

Economics A
Advanced
PAPER 3: Microeconomics and
Macroeconomics

Friday 7 June 2024 – Morning

Data Booklet

THIS DATA BOOKLET MUST BE RETURNED WITH THE
QUESTION PAPER AT THE END OF THE EXAMINATION.

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INSTRUCTIONS

There may be spare copies of some data sheets in case you need them.

Contents**Page****SECTION A**

3	Figure 1
4	Figure 2
5	Extract A
6	Extract B
7	Extract C
8	Question 1(b)

SECTION B

9	Figure 3
10	Extract D
11–12	Extract E
13	Extract F
14	Question 2(c)

Spare Copies

15	Question 1(b)
16	Question 2(c)

Figure 1: UK wholesale gas prices per therm, 2021, in pence

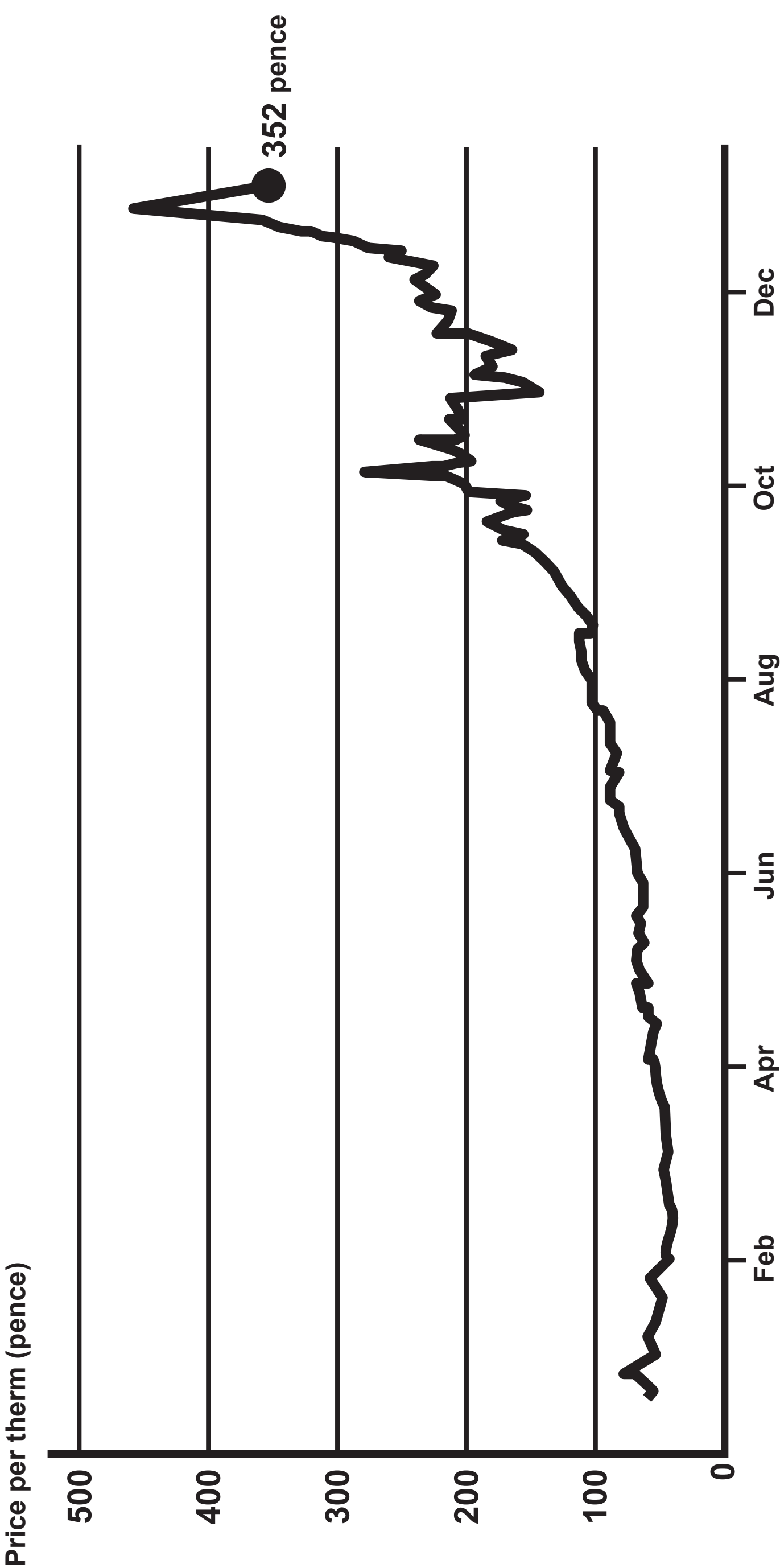


Figure 2: Number of firms supplying gas and electricity in the UK, 2004–2021

Year	Gas	Electricity	Gas and electricity
2004	1	1	12
2005	1	1	11
2006	1	1	8
2007	1	1	10
2008	1	1	11
2009	0	0	13
2010	0	0	13
2011	0	0	15
2012	2	3	15
2013	5	2	18
2014	3	2	21
2015	3	2	28
2016	4	2	39
2017	7	4	49
2018	7	3	54
2019	5	2	53
2020	5	2	49
2021	5	3	41

Extract A

Rising gas prices

UK consumers are some of the biggest users of gas. 85% of homes use gas central heating, and gas generates a third of the country's electricity. North Sea gas is running out – and as Britain has replaced coal-fired energy production with wind power in order to reduce carbon emissions, it has become dependent on gas imports.

Almost all UK businesses face significant rises in fuel costs over the next few months, and there is no substitute for energy, at least in the short run – an almost perfect example of price inelastic demand.

Extract B

The UK gas market is broken

During the past decade the government has allowed new entrants into the retail energy market with business models that left them ill-prepared to achieve long term business growth. Now the UK must choose between letting its energy market collapse and offering large subsidies for energy retailers.

The problem began in the 1980s and 1990s, when privatisation created an oligopolistic energy market dominated by the “Big Six”, which paid their shareholders high dividends and their bosses excessive salaries. The government responded to anger over high energy bills with further liberalisation. Some of the new entrants were innovative, such as Bulb, which offered consumption-tracking apps, and Octopus, which discouraged consumption when demand was high with dynamic pricing. But most were under-capitalised and produced no energy, merely buying it on global wholesale markets and selling it on. Some paid little attention to ensuring continuity of supply or forward buying of gas.

The constraints on energy retailers worsened in 2017 with the closure of a big gas-storage facility, which left the UK able to store just 2% of its annual demand. Other big gas importing countries, by contrast, can store 20%–30%. The risks rose further in 2019, when the government capped consumer prices in response to continued complaints about high energy bills.

