Diploma Programme
Programme du diplôme
Programa del Diploma

Economics
Higher level
Paper 3

Specimen paper

Candidate session number

1 hour 45 minutes

Instructions to candidates

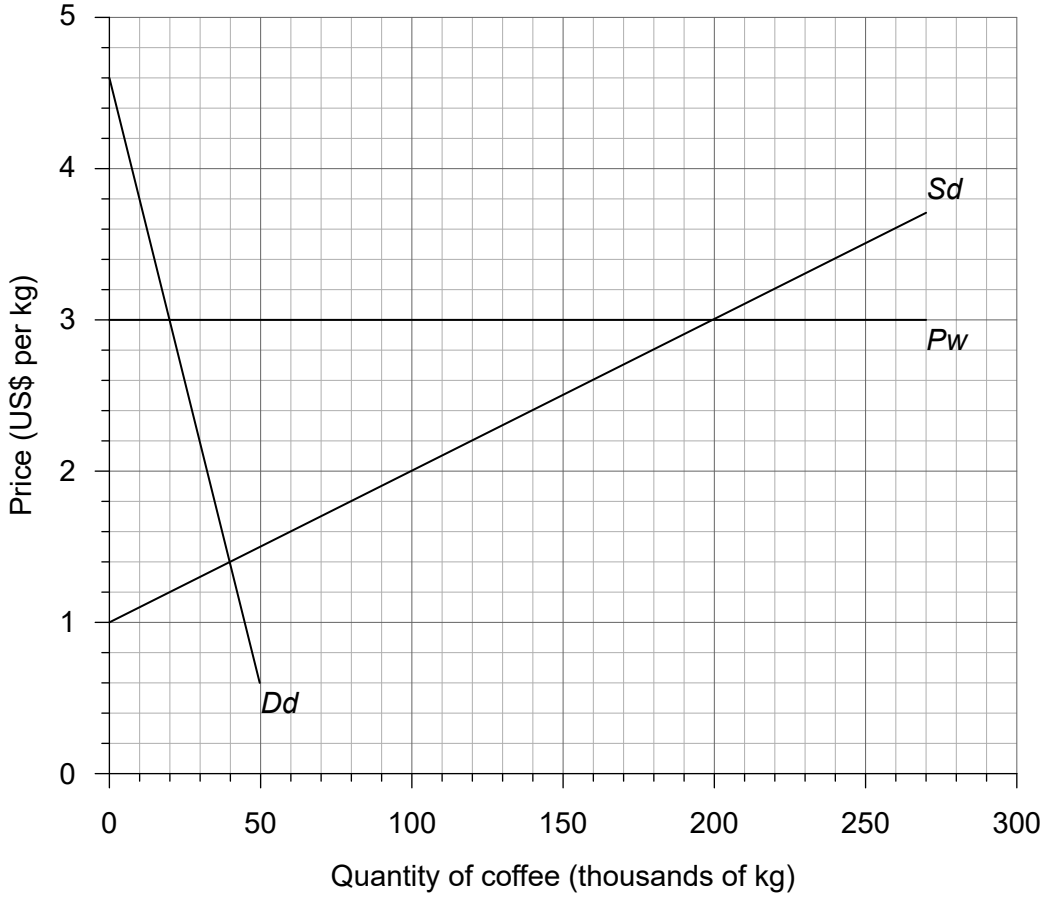
- Write your session number in the boxes above.
- You are permitted access to a calculator for this paper.
- Do not open this examination paper until instructed to do so.
- Answer all the questions.
- Answers must be written within the answer boxes provided.
- Unless otherwise stated in the question, all numerical answers must be given exactly or correct to two decimal places.
- You must show all your working.
- The maximum mark for this examination paper is **[60 marks]**.

13 pages

Answer **all** the questions. Answers must be written within the answer boxes provided.

1. Country X is a low-income economy situated in Africa. Its main export is coffee, which accounts for 20.2 % of its export earnings. **Figure 1** illustrates the market for coffee in Country X. *Dd* and *Sd* represent domestic demand and supply per year, in thousands of kilograms (kg), while *Pw* is the world price in US dollars (US$) per kg.

