TREASURY
EXCELLENCE
AS STANDARD

ACT PRACTICE PAPER

Advanced Diploma in Treasury Management

ACT Level 7

Practice paper for the Advanced Diploma in Treasury Management (FCT) based on the 2019 syllabus.

INTRODUCTION

This practice paper has been produced by the Assessment Department at the Association of Corporate Treasurers (ACT) to assist students in their preparation for the Advanced Diploma in Treasury Management (FCT) assessment.

Students will have 30 minutes reading time at the start and then will have three hours and 30 minutes to complete the exam. They should then review their performance to identify areas of weakness on which to concentrate the remainder of their study time. Although the practice paper in this guide is typical of an assessment, it should be noted that it is not possible to test every single aspect of the syllabus in any one particular exam.

To prepare properly for the exam, candidates should make full use of the tuition options where available and read as widely as possible to ensure that the whole syllabus has been covered.

ASSESSMENT TECHNIQUE

This is a professional paper and application to practice should be at ‘strategic’ level.

The best way to approach written exams is to work methodically through the questions. Candidates should not spend too much time on any one question if you are struggling to think of an adequate answer. Remember you can flag any question to come back to later should you want to continue your way through the exam.

When all of the questions have been answered, it is prudent to use any remaining time to go through each question again, carefully, to double-check that nothing has been missed. Altering just one response could make the difference between passing and failing.

Please ensure you show your workings within your answer when prompted as there are marks available for the workings. You will be able to make rough workings on a piece of paper during the exam should you wish to, however these will not count towards your final mark.

ASSESSMENT INFORMATION

The exam consists of eight written questions, of which you must answer seven, and will involve a pre-seen case study that will be released two weeks prior to the exam date. The exam paper is split into Sections A and B and is worth a total of 100 marks.

Section	Number of questions	Marks available
Section A	Four case study-based questions (pre-seen)	40
Section B	Four scenario-based questions of which three must be answered	60
Total	7	100

Under exam conditions, three and a half hours (210 minutes) are allowed to complete the exam, plus an additional 30 minutes reading time at the start.

When you take your actual exam, you will be sitting online using your own PC/Laptop. You have access to an online scientific calculator, but you may also use a non-programmable scientific calculator.

In order for you to determine how well you have performed, sample mark schemes are provided after each question. Please note that these are mark schemes only and **not** model answers. They provide lists of points that are expected to be covered within answers, although the content of your answers must be much more detailed (satisfying the command word used in the question, for example ‘analyse’). As with all mark schemes, the content is indicative only, i.e. the lists of points featured are not exhaustive. It is highly likely that there are other perspectives and, provided these are valid and supported fully, marks would be awarded for these in a live exam. There are also references to the relevant Learning Outcomes if you need to revisit the associated material.

SECTION A – 40 marks

FOUR long form questions worth a total of 40 marks based on a pre-seen case study. These questions will test knowledge, understanding, analysis, application, insight, evaluation and justification as appropriate to level descriptors. This is a professional paper and application to practice should be at 'strategic' level and, as would therefore be expected, candidates need to be able to synthesise knowledge from different elements of the syllabus rather than be tested on discreet areas.

Company Background

Pack Now is a provider of corrugated packaging in Europe. The company designs and manufactures bag-in-box packaging for liquids and rigid packaging products. The former are used for transport of beverages, concentrates, chemicals and pharmaceuticals. The rigid products are used for the transport of food and drinks, healthcare products and automotive products. Pack Now manufactures recycled paper (corrugated case material). In addition, the company offers a range of value-added services, such as recycling, and environmental audits and consultancy.

The company has 30,000 employees, 200 manufacturing sites and has operations in 37 countries.

Excerpts from financial presentation 2019

Customer types FMCG and Industrial

- Strong growth in sales
- Pricing discipline and margin focus
- Enhanced strategic supplier relationships
- Reduced number of suppliers by 20%

Drivers of margin (target 10-12%)

- Geographic coverage
- Innovation
- End to end solution
- Partnership approach

Outlook

- Volume growth in via success with fast moving consumer goods (FMCG)
- Robust pricing power
- Consistent strategy for volatile macroeconomic and input costs
- Continued focus on driving cost efficiencies
- Optimise paper manufacturing
- Growth through further acquisitions

Value proposition

- Market leading packaging solution
- Consistent margin growth
- 9+ years of EPS growth
- Dividend growth
- Strong cash flow
- Value creating acquisitions/disposals

Disposals

Disposal of the plastics division and two packaging businesses in Europe have occurred in the year. The sale was for GBP450m and with net cash proceeds of GBP400m after taxes and costs. This was based on a multiple of 9.9 EBITDA. The sale is likely to result in an exceptional item.

Financials

	2018	2019
Income Statement	**GBPm**	**GBPm**
Revenue	5,500	6,200
Operating profit	320	410
Interest (net)	50	55
Tax	60	90
Net profit	210	265
EBITDA	600	740

Balance Sheet	**GBPm**	**GBPm**
Net debt	2,000	2,300
Cash	300	500
Equity	2,500	3,100
Total Capital	6,300	8,500

Cash Flow Statement	**GBPm**	**GBPm**
Cash from operations	440	530
Net capex	280	330
Dividends	160	210

	Sample Ratios		2018	2019
1	Growth	Revenue		12.7%
2	Profitability	Operating Margin	5.8%	6.6%
3	Solvency	net debt/EBITDA	2.8	3.1
4	Capital structure	Gearing ratio	80.0%	74.2%
5	Shareholder	Dividend Cover	1.3x	1.3x

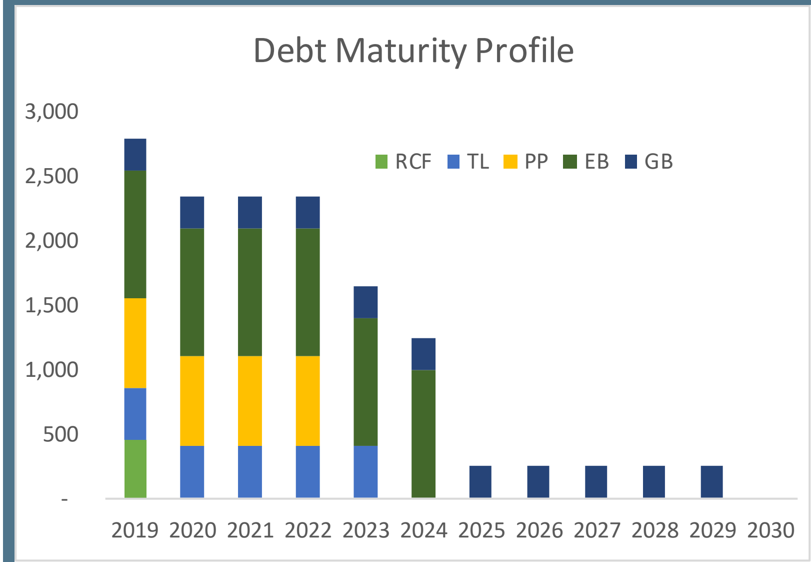
The share price at June 2019 was GBP3.50 and was GBP 4.90 for June 2018. The number of shares in issue is 1,300 million (prior year 1,100 million) *.
**Note the movement in shareholders' funds includes items that have not be disclosed in the case.*

Debt financing

The company has recently renewed its RCF facility of GBP1.5bn providing liquidity for the next five years (maturity 2024). The details of the facilities and debt outstanding are shown in Fig 1. The current funding policy has not been updated in the last three years and focuses on reducing debt levels, the instruments that can be used and the authorisation process.

