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Candidate surname <i>StemUp Model Solution</i>		Other names
Centre Number	Candidate Number	

Pearson Edexcel Level 3 GCE

Thursday 18 May 2023

Morning (Time: 2 hours)	Paper reference	9EB0/01
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Economics B

Advanced

PAPER 1: Markets and how they work

You do not need any other materials.

Total Marks

Instructions

- Use **black** ink or ball-point pen.
- **Fill in the boxes** at the top of this page with your name, centre number and candidate number.
- Answer **all** questions.
- Answer the questions in the spaces provided
– *there may be more space than you need.*

Information

- The total mark for this paper is 100.
- The marks for **each** question are shown in brackets
– *use this as a guide as to how much time to spend on each question.*
- Calculators may be used.

Advice

- Read each question carefully before you start to answer it.
- Try to answer every question.
- Check your answers if you have time at the end.

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Answer ALL questions.

SECTION A

Read the following extracts (A–E) before answering Question 1.

Write your answers in the spaces provided.

Extract A

Competition watchdog to review UK music industry over power of big firms

The competition watchdog, the Competition and Markets Authority (CMA), is launching a review of the UK music industry. This will address concerns about the power of big music firms and ensure that the music industry is competitive, thriving and works in the interests of the consumer.

5

Andrea Coscelli, chief executive of the CMA, said: "Over the past decade, the music industry has evolved almost beyond recognition, with streaming now accounting for more than 80% of all music listened to in the UK. Whether you are into Bowie, Beethoven or Beyoncé, most of us now choose to stream our favourite music. A market study will help us to understand these radical changes and build a view as to whether competition in this industry is working well or whether further action needs to be taken."

10

Music firms have argued that competition remains fierce in the UK music industry, which has produced global artists such as Adele, Ed Sheeran and Coldplay, while many lesser known British artists are thriving in the streaming age.

The rise of streaming platforms, such as *Spotify* and *Apple Music*, has triggered an international debate over who benefits from the money generated by the boom in digital music.

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(Source: adapted from <https://www.ft.com/content/1399b213-df27-46a5-902b-41842a1cab8b/>)

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Extract B**Selected financial information for *Spotify* for the year end 30 December 2020 and 2021**

	2021 (€m)	2020 (€m)
Revenue	9 668	7 880
Gross profit	2 591	2 015
Operating profit/(loss)	94	(293)
Research and development (R&D)	912	837

(Source: adapted from <https://investors.spotify.com/financials/default.aspx>)

Extract C***Spotify's pricing structure***

Spotify is a music streaming platform that gives users access to a large catalogue of music. It offers two types of access: a basic free service, known as 'freemium' with advertisements and an unlimited premium service without advertisements for a subscription fee.

5

The premium version of *Spotify* offers uninterrupted access to music across all devices, including smartphones, tablets and televisions. The premium version enables downloading of songs to devices for offline listening and high-quality audio.

The premium version is available at varying monthly subscription fees as follows:

- Students £5.99
- Individuals £9.99
- Couples £13.99
- Family £16.99.

10

(Source: adapted from <https://insights.daffodilsw.com/blog/how-spotify-works-business-model-and-revenue-streams>)

Extract D**This Is Music 2021 Report**

This Is Music is the annual economic study by *UK Music* and its members. In 2021 it found:

	2019	2020
Number employed in the music industry	197,000	128,000
Music industry's economic contribution	£5.8bn	£3.1bn
Music exports	£2.9bn	£2.3bn

5

Glastonbury was among hundreds of festivals and live music events cancelled after restrictions were imposed in March 2020. The impact was felt right across the industry as studios and venues were forced to close, and musicians and crew were unable to work.

In an industry where three-quarters are self-employed, many were not covered by government support schemes. This resulted in thousands of music creators, crew and others leaving the industry.

