GCE A LEVEL

A520U20-1

S23-A520U20-1

MONDAY, 22 MAY 2023 – AFTERNOON

ECONOMICS – A level component 2
Exploring Economic Behaviour

2 hours 30 minutes

A520U201
01

ADDITIONAL MATERIALS

A calculator.
A WJEC pink 16-page answer booklet.

INSTRUCTIONS TO CANDIDATES

Use black ink or black ball-point pen.
Answer **all** questions.
Write your answers in the separate answer booklet provided.

INFORMATION FOR CANDIDATES

The number of marks is given in brackets at the end of each question or part-question.
You are reminded of the necessity for good English and orderly presentation in your answers.

Answer **all** questions.

1. The road goes ever on…

If you happened to find yourself travelling between Babylon and Susa in 668BC you'd pay a fee for using the road. Tolls to cross mountain passes were common in ancient Germany and also in India. In Britain, medieval road-keepers would charge what was known as 'pavage' for upkeep and maintenance.

After a change in legislation in 1700, more than 400 'Turnpike Trusts' were formed in Britain to maintain the road links so vital to the industrial revolution. These helped finance the creation of routes, such as Thomas Telford's A5 from London to Holyhead, which charged a toll every five miles or so.

In 2021 there were 23 toll roads in the UK, of which 18 are river crossings, including minor ones such as the tiny Swinford Toll Bridge across the Thames in Oxfordshire. The UK has also seen more major schemes such as the M6 Toll built around Birmingham and the introduction of congestion charges in cities such as London (2003) and Durham (2002).

As road congestion has worsened, road pricing/tolls have increasingly been seen as a solution. Rush hours are getting longer and slower; in 2019 transport consultant Inrix, published a report showing that in the previous year, the average British driver spent 178 hours stuck in traffic, costing each driver £1317 in lost work or leisure time, which annually loses the British economy £7.9 billion. Another study has predicted that the cost of congestion to the UK will hit £22bn by the year 2025, whilst a recent report by the Confederation of British Industry stated that 95% of businesses see congestion as a key concern (see **Figures 1** and **2**).

Figure 1

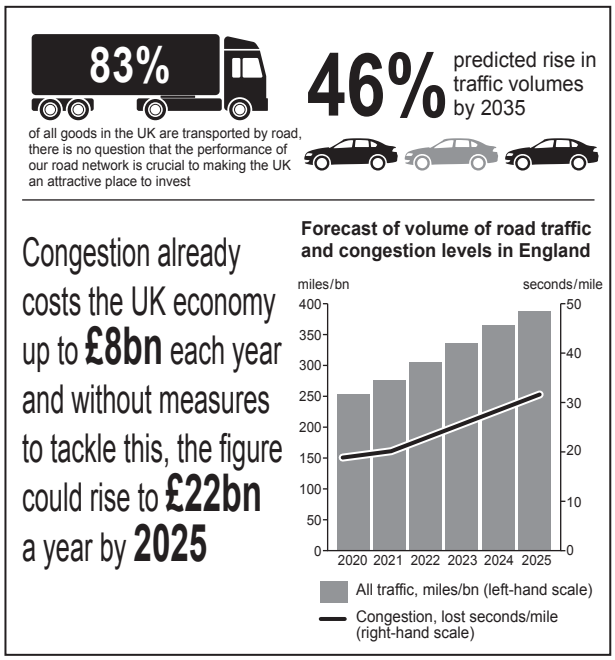


Figure 2

Rank	City / Large urban area	Peak hours spent in congestion per year	Percentage of total drive time in congestion	Total cost per driver per year	Total cost to the city per year
1	London	73	12.70%	£1911	£6.2bn
2	Manchester	39	9.90%	£1136	£233m
3	Aberdeen	35	12.30%	£1331	£138m
4	Birmingham	34	8.50%	£990	£407m
5	Edinburgh	31	9.80%	£1009	£225m
6	Guildford	29	8.60%	£812	£44m
7	Luton	29	10.70%	£964	£72m
8	Bournemouth	27	10.80%	£1019	£84m
9	Hull	27	9.40%	£970	£109m
10	Bristol	27	8.80%	£845	£154m

A few years ago, Alistair Darling, a former Chancellor, and the economist David Begg set their sights on developing a national road pricing scheme. Begg argued that rather than the current system in which roads are free at the point of use, a road pricing scheme would reduce traffic congestion by 20 to 30 per cent. Furthermore, the loss in fuel tax revenue to the Treasury as drivers switch to electric and hybrid cars strengthened their argument for the introduction of road pricing.

