



MINISTRY OF EDUCATION, SINGAPORE  
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General Certificate of Education Advanced Level  
Higher 1

## ECONOMICS

**8843/01**

Paper 1

**For examination from 2023**

SPECIMEN PAPER

**3 hours**

No Additional Materials are required.

### READ THESE INSTRUCTIONS FIRST

An answer booklet will be provided with this question paper. You should follow the instructions on the front cover of the answer booklet. If you need additional answer paper ask the invigilator for a continuation booklet.

Answer **all** questions.

The number of marks is given in brackets [ ] at the end of each question or part question.

This document consists of **9** printed pages and **1** blank page.



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## Question 1: Climate change and economic activity

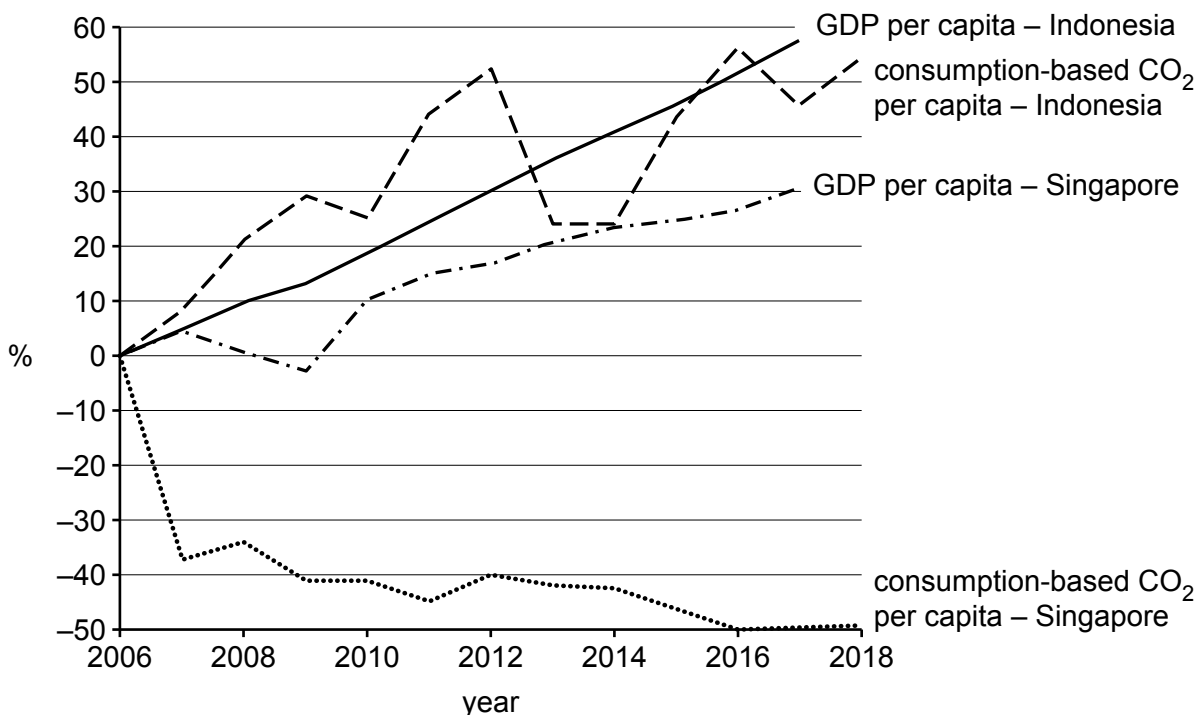
### Extract 1: Climate change, emissions and economic activity

The United Nations (UN) Intergovernmental Panel on Climate Change concluded that human emissions of carbon dioxide (CO<sub>2</sub>) gases are a primary cause of climate change. A changing climate has a range of impacts including extreme weather events, sea-level rise and altered crop growth. The 2015 Paris Agreement is a legally binding international treaty on climate change. Its goal is to limit global warming, preferably to 1.5 degrees Celsius. In early 2021 the UN stated that the world is likely to heat by more than the goal of 1.5 degrees Celsius unless nations implement tougher policies. But national policies submitted to the UN show emissions will merely stabilise by 2030.

There is an established link between CO<sub>2</sub> emissions and standards of living. Therefore, in order to maintain a more sustainable standard of living, any country would have to achieve both a reduction in CO<sub>2</sub> emissions and an increase in the standard of living.

There are many countries which meet only one of the two criteria: high-income countries that have high standards of living, but also high levels of emissions; and low-income countries that have low levels of emissions but poor standards of living. Figure 1 shows changes in CO<sub>2</sub> emissions per capita and GDP per capita for Indonesia and Singapore.

