paper, Solutions and Examiner's Report

Friday 07 October 2016 09.30 – 13.00

Instructions:

Answer **EIGHT COMPULSORY** questions.

Time allowed: **3 hours + 30 minutes reading time.**

During the reading time you may annotate the examination paper but you may not write in your answer booklet or use your calculator.

- Enter your student number on the answer booklet: **do NOT write your name**
- You must write in blue or black ink and ensure your handwriting is legible.
- Enter the order in which questions are answered in the box provided on the front of the answer booklet.
- Ensure that all additional submissions (if applicable) are attached to the answer booklet by the tag provided and write your student number on all items to be marked.
- Show all your workings and state your assumptions in all questions, as appropriate.

QUESTION 1

Under IFRS 16, pertaining to lease accounting, published in January 2016, operating leases must be accounted for on balance sheet along with finance leases. Companies are required to adopt the new standard after 1st January 2019, although earlier adoption is permitted subject to conditions. Rating agencies currently capitalise the annual operating lease charge using a multiple to create a debt equivalent for rating purposes but the new accounting rules require companies to use the net present value of all future lease payments. Under a further frequently used approximation interest is assumed to be one third of annual payments and depreciation/debt repayments two thirds.

You are Treasurer of a retail group whose latest financials are summarised in the Table 1 below. Total operating lease payments on the company's 15 to 20-year property leases currently amount to 191m per annum. Under IFRS 16 the NPV equals 991m and the interest element of the lease payments is 79.2m. Note that under current accounting rules the company has net cash of 552m, net interest received of 0.6m, after gross interest payments of 4.4m.

Table 1. Summary Financials.

millions	Existing accounts	IFRS 16 adjustments	Adjusted accounts
EBITDA	597.9		
Deprn. & amortisn.	(157.6)		
EBIT	440.3		
Net interest (paid)	0.6		
Profit before tax	444.6		
Gross debt	65		
Net debt	(552)		
Market cap.	7,297		
EV	6,796		
Total assets	2,173		
Shareholders' funds	1,452		
Net debt % book capital	(61)%		
Net debt % EV	(8)%		
Net debt / EBITDA	(0.9)		
EBITDA / Interest	(997)		
EBIT / Interest	(734)		
EV / EBITDA	11.4		

Required:

a) **Using the separate hand-out copy of pro-forma Table 1 (and not the exam paper), complete the required IFRS 16 adjustments to the appropriate Income Statement and Balance Sheet items and re-**

calculate the resultant financial ratios.

(5 marks)

b) **Comment on how IFRS 16 has changed the profile of the company, as expressed in those re-calculated ratios, and how it impacts the interests of both debt and equity stake-holders.**

(4 marks)

Your company is about to enter into a 5-year revolving credit facility. The credit facility includes a) covenants restricting the incurrence of debt and b) financial covenants limiting the company's leverage and setting minimum interest cover requirements. Under current loan market practice the concept of "debt" for the purposes of all relevant covenants includes finance lease obligations but not operating leases in line with the accounting treatment, unlike the treatment by the rating agencies.

Required:

c) **Review the potential issues raised for your company by the introduction of IFRS 16 in 2019 and discuss what steps you might take to offset any adverse effects of the changes.**

(4 marks)

(Total 13 marks)

QUESTION 2

The private equity movement, which is now a mature industry, was originally based on using institutionally-funded leveraged buy-outs to acquire subsidiary businesses that were either insufficiently profitable or no longer a strategic fit. The ready availability and low cost of debt, plus the poor returns on other asset classes, have recently boosted the industry but pushed purchase price multiples to unprecedented levels. So the question for the PE houses is how to create value for these risky medium-term investments when clever financial engineering is no longer sufficient, given that purchase multiples are already high in relation to underlying cash flows and profits.

Corporates have learned lessons from the PE movement on how to create value for their own shareholders from these "orphan subsidiaries" without resorting to an early PE disposal.

Required:

a) **Explain the fundamental ways in which value can be created in such situations.**

(5 marks)

b) **State the implications and challenges for the treasurer in the pursuit of such a value-adding strategy.**

(4 marks)

(Total 9 marks)

QUESTION 3

Since the global financial crises banks have responded in various ways to the drastic changes in banking regulation and corporates have also had to seriously re-think their funding and banking structures.

Considering how the effects of the GFC has changed the relative attractiveness of both relationship and transactional banking, with specific reference to an international FTSE 250 company, one of whose relationship banks has recently withdrawn its facilities;

Required:

Write a briefing paper on the changed priorities from the stand-point of:

- **i) its corporate bankers**
- **ii) the company treasurer**

(Total 10 marks)

QUESTION 4

As a newly-appointed Treasury Manager you have just been provided with copies of the detailed financials plus an equity valuation for a proposed major port development in South-East Asia, of which your company is a major sponsor and equity investor, based on the draft economic model of the project. Your brief is to review the financials overleaf and comment particularly on the robustness of the financial structure and the equity returns, preparatory to writing a Board Paper with a simple summary of the project financial structure and returns.

This table is available as an A3 handout attached to the end of the exam paper.

Required:

a) Explain the logic behind the financing structure and the various types of finance used to fund the project, their differing characteristics and their relative proportions within the overall structure.

(5 marks)

b) Assess and summarise the robustness of the proposed financing structure based on calculation of gearing and debt service metrics appropriate to project finance, also explaining the logic behind the chosen metrics. You can assume that the average cost of debt is 12% overall.

(10 marks)

c) With reference to the equity valuation, explain the calculation in full, including the choice of the various discount rates used, and comment on the calculated entity and equity values relative to their balance sheet equivalents.