Facilities & Debt Outstanding

	Type	Borrowings GBPm	Currency	Fixed/ Float	Maturity
1	RCF drawdown	450	GBP	Float	In year
2	Term loans	400	GBP	Fixed	2023
3	Private Placements	700	USD	Fixed	2022
4	Eurobonds	1,000	EUR	Fixed	2024
5	GBP Bonds	250	GBP	Fixed	2029
	Total	2,800			



Treasury Background

There is a small treasury team which is based in London. It manages the treasury function across its three principal regions [Europe, US and Asia]. The team is responsible for the core areas of treasury covering debt and capital markets, cash management, risk management and treasury operations. The treasury policies are well understood by treasury and the business units, however they have not been updated in the last three years.

Debt Management as above.

Cash Management:

For cash management there are three main relationship banks (one per region) to match the business and treasury needs in Europe, the US and Asia. The company has a cash pool in the UK, a European (ex-UK) cash pool and one domestic cash pool in the US but no pooling arrangements in Asia.

Risk Management:

The principal risks are foreign exchange transaction risk, where treasury uses forward contracts to cover the exposure. Foreign exchange translation risk is not hedged, and treasury does not often manage economic risk. The business monitors competitor activity and their corresponding costs bases.

It has adopted a fix/floating policy on interest rate risk, to protect against covenant breaches with a policy target for a minimum of 60% fixed debt.

Commodity risks of paper and plastic are managed through commercial contracts.

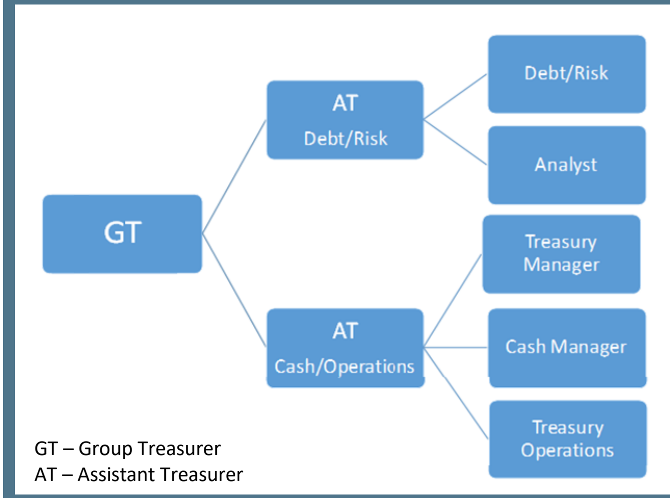
Credit Rating

Pack Now currently has a rating of BBB which it wishes to protect. Two key ratio targets are EBITDA/ interest expense (greater than 6x) and net debt/EBITDA to be below 3.2x.

Treasury Operations:

Treasury is centralised for strategic treasury decisions such as debt management, hedging strategies and investments. However, some business units continue to manage their own banking relationships and undertake their own foreign exchange dealing. The operations adhere to the treasury policies and procedures.

The treasury team comprises



Systems

The company has had a treasury management system (TMS) for a number of years. However, the system is only used for basic cash management, deal entry and inter-company loans. They have recently initiated a selection process to purchase a new TMS and narrowed the decision to either an upgrade of the current system (vendor A) or choose a new provider (vendor B).
The results of the vendor scoring undertaken by the treasury team are shown below. The simplified analysis has used criteria based on five interfaces and five general functionality needs.

Costs

The annual licence fee for vendor A is GBP70,000 per annum and for Vendor B is GBP80,000.
The implementation effort requires both vendor and internal contract assistance with days rates shown below and the corresponding number of days required per vendor.
The company wishes to use a five- year total cost of ownership for the assessment.

TMS background and calculations

Implementation day rates	**Rate GBP**
Vendor (A or B)	1,500
Internal	600

Implementation effort (days)	**A**	**B**
Vendor	10	25
Internal	10	40

Costs					
Cost types		Days		Vendors	
		A	B	**A**	**B**
Implementation & training	Vendor	10	25	15,000	37,500
	Internal	10	40	6,000	24,000
Total implementation costs				**21,000**	**61,500**
Annual cost				70,000	80,000

Benefits

Although, the benefits of a new system have not been quantified, the business believes that it will have an important impact on the quality and speed of reporting, especially for accounting. It should result in freeing treasury resource to work on other projects. It should also enhance the controls, reduce errors and assist in the audit process.

Vendor Selection Scoring

The table below shows the ten criteria split into interfaces and general functionality. Weights have been assigned to show the importance of each criterion. The vendors have been assessed on these criteria with a score from 0 to 10 (maximum). The weighted score has been converted into an overall percentage. The vendor current score indicates how effective the interfaces are with the current vendor before an upgrade.

	Vendor Selection Soring						
	Selection criteria	Vendor:	A	B		A	B
		Current	Scores		Weights	Weighted score	
	Interfaces						
1	Bank statements import	90%	10	10	**10%**	1.00	1.00
2	Payments (host-to-host)	70%	7	8	**15%**	1.05	1.20
3	Market rates interface	100%	10	10	**5%**	0.50	0.50
4	Confirmation matching	90%	9	9	**5%**	0.45	0.45
5	Accounting	10%	6	9	**15%**	0.90	1.35
	General functionality						
1	Ease of use/speed		8	9	**10%**	0.80	0.90
2	Reporting		8	7	**10%**	0.80	0.70
3	Security		9	9	**10%**	0.90	0.90
4	Support		6	8	**15%**	0.90	1.20
5	Contract		8	8	**5%**	0.40	0.40
	Overall score					**77%**	**86%**

Q1	Critically analyse the financial profile of Pack Now and the implications for treasury, using the data provided and any additional ratios of relevance. Within your answer you are also required to comment briefly on any limitations of the data provided as well as additional information that would be helpful in making a more in-depth assessment.	10 marks
		Total: 10 marks

Q1 answer — 2 marks

	Ratios		2018	2019
1	Growth	Revenue		12.7%
		Operating profit		28.1%
2	Profitability	ROCE	7.1%	7.6%
		ROE	8.4%	8.5%
		Operating margin	5.8%	6.6%
3	Solvency	EBITDA/interest	6.4	7.5
		net debt/EBITDA	12.0	13.5
4	Capital structure	Gearing ratio	80.0%	74.2%
5	Shareholder	Market cap (m)	5,390	4,550
		EPS	19.1	20.4
		P/E	25.7	17.2
		Dividend cover	1.3	1.3
		Dividend yield	2.9%	4.6%

Candidates to calculate appropriate ratios such as the ones in black. The grey ones are given in the case study.

General comments: — 4 marks

- Growth – there is strong growth in both revenue and operating profit for Pack Now despite the sale of the plastic division
- Profitability – ROCE and ROE are relatively stable and operating margins are rising
- Solvency –EBITDA/net interest is rising and is relatively strong (from 12.0 to 13.5)
- Net debt is falling slightly as a percentage of EBITDA (3.3 to 3.1)
- Capital structure, the trend is down from 80% to 74% and not unduly high for a manufacturing business
- Shareholder – P/E ratio has fallen from a high 25 to 17 which is still on the high side. The business has performed well against its metrics but this had been helped by the disposal which has raised GBP400m
- The dividend cover of 1.3 is stable but does not leave too much room for manoeuvre. Note the dividend yield is rising but this is due to the drop in share price. The last cash dividend of GBP210m is a significant portion of net profit.
- The debt maturity profile shows that the debt runs off after 5 years and there is a recent RCF facility providing liquidity

Overall the company is growing and their capital structure and cashflow indicate a robust company. However, the 30% drop in share price in the year is of concern.

