

> Paper 2 (SL and HL)

In Paper 2 students must answer one question out of a choice of two. Questions are drawn from the four parts of the syllabus. Each question is split into seven parts, (a), (b), (c), (d), (e), (f) and (g). The total marks for Paper 2 are 40. (For more information see *Introduction to IB Economics assessment: Exam papers and internal assessment* in the digital coursebook.)

Question 1

Most question parts of Question 1 come from material covered in microeconomics. Part f comes from material covered in macroeconomics.

Text A Environmental impacts of meat production

- 1 Numerous studies have shown that agriculture, and especially production of meat, has devastating effects on the environment. According to a major study, the production of animal products creates the most greenhouse gas (GHG) emissions within agriculture (about 75% of total agricultural emissions) and 15% of total global GHG emissions.
- 2 The most important reasons include: (i) deforestation (cutting down trees) to create more space for livestock, and loss of grasses for growing feed crops, (ii) methane (a greenhouse gas) emissions from cattle, and (iii) fertiliser used to produce feed crops.
- 3 According to the study noted above, to avoid increases in environmental pressures leading to climate change, it will be necessary for people on average globally to eat 75% less beef, 90% less pork and half the number of eggs, while tripling pulses (beans) and quadrupling nuts and seeds. However, because meat consumption is far greater in rich countries, the reductions in meat consumption there should be much larger. In the US and UK, beef would have to be cut by 90%, while pulses would have to increase by four to six times. Meat consumption among undernourished people in poor countries would have to increase.
- 4 Argentina, Australia, Brazil, Canada, China, the EU, New Zealand and the US are responsible for over 60% of global emissions from meat and dairy, double that of the rest of the world (*per capita*).
- 5 To deal with these problems, the study recommends education of the public, taxes on meat, and subsidies on plant-based food and meat alternatives. Cuts to subsidies on livestock are also important. Within the OECD, livestock subsidies were \$53 billion, including \$190 per cow.
- 6 While new technologies could make livestock production more environmentally friendly, this will not do enough if meat consumption continues to grow globally. According to present trends, global meat consumption will increase by 75% by 2050, making it impossible to reach the internationally agreed goal of keeping temperature increases to below 1.5°C.

Text B Health impacts of meat consumption

- 1 According to the World Health Organization, processed meat (hotdogs, ham, bacon) is a carcinogen (causes cancer) while unprocessed red meat is a probable carcinogen. In addition, numerous studies have confirmed that consumption of meat is linked to heart disease, stroke and diabetes, resulting in huge health care costs and premature deaths. Yet people in developed countries, as well as people on higher incomes in developing countries, on average eat far more than the recommended amounts of both processed and unprocessed meat. According to a 'planetary diet' developed by the EAT-Lancet Commission, it is estimated that in North America people eat 6.5 times the recommended quantity of red meat, while in South Asia people eat only half.

Text C Germany proposes to introduce a tax on meat

- 1 The idea of taxing meat has become increasingly popular. According to one study, a 20% tax on unprocessed red meat and a 110% tax on processed meat in developed countries, with lower taxes in developing countries, would lead to a reduction of 220 000 deaths, while raising \$170 billion, and cutting health care costs by \$41 billion.

- 2 In Germany, there was a proposal in 2019 to increase the value added tax (VAT) on meat from the current rate of 7% (which applies to most foods) to 19%. Another proposal was to impose an indirect tax on meat (as in the case of cigarettes). German meat consumption per capita is two times the global average, being the second highest in the world (after the US).
- 3 Opponents to taxes argue that indirect taxes disproportionately hurt people on lower incomes, and could make them turn to consuming lower quality alternatives, such as cheaper meat, with negative consequences for health.
- 4 There have also been disagreements over how the tax revenues should be spent. Some argue it should be spent on animal welfare, in view of unfavourable and cruel treatment of livestock. Others note that it should be used to support livestock farmers to help them restructure as meat production is reduced.
- 5 Additional proposals made by opponents to taxes is to lower the VAT on organic or less environmentally harmful food products, or alternatively to subsidise organic and less environmentally harmful foods.'