At heart, the Darling/Begg plan was pure free market economics. It proposed allocating scarce resources (uncongested road space) using the price mechanism. Car drivers would pay a price according to distance travelled and the level of traffic congestion, which would be related to the time of day or the day of the week (**Figure 3** shows the pricing structure for the M6 Toll).

Figure 3 (Prices correct January 2021)

M6 toll – A better way around		TOLL RATES	
		Motorbikes 	Cars 
Weekday	**Day** (7am – 7pm)	£3.20	£6.70
	Off-peak (Morning) 5am – 7am (Evening) 7pm – 11pm	£3.10	£6.60
	Night (11pm – 5am)	£2.10	£4.20
Weekend	**Day** (5am – 11pm)	£3.10	£5.60
	Night (11pm – 5am)	£2.10	£4.20

However, the Darling/Begg proposals would require complex computer hardware and software to monitor all UK traffic movements. These could only be developed by about 10 companies in the world, according to one expert who worked on the truck road pricing scheme in Germany. The effectiveness of a road pricing scheme will also depend on price elasticity of demand, which may vary geographically and at different times of the day.

Moreover, the history of such large computerisation schemes has not been a complete success in the UK; records at the Driver and Vehicle Licensing Agency (DVLA) are known to be flawed and Transport for London (TfL), which administers the London Congestion Charge zone, is still sending out penalty charge notices to drivers despite incontrovertible evidence that drivers had paid to use the roads. And while supporters of road pricing point out that mobile phones, fitness trackers and even credit cards monitor our movements, there is a general unease with the idea of satellites or cameras tracking our every journey.

Also, those in favour of road pricing do not have many answers to the almost inevitable rise in illegal, uninsured and unregistered cars, which would bypass a system policed by Automatic Number Plate Recognition (ANPR) cameras. There are also societal concerns about the effect of road pricing on older and poorer people, as well as the issue of 'rat runs' on local roads running past schools and houses to avoid congested (and expensive) motorways.

Another response to road congestion is increased road building. In the 2020 Budget, the then Chancellor Rishi Sunak announced a £27bn road building programme with plans to build 4000 miles of new road between 2020 and 2025. In 2021, many existing three-lane motorways in the UK were being extended to four lanes to use their hard shoulders (emergency breakdown lanes) to create so-called 'smart motorways'. This policy can help in some cases, but with a road network that is largely free at the point of use, there is a problem of supply creating its own demand. This takes us back to road pricing and the hope that the technology for once doesn't let the government down.

Source: https://www.telegraph.co.uk/cars/comment/road-pricing-controversial-solution-congestion-pollution-wont/

(a) With the aid of a production possibility frontier (PPF) diagram, outline how road congestion damages the UK economy. [4]

(b) Using a demand and supply diagram, show how roads being 'free at the point of use' (line 23) causes road congestion. [4]

(c) Using examples from the data, explain how road congestion creates market failure. [5]

(d) With reference to the data, explain how a road toll system could use price discrimination to reduce road congestion. [6]

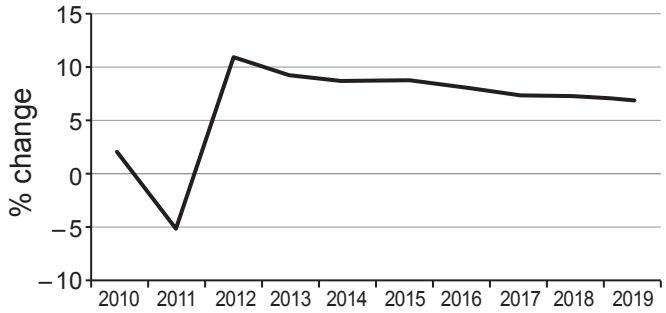
(e) With reference to the data, evaluate the use of road pricing as a means of solving the problem of road congestion in the UK. [10]

(f) With the aid of an AD/AS diagram and with reference to the data, discuss how beneficial the £27bn road building programme is likely to be for the UK macroeconomy. [11]

2. Out of Africa

In 2011, Côte d'Ivoire was shaken by its second civil war in a decade as forces led by the democratically-elected government clashed with forces loyal to the former president. The peace that followed, however, led to a decade of rapid economic growth, making Côte d'Ivoire one of the fastest growing economies in the world (**Chart 1**).

