ACT

PAST PAPER

Diploma in Treasury Management (AMCT)

Unit 4b: Working Capital and Trade Finance

November 2024

This is a past paper for Unit 4b of the Diploma in Treasury Management (AMCT)

Based on the syllabus assessed from 1 August 2022.

INTRODUCTION

This past paper has been produced by the Awarding Body at the Association of Corporate Treasurers (ACT) to assist students in their preparation for the Diploma in Treasury Management assessments. It is important to highlight that the answers provided in this paper are not exhaustive and that any other reasonable answers would be awarded marks where necessary in a marked assessment. It contains a past exam for the specified unit as well as past answers. Ideally, students should have completed the majority of their Diploma in Treasury Management studies for Unit 4b before attempting this past paper.

Students should allow themselves 180 minutes to complete the exam plus an additional 15 minutes reading time. They should then review their performance to identify areas of weakness on which to concentrate the remainder of their study time. Although the past exam in this guide is typical of a Diploma in Treasury Management 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 examination, students 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 paper is a professional paper that as well as testing theory expects application to practice at a managerial level.

The best way to approach written assessments is to work methodically through the questions. You 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 this means there are marks available for the workings out. You will be able to make rough workings on a piece of paper during the exam and on screen should you wish to, however these will not count towards your final mark.

ASSESSMENT INFORMATION AND TEST SPECIFICATION

The Diploma in Treasury Management Units 4A and 4B each have 3 mandatory written questions. The papers will be split into sections A and B and will involve a pre-seen case study for Section A that is released no later than two weeks prior to the assessment date. Each unit exam is worth a total of 100 marks. For the purpose of this past paper the questions follow each case study.

Diploma in treasury management assessment test specification:

Section	Amount of questions	Marks available
Section A	1 case study based question	50
Section B	2 shorter case study based questions	50
Total	**3**	**100**

Under exam conditions, **3 hours** (180 minutes) is allowed for the Diploma in Treasury Management assessments plus an additional 15 minutes reading time.

When you take your actual exam, you will be sitting online using your own PC/Laptop. You will have access to an online scientific calculator, but for the purpose of this past paper, you may 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

1 long form question worth 50 marks based on a pre-seen case study. This question should test knowledge, analysis, application insight, evaluation and justification as appropriate to level descriptors. This is a professional paper and application to practice should be at 'management' level.

Total available for Section A: 50 marks

QUESTION 1: CASE STUDY

Minerals Mining Plc (MMP) is an international mining company that specialises in precious and battery metals production. MMP is headquartered in London and has mining operations in Europe. MMP went public in 2014 and is listed on the London Stock Exchange. MMP's mining portfolio consists of four mines: two gold mines and two nickel mines. The two gold mines are based in Turkey and Finland. The two nickel mines are based in Norway and Finland. Due to increased commodity prices during the pandemic, MMP was very profitable and invested heavily in exploration in 2021. Its new cobalt mine in Finland is expected to start production in 2025.

Metals prices crashed in 2022 and caused major changes in the metal mining industry. A few key players are no longer in operation, which affected many companies in the supply chain. Payment terms are now becoming longer as mining companies are increasingly struggling with cash flow. Demand for battery metals has dropped, which has also hit its price. MMP's revenues and profits have consequently declined. Cost cutting has been MMP's priority since 2022. Metal prices finally started to recover in 2023, improving MMP's financial standing.

Extract from MMP's financial statements

GBPm	**2024**	**2023**	**2022**	**2021**
Revenues	210.4	100.6	19.7	143.7
Cost of sales	168.7	92.5	6.8	103.4
Gross profit	41.7	8.1	12.9	40.3
Inventories	21.8	92.3	175.9	13.5
Trade and other receivables	52.7	82.6	182.3	72.2
Cash and cash equivalents	101.6	148.3	252.7	546.2
Trade payables	100.3	168.5	203.6	38.6

Breakdown of inventories

GBPm	**2024**	**2023**	**2022**	**2021**
Platinum concentrate	6.8	12.3	62.3	0
Nickel-cobalt sulphide	7.3	42.3	56.2	0
Gold ore	2.5	11.9	36.7	13.5
Zinc sulphide	5.2	25.8	20.7	0
Total	21.8	92.3	175.9	13.5

MMP management expected the commodity price to recover in the near future, so management made the unusual decision to stockpile metal ores during the commodity downturn and release them when market conditions became more favourable. The rationale for this decision was that MMP had a strong cash position and could withstand low sales for many years. The strategy would also reduce losses in 2022. Metal ores are mostly left in mines, and their values are estimated based on volume. If revaluation is required, it will be posted to cost of sales in the income statement. As prices started to recover, MMP gradually increased production and its sales peaked in 2024.

