

Singapore CA Qualification Examination

19 June 2018

Business Value, Governance & Risk

INSTRUCTIONS TO CANDIDATES:

1. The time allowed for this examination paper is **3 hours 15 minutes**.
2. This examination paper has **FOUR (4)** questions and comprises **FIFTEEN (15)** pages (including this instruction sheet). Each question may have **MULTIPLE** parts and **ALL** questions are examinable.
3. This is an open book examination. During the examination, you are allowed to use your laptop and any calculators that comply with the SAC's regulations. Please note that mobile phones, tablets, and all other electronic devices **MUST NOT** be used during the examination.
4. This examination paper is the property of the Singapore Accountancy Commission.

MODULE-SPECIFIC INSTRUCTIONS:

5. This case is hypothetical and has been written exclusively for the purpose of this examination. Names, characters, places and incidents used are imaginary or fictional. Any resemblance to actual events or locales or persons, living or dead, is entirely coincidental. This case is not to be cited without the permission of the Singapore Accountancy Commission.

Company Background

Solar Pals Pte Ltd (SP) is a Singapore-incorporated solar panels manufacturer, founded by three friends in 20x0 (about eight years ago). All solar panels are manufactured in SP's only factory in Shenzhen in China. SP has a total headcount of 100 employees, of which 80 are manufacturing-related with most being hourly-rated workers. Turnover is high and replacement has been slow, leading to often high overtime hours. High turnover has also adversely impacted product quality and delayed the contracted delivery timeline of finished goods. The Board is also aware of China's stringent labour laws concerning overtime hours and workplace safety.

The current Board of Directors comprises the three founders who are Executive Directors (EDs), namely:

Name	Title	Area of responsibility
Alex Ong	Executive Chairman & Chief Executive Officer (CEO)	
Hamid Ismail	Chief Operating Officer (COO)	All manufacturing activities
Jennifer Hanson	Chief Administrative Officer (CAO)	All corporate functions such as finance, human resources, marketing, sales, customer relationship management, etc.
Related parties: Jennifer and Alex married in December 20x3		

Both Alex and Hamid are engineers while Jennifer is a chartered accountant. Alex decides the agenda for each Board meeting and it focuses on business matters such as new business strategies and plans, customer and supplier relationships, and potential new markets. Alex feels that governance and risk matters are not relevant Board matters. Although each ED is responsible for the day-to-day oversight of the business and operations in their respective areas, Alex makes all key business decisions.

Most staff in the corporate functions have been with SP since its incorporation. Hence there is little formal documentation by way of policies and procedures as staff rely on their knowledge gained through on-the-job experience.

Accounting and Audit

The Finance Department (FD) is a two-person team. The Accountant, Sally, joined SP in December 20x0 fresh out of polytechnic with a diploma in business studies. The accounting activities are primarily outsourced to a small accounting firm, PNL Associates (PNL). Daily and monthly accounting entries are keyed into an accounting system owned by PNL by the FD staff. Monthly management accounting reports and year-end financial statements are reviewed by Jennifer who discusses SPs' financial performance with Alex and Hamid directly.

SP has generally been satisfied with PNL's service level except for occasional delays in receiving monthly management reports and slow year-end book closure due to PNL's resource constraints and challenges faced by SP's FD in identifying all accounting entries needed for financial year-end book closure.

SP's external auditor is BPM, a small two-partner accounting firm. In the last two years, BPM had made audit adjustments arising from cost accounting errors in work-in-progress and finished inventories. For instance, raw materials comprise a substantial proportion of SP's annual operating expenditure. In the past, BPM has commented on the lack of a regular inventory count and measures over the transfer of raw materials from the factory store to the production line. Jennifer attributes this to growing business complexity and a lack of understanding on the part of PNL's staff.

The procurement process is largely manual and handled by the FD as there is no separate purchasing department. The key procurement procedures in the Procure-to-Pay process are as follows:

- Requisitions for raw materials are emailed to the FD by the inventory manager based in China.

- The FD prepares the purchase orders which are approved by Hamid who also selects the supplier.
- Raw materials are purchased primarily from four suppliers who, over the years, have enjoyed a close business relationship with the Board in particular, Hamid.
- Raw materials are delivered directly to the factory in China. The inventory manager checks and acknowledges receipt, then emails a copy of the Goods Received docket to the FD. The inventory manager is also responsible for approving the transfer of raw materials to the production line.
- The FD processes the payments upon receipt of the supplier invoices which are matched to the Goods Received docket.
- Production reports, including raw materials utilisation and wastage/scrap reports, are prepared by a production staff member in China and submitted directly to Jennifer for review.

Proposed Listing on SGX (Initial Public Offering – IPO)

SP plans to list in Singapore on the Catalist of the Singapore Exchange (SGX) around November 20x9.

Board Composition

Alex recently invited John Suresh to assume the position of Independent Non-Executive Chairman of the proposed listed company, which John has accepted. John has no prior commercial dealings with SP nor its Board and management.

John is a young practising Singapore-based lawyer and his other principal commitment is that of an Audit Committee (AC) member of an SGX-listed engineering services company with interests in Malaysia. John was appointed to this AC one year ago and this was his first and currently only appointment to a listed entity.

