



**LEADING TREASURY
PROFESSIONALS**

Examination Paper, Solutions and Examiner's Report

**Paper:
Certificate in International Treasury
Management**

April 2014

- 1 Where subsidiaries always initiate deals with local banks, head office treasury is most likely to be adopting:
 - (a) an agency role
 - (b) an advisory role
 - (c) an in-house banking role
 - (d) a cost centre approach
 - (e) a profit centre approach

- 2 The objective of Segregation of Duties is that no employee should be in a position to both:
 - (a) commit and conceal fraud or error in the usual course of their duties
 - (b) initiate and authorise a payment
 - (c) perform front and back office duties
 - (d) perform accounting and any other back office function

- 3 When calculating interest earned on a USD money market deposit, how many calendar days are there between 10 January 2014 and 18 June 2014?
 - (a) 190
 - (b) 189
 - (c) 188
 - (d) 160
 - (e) 159
 - (f) 158

- 4 The best estimate of the equivalent EAR for a 3% 60 day USD deposit is:
 - (a) 2.996%
 - (b) 3.000%
 - (c) 3.038%
 - (d) 3.042%
 - (e) 3.081%

5 An instrument with a face value of EUR 100,000 is issued at a 4% discount for 50 days. The best estimate of the price an investor would pay for the instrument on the issue date is:

- (a) 99,444
- (b) 99,448
- (c) 100,000
- (d) 100,556
- (e) 100,559

6 A 60 day USD instrument is issued at a 4% nominal discount. The best estimate of the equivalent EAR is:

- (a) 4.153%
- (b) 4.125%
- (c) 4.097%
- (d) 4.014%
- (e) 4.000%
- (f) 3.987%

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Yield	4%	5%	6%	7%	8%
AF (8 years)	6.7327	6.4632	6.2098	5.9713	5.7466
DF (8 years)	0.7307	0.6768	0.6274	0.5820	0.5403

A 6% annual coupon bond has 8 years until redemption at par. If it is trading at 106.5, the best estimate of the yield to maturity is:

- (a) 4%
- (b) 5%
- (c) 6%
- (d) 7%
- (e) 8%

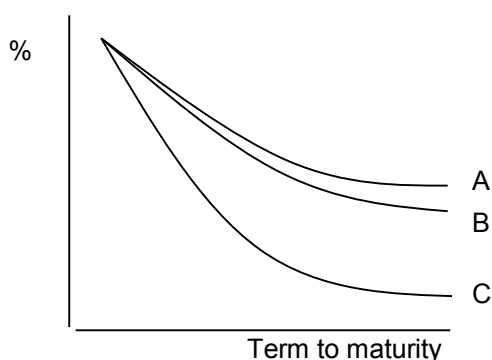
8 A series of annual cash flows is expected to start in 8 years' time with a payment of 100, growing thereafter at 3% per annum. At a discount rate of 8%, the cash flows have a present value of:

- (a) 1,000
- (b) 1,081
- (c) 1,113
- (d) 1,167
- (e) 1,202
- (f) 2,000

9 A single zero coupon yield curve shows market interest rates for instruments with the same:

	Maturity	Currency	Credit risk
(a)	yes	yes	yes
(b)	yes	yes	no
(c)	yes	no	no
(d)	no	yes	yes
(e)	no	yes	no
(f)	no	no	yes

10 Zero, forward and par yield curves are shown below:



The par yield curve is most likely to be:

- (a) A
- (b) B
- (c) C

11 A Treasurer plans to issue a 2 year semi-annual par bond. Market rates for bonds with the same credit rating are:

	6 months	12 months	18 months	24 months
Semi annual zero coupon rates	2.00%	2.30%	2.50%	2.70%
Discount factors	0.99010	0.97739	0.96342	0.94777
Cumulative discount factors	0.99010	1.96749	2.93091	3.87868

The best estimate of the quoted yield for this 2 year par bond issue is:

- (a) 2.70%
- (b) 2.69%
- (c) 2.38%
- (d) 1.35%

12 Today, a Malaysian company pays a Canadian supplier CAD 1 million. If CAD/MYR spot is 2.9580 – 16, the best estimate of the MYR cost is:

- (a) 2,961,600
- (b) 2,958,000
- (c) 2,951,600
- (d) 338,799
- (e) 338,066
- (f) 337,655

13 Today, a Mexican company pays a Swedish supplier SEK 1 million. Spot rates are:

USD/MXN: 12.0490 - 06
USD/SEK: 6.5350 - 60

The best estimate of the MXN cost is:

- (a) 1,844,000
- (b) 1,843,482
- (c) 1,842,197
- (d) 542,830
- (e) 542,452
- (f) 542,380

14 On Wednesday 26 June the 4 month forward date on a EUR/USD deal is:

- (a) Friday 25 October
- (b) Monday 28 October
- (c) Tuesday 29 October
- (d) Wednesday 30 October
- (e) Thursday 31 October
- (f) Friday 1 November

- 15 In 3 months' time, a US company will pay MYR 1 million to a Malaysian supplier. Today, the US company enters into a forward contract to hedge this transaction. Market rates are, today:

	Spot rate	1 month	3 month	6 month
USD/MYR:	2.9650 - 80	60 - 56	150 - 143	210 - 195

The best estimate of the hedged USD cost in 3 months' time is:

- (a) 2,980,000
 - (b) 2,953,700
 - (c) 2,950,000
 - (d) 338,983
 - (e) 338,558
 - (f) 335,570
- 16 A Mexican company is due to receive SEK 1 million in 6 months. It hedges this receipt with a forward contract when market rates are:

	Spot rate	1 month	3 month	6 month
USD/MXN:	12.9650 - 80	60 - 56	150 - 143	210 - 195
USD/SEK:	6.5350 - 60	10 - 12	20 - 25	40 - 48

The SEK are received in 6 months and the forward contract closed out. The best estimate of the MXN side of the hedged transaction is:

- (a) 1,980,000
 - (b) 1,979,000
 - (c) 505,000
 - (d) 503,000
- 17 Market rates are:

	Spot rate	1 month	3 month	6 month
USD/MYR:	2.9650 - 80	60 - 56	150 - 143	210 - 195

A small Malaysian company is expecting to receive USD 50,000 sometime between one month and six months' time. The best estimate of the USD/MYR rate the bank would offer the company for a hedging contract deliverable on any date between these two dates, at the option of the company, is:

- (a) 2.9624
- (b) 2.9590
- (c) 2.9485
- (d) 2.9440

18 USD/MYR spot is 2.9650. Market interest rates are:

	6 month (180 days)	Day count basis
USD Libor	1.12500%	
KLIBOR (on MYR)	3.25000%	act/365