Cash

The majority of the reduction in year-on-year cash position (2021 to 2024) is attributable to capital investments in a new cobalt mine and operating costs for the four existing mines. The new cobalt mine in Finland is expected to be operational in 2025. The majority of cash holdings are in US treasury bonds. They are valued at GBP93m in November 2024 (yields on these bonds are at 5.3%), GBP139m in December 2023, GBP163m in December 2022 and GBP124m in 2021. MMP has reduced headcount significantly in the last four years, which has been effective at decreasing cash burn during the low sales period.

Breakdown of trade and other receivables

GBPm	**2024**	**2023**	**2022**	**2021**
Trade receivables	36.8	15.6	0	61.7
Down payments	12.6	47.9	112.7	9.3
Prepayments	3.3	19.1	69.6	1.2
Total	52.7	82.6	182.3	72.2

Down payments are initial payments made to secure heavy machinery, which is essential for the transportation of the metal ores. Prepayments relate to rental and insurance costs of mining equipment. Credit loss on receivables is calculated based on MMP's own historical data. Macroeconomic indicators and other externally available forward-looking information are also factored into credit loss calculations. Historical credit losses are around 8%-10%, though their loss forecast is always around 4%. MMP has good relationships with its customers, however, a few of them suffered financial troubles and MMP's credit model appears to not be able to predict these incidents. The treasurer is wondering if this discrepancy can be minimised. Regarding overdue invoices, receivable teams chase up late payment with emails with no further actions.

Trade payables

Trade payables principally comprise amounts outstanding for trade purchases of goods and services. Generally, MMP has good relationships with its suppliers. Under normal circumstances, MMP regularly reviews all outstanding payables to ensure they are paid within the appropriate time frame. However, MMP decided to delay payments in 2022 as a strategic move to finance the stockpiling of metal ores. This caused tension with its suppliers with some of them experiencing liquidity problems. MMP was willing to help but was not able to pay outstanding invoices quickly enough. There are no trade finance arrangements at the moment, but MMP is willing to consider these if they can help suppliers. Average interest rate on outstanding trade payables is 3.9% per annum. About 60% of trade payables relate to a supplier in Finland. MMP has agreed a payment plan with the supplier. Under the plan, payables are secured against MMP's ore inventories. In exchange for longer payment terms, MMP also accepts a higher interest rate of 5.2% per annum on the payables. The CEO is comfortable with this arrangement, but the treasurer wants to clear the payables balance as soon as possible.

Profit maximisation
MMP's workforce is 25% smaller in 2023 than it was in 2021. MMP underwent a major restructuring programme, which was designed to conserve cash while the company hoarded inventories. This move angered many employees as their colleagues were laid off. The commodity market is cyclical and metal price fluctuations should be expected. By 2024, MMP only re-hired a small portion of the originally laid off employees. Total headcount is still down 18% in 2024 compared to 2021. The CEO is firm on this, as redundancy packages are generous and MMP is more efficient after the restructuring. Most importantly, profit reached a historical high in 2024 and is expected to increase by another 30% in 2025. Whilst additional production can increase sales, this would not translate into increased profits. The CEO's strategy is to reduce employee numbers to minimise production, and also to cut overall expenditure.

QUESTION 1

a.	Calculate the cash conversion cycle for MMP for the last four years. You are required to show your workings.	8 marks
b.	Discuss the strengths of MMP's trade, working capital and liquidity management practices.	10 marks
c.	Analyse the weaknesses in MMP's trade, working capital and liquidity management practices.	9 marks
d.	Based on your analysis in c, recommend and justify appropriate solutions to these weaknesses.	13 marks
e.	Evaluate the CEO's strategy for profit maximisation. Within your answer, you are required to make reference to economic theory.	10 marks
		Total: 50 marks

Mark scheme

Q1a

	2024	2023	2022	2021
DIO	47.2	364.2	9441.7	47.7
DSO	63.8	56.6	0.0	156.7
DSO (all receivables)	**91.4**	**299.7**	**3377.6**	**183.4**
DPO	217.0	664.9	10928.5	136.3
CCC	(106.0)	(244.1)	(1486.8)	68.1
CCC (all receivables)	**(78.4)**	**(1.0)**	**1890.8**	**94.8**

6 marks

There are two ways to calculate CCC, one that account for other receivables, one that considers only trade receivables.