Another two Independent Directors (IDs) will be appointed and, together with John, they will form the Audit & Risk Committee (ARC). John has been invited to interview the proposed ID-candidates together with Alex.

Convertible Bond

On 1 November 20x7, SP issued a convertible bond for S\$9.6 million to a Singapore private equity firm, Sing PE. The terms are as follows:

Issue date	1 November 20x7
Maturity date	1 November 20y0 (3 years)
Principal	S\$9.6 million
Annual coupon	S\$440,000
Coupon payment dates	Half-yearly coupons paid on 1 May and 1 November
Amount due on maturity (if not converted)	S\$10 million
Number of shares on conversion	9.6 million
Conversion date	Any date after the IPO is successfully completed (if that happens) until maturity. Conversion is at the holder's option.

In accordance with Singapore Financial Reporting Standards (International), SP has recorded the bond as a straight-bond portion (a liability) and a conversion option (part of equity).

The convertible bond represents the only debt. SP does not have plans for further future borrowing.

Additional information as of 1 November 20x7

1. Projected annual selling and administrative expenses at the Singapore Headquarters amount to S\$2,500,000 and these projections are expected to stay constant for the future.

2. SP has contracts with customers in Germany to sell solar panels from 1 January 20x7 to 31 December 20x8. SP expects to renew the contracts with the German customers after they expire. The projected five years of sales revenue in Euro (€) is as follows:

20x7 € '000	20x8 € '000	20x9 € '000	20y0 € '000	20y1 € '000
13,250	13,250	10,300	10,609	10,927

3. The projected total manufacturing costs over the next five years in RMB is as follows:

20x7 RMB '000	20x8 RMB '000	20x9 RMB '000	20y0 RMB '000	20y1 RMB '000
19,772	19,772	20,101	20,440	20,789

4. SP projects that capital expenditure would be RMB16.25 million every five years. It estimates that this amount would be constant, as inflation would be offset by cost reductions due to new technology. The next capital expenditure outlay would be in 20y0. SP can claim a 100% capital allowance on its capital expenditure.
5. SP projects working capital requirements in 20x8 and beyond to be 3% of sales revenues. No increase in working capital is expected for 20x7 and 20x8.
6. Assume that cash flows occur evenly throughout the year.
7. SP would have 100 million shares outstanding after accounting for potential dilution from the convertible bond.
8. The equity market premium is 8%.
9. The long-run projected growth rate of the industry is 0.1%.

10. SP estimates that given its risky industry, it faces a long-run probability of bankruptcy of 10%. In the event of bankruptcy, estimated bankruptcy losses would equal 20% of the estimated enterprise value before considering bankruptcy.
11. SP faces a corporate income tax rate of 17%.
12. The balance-sheet date is 31 December.
13. The reporting currency is the Singapore dollar (S\$).
14. The year 20y0 is a leap year.

The following appendices form an integral part of the case study.

Appendix 1 lists risk-free spot rates in Germany in euro (€), China in renminbi (RMB), and Singapore in dollars (S\$) as of 1 November 20x7.

Appendix 2 provides selected forward exchange rates computed using covered interest rate parity (CIRP).

Appendix 3 provides information from Mody and Fitch, a credit ratings agency, on key parameters for issuers of various classes under their classification.

Appendix 4 provides some projected ratios for SP.

Appendix 5 provides asset betas for guideline companies.

APPENDIX 1 - Estimated yields to maturity for government zero-coupon debt

These represent the estimated yield to maturity (in the respective country's domestic currency) as of 1 November 20x7 of a hypothetical zero-coupon bond issued by the respective governments to pay 1 currency unit (of its domestic currency) at the specified maturity date (given in YYYY MM DD format). The quoted rate is based on semi-annual compounding, i.e., for rate r ,

$$d_t = \frac{1}{\left(1 + \frac{r}{2}\right)^{t \times 2}}$$

where d_t is the present value of 1 currency unit received at maturity t , and t is the time to maturity in years. The rate is quoted as a percentage.

Maturity	Germany	Singapore	China
20x7 11 15	(0.80)	1.60	3.50
20x8 01 01	(0.80)	1.60	3.50
20x8 07 01	(0.80)	1.80	3.50
20x9 01 01	(0.80)	1.80	3.50
20x9 07 01	(0.70)	1.80	3.50
20y0 01 01	(0.70)	1.80	3.50
20y0 07 01	(0.60)	2.00	3.50
20y1 01 01	(0.60)	2.00	3.50
20y1 07 01	(0.60)	2.00	3.70

The corresponding rate for all maturities later than 20y1 07 01 may be assumed as 1% in Germany, 2.1% in Singapore, and 4% in China.