	Stronger students would discuss the state of the economic sector and the economic drivers that provide context to the treasury challenges. Limitations and improvements • Improvement and caveats to the profiling would be to include how the ratios compare against the industry sector • The shareholder ratios are partially dependent on how the stock market has performed over the last year • Using year end financials is one point in time and balances can vary significantly over the year and can be subject to window dressing • Treasury can only influence some of the ratios such as debt and financing costs and growth and shareholder ratios are outside of its control • The maturity profile shows that the debt will run off in five years if there is no refinancing. However, the business is likely to refinance a large proportion and aim not to renew some debt as part of its desire to deleverage. • Knowing details of the competitive marketplace would help frame how Pack Now are doing relative to its competition This mark scheme is not exhaustive – all valid points within answers will be awarded marks. **Syllabus ref:** Unit:1.2 (LO 1.2)	4 marks
		Total: 10 marks

Q2	Recommend and justify the key elements of a new funding policy for Pack Now, based on its current and future requirements.	10 marks
		Total: 10 marks
Q2 answer	(see table below)	7 marks

	Framework stage	Headlines
Name	Identify	Issues for funding
Objectives	Identify	Funding must be available for the business to meet working capital and capex needs. There should be sufficient headroom to meet potential new acquisitions. The cost of the funding should be managed by maintaining their credit rating.
Direction of travel	Identify/ assess	Ensure access to capital markets at a reasonable price by maintaining BBB credit rating; ensure that re-financing risk is managed and there is sufficient headroom
Measurement	Assess/ Evaluate	Key measures are credit rating, covenant criteria such as EBITDA/net interest, gearing, re-financing risk and cost of debt and return on cash. The credit rating criteria need to be monitored closely in case there is a change in methodology. Given their rating of BBB, Pack Now should aim to protect this by ensuring they stay within their targets. Interest cover target greater than 6 and net debt/EBITDA <3.2 Refinancing less of an issue due to the RCF GBP1.5bn facility. Currently have GBP450m drawn which is for less than one year. Should review the counterparty risk on the banks providing the credit for the RCF, to ensure continued access.

Benchmarking	Assess/ Evaluate	Comparison to industry peers. Compare financial ratios year on year to note trends across the ones mentioned in the case and those relating to CRA measures.
Responsibility	Response	Group Treasurer
Procedures/ controls	Reporting	Group model to forecast liquidity over the next 5 years Monitor re-financing risk on annual basis such as no more than 25% of debt maturing in the year. Measure cost of financing and cash returns on an absolute and relative basis.
Decision making/ authorisation	Response	CFO approves bank relationships Board approves debt issues Treasurer provide the proposals for debt financing
Feedback		Update policy annually

It is important that the policy addresses the needs of the business and is both effective and efficient and forward-looking.

- A key requirement of the policy is to identify a minimum headroom level. The large cash outflows are capex and dividends (330m & 210) so a minimum should be 500m. Note that there was 500m cash at year end and an RCF1.5bn with the possibility of acquisitions
- Effectiveness should be measured according to the objectives of the funding policy which should ensure availability and the cost of funding
- The policy should be flexible to allow the treasurer to make decisions but not so open as to affect the company's capital structure without board approval
- Future – it is clear from the ratios that Pack Now has improved its net debt/EBITDA ratio (3.3 to 3.1) but it is still very close to the target/trigger of below 3.2 times which could result in a downgrade if not carefully managed. So, it should:
  - ➢ pay debt down where possible and letting some run off and not be replaced
  - ➢ EBITDA is largely outside of treasury's control though

This mark scheme is not exhaustive – all valid points within answers will be awarded marks.

Syllabus ref: Unit:2.4.2 (LO 2.4)

3 marks for a justified recommendation

Total: 10 marks

Q3	(a) Critically evaluate the options for a new treasury management system for Pack Now. (b) Recommend and justify the preferred vendor.	8 marks 2 marks
		Total: 10 marks

Q3 answer

(a) First step is to calculate the five-year total cost of ownership: (4 marks)

Cost types		Days A	Days B	Vendors **A**	Vendors **B**
Implementation & training	-vendor	10	25	15,000	37,500
	-internal	10	40	6,000	24,000
Total implementation costs				**21,000**	**61,500**
Annual cost				70,000	90,000
Five-year cost of ownership		5		371,000	511,500

Thus, Vendor B is quite a lot more expensive over the five year period by 38% and 29% higher for the annual licence fee. This cost would need to be justified however, an extra cost of GBP20k per annum should be covered by the added benefits of automation and improved control.

Vendor selection scoring.

- Vendor B has an overall functionality rating of 86% which is well above the 77% of the current vendor
- the criteria weights indicate the priorities which are the payment interface, accounting interface and the level of support
  - o for all three, Vendor B exceeds Vendor A on these with its scores. This would indicate that on a functionality level, Vendor B is superior
- given the current vendor satisfaction levels, it indicates that the market rates feed, bank statement imports and confirmation matching are already in place. However, the very weak area is accounting (10%) and with the upgrade it is expected to go up to 6/10 which is still well short of vendor B (9/10)
- again, support is often cited as a very important factor, especially once the system is operational the scores of 6 and 8 for A and B respectively indicate the difference.

Other factors to consider: (4 marks)

- o an important consideration is how the vendor will work with Pack Now as a cultural fit is needed for success
- o a vendor who presents their whole team including support staff rather than just the sales team, will have more credibility
- o a long- term view of the relationship beyond five years and how the vendor's future plans tie in with the future needs of the business is important, as well as potential longevity of vendor/product
- o references from other clients can provide confidence but they need to be relevant to Pack Now in terms of operation and culture
- o the evaluation should have used Pack Now's data in the demonstration and if not this should be a next step

	o there are other criteria in the assessment that should be included such as security, creditworthiness of the vendor and an understanding of the implementation timelines o how effective is the new system/upgrade in meeting the key objectives set out at the outset of the project? o how does the new system adapt to the banking landscape for the business especially if payments are very important? o the quality and relevance of the staff training is also an important consideration? This mark scheme is not exhaustive – all valid points within answers will be awarded marks. (b) Recommendation So based on selection criteria, Vendor B is the clear favourite and depends whether the five year total cost of ownership is a deciding factor. Who owns the budget and what competing projects may have a bearing on what is finally selected. The implementation costs for vendor B are significantly higher given it is a new system rather than just an upgrade. As its over 500k, this may breach a budget limit and require Board sign off. As Vendor B appears to meet the functional needs better than Vendor A plus has better after care service (support) this should be the recommendation. This mark scheme is not exhaustive – all valid points within answers will be awarded marks. **Syllabus ref:** Unit:2.3.3 (LO 2.3)	2 marks
		Total: 10 marks