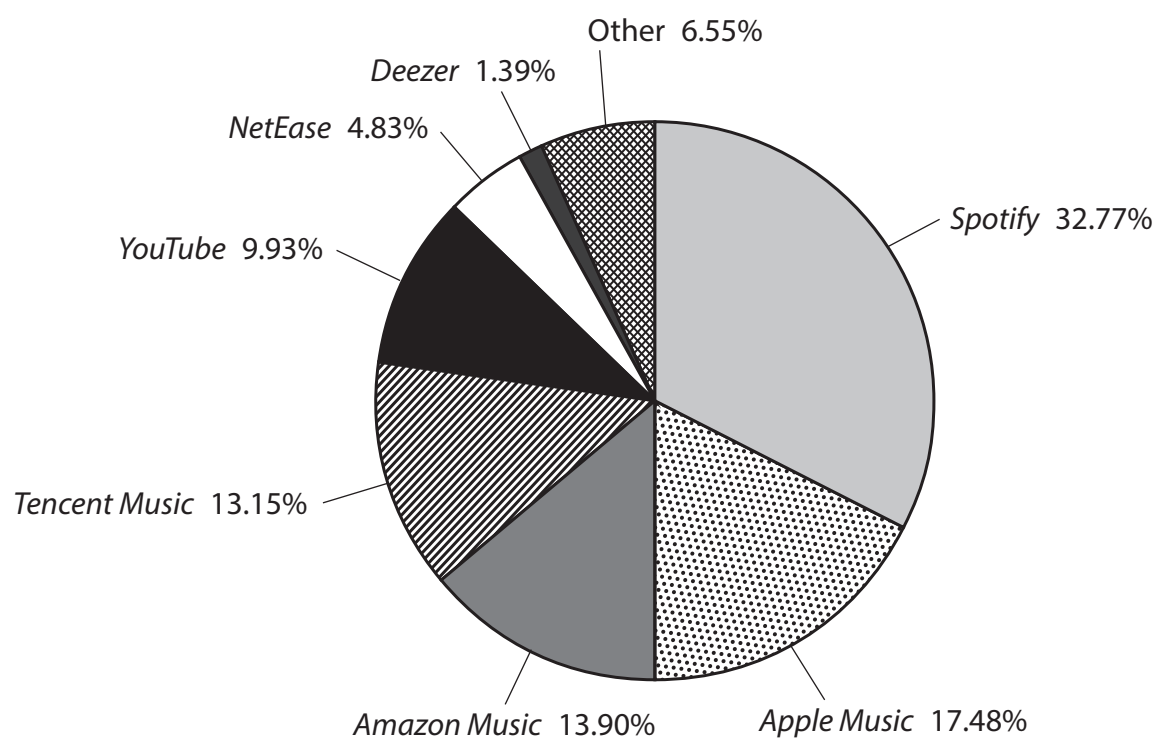
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UK Music is calling on the UK Government to implement tax incentives for the music industry to stimulate growth and jobs. This includes a reduction in value added tax (VAT) on tickets for live music events.

15

(Source: adapted from <https://www.ukmusic.org/research-reports/this-is-music-2021/>)



Extract E**Global market share for music streaming platforms 2022**

(Source: adapted from <https://seekingalpha.com/article/4527977-spotify-rapid-growth-high-retention-and-undervalued>)

- 1 (a) Explain **one** method the Competition and Markets Authority (CMA) could use to research the music streaming industry.

(4)

The CMA could carry out primary market research, collecting new data first hand, for example by sending questionnaires and online surveys to music consumers.

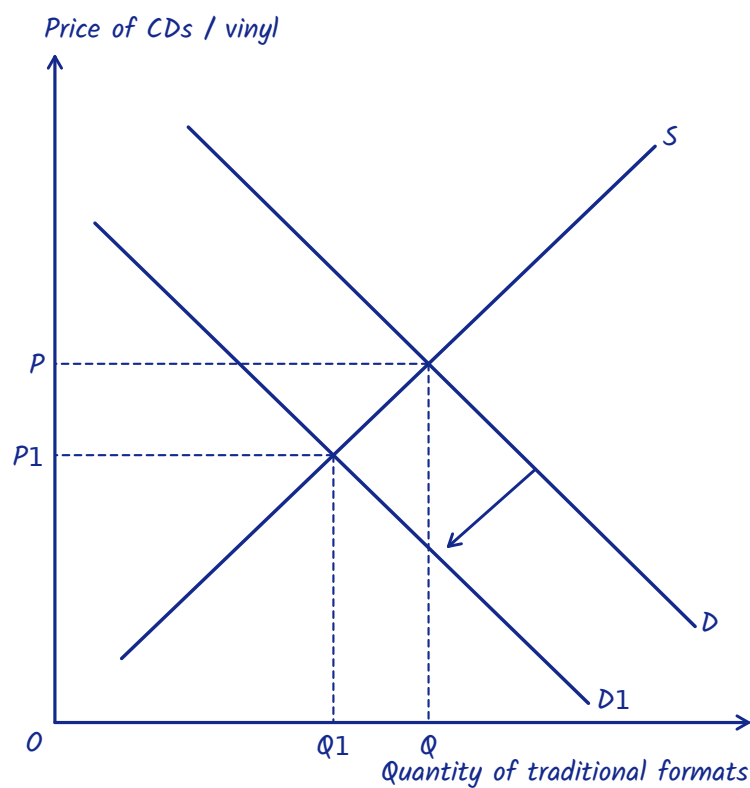
In context, the CMA could ask UK consumers directly which streaming platforms they use, such as Spotify or Apple Music, how much they pay and whether they would switch provider if prices rose. It could also run focus groups with listeners and artists to find out about the quality of music streaming services in the UK.