(5 marks)

(Total 20 marks)

ASIAN PORT COMPLEX

	0	1	2	3	4	5	6	7	8	9	10	11	12	13	
Xenos '000	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	
PROFIT & LOSS ACCOUNT															
Sales		1,046	22,096	32,155	45,900	63,491	73,071	81,640	89,205	94,427	99,968	105,875	112,181	118,914	
Overheads		(1,125)	(19,914)	(23,751)	(29,187)	(35,109)	(38,554)	(41,521)	(44,518)	(47,338)	(50,745)	(54,502)	(58,331)	(62,661)	
Operating profit		(79)	2,182	8,404	16,713	28,382	34,517	40,119	44,687	47,089	49,223	51,373	53,850	56,253	
Non-operating items		(109)	(1,001)	550	(1,318)	(1,064)	(978)	(994)	(994)	(989)	(986)	(981)	(496)	(473)	
Profit before interest & tax		(188)	1,181	8,954	15,395	27,318	33,539	39,125	43,693	46,100	48,237	50,392	53,354	55,780	
Net debt interest		(886)	(12,904)	(17,730)	(22,673)	(23,550)	(21,605)	(18,467)	(14,468)	(9,700)	(4,691)	650	5,839	10,876	
Profit before tax		(1,074)	(11,723)	(8,776)	(7,278)	3,768	11,934	20,658	29,225	36,400	43,546	51,042	59,193	66,656	
Taxation		0	0	0	0	0	0	(772)	(11,565)	(14,191)	(16,795)	(19,669)	(22,573)	(25,481)	
Profit after tax		(1,074)	(11,723)	(8,776)	(7,278)	3,768	11,934	19,886	17,660	22,209	26,751	31,373	36,620	41,175	
Dividends		0	0	0	0	0	0	0	(1,871)	(2,326)	(2,780)	(3,242)	(3,767)	(4,222)	
Retained profit		(1,074)	(11,723)	(8,776)	(7,278)	3,768	11,934	19,886	15,789	19,883	23,971	28,131	32,853	36,953	
CASH FLOWS															
Initial asset acquisition	**(70,340)**														
Profit before interest & tax	`	(188)	1,181	8,954	15,395	27,318	33,539	39,125	43,693	46,100	48,237	50,392	53,354	55,780	
Depreciation		41	2,933	3,114	5,366	6,964	6,978	6,978	6,978	6,828	7,015	7,382	7,535	7,877	
Amortisation & other non-cash		35	63	(1,380)	605	512	421	421	421	421	421	421	35	0	
Movement in working capital		(1,143)	(1,517)	(445)	(1,843)	(595)	(479)	(365)	(254)	(48)	(64)	(81)	(183)	(203)	
Net capital expenditure		(2,990)	(17,188)	(26,466)	(28,334)	(775)	(491)	(491)	(1,541)	(2,052)	(3,064)	(2,977)	(3,520)	(2,491)	
Cash flow before interest and tax	0	(4,057)	(15,709)	(25,177)	(24,206)	6,106	6,429	6,543	5,604	5,149	4,308	4,745	3,867	5,183	
Interest paid		(15)	(7,618)	(11,012)	(14,777)	(23,550)	(21,605)	(18,466)	(14,469)	(9,700)	(4,691)	650	5,840	10,876	
Corporation tax paid									(772)	(11,565)	(13,568)	(16,019)	(18,743)	(21,492)	
Dividends paid										(2,495)	(3,101)	(3,707)	(4,323)	(5,023)	
Cash flow before loan repayments	0	(4,072)	(23,327)	(36,189)	(38,983)	(17,444)	(15,176)	(11,923)	(9,637)	(18,611)	(17,052)	(14,331)	(13,359)	(10,456)	
Lease finance	**1,023**														
Senior debt	**31,352**	**5,625**	**22,146**	**27,235**	**23,588**	(6,019)	(13,370)	(21,669)	(29,100)	(23,303)	(16,485)				
Mezzanine	**20,000**								(8,674)	(8,674)	(8,674)	(8,674)			
Subordinated loan notes	**13,650**											(6,575)	(6,575)	(6,576)	
Convertible preference shares	**1,050**														
Ordinary share capital	**2,000**														
Net cash flow	(1,265)	1,365	0	0	0	3,855	4,993	5,533	(3,718)	(4,488)	6,026	20,812	33,420	38,748	41,848
Cash less overdraft balance	(1,265)	100	100	100	100	3,955	8,948	14,481	10,763	6,275	12,301	33,113	66,533	105,281	
BALANCE SHEETS															
Cash less overdraft	(1,265)	100	100	100	100	3,955	8,948	14,481	10,763	6,275	12,301	33,113	66,533	105,281	
Tangible fixed assets	70,303	73,217	87,501	112,248	134,794	128,184	121,277	114,370	108,512	103,316	98,944	94,118	90,068	84,682	
Stock & debtors	3,055	2,153	3,800	4,537	6,507	7,288	7,950	8,506	8,963	9,225	9,513	9,833	10,188	10,582	
Total net assets	72,093	75,470	91,401	116,885	141,401	139,427	138,175	137,357	128,238	118,816	120,758	137,064	166,789	200,545	
Creditors	2,734	689	911	1,204	1,497	1,758	1,926	2,101	2,285	2,480	2,686	2,905	3,056	3,223	
Accrued interest		434													
Deferred & current taxation	284	284	284	298	313	329	345	1134	11946	13967	16439	19184	21955	24712	
Dividends payable									1,871	2,326	2,780	3,242	3,767	4,222	
Lease finance	1,023	1,023	1,023	1,023	1,023	1,023	1,023	1,023	1,023	1,023	1,023	1,023	1,023		
Senion debt	31,352	36,977	59,124	86,359	109,947	103,928	90,558	68,890	39,789	16,487					
Mezzanine debt	20,000	20,300	24,271	29,019	34,696	34,696	34,696	34,696	26,022	17,348	8,674				
Subordinated loan notes	13,650	13,787	15,535	17,505	19,726	19,726	19,726	19,726	19,726	19,726	19,726	13,150	6,575		
Total debt	66,025	72,087	99,953	133,906	165,392	159,373	146,003	124,335	86,560	54,584	29,423	14,173	7,598	1,023	
Shareholders' funds	3,050	1,976	(9,747)	(18,523)	(25,801)	(22,033)	(10,099)	9,787	25,576	45,459	69,430	97,560	130,413	167,365	
	72,093	75,470	91,401	116,885	141,401	139,427	138,175	137,357	128,238	118,816	120,758	137,064	166,789	200,545	
EQUITY VALUATION														perp growth	
														8%	41,848
Equity cash flow		0	0	0	0	0	0	0	0	2,495	3,101	3,707	4,323	5,023	
Discount factors	1.000	0.714	0.510	0.364	0.260	0.186	0.133	0.095	0.068	0.048	0.035	0.025	0.018	0.013	
Net present value dividends	459														
Equity terminal value	6,442												equity tv	407,080	
Equity value	6,901												cash	105,281	
add Total debt	66,025												debt	(1,023)	
Entity value	**72,926**												equity	511,338	

QUESTION 5

The Group Treasurer to whom you report had agreed to be a panel member at the ACT Annual Conference for a discussion entitled “Emerging Markets: Are the associated risks worth assuming in light of the returns?”