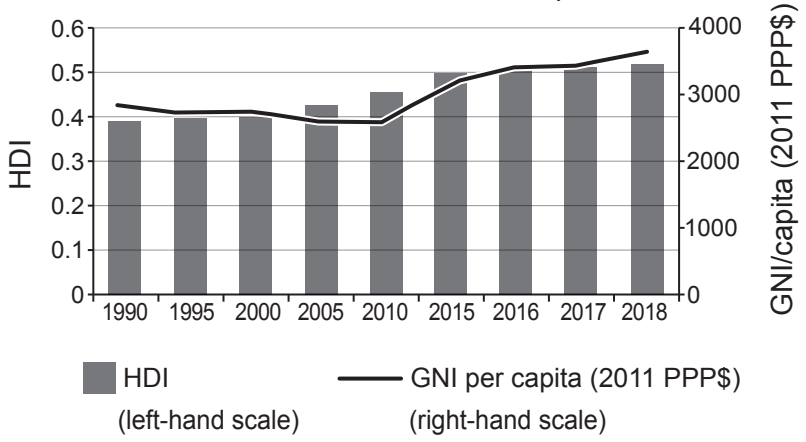
Chart 1:
Côte d'Ivoire annual real GDP growth
(% change on previous year)



This growth has been sustained by economic liberalisation. Since 2011, the government, led by President Alassane Ouattara, has privatised state-owned companies and invested in roads and other infrastructure. The government's attempts to reduce business regulations (making it easier to start a business and get loans) have led to a rise in the World Bank's 'ease of doing business' index. The country has risen 25 places in the ranking to 110 out of 190 countries. At the same time, Côte d'Ivoire improved by 50 places in Transparency International's Corruption Perceptions Index. However, businesses were worried by uncertainty over the upcoming presidential elections.

The rapid economic growth, however, hasn't yet been fully reflected in economic development. In 2018, Côte d'Ivoire is ranked 170th of 189 countries in terms of the Human Development Index (HDI), with a score of only 0.516 (**Chart 2**). Part of the reason for this is low completion rates in secondary education. Only 35.5% of children finish school and the rate is much lower for girls than boys. High rates of deaths in childbirth, high infant mortality and a youth unemployment rate of 36% add to the problems facing the government.

Chart 2:
Côte d'Ivoire HDI and GNI/capita



Like many African economies, Côte d'Ivoire has plenty of natural resources; it is the world's largest exporter of cocoa and one of the world's largest cashew nut exporters (**Charts 3** and **4**). Around 40% of the population is involved in agriculture, which forms about 20% of GDP. Sustained economic growth will probably depend on making a significant transition away from agriculture towards manufacturing and services.

Chart 3:

Agricultural Production
(% change on previous year)

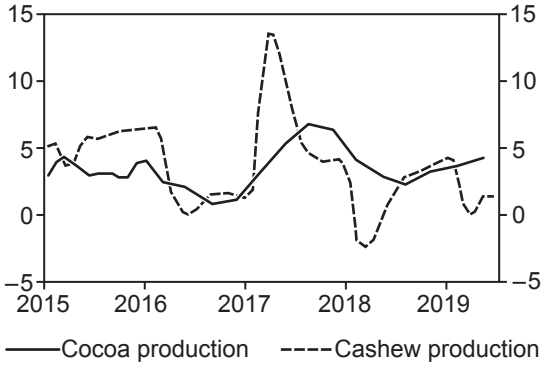
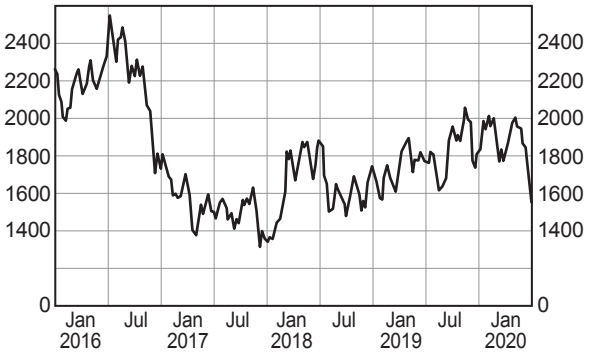


Chart 4:

Cocoa prices (£/tonne)