This would help the CMA to understand how consumers have been affected by the radical changes in the industry, with streaming now over 80% of music listened to, and so judge whether competition is working in the interests of the consumer.



- (b) Using a supply and demand diagram, illustrate the impact on the market for traditional music formats following the increase in music streaming.

(4)



Streaming is a substitute, so demand for traditional formats (CDs, vinyl) shifts left from D to $D1$: price falls from P to $P1$ and quantity from Q to $Q1$.



- (c) Using the data from Extract B calculate, to two decimal places, the percentage of revenue spent on research and development (R&D) by *Spotify* in 2021. You are advised to show your working.

(4)

Percentage of revenue spent on R&D = (R&D expenditure ÷ revenue) × 100

= (€912m ÷ €9 668m) × 100

= 0.094332... × 100 = 9.4332...%

Answer: 9.43% of revenue was spent on R&D in 2021.



(d) Analyse **two** possible reasons why Spotify might have increased its spending on R&D.

(6)

Firstly, Spotify may have increased R&D spending to create a competitive advantage. In 2021 it spent €912m, up from €837m in 2020, which can be used to enhance the quality of the music app, for example improving its recommendation algorithms, personalised playlists and high-quality audio. This makes Spotify's service more attractive than competitors' services, so users are more likely to subscribe to the premium version and stay loyal, increasing subscription revenue and allowing it to charge a premium price.

Secondly, Spotify may want to increase or protect its market share. Although it is the market leader with 32.77% of the global streaming market, Apple Music is a close rival with 17.48% and Amazon Music has 13.90%, and both are backed by very large firms.

Increased spending on R&D will help Spotify to be innovative, for example developing new features such as podcasts or offline downloads across more devices, and stay ahead of rival streaming platforms. This attracts new listeners and reduces the risk of losing customers to rivals, helping Spotify grow its revenue, which rose from €7 880m to €9 668m, and turn its operating loss of €293m into a profit of €94m.



P 7 2 9 7 7 A 0 9 2 8

(e) Discuss the benefits for Spotify of using price discrimination.

(8)

Price discrimination involves charging different prices to different groups of consumers for the same good or service, where the price differences are not based on differences in cost. Firms charge a higher price to groups with a lower price elasticity of demand (PED) and a lower price to groups with more price elastic demand.

Spotify uses third degree price discrimination, segmenting the market by income, age and lifestyle. The premium service costs £5.99 a month for students, £9.99 for individuals, £13.99 for couples and £16.99 for families. Students typically have a lower income, so their demand is more price elastic. A lower subscription price encourages more students to use Spotify than would have done so at £9.99, increasing its total revenue. Individuals with higher incomes have more price inelastic demand, so Spotify can charge them a higher price and extract more consumer surplus, increasing revenue and profit.

Price discrimination also helps Spotify to use revenue from premium subscriptions to fund discounts for groups such as students, and to offer the 'freemium' version, funded by advertising, to a wider range of listeners. From Spotify's perspective this helps to maximise profit as more listeners are able to access its services, and young students who join at £5.99 may become loyal full-price customers later, increasing future revenue and market share.

However, there are administration costs involved in maintaining the different subscriptions, such as checking student status, which reduce the benefit. For price discrimination to be effective there need to be distinct groups with different PEDs who cannot access the prices of other groups; if individuals pretend to be students or share a family plan with friends, revenue will be lost. In addition, many listeners may simply opt for the free 'freemium' service instead of paying.