A few days before the event the Group Treasurer has to withdraw because of problems with a Malaysian subsidiary which require the Group Treasurer’s on-site presence: you have been appointed the replacement panel member.

Required:

a) **Leaving aside the type of business you are:**

State and explain briefly the arguments for and against engaging in business with emerging markets.

(4 marks)

Emerging markets are often beset by economic and political growing pains. These emerge in treasury terms as more extreme types of currency, funding, fiscal, regulatory, governance and political risks.

The table below shows the dependence on emerging markets of two contrasting businesses, one UK company with 100% centralised production of whisky in Scotland and one German company with 100% decentralised production of industrial gases which need to be produced within 200km of consumption or “on site” if the customer is a big enough consumer.

BUSINESS GEOGRAPHIC SALES	UK	GERMANY	EUROPE, USA AUSTRALIA & JAPAN	TOTAL EMERGING MARKETS	*of which* SOUTH AMERICA	*of which* AFRICA	*of which* ASIA-PACIFIC excl Japan,Australia
SCOTCH DISTILLERS %	**15**		**49**	**36**	*11*	*7*	*18*
INDUSTRIAL GASES %		**9**	**51**	**40**	*5*	*6*	*29*

b) **Using these two businesses as context, discuss the types of treasury expertise necessary in each for doing business with emerging markets.**

(8 marks)

(Total 12 marks)

QUESTION 6

Your company, a capital intensive utility, funds using mainly vanilla fixed rate bonds, with some maturities going out to 25 years.

You are approached by a small but reputable financial consultancy company which has a leading position in the social housing sector providing funding and risk management advice to housing associations.

The proposal is that you enter into a 20 year matched counterparty GBP interest rate swap with a large housing association. Your company receives fixed and pays floating and the other party pays fixed and receives floating. Your underlying is fixed rate bonds some of which you wish to "float", the other party's underlying is floating bank debt some of which it wants to fix. The consultancy company will act as the intermediary (ie broker).

The rationale is that, assuming such a swap fits with both parties' hedging requirements, then it will be cheaper than working through a bank.

Required:

Identify and explain the potential benefits and risks for your company if this proposal is agreed.

(Total 10 marks)

QUESTION 7

Your company is a profitable and growing investment grade UK manufacturer of electro-mechanical components for automated processes. Annual turnover is GBP 1bn, all manufactured in the UK. It has a large number of small and medium sized suppliers which provide components on a repeat basis. About two thirds are located domestically and a third in low cost countries. Many, both domestic and overseas, have difficulty securing finance for working capital. In order to secure supplies, the company often has to provide either attractive payment terms, e.g. domestically, or letters of credit, e.g. internationally. The company's preferred terms are 60 days – arguably justified by the repeat order nature of the relationship - but the average is under 40.

A new non-executive director with a background in international business suggests to your CEO that the company should consider adopting a "buyer driven receivables programme" (BDRP), a specific version of supply chain finance, which he says benefits both buyer and supplier. The NED offers to provide an introduction to a bank which specialises in this service but is not one of your three existing relationship banks. The CEO asks you for a note explaining BDRP and advice about adopting the service.

Required:

a) **Explain how BDRP supply chain finance works.**

(3 marks)

b) **Identify the potential benefits and draw-backs for your company and your suppliers.**

(8 marks)

c) **Explain how the bank providing the service benefits.**

(3 marks)

(Total 14 marks)

QUESTION 8

Within three days of the Brexit result announcement in June 2016, the UK's sovereign rating was downgraded two notches from AAA to AA Negative, i.e. with a 30% probability of a further downgrade within 24 months. This movement is equivalent to assumptions made about severe shocks in scenario analyses.

Global business and financial market uncertainties erupted as a result and are predicted to reverberate over the period of the UK's disengagement.

You are Group Treasurer of a profitable quoted and rated UK based global company with GBP 4bn annual revenues derived in equal amounts from the UK, the developed Eurozone, the USA and the larger emerging market countries. The product is a plain, i.e. non-roller, bearing (medium level technology) used in equipment with rotating parts, including combustion engines of all types. The Eurozone and USA markets are supplied by 100% owned manufacturing subsidiaries which resource and sell locally. Currently the emerging markets are supplied direct by the UK but the rolling 5 Year Plan envisages the set-up of local manufacture in major centres as regional hubs.

The Chief Executive has initiated a round of cross functional discussions to assess the implications for the company's long-term business strategy and operational business model.

Required:

The Chief Financial Officer (CFO) has asked you, as a first step, to comment from a treasury standpoint about the impact on the company's current business model as summarised above.

Draft a note for the CFO.

(Total 12 marks)

ADVANCED DIPLOMA

GENERAL EXAMINATION - NOTE FORM ANSWERS

OCTOBER 2016

Question 1 [23.4 mins, 13 marks]

Question 1a. [9.0 mins, 5 marks]

[Marking scheme: ⅓ mark for each correct value]

Table 1. Summary Financials.				
millions	Existing accounts	adjustments	Leases capitalised	
EBITDA	597.9	191.0	788.9	1
Deprn. & amortisn.	(157.6)	(111.8)	(269.4)	2
EBIT	440.3	79.2	519.5	3
Net interest (paid)	0.6	(79.2)	(78.6)	4
Profit before tax	444.6	0.0	444.6	
Gross debt	65	991	1,056	5
Net debt	(552)	991	439	
Market cap.	7,297	0	7,297	6
EV	6,796	991	7,787	7
Total assets	2,173	991	3,164	8
Shareholders' funds	1,452	0	1,452	9
Net debt % book capital	(61)%		23.2%	10
Net debt % EV	(8)%		5.6%	11
Net debt / EBITDA	(0.9)		0.56	12
EBITDA / Interest	(997)		10.04	13
EBIT / Interest	(734)		6.61	14
EV / EBITDA	11.4		9.87	15
EBIT % Totao Assets	20.3%		16.4%	
EBIDA % Totao Assets	27.5%		24.9%	