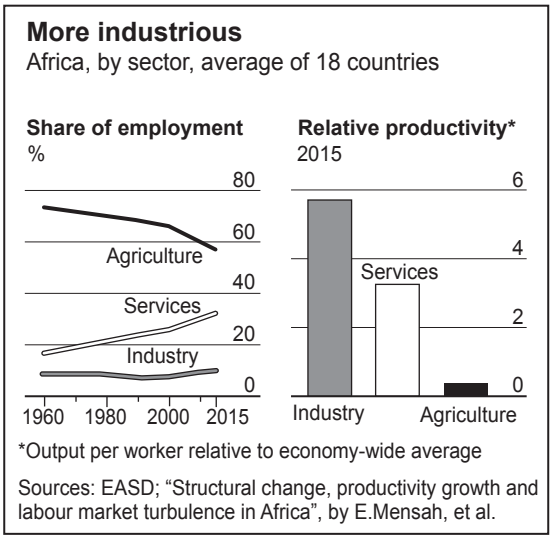
Across Africa as a whole, there are signs that this transition is happening. Between 2000 and 2015 the proportion of Africans working on farms fell from 66% of the labour force in 2000 to 58% by 2015 (**Chart 5**).

Many of the people leaving agriculture have found jobs in sectors like taxi driving or roadside carpentry. Although they are earning more than they did in agriculture, this change isn't the big shift towards high value-added manufacturing that will really drive growth.

There are some signs for optimism. As incomes have risen, the internal market in Africa has expanded. Manufactured goods represent 43% of African exports to other African economies. The problem is that manufactured goods are only 19% of what they export to the rest of the world. Given that the countries south of the Sahara have less combined purchasing power than Germany, Africa will remain poor unless exports to the rest of the world can be increased.

Chart 5:

Agricultural employment and productivity



The big debate, therefore, is how to create the transition to these higher value-added sectors. In East Asia, some argue that the key to growth in countries such as South Korea and Singapore was an interventionist state, high investment and a focus on promoting exports.

By contrast, in Africa import substituting policies were tried initially, but these were abandoned by the 1980s as a result of a growing debt crisis. Factories closed as the International Monetary Fund (IMF) and the World Bank pressed governments to open their markets to foreign competition. Today, there are some signs of a return to import substitution. Tito Mboweni, South Africa's former finance minister, wanted to "set up manufacturing to make what we need and stop relying on imports from China". Uganda is trying to discourage imports. Ghana also says it is making import substitution a priority, but the concern is that the policies will work no better now than they did in the past.

So, could Africa follow the Asian model? There are doubts because although Africa has millions of poor people, both labour and capital costs are very high (**Table 1**), which means that the Asian labour intensive, export-oriented model is unlikely to work. However, some African economies are industrialising by adding value to the areas in which they have comparative advantage: agriculture and natural resources. In Kenya, for example, 400 tonnes of cut flowers are flown out of the capital, Nairobi, every day. In Ethiopia, roses are exported to the Netherlands. In Côte d'Ivoire, the World Bank is funding a project to improve the competitiveness of the cashew nut industry.

Table 1

	Labour cost per worker	**Capital cost per worker**	**GDP per capita**
Asia			
Bangladesh	$835.31	$1069.84	$853.02
Africa			
Ethiopia	$909.28	$6137.98	$471.19
Kenya	$2118.01	$9775.45	$1116.69
Senegal	$1561.64	$2421.98	$775.45
Tanzania	$1776.65	$5740.99	$1094.95

Some analysts hope that success in these sectors might attract Foreign Direct Investment (FDI) and act as a gateway to developing a manufacturing sector. Early experiments, however, have not been encouraging. In Ethiopia, foreign investors into a newly built industrial park in Hawassa have struggled to find workers prepared to accept the wages and hours needed to stay competitive; 77% of workers quit within a year. In any case, rising automation in high income countries and tougher global competition are making the Asian low-wage export model increasingly difficult to copy.

Africa may therefore need to find its own route forward to break into world markets. But one based on adding value to its existing resource advantages might well be a part of the journey.

(a) Using examples from the data, outline the difference between economic growth and economic development. [4]

(b) The theory of comparative advantage suggests that countries should specialise to increase their levels of economic welfare. Construct your own numerical example to explain why this is so. [6]

(c) If the trends in its economic growth continue, discuss whether Côte d'Ivoire is likely to see significant improvements in its HDI ranking. [10]

(d) With reference to the data, discuss whether sustained economic growth for African economies will be more likely if there is a significant transition away from producing primary products towards manufacturing and services. [10]

(e) With reference to the data, discuss which approach to industrialisation will be most likely to succeed in Africa. [10]

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