Q4	Critically evaluate the effectiveness of Pack Now's current treasury strategy across the recognised 'five pillars'(debt management, cash management, risk management, treasury control and capital structure) of treasury in the context of Pack Now's changing external environment.	10 marks
		Total: 10 marks
Q4 answer	Five pillars of treasury **Debt Management:** The company has a new RCF facility that will provide liquidity for the next 5 years. The business is deleveraging so the run-off of the debt over the next five years is not a major concern from a liquidity viewpoint, assuming cash flow remains robust. With a current external debt of GBP2.55b which is mostly financed by bonds (private placement, Eurobonds and sterling bonds) are due to run off in 5 years. However, it is expected that some will not be refinanced to gradually reduce the level of debt. The RCF facility will need to be refinanced in 5 years – given the continued need for some form of debt (working capital and initial funding for capex in plants). The company has some debt that matures in ten years and this may need to be refinanced if it matches the underlying assets of the business. The company needs to consider its existing bank relationships in light of its future debt plans. The company should consider the impact of changes in interest rates on the value of its fixed rate debt. Regulation continues to impact the treasury function and specifically their LIBOR based debt. Pack Now should be investigating the impact of changes to LIBOR and have a plan when it becomes non-mandatory (2021). **Cash Management:** Cashflow has been strong to date as it is stated that margins have been maintained with its customer base. And its focus on reducing its number of suppliers indicates a focus on the management of working capital. Having three separate banks, one in each region, may not be optimal. One benefit is that it reduces operational risk from relying on one bank. However, it means that a consolidated view needs to be pulled together, which a treasury system should be capable of doing. Given it has GBP 500m cash at year end and are also borrowing GBP 450m on the RCF, this raises questions on finance cost. Perhaps the cash is locked or the year end position does not truly reflect normal daily activity. However, there is a definite cost of carry which could be reduced. **Risk Management** The macro environment is challenging for a UK business with political uncertainty and the impact that Brexit might have. Direct impacts are weakness of the pound against the USD and EUR which are key	2 marks per pillar

markets. This means that it will need to adopt a clear and robust policy on risk management. Additionally, interest rates had been at historic lows, credit spreads have been rising. Pack Now has a high interest cover, so no immediate threat to covenants

For interest rate risk it has adopted a high fixed proportion of debt. This naturally fits with its existing debt portfolio but maybe leading to a higher cost of funding. Secondly, it is providing protection on interest costs however, given their high interest cover, this does not seem to be needed. The company would be affected by the economy and if interest rates were to rise, this might affect demand so perhaps this is a reason to be cautious on interest costs.

For foreign exchange risk, we know it is hedged using forward contracts which keeps it simple. Further information on hedge ratios, how far in advance are the costs hedged would help clarify the policy and whether more sophisticated instruments could be used.

For commodities, they are managing this risk within the commercial contract which is perfectly acceptable. Treasury need to be aware and have visibility of these contracts though and preferably involved with the commercial department when they are being negotiated.

Treasury Operations

The treasury function is organised on a part advisory, part agency arrangement. Moving to an agency model would be beneficial providing more control of activities and economies of scale. The downside of taking autonomy away from the business units is that local practices and methods may not be communicated to treasury.

The policies and procedures have been adopted by the business units but given some still do their own FX and manage their own relationships means that it is likely to be sub-optimal.

The hierarchical structure of treasury is a common arrangement within relatively small treasury teams. There is definite segregation between dealing and the treasury operations although all ultimately report into the Group Treasurer. As the business grows in size and complexity, they should consider segregating between Front, Middle and Back office activities.

It’s a reasonably small team and the investment in the TMS should allow increased volume and complexity for the organisation.

Capital Structure

Gearing is at 74% which seems reasonable for a manufacturing company and has moved down from 80% last year. The company has mentioned they are deleveraging so it would be expected this to fall further. This is partly due to the divestment of the plastic business. The company seems to be concerned with the external environment and a potential increase in operational risk so a reduction in debt helps lower their financial risk- as a company should not have both high operational and financial risk.

	The company issues 200m shares in the year which will naturally reduce the level of gearing. This mark scheme is not exhaustive – all valid points within answers will be awarded marks. **Syllabus ref:** Unit:1.1.1 (LO 1.1)	
		Total: 10 marks

SECTION B – 60 marks

FOUR questions all based on separate scenarios, of which candidates must answer THREE (3 x 20 marks).

Money Bags is a mining company and has a large investment portfolio as result of a recent divestment. The monies may be needed in the next 6 to 12 months for a potential acquisition but there is no certainty of timing. The company has adopted a conservative approach to investing the funds and has traditionally used only money deposits, term deposits and has recently started using money market funds (MMF). With the changes in MMF legislation, the company has limited its investment here and is now considering alternative vehicles such as commercial paper and repos.

The company's policy on investment is to set a maximum period of six months for any investment, although rolling over the investment at the end of the term is allowed. There are strict counterparty limits based on credit ratings.

Cash portfolio (at month end)

	Type	Amount USD m	Average Rate	Limit per counterparty USD m	Rating Required	Average maturity[1]
1	Time Deposits	750	2.10%	50	A	1m to 6m
2	MMFs	350	2.20%	250	AAA[2]	1m[3]
3	Cash at bank (globally)	100	0.10%	n/a	A and A-	O/N
4	Commercial Paper	0	2.30%	20	A1/P1	3m
5	Repos	0	2.00%	250	A[4]	6m -12m
	Total	1,200	1.96%			

1 Actual for time deposits, MMFs and cash at bank; expected for commercial paper and repos

2 AAA $_{mmf}$ rating

3 Average MMF WAM, but note Funds have same day liquidity (under normal trading circumstances)

4 Minimum repo collateral rating

The company has a significant debt portfolio of over USD5bn with a weighted average cost of debt currently at 4.5%. The company also has an RCF facility of USD500m that is currently undrawn.

The company has operations in South America and Africa and aims to centralise cash across the business. It has both domestic and cross border physical cash pools that are swept daily. It has a Shared Service Centre in Asia, which is responsible for most supplier payments for the business units. There is also an inter-company netting system that is being used in Europe. Treasury is responsible for debt management including intercompany loans, working closely with the tax function for these.

An extract of the financials is shown below.

Financial Statements	**Jun-19**
Income Statement	
Revenue	3,000
Cost of revenue	1,800
Gross Profit	1,200
Admin costs	260
Other	80

Operating profit	860
Interest	80
PBT	780
Tax	270
MI	180
Net income	330
Balance Sheet	
Cash	1,200
Accounts receivable	450
Accounts payable	290
Inventory	365
Long term debt	1,600
Equity	4600
Total liabilities and equity	8,900
Cash Flow Statement	
Cash from operations	830
EBITDA	1,420
Dividends	300
Net capex	550
Depreciation	480

Q1	(a) Critically evaluate Money Bags' investment strategy and make supported recommendations as to how this could be improved. (b) Critically discuss how Money Bags might potentially extract more cash from the business by improving treasury and business processes.	13 marks 7 marks
		Total: 20 marks

Q1 answer — 13 marks

(a) Investment strategy

Strategy considerations
General points

- There is a high cost of carry with excess cash and an opportunity to pay down any short-term debt
  - Cost of carry = 1.2bn x (4.5 – 1.96) = 30.45m
- The maturity limits on investments of six months is sensible allowing liquidity for an acquisition.
- However, an improved approach would be to split the cash portfolio into liquidity buckets. It already has some degree of split by instrument type as these have different maturities. This could be extended by setting a monetary amount for time periods or splitting into tiers such as base liquidity, middle band for spikes in liquidity and the third band for the potential acquisition up to six months.

- Given there is an RCF facility that is undrawn, this could potentially be used as bridging finance for an acquisition, however, the cost is likely to be significantly higher than the return on the invested cash.

Investment

- Investment strategy is about balancing security, liquidity and return with the latter being the least important. However, given there is a large pool, and liquidity may not be an issue in the six-month window, an opportunity to increase return is possible.
- There is counterparty risk with all the investments and the credit ratings provide one measure of risk.
- MMF ratings are not equivalent to bank ratings so the nature of the underlying investments should be understood. This includes the type of MMF i.e. are they CNAV or VNAV funds and their weighted average maturity. In the near future they will be treated more like funds where the value of the funds can move up or down. This has accounting and system implications.
- There is over 60% invested with banks in time deposits on a short-term basis which may be beneficial for interest returns currently. However, it means there is a lot of dealing and treasury administration associated with this. There will need to be a minimum of 15 banks for the 750m. A benefit is that it helps diversify the risk though.
- The cash at bank of 100m is sizable and represents 8% of the cash portfolio. This is still high and should be investigated:
    - how much is trapped and cannot be sent back to treasury?
    - how much is needed for operational reasons including both local liquidity and asset-backed for local banking services?
- The counterparty risk policy of using limits based on ratings is traditional but could be enhanced by looking at other measures provided by rate providers or monitoring factors such as capital ratios, share price, credit default swap rates, bank bond prices and results of stress testing.
- The use of Commercial paper might lead to enhanced return but at the price of potentially higher risk. Secondly, it would need a team who have expertise in this area and hence training and time would need to be invested. Again the benefit of diversification holds true.
- Repos have a distinct advantage for large corporates as they provide more security than the other investment choices:
    - return on repos is only marginally lower than money market deposits but with a much higher level of security as there are assets that provide collateral
    - the downside is that there is a lengthy process to setup the documentation and agreements. Tri party repos are the preferred choice with the intermediary managing the assets and any haircuts.