Question 1b. [7.2 mins, 4 marks]

[Marking scheme: ⅓ mark for each good point]

Net debt a lot [1] higher but so are [2] assets, EBIT [3] and EBITDA, [4] so credit ratios, although worse [5] than before, are still comfortable. [6] EV [7] is also higher but with a lower EBITDA [8] multiple. [10]
Credit perspective less good [9] valuation multiple worse

EBIT and EBITDA return on sales [11] both improved but total assets both are worse. [12]

Question 1c. **[7.2 mins, 4 marks]**

[Marking scheme: 0.4 marks for each good point]

Try to avoid any possibility of a “technical covenant [1] breach”. Make sure any reference to an operating lease and its classification are [2] “frozen” as at the time of the agreement, irrespective of later accounting changes – similarly for all definitions of “debt”, “indebtedness” etc. [3]

Possibly continue to prepare accounts [4] based on acc. principles at date of signing – but means two sets of accounts. [5]

In the medium term one might expect and request that lenders [6] re-calibrate their financial ratios so they have the same impact under the new accounting standard as under the old [7] – but not possible till new accounting standard is digested, applied and its impact understood. [8]

Look for a safety clause providing that if changed accounting standard causes a problem the parties will enter into a good [9] faith negotiation to agree any amendments necessary – aim is to ensure no material alteration in the commercial effect of the relevant obligations. [10]

Question 2 **[16.2 mins, 9 marks]**

Question 2a. **[9.0 mins, 5 marks]**

[Marking scheme: ⅓ mark for each good point]

Same basic aim as PE Investors– make capital gains by adding value prior to a disposal. [1]
NB. No purchase price outlay because already owned, sunk cost.

Methods;
Growing the profits [2] via increased sales [3] or reduced costs [4] – improved productivity of assets [5] and people. [6] e.g. product improvements, lifting prices, reducing corporate overheads/management layers.

Generating cash [4] to pay down any debt/accumulate cash [5] balances, to add [6] to earnings based value. Generate cash by e.g. squeeze working capital, [12] critical review of [13] capex, dispose of [14] surplus assets, supply chain [15] management.
Selling the business on a higher [7] multiple than the purchase multiple, through delivering consistent, [8] growing [9] performance with further growth[10] expectations and coherent strategy. [11]

Question 2b. **[7.2 mins, 4 marks]**

[Marking scheme: 0.4 mark for each good point]

Treasurers in PE-owned and run businesses have very little discretion[1] and a very narrow [2] brief – to ruthlessly manage cash. [3]

In businesses not PE owned but using PE methods to add value they can have a somewhat wider brief;
- although all aspects of cash generation and management [4] will be a major responsibility
- FX management to reduce [5] costs
- contributing to evaluation of capex [6] expenditures and asset [7] disposals
- Emphasising the focus on a 5-year [8] valuation time frame
- contributing ideas and methodology for supply chain [9] enhancements/savings
- negotiating [10] factoring/supplier finance etc.
- liaising and explaining the heightened cash and finance priorities to critical [11] operating functions and management [12]
- cash for forecasting [13] and detailed p&l [14] budgeting

Question 3 **[18.0 mins, 10 marks]**

[Marking scheme: I have 47 points (must be more) so ⅓ mark for each good point]

<u>i) Bankers</u>

Tougher [1] detailed [2] regulations, varying [3] in detail, global, subject to differing [4] interpretations.
Much more capital [5] and liquidity [6] required, increased cost
Ring-fencing [7] – limits cross-subsidies [8], synergies etc.
Corporate business less [9] attractive generally e.g. RCFs [10] not very profitable
Bankers having to re-think corporate banking [11] strategies – top driven, bypassing existing [12] relationship managers
Consolidation of overseas operations. [2]
Provision of some corporate facilities e.g. FX, now not viable so only token [13] offerings "zombie desks." Short-term bank deposits not attractive.
Big shift to capital market [14] funding from bank term loans has reduced [15] availability of "sweeteners" as reward for relationship banking facilities.
Low interest rates (negative) another big depressant of [16] profitability – loan interest rates very much have to follow [17] capital market rates.
Up-front fees [18] can lead bank into unprofitable business
KYB/KYC [19] regulations also onerous – anti-corruption, anti-fraud, costly, onerous, leads to [20] inflexibility.

If another bank has withdrawn its facilities – what are risk [21] implications? Also greater dependency [22] on own bank – more clout but more exposure [23] and risk.

<u>ii) Corporate Treasurer</u>

The most valuable [24] bank services are now not so attractive for bankers themselves – flexible, [25] cheap, readily [26] available facilities, supported by a known and trusted relationship [27] banker.

Short-term debt, [28] cash management, fx, interest rate [29] swaps. [30]
Prepared to pay more [30] for such a valuable service.
Relocation of overseas banks but do need close relationship manager [31] – change manager if unhappy.
Also want stability [32] in terms of the bank's strategy – need to be informed of strategic changes [33] but often not
Where syndicates or groups of banks – need all to be committed [34] strategically otherwise swap. [35]
Smaller groups [36] easier to "reward" with sweeteners than larger groups.
Given one bank's pull out – need to inform/reassure [37] others on viability/credit status etc.
KYC/KYB [38] – as above – stability but inflexibility [39] costs, tighter control if rating required for capital market issues. [40]
Hold more cash as liquidity buffer. [41]
Be prepared also to provide more collateral to banks. [42]
Need to monitor bank credit ratings – counterparty risk. [43]

Few global banks – need to use more local banks. [44]
Repos instead of bank deposits. [45]
PP, unrated bonds. [46]
Diversification of funding sources – risk plus availability. [47]

Question 4 **[36.0 mins, 20 marks]**

Question 4a. **(9.0 mins, 5 marks)**

NB. I have done fuller answer notes than expected in candidates' answers – for educational purposes.