2 marks

Total marks: 8

Q1b

This is an unusual case where the company basically stopped trading or at least stopped selling, so normal ways of looking at CCC does not justify the company's action. But let's look at CCC number at its face value first.

1 mark

CCC, DIO, DPO and DSO in 2021 are normal, but 2022 and 2023 changed dramatically, DIO and DPO exploded. DSO dropped to zero. If other receivables are considered, it also exploded. This looks like dramatic change of trading conditions. CCC (all receivables) increased to over 1,000, this looks like a company in financial trouble.

2 marks

When other receivables are not considered, CCC is -1,400 in 2022, with DPO over 10,000 in the same year, this is basically financing the company's entire operation

using trade payable. This is very good for MMP but puts too much pressure on MMP's suppliers. This means MMP has the bargain power to push its suppliers.	2 marks
MMP is still profitable in all these years, profit increased to GBP41m in 2024	1 mark
Despite many years of cash burn, MMP still have a large cash balance.	1 mark
Cash are kept in interest bearing instruments, bond holding also increases in proportion to MMP's cash holding over years, which means MMP is utilizing its cash holding to earn interest.	1 mark
Interest rate on payables is relatively low in 2024, at 3.9%, rate is much higher for the supplier from Finland. But it is still lower than MMP's treasury bond holding, the CEO's decision not paying down payable makes financial sense.	1 mark
MMP had good relationship with its customers and suppliers, which means lower credit losses (possibly lower than industry average) and good payment terms with its suppliers. While this is great for the company, the payment terms are extremely unfavourable for suppliers and the strategy places too much risk on MMP. This of course will change in the future.	1 mark 1 mark
DSO and DIO returned to normal level in 2024, this shows good management of receivables and inventories.	1 mark
DPO remain very high in 2024, again show good management of payables, MMP is using payables to finance its entire working capital	1 mark **Total marks: 10**

Q1c

The decision to reduce trade may not work well with suppliers and customers. Suppliers have less order, this also means lower cashflow for suppliers and that could push them into insolvency and that could backfire on MMP. Customers will miss on low price products.	1 mark
CCCs are negative in 2023 and 2024, it looks good for MMP, but this stretches its suppliers.	1 mark
Cash holding reduced significantly over the last four years. From over GBPm500 to just over GBPm100.	1 mark
Credit loss amount to 8% which is significant.	1 mark
Poor credit loss forecast, MMP's modelling accuracy is to be desired.	1 mark

No trade finance arrangement, again, too much pressure on suppliers.	1 mark
Not employing trade related payment collection techniques, such as documentary collection, direct debit.	1 mark
CCC is rising rapidly once MMP started selling again, from -1,400 in 2022 to over -100 in 2024. If this trend follows, it will be positive in 2025.	1 mark
DSO stopped improving in 2024, it was 56 in 2023 but increased to 63 in 2024.	1 mark **Total marks: 9**

Q1d

The goal is smooth the transition out of the difficult years. This means reduce all measures related to CCC, e.g. reduce DPO, reduce DIO, reduce DSO. Note here, reducing DPO to normal level is also important.	1 mark
DSO stopped improving in 2024, this may be caused by increased sales, this could lead to higher credit loss. Using invoice factor is a possibility to improve receivables.	1 mark
DIO reduced significantly, especially in 2023 and 2024. Inventory level is too low in 2024, the easy solution is to increase production to further increase sales, also produce more to increase inventory levels.	1 mark
Production may have peaked in 2024 as inventory is dropping rapidly. Chances of overproduction is likely to happen again, which risk another year of shutdown. However, keep inventory low may leads to lost sales if MMP couldn't keep up with demand. A more involved solution is to employ a better model of forecasting commodity prices to avoid overproduction. Though commodity price is difficult to predict, there must be some balance between modelling and inventory level.	2 marks
Given receivables stopped improving in 2024, better collection management should be put in place, these include: • use of documentary collection, • introduce direct debit, • e-invoicing can all improve receivables; • offer discount to customers that pay early, though this hurts profit margin • better assessment of credit worthy of customers, MMP may not have enough data but this could be outsourced, this could reduce discrepancy of MMP's credit loss forecast • Introduce late payment charge for customers	6 marks

