

ECONOMICS

Paper 0455/11
Multiple Choice

Question Number	Key	Question Number	Key	Question Number	Key
1	C	11	D	21	D
2	A	12	D	22	C
3	A	13	C	23	D
4	C	14	C	24	D
5	C	15	C	25	A
6	C	16	C	26	B
7	D	17	A	27	A
8	B	18	D	28	C
9	B	19	B	29	D
10	B	20	D	30	A

General comments

The questions for which most candidates selected the correct answer were **2, 4, 11, 13, 15, 19, 20, 23, 29** and **30**. These questions were answered correctly by 75 per cent or more of the candidates. They covered different parts of the syllabus and were set to test different skills.

The questions for which the fewest candidates selected the correct answer were **6, 8** and **16**. These questions were answered correctly by 40 per cent or fewer candidates. The rest of the questions gave results which were well within the levels expected.

Comments on specific questions

Question 6

Question 6 was answered correctly by 40 per cent who chose option **C**. 7 per cent chose option **A**, 45 per cent chose option **B** and 7 per cent chose option **D**. 1 per cent did not answer the question. A tax on a good would increase the cost of the good and shift the supply curve. Those candidates who chose option **B** recognised that demand would be likely to fall but as this fall was because of the rise in the price it would be shown on the diagram by a movement along the demand curve and not by a shift in the demand curve to D_3 .

Question 8

Question 8 was answered correctly by 35 per cent who chose option **B**. 39 per cent chose option **A**, 13 per cent chose option **C** and 13 per cent chose option **D**. Those candidates who chose option **A** may well have not noticed that the question asked what was **not** a market failure. Option **A**, external costs of production, is classified as a market failure. Similarly, over-consumption of de-merit goods and under-consumption of merit goods cause a misallocation of resources and are market failures. The only option that is **not** a market failure is **B**.

Question 16

Question 16 was answered correctly by 37 per cent who chose option **C**. 41 per cent chose option **A**, 17 per cent chose option **B** and 5 per cent chose option **D**. A government budget has both revenue and expenditure. Government revenue comes partly from taxation so the correct answer is indirect tax revenue.

ECONOMICS

Paper 0455/12
Multiple Choice

Question Number	Key	Question Number	Key	Question Number	Key
1	C	11	D	21	B
2	A	12	D	22	D
3	B	13	B	23	A
4	B	14	B	24	D
5	C	15	A	25	C
6	A	16	D	26	C
7	C	17	B	27	A
8	A	18	C	28	C
9	B	19	C	29	B
10	B	20	A	30	A

General comments

The questions for which most candidates selected the correct answer were **2, 7, 13, 14, 16, 17, 20** and **29**. These questions were answered correctly by more than 75 per cent of the candidates. They covered different parts of the syllabus and were set to test different skills.

The questions for which the fewest candidates selected the correct answer were **8, 18, 19, 22, 23** and **26**. These questions were answered correctly by fewer than 40 per cent of the candidates. The rest of the questions gave results which were well within the levels expected.

Comments on specific questions

Question 8

Question 8 was answered correctly by 28 per cent of the candidates who chose option **A**. 3 per cent chose option **B**, 13 per cent chose option **C** and 56 per cent chose option **D**. Those candidates who chose option **D** recognised that the government would obtain revenue from the toll but an increase in revenue was not the reason stated for the building of the new road. The reason was to reduce traffic congestion. Traffic congestion causes externalities and is a source of market failure (Option **A**).

Question 18

Question 18 was answered correctly by 39 per cent of the candidates who chose option **C**. 14 per cent chose option **A**, 30 per cent chose option **B** and 17 per cent chose option **D**. Possibly some candidates did not notice that the question asked what would **not** be a consequence of a reduction in interest rates. A reduction in interest rates could well cause an increase in borrowing and spending and this could lead to a rise in prices. The reduction in interest rates would, therefore, **not** be likely to cause a reduction in inflation (Option **C**).

Question 19

Question 19 was answered correctly by 14 per cent of the candidates who chose option **C**. 16 per cent chose option **A**, 38 per cent chose option **B** and 32 per cent chose option **D**. This type of question often causes confusion. The chart shows the economic growth rate. Whenever the growth rate is positive then economic growth is increasing. It may be increasing at a slower rate than the previous year but it is still increasing. There was a reduction in the economic growth rate in year 4 but this was more than compensated for by the increases in the other years all of which were positive. So, this would lead to option **C** being the correct answer.