Recommendations

- Tier the USD1.2bn into maturity bands so investments can be made for longer periods given yield curve is upward sloping
- Investigate the USD100m to see how much cash can be returned to treasury and classify any trapped cash
- Check the type of money market fund that is being used and understand the implications of the new regulation on reporting
- Counterparty risk would be improved by diversifying into Repos and commercial paper – so worth considering if the excess cash remains on the balance sheet for over 12 months.

This mark scheme is not exhaustive – all valid points within answers will be awarded marks.

(b) Cash free-up

7 marks

We know that the business has 100m USD sitting in bank accounts. Given this, there is likely to be more cash that can be extracted by improving the efficiency of the cash management operations.

The cash structure Money Bags has includes cash pooling and a SSC which is effectively being used as a payment factory for supplier payments. The company also has inter-company netting but only in Europe so far and it would be expected that this should be rolled out globally. The company has operations in South America and Africa thus there will be challenges in repatriating funds due to tax and legal issues. Additionally there will be challenges in some countries on cash structures and intercompany lending and how those transactions need to be carried out.

The other way to free up cash is to target working capital although many of the levers are not in the treasurer's control. Certainly analysis of working capital to see if customers can pay quicker or payments to supplier can be delayed without having an impact on the business. An analysis of DSO (54.8 days), DIO (74 days) and DPO (58.8 days) suggests there is some opportunity to reduce cash tied up in working capital.

Supply chain finance is an area that treasury is involved in and this can help free up cash.

Many companies are on a journey to improve the efficiency and effectiveness of its cash management processes. Specific items to review and investigate include:

- Banks and bank accounts
  - The number of banks complicates the process as does having a large number of bank accounts. Thus bank rationalisation and reducing the number of bank accounts is a positive step in determining visibility and simplification
- Cash pooling
  - How many pools are there and are they integrated?
  - How many business units and value of transactions are outside of the pooling arrangements?
  - Is there opportunity to use notional pooling
- Inter-company netting

-
    - Do the other regions outside of Europe warrant a netting system – are there sufficient volumes and not too many legal and tax constraints
    - How many business units are not in the netting system and for what reasons?
- In-house bank
    - Treasury are acting as an internal bank managing intercompany loans. We don't know if business units have their own bank relationships which a true in-house bank would aim to minimise
- Payment factory
    - The SSC is effectively acting as payment factory and this should reduce the need for business units to hold cash for payments as they will settle directly with the payment factory where the payment terms are known. Need to ensure that as many business units are using the payment factory. Secondly, new business units are quickly on-boarded and added to it after an acquisition.

This mark scheme is not exhaustive – all valid points within answers will be awarded marks.

Syllabus ref: Unit:2.1.8 (LO 2.1)

Total: 20 marks

Land Inc is a large manufacturer of aircraft and is based in the US. The demand for its planes comes from two main end-markets, defence and tourism. The company has had a couple of operational issues which has led to their aircraft being grounded. This has had a serious impact on reputation and the financial position of the company.

Interest rates have been at historical lows, but rates are now starting to move upwards and the yield curve is now upward sloping. The economic outlook is becoming more challenging as the US is having trade wars with some of its major trading partners. The oil price has risen by over 40% which has had an impact on its customer's cost base with one customer announcing redundancies.

The company has a large debt programme comprising public bonds, private placements and some bank debt. It has significant facilities and a strong cash flow so liquidity is not an issue. It uses interest rate swaps to change the profile of the debt to a mostly floating approach.

Additionally, the company has a sizable pension deficit which continues to grow year on year.
The company has a strong credit rating with the credit rating agencies (A and A2) and wishes to maintain these.

The board is concerned that rising interest rates may have a detrimental impact on the business given the operational issues they have suffered.

Financial Statements	**Dec-18**	**Dec-19**
Income Statement	USDm	Projected
Revenue	101,000	91,000
Operating profit	12,000	8,500
Interest	475	450
PBT	11,525	8,050
Tax	1,153	1,100
Net profit	10,373	6,950
Balance Sheet		
Cash	8,500	6,500
Working capital	6,200	
Net debt	5,300	6,000
Pension liability	21,000	21,500
Share Equity	410	410
Total liabilities and equity	117,400	116,000
Cash Flow Statement		
Cash from operations	15,300	
EBITDA	12,500	9,300
Dividends	3,830	
Net capex	1,800	
Depreciation	2,100	
Pension charge	530	600
Other		
Share price (USD)	330	
# shares (millions)	560	
Dividends per share (USD)	6.84	

Credit rating criteria to maintain A rating:

Rating and criteria for current rating	Dec-18	Dec-19	Targets
EBITDA/interest expense	26.3	20.7	20x
Interest & pension cover	11.9	8.1	10x
Net debt/EBITDA	0.4	0.6	0.8x
Net debt + Pension/EBITDA	2.1	3.0	2.5x

Pension liability sensitivity to a 25-basis point increase will result in the liability rising by USD1,950m and the cost will rise by USD30m.

Q2	(a) Critically examine the different types of interest rate risk to which Land Inc might be exposed and, for each, propose a method of risk mitigation. (b) Analyse the main techniques available to Land Inc for evaluating interest rate risk, commenting briefly on their relative strengths and weaknesses.	12 marks 8 marks
		Total: 20 marks

Q2 answer

(a) types of risk

Interest rate risk can impact a company in three main ways: — 1 mark

- Interest expense of the debt which will impact the income statement
  - Rising interest rates lead to higher interest cost – the key concern for Land Inc is the ratings ratios
  - There is also USD6.5b in cash so it depends on the return on this cash — 2 marks
- Revaluation of bonds and pension scheme due to interest rate movements
  - Rising rates will lead to fall in bond prices and hence value but this is only an issue if they are buying back the bonds
  - However, rising rates will lead to lower bond values in the pension portfolio leading to a higher deficit. The pension deficit is already very large (21bn) and the 25bp rise will lead to this increasing by a further 1.95bn (9.3%) which will be an issue for their credit ratios — 2 marks
- Economic cycle – the end market for their product is defence and consumer (tourism) and as interest rates rise the demand for its planes may actually improve. Defence demand is largely stable and if interest rates are indicating a growing economy, then demand may increase. However, the rising oil price is causing some customer's cost pressure and may lead to reduced demand.
  - There are also time lags between interest rate changes and the impact they have on both the

economy and companies (most will have some hedging in place)

The credit ratios are provided:

Ratios	Dec-18	Dec-19	Target
EBITDA/interest expense	26.3	20.7	20x
Int& pension cover	11.9	8.1	10x
Net debt/EBITDA	0.4	0.6	0.8x
Net debt + pension/EBITDA	2.1	3.0	2.5x

1 mark

Although 2018 shows a strong position the forecast position is of concern. It is clear that they may not be able to protect their A rating when pension risk is included. The pension deficit is almost four times the size of the net debt so managing the pension risk should be a priority. However, fixing a higher proportion on debt, which is within treasury's control, is one step.