Text D International collaboration on livestock GHG emissions

- 1 A number of collaborative efforts are involved with research on how to reduce GHG emissions in agriculture. One of these, led by New Zealand scientists, made an important discovery on how to reduce methane animal emissions in 2019. Another is the Global Network Project which similarly carries out research on how to reduce animal emissions. Conferences organised by the Food and Agriculture Organization (FAO) of the United Nations as well as others, such as the Global Research Alliance on Agricultural Greenhouse Gases, are examining ways to bring new research results to practices at the level of the farm.
- 2 Other innovative approaches which are under discussion are taxes on livestock and **tradable permits** on methane (the GHG emitted by livestock).

Region	Price elasticity of demand (PED) (absolute values)	Income elasticity of demand (YED)
North America	0.62	0.71
Latin America	0.54	0.74
East Asia	0.66	0.82
Asia Other	0.53	0.71
European Union	0.49	0.69
European Other	0.54	0.41
Former Soviet Union	0.55	0.71
Middle East	0.59	0.67
North Africa	0.52	0.69
Sub Saharan Africa	0.60	0.80
Oceania	0.39	0.51

Source: <https://hal.archives-ouvertes.fr/hal-02103880/document>

Table 1: Demand elasticities for meat by world regions

Questions

- a Use the concepts of *PED* and *YED* and the information in Table 1 to describe which region has the
 - i most responsive quantity demanded for meat to changes in *price* [2 marks]
 - ii least responsive demand for meat to changes in *income*. [2 marks]
- b
 - i Define the term **tradable permits** (Text D, par 2). [2 marks]
 - ii Germany is in the European Union. Assuming the *PED* and *YED* values in Table 1 for the European Union apply to Germany, calculate the percentage change in quantity of meat demanded in Germany if its price increases from €15 to €18 per kg. [3 marks]
- c Using an externality diagram, explain how the consumption of red meat may be a type of market failure (Text B, par 1). [4 marks]
- d Given the *PED* values in Table 1, explain which region would have to impose the highest taxes in order to reduce meat consumption by a particular amount. [4 marks]
- e Using a Lorenz curve diagram, explain what will happen to Germany's income distribution if a tax on meat is imposed (Text C, par 2). [4 marks]
- f Using an appropriate diagram, explain how subsidies on organic and less environmentally harmful food products can help address the problem of GHG emissions created by livestock farming (Text C, par 5). [4 marks]
- g Using information from the text and your knowledge of economics, evaluate alternative policies that the German government can adopt to deal with the health and environmental problems caused by meat production and consumption. [15 marks]

Question 2

The question parts of Question 2 are taken from microeconomics, macroeconomics, international economics and development economics.

Text A Egypt's economic reform under the IMF

- 1 During the 1950s and 1960s, Egypt followed a programme of **import substitution**. In the 1970s, Egypt began to liberalise its economy. In the 1980s and 1990s, Egypt suffered from serious debt problems and went through a programme of debt relief that succeeded in bringing debt down to sustainable levels.
- 2 In 2016, Egypt received a \$12 billion loan from the International Monetary Fund (IMF). The purpose of the loan was to restore macroeconomic stability. It included the following objectives and measures:
 - move from a pegged (fixed) exchange rate to a floating exchange rate in order to improve the functioning of the foreign exchange market
 - lower the budget deficit and reduce government debt, which had again reached very high levels
 - pursue **contractionary monetary policy** to limit inflation
 - reduce fuel subsidies that were putting pressures on the budget
 - protect the most vulnerable social groups during the adjustment.
- 3 According to the Governor of the Central Bank of Egypt, in 2019, the IMF praised Egypt's economic reform as the world's most successful one.

Text B Achievements of the reforms

- 1 As a result of the reforms, economic growth improved, reaching an estimated 5.5% in 2019, one of the highest in the region. Inflation, which had climbed to 35%, has come down and it is expected that it will reach single digits by the end of 2019. The budget for 2018–2019 has a primary surplus (not including interest payments). Public debt has begun to fall. Unemployment has fallen to less than 9%, which is the lowest in more than a decade. Following the move to floating exchange rates, foreign exchange reserves of the central bank (reserve assets) are at an all-time high. Reductions in fuel subsidies have meant that prices are better able to perform their resource allocation function. Savings from government spending on the fuel subsidies can go toward targeted spending on goods and services and provision of merit goods.
- 2 Further reforms recommended by the IMF include strengthening governance and competition, improving the integration of women and youth in the labour market, increasing the role of the private sector in the economy and increasing non-oil exports.