**Figure 1: Annual percentage changes in CO<sub>2</sub> emissions per capita and GDP per capita for Indonesia and Singapore, 2006–2018**



Source: [ourworldindata.org/co2-and-other-greenhouse-gas-emissions](https://ourworldindata.org/co2-and-other-greenhouse-gas-emissions)

## Extract 2: Peatland management

Peatlands are a type of wetland that occur in almost every country on earth. The term 'peatland' refers to the peat soil and the wetland habitat growing on its surface. Peatland ecosystems capture and provide storage for enormous quantities of carbon. Although peatlands cover only 3% of the planet's surface, they store twice as much carbon as all the world's forests combined.

A recent Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) assessment shows that 85% of peatlands have been negatively impacted by human activity. One way in which this occurs is through peatland burning. The burning is done to clear land quickly and cheaply, but it produces a cloud of haze that can blanket local villages, cities and even neighbouring countries.

Indonesia is no stranger to peatland fires. In 2015 and again in 2019, 43 million people were exposed to a dangerous haze. The World Bank estimated that the fires in 2019 caused US\$157 million worth of direct damage to assets and a further US\$5 billion in losses to economic activities affected by the fires, such as the loss of timber and crops and less productive land use.

*Source: [forestsnews.cifor.org/68148/unep-virtual-journey-highlights-urgent-need-for-peatland-conservation?fnl=en](https://forestsnews.cifor.org/68148/unep-virtual-journey-highlights-urgent-need-for-peatland-conservation?fnl=en)*

## Extract 3: Singapore and the carbon plan

Although Singapore's share of global emissions is only around 0.1%, the nation faces disproportionate risks from the negative impact of climate change. Singapore works actively to advocate a multilateral rules-based approach to addressing this global challenge. Singapore was among the first 55 countries to ratify the Paris Agreement in 2016.

### Energy demand and supply

In the decade from 2020, the demand for electricity in Singapore is projected to grow at a rate of 2.5–3.1% per year. These estimates account for changes in population, temperature, GDP and demand from new high-growth sectors such as data centres.

Members of the Singapore Government's Committee for Sustainability and the Environment have called for at least a 15-fold increase in the country's carbon tax by 2040 aimed in part at reducing CO<sub>2</sub> emissions.

*Sources: [ema.gov.sg/cmsmedia/PPD/Singapore-Electricity-Market-Outlook-2020](https://ema.gov.sg/cmsmedia/PPD/Singapore-Electricity-Market-Outlook-2020) and [ihsmarket.com/research-analysis/singapore-mps-call-for-minimum-15fold-increase-in-carbon-tax-b.html](https://ihsmarket.com/research-analysis/singapore-mps-call-for-minimum-15fold-increase-in-carbon-tax-b.html)*

#### Extract 4: Tradeable permits and airline pricing

In the years to 2020, aviation was one of the fastest growing sources of CO<sub>2</sub> emissions. The European Union (EU) is taking action to reduce aviation emissions in Europe. Since 2012, CO<sub>2</sub> emissions from aviation have been included in the tradeable permits system operated throughout the EU.

The system has contributed to reducing CO<sub>2</sub> emissions from the aviation sector by more than 17 million tonnes per year, with the system covering over 99.5% of emissions.

##### Airline pricing policy

Airlines price their tickets 'as much as the market will bear', according to one former airline planning executive. Airlines also profile their passengers to help them adjust prices. This means placing passengers into one of two types: leisure or business. Leisure passengers usually book their airline tickets months in advance, whilst business bookings tend to increase closer to the date of departure.

**Table 1: Price elasticity of demand of different airline passenger types with respect to the basic price of an airline ticket**

Airline passenger market	Price elasticity of demand
Long-haul business	-0.27
Long-haul leisure	-1.04
Short-haul business	-0.70
Short-haul leisure	-1.52

Note: Long-haul involves a journey time of more than 6 hours.

*Source: econfix.wordpress.com/2015/05/07/elasticity-of-demand-for-air-travel*

Many leisure passengers complain about charges for items that at one time would have been included in the basic price of an airline ticket; these include checked luggage, a meal or a choice of a seat. It would appear that these additional charges are here to stay because they make economic sense for the airlines.

Leisure passengers will often change their airline or even their destination as a result of a relatively small change in the price of the ticket. However, airlines have learned that demand from both types of passenger is less responsive to an increase in the price of any of the additional items on offer. Once committed to their travel, a passenger is unlikely to change their behaviour because the price of checking in their luggage is US\$30 instead of US\$20. Thus, any increase in cost to the airline as a result of compliance with CO<sub>2</sub> emissions reduction is more likely to lead to an increase in the price of additional services rather than the basic price of the ticket.