Question 22

Question 22 was answered correctly by 28 per cent of the candidates who chose option **D**. 24 per cent chose option **A**, 16 per cent chose option **B** and 32 per cent chose option **C**. An increase in trade union power is likely to lead to a demand for wage increases. These, in turn, would lead to increased spending and this increase in demand is likely to cause an increase in prices. (Option **D**).

Question 23

Question 23 was answered correctly by 33 per cent who chose option **A**. 60 per cent chose option **B**, 4 per cent chose option **C** and 3 per cent chose option **D**. If unemployment is increasing, economic growth is likely to be falling so the choice is between option **A** and option **B**. If there is increased unemployment then it is likely that demand for goods would be decreasing and prices would be falling. (Option **A**)

Question 26

Question 26 was answered correctly by 28 per cent who chose option **C**. 9 per cent chose option **A**, 30 per cent chose option **B** and 33 per cent chose option **D**. Absolute poverty is used to describe a condition where an individual does not have the financial means to obtain commodities to sustain life. Relative poverty refers to the standard of living compared to economic standards of living of others in the same surroundings. Options **A**, **B** and **D** might affect relative poverty, option **C** would affect absolute poverty.

ECONOMICS

Paper 0455/13
Multiple Choice

Question Number	Key	Question Number	Key	Question Number	Key
1	C	11	D	21	B
2	A	12	D	22	A
3	D	13	D	23	B
4	C	14	A	24	D
5	C	15	C	25	D
6	A	16	D	26	A
7	B	17	C	27	A
8	C	18	C	28	C
9	B	19	B	29	A
10	B	20	A	30	D

General comments

The questions for which most candidates selected the correct answer were **1, 11, 12, 14, 19, 20, 24, 25** and **26**. These questions were answered correctly by 75 per cent or more of the candidates. They covered different parts of the syllabus and were set to test different skills.

The only question that was answered correctly by fewer than 50 per cent of the candidates was **Question 13**.

Comments on specific questions

Question 13

For **Question 13** 43 per cent of the candidates chose the correct option **D**. 39 per cent chose option **A**, 14 per cent chose option **B** and 4 per cent chose option **C**. Those candidates who chose option **A** recognised that a rise in income tax rates would affect the disposable money income of the trade union members but omitted to note either that the question asked about real income, or to realise that the members might have also had a rise in wages, or that prices might have fallen. If wages had risen or prices had fallen, then members' real income might not have fallen despite the rise in income tax rates. The question asked what **must** have happened for there to be a loss of real income. Option **D** is the only option that would have definitely resulted in a loss of real income.

ECONOMICS

Paper 0455/21
Structured Questions

Key messages

All three key messages about this examination concern the importance of taking time to read the question paper very carefully and then to ensure that all of its requirements are understood.

The first key message is that careful reading of the instructions contained in the question paper is extremely important. On page 1 the instruction is to answer **three** questions from **Section B**. Candidates who disregarded this requirement and instead chose their preferred question parts from all four questions put themselves at a disadvantage, as each full question (four parts) follows a theme set by the stem material and the candidate will benefit greatly from focusing on that theme e.g. firms and mergers in **Question 4**. On page 2, **Section A**, the candidate is asked to 'read the source material carefully before answering **Question 1**'. Candidates who bear this in mind tend to perform well on this section of the paper. Others find it difficult to obtain marks, especially for **Question 1f**, where use of the data contained in the table is essential to produce a comprehensive answer.

The second key message is that careful reading of the question itself is a vital skill in this examination. Often candidates see the question in the way that they want it to be, rather than in the way it has been framed. This issue was particularly noticeable in answers to **Question 2c**, where candidates often wrote about the benefits of small firms rather than the reasons for their existence that had been asked for by the question. In both **Question 1f** and **Question 1g**, those candidates who read the question carefully were rewarded by being able to produce straightforward answers on the benefits to a Mauritian firm (**Question 1g**) and the Mauritian economy (**Question 1h**). Others, who did less well, wrote about the benefits to the economy in **Question 1g**, e.g. balance of payments, and benefits to the individual firm in **Question 1h**, e.g. a lower-priced product for a firm.

The third key message is that many of the questions require **two** factors to be identified and/or explained. For example, **Question 1e** requires two advantages of setting up a firm in Mauritius to be explained (not just identified) but candidates often identified up to four advantages, with very little explanation given. The important thing for candidates to remember is that there are 2 marks for identifying and 2 marks for explaining in a 4-mark question.

General comments

Candidates making rubric errors were relatively rare in this examination but since last year there was a small increase