DPO is decreasing but still much higher in 2024 that it was in 2021. Under normal conditions, MMP should increase DPO. But MMP stopped selling in 2022, it should reduce DPO as fast as it possibly can to help suppliers. Should start using trade finance instruments; • Supply chain finance programme should be rolled out to all suppliers and encourage supplier participation, help suppliers that are in liquidity problems • Help existing suppliers with trade finance solutions, it will be very costly to MMP if a supplier went bankrupt. • SCF should be evaluated on the basis that MMP can pay suppliers early with its existing cash/trade position before committing to a SCF instruments, as SCF has a cost attached to it.	1 mark 2 marks **Total marks: 13**

Q1e

Sales is an increasing function of quantity sold. However, MMP should not seek maximum quantity as cost increases with more goods produced. This is because cost of production has a variable component, the cost of using, say, raw materials (or additional finance, warehouse space, etc) will vary with the level of output produced.	1 mark
The unique nature of the commodity market makes profit maximisation very different from standard practice. As most miners are price takers in the market, where prices are influenced by macroeconomic condition, which in turn determines industry demand of precious and battery metals.	1 mark
If commodity prices are held constant, marginal cost is the increase in total cost as a result of producing one more unit. Marginal revenue is the increase in total revenue as a result of selling one more unit. Providing the marginal revenue of selling an extra unit exceeds the marginal cost of producing the extra unit, it makes sense to produce the extra unit as profit will be increasing. If marginal cost exceeds marginal revenue on that extra unit, profit will fall, so the extra unit should not be produced. Marginal costs start high, then fall, then rise again. At low output, the company is using simple techniques of production. As output rises, more sophisticated techniques may be used.	2 marks
But commodity price is very volatile and can crash more than 50% in a bad year. This means marginal cost can stay the same but marginal revenue will nosedive.	1 mark
Under normal condition, the marginal revenue curve typically slopes downwards, marginal revenue falls steadily as output increases. This follows from the shape of the demand curve, which is downward sloping. To increase quantity demanded, the price must be lowered. Therefore, to sell more units, the company must	2 marks

	lower its price. This means that previous units sold (at the higher price) must now be offered at the lower price, therefore lowering the revenue on previous units sold. Profit is maximised where marginal cost equals marginal revenue. When market price of commodity drops, marginal revenue drops so much that it causes a downward parallel shift on the marginal revenue curve. If the price drop is too large, it is possible that marginal revenue and marginal cost curve no longer have an intersection. This means, no matter how many units MMP sell, it will never make a profit.	2 marks
	This is likely the case with MMP and miners in general, where production cost is relative constant over years. Selling large number of units when commodity price is low will not maximise profit, so it should be reduced. Or in extreme case, where cost is higher than market price, sales may need to be stopped. On the other hand, when commodity price is high. Maximum profit is achieved at selling large quantity of units. This is exactly what the CEO did, stop selling in 2022 and increase sales as prices rise again.	2 marks
	To make this strategy work, MMP needs to cut down expenses when it is not selling anything. The CEO's decision maximized MMP's overall profits in next few years.	1 mark **Total marks: 10**
	This mark scheme is not exhaustive – all valid points within answers will be awarded marks. **Syllabus refs: 4b.1.1, 4b.1.3, 4b.2.1, 4b.2.2, 4b.2.3, 4b.2.4, 4b.4.1, 4b.4.3**	
		Total: 50 marks

SECTION B – 50 MARKS

2 longer form questions, based on mini case studies, of which both are compulsory (2 x 25 marks). Questions should test knowledge, analysis, application insight, evaluation and justification as appropriate to level descriptors. This is a professional paper and application to practice should be at 'management' level and as would therefore be expected, students need to be able to synthesise knowledge from different elements of the syllabus rather than be tested on discreet areas.

Total available for Section B: 50 marks

QUESTION 1: CASE STUDY

Nippon Solar Ltd (NSL) is a renewable energy equipment manufacturer based in Osaka, Japan. NSL offers a range of renewable energy products including solar panels, solar inverters and solar storage products. The company was founded in the 1980s and was one of the first companies to commercialise silicon-based photovoltaic cells. NSL solar panels were highly sought after in the 1990s, as they have the highest energy efficiency. At that time, NSL had over 15% of the world's photovoltaic market share. Since the 2000s, European and American manufacturers caught up, producing more efficient panels at similar cost. In 2024, NSL's market share in the solar panel market has declined to 1.8%. Despite this, NSL's sales are still growing, and the business is still very profitable, as the solar panels market has increased over 100-fold in the last 25 years.