The best estimate of the implied USD/MYR 180 day forward rate is:

- (a) 3.0273
- (b) 2.9957
- (c) 2.9346
- (d) 2.9040

19 ABC Inc wishes to borrow USD 1 million for 120 days. ABC Inc can borrow in USD directly at 3.1% or in GBP at 3.0%. GBP/USD spot is 1.5500 and 120 day forward pips are +0.0010. Assuming a fully hedged basis, ABC Inc:

	Should borrow in:	Because this is cheaper by USD:
(a)	USD	4,963
(b)	USD	1,121
(c)	USD	181
(d)	GBP	4,963
(e)	GBP	1,121
(f)	GBP	181

20 An investor uses their home PC to trade shares, based on only:

- real time past and current share price information and trends
- market reports
- public chat rooms

The investor has made a profit greater than expected under CAPM given the systematic risk taken, for each of the past five years (you may assume CAPM is true). Assuming the investor has not just been lucky, which version or versions of the Efficient Market Hypothesis is this evidence consistent with?

	Semi strong form:	Strong form:
(a)	consistent	consistent
(b)	consistent	not consistent
(c)	not consistent	consistent
(d)	not consistent	not consistent

- 21 Assume no tax and that Modigliani and Miller's theory without tax holds. A company has:
- a cost of equity of 8%
 - a WACC of 7.2%
 - gearing (debt/equity) of 20%

If gearing is changed to 40%, the new cost of equity will be:

- (a) 7.2%
- (b) 8.0%
- (c) 8.8%
- (d) 11.9%

- 22 At high levels of gearing when taxes, financial distress, agency cost, financial slack and tax capacity are taken into account, a further increase in gearing would most likely lead to:

	WACC	Cost of debt	Entity value
(a)	increasing	increasing	increasing
(b)	increasing	increasing	decreasing
(c)	decreasing	staying the same	increasing
(d)	decreasing	staying the same	decreasing

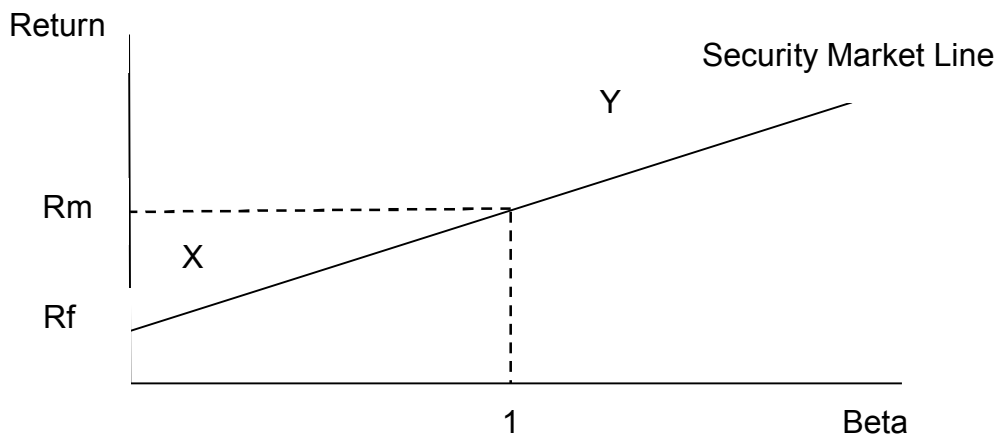
- 23 A company has:

- a WACC of 12%
- a cost of debt of 4%
- a debt:equity ratio of 1:3

A proposed project has the same risk profile as the company and a positive NPV at a discount rate of 12%. This NPV is most likely to:

- (a) be shared between debt and equity providers in the 1:3 ratio
- (b) flow to equity providers because it is part of their required return
- (c) flow to equity providers because debt providers are only entitled to a contractual return
- (d) be shared equally between debt and equity providers

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If CAPM is true, then this graph indicates that:

- | | X is: | Y is: |
|-----|--------------|--------------|
| (a) | under-priced | under-priced |
| (b) | under-priced | over-priced |
| (c) | over-priced | under-priced |
| (d) | over-priced | over-priced |

25 A company:

- is all equity financed
- has a cost of equity of 14%
- pays 60% of its earnings as dividends
- generates a return of 10% on reinvested funds

A dividend of £300,000 has just been paid.

The best estimate of the market value of the company using the Gordon Growth model is:

- (a) £2,229,000
- (b) £3,000,000
- (c) £3,120,000
- (d) £3,975,000

26 Modigliani and Miller's dividend irrelevance theory assumes:

- (a) shareholders prefer steady growth in dividends year on year
- (b) companies can issue new equity shares at zero transaction cost
- (c) capital gains is generally taxed at a lower rate than dividend income
- (d) shareholders always prefer dividends to earnings being retained in the company

27 A company is considering a core business project with the following cash flows:

		£
Up-front investment in machinery		5,000
Net post tax cash inflows at the end of:	Year 1	2,000
	Year 2	3,200
	Year 3	4,000

The company has a pre-tax WACC of 13% and a post-tax WACC of 12%, but the project is to be wholly financed with debt with a pre-tax cost of 7% and a posttax cost of 5%. The best estimate of the project's net present value is:

- (a) £2,048
- (b) £2,184
- (c) £2,929
- (d) £3,262

28 NPV is theoretically superior to IRR because only NPV:

- (a) assumes that cash generated by a project is reinvested at the project's rate of return
- (b) quantifies the impact of a project on shareholders' wealth
- (c) avoids the need to calculate an appropriate discount rate
- (d) is a measure of risk

29 A proposed project:

- is to be valued at a discount rate of 8%
- requires investment of £25,000 now
- will generate equal annual cash flows of £5,000 from time 4 in perpetuity

The best estimate of the NPV of the project is:

- (a) 20,939
- (b) 24,615
- (c) 29,769
- (d) 37,500

30 Which of the following are relevant cash flows when calculating a project NPV discounted at an appropriate WACC?

	Project marketing costs already paid for	Costs of employing a project supervisor	Interest on borrowings used to fund the project
(a)	yes	yes	yes
(b)	yes	yes	no
(c)	yes	no	yes
(d)	no	yes	yes
(e)	no	yes	no

31 A project has the following NPV at different discount rates:

Discount rate	8%	9%	10%
NPV, \$	30	-10	-56

The best estimate of the project's IRR is:

- (a) 8.00%
- (b) 8.25%
- (c) 8.50%
- (d) 8.75%
- (e) 9.00%
- (f) 9.25%

32 A company has:

- forecast free cash flow after interest and tax of €200,000 starting at the end of year 4, and growing thereafter at 3% per annum in perpetuity
- a cost of equity of 12%
- a WACC of 10%

The best estimate of the company's terminal value is:

- (a) €1,412,000
- (b) €1,582,000
- (c) €1,951,000
- (d) €2,147,000

33 The entity value (debt plus equity) of a company is found directly using:

	Discount Rate	Cash flows
(a)	WACC	Before financing costs
(b)	WACC	After financing costs
(c)	Ke	Before financing costs
(d)	Ke	After financing costs

34

	Company X \$ million	Company Y \$ million
Earnings	100	50
P/E	18	14
Valuation	1,800	700

If X acquires Y, it is estimated that there would be synergistic savings of \$10 million per annum. The P/E ratio of the combined entity is estimated at 17. The best estimate of the maximum price that X would pay for Y is:

- (a) \$580 million
- (b) \$710 million
- (c) \$840 million
- (d) \$850 million
- (e) \$920 million
- (f) \$1,020 million

35 On 31 March 2014, a company pays rent of £10,000 in advance, for the period 1 April to 1 October 2014. In its statement of financial position as at 31 March 2014 this will be shown under:

- (a) current liabilities
- (b) non-current liabilities
- (c) intangible assets
- (d) other receivables

36		£ million
	Operating profit	145
	Net profit	100
	Debt	160
	Equity	570
	Cash and cash equivalents	40

The best estimate of the ROCE using net debt is:

- (a) 13.0%
- (b) 13.7%
- (c) 14.5%
- (d) 18.8%
- (e) 19.9%
- (f) 21.0%

37		£ million
	Inventory	25
	Trade and other receivables	40
	Overdraft	10
	Trade and other payables	30

The best estimate of the quick ratio is:

- (a) 0.38
- (b) 1.00
- (c) 1.33
- (d) 1.63
- (e) 1.67

38 A company has a floating rate borrowing and enters into a swap agreement to fix the interest payments on this borrowing. Under IAS 39 this would be classified as a:

- (a) cash flow hedge
- (b) fair value hedge
- (c) commodity hedge
- (d) net investment hedge

- 39 Company AA is due to pay £10 million of interest to a foreign bank, and is required to withhold tax at 15%. If a 'grossing up' clause exists within the borrowing agreement, what is the best estimate of the withholding tax the company will pay to the UK tax authorities?
- (a) £1.76 million
 - (b) £1.50 million
 - (c) £1.30 million
 - (d) nothing, due to the grossing up clause
- 40 An investor can invest 100 in either the ordinary shares or the bonds of a company. Over the long term the investor would expect the value of the dividends:
- (a) to equal the total value of the interest paid on the bonds
 - (b) to equal the share value appreciation
 - (c) plus the share value appreciation to exceed the total value of the interest paid on the bonds
 - (d) plus the share value appreciation to equal the total value of the interest paid on the bonds
- 41 A major benefit to a private company choosing to list its shares on a public market is:
- (a) to access the 'long term view of company prospects' typical of public markets
 - (b) to access a new source of funding
 - (c) to give the company's management more operating freedom
 - (d) to decrease administration costs
 - (e) to enable the existing owners to buy more shares
- 42 All collective investment vehicles:
- (a) only invest in community-owned projects for the benefit of the community
 - (b) accept funds from others and invest those funds on their behalf
 - (c) specialise in very low value corporate investments
 - (d) acquire funds internationally
- 43 An investor relations manager's main role is to:
- (a) arrange and manage new share issues
 - (b) organise and run the Annual General Meeting
 - (c) ensure the company acts in the best interests of its shareholders
 - (d) provide information on the company to investors and analysts

44 In preparing for a new equity issue, the Treasurer should, as far as possible, keep their company's lending banks informed of how the funds will be used. The best reason for this is because these banks:

- (a) may wish to buy shares
- (b) have the right of veto over the equity issue
- (c) may change their view on the company's credit worthiness
- (d) will underwrite the issue

45 A company has 10 million shares in issue and a share price of £8.00. If the company raises £21 million using a rights issue at a 25% discount then the best estimate of:

	Number of new shares issued is:	Theoretical ex-rights share price is:
(a)	3.8 million	£7.32
(b)	3.5 million	£7.48
(c)	3.5 million	£6.00
(d)	2.6 million	£6.00

46 A company based in the USA has net assets in Japan of JPY 8,000 million and income each year of JPY 200 million. The company could reduce its currency risk exposure by:

- (a) borrowing in JPY
- (b) borrowing in USD
- (c) investing in JPY
- (d) investing in USD

47 A debt security of a UK based company is listed on the Luxembourg exchange. This is most likely to happen because:

- (a) the debt security market in Luxembourg is highly liquid
- (b) there is an EU subsidy for listing in Luxembourg
- (c) Luxembourg exchange listing requirements are less onerous than listing in the UK
- (d) tax can be withheld on interest paid

- 48 On 1 January 20X0, a bank lends a company \$80 million for 3 years, secured on a floating charge over the inventory of the business which has a value of \$100 million at that point.

On 1 January 20X2, the company goes into liquidation when it has the following realisable values:

Inventory	\$120 million	
Cash	\$20 million	
Trade payables	\$200 million	
Bank loan	\$80 million	(including all interest to that date)

The bank is likely to recover:

- (a) \$nil
 - (b) \$40 million
 - (c) \$80 million
 - (d) \$100 million
 - (e) \$120 million
- 49 A 10 year, 5% annual coupon bond, has 5 years left to maturity, when it is redeemable at par. If the current market yield for a bond of this risk is 6%, the best estimate of the bond's market value is:
- (a) 95.79
 - (b) 100.00
 - (c) 103.73
 - (d) 111.53
- 50 A UK based company intends to issue a USD denominated bond in London. This is known as a:
- (a) foreign bond
 - (b) Yankee bond
 - (c) Bulldog bond
 - (d) Eurobond
- 51 A 10 year zero coupon bond is issued at a price of 70 and will be redeemed at face value. The best estimate of the yield to maturity of the bond at issue is:
- (a) 2.7%
 - (b) 3.0%
 - (c) 3.6%
 - (d) 4.3%