Overall, price discrimination is likely to benefit Spotify by raising revenue and widening its



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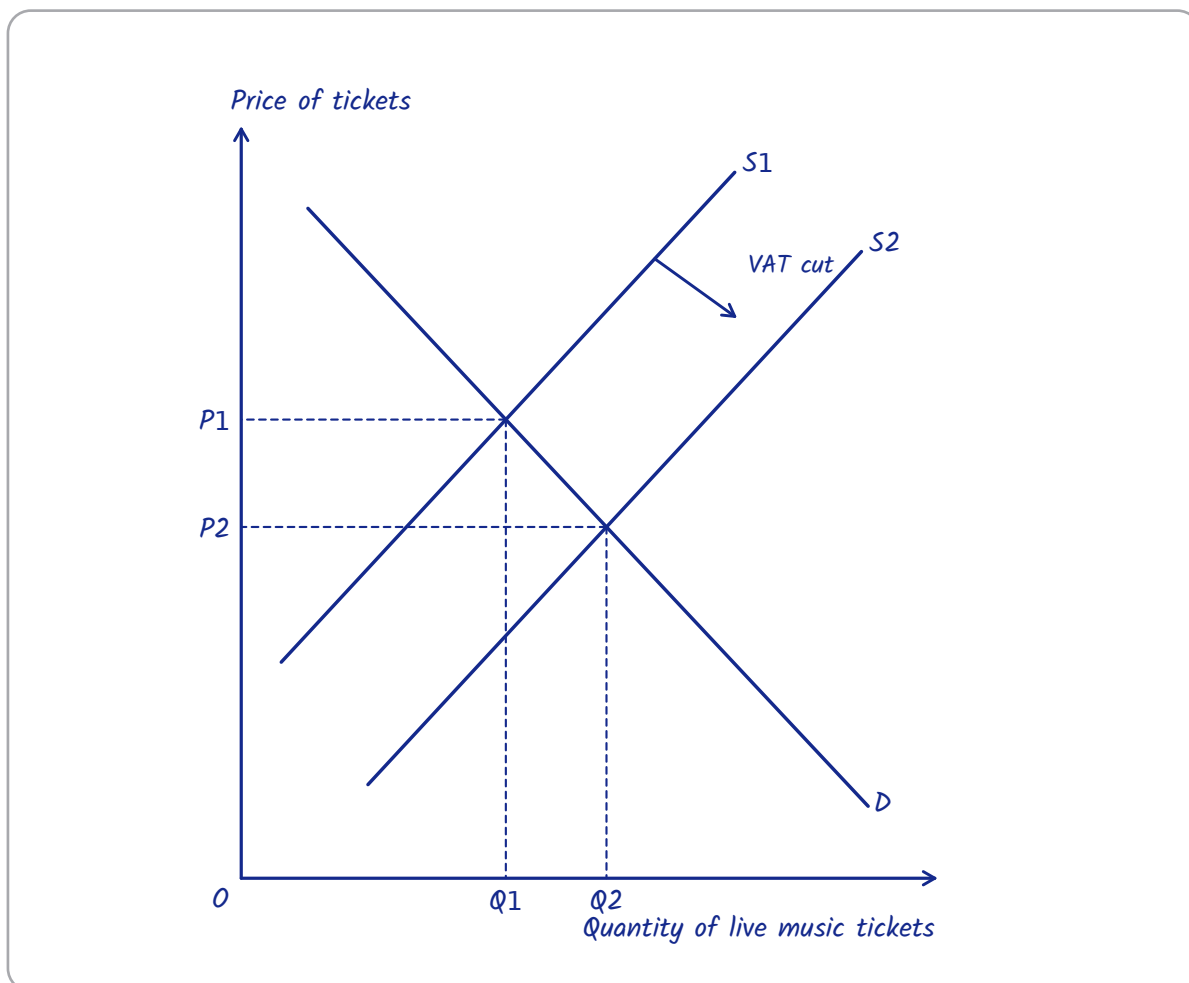
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customer base, which helped revenue grow to €9 668m in 2021. The size of the benefit depends on how well Spotify can prevent customers switching between plans and on how many users choose the free service.



- (f) Using a supply and demand diagram, assess the likely impact on the market for live music if the UK Government reduced VAT on tickets for live music events.

(10)



VAT is an indirect, *ad valorem* tax levied as a percentage of the selling price. A reduction in VAT on tickets for live music events lowers firms' costs of supplying each ticket, so supply shifts right from S_1 to S_2 , as shown in my diagram. The equilibrium price falls from P_1 to P_2 and the quantity of tickets sold rises from Q_1 to Q_2 .

Lower ticket prices due to the lower tax burden could result in higher attendance at music venues and festivals. This would help the industry recover, as its economic contribution fell from £5.8bn in 2019 to £3.1bn in 2020 and employment fell from 197,000 to 128,000.

Higher ticket sales would raise revenue for venues and festival organisers, encouraging them to hire musicians and crew again, stimulating growth and jobs as UK Music wants.