In the 1980s, NSL's headquarters in Osaka comprised a small office building with capacity for hosting 150 employees. As business expanded in the 1990s, new offices were opened in Sakai where its major factory is based. In 2002, a few dedicated departments, which included marketing, internal audit, compliance, were created. The new departments were allocated in a new office building in Hirakata.

In 2015, NSL established two subsidiaries in Europe and Latin America to deal with increasing global sales. NSL did not expand strategically; new departments and subsidiaries are created out of necessity. This created many problems:

- there are three human resources departments, one in each continent
- the marketing department in Hirakata has become mostly redundant, as many marketing tasks are performed by local teams in Europe and Latin America
- the internal audit and compliance departments are not adequate for international standards
- procurement and payables are centralised; purchases by overseas subsidiaries must be routed back to Japan for payment. Expense processing requires two separate approvals at local and central levels
- there are three receivables' teams, one in each continent. Invoices are issued locally to NSL's local customers and posted to local receivable teams. Understanding NSL's sales is challenging, as transactions are recorded locally and manually aggregated later
- treasury functions are also performed at local level, even though NSL already has a large treasury team in Osaka. NSL does not have a modern treasury management system. Cash is held locally, earning local interest rates.

The chief financial officer (CFO) has estimated that profit could increase by 10% if NSL streamlined its administration.

Over 60% of NSL's revenues come from Latin America as countries in the subcontinent are becoming more and more environmentally aware. There is plenty of sunshine, so solar has become the preferred source of renewable energy. However, running a business there has been challenging, especially in Argentina and Venezuela where inflation has been over 100% for an extended period. The loss of purchasing power of local currency due to rising local inflation would not affect NSL if local currency cash could be freely exchanged into JPY. However, both countries have complex regulations that restrict capital movement.

NSL has explored various avenues to resolve restricted capital movement. These include partnering with local banks to secure the best exchange rates, applying for the maximum exchange quota every month, and employing consultants to reduce compliance costs. All these solutions are either very costly or they deal with grey areas of regulations that may incur large legal costs and risks in implementing. Since cash loses value quickly, NSL decided to invest cash in Argentina's stock market. This proved to be another expensive experiment as stocks had frequent swings of over 20%, rarely aligning with NSL's local cashflow. In many cases, NSL has had to sell shares at a loss to meet its cash needs.

QUESTION 1

a.	Discuss structures that would reorganise and modernise NSL's specialist departments to improve the efficiency of NSL's administration.	12 marks
b.	Recommend and justify solutions to address NSL's trapped cash problems in Latin America.	13 marks
		Total: 25 marks

Mark Scheme

Q1a

Given the disorganised nature of NSL's departments and subsidiaries. Many departments are redundant or have overlapping functions with other parts of the company. This increase inefficiency and also means employing more employees than needed.	2 marks
One solution is to create a shared service centre. A shared service centre (SSC) is a separate, accountable entity within an organisation tasked with supplying business units with specialised services.	1 mark
NSL can use SSC to perform the following tasks: • human resources, this will reduce human resource departments in NSL • facilities management procurement • internal audit, modernize internal audit function to adopt to international standards • marketing, a globalized marketing team for consistent group image	

- product distribution, or centralised sales team
- tax and legal compliance, so experts can be employed to deal with specialised areas of tax and law
- travel arrangements
- expense processing, to reduce administration cost and bureaucracy
- information technology, an internal web space to facilitate internal communication
- accounting and finance, particularly accounts payable and accounts receivable. This is needed to reduce inter-company transaction.

5 marks

In the area of cash management some of the functions for which SSCs are being used are:

- bulk payments, especially international payments, again this help reduce inter-company transaction
- local in-country paper collections, using lockboxes
- e-commerce applications such as e-invoicing, which was not mentioned in the case study, but could be useful to NSL too
- foreign exchange processing, reduce inter-company transaction
- liquidity management
- account reconciliation
- trade finance.

3 marks

There are a number of requirements, however, in order for an SSC to achieve maximum efficiency:

- a fully integrated accounting or enterprise resource planning systems (ERPs)
- skilled staff
- centralised cash management
- a treasury management system (TMS).