- 52 Most of the time, the clean price of a bond is:
- (a) less than the dirty price
 - (b) more than the dirty price
 - (c) the same as the dirty price
 - (d) unrelated to the dirty price
- 53 A money market line is normally regarded as:
- (a) an uncommitted facility because there is no guarantee the borrower will be able to access the money market for borrowings when it wants
 - (b) an uncommitted facility because monies borrowed are repayable on demand
 - (c) a committed facility because a money market investor cannot demand repayment before maturity
 - (d) a committed facility because interest on the borrowing is paid at maturity
- 54 A pricing ratchet might be triggered by:
- | | An improvement in the
company's credit rating | A deterioration in specified
financial ratios |
|-----|--|--|
| (a) | yes | yes |
| (b) | yes | no |
| (c) | no | yes |
| (d) | no | no |
- 55 A company has arranged a 5 year borrowing facility of \$120 million with an upfront fee of 0.4% of the facility, payable immediately. The company's marginal cost of borrowing is 6.0%. The best estimate of the \$ annual equivalent cost of the upfront fees is:
- (a) 95,000
 - (b) 96,000
 - (c) 102,000
 - (d) 114,000

56 A company's borrowings are subject to covenants based on tangible net worth and current ratios. If this company purchases a patent for \$200,000 using its overdraft facility, the most likely effect on these ratios is:

	Tangible net worth	Current ratio
(a)	no impact	no impact
(b)	no impact	worsen
(c)	worsen	no impact
(d)	worsen	worsen

57 A credit rating of BBB- on a corporate bond issue means:

	The bond is investment grade	The bond is likely to be riskier than a Ba2 bond
(a)	yes	yes
(b)	yes	no
(c)	no	yes
(d)	no	no

58 Thin capitalisation rules often state a maximum debt level of X% of equity. This means:

- (a) a company cannot issue debt in excess of this maximum
- (b) interest on all debt is not tax deductible if this maximum is exceeded
- (c) interest on debt above this maximum is not tax deductible
- (d) withholding tax must be deducted from interest on debt above this maximum

59 A 20 year sale and leaseback arrangement over a company's head office will normally produce, in the first year of the lease:

	A cash inflow	An accounting loss
(a)	yes	yes
(b)	yes	no
(c)	no	yes
(d)	no	no

60 A money market deposit is always a source of liquid funds All else being equal, reducing inventory levels will increase cash

(a)	yes	yes
(b)	yes	no
(c)	no	yes
(d)	no	no

61 A business starts on 1 January with cash of 20 and forecasts the following results:

	January	February	March
Sales	10	20	40
Purchases	6	12	24

Customers are allowed two months to pay, and suppliers are paid after one month. The best estimate of the cash balance on 1 April is:

- (a) (12)
- (b) (8)
- (c) 8
- (d) 12
- (e) 32
- (f) 48

62 The following information is available about plant and equipment for a period:

Opening net book value	120
Closing net book value	135
Depreciation charged	15
Disposal proceeds	25
Profit on disposal	8

The best estimate of the expenditure on plant and equipment in the period is:

- (a) 13
- (b) 17
- (c) 22
- (d) 47
- (e) 63

63 A typical manufacturing company's operating cycle will lengthen if it:

- (a) improves its receivables collection processes
- (b) reduces its inventory levels
- (c) pays its suppliers more quickly
- (d) transfers cash to a fixed term deposit

- 64 Company ABC maintains an overdraft on which it pays 5% (act/365). ABC's average payables are HKD 6 million. If ABC's average Days Payable Outstanding increase from 40 to 60 days, the best estimate of the impact on ABC's annual profit before tax is (in HKD):
- (a) 16,500
 - (b) 100,000
 - (c) 150,000
 - (d) 160,000
 - (e) 200,000
 - (f) 450,000
- 65 A company ABC buys goods from XYZ. ABC would have 'consignment inventory' if the inventory is:
- | | Held: | Bought and paid for: |
|-----|-------------------|-----------------------------|
| (a) | on ABC's premises | on delivery to ABC |
| (b) | on ABC's premises | when used or re-sold by ABC |
| (c) | on XYZ's premises | on delivery to ABC |
| (d) | on XYZ's premises | when used or re-sold by ABC |
- 66 When arranging new short term borrowings, the most important attribute to consider is:
- (a) security
 - (b) flexibility
 - (c) availability
 - (d) diversification
- 67 A 30 day \$10 million commercial bill of exchange payable to supplier Y is issued by company X. The bill is accepted by X's bank Z, and sent to supplier Y. At maturity:
- | | If X has \$10 million: | If X is unable to pay: |
|-----|------------------------|------------------------|
| (a) | X pays Y | Y is not paid |
| (b) | X pays Y | Z pays Y |
| (c) | Z pays Y | Y is not paid |
| (d) | Z pays Y | Z pays Y |

68 A \$3 million CD with a coupon of 4% is issued for 200 days. 50 days later, an investor buys the CD when it has a yield of 5.2%. The investor holds the CD for 80 days, and then sells the CD at a market yield of 4.8%. The best estimate of the \$ sale proceeds is:

- (a) 2,972,000
- (b) 3,030,000
- (c) 3,035,000
- (d) 3,038,000
- (e) 3,058,000
- (f) 3,065,000

69 A company:

- has a marginal tax rate of 30%
- borrows USD 20 million for 8 years at USD Libor plus 150bp
- deposits USD 9 million at USD Libor minus 80bp for 30 days

The best estimate of the USD cost of carry after tax is:

- (a) 3,675
- (b) 4,492
- (c) 12,075
- (d) 14,758
- (e) 17,250

70 ECP with a face value of \$6.0 million is issued for 90 days at \$5.8 million. 40 days later, an investor pays \$5.9 million to purchase the ECP. If held to maturity, the investor's holding period yield would be:

- (a) 12.0%
- (b) 12.2%
- (c) 13.8%
- (d) 15.3%

- 71 On 31 July a company's bank account has a cleared credit balance of GBP 5,000. Subsequent bank reports for the account show:

Ledger date	Value Date	GBP
31 July	2 August	6,000 debit
3 August	3 August	4,000 credit
17 August	19 August	7,000 debit
25 August	27 August	1,000 credit
31 August	4 September	4,000 credit

On this account:

- 5% interest is charged on debit balances
- no interest is earned on credit balances

The best estimate of the GBP interest charge for the month of August is:

- (a) 6.16
 (b) 6.58
 (c) 7.12
 (d) 8.22
- 72 In making a cross-border payment, the advantages of a corporate using a banking alliance over a correspondent bank outside the alliance, include:

	Strict service levels agreed	Guaranteed availability of funds	Fixed prices
(a)	yes	yes	yes
(b)	yes	yes	no
(c)	yes	no	yes
(d)	no	yes	yes
(e)	no	yes	no
(f)	no	no	yes

- 73 X and Y have overdrafts charging 5% interest.