Figure 1



(a) (i) Calculate the value of coffee exports per year from Country X. [2]

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(Question 1 continued)

(ii) Calculate the social/community surplus earned by stakeholders in the coffee market in Country X under conditions of free trade. [3]

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The government of Country X is concerned about the future of the coffee market for three reasons.

- Several coffee-producing countries have announced plans to increase output.
- Political changes abroad are expected to bring about trade protection.
- Some coffee-producing countries are likely to introduce export subsidies for coffee.

It is believed that the world price of coffee could decrease by as much as US$0.80 per kg.

(iii) Calculate how much the revenue earned by coffee producers in Country X would decrease if the world price of coffee falls by US$0.80 per kg. [2]

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(Question 1 continued)

Table 1 shows selected economic data for Country X (2016 unless stated).

Table 1

	Country X	**Comparison (world average)**
Gross domestic product (GDP) per capita at purchasing power parity (US$ PPP)	1717	18 000
% of GDP from agriculture	26.7	3.9
% of labour force working in agriculture	40	19.8
Gini coefficient	0.41	
Current account balance (US$) (2015)	–2.35 billion	
% of population below poverty line	19.7 (2013)	10.68

(iv) In 2016 the population of Country X was 41.5 million. Using information from **Table 1**, calculate the GDP (US$ PPP) for 2016. [1]

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(v) Define the term *current account balance*. [2]

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(Question 1 continued)

(vi) Using an example, explain the importance of presenting "GDP per capita" statistics at purchasing power parity (PPP). [4]

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The minister of finance for Country X has stated that "one of our problems is that our citizens view coffee as an export crop only, and we do not do enough to develop our domestic market. Indeed, many coffee drinkers in our country buy imported products rather than domestic coffee, and their demand is not price-sensitive".

(vii) Assume the price of coffee is US$2.20 per kg. Using **Figure 1**, calculate the price elasticity of demand (PED) for coffee in Country X if the price were to fall from US$2.20 per kg to US$1.40 per kg. [2]

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(viii) Using **at least two** items of information provided, explain why the government of Country X should be very concerned at the prospect of a fall in world coffee prices. [4]

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(Question 1 continued)

(b) Using the data provided and your knowledge of economics, recommend a policy which could be introduced by the government of Country X in response to the expected fall in the world price of coffee. [10]

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2. **Table 2** below shows the income tax rates in New Zealand for the 2015–2016 tax year.

Table 2

Taxable income	Tax rate
Up to NZ$14 000	10.5 %
Over NZ$14 000 and up to NZ$48 000	17.5 %
Over NZ$48 000 and up to NZ$70 000	30.0 %
Remaining income over NZ$70 000	33.0 %

In New Zealand, Goods and Services Tax (GST) is an indirect tax charged on all goods and services at a standard rate of 15%.

Maya and Takeshi live and work in New Zealand. **Table 3** shows their annual income and tax details. Read the information in **Table 3** carefully and use it to answer the questions which follow.

Table 3

	Maya	Takeshi
Income (NZ$)	28 000	88 000
Income tax paid (NZ$)	3920	
Disposable income (Yd) (NZ$)	24 080	
% of Yd spent	100	80
GST paid (NZ$)	3 140.87	
Total tax paid (NZ$)	7 060.87	
Average rate of tax (%)		

(a) (i) Calculate the annual income tax to be paid by Takeshi. Enter your results in **Table 3**. [2]

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(ii) Calculate the GST paid by Takeshi per year. Enter your results in **Table 3**. [2]

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(iii) Calculate the average rate of tax (including both direct and indirect tax) paid by Maya and Takeshi. Enter your results in **Table 3**. [3]