From a cash management perspective an SSC can lead to:

- a significant reduction in costs
- greater straight-through processing
- improved working capital position due to streamlined collections
- improved forecasting due to centralisation of financial information

4 marks

Total marks: 12

Q1b

This is trapped cash problem. There are mainly two measures NSL can implement: **The first choice is prevention**, e.g. try to avoid cash being trapped.

Regular reviews:

- business model and strategy: Do you want/need to operate in the respective country? If yes, only for local consumption or also for export? Does the business model still fit under the current circumstances?

	• capital structure: Is it right for the entity? Is it conducive to avoiding trapping cash? Beware using intercompany loans, as in some countries you may not be able to hedge the loan. Basic system flexibility and efficacy: • dividend distributions can be used to minimise trapped cash • settlement of liabilities (intercompany liabilities, third-party liabilities, etc) to ensure trapped cash is minimised by not having unnecessary cash • FX sourcing: partner with several banks as they will have different accesses to required currencies • safeguard financial assets: carefully consider how to invest cash. Regular communication with: • subsidiaries worldwide • range of banks to understand available options • fellow peers to keep up to date • key stakeholders to ensure general knowledge, i.e. regulation change, increased levels of risk, also in the area of business continuity. Since NSL's cash is already trapped, **directly dealing with trapped cash is important**. • Safeguarding assets by regularly reviewing: • all counterparties holding cash • decision to hold cash in local versus hard currency, with full awareness of any restrictions of holding cash in hard currency • other local investment opportunities beyond cash, for example, real estate. Thinking outside the box: • review the business configuration: imports vs local production, local or offshore sourcing of materials, etc • investment instruments: could you hold gold? Consider options that would not apply normally • payments-on-behalf-of: could your local entity pay on behalf of an offshore entity? • capital injections or (intercompany) loans might sound counterintuitive, but might be the right thing to do, if key issue is FX liquidity without risking business continuity • housekeeping and controls: ensure regular payment of foreign liabilities when FX is available rather than waiting for the 'right' forex rate. Regular communication with: • country subsidiaries to ensure full understanding of the situation • banks to fully gauge the market and the options available • peers to keep up to date on what others do	4 marks 2 marks 2 marks 4 marks 2 marks

	• key stakeholders. The strategy of investing in equities is not recommended because of the volatility of equity prices and hence the risk of loss of capital, and because of the liquidity risks (equities are considered long-term investments). There could also be tax implications (e.g., WHT). ***This mark scheme is not exhaustive – all valid points within answers will be awarded marks.*** **Syllabus refs: 4b.5.1, 4b.5.3**	**Total marks: 13**
		Total: 25 marks

QUESTION 2: CASE STUDY

Utkarsh Fertilisers and Chemical Group (UFG) is an Indian fertiliser producer based in Gujarat. UFG offers a wide range of fertiliser, including neem-coated urea, ammonium sulphate, diammonium phosphate and neem pesticide. The company was founded by the Indian government as part of the nation's agricultural initiatives.

UFG started trading in 1971 as a state enterprise, fully funded by the government. Fertiliser production capacity increased dramatically in the 1980s due to decades of investment. By the time of the 1990s the government no longer viewed fertilisers as a strategic resource. Many state enterprises were dissolved in response to fertiliser oversupply.

Fortunately, UFG was privatised in 1991 and survived the market downturn. Since privatisation, UFG has faced many challenges as funding from the government was no longer available. Orders from government and state enterprises has also ceased. UFG therefore had to sell overseas to survive. By 2015, UFG was one of the largest fertiliser suppliers in Africa and had subsidiaries in Kenya, Nigeria, Tanzania, Mozambique, Congo, Lesotho, Ghana, Egypt, and South Africa. UFG's fertilisers were very price competitive, and trading was strong until the pandemic.

A few customers in Kenya, Nigeria and Tanzania went bankrupt in 2020. They were some of the largest wholesale buyers of UFG's fertilisers. They developed deep connected retail channels to remote rural locations. Without their distribution effort, UFG's products would not be able to reach retail customers who constituted a significant portion of UFG sales. Rather than lose sales, UFG incorporated a subsidiary and started distributing fertilisers in these countries.