X owes Y USD 400,000
 Y owes X USD 500,000

If payments are subject to two days bank float, the best estimate of the USD saving that could be achieved by bilateral netting is:

- (a) 28
 (b) 111
 (c) 139
 (d) 219
 (e) 222

74 Enterprise risk management is desirable primarily because:

- (a) it allows a competent specialist to manage risk
- (b) it removes risk management from those incentivised to take risk
- (c) it is good at capturing the impact of a single large dominant risk
- (d) risks frequently interact

75 Corporate finance theory assumes that all investors:

	Are rational	Have the same level of risk aversion
(a)	yes	yes
(b)	yes	no
(c)	no	yes
(d)	no	no

76 Over the last five years an investment has had annual returns of 7%, 9%, 5%, 2%, and 7%. The best estimate of the standard deviation of future annual returns is:

- (a) 2.37%
- (b) 2.65%
- (c) 5.60%
- (d) 7.00%

77 AB plc currently has a BBB+ credit rating and plans to borrow funds in 12 months' time. AB plc believes the interest rate payable on these borrowed funds will vary with changes in the company's credit rating and gearing ratio as shown below:

		Change in company gearing ratio		
		-5%	no change	+5%
Credit rating	A-	3.9%	4.0%	4.1%
	BBB+	4.8%	5.0%	5.2%
	BBB	5.7%	6.0%	6.3%

Which of the following is most likely to cause the greatest increase in the interest payable by AB plc on the planned new borrowing?

	Change in AB plc's gearing:	Change in AB plc's credit rating:
(a)	5% rise	one notch improvement
(b)	5% fall	one notch improvement
(c)	5% fall	one notch deterioration
(d)	no change	one notch deterioration

78 A US company has a foreign currency receivable due for settlement in 10 days. The receivable is worth USD 200,000 at today's spot rate. The 10 day standard deviation of the spot rate is 0.4% assuming a normal distribution. The best estimate of the 10 day VaR at a 99% confidence level is USD:

- (a) 1,320
- (b) 1,568
- (c) 1,864
- (d) 2,064

79 A company has an investment in a money market deposit. This exposes the company to:

	Interest rate risk	Liquidity risk
(a)	yes	yes
(b)	yes	no
(c)	no	yes
(d)	no	no

80 Libor is currently 4%. A company currently:

- has 50% floating rate and 50% fixed rate borrowings
- pays 5% on both fixed and floating borrowings
- has an interest cover ratio (EBIT/Interest) of 6.6

Libor subsequently rises to 5% across all maturities. The best estimate of the new interest cover ratio for this company, assuming no debt refinancing during the period, is:

- (a) 5.5
- (b) 6.0
- (c) 7.3
- (d) 8.3

81 A German company tenders in EUR, its reporting currency, for a project in Japan. The project would involve substantial JPY costs if the company wins the tender. Prior to the award of the tender the company is exposed to foreign exchange:

	Transaction risk	Pre-transaction risk	Translation risk
(a)	yes	yes	no
(b)	yes	no	no
(c)	no	yes	yes
(d)	no	yes	no

- 82 When comparing forward contracts with currency futures contracts, a currency futures contract:
- (a) has a wider range of possible currencies
 - (b) is more likely to provide an exact match to company requirements
 - (c) has lower counterparty risk
 - (d) is easier to manage for cash planning purposes
- 83 10 years ago AB plc issued a \$60 million 15 year bond with a 6% fixed annual coupon. Today, it enters into a 5 year interest rate swap for 4% (annual) against annual Libor as a fair value hedge of \$45 million of the debt. Taking the bond and the swap together, the best estimate of the hedged interest rate on the \$60 million bond plus swap for the next 5 years is:
- (a) $(\text{Libor} \times 0.25) + 5\%$
 - (b) $(\text{Libor} \times 0.50) + 4\%$
 - (c) $(\text{Libor} \times 0.75) + 3\%$
 - (d) $\text{Libor} + 2\%$
- 84 A 3 month European style put option over 100 shares has a strike price of \$2 per share and a total premium cost of \$10. Ignoring the time value of money, the best overall profit the option buyer could achieve is:
- (a) \$10 loss
 - (b) \$0
 - (c) \$190 profit
 - (d) \$200 profit
- 85 In 2 months a company expects to have significant surplus funds for a period of 6 months. To fix the interest rate achieved, the company should:
- (a) buy a 0v2 FRA
 - (b) buy a 2v6 FRA
 - (c) buy a 2v8 FRA
 - (d) sell a 0v2 FRA
 - (e) sell a 2v6 FRA
 - (f) sell a 2v8 FRA

86 On 1 January, a corporate sold a 3v7 FRA at 4% over a nominal of EUR 10 million.

On 1 April, 4 month (122 day) EUR market rates are 4.88 – 5.00%. The best estimate of the settlement amount paid or received by the corporate on 1 April is EUR:

- (a) 29,300 paid
- (b) 33,300 paid
- (c) 33,900 paid
- (d) 29,300 received
- (e) 33,300 received
- (f) 33,900 received

87 A corporate intends to make an investment in 4 months' time for 6 months, and normally receives 0.75% less than Libor on such deposits. It takes out a lender's option with a strike rate of 4.00% against Libor at a premium of 0.12%.

4 months later 6 month Libor is 3.00%. The best estimate of the hedged rate achieved on the investment plus the option is:

- (a) 2.13%
- (b) 2.25%
- (c) 2.37%
- (d) 3.13%
- (e) 3.37%

88 A Corporate Treasurer is best advised to buy short term interest rate options (rather than allowing the position to remain unhedged or using a forward rate agreement), if they:

- (a) have no opinion on future interest rates
- (b) believe rates will move adversely for the company
- (c) wish to protect a potential future borrowing
- (d) believe market volatility is overstated

89 A company requires a 10 year EUR 20 million variable rate borrowing. It could:

- borrow at a variable rate of 12 month Euribor + 2.00% directly or
- borrow at 5.50% fixed and enter into a 10 year swap priced at 3.00 – 3.05 against 12 month Euribor.

Borrowing at variable rate directly is:

- (a) 45 basis points more expensive
- (b) 50 basis points more expensive
- (c) 45 basis points less expensive
- (d) 50 basis points less expensive

- 90 Five years ago, a corporate entered a £10 million 8 year interest rate swap to pay 4%, receive 12 month Libor.