[Marking scheme: ¼ mark for each valid point]

Extreme debt maximisation[1] (by year 4, [2] 145m/148m total) – to minimise sponsor [3] funding and minimise [4] tax. Not all cash- interest paying – to fit cash flow. [5]
But sub-loans probably part of sponsors' [6] funding (as debt, also to minimise tax) so third-party debt £131m (89%) [7] versus sponsor finance 11%.

Senior debt [8] 74% of final total finance
Junior debt [9] 14%
Leases [10] 1%

- Ordinary shares – to establish legal [11] ownership
- Convertibles, (probably convertible into [12] ordinaries) – function depends on terms and conditions – shareholders' agreement. [13]
- Sub-loan – interest accuracy at [14] 12.7% for 4 years, [15] repayment [16] 11 to **13** Quasi-equity.
- Mezzanine – interest accuracy at 19.6% [17] for 4 years, [18] repayment [19] 8 to **11**
- Senior debt – all other finance [20] subordinated, cash [21] interest (at estimated [22] 9.7%), draw-down to year 5, [23] repayment 5 to [24] 10 i.e. in order of decreasing sub-ordination. [25]

Question 4b. **(18.0 mins, 10 marks)**

I have written rather fuller explanations of corporate versus project credit metrics than expected of candidates.

[Marking scheme: I have 30 points so 0.4 mark for each good point. Should be 9 marks?]

NB. The CFBIT summary line in the case was incorrect although the figures could be checked – allowed for if candidates used these figures.

INTEREST COVER														
P&L Interest cover		(0.21)	0.09	0.51	0.68	**1.16**	**1.55**	**2.12**	**3.02**	**4.75**	**10.28**	(77.53)	(9.14)	(5.13)
Cash before interest after tax	(70,340)	(4,245)	(14,528)	(16,223)	(8,811)	33,424	39,968	45,668	48,525	39,684	38,977	39,118	38,478	39,471
Interest	0	(15)	(7,618)	(11,012)	(14,777)	(23,550)	(21,605)	(18,466)	(14,469)	(9,700)	(4,691)	650	5,840	10,876
Interest & loan repayments	66,025	5,625	22,146	27,235	23,588	(6,019)	(13,370)	(21,669)	(37,774)	(31,977)	(25,159)	(15,249)	(6,575)	(6,576)
Cash interest cover		(283.00)	(1.91)	(1.47)	(0.60)	**1.42**	**1.85**	**2.47**	**3.35**	**4.09**	**8.31**	(60.18)	(6.59)	(3.63)
Cash & repayments cover	1.07	0.76	1.00	1.00	1.00	**1.13**	**1.14**	**1.14**	**0.93**	**0.95**	**1.31**	2.68	52.35	(9.18)
PLCR														
PV cash flows	(70,340)	(3,790)	(11,582)	(11,547)	(5,600)	18,966	20,249	20,658	19,598	14,310	12,550	11,245	9,876	9,046
Loan life NPVs (12%)	103,980	120,703	149,715	183,904	214,783	207,133	192,021	169,396	141,198	118,458	93,696	65,821	35,242	35,242
Total debt outstanding	66,025	72,087	99,953	133,906	165,392	159,373	146,003	124,335	86,560	54,584	29,423	14,173	7,598	1,023
Loan life cover ratio	**1.57**	**1.67**	**1.50**	**1.37**	**1.30**	**1.30**	**1.32**	**1.36**	**1.63**	**2.17**	**3.18**	4.64	4.64	34.45
loan / value %	63	60	67	73	77	77	76	73	61	46	31	22	22	3

This is a typically highly-leveraged project.

From the Answer 4a. above we noted total debt as 94% [1] of the capital costs, or 74% if (shareholders') subordinated loan notes are [2] excluded.

Balance sheet (book) leverage, as in the table above, starts at 96%, [3] including sub-debt, and rises to 118% [4] by year 4.

Excluding sub-debt 76% [5] rising to 104% [6] by year 4.

However, these metrics are largely [7] irrelevant, because debt capacity in project finance is based on debt servicing via total project cash[8] flows. Conventional balance sheet leverage used in corporate finance assessments are based, directly or indirectly, on asset security and project- based [9] assets are worth very little. Debt capacity and debt servicing in corporates is based on annual cash[10] flow/EBITDA/EBIT (projected if appropriate), relying on the relative stability of cash flows over time. In projects cash flows not only have a “random” volatility but a systematic [11] pattern, going from negative to positive over the life of the project, so no one year’s cash flow is typical.
Cash interest cover ratios for the project illustrate this point, showing negative [11] figures for the first four years then rising quite rapidly from [12] 1.42 to 8.31 by year 10. Cover for interest and repayments (ADSCR) are respectively 1.13 [13] rising to 1.31 but via a low of 0.93.

In project finance the NPV of future cash flows before interest [14] (but after tax), [15] discounted at the weighted average [16] cost of debt, is compared with the outstanding debt. [17] This gives effectively a multi-period [18] interest cover ratio.

In this project the loan life equals the project life, as modelled, so the Loan Life Cover Ratio (LLCR) is the same [19] as the Project Life Cover Ratio (PLCR).

PLCR (at time zero) = 12% $\frac{NPV\ free\ cash\ flows}{total\ debt} = \frac{103{,}980}{66{,}025}$ [22] = [20, 21] 1.57 [23,24]

(at year 4) $= \frac{214{,}783}{165{,}392}$ [26] [25] = 1.30 [27,28]

For a project of such duration, complexity and risk these values are on the low side.
Inverting the ratios gives Loan/ [29,30] NPV values of 63% and 77% respectively.

Question 4c. **(9.0 mins, 5 marks)**

Equity cash flow equals dividends paid (in years 9 to 13).

NPV of dividends = 459. Discount rate = 40% $\left(\frac{1}{0.114}\right) - 1 = \underline{0.4}$

Debt costs from 9.7% (senior) to 19.6% (mezzanine), average 12% - so 40% not unreasonable for such a very highly leveraged project.

Being a part complex project will continue after year 13 so perpetuity calculation.