The perfect storm came in the summer of 2021. As economies opened up, global demand for energy rose. Gas supply in Russia, a big producer, was disrupted, and unusually calm weather reduced UK wind turbine energy production to 11% of capacity. In August Ofgem, the industry regulator, said that from October the firms would be able to raise prices for households by 54%. But since then the wholesale price of gas paid by UK energy firms has risen by more than 70%. The result is that UK energy firms are tied into contracts to supply gas to households at far less than they must pay to get it.

Extract C

The gender pay gap in the oil and gas industry

Despite best efforts to try to attract more women into the oil and gas industry, females are still hugely under-represented in science, technology, engineering and maths careers, whether school leavers, graduates or experienced workers.

- 5 Women hold under **25%** of careers in these areas, and typically hold more non-technical roles, which can attract lower salaries than technical disciplines.

- 10 There is an even smaller female representation in the offshore workforce (**3.6%**) e.g. working on rigs in the North Sea, an area that pays higher salaries than onshore work. Despite continued efforts there is still a lack of female applications. Only **5%** of the applications to the technical apprentice programme were female, of which half withdrew their applications at the first stage of the recruitment process.

- 15 There is also a low representation of females in senior leadership roles within the oil and gas industry, especially in technical positions. Women also generally take up part-time positions which are typically lower paid. This has resulted in the oil and gas industry having an average gap in hourly pay of **25%**.

- 20 In the majority of developed countries, women have made substantial progress in the labour market since the **1970s**, with both wages and labour force participation increasing relative to that for men. Notwithstanding these large improvements, women still earn less than 'comparable' men in all developed countries and, since the **2000s**, progress for women in the labour market seems to have slowed.

Question 1(b)

Figure 3: World’s largest cocoa growers and chocolate producers

Cocoa growers	Chocolate producers
Ivory Coast 46%	Germany 17%
Ghana 18%	Belgium 11%
Indonesia 14%	Italy 7·4%
Nigeria 7%	US 7·2%

Extract D

From a managed to a floating exchange rate

Ghana's currency, the cedi, has depreciated significantly against major currencies, especially the US dollar (US\$), since the adoption of the floating exchange rate system in 1992. From 1983 to 1992 it operated a managed exchange rate. Since the liberalisation of the foreign exchange market there have substantial swings and on average the cedi has depreciated 98% against the US dollar. The cedi to US dollar rate has been very volatile recently, causing macroeconomic instability and limiting economic growth.