However, the impact will depend on how much the VAT rate is reduced by. A small

reduction in VAT may have a limited impact on the price of tickets. It also depends on whether the lower rate is passed on in the form of lower prices; firms may keep ticket prices the same and increase their profit margins to rebuild finances after the losses of 2020. If demand for popular events is price inelastic, the fall in price will lead to only a small increase in attendance.

Furthermore, many live events were cancelled in 2020 and 2021, such as Glastonbury, and thousands of music creators, crew and firms have left the industry or been forced to close during lockdowns. If venues and workers are no longer available, supply cannot respond quickly, so a lower rate of VAT may not have a significant positive impact on the industry in the short run.

Overall, a VAT cut is likely to lower prices and increase the quantity of live music demanded, but the size of the impact depends on the size of the cut, how much is passed on to consumers and how quickly capacity in the industry can recover.



(g) Assess the implications of a fall in unemployment for firms within the music industry.

(12)

Unemployment refers to a situation where a person is actively searching for employment but is unable to find work. A fall in unemployment means the labour market becomes tighter, with fewer people available to fill vacancies.

Although unemployment in the economy has fallen, there has been a substantial decrease in the number of workers in the music industry, from 197,000 in 2019 to 128,000 in 2020, a drop of 69,000 or about 35%. This affected a wide range of music firms such as Glastonbury, music studios and venues, as musicians and crew could not work during lockdown. Because three-quarters of the industry are self-employed, many were not covered by government support schemes, so many musicians and workers moved to alternative employment.

With falling unemployment, firms in the music industry may struggle to recruit replacement workers, as there are fewer unemployed people to choose from and other industries are also competing for staff. This could make it difficult to fill vacancies as music venues re-open, limiting the number of events they can run and so reducing revenue. To attract workers back into the industry, firms could be forced to offer higher wages, increasing their costs of production and reducing profit margins, or pass these costs on as higher ticket prices.

Some workers previously employed in the music industry may not return at all as they have found secure employment elsewhere.

On the other hand, a fall in unemployment could benefit firms within the music industry. More people in work means higher household incomes and consumer confidence, so demand for music industry products such as concert tickets, festival passes and streaming subscriptions is likely to rise, as live music is a normal, possibly luxury, good. Higher demand would increase sales revenue and help the industry recover from the fall in its economic contribution from £5.8bn to £3.1bn.



However, the impact on firms will depend on how easy it is to recruit workers back into the industry. Many music industry skills, such as sound engineering or performing, may not be transferable to other industries, and their alternative employment may mean they earn lower wages, so many may be willing to return when work becomes available again. The passion of many workers for music may also make them keen to return.

In conclusion, a fall in unemployment is likely to have mixed implications. In the short run, firms may face recruitment difficulties and higher wage costs because so many workers have left the industry. In the longer run, higher incomes and demand may outweigh these costs. The overall impact depends on how easy it is for workers to regain jobs within the music industry and on how much demand for music increases as unemployment falls.



- (h) Assess the benefits for consumers of the music streaming industry being an oligopoly.

(12)

An oligopoly is an industry dominated by a few large firms, with a high concentration ratio, interdependence between firms and high barriers to entry. The music streaming industry is an oligopoly: Spotify (32.77%), Apple Music (17.48%), Amazon Music (13.90%), Tencent Music (13.15%) and YouTube (9.93%) have a combined market share of 87.23%, a five-firm concentration ratio of 87.23%.

Competitive oligopolies can lead to price wars, which benefit consumers if music firms such as Spotify and Amazon Music lower prices to gain new listeners. Spotify offers a free 'freemium' service and discounted prices for students at £5.99, partly to compete with rivals. Dominant firms such as Spotify may also be able to exploit economies of scale, spreading the high fixed costs of licensing a large catalogue and developing the app over millions of users, which leads to lower average costs and lower prices for music listeners in the long run.

Non-price competition also often occurs in an oligopoly, with the aim of increasing brand loyalty. For example, Spotify might improve the quality of its service, such as having more music artists or exclusive podcasts compared with Apple Music, offering high-quality audio and offline downloads. Large firms earn supernormal profits which can fund R&D, such as Spotify's €912m in 2021, leading to innovation and dynamic efficiency that benefits consumers.