The logistics costs of delivering items to remote locations is expensive and could not be profitable on fertilisers alone. UFG needed to buy and sell other items such as farm produce to make distribution networks financially viable. However, getting paid was often a challenge. Many rural populations do not have access to banking, so they generally pay in cash directly to drivers. Drivers deposit cash into banks after each distribution run, which could last up to two weeks. There have been many cases where cash was lost in this process. Human counting errors can also occur when exchanging cash for goods. Sometimes a sale could not be completed because customers do not have enough cash on hand, and drivers are not allowed to sell items on credit. Whilst mobile wallets in mobile phones is widely used in the region, UFG does not have the capability because UFG's banking partners are very conservative and do not provide mobile device-based payment services. UFG is evaluating developments in mobile payments and hopefully will identify and implement a solution to the cash handling problem.

Currencies in Africa are unstable and holding any amount is risky. UFG uses cash concentration to manage its cash balances. Cash surpluses in local banks are converted into USD and transferred to a central account every night. Accounts in deficit are reimbursed the same way to reduce interest costs. While this approach is effective at reducing exchange rate exposure (vs hard currencies), UFG has incurred significant banking fees and margin costs due to the high frequency of exchange and transfer. Also, inter-company loans created to facilitate the daily cash movements have resulted in significant administrative effort and expenses. This is particularly problematic in countries where UFG has a small number of employees. The arrangement may also violate local tax laws in Kenya, Nigeria and Tanzania. UFG may be fined if tax authorities audit the operation. The treasurer is worried that the cash concentrations may have other hidden costs and is proposing to change the arrangement.

QUESTION 2

a.	Recommend and justify solutions to UFG's cash handling problem.	8 marks
b.	Analyse the advantages and disadvantages of UFG's cash concentration operation.	10 marks
c.	Evaluate the potential cash management structures for UFG.	7 marks
		Total: 25 marks

Mark scheme

Q3a

In many developing markets, access to a bank account is much less common for individuals than access to a mobile phone. In these markets, mobile phone network companies have been granted regulatory authority to provide limited financial services to their customers.	1 mark
These companies usually partner with a bank in some way to meet those regulatory requirements. Mobile wallets can be created by the phone company that enables their customers to make and receive payments via the mobile phone. Individuals (or businesses) can create a wallet and deposit money into their wallet. This can be done by transferring money from a bank account, or depositing cash into the wallet via an agent of the phone company. Once the money is in the wallet, it can be transferred from one mobile wallet to the next via simple text message.	2 marks
UFG needs to work with a banking partner that offer such services, or push its existing banking partner to introduce these services. There may be regulatory uncertainty regarding this, but many countries like Kenya already have mobile network provider that provides these kinds of financial services.	2 marks
A mobile wallet can also facilitate credit sales as in UFG's case. If the mobile wallet provider can aggregate funds, they are basically acting like a bank. Again, this is something UFG need to adopt.	1 mark
Since UFG works in multiple countries, a more involved solution is needed to connect all mobile wallet. For a company with retail operations in a large number of countries it would be cumbersome to connect to each mobile wallet independently. The result has been the establishment of global multichannel payment companies that have established connections with the most common	2 mark

payment methods around the globe, for example, Ayden, Stripe and Worldpay. Again, UFG need to adopt these services.

Total marks: 8

Q3b

The advantages of cash concentration over notional pooling include:

- the concentration account allows maximum flexibility in using funds for internal funding or investment
- the gross position is eliminated and only one credit limit is required, at the group level (which is also likely to have a higher credit rating than subsidiaries, and, therefore, obtain better rates) although subsidiary accounts may still need intra-day credit facilities, which may in turn require guarantees of some form and there are no balances left in the subsidiary accounts
- some countries may restrict or prohibit notional pooling.
- Bank capital requirements mean notional pooling is costly for banks to provide

3 marks

The disadvantages of cash concentration, as compared to notional pooling, include:

- cross-guarantees may be required under notional pooling, to provide the bank with the legal right of off-set. This enables the bank to off-set the balances and report only the net position to their central bank. Companies may be reluctant (or unable) to provide these guarantees, and if they do the local tax authorities may deem such guarantees to be 'quasi debt', thereby triggering thin capitalisation issues
- intercompany loans are created between the participants and the owner of the concentration account
- the intercompany loans have to be managed properly, requiring formal agreements, recording and charging structures, consistent with international transfer pricing regulations
- withholding tax may be levied on the intercompany loan interest in some countries
- the intercompany loans created by cash concentration movements may exceed criteria set by local tax authorities (thin capitalisation)
- if daily forecasts are not accurate, the company may pay unnecessary overdraft fees or leave idle (un-swept surplus) funds on the concentration (header) account
- banking fees for cash concentration may be high, especially if it entails cross-border movements of funds
- funds from different sources will be 'mixed' (co-mingled), which may have adverse consequences.
- Some countries only allow loans to banks not related parties.