Extract E

There is a lot of money in chocolate but the growers of cocoa see very little of it.

In 2020 the chocolate retail industry was worth £78 billion, but Ghana – the world’s second largest cocoa producer – earned just over £1 billion. Cocoa farmers in Ghana now make roughly \$1 a day (this often includes being subsidised by the Ghanaian government). This is a familiar pattern for many African countries where the economy is still shaped by a colonial relationship in which they export commodities to be processed elsewhere.

Ghana currently processes about 30% of its cocoa crop into chocolate, meaning that the exports can earn high prices. Despite plans for expanding the domestic chocolate industry there are still many obstacles in the way. The equipment to make chocolate is very expensive and there is neither a local sugar nor dairy industry. Imported milk and sugar would increase the cost of production significantly, with the added problem that foreign currency would be needed. Producing chocolate requires consistent refrigeration, and the high cost of the equipment to achieve that is a major obstacle for entrepreneurs without substantial funds. There is an inconsistent supply of energy in rural parts of Ghana. An alternative, making teas and wines using cocoa, can make 20 times more revenue than the raw beans, but they do not have the mass market appeal and high profits of chocolate.

Access to funds is a big problem and one farmer, Nana Aduna, says that high interest rates on bank loans are an issue for start-up businesses and at the moment he cannot afford to borrow money. “You cannot grow a business when you have to service interest rates of 18%–20% or even more,” he says.

But the government has pledged to address these structural issues, using supply side policies. The Trade and Industry Minister announced that industrialisation is the focus of government policy. “It only makes sense that the most important commodity in our country, which is cocoa... should become the target for a major programme of industrialisation,” he says.

(continued on the next page)

Extract E continued.

- 30 The ‘One District One Factory’ programme aims to kickstart industrialisation by providing the infrastructure for Ghana’s farms, by establishing processing plants in some of the big cocoa–growing areas. It has become easier for the private sector to invest in food processing, and there is a big tax rebate available to processing companies that set up in the country’s enterprise zones
- 35 – designated areas to encourage economic activity – in a bid to help them export.

Extract F

A new trade bloc for Africa

The African Continental Free Trade Agreement (AfCFTA) has been signed by all 55 member states of the African Union, including Ghana, Nigeria, and South Africa. This brings together 1·2 billion people with a combined gross domestic product (GDP) of more than \$2 trillion as of 2023.

The agreement commits countries to removing tariffs on 90% of goods, with other goods to be phased in later.

The agreement also liberalises services and aims to tackle non–tariff barriers which reduce trade between African countries, such as long delays at the borders.

Question 2(c)

Question 1(b)

Question 2(c)

Sources

Extract A

(Source: adapted from <https://www.theecoexperts.co.uk/blog/reasons-for-uk-gas-price-increase>)

Extract B

(Source: adapted from <https://www.economist.com/britain/britains-gas-market-is-broken/>)

Extract C

(Source: adapted from <https://www.harbourenergy.com/media/2a2nmavb/chr-18311-01-gender-pay-gap-2020-v6-final.pdf> and <https://ftp.iza.org/dp10975.pdf>)

Figure 3

(Source: adapted from International Cocoa Association www.icco.org December 2021 and The Telegraph.co.uk accessed 24/2/22)

Extract D

(Source adapted from: <https://www.theigc.org/project/on-the-causes-and-effect-of-exchange-rate-volatility-on-economic-growth-evidence-from-ghana/> and <https://www.scirp.org/journal/paperinformation.aspx?paperid=95492>)

Extract E

(Source: adapted from <https://www.newsbreak.com/news/2201853748349/ghana-s-farmers-eye-sweet-success-from-chocolate> and <https://www.indepthnews.net/index.php/the-world/africa/4495-ghana-starts-with-cocoa-to-end-neocolonial-trading-ties> and <https://www.brookings.edu/blog/africa-in-focus/2020/09/03/pathways-to-structural-transformation-of-the-ghanaiian-economy-and-some-roadblocks/> and <https://www.ghanaweb.com/GhanaHomePage/business/Speculators-driving-interbank-retail-FX-rates-gap-1468375>)

Extract F

(Source adapted from: <https://www.aljazeera.com/economy/2018/3/20/african-continental-free-trade-area-what-you-need-to-know>)