However, oligopolies can lead to cartel behaviour, including collusion, which can lead to higher prices for consumers. Even without collusion, interdependence often results in price stability, with firms reluctant to cut prices in case rivals follow, so prices may be higher than in a more competitive market structure; most premium services charge a similar price of around £9.99. A high concentration ratio also limits consumer choice, and barriers to entry such as high start-up and licensing costs may deter innovative smaller streaming



firms from profitable entry, as shown by Deezer having only 1.39% of the market.

The benefit to consumers depends on the extent to which the oligopoly is contestable. If entry is relatively easy, the threat of new entrants keeps prices low. It also depends on the effectiveness of industry regulation, such as the CMA's review, in protecting consumers by tackling anti-competitive behaviour.

Overall, consumers currently appear to benefit from the music streaming oligopoly, as intense competition between large firms has led to low prices, free access and constant innovation. However, these benefits depend on firms continuing to compete rather than collude, so effective regulation by the CMA is important.

(Total for Question 1 = 60 marks)

TOTAL FOR SECTION A = 60 MARKS



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PLEASE TURN OVER FOR QUESTION 2.



SECTION B**Read Extract F before answering Question 2.****Write your answer in the space provided.****Extract F****Children whose parents smoke are four times as likely to take up smoking themselves**

A new film from the UK Government's Better Health Smoke Free campaign was released in December 2021 to discuss how adult smokers can influence younger people.

Top medical experts in the film warn that teenagers whose parents or carers smoke are more than twice as likely to have tried cigarettes and are four times as likely to become a regular smoker. 5

The film aims to give smokers a strong motivation to quit in January and is part of a wider package of free NHS resources such as expert help from local Stop Smoking Services.

Deputy Chief Medical Officer Dr Jeanette de Gruchy said, "Smoking is terrible for your health but it also has a negative impact on people around you. We should not overlook the impact that parents have as role models. By stopping smoking now, parents can help break the pattern of smoking in their family across the generations, protect their children and improve their own health." 10

The campaign comes as the most recent data from the Office for National Statistics (ONS) shows that one in eight adults in England still smokes and most smokers start when they are in their teenage years. 15

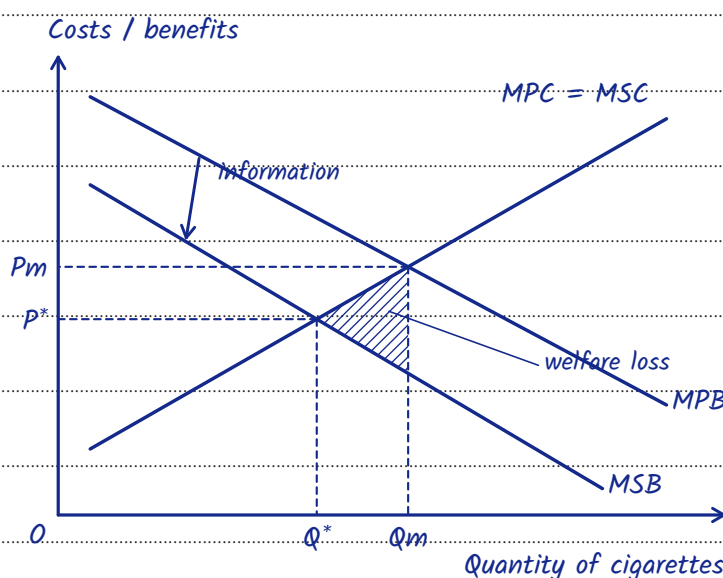
(Source: adapted from <https://www.gov.uk/government/news/children-whose-parents-smoke-are-four-times-as-likely-to-take-up-smoking-themselves>)

- 2 Evaluate the effectiveness of the UK Government providing information to reduce the number of smokers in the UK.

(20)

Smoking is an example of a demerit good, a good which is more harmful to the consumer than they realise, so cigarettes and tobacco are overconsumed in the UK. The price of cigarettes fails to take into account the cost of poor health to the individual, the addictive nature of the product and the potential harm to others through passive smoking.

Overconsumption is partly caused by imperfect information: smokers may not be fully aware of how smoking will affect their health, how addictive it can be or how it affects others. In my diagram, smokers' perceived MPB is above the true MSB, so they consume



at Q_m rather than the social optimum Q^* , creating the shaded welfare loss. Providing information aims to shift MPB left towards MSB, reducing consumption towards Q^* .

The film from the Better Health Smoke Free campaign is an example of government intervention to correct this market failure by the provision of information. It shows the dangers of smoking and highlights that children are four times as likely to become regular smokers and more than twice as likely to try cigarettes if their parents or carers smoke. This new information may help smokers make a fully informed decision about how their behaviour affects the likelihood of their children starting to smoke. Many parents may not have known this link, so more people may stop smoking, not just because of the health



implications for themselves but to protect their children. This would also reduce smoking among the next generation, which is important because most smokers start in their teenage years.