*Source: ec.europa.eu/clima/policies/transport/aviation\_en*

- (a) With reference to Extract 1, identify **one** unintended consequence on the climate as a result of the global activities. [1]
- (b) With reference to Figure 1, compare the relationship between the change in consumption-based CO<sub>2</sub> emissions per capita and GDP per capita for Indonesia with that of Singapore. [3]
- (c) Using Extract 2 and a production possibility curve diagram, explain the impact on the Indonesian economy of the peatland fires experienced in 2019. [3]
- (d) Using Extract 3 and a demand and supply diagram, explain the likely consequences of projected energy use on the electricity market in Singapore. [5]
- (e) Using Extract 4, explain how intervention through the use of emissions tradeable permits could achieve allocative efficiency in the airline industry. [4]
- (f) 'Any increase in cost to the airline as a result of compliance with CO<sub>2</sub> emissions reduction is more likely to lead to an increase in the price of additional services rather than the basic price of the ticket'.  
Comment on this view expressed in Extract 4. [6]
- (g) Discuss the extent to which the price mechanism is able to perform any **two** of its functions efficiently in the energy market. [8]
- (h) Discuss the view that indirect taxation is better than rules and regulations to eliminate the impact of negative externalities arising from carbon emissions. [10]

[Total: 40]

## Question 2: Macroeconomic performance and prospects in Equatorial Guinea and Singapore

### Extract 5: Some economic data for Equatorial Guinea and Singapore

Table 2 shows selected macroeconomic data for Equatorial Guinea and Singapore.

**Table 2: Selected macroeconomic data for Equatorial Guinea and Singapore, 2013–2019**

	Equatorial Guinea			Singapore		
	Trade balance* as a % of GDP	Real Gross National Income (GNI) per capita (US\$)	Real rate of interest (%)	Trade balance* as a % of GDP	Real Gross National Income (GNI) per capita (US\$)	Real rate of interest (%)
2013	28.4	23770	4.0	23.1	78530	5.6
2014	27.6	22910	3.3	23.4	81490	5.6
2015	14.4	18130	3.0	27.3	81040	2.2
2016	10.2	15850	2.5	26.2	83730	5.6
2017	15.3	16600	2.5	25.4	87740	2.4
2018	13.1	15750	3.0	28.4	90510	2.2
2019	2.9	14640	3.5	27.9	92270	5.2

\* trade balance is the difference between the value of exports and the value of imports

*Source: [theglobaleconomy.com/Singapore/Trade\\_balance/](http://theglobaleconomy.com/Singapore/Trade_balance/) and [TheWorldBank.com](http://TheWorldBank.com)*

### Extract 6: Singapore's macroeconomic performance and prospects

Singapore is a highly industrialised economy where trade affects the standard of living significantly through its impact on aggregate demand and aggregate supply. The economy is extremely open to trade. In 2019 the total value of items traded was more than 319% of GDP. Much of this trade comes through Singapore's port, one of the busiest in the world alongside that of Hong Kong and Rotterdam in Europe.

For many years the real Gross National Income (GNI) per capita of Singapore has increased, the extent of this increase between 2013 and 2019 can be seen in Table 2. Singapore has achieved such remarkable growth through embracing the free market with a key emphasis on the importance of education. In order to attract investors, Singapore has created an environment that is safe, corruption-free and low in taxation.

2020, like the previous few years, started encouragingly for the Singapore economy. This was before the COVID-19 pandemic turned much of the world economy upside down. In early 2021, infection rates in many countries decreased and the widespread availability of effective vaccines boosted the financial markets and suggested a wider economic recovery.

From a cyclical perspective, growth for Singapore throughout 2021 is likely to be highly volatile. Given the significant impact the pandemic had on the global economy in 2020, growth performance is likely to be substantially above potential as the recovery gains momentum and the economy is expected to grow at a rate of 5.5% in the second half of 2021.

Beyond 2021, growth improvement in regional markets such as China will be crucial for the growth of Singapore. This growth is more likely to be sustained in Singapore if appropriate fiscal and monetary policies remain intact.

Fiscal policy is expected to be expansionary

In February 2021, Singapore's budget offered several measures to support the economy's recovery, setting up a third consecutive year of budget deficit. Against this backdrop the government's future fiscal policy will play a vital role in the recovery of the economy beyond 2021. Tax revenue will remain relatively weak whilst government expenditure will remain relatively high as more fiscal stimulus is delivered to set the conditions for economic growth.

Monetary policy is expected to remain accommodative

In order to create suitable conditions for the desired economic growth, the policy stance of the Monetary Authority of Singapore (MAS) is also unlikely to change through 2021. This is because inflationary pressure will remain weak and the slack in the labour market is likely to continue. In Singapore, the exchange rate is the chosen instrument of monetary policy used in pursuit of the ultimate target of price stability. This makes sense in the context of the small and open Singapore economy. Singapore has no natural resources and is almost completely dependent on imports for necessities such as food and energy. This means the import content of domestic consumption is high and Singapore has to export to pay for these imports.