2 marks

Mitigation methods:

- Avoid : Firstly, it is difficult to avoid interest rate risk on debt or pensions as its part of the business model
- Reduce: It should be possible to reduce the net debt levels unless an exercise to do this has been carried out already. To reduce debt levels the company should first:
  - Minimise trapped cash where possible and include as much in the cash pool
  - Any 'long term' surplus cash should be used to pay down debt and generally the most expensive. (Note normally the availability and liquidity of debt are more important criteria than the cost) 1 mark
  - Secondly cash return is likely to be much lower rate than debt costs
- Reduce pension risk – the major risk on pension schemes is the older defined benefits scheme. Most of these schemes have now been closed to new members 2 marks
- Transfer: Interest rate can be hedged with derivatives. Longer terms derivatives would be recommended to cover the ongoing nature of the business and matching of the asset life. Many companies attach interest rate swaps when they take out debt. Given the company has primarily floating rate debt this matches the well with the economic cycle of demand. However, oil prices also rise in times of economic growth and rising interest rates so these need to be modelled to. 1 mark
- And interest rate exposure on pension liabilities may require long dated swaps to cover the longevity risk

This mark scheme is not exhaustive – all valid points within answers will be awarded marks.

	(b) Evaluation techniques for Land Ing:
	• Sensitivity including two-way
	  ○ Tabulate interest cost with rising interest rates
	  ○ Two way may include interest rates as one axis and EBITDA on the other to see a table for changes in both - This provides a useful table/grid of the impact of moves in both together
	  ○ The downside is that it takes no account of probability of a rate move
	• Scenarios
	  ○ Evaluating interest impact with a range of measures such as shifts or twists in the yield curve – form of stress testing
	  ○ Real world examples such as 2008 credit crisis and oil price spikes above $100 p/barrel
	  ○ Again does not take account of probability
	• Value at Risk
	  ○ There are three main methodologies for value at risk: variance-covariance, historic and Monte Carlo simulation based.
	  ○ Calculates a value for the maximum loss at a given probability (often 95% level) for a set holding period (time period)
	  ○ Takes account of correlations if modelling multiple interest rates
	  ○ VAR depends on a number of assumptions that should hold true but often do not such as:
	    ▪ the distribution may not account for rare events (black swan)
	    ▪ correlations need to be stable and not dynamic
	    ▪ Note Monte Carlo simulation could be used to model the two points above
	• Banking/bond measures are important for the pension scheme which is the most significant interest rate risk for Land Inc
	  ○ Duration – pivot point in years for a bond
	  ○ Convexity- second derivative of duration and measures the curvature /sensitivity of a bond to small changes in interest rates
	  ○ PVO1 – present value on 1 basis point move in interest rates
	  ○ Gap analysis – how well the assets and liabilities are matched and the sensitivity to interest the mismatches.
	
	This mark scheme is not exhaustive – all valid points within answers will be awarded marks.
	
	Syllabus ref: Units:1.3.3 and 1.3.6 (LO 1.3)
		2 marks per main bullet point, up to 8 marks in total

Total: 20 marks

Iris Group is a medium-sized pharmaceutical company growing its business in the UK and the US and is looking to obtain a credit rating. It is currently financed by bank loans and RCF facilities and aiming to diversify its debt portfolio in anticipation of potential acquisitions in the future. Iris Group is a relatively small player compared to some larger companies in the same sector.

Its financials are relatively strong with good ratios for SCF*/debt and Debt/EBITDA. However the debt maturity runs off in three years with 40% maturing in the current year. The debt comprises mainly term borrowings from its relationship banks. It has sufficient bank facilities for liquidity purposes. It believes its management is highly competent and well regarded. The other modifiers that can move the credit rating up or downwards include diversification, financial policy and liquidity. For this case, these are expected to be neutral and not change the rating.

An extract of the financials are shown below:

Financial Statements	**Dec-19**
Income Statement	**£m**
Revenue	400
Cost of revenue	180
Gross Profit	220
Admin costs	110
R&D	20
Depreciation	45
Other	10
Operating profit	35
Interest	5
PBT	30
Tax	10
Net income	20
Balance Sheet	
Cash	80
Accounts receivable	76
Accounts payable	33
Inventory	87
Long term debt	120
Equity	500
Total liabilities and equity	1,000
Cash Flow Statement	
Cash from operations	65
EBITDA	45
Dividends	18
Net capex	25
Depreciation	5

*Assume SCF = cash from operations + interest expense less capex

The treasurer is planning to have a meeting with its rating agency but wanted to determine upfront what credit rating might be achievable. The S&P model rating grids are detailed below:

Country risk assessment	Country score
very low risk	1
low risk	2
intermediate risk	3
moderate risk	4
high risk	5
very high risk	6

Industry risk assessment	Industry score
very low risk	1
low risk	2
intermediate risk	3
moderate risk	4
high risk	5
very high risk	6

Determining the CIRCA

	Country risk assessment					
Industry risk assessment	1 very low risk	2 low risk	3 intermediate risk	4 moderate risk	5 high risk	6 very high risk
1 very low risk	1	1	1	2	4	5
2 low risk	1	2	2	3	4	5
3 intermediate risk	2	2	3	3	4	6
4 moderate risk	3	3	4	4	5	6
5 high risk	3	4	5	5	5	6
6 very high risk	4	5	6	6	6	6

Business Risk

	Country & Industry risk					
Competition risk	1 very low risk	2 low risk	3 intermediate risk	4 moderate risk	5 high risk	6 very high risk
1 very low risk	1	1	1	2	4	5
2 low risk	1	2	2	3	4	5
3 intermediate risk	2	2	3	3	4	6
4 moderate risk	3	3	4	4	5	6
5 high risk	3	4	5	5	5	6
6 very high risk	4	5	6	6	6	6

Cash Flow/Leverage Analysis Ratios - standard volatility		
	Core Ratios	
Financial risk	SCF/Debt %	Debt/EBITDA x
Minimal	60+	Less than 1.5
Modest	45-60	1.5 -2
Intermediate	30-45	2-3
Significant	20-30	3-4
Aggressive	12-20	4-5
Highly leveraged	Less than 12	Greater than 5

Combining the business and financial risk profiles to determine the anchor						
	Financial risk profile					
Business risk profile	1 minimal	2 modest	3 intermediate	4 significant	5 aggressive	6 highly leveraged
1 excellent	aaa/aa+	aa	a+/a	a-	bbb	bbb-/bb+
2 strong	aa/aa-	a+/a	a-/bbb+	bbb	bb+	bb
3 satisfactory	a+/a	bbb+	bbb	bbb-/bb+	bb	b+
4 fair	bbb/bbb-	bbb-	bb+	bb	bb-	b
5 weak	bb+	bb+	bb	bb-	b+	b/b-
6 vulnerable	bb-	bb-	bb-/b+	b+	b	b-