Assumes cash flows continue to grow at 8% (ref. senior debt interest rate of 9.7%) but sales growing at about 6% and profits at about 4 to 5%, so looks optimistic. Net cash flow at year 14 is given as 41,848, when the project is deal free, which gives a terminal value of 407,080.

Since TV $= \frac{41{,}848}{Kep - 8\%} = 407{,}080$

Then Kep $= \frac{41{,}848}{407{,}080} + 8\% = 18.3\%$ - chosen as the appropriate required equity return for an established, functioning port.

Kep = cost of equity in perpetuity.

Add net debt to give an undiscounted value at year 13 of 511,338.

This is discounted at 1.4% (a discount factor of 0.126) to give an NPV for the TV of 6,442 (still use 40% equity discount rate to reflect the high risk of achieving the TV value at year 13.

So total equity value = 6,901 compared with the “price paid” of 3050.
Entity value based on DCF is only slightly above the asset acquisition cost.

Question 5 **[21.6 mins, 12 marks]**

[Marking scheme:

Q5.a. Three credible factors in favour and three against for a pass.
Q5.b. Four significant and contrasting features for each business linked to treasury]

Q5.a. Emerging Markets: For & Against (7.2 mins, 4 marks)

Factors For:
- High growth markets
- Rewards firms which can adapt to local perspectives about business, economics, politics
- Low cost resources
- Extended life for mature products
- If company strategy is global leadership/dominant market share, must be there
- Investors like diversification provided.

Factors Against:
- Lower margins because lower costs
- Volatile business markets
- Volatile financial markets: fx, interest
- Limited financial markets: debt capacity, variety instruments
- High operational risk: infrastructure, skills, language, culture
- Regulatory risk: tax, health & safety, planning, customs
- Legal: I.P. protection, commercial/financial law
- Sovereign risk.

Q5.b. (14.4 mins, 8 marks)

The two businesses were chosen because the geographic spread is similar, there is a high dependence on emerging markets (36-40%) but the businesses are very different: luxury goods produced in one country and exported globally and quasi commodity industrial product manufactured globally with no exports.

Scotch Distillers	**Industrial Gases (IG)**
- a sale and payment	- an investment to acquire an asset yielding a return

- provide a product on a given date for delivery in another sovereign state
- for a given price in a given currency paid on a given date
- optimise the price received in GBP taking account of time and without speculation.

Treasury Focus

- protecting the GBP value of the sale
- minimising the time between order and receipt of GBP value
- minimising taxes, duties and money exchange and transfer cost
- managing counterparty payment risks.

- invest equity capital in a business in another sovereign state
- which will generate a financial return in the long run
- optimise the return on the equity in EUR taking into account IG's risk appetite and business opportunities.

Treasury Focus

- devising a capital structure which supports the business growth plan in terms of funding and limits net asset exposure at group level
- keeping under review the degree of dynamic balance between group policy and local imperatives
- ensuring planned dividend payments are met
- maintaining good relations with local government agencies, financial institutions and sector peer group
- developing local treasury expertise, eg role exchanges between group and subsidiary where staffing levels permit.

<u>Footnote:</u>

Engaging with emerging markets, is not an easy decision. FX volatility combined with long term structural change which can only be hedged by product price adjustments or local manufacture (exposing assets to local volatile returns and sovereign risk) is at the core of the issue, as is timescale.

However, EM is where the growth is, so companies with global aspirations and shareholder EPS growth expectations have little choice. The long-term solution is probably to become truly geo-centric in management culture and take a long term/portfolio view on returns. One step towards thinking geo-centric is to change functional currency.

Question 6 **[18 mins, 10 marks]**

[Marking scheme: Four credible benefits and risks for the corporate identified and explained, including the mark-to-market issue and the potential inflexibility of the arrangement in the absence of a bank intermediary]

Context

Both principals – a utility and a large housing association – will have balance sheets of GBP 1bn plus, are both regulated and will be investment grade. The nominal value is likely to be at least GBP 100m.

The broker is a small specialist consultant so is unlikely to have any substance to absorb credit or liquidity risk.

Twenty-year swap rate in 10.2016 was circa. 1.30% with 6-month LIBOR at 0.54. So on a GBP 100m swap the swap payments would be of the order of GBP 0.5m to GBP 1.5m.

Basel III regulatory costs for long-term credit/liquidity exposures are high so banks have little appetite for facilities over 10 years.

Potential Benefits and Risks for Corporate

Benefits:

- Save the bank spread on the swap rate
- The consultant/broker fee probably less than bank swap related fees
- Does not use up bank credit capacity
- May be able to avoid putting up mark-to-market collateral if the arrangement is mutual
- No pressure to provide ancillary business.

Risks:

- Mark-to-market: if interest rates fall yet again, then the corporate will have an MTM risk on the housing association (HA). However it is likely that over twenty years rates will rise above 10.2016 levels so then it will be the HA which has a MTM risk on the corporate.
- It could be difficult to close out the swap if no longer needed, although breakage costs (equivalent to MTM) could be written into the contract.
- ISDA is standard swap documentation – an amended equivalent would be required and would incur legal fees.
- Both parties to the swap are closely regulated, so one or other regulator might possibly object.
- Waiver if required and not covered in the documentation might be more difficult than with a bank because there is no working relationship.
- Routine reporting of swap position – taken for granted with a bank counterparty but HA would not wish to do this. Possible role for broker but will this cancel out any savings?

The six bullets above could be short-handed to:

- credit, liquidity, documentation, regulation, relationship, reporting.

The question did not ask students for a recommendation but five out of seventeen volunteered a “No!”

Note: The deal proposed is a matched counterparty swap and is the type of union engineered by banks in the 1980’s which spawned the modern day swap market. However these banks absorbed most of the risks listed above.

Question 7 **[25.2 mins, 14 marks]**

Q7.a. **(5.4 mins, 3 marks)**

[Marking scheme: Student needs to communicate on understanding of the role of the buyer in initiating the process approving the buyer's "payable" (supplier's) "receivable" and lending its investment grade status to the transaction for the comfort of the bank]

Traditionally, firms trading with each other either did it on "open account" at one extreme if they knew and trusted each other or by "documentary letters of credit" at the other if they didn't. Open account simply involves raising an invoice for goods supplied and receiving payment within the credit period agreed. Documentary letters of credit involve the buyer's bank providing the suppliers bank with a guarantee (l.c.) that payment will be made on receipt of the documents evidencing shipment and delivery of goods to the agreed specification. "Open account" characterised domestic trade and "letters of credit" international.

Pursuing working capital efficiencies, firms have learnt to look beyond the narrow boundaries of accounts payable and receivable to the much broader challenge of understanding how the nature of business dictates the level of accounts payable and receivable. This means identifying the drivers and trying to influence these. In the working capital area, this has become known as supply chain finance (SCF).

SCF is a general term. A Buyer Driven Receivables Programme (BDRP) is one type of formalised SCP which has evolved, with commercial banks acting as the evangelists.

A BDRP usually involves a large investment grade corporate with a large number of smaller domestic and overseas suppliers and a large commercial bank who specialises in this area acting as intermediary.

The essence of the Programme is that the supplier finance process is initiated by the approval of payables rather than by the shipment of goods:

- The buyers' approved payable is the suppliers' approved receivable
- The BDRP bank purchases the approved receivable, without recourse to the supplier
- The supplier is in effect paid in advance and pays interest on this amount at a rate which reflects the buyers credit quality
- The supplier pays interest until the buyer settles for the goods provided in accordance with the agreed terms of trade.

Q7.b. **(14.4 mins, 8 marks)**

[Marking scheme: This part of the question referred to both "your company", the buyer, and also to the supplier: for a pass, two benefits and draw-backs for each party]

Buyer's Benefits	Drawbacks
- visibility & control of payables	- stronger suppliers may see the move as exploiting buyer power
- data to standardise creditor days	- relationship bank(s) may frown on the advent of a newcomer
- power to negotiate extension of creditor days, given it has facilitated the provision of non-recourse finance	- auditors and banks may interpret the exposure to BDRP bank as having a negative impact on the balance sheet
- facilitated financing of weaker critical suppliers	
- stabilises supply chain by facilitating supplier working capital finance	

Supplier's Benefits	Drawbacks
- on the receivables affected, substitution of cheaper debt	- receivables term may be extended, wiping out credit margin savings
- more availability of credit for weaker suppliers because of non-recourse feature	- may disturb relationship with existing bankers

BDRP is variously referred to as Reverse Factoring, Accounts Payable Finance and BPO (Bank Payment Obligation).

Q7.c. (5.4 mins, 3 marks)

[Marking scheme: Expect three credible comments, not necessarily including the more bank-regulation-related comments about Basel III]

BDRP bank benefits:

- gets entry to a new large corporate customer with cross-sell opportunities
- product service fee
- lots of short-term revolving credit business at investment grade credit risk and the opportunity to price above that as long as it is below the suppliers' existing cost of debt.
- Short-term stand-alone credits to domestic and overseas SMEs (from BDRP bank's overseas subsidiaries) against the investment grade buyer's credit risk; short-term credits attract less regulatory cost under Basel III than longer term credits.
- data on and access to lots of potential cross-sell suppliers' businesses.

Question 8 **[21.6 mins, 12 marks]**

[Marking scheme: Expect to see comments on currency risk, emerging market direct investments versus exports, relocation – eg Eurozone markets as a minimum for a pass]

Bearing Company (BearCo) Business Model

	UK	**Developed Eurozone**	**USA**	**Emerging Markets**
Revenue:				
- GBP 4bn.	1bn.	1bn.	1bn.	1bn.
- Currency	GBP	EUR	USD	eg CNY, RUB
Product:				
- Local Manufacture	✓	✓	✓	Planned
- Local Sales	✓	✓	✓	Planned
- Export ex UK				✓

Topics to Raise

The list is prompted by the business model and is not exhaustive.

- Fx:
  - Impact on Currency
    - GBP sharp fall, EUR lesser fall
  - Implications
    - Positive impact on consolidated accounts, increased export opportunities, especially in replacement market if technical specifications compliant.
- Relocation
  - Existing manufacturing subsidiaries are stand-alone, so OK.
- Exports
  - EM exports more competitive
  - So could postpone plans to invest in EM hubs temporarily until full impact is clearer.

• Trade Agreements	- In the longer term, new UK trade agreements could help open up new markets for exports in EM and elsewhere.
• Local Economies: UK	- Foreign manufacturers already in UK as a base to service the EU may pull back or pull out and similarly motivated manufacturers planning to come may change their minds. So that may depress UK growth in the longer term.
• Eurozone	- However those abandoning the UK in favour of the Eurozone markets can be picked up by BearCo's subsidiaries. - Eurozone pre-existing crisis (Greece, etc) exacerbated by Brexit.
• BearCo Credit Rating	- Unlikely to be affected directly by UK sovereign downgrade unless there is a repeat. BearCo is profitable and well diversified geographically.
• Regulation	- Relaxation of existing EU-wide regulation of business and exemption from future edicts probably positive.

So overall, immediate benefit from impact on GBP, longer term potential gains from UK government initiative to open up new trade links.

Most students adopted the above business model approach as this was the prompt in the Question. The topics most mentioned were currency, exports, relocation and rating implications.

A few students looked instead at specific treasury activities, eg funding, financial risk, liquidity.

Examiners' Report

Advanced Diploma - October 2016

OVERALL SUMMARY OF PERFORMANCE

	General Exam	Case Exam	Combined
Average mark	44.3%	48.2%	46.2%
Questions	8	8	16
Students	17	18	35
Passes # @50%	6	10	16
Passes # @45%	9	12	21
Pass % (50%)	35%	56%	46%
Pass % (45%)	53%	67%	60%

Range of marks 17.4% to 60.5% 25.1% to 68.3%

OVERVIEW

Once again these results were, on average, down on the previous October's figures. The Case exam results were marginally better than last October's but those for the General exam were much worse. When the two exam marks are combined only six candidates passed at the 50% level, three of them with very good marks. At the 45% level there were eleven passes.

This sitting saw a reversion to the more normal situation, with better results on the Case exam than the General exam, the latter showing an average mark at

44.3%. Across the two papers the average mark awarded by GI on the Corporate Finance and Funding questions was 41.9% as against 54.5% awarded by JB on the Treasury and Risk questions, resulting in four passes and eleven passes respectively (50% pass level). In general the level of conceptual understanding and practical skills on corporate finance topics was severely inadequate. On treasury topics the results were much more encouraging.