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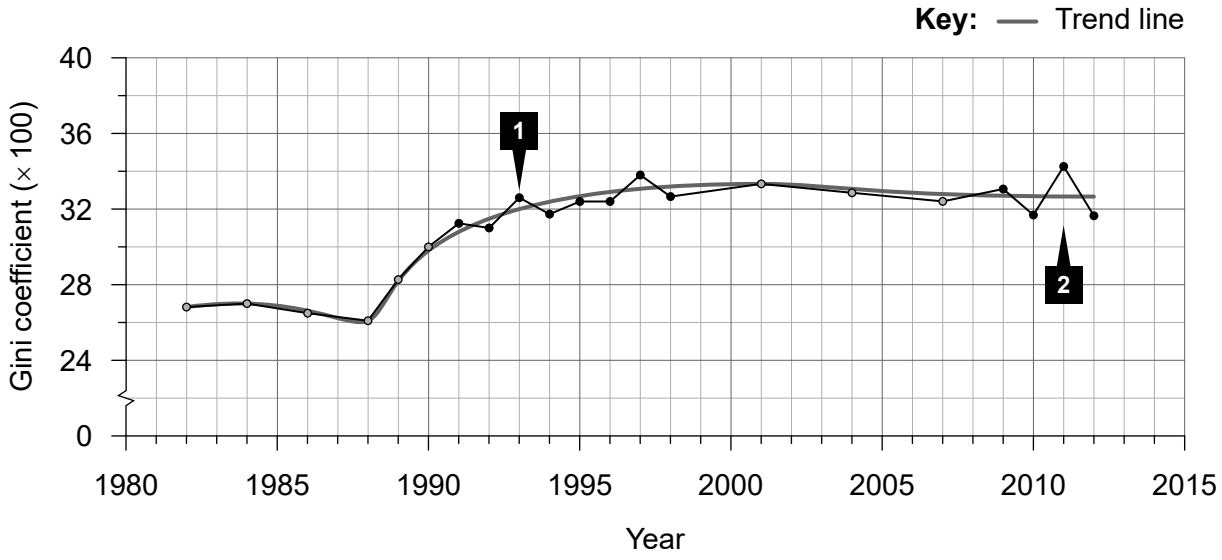
(Question 2 continued)

Figure 2 illustrates income inequality in New Zealand: the Gini coefficient.

Figure 2



1 The Gini can sometimes fluctuate from one survey to the next. When that happens the trend becomes clear on looking back.

2 In recent years there has been some volatility in household incomes, reflecting the ongoing adjustments to the impact of the GFC, Christchurch earthquakes, and the associated economic downturn and recovery. There is no evidence yet of any rising or falling trend in the Gini in recent years.

(iv) Referring to the change in New Zealand's Gini coefficient shown in **Figure 2**, outline **one** possible reason for this change. [2]

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(Question 2 continued)

(v) Explain the likely impact on New Zealand's Gini coefficient if the government increased the rate of GST to 20 % in 2017. [4]

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(Question 2 continued)

The data in **Table 4** and **Table 5** provide information on the prevalence of diabetes and sugar consumption in New Zealand.

It has been argued that a major cause of type 2 diabetes is excessive consumption of sugary drinks and that over 25 % of sugar consumed by children in New Zealand comes from sugary drinks.

Table 4 provides information about the prevalence of diabetes by age and ethnicity in 2014.

Table 4

	Age (years)				
	0–24	**25–44**	**45–64**	**65–74**	**75+**
Māori (%)	0.35	3.7	14.2	27.9	29.6
Pacific peoples (%)	0.36	7.0	29.7	52.5	48.8
Asian (%)	0.14	3.1	13.5	29.7	34.4
European/other (%)	0.44	2.0	6.1	13.6	17.9

Table 5 provides information about weekly soft drink consumption among the youth in New Zealand (2007).

Table 5

	Times per week		
	0	**1–3**	**4+**
Māori (%)	20.0	40.9	39.1
Pacific peoples (%)	16.1	35.1	48.8
Asian (%)	31.8	43.7	24.5
European/other (%)	27.5	49.6	22.9

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(Question 2 continued)

(vi) Using **Table 4** and **Table 5**, comment on the view that the consumption of sugary drinks contributes to market failure in New Zealand. [4]