The campaign is also linked to a wider package of free NHS resources, such as expert help from local Stop Smoking Services. Combining information with support makes it more effective, as smokers who want to quit can get help to overcome their addiction. Timing the film for January, when many people make new year resolutions, increases its impact. Information provision is also relatively cheap for the government and does not raise prices, so it does not hit low-income smokers as a tax would, and it addresses the root cause of the market failure.

However, not all information campaigns are successful, particularly due to the addictive nature of cigarettes, which makes demand very price inelastic and habit-forming. Many smokers are already fully aware of the negative consequences of smoking but still choose to smoke because of the private benefits they receive, such as relief from stress. One in eight adults in England still smokes despite decades of health warnings, suggesting information alone has limited effect on existing smokers.

The effectiveness will also depend on smokers actually seeing the campaign and being able to get support to quit such an addictive product. If the film is shown online or at times when smokers are not watching, few will see it. Its impact is also hard to measure and may fade over time as people forget the message, and there is an opportunity cost to the money spent on it.

Other policies might be more effective in reducing demand. High rates of taxation on cigarettes raise the price, so that the price the consumer pays more closely reflects the individual and societal costs of smoking, and the revenue raised can be used to tackle the external costs, such as NHS treatment. However, as demand is price inelastic, very large tax rises are needed and they may encourage illegal, smuggled cigarettes. Regulation has

also been used to place limitations on where cigarettes are sold, consumed and advertised, such as bans on smoking in public places and on sales to under 18s, as well as addressing information asymmetry by ensuring products carry a clear health warning and plain packaging.

In conclusion, providing information is a useful and low-cost way to reduce the number of smokers, especially by preventing young people from starting, as the link between parents and children shows. However, on its own it is likely to be only partly effective because cigarettes are highly addictive and many smokers already know the risks. It is most effective when used alongside taxation, regulation and appropriate funding for stop smoking services, so the effectiveness depends on the wider package of policies and how well the campaign reaches smokers.

(Total for Question 2 = 20 marks)

TOTAL FOR SECTION B = 20 MARKS



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SECTION C

Read the following extracts (G and H) before answering Question 3.

Write your answer in the space provided.

Extract G

UK job vacancies in 2022

The number of job vacancies in the second quarter (Q2) of 2022 was 1,294,000; this was a small increase of 6,900 from the previous quarter and an increase of 498,400 since the first quarter (Q1) of 2020.

Occupational areas	Percentage growth in job vacancies Q1 2020 to Q2 2022
Accommodation and food services	107.1%
Financial and insurance	87.7%
Digital information and communication	85.2%
Electricity, gas and air conditioning supply	75.8%
Construction	68.6%
Transport and storage	50.7%
Education	44.2%
Wholesale and retail trade	24.2%

(Source adapted from: <https://www.ons.gov.uk/employmentandlabourmarket/peopleinwork/employmentandemployeetypes/bulletins/jobsandvacanciesintheuk/july2022>)

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Extract H**Package to transform education and opportunities for most disadvantaged**

Education will be at the heart of major new reforms set to give every child and adult the skills they need to fulfil their potential, no matter where they live. The government has identified 55 areas of the country where school outcomes are the weakest. These include Rochdale, the Isle of Wight, Walsall, parts of Yorkshire and Sunderland.

5

In these new 'Education Investment Areas', the Department for Education will offer retention payments to help schools keep the best teachers in the highest priority subjects. New specialist sixth-form schools will be built to ensure talented children from disadvantaged backgrounds have access to the highest standard of education.

Alongside these reforms thousands more adults will soon be able to access free, flexible training and get the skills needed to secure careers in sectors including green technology, digital and construction. This is part of an additional £550 million boost to expand the existing Skills Bootcamps across the country.

10

Skills Bootcamps are aimed at people 19 years or over who are employed, self-employed, unemployed or are returning to work after a break. The target is for 200,000 more people in England to complete these training courses each year by 2030.