APPENDIX 2 - Forward exchange rates for selected maturities as of 1 November 20x7 (estimated using covered interest rate parity)

	1 Dec 20x7	1 Jul 20x8	1 Jul 20x9	1 Jul 20y0	1 Jul 20y1
S\$ per €	1.56312	1.58721	1.62619	1.67160	1.71547
S\$ per RMB	0.19969	0.19778	0.19448	0.19226	0.18808

APPENDIX 3 - Mody and Fitch credit ratings agency

Average levels of standard parameters for issuers of different quality (report is based on three-year average financial statement figures up to 20x5):

All rated bonds are denominated in Singapore dollars (S\$)

	High Investment Grade	Low Investment Grade	Junk
Operating ROA	10%	5%	Negative
EBIT interest cover	3x	1.2x	0.8x
Spread above the spot risk-free interest rate curve in basis points (based on semi-annually compounded spot risk-free interest rates)	130	520	1,100

Legend

EBIT = Earnings before Interest and Tax
 ROA = Return on Assets

APPENDIX 4 - Ratios for Solar Pals Pte Ltd (based on three-year average figures up to 20x5)

Net profit margin	5%
Net operating profit after tax (NOPAT) / sales	13%
Effective tax rate (ETR)	17%
Asset turnover	0.4

APPENDIX 5 - Asset betas for listed companies similar to Solar Pals Pte Ltd

Company ID	Asset beta
1	0.80
2	0.85
3	0.51
4	0.68
5	0.73

**Exemplify
Question
Number**

Question 1 required:

The Board of Solar Pals Pte Ltd would like to promote the current Accountant, Sally, to the position of Chief Financial Officer, with responsibility over Finance and Enterprise Risk Management, in recognition of her loyalty to the company. You have been asked to evaluate her suitability for this role.

1

(a) Provide FOUR reasons with evidence from the case why Sally may not be ready to assume the role of Chief Financial Officer.
(4 marks)

2

(b) John Suresh, the proposed Independent Non-Executive Chairman of the company when it lists (Solar Pals Limited) has approached you for advice on the following two matters:

(i) Advise John on THREE challenges that he may face as the Board Chairman of Solar Pals Limited. Justify your advice.
(6 marks)

3

(ii) Given that John has no prior experience as an Independent Non-Executive Chairman, recommend THREE ways in which he can be an effective chair.
(6 marks)

4

(c) Considering Solar Pals Pte Ltd's current operations and processes, identify TWO areas specific to accounting, financial, operational, and compliance matters that the new Audit & Risk Committee (ARC) will need to re-assess and direct changes where appropriate.
(4 marks)

(Total: 20 marks)

**Exemplify
Question
Number**

Question 2 required:

(a) Given that the procure-to-pay (including inventory management) process is key to the business, the Audit & Risk Committee (ARC) will need to understand and appreciate the relevant risks.

5

(i) Identify SIX risk events relevant to Solar Pals Pte Ltd's current procure-to-pay cycle (including inventory management); **(6 marks)**

6

(ii) For each risk event identified in (i) above, propose and justify ONE key risk indicator. **(12 marks)**

7

(iii) For each risk event identified in (i) above, propose ONE risk response to mitigate the risk. **(12 marks)**

(Total: 30 marks)

**Exemplify
Question
Number**

Question 3 required:

Your computations should be based on the facts in the case. Show all workings clearly.

8

(a) Give FOUR reasons why being located in Singapore adds value to Solar Pals Pte Ltd and ONE reason why being located in Singapore reduces value for Solar Pals Pte Ltd. **(5 marks)**

9

(b) Estimate the fair value of the straight-bond portion of the convertible bond as of 1 November 20x7 in Singapore dollars. Your workings should include an assessment of the credit rating for the convertible bond, the relevant risk-free rates for each coupon date, and the risk-adjusted rates or discount factors for each coupon date. Present your answers to the nearest dollar. **(15 marks)**

(Total: 20 marks)

**Exemplify
Question
Number**

Question 4 required:

Your computations should be based on the facts in the case. Show all workings clearly.

- 10** **(a)** Estimate the Free Cash Flow to the Firm (FCFF) for Solar Pals Pte Ltd for each of the years 20x7 through 20y1 measured in thousands of Singapore dollars using a Discounted Cash Flow (DCF) valuation of Solar Pals Pte Ltd with 20y1 as the terminal year. Present your answers to the nearest thousand Singapore dollars. **(12 marks)**
- 11** **(b)** Compute the unlevered cost of equity for each of the years 20x7 through 20y1 for Solar Pals Pte Ltd as of 1 November 20x7. Your calculations should reflect the varying risk-free rate for different years rather than assuming a constant discount rate. Your calculations should be useful for discounting Free Cash Flow to the Firm (FCFF) under an Adjusted Present Value (APV) model. Present your answers as a percentage correct to three decimal places. **(5 marks)**
- 12** **(c)** Estimate the fair price per Solar Pals Pte Ltd share in Singapore dollars as of 1 November 20x7 using an Adjusted Present Value (APV) approach. For this sub-part only, you may assume that the fair value of the entity's debt is S\$9.3 million as of 1 November 20x7. Present your answers correct to three decimal places. **(5 marks)**

Exemplify

Question

Number

13

- (d)** Compare the estimated share price calculated in (c) above to the conversion price of the convertible bond and comment on the possible rationale behind the terms of the convertible bond deal from the viewpoint of Solar Pals Pte Ltd.

(8 marks)

(Total: 30 marks)

END OF PAPER