



## 201312 Q1

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Since becoming independent just over 20 years ago, the country of Mehgam has adopted **protectionist measures** which have made it difficult for multinational companies to trade there. However, recently, after discussions with the **World Trade Organisation (WTO)**, it seems likely that Mehgam will reduce its protectionist measures significantly.

Encouraged by these discussions, **Chmura Co**, a company producing **packaged foods**, is considering a project to set up a manufacturing base in Mehgam to sell its goods there and in other regional countries nearby. An **initial investigation costing \$500,000** established that Mehgam had appropriate manufacturing facilities, adequate transport links and a reasonably skilled but cheap work force. The investigation concluded that, if the protectionist measures were reduced, then the demand potential for Chmura Co's products looked promising. It is also felt that an **early entry into Mehgam would give Chmura Co an advantage over its competitors** for a period of **five years**, after which the current project will cease, due to the development of new advanced manufacturing processes.



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Mehgam's currency, the Peso (MP), is **currently** trading at **MP72 per \$1**. Setting up the manufacturing base in Mehgam will require an **initial investment of MP2,500 million** immediately, to cover the cost of land and buildings (MP1,250 million) and **machinery (MP1,250 million)**. Tax allowable depreciation is available on the machinery at an **annual rate of 10% on cost on a straight-line basis**. A balancing adjustment will be required at the end of year five, when it is expected that the machinery will be sold for **MP500 million (after inflation)**. The market value of the land and buildings in five years' time is estimated to be **80% of the current value**. These amounts are inclusive of any tax impact.

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Chmura Co will require MP200 million for working capital immediately. It is not expected that any further injections of working capital will be required for the five years. When the project ceases at the end of the fifth year, the working capital will be released back to Chmura Co.

Production of the packaged foods will take place in batches of product mixes. These batches will then be sold to supermarket chains, wholesalers and distributors in Mehgam and its neighbouring countries, who will repackage them to their individual requirements. All sales will be in MP. The estimated average number of batches produced and sold each year is given below:

| Year                      | 1      | 2      | 3      | 4      | 5      |
|---------------------------|--------|--------|--------|--------|--------|
| Batches produced and sold | 10,000 | 15,000 | 30,000 | 26,000 | 15,000 |



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The **current selling price** for each batch is estimated to be **MP115,200**. The costs related to **producing and selling** each batch are currently estimated to be **MP46,500**. In addition to these costs, a number of products will need a **special packaging material** which Chmura Co will send to Mehgam. Currently the cost of the special packaging material is **\$200 per batch**. **Training and development** costs, related to the production of the batches, are estimated to be **80% of the production and selling costs** (excluding the cost of the special packaging) in the **first** year, before **falling to 20%** of these costs (excluding the cost of the special packaging) in the second year, and then **nil** for the remaining years. It is expected that the costs relating to the **production and sale** of each batch will increase annually by **10%** but the **selling price and the special packaging** costs will only increase by **5%** every year.



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The current annual corporation **tax rate** in Mehgam is 25% and Chmura Co pays annual **corporation tax** at a rate of 20% in the country where it is based. Both countries' taxes are payable in the year that the tax liability arises. A bi-lateral tax treaty exists between the two countries which permits offset of overseas tax against any tax liabilities Chmura Co incurs on overseas earnings.



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The risk-adjusted cost of capital applicable to the project on \$-based cash flows is 12%, which is considerably higher than the return on short-dated \$ treasury bills of 4%. The current rate of inflation in Mehgam is 8%, and in the country where Chmura Co is based, it is 2%. It can be **assumed** that these inflation rates will not change for the foreseeable future. All net cash flows from the project will be remitted back to Chmura Co at the end of each year.



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Chmura Co's finance director is of the opinion that there are many uncertainties surrounding the project and has assessed that the cash flows can vary by a **standard deviation of as much as 35%** because of these uncertainties.

Recently Bulud Co offered Chmura Co the **option** to **sell** the entire project to Bulud Co for \$28 million at the start of year three. Chmura Co will make the decision of whether or not to sell the project at the end of year two.



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**Required:**

- a) Discuss the role of the World Trade Organisation (WTO) and the possible benefits and drawbacks to Mehgam of reducing protectionist measures. (9 marks)



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- b) Prepare an evaluative report for the Board of Directors of Chmura Co which addresses the following parts and recommends an appropriate course of action:
- I. An estimate of the value of the project before considering Bulud Co's offer. Show all relevant calculations; (14 marks)
  - II. An estimate of the value of the project taking into account Bulud Co's offer. Show all relevant calculations; (9 marks)
  - III. A **discussion** of the **assumptions** made in parts (i) and (ii) above and the **additional business risks** which Chmura Co should consider before it makes the final decision whether or not to undertake the project. (14 marks)
- Professional marks will be awarded in part (b) for the format, structure and presentation of the report. (4 marks)
- (50 marks)



## 201312 Q1- Marking Scheme

(a)

Role of the World Trade Organisation

4–5

Benefits of reducing protectionist measures

2–3

Drawbacks of reducing protectionist measures

2–3

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Max 9

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## 201312 Q1- Marking Scheme

(b) (i)

|                                                                                          |       |
|------------------------------------------------------------------------------------------|-------|
| Future exchange rates predicted on inflation rate differential                           | 1     |
| Sales revenue                                                                            | 1     |
| Production and selling costs                                                             | 1     |
| Special packaging costs                                                                  | 2     |
| Training and development costs                                                           | 1     |
| Correct treatment of tax and tax allowable depreciation                                  | 2     |
| Years 1 to 5 cash flows in \$ and present values of cash flows                           | 2     |
| Ignoring initial investigation cost and additional taxation in Chmura Co<br>host country | 1     |
| Correct treatment of land, buildings, machinery and working capital                      | 2     |
| Net present value of the project                                                         | 1     |
|                                                                                          | <hr/> |
|                                                                                          | 14    |



## 201312 Q1- Marking Scheme

(ii)

Inputting correct values for the variables

2

Calculation of  $d1$  and  $d2$

2

Establishing  $N(d1)$  and  $N(d2)$

2

Call value

1

Put value

1

Value of the project

1

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9



## 201312 Q1- Marking Scheme

(iii)

|                                                      |        |
|------------------------------------------------------|--------|
| Estimated value and initial recommendation           | 2–3    |
| Up to 2 marks per assumption discussed               | 5–6    |
| Up to 2 marks per additional business risk discussed | 5–6    |
| Overarching recommendation(s)                        | 1–2    |
|                                                      | _____  |
|                                                      | Max 14 |
|                                                      | _____  |
| Professional marks                                   |        |
| Report format                                        | 1      |
| Structure and presentation of the report             | 3      |

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