8 marks

Total marks: 10

Q3c

Alternatives solutions are:

1. Notional pooling
2. Netting
3. Payment factories
4. Collection factories
5. Shared service centres
6. In-house bank

The primary purpose of a notional pool is to reduce bank interest to be paid or increase interest to be received, with a side benefit being that bank balances are aggregated into a single pool, improving access for treasury to the overall pool balance.

For the purposes of calculating credit or debit interest, the bank determines the net position of all of the balances in the pool accounts, allowing debit balances to be offset against credit balances even though there is no physical movement of funds. It is the fact that funds do not physically move in a notional pool that is its defining characteristic. This type of structure is frequently seen in corporate groups with some form of centralised treasury and interest is charged or credited by the bank on the net position only, rather than on the gross balance in the separate amounts. It appears that UFG already have similar arrangement using cash concentration. Also, savings from notional pooling needs to be evaluated against other costs. For cash concentration, UFG incurred large banking fees. Since notional pooling does not involve physical movement of balance, maybe this can save banking fee and increase (decrease) interest income (expense).

It should be noted, however, that although the interest cost at group level may be zero, if the accounts are owned by different legal entities, the lenders will still have to be compensated and the borrowers will have to pay interest on an arm's-length basis in order to comply with tax rules. Many banks will offer corporates the functionality to calculate these recharges as part of the pooling solution. Again, this needs to be compared against banking fees from cash concentration. If it is lower, then UFG could using notional pooling rather than cash concentration.

Netting is a means of reducing the volume of payments by off-setting payables and receivables arising from two or more parties trading with each other. It is usually most applicable for groups of companies trading between each other. Netting is particularly useful in reducing the all-in cost of cross-border cash management. There are two main types of netting, bilateral and multi-lateral. Since UFG incurred large banking fees, maybe netting should be done first before cash sweeping are carried out to reduce banking fees.

A payment factory is a centralised facility that undertakes the execution, administrative and reporting functions associated with payments. Payment factories can deliver important benefits:

- significant cost savings can be generated by reducing both the number of banks used and the overall cost of payment transactions
- expensive cross-border transactions can be reformatted and rerouted as cheaper domestic payments
- central bank reporting is handled on behalf of subsidiaries
- subsidiaries may not need to maintain external bank accounts or electronic banking packages (but collections might still result in the need for them)
- having a single gateway allows for standardised interfaces and even greater efficiency
- use of payment factories also enhances control, security and risk management.

Again, cost of creating payment factory needs to be evaluated against cash concentration arrangement. Depends on the complexity of UFG's organisational structure and number of cross-border transactions, this may or may not be cost efficient.

A shared service centre (SSC) acts as a single business unit in which common finance and administrative functions are performed for multiple subsidiaries. An SSC delivers services to other subsidiaries or business units, regulated by service level agreements (SLAs). From a cash management perspective an SSC can lead to greater straight-through processing, improved working capital position due to streamlined collections, and improved forecasting due to centralisation of financial information. SSC is a significant commitment that needs to be carefully evaluated before implementation. From the case study, UFG's problem is high banking fees and possibility of violation of tax law, this does not seem to be worthwhile for an SSC project.

An in-house bank (IHB) is a vehicle where group treasury acts as the primary source of all banking services to operating units on an arm's-length basis. It aggregates and nets out internal transactions. Only the differences are placed with external banks. The main reason for using an in-house bank is to optimise the use of the group's liquidity and reduce group banking costs through:

- reducing the number of banks and bank accounts overall
- minimising the number of transactions done through the external banks (intercompany payments will be cash-less transactions passed through the accounts of the IHB)
- off-setting group-wide currency positions
- centralising transactions for borrowing, investing and foreign exchange.

Marks are awarded for each of the six alternatives, maximum 2 marks per alternative

	Similar to SSC, IHB is a substantial cost to a group. If UFG's problem are just high banking fees and violation of tax law, then it is probably not worthwhile to implement an IHB. ***This mark scheme is not exhaustive – all valid points within answers will be awarded marks.*** **Syllabus refs: 4b.3.2, 4b.3.1**	**Total marks: 7**
		Total: 25 marks

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10 Lower Thames Street
London
EC3R 6AF
www.treasurers.org

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