Today, swap rates against 12 month Libor are:

3 years	3%
5 years	4%
8 years	5%

The best estimate of the current value of the swap to the corporate is:

- (a) £272,000 asset
(b) £283,000 asset
(c) zero
(d) £272,000 liability
(e) £283,000 liability
- 91 A company has arranged:
- a USD variable rate loan for 5 years at USD Libor + 150 basis points
 - an offsetting interest rate cap with a strike of 4.50% for an upfront cost of 1.50% of the notional principal

The best estimate of the worst case hedged rate is:

- (a) 4.5% pa
(b) 4.8% pa
(c) 5.7% pa
(d) 6.0% pa
(e) 6.3% pa
(f) 7.5% pa
- 92 A cross currency swap is arranged as follows:

- Principals: Receive USD 125 million; pay GBP 100 million
- Term: 5 years, with annual interest payments
- Interest rates: 3.2% USD; 4.0% GBP

After 5 years the spot rate is GBP/USD 1.3000. The final payment and receipt will be:

	Payment:	Receipt:
(a)	USD 125 million	GBP 100 million
(b)	USD 129 million	GBP 104 million
(c)	USD 130 million	GBP 100 million
(d)	USD 134 million	GBP 104 million

93 A US company wishes to hedge the receipt of SGD due in 3 months. Which of the following is most appropriate as a hedge?

- (a) buy a SGD call
- (b) buy a SGD call and sell a SGD put
- (c) buy a SGD call and buy a SGD put
- (d) sell a SGD call and sell a SGD put
- (e) sell a SGD put
- (f) buy a SGD put and sell a SGD call

94 An employee of a large company is NOT authorised to use a payment portal supplied by the company's bank. The employee fraudulently initiates a payment using the portal. The bank confirms that the instruction has come from the company and then carries out the instruction. The bank is likely to be required to reimburse the company by:

	Banking regulators	Sarbanes-Oxley
(a)	yes	yes
(b)	yes	no
(c)	no	yes
(d)	no	no

95 Treasury operational risk policies are most likely:

- (a) to be developed by the internal audit department to deal with Treasury activities
- (b) to cascade down from company financial risk policies, as applied to Treasury
- (c) to be developed by Treasury to deal with Treasury activities

96 Examples of exception reports include those which list:

	Unreconciled items	Confirmed transactions	Deals that have been amended in the TMS
(a)	yes	yes	yes
(b)	yes	yes	no
(c)	yes	no	yes
(d)	no	yes	no
(e)	no	no	yes

97 Which of the following are sources of treasury operational risks, as defined within ITM?

	Internet access problems	Foreign exchange rate changes	Inexperienced staff
(a)	yes	yes	yes
(b)	yes	yes	no
(c)	yes	no	yes
(d)	no	yes	no
(e)	no	no	yes

98 A member of a professional accounting body is also a student member of the ACT.

- They do not work within a treasury department
- They have NOT paid their membership fees for their professional accounting body and are therefore in breach of the rules of their professional accounting body

This person is:

- (a) in breach of the ACT ethical code
- (b) NOT in breach of the ACT ethical code because they are a student member
- (c) NOT in breach of the ACT ethical code because it is a different professional body
- (d) NOT in breach of the ACT ethical code because they do not work in treasury
- (e) NOT in breach of the ACT ethical code, which does not cover subscriptions

99 Spreadsheets used in treasury management are most likely to be problematic because they:

	Include data types not available in the TMS	Have no audit trail	Are often only understood by a few individuals
(a)	yes	yes	yes
(b)	yes	no	yes
(c)	yes	no	no
(d)	no	yes	yes
(e)	no	yes	no
(f)	no	no	no

100 Which of the following approaches are best suited to collecting data on whether a TMS supplier is likely to meet the wider Treasury and business needs of a firm?

- (a) A scorecard combined with supplier discussions
- (b) A scorecard combined with a Request For Proposal
- (c) Supplier discussions combined with a Request for Proposal

CertITM – Formulae

Accounting formula

1.

$$\text{Change in cash} = \left(\begin{array}{c} \text{opening} \\ \text{balance sheet} \\ \text{figure} \end{array} \right) \pm \text{adjustments} + \left(\begin{array}{c} \text{income-} \\ \text{expense} \end{array} \right) - \left(\begin{array}{c} \text{closing} \\ \text{balance sheet} \\ \text{figure} \end{array} \right)$$

Present Value and future value formulae

2.
$$PV = FV(1+r)^{-n} = \frac{FV}{(1+r)^n}$$

3.
$$\text{Annuity factor} = \frac{1}{r} \times \left(1 - \frac{1}{(1+r)^n} \right) \quad \underline{\text{or}} \quad = (1 - DF) \div r$$

4.
$$PV = \frac{C}{(r - g)}$$

5.
$$\text{IRR}\% = a\% + \frac{A}{(A - B)} (b\% - a\%)$$

Manipulating interest rates

6.
$$\text{IRR}\% = R = \frac{\text{redemption price} - \text{opening price}}{\text{opening price}} \times \frac{\text{year}}{\text{actual days}}$$

7.
$$R = r \times \frac{\text{year}}{\text{days}}$$

8.
$$r_{\text{new}} = (1 + r_{\text{old}})^{\left(\frac{\text{new}}{\text{old}}\right)} - 1$$

9.
$$r = \frac{d}{1-d} \quad \text{and} \quad d = \frac{r}{1+r}$$

10.
$$1+r = \frac{1+n}{1+i}$$

11.
$$(1+r_{\text{long}}) = (1+r_{\text{short}})(1+r_{\text{short v long}})$$

12.
$$\frac{1+r_V}{1+r_B} \times \text{Spot}(B/V) = \text{Forward}(B/V)$$

13.
$$C = \frac{100(1 - DF_n)}{\text{CUM } DF_n}$$

Corporate Finance formulae

$$14. \quad WACC = k_d \times (1 - T_c) \times \frac{D}{D+E} + k_E \times \frac{E}{D+E}$$

$$15. \quad k_E = r_f + \beta(r_m - r_f)$$

$$16. \quad P = \frac{d_1}{k_E - g}$$

or

$$k_E = \frac{d_1}{P} + g$$

$$17. \quad g = r \times b$$

$$18. \quad AEF = \frac{\text{upfront fee}}{\text{annuity factor}}$$

$$19. \quad \text{corporate value} = PV\left(\begin{array}{l} \text{cashflows over} \\ \text{forecast period} \end{array}\right) + PV\left(\begin{array}{l} \text{steady state cashflows} \\ \text{after forecast period} \end{array}\right)$$