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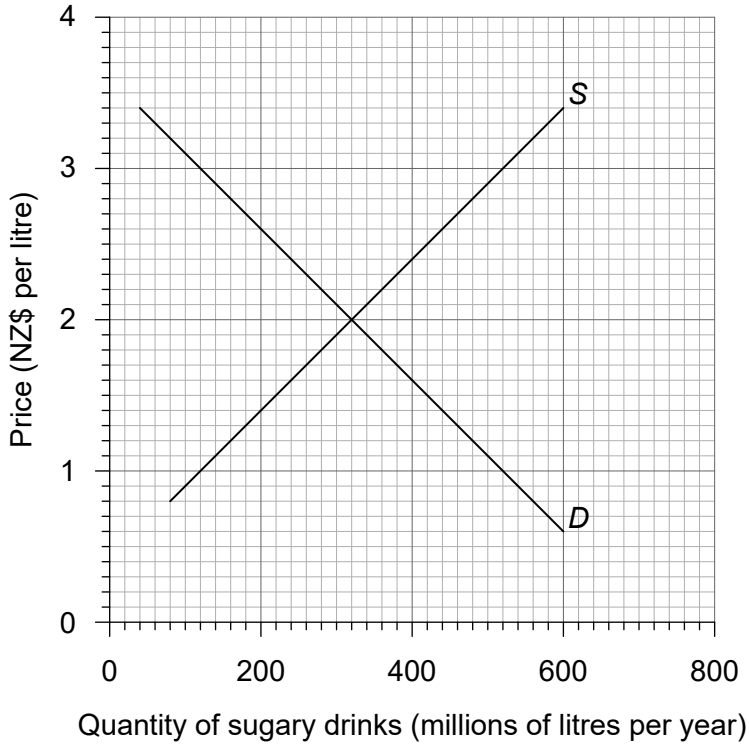
(Question 2 continued)

Figure 3 illustrates the market for sugary drinks in New Zealand.

Figure 3



Assuming that the consumption of sugary drinks is an example of market failure, it has been estimated that the allocatively efficient level of consumption would be approximately 200 million litres per year.

(vii) Using this information, draw the marginal social benefit (MSB) curve on **Figure 3**. [1]

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(viii) Using your answer to part (vii), calculate the welfare loss to New Zealand resulting from excessive consumption of sugary drinks. [2]

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(Question 2 continued)

(b) Using the data provided and your knowledge of economics, recommend a policy which the New Zealand government could introduce to address the over-consumption of sugary drinks. [10]

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References:

Figure 1 Observatory of Economic Complexity, 2014. *HS6 rev. 2007 (2008–2017)*. [online] Available at: <https://atlas.media.mit.edu/en/resources/data/> [Accessed January 2017]. SOURCE ADAPTED.

Table 1 The World Bank, 2017. *World Bank Data, 2010, 2013, 2014*. [online] January 2017. Available at: <https://data.worldbank.org/January 2017>. [Accessed January 2017]. SOURCE ADAPTED.

Table 2 New Zealand Inland Revenue, 2017. *Income tax rates for the 2015–2016 tax year*. [online] Available at: <https://www.ird.govt.nz/topics/income-tax/tax-codes-and-tax-rates/tax-rates-for-individuals>. [Accessed January 2017]. SOURCE ADAPTED.

Figure 2 Stats Chat, 2013. *Inequality in NZ*. [online] 9 December 2013. Available at: <https://www.statschat.org.nz/2013/12/09/inequality-in-nz/>. [Accessed January 2017]. SOURCE ADAPTED.

2.(vi) Stuff, 2017. *Sugar content too high in nearly half the drinks Kiwis kids can buy, study finds*. [online] Available at:<https://www.stuff.co.nz/national/health/88653725/sugar-content-too-high-in-nearly-half-the-drinks-kiwis-kids-can-buy-study-finds>, {Accessed January 2017]. SOURCE ADAPTED.

Table 4 New Zealand Government, 2017. *NZ Social Indicators: Obesity*. [online] Available at: <http://www.stats.govt.nz/browse_for_stats/snapshots-of-nz/nz-social-indicators/Home/Health/obesity.aspx> [Accessed January 2017]. SOURCE ADAPTED.

Table 5 Sundborn G., Utter J., Teevale T., Metcalf P., Jackson R. *Carbonated beverages consumption among New Zealand youth and associations with BMI and waist circumference*. Public Health Dialogue March 2014. 20:1 [online] Available at: <https://www.fizz.org.nz/pdf/research/13%20Carbonated%20Beverages%20Consumption%20among%20New%20Zealand%20Youth%20and%20Associations%20with%20BMI%20and%20Waist%20Circumference.pdf> [Accessed January 2017]. SOURCE ADAPTED.

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