Text C The Egyptian pound

- 1 For many years, Egypt had its currency, the Egyptian pound, pegged (fixed) against the US dollar. Among the reasons for this were exchange rate stability and to prevent currency depreciation that would increase the prices of imports. In 2016, the IMF made abandonment of the peg a condition for lending to Egypt. Following the move to a floating exchange rate system, the pound depreciated relative to the US dollar by about 50%. Following this, inflation in Egypt went as high as 35%.

Text D Challenges involving exports

- 1 Net exports became the most important factor driving growth, helped by the depreciated currency. However, the increase in exports involved mainly gas and to a lesser extent tourism. Egypt has a comparative advantage in certain goods including carpets, fabrics, textiles, salt, and stones, but many of these face weak global demand, suggesting limited growth potential.
- 2 Egypt has signed several preferential trade agreements, but the benefits have been limited to tariff reductions while other significant non-tariff and administrative barriers remain, creating important obstacles to expansion of exports. Some barriers come not only from trading partners

but also from the Egyptian side, involving inspection and certification procedures as well as infrastructure weaknesses like cooling and storage facilities as well as domestic transport systems. As a result Egypt has been unable to fully take advantage of the depreciation of its currency.

- 3 The current account also benefits from remittances. This is important because hundreds of thousands of families depend on these.

Text E Other challenges

- 1 In 2019, an estimated 32% of the Egyptian population lives below the national poverty line, up from 28% in 2015. Inequality is also increasing. The poverty line is set at \$45 a month, which is too low according to some economists. The rise in inflation following the depreciation made numerous food items unaffordable to people on low incomes, while the cuts in fuel subsidies raised transport costs. Household expenditures have been rising faster than incomes. Public school fees have increased while a new indirect tax (value added tax) of 14% has been introduced. Cash transfer programmes cover about 10% of the population.
- 2 While unemployment fell, so did the labour force participation rate (the number of people of working age in the labour force), suggesting an increase in long-term unemployment. Youth unemployment remains high at 22%. Furthermore, many of the new jobs being created are in the informal economy.
- 3 According to the constitution, spending on health care and education should increase to 3% and 6% respectively, yet spending on education fell from 3.6% of GDP in 2016 to 2.5% in 2018 and is planned at 2.2% in 2019. Spending on health care was 1.6% in 2018.

GDP deflator 2018*	121.4
GDP (current US\$) 2018	250.9 billion
GDP <i>per capita</i> (current US\$) 2018	2549.1
GDP <i>per capita</i> (US\$ PPP) 2018	12 390
GNI (current US\$) 2018	275.4 billion
GNI <i>per capita</i> (current US\$) 2018	2800
GNI <i>per capita</i> (US\$ PPP) 2018	12 080
GDP growth in 2019 (estimated)*	5.5%
Government debt 2018	227.1 billion

Source: <https://data.worldbank.org/indicator?tab=all>

*<https://knoema.com/atlas/Egypt/topics/Economy/National-Accounts-Gross-Domestic-Product/GDP-deflator>

Table 1: Data on economic performance

Questions

- a
 - i Define the term import substitution (Text A, par 1). [2 marks]
 - ii Define the term contractionary monetary policy (Text A, par 2). [2 marks]
- b
 - i Using the information in Table 1, calculate the size of Egypt's population in 2018. [2 marks]
 - ii Referring to the data in Table 1, outline two reasons why Egypt's GNI is greater than its GDP. [3 marks]
- c Using an appropriate diagram, explain the difference between a fixed and floating exchange rate (Text A, par 2). [4 marks]
- d Using an appropriate diagram, explain why reduction (or removal) of fuel subsidies means 'prices are better able to perform their resource allocation function' (Text B, par 1). [4 marks]
- e Using an *AD-AS* diagram, show how net exports are a factor driving growth (Text D, par 1). [4 marks]

- f Using an appropriate diagram, explain why currency depreciation that raises the prices of imports could result in cost-push inflation (Text C, par 1). [4 marks]
- g Using information in the texts and your knowledge of economics, discuss various policies that the Egyptian government can pursue to reduce poverty and income inequality. [15 marks]

Sources

Question 1

Text A

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Text D

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Question 2

Text A

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