Statistical formulae

$$22. \quad \text{Geometric mean: } [(1+r_1)(1+r_2)\dots(1+r_n)]^{(1/n)} - 1$$

$$23. \quad \text{Variance } [X] = \sigma^2 = \frac{\text{Sum of squared differences of observations from the mean}}{\text{Number in population}}$$

$$24. \quad \text{Variance } [X] = \sigma^2 = \frac{\text{Sum of squared differences of observations from the mean}}{(\text{Number in sample} - 1)}$$

$$25. \quad \text{VaR} = Z \times \sigma_{\text{TIME}} \times \text{Exposure}$$

$$26. \quad Z = \frac{X - \mu}{\sigma}$$

Instruments

$$27. \quad \text{future value} = \text{principal amount} \times \left(1 + \text{issue rate} \% \times \frac{\text{original life}}{\text{year (360 or 365)}}\right)$$

$$28. \quad \text{present value} = \text{future value} \div \left(1 + \text{current market yield} \times \frac{\text{days left to run}}{\text{year (360 or 365)}}\right)$$

$$29. \quad (1 + \text{holding period yield}) = \frac{(1 + \text{yield to redemption on purchase})}{(1 + \text{yield to redemption on sale})}$$

$$30. \quad S = P \times (R_m - R_f) \times \frac{\text{days}}{\text{year}} \times \frac{1}{1 + R_m \times \frac{\text{days}}{\text{year}}}$$

Ratios

31. PI: $\frac{\text{Project NPV}}{\text{PV of Investment Flows}}$ OR $\frac{\text{NPV of non - investment flows}}{\text{PV of Investment Flows}}$
32. Accounting rate of return = $\frac{\text{Average expected accounting profit}}{\text{Initial or Average capital employed}}$
33. ROCE = $\frac{\text{Operating profit}}{\text{Capital employed (share capital and reserves plus net debt)}}$
34. Operating profit margin = $\frac{\text{operating profits}}{\text{revenue}}$
35. Asset turnover = asset revenue = $\frac{\text{revenues}}{\text{capital employed}}$
36. Days inventory = $\frac{\text{Inventory at period end}}{\text{Annual cost of sales}} \times 365$
37. Trade receivables days = $\frac{\text{trade receivables (net of sales taxes)}}{\text{average sales per day (sales/365)}}$
38. Current ratio = $\frac{\text{current assets}}{\text{current liabilities}}$
39. Acid test = $\frac{\text{current assets less inventory}}{\text{current liabilities}}$
40. Leverage = $\frac{\text{Debt}}{\text{Debt + Equity}}$

NORMAL DISTRIBUTION TABLE



Area under the normal distribution curve between the mean and Z standard deviations from the mean.

Z	0.00	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09
0.0	0.0000	0.0040	0.0080	0.0120	0.0160	0.0199	0.0239	0.0279	0.0319	0.0359
0.1	0.0398	0.0438	0.0478	0.0517	0.0557	0.0596	0.0636	0.0675	0.0714	0.0753
0.2	0.0793	0.0832	0.0871	0.0910	0.0948	0.0987	0.1026	0.1064	0.1103	0.1141
0.3	0.1179	0.1217	0.1255	0.1293	0.1331	0.1368	0.1406	0.1443	0.1480	0.1517
0.4	0.1554	0.1591	0.1628	0.1664	0.1700	0.1736	0.1772	0.1808	0.1844	0.1879
0.5	0.1915	0.1950	0.1985	0.2019	0.2054	0.2088	0.2123	0.2157	0.2190	0.2224
0.6	0.2257	0.2291	0.2324	0.2357	0.2389	0.2422	0.2454	0.2486	0.2517	0.2549
0.7	0.2580	0.2611	0.2642	0.2673	0.2704	0.2734	0.2764	0.2794	0.2823	0.2852
0.8	0.2881	0.2910	0.2939	0.2967	0.2995	0.3023	0.3051	0.3078	0.3106	0.3133
0.9	0.3159	0.3186	0.3212	0.3238	0.3264	0.3289	0.3315	0.3340	0.3365	0.3389
1.0	0.3413	0.3438	0.3461	0.3485	0.3508	0.3531	0.3554	0.3577	0.3599	0.3621
1.1	0.3643	0.3665	0.3686	0.3708	0.3729	0.3749	0.3770	0.3790	0.3810	0.3830
1.2	0.3849	0.3869	0.3888	0.3907	0.3925	0.3944	0.3962	0.3980	0.3997	0.4015
1.3	0.4032	0.4049	0.4066	0.4082	0.4099	0.4115	0.4131	0.4147	0.4162	0.4177
1.4	0.4192	0.4207	0.4222	0.4236	0.4251	0.4265	0.4279	0.4292	0.4306	0.4319
1.5	0.4332	0.4345	0.4357	0.4370	0.4382	0.4394	0.4406	0.4418	0.4429	0.4441
1.6	0.4452	0.4463	0.4474	0.4484	0.4495	0.4505	0.4515	0.4525	0.4535	0.4545
1.7	0.4554	0.4564	0.4573	0.4582	0.4591	0.4599	0.4608	0.4616	0.4625	0.4633
1.8	0.4641	0.4649	0.4656	0.4664	0.4671	0.4678	0.4686	0.4693	0.4699	0.4706
1.9	0.4713	0.4719	0.4726	0.4732	0.4738	0.4744	0.4750	0.4756	0.4761	0.4767
2.0	0.4772	0.4778	0.4783	0.4788	0.4793	0.4798	0.4803	0.4808	0.4812	0.4817
2.1	0.4821	0.4826	0.4830	0.4834	0.4838	0.4842	0.4846	0.4850	0.4854	0.4857
2.2	0.4861	0.4864	0.4868	0.4871	0.4875	0.4878	0.4881	0.4884	0.4887	0.4890
2.3	0.4893	0.4896	0.4898	0.4901	0.4904	0.4906	0.4909	0.4911	0.4913	0.4916
2.4	0.4918	0.4920	0.4922	0.4925	0.4927	0.4929	0.4931	0.4932	0.4934	0.4936
2.5	0.4938	0.4940	0.4941	0.4943	0.4945	0.4946	0.4948	0.4949	0.4951	0.4952
2.6	0.4953	0.4955	0.4956	0.4957	0.4959	0.4960	0.4961	0.4962	0.4963	0.4964
2.7	0.4965	0.4966	0.4967	0.4968	0.4969	0.4970	0.4971	0.4972	0.4973	0.4974
2.8	0.4974	0.4975	0.4976	0.4977	0.4977	0.4978	0.4979	0.4979	0.4980	0.4981
2.9	0.4981	0.4982	0.4982	0.4982	0.4984	0.4984	0.4985	0.4985	0.4986	0.4986
3.0	0.4987	0.4987	0.4987	0.4988	0.4988	0.4989	0.4989	0.4989	0.4990	0.4990

