



ModelOff 2015 – Round 1

Section 3: Case Study – Tax

Question Appeared in: ModelOff 2015

Time Allocated: 30 minutes

30 Marks available in this Section

INTRODUCTION

You work for a company that wants to forecast its tax obligations and payments over the coming ten years, from 1 January 2016 until 31 December 2025. They have already worked out their forecast taxable profit amount in each month from 1 January 2015 until 31 December 2025, but need you to calculate the forecast tax obligations and payments for each relevant period. The company has no trading history in this country and therefore no tax payments are due from pre-2015 operations. Tax payments will commence from the 2016 calendar year, based on the taxable profit from the previous calendar year and the company tax rates and tax rules as set out below.

The monthly taxable profit figures and all the inputs below are provided in the workbook for this case study.

The government has announced that the company tax rate will change frequently over the next 10 years as follows:

Date start	Date end	Company tax rate applicable
1 January 2015	31 March 2015	15%
1 April 2015	17 May 2016	14%
18 May 2016	22 September 2016	17%
23 September 2016	31 March 2019	18%
1 April 2019	15 August 2020	19%
16 August 2020	11 November 2020	18%
12 November 2020	2 February 2021	14%
3 February 2021	30 June 2021	18%
1 July 2021	2 February 2022	14%
3 February 2022	22 February 2022	15%
23 February 2022	31 March 2024	12%
1 April 2024	15 May 2025	11%
16 May 2025	Onwards	12%

For months where more than one tax rate is applicable, you should determine an average rate to apply weighted by the number of days which the relevant tax rate applies to that month.

The tax charge in each period is calculated by multiplying the applicable tax rate to the taxable profit profile given in the inputs booklet



MODELOFF

TM

Financial Modeling World Championships 2015

ModelOff 2015 – Round 1

The tax payable is calculated by adjusting the tax charge for losses, which are added a tax loss pool which works as follows:

- If the tax charge in a month is positive and there are no losses available in the pool, tax payable in that month is equal to the tax charge.
- If the tax charge in a month is positive and there are losses available in the pool, the tax payable in the month is the tax charge reduced by the lesser of the amount of the charge and the balance of the tax loss pool. Any losses used in this way must be removed from the tax loss pool.
- If the tax charge in a month is negative it should be added to the tax loss pool and the tax payable in that month is zero.

Assume that the balance in the tax loss pool at the start of the modeled timeline is zero.

Once you have calculated the tax payable in each month, you must annualize it to calculate the company's tax liability for a year. The company's tax year is the calendar year.

The annual tax liability is then paid in the subsequent calendar year in the following proportions:

- 60% in April
- 25% in August
- 15% in December

The following section is only relevant to questions 39-41.

The government is considering a change to tax legislation as follows:

If a tax loss is not used within two years after it was created it expires and must be removed from the tax loss pool. For example, if a loss is created in April 2015 and has not been used by the end of April 2017 it will expire at the end of April 2017. Assume that losses are used and expired in order or age (oldest first).

You have been asked to determine what the impact of this would be on the company's tax payments.

**Prepare your model and then use it to answer the given questions.
When finished, please upload your workbook (Question 42).**



ModelOff 2015 – Round 1

QUESTIONS

Question 32

What is the tax rate that will be applicable in February 2022? [3 marks]

- A) 14.26%
- B) 14.27%
- C) 14.28%
- D) 14.29%
- E) 14.30%
- F) 14.31%

Question 33

What is the total tax charge between 1 January 2015 and 31 December 2025? [2 marks]

- A) 171,712.81
- B) 171,712.98
- C) 171,713.15
- D) 171,713.32
- E) 171,713.49
- F) 171,713.66

Question 34

What is the balance in the tax loss pool at the end of December 2022? [3 marks]

- A) 133,499.44
- B) 133,499.60
- C) 133,499.76
- D) 133,499.92
- E) 133,500.08
- F) 133,500.24

Question 35

What is the forecast total tax payable up to and including 31 October 2025? [3 marks]

- A) 134,451.12
- B) 134,451.28
- C) 134,451.44
- D) 134,451.60
- E) 134,451.76
- F) 134,451.92



ModelOff 2015 – Round 1

Question 36

What is the forecast tax payment made in August 2025? [2 marks]

- A) 1,986.00
- B) 1,986.16
- C) 1,986.32
- D) 1,986.48
- E) 1,986.64
- F) 1,986.80

Question 37

What is the forecast total tax paid up to and including 31 December 2025? [3 marks]

- A) 7,943.82
- B) 7,943.99
- C) 7,944.16
- D) 7,944.33
- E) 7,944.50
- F) 7,944.67

Question 38 If the tax payments in the subsequent year are instead made as follows:

- 70% in March
- 10% in August
- 20% in November

Then what is the forecast tax paid between 1 April 2018 and 30 August 2025? [5 marks]

- A) 6,354.85
- B) 6,355.02
- C) 6,355.19
- D) 6,355.36
- E) 6,355.53
- F) 6,355.70



ModelOff 2015 – Round 1

Remember to remove any adjustments you made for question 38 before continuing with questions 39-41

Question 39

Under the new system with loss expiry, at the end of which month is the first loss expiry forecast to occur? [3 marks]

- A) Aug 2018
- B) Sep 2018
- C) Oct 2018
- D) Nov 2018
- E) Dec 2018
- F) Jan 2019

Question 40

Under the new system with loss expiry, what amount of tax losses are forecast to be expired in total during up to and including 31 December 2025? [3 marks]

- A) 97,706.22
- B) 97,706.38
- C) 97,706.54
- D) 97,706.70
- E) 97,706.86
- F) 97,707.02

Question 41

Considering tax loss expiry, what is the forecast total tax paid up to and including 31 December 2025? [3 marks]

- A) 105,650.05
- B) 105,650.21
- C) 105,650.37
- D) 105,650.53
- E) 105,650.69
- F) 105,650.85



ModelOff 2015 – Round 1

Answers

32	D
33	D
34	A
35	B
36	A
37	B
38	C
39	C
40	C
41	D