Modifier steps on anchor				
	Financial risk profile			
Factor /assessment	a-' and higher	bbb+' to 'bbb-'	bb+' to 'bb-'	b+' and lower
Capital structure (G)				
1 very positive	+2 notches	+2 notches	+2 notches	+2 notches
2 positive	+1 notch	+1 notch	+1 notch	+1 notch
3 neutral	0 notch	0 notch	0 notch	0 notch
4 negative	-1 notch	-1 notch	-1 notch	-1 notch
5 very negative	-2 notches	-2 notches	-2 notches	-2 notches
Financial Policy (H)				
1 positive	+1 notch	+1 notch	+1 notch	+1 notch
2 neutral	0 notch	0 notch	0 notch	0 notch
3 negative	-1 notch	-1 notch	-1 notch	-1 notch
5 very negative	-2 notches	-2 notches	-2 notches	-2 notches
Liquidity (I)				
1 exceptional	0 notch	0 notch	0 notch	0 notch
2 strong	0 notch	0 notch	0 notch	0 notch
3 adequate	0 notch	0 notch	0 notch	0 notch
4 less than adequate	N/A	N/A	-1 notch	0 notch
5 weak	N/A	N/A	N/A	N/A
Management				
1 strong	0 notch	0 notch	0 notch	+1 notch
2 satisfactory	0 notch	0 notch	0 notch	0 notch
3 fair	0 notch	0 notch	0 notch	0 notch
4 weak	-2 notches	-2 notches	-1 notch	-1 notch

Q3	(a) Critically analyse the importance of and rationale for Iris Group obtaining a credit rating. Within your answer you must also comment briefly on any potential downsides that might exist for Iris Group of obtaining and maintaining a rating. (b) Critically assess and justify Iris Group's likely credit rating using the S&P-type model. You must show any calculations that apply to your decision.	10 marks 10 marks

Total: 20 marks

Q3 answer	(a) **Ratings reasons and downsides** The key reason is that a credit rating is an assessment of the creditworthiness of the company. It is an industry benchmark typically that only organisations with a strong credit standings and market size obtain and is important for many relationships, not just bond issues or bank debt. However the methodologies used by credit rating agencies are not identical and the measures are not strictly objective so it is important that a company presents their case in the most effective way. Benefits • Rating allows access to the capital markets, thus greater availability of funding. Iris Group has indicated that wish to diversify its funding sources in anticipation of possible acquisitions • Capital markets are likely to be lower price than existing bank and RCF facilities • The process of obtaining a credit rating requires a detailed review of current and future financials which will help the business gain a better understanding of its strengths and the constraints as they attempt to grow in the marketplace. • Typically only larger companies tend to have ratings and hence obtaining a rating will enhance the status the company in its dealing with banks and advisers especially if they are on the acquisition trail. • A credit rating is a well-accepted measure of creditworthiness (assuming rating is investment grade) Downsides • Cost for corporate – 6.5 basis points for transactions with a minimum fee of 135k USD. Market convention now is that two ratings are needed so the cost is doubled. • Disclosure of a great deal of financial information which could be classified as sensitive if released outside the organisation • Management time in setting up a rating and the annual maintenance. Meetings involve senior management and treasury will be heavily involved in the meeting preparation • Maintaining complex forecasts to match the rating agency model are recommended. This would be additional workload as rating agency financial definitions rarely match an organisation’s financial reporting definitions. • Risk that if the company is downgraded this results in higher debt costs and a negative feedback loop. This is a major downside and Iris Group need to have a good understanding where its anchor rating currently sits and how this will be affected post any planned acquisitions. There could also be a breach of covenant if this were to occur. • Once a company has a rating, it is difficult to revert to having no rating, however, given their intended growth this should not be of concern. • External view that CRA failed in the credit crisis of 2008 and there had potentially been a conflict of interest as the corporate is paying the CRA for the rating.	10 marks

This mark scheme is not exhaustive – all valid points within answers will be awarded marks.

(b) **CRA ratings model factors:** 10 marks

Background to S&P-type model:

The S&P-type model considers two broad factors: business risk and finance risk.

- The factors that feed into business risk include:
    - Country risk
    - industry risk
    - Competitive position
- For financial risk, the factors are based on sustainable cashflow using financial ratios. The two most important ratios are SCF/debt and debt/EBITDA. Other cash flow and interest ratios are considered too. Note SCF is sustainable cashflow

These factors are used to create 'anchor' rating and then this is updated upward or downwards by modifying factors such as:

- Diversification of the business – geographically and customer segments
- Financial strategy – how clear and aligned to the business strategy
- Liquidity – measure of the liquidity over the next 12 months
- Management effectiveness – subjective factor based on meetings with the Board and management team
- Capital structure – how close to optimal the current debt levels are

CRA also consider factors if material such as pension deficits/funding and leases,

Rating calculation – using S&P model

Business Risk components:

- Country risk – based in UK and US so low risk – score 2
- Industry risk – pharmaceutical company and will be regulated (FDA approval in the US needed) for the drug market. There is a lag between CAPEX spend and income realisation that adds to the risks. But overall should be relatively low risk – score 2
- Combined Country and Industry risk credit assessment = 2

Determining the CIRCA

Industry risk assessment	Country risk assessment: 1 very low risk	2 low risk	3 intermediate risk	4 moderate risk	5 high risk	6 very high risk
1 very low risk	1	1	1	2	4	5
2 low risk	1	2	2	3	4	5
3 intermediate risk	2	2	3	3	4	6
4 moderate risk	3	3	4	4	5	6
5 high risk	3	4	5	5	5	6
6 very high risk	4	5	6	6	6	6

- Competitive position – relatively small player in a large market – so would consider it to be moderate – score 4

- Combining CIRCA (2) with Competition (4) gives a business risk of 3

Business Risk						
	Country & Industry risk					
Competition risk	1 very low risk	2 low risk	3 intermediate risk	4 moderate risk	5 high risk	6 very high risk
1 very low risk	1	1	1	2	4	5
2 low risk	1	2	2	3	4	5
3 intermediate risk	2	2	3	3	4	6
4 moderate risk	3	3	4	4	5	6
5 high risk	3	4	5	5	5	6
6 very high risk	4	5	6	6	6	6

Financial risk
The ratios for SCF/Debt (38%) and Debt/EBITDA (2.67x) need to be calculated. These place the business in the 'intermediate' category

Cash Flow/Leverage Analysis Ratios - standard volatility		
	Core Ratios	
Financial risk	SCF/Debt %	Debt/EBITDA x
Minimal	60+	Less than 1.5
Modest	45-60	1.5 -2
Intermediate	30-45	2-3
Significant	20-30	3-4
Aggressive	12-20	4-5
Highly leveraged	Less than 12	Greater than 5

Then combining Business risk (3) and financial risk (3) to calculate the 'Anchor' results in BBB.

Combining the business and financial risk profiles to determine the anchor						
	Financial risk profile					
Business risk profile	1 minimal	2 modest	3 intermediate	4 significant	5 aggressive	6 highly leveraged
1 excellent	aaa/aa+	aa	a+/a	a-	bbb	bbb-/bb+
2 strong	aa/aa-	a+/a	a-/bbb+	bbb	bb+	bb
3 satisfactory	a+/a	bbb+	bbb	bbb-/bb+	bb	b+
4 fair	bbb/bbb-	bbb-	bb+	bb	bb-	b
5 weak	bb+	bb+	bb	bb-	b+	b/b-
6 vulnerable	bb-	bb-	bb-/b+	b+	b	b-

The next stage is to adjust for the modifiers. We are told that we can ignore diversification, financial policy and liquidity leaving just capital structure and management as moderators.

- Capital structure could be improved by taking out longer term debt and improving the diversification with CP or bond issuance once it has a rating. Thus, I would assume this to be negative (4) resulting in -1 notch on the ratings
- Management estimated as strong, although depends on the CRA's view, would be a 0 notch move – so no impact

Modifier steps on anchor				
	Financial risk profile			
Factor /assessment	a-' and higher	bbb+' to 'bbb-'	bb+' to 'bb-'	b+' and lower
Capital structure (G)				
1 very positive	+2 notches	+2 notches	+2 notches	+2 notches
2 positive	+1 notch	+1 notch	+1 notch	+1 notch
3 neutral	0 notch	0 notch	0 notch	0 notch
4 negative	-1 notch	-1 notch	-1 notch	-1 notch
5 very negative	-2 notches	-2 notches	-2 notches	-2 notches
Management				
1 strong	0 notch	0 notch	0 notch	+1 notch
2 satisfactory	0 notch	0 notch	0 notch	0 notch
3 fair	0 notch	0 notch	0 notch	0 notch
4 weak	-2 notches	-2 notches	-1 notch	-1 notch

Thus, the Anchor of BBB is adjusted 1 notch down resulting in a forecast rating of BBB-.