Solutions International Treasury Management April 2014

Q	Answer	Unit
1	b	Unit 1
2	a	Unit 1
3	e	Unit 1
4	e	Unit 1
5	a	Unit 1
6	a	Unit 1
7	b	Unit 1
8	d	Unit 1
9	d	Unit 1
10	a	Unit 1
11	b	Unit 1
12	a	Unit 1
13	a	Unit 1
14	e	Unit 1
15	d	Unit 1
16	b	Unit 1
17	d	Unit 1
18	b	Unit 1
19	c	Unit 1
20	d	Unit 2
21	c	Unit 2
22	b	Unit 2
23	c	Unit 2
24	a	Unit 2
25	c	Unit 2
26	b	Unit 2
27	b	Unit 2
28	b	Unit 2
29	b	Unit 2
30	e	Unit 2
31	d	Unit 2
32	b	Unit 2
33	a	Unit 2
34	e	Unit 2

Q	Answer	Unit
35	d	Unit 2
36	f	Unit 2
37	b	Unit 2
38	a	Unit 2
39	a	Unit 2
40	c	Unit 3
41	b	Unit 3
42	b	Unit 3
43	d	Unit 3
44	c	Unit 3
45	b	Unit 3
46	a	Unit 3
47	c	Unit 3
48	c	Unit 3
49	a	Unit 3
50	d	Unit 3
51	c	Unit 3
52	a	Unit 3
53	a	Unit 3
54	a	Unit 3
55	d	Unit 3
56	d	Unit 3
57	b	Unit 3
58	c	Unit 3
59	a,b	Unit 3
60	c	Unit 4
61	d	Unit 4
62	d	Unit 4
63	c	Unit 4
64	c	Unit 4
65	b	Unit 4
66	c	Unit 4
67	d	Unit 4

Q	Answer	Unit
68	d	Unit 4
69	c	Unit 4
70	b	Unit 4
71	b	Unit 4
72	a,c	Unit 4
73	e	Unit 4
74	d	Unit 5
75	b	Unit 5
76	b	Unit 5
77	d	Unit 5
78	c	Unit 5
79	a	Unit 5
80	b	Unit 5
81	d	Unit 5
82	c	Unit 5
83	c	Unit 5
84	c	Unit 5
85	f	Unit 5
86	b	Unit 5
87	d	Unit 5
88	a,b,c	Unit 5
89	d	Unit 5
90	e	Unit 5
91	e	Unit 5
92	b	Unit 5
93	f	Unit 5
94	d	Unit 6
95	c	Unit 6
96	c	Unit 6
97	d	Unit 6
98	a	Unit 6
99	d	Unit 6
100	a,b,c	Unit 6

ITM Examiners Report April 2014

The exam consisted of 19, 20, 20, 14, 20, and 7 questions from study units 1 to 6 respectively.

17 (3) candidates selected more than one answer on a single question. These scripts were carefully examined to check that one of these answers had not been badly erased, and this was not the case. No credit can be given where more than one answer is selected for a single question.

53 (33) candidates chose not to answer all questions. Marks are NOT deducted for incorrect answers, and candidates are therefore encouraged to give an answer for all questions, even those where they are unsure of the correct answer.

It would appear some candidates mark the question paper with their answers and then transpose these answers to their answer sheet at the end of the exam. This sometimes results in such candidates running out of time in the exam. This approach is not recommended: candidates are advised to complete their answer paper as they progress through their exam.

After the exam, and with the aid of both statistical analysis and candidate feedback, the ITM board identified 4 questions where it decided that more than one option deserved full credit.

The pass mark is designed to reflect the average performance expected of a competent student with a reasonable familiarity with the ITM learning materials who has studied reasonably diligently. A pass mark was set before the exam by assessing the difficulty of each question and collating these judgements. Following post exam analysis, the ITM Board chose to reduce the pass mark set before the exam.

Following this adjustment, the pass rate for this diet was 50.6% (59.4% in October 2013). The maximum score in this exam was 94% (96% Oct 2013) and the minimum was 23% (19% Oct 2013). Making a random selection of options in the exam would on average score 24.1 (24.7%).

The pass rate for each study unit was as follows:

	Full	SU 1	SU 2	SU 3	SU 4	SU 5	SU6
Apr14	50.6	51.1	48.6	71.9	40.3	48.1	78.3

The overall pass rate for this diet is extremely concerning.

The ITM Board examined a large proportion of the exam questions set in the context of overall candidate performance, candidate feedback and statistical analysis, but concluded that there were no grounds for reducing the pass mark beyond the level finally adopted.

Candidate performance in this diet was significantly worse on both numerical and knowledge based questions. The average pass rate for questions testing calculations was 43.1% (Oct13: 55.8%), and for questions testing knowledge was 60.0% (Oct13: 77.3%). The correlation between performance in calculation questions and the overall exam was 0.95, and between knowledge questions and the overall exam was also 0.95. This supports the view that students must score reasonably in both types of question to pass the exam overall.

For those candidates' for which data on prior qualification was held, the pass rate for professionally qualified accountants was 59% (77% Oct13), and those with no such qualification was 44% (54% Oct13). The examiner strongly recommends non-accountants who intend to attempt CertITM should take the AMCT stage one paper (Certificate in Financial Fundamentals for Business, CertFin) prior to CertITM. CertFin provides a framework of core knowledge and establishes the underlying financial understanding that underpins corporate treasury.

However, candidates with an accounting qualification should not assume this examination is straightforward. It seems likely the higher pass rate on Unit 3 reflects the greater familiarity the average candidate has with corporate finance theory. Clearly this familiarity, whilst an advantage, is not sufficient to obtain a pass in isolation. Treasury specific knowledge and calculations in units 1, 2, 4 and 5 are also critical.

There is no evidence that English proficiency was a discriminating factor. European students for whom English was not their first language had a 72% pass rate, which significantly exceeded that of candidates registered from OECD English speaking countries (51%).

All candidates are encouraged to make full use of the ITM website forum and to study the ACT material diligently. Candidates are particularly encouraged to attempt past exam questions to understand the format of the exam, and the types of questions covered. There is significant repetition of knowledge tested from one exam to the next, and practice on past questions will be rewarded.

The performance of candidates who attended ACT or ACT training partner classes, whether classroom or online based, was significantly better than those who did not.