15

(Source: adapted from <https://www.gov.uk/government/news/package-to-transform-education-and-opportunities-for-most-disadvantaged>)

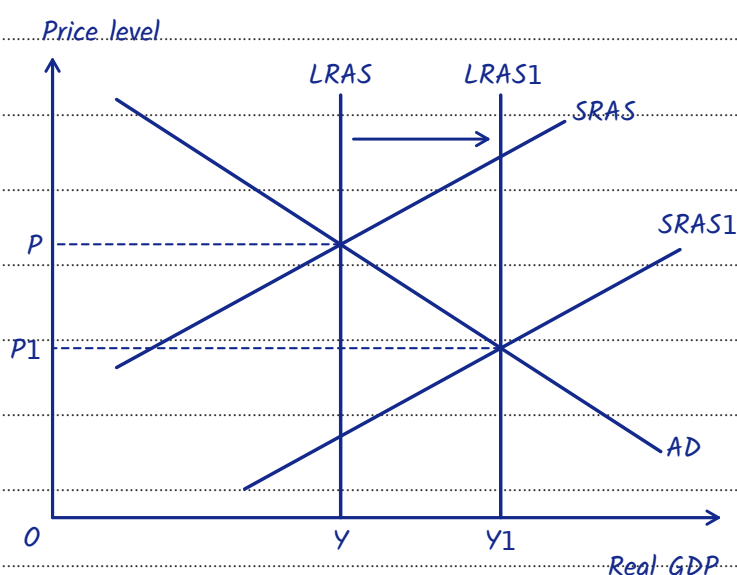


- 3 Using an AD/AS diagram, evaluate the impact of improving the skills and quality of the labour force for the UK economy.

(20)

Improving the skills and quality of the labour force, through education and training, is an example of a supply-side policy, designed to increase the productive capacity of the economy. Extract G shows that UK job vacancies have increased by 498,400 since Q1 2020 to 1,294,000 in Q2 2022, spread across a range of occupations, with growth of 107.1% in accommodation and food services and 85.2% in digital information and communication.

Investing in education and training could help to reduce structural unemployment, where



workers' skills do not match those needed for the vacancies available. The £550 million boost to Skills Bootcamps targets people aged 19 or over, whether employed, unemployed or returning to work, who want to gain new skills or retrain into new occupations, such as green technology, digital and construction, where vacancies have grown by 85.2% and 68.6%. This reduces occupational immobility and helps fill the vacancies in Extract G. New sixth-form schools and the 55 Education Investment Areas also increase the skills and employability of young people still at school.

A better educated and trained workforce can perform jobs more effectively, increasing labour productivity, so the UK can produce more goods and services with the same factor

resources. This increases the productive capacity of the economy, shifting LRAS right from LRAS to LRAS1 in my diagram, and higher productivity lowers unit labour costs, shifting SRAS to SRAS1. Real output rises from Y to Y_1 , increasing economic growth, while the price level falls from P to P_1 , helping to reduce inflationary pressures. Lower costs also make UK firms more internationally competitive, which may improve the current account, and higher employment raises tax revenue and lowers benefit spending, improving government finances.

However, investment in education and training tends to be long term. Occupations such as teaching take many years of training before employment, and there is already a shortage of teachers, which is why the government is offering retention payments to keep the best teachers. This could make it difficult to deliver new training courses for 200,000 more people a year, a target not due until 2030. There is often a delay before people gain new skills and enter the labour force, so the impact on the UK economy could take many years to emerge, and in the short run the spending mainly adds to aggregate demand rather than supply.

There is also a financial and opportunity cost to the government. The £550 million could instead be spent on investment in UK infrastructure, such as transport or broadband, which might have a greater impact on productive capacity. Policy conflicts may appear if the government is unable to fully fund education and training in the longer term, for example if it needs to reduce a budget deficit.

The impact will depend on how effective the courses are in improving the skills and quality of the labour force to fill skills shortages. If training does not match the occupations with the most vacancies, such as accommodation and food services, structural unemployment will remain. Moreover, if the main cause of unemployment is not structural but cyclical, due to a lack of demand, then demand-side policies such as fiscal and monetary policy might be more effective than supply-side policies. Some vacancies may also



be due to low wages or poor conditions rather than a lack of skills.

In conclusion, improving the skills and quality of the labour force is likely to benefit the UK economy in the long run by increasing productivity, reducing structural unemployment and allowing non-inflationary growth. However, the benefits are long term and uncertain, depending on the quality and funding of the programmes, the supply of teachers and whether the skills match the vacancies. On balance it is a valuable policy, but it is most effective when combined with demand-side policies and other supply-side measures such as infrastructure investment.

(Total for Question 3 = 20 marks)

TOTAL FOR SECTION C = 20 MARKS
TOTAL FOR PAPER = 100 MARKS