As discussed, the credit rating process is quite subjective. S&P use the model to calculate the rating but there is potentially a further stage where they perform a comparative rating against the industry which can affect the result.

This mark scheme is not exhaustive – all valid points within answers will be awarded marks.

Syllabus ref: Unit:2.1.4 (LO 2.1)

Total: 20 marks

Fox Inc is a children's toy manufacturer with two main business units comprising board games and dolls based in the United States and has the following financial details:

Financial Information	USDm
Sales	300
Operating profit	100
Depreciation charge	40
Net working capital	60
Accumulated depreciation	150
Gross debt	160
Cash	10

Other Information	%
Tax	30
Working capital/op profit	20
Inflation	3
SCF growth	4
Cost of debt (Kd)	7
Cost of equity (Ke)	10.5
% debt	45

There is one main bank relationship which is used for all cash management services. There is a national cash pool that sweeps all balances, daily, to a header account which is managed by treasury (group operations). This pool includes both business units and treasury. There are also intercompany loans between the business units and treasury. Each business unit has acted independently with some local financing from a non-relationship bank.

The company is considering focusing on the games segment and selling the dolls business which represents 30% of sales and 20% of profits. The P/E ratio for this segment is 12 times but Fox Inc would like to value the business on EV/profits basis. The likely buyer is a Chinese toy and game manufacturer who are interested in gaining access to the US market.

Q4	(a) Critically examine Fox Inc's enterprise value assuming a sustainable cash flow into perpetuity and using the information provided in the scenario. You must show all calculations that are relevant to your answer. (b) Critically discuss the responsibilities of Fox Inc's treasury function regarding the disposal of its major subsidiary.	12 marks 8 marks
		Total: 20 marks

Q4 answer

(a) Sustainable free cash flow calculations: (6 marks for calculations + 6 marks for evaluation of enterprise value)

#	Financial Information	USD m
	Operating profit	100.00
1	Tax (30%)	-30.00
2	Depreciation (add back)	40.00
3	Capex adjustment	-44.69
4	Working capital adjustment	-1.75
	Sustainable free cash flow (SCF)	63.56
5	WACC	8%
	SCF-1 (year 1)	66.1
6	Enterprise value	1,653

Calculation Notes ½ mark

1. Tax is 30% of operating profit ½ mark
2. Add back depreciation as non cash item
3. Capex amount based on a perpetuity amount
    a. Capex adjustment = Capex charge * (1 + inflation) ^ K
    b. K = Accumulated depreciation/ depreciation charge = 150/40 = 3.75 years
    c. Capex = 40 * (1 + 3%) ^ 3.75 = 44.69 1 mark
4. Working capital adjustment for inflation
    a. WC adjustment = WC/(1+inflation) – WC
    b. WC adjustment = 60/(1+3%)-60 = -1.75 1 mark
5. WACC = Kd (1-tax) * %debt + Ke * %E
    a. [7%* (1-30%) * 45%] + 10.5% *55% = 7.98 rounded to 1 mark
    8% 1 mark
6. Enterprise value = SCF-1 / (WACC – g) 1 mark
    a. SCF_1 = SCF(1+g) = 63.6 * (1+ 4%) = 66.1 (6 marks)
    b. EV = 66.1/ (8% - 4%) = 1653

Critically evaluate the value

- An enterprise value of 1.6bn is 16x operating profit which seems relatively high 1 mark
- The assumption that growth > inflation continues into perpetuity should be adjusted. A more conservative approach would be to reduce the growth level. Alternatively, an approach could be to model growth at 4% for the next 5 years and then set growth = inflation 1 mark
- The model assumes all the factors remain constant 1 mark per point (up to 6 marks)
    - The tax rate could potentially be managed down as it grows the business using effective tax planning measures
    - Depreciation charges may also lower as it finalises capex and investment in manufacturing
    - Working capital is likely to be aligned with sales and profit growth so – no adjustment needed
    - The WACC calculation of 8% seems low for a relatively small business
    - Debt costs are high 7% but depends on its credit spread and when the debt was taken out. Given the strong cash flow, there is possibly an opportunity to negotiate this downwards when refinancing
    - Given the strong cash flow, debt could be paid down

This mark scheme is not exhaustive – all valid points within answers will be awarded marks.

(b) **Treasury responsibilities pre and post disposal**

The disposal is a significant part of the business and will require careful management. A lot depends on who it is sold to and how the buyer plans to move forward with the purchase.

	If it is sold to the Chinese competitor, this may have an impact on Fox's board game market.
	
	Senior management will need to manage how the disposal is communicated and what this will mean for the employees.
	
	From a financial perspective, the sales proceeds need to be managed and a decision on how they are applied within a revised capital structure. There are many operational considerations for the disposal and the impact on internal treasury processes.
	
	Treasury will have a significant advisory role to play but ultimately, senior management will make the decisions.
	
	Pre disposal
	• Advisory role on the value of the business – P/E ratio of 12s and an EV value of 16x values the business from USD 240m to 320m
	• Advisory role on the structure of the payment, currency and timing – assume to be all USD
	• Ensure that payment is received for the disposal
	    ○ Assess what will happen with the funds – short term investment or debt pay down
	• Ensure that all signing authorities have been updated
	    ○ Remove the subsidiary from all treasury arrangements such as cash pooling, netting, supply chain finance etc
	• Ensure local debt is cleared
	• Ensure intercompany loans are settled
	
	Post disposal
	• The cash pooling arrangement will need to be updated along with any reporting
	• Advisory role for the investment of disposal proceeds that need to be aligned to the company's financial long-term plans
	• Advisory role on external and internal debts may need to be revised/restructured
	• Negotiation with its existing bank if the volumes for ancillary business drops
	• Fox should review its current banking landscape and operations with a view to optimising it for the smaller operation
	• There could also be an impact on its credit rating
	
	This mark scheme is not exhaustive – all valid points within answers will be awarded marks.
	
	Syllabus ref: Unit:1.4.1 & 1.4.2 (LO 1.4)
		1 mark per point Up to 8 marks

		Total: 20 marks

FORMULAE SHEET

Financial Valuation

Capex

Replacement capex = Capex charge * $(1 + \text{inflation})^{k}$

Where:

$$k = \frac{\text{Accumulated depreciation}}{\text{Depreciation charge}}$$

Working Capital

$$\text{WC adjustment} = \frac{\text{WC}}{(1+\text{inflation})} - \text{WC}$$

Where:
WC = working capital level

Weighted Average Cost of Capital (WACC)

$$WACC = Kd\,x(1-Tc)x\frac{D}{D-C+E} + Kc\,x(1-Tc)x\frac{C}{D-C+E} + Ke\,x\frac{E}{D-C+E}$$

Where:
Kd = market cost of debt
Kc = market return on cash
Ke = cost of equity
TC = corporation rate
D = market value of debt
C = market value of cash
E = market value of equity

Enterprise Value

$$\text{Enterprise value} = \frac{SCF_1}{WACC - g}$$

Where:
SCF_1= sustainable cash flow for the following year SCF * (1+g)
g = growth rate in perpetuity

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