General exam	**marks available**	**50% passes ex. 17**	**pass rate**
Q1 (GI)	13	2	12%
Q2 (GI)	9	3	18%
Q3 (GI)	10	12	71%
Q4 (GI)	20	3	18%
Q5 (JB)	12	9	53%
Q6 (JB)	10	12	71%
Q7 (JB)	14	11	65%
Q8 (JB)	12	9	53%
Case exam	**marks available**	**50% passes ex. 18**	**pass rate**
Q1 (GI)	10	10	56%
Q2 (GI)	10	7	39%
Q3 (GI)	15	10	56%
Q4 (JB)	10	13	72%
Q5 (JB)	12	17	94%
Q6 (GI)	15	4	22%
Q7 (JB)	12	8	44%
Q8 (JB)	16	9	50%

Examiners' Report - General Examination

Three out of four Corporate Finance questions had an average mark of 18% or less; the average mark was 40.2% with only 3 passes out of 17. For Treasury and Risk the average mark was 48.7% with 9 passes. For the paper overall the average was 44.3% with 6 passes at 50%.

Question 1 **A 3-part question about the implications of capitalising operating leases.**

The first part required candidates to quantify the impact of lease capitalisation on all aspects of the financial statements plus various credit and equity ratios. This should have been straightforward, given that this issue has been around for a long time and candidates are very familiar with how rating agencies deal with operating leases. The pass rate was only 47% and the average mark 48% - very disappointing. There was a lot of faulty arithmetic and accounting logic. Leases were previously charged 100% as a cost, but under the proposals part will be interest and the rest depreciation, so no change to PBT, but PBT higher and EBITDA even higher – simple!

Parts two and three asked for interpretation of the revised numbers for lenders and shareholders, and for covenant implications. The marks were even worse, with average mark 33% and pass rate 24%

Question 2 **A 2-part question asking about increasing the value of an unwanted subsidiary prior to a future disposal, based on the lessons from the private equity industry (part 1), and implications for the Group Treasurer (part 2).**

The first part saw an average mark of 31% and pass rate 29%. Too many candidates wrote lots about private equity, including leveraged structures/financial engineering, which the question was specifically not about. The second part revealed even less applied thinking about the Treasurer's role in creating value – and this part-question was introduced specifically to see if they could relate to

the situation as a treasurer. Average mark 24%, 2 passes out of 17.
But two candidates achieved 87% and 72% on this question with excellent answers.

Question 3 **This question was about the changed face of bank-corporate relationships since the global financial crisis**

This question was answered very well, except for three hopeless candidates, with lots of good practical insights.

Question 4 **This 3-part question on finance structure, credit metrics and equity valuation in project finance carried 20 marks in total.**

The first part, on the finance structure and the financing instruments, was very well done (average mark 75% with only one fail). The second part, requiring calculation and explanation of e.g. Loan Life Cover Ratio, was poor. 14 out of 17 did no DCF calculations at all, average mark 25%, one pass. The third part asked for a detailed explanation of the equity calculation provided, but over half of the candidate declined the invitation to answer (average mark 26%, 3 passes).

Question 5 **This two-part question asked firstly about the arguments for and against engaging in business with emerging markets. Secondly, two contrasting corporates were briefly described, both with sales revenues of 36-40% in emerging markets – one with 100% manufacture in the UK (whisky distiller) and one with 100% manufacture local to customers (industrial gases). The question asked about the treasury expertise necessary in each for executing emerging market business.**

Both parts are topical, particularly part one which two-thirds of students passed. Opinions for and against were fairly evenly balanced in terms of numbers of reasons quoted. Most quoted reasons "for" were high growth, low cost, seeking/protecting market leadership, diversification. Most quoted reasons "against" were volatile fx/interest/tax/regulation, high operational risk, political risk, trapped cash.

Part two, at its simplest, contrasts one business making for export an exclusive luxury product with another manufacturing an industrial (commodity) product locally overseas. This is a useful starting point for the more difficult part of this question carrying 8/12 marks which less than half of the students passed; the overall pass rate for the question was just over half.

Question 6 **This 10-mark question is about spotting the risks and benefits of a peer to peer 20-year vanilla 20-year GBP interest rate swap between a large utility funded by fixed rate bonds and a large housing association funded by floating rate bank debt, transacted through the agency of a respected but small specialist treasury consultancy.**

So this is a re-run of the “matched counterparty swap” in the 1980’s which was the forerunner of today’s swap market – except that the agent/intermediaries then were large international commercial banks. So at the core of this question is the issue about identifying the nature of the risks assumed by each party and the uncertainty about how these might change over the 20-year term.

This question tied with Question 3 for the highest average mark on this paper and two-thirds of students scored a pass. The question did not ask for a yes/no decision about the deal but a third of students volunteered a “no.”

Question 7 **This 3-part question is about supply chain finance, specifically Buyer-Driven Receivables Programmes (BDRP), carrying 14 marks. Part one asked about BDRP workings, part two about its suitability for a company scenario described in the question and part three about how the BDRP bank provider benefits.**

Working capital is topical and questions about it have featured regularly in past papers. This question was well answered with two-thirds of students passing well on all three parts.

This particular product fits well with international banks' evolving business models as it generates short-term local lending for overseas bank subsidiaries supported by the credit quality of the large corporate buyer, it is systems-based and it provides useful management information for the buyer (and the bank). It was pleasing to see that students had an awareness of this (part three of the question).

One detail point – on part two which asked about "potential benefits and draw-backs for your company and your suppliers" a few students missed out one or other party or failed to distinguish between the two.

Question 8 **This 12-mark question is about the potential impact of Brexit on the business model of a global UK-based manufacturer, viewed from a treasury perspective.**

This was a "from first principles" question coming at the end of the paper. Nonetheless the pass rate was just over half. Successful candidates demonstrated the ability to make connections between the business model (business operations), current and future, and the treasury function eg currency exposures, Eurozone operations, proposed emerging market direct investment versus exports, trade agreements, UK sovereign/corporate ratings.