*Sources: [dbs.com/in/treasures/templatedata/article/generic/data/en](https://www.dbs.com/in/treasures/templatedata/article/generic/data/en)  
and [mas.gov.sg/monetary-policy/Singapores-Monetary-Policy-Framework](https://www.mas.gov.sg/monetary-policy/Singapores-Monetary-Policy-Framework)*

**Extract 7: Equatorial Guinea's macroeconomic performance and prospects**

Equatorial Guinea, a country in Sub-Saharan Africa, enjoys a better natural resource endowment than Singapore. Equatorial Guinea has fertile land and mineral resources including gold, uranium, diamonds and oil. Equatorial Guinea's population, at 1.4 million people, is much smaller than Singapore's.

Equatorial Guinea has previously been one of the fastest growing economies in Africa. After the discovery of the large oil reserves in 1996 it became the third-largest producer of oil in Sub-Saharan Africa. In 2021, Equatorial Guinea continued to struggle to emerge from the economic recession caused by the 2014 and 2019 oil price slumps. Real GDP decreased by 4.1% in 2019 after a contraction of 6.1% in 2018 due to less activity in the oil sector. Hence, instead of creating prosperity, the oil resources have led to undesirable economic growth that undermines development.

### Fiscal stance and human development

In 2017, Equatorial Guinea government's budget balance showed a deficit of 2.6% of GDP. However, by 2019, with guidance from the International Monetary Fund (IMF), this transformed into a budget surplus of 2.6% of GDP. By contrast, progress in human development remains below Equatorial Guinea's economic potential. According to the Human Development Index (HDI), the country went from 139th out of 188 countries in 2016 to 145th out of 187 countries in 2020. Table 3 compares some key development statistics for Equatorial Guinea and Singapore in 2020.

**Table 3: Selected development statistics for Equatorial Guinea and Singapore (2020)**

	Equatorial Guinea	Singapore
HDI country rank out of 187 countries	145	11
Life expectancy at birth (years)	59	85
Current health expenditure (% of GDP)	3.1	4.4
Primary school enrolment (% of children of primary school age)	62	100
Primary school teachers trained to teach (%)	37	99
Expected years of schooling	9.7	16.4

*Source UNHDO.com*

### Macroeconomic outlook

Between 2000 and 2019, the revenue received from oil enabled the government of Equatorial Guinea to invest heavily in infrastructure. Economic growth was fuelled by ambitious and ongoing programmes in the development of roads, ports, hotels, airports and electricity production. However, local activists claim that any growth disproportionately benefits those with higher income in the economy. They claim that many of the local population receive little direct benefit from any associated economic growth whilst public education and health remain underfunded.

Economic diversification, which has been slow to materialise, remains an important goal for the country's long-term economic growth and stability. The agricultural sector, which currently contributes around 2% of GDP, has clear potential. The National Agricultural and Food Investment Plan for 2020 prioritises the training of farmers and creating small and medium sized agricultural enterprises.

The ability of Equatorial Guinea to make further economic progress is limited by the poor performance of some of its key institutions, notably the banking sector, and the government's inability to effectively collect tax revenue. In order to build on the gains already made and achieve macroeconomic stability, the government must focus on strengthening the financial system, increasing the welfare of the poorest in society, promoting diversification in the economy and ensuring good governance.

*Source: African Economic Outlook (AEO) 2020*



- (a) With reference to Table 2, compare the trade balance as a percentage of GDP in Equatorial Guinea to that of Singapore. [3]
- (b) With reference to Table 2, explain the likely impact on aggregate demand (AD) and aggregate supply (AS) of the change in the real rate of interest in Equatorial Guinea between 2016 and 2019. [5]
- (c) Using Extract 6, explain why the Monetary Authority of Singapore (MAS) uses the exchange rate as the main monetary policy instrument to achieve price stability. [3]
- (d) Using Table 3, explain **one** possible difference in economic outcome resulting from the variation in expected years of schooling between Equatorial Guinea and Singapore. [2]
- (e) With reference to Extract 7, explain why the growth could be termed 'undesirable economic growth'. [3]
- (f) Comment on the likely macroeconomic impacts if Singapore achieves fiscal sustainability beyond 2021 through a decrease in government spending rather than an increase in taxation. [6]
- (g) Using the information provided and AD-AS analysis, assess the extent to which supply-side policies can be used to achieve sustainable economic growth. [8]
- (h) Discuss the view that an increase in Gross National Income (GNI) will always lead to an increase in the standard of living. [10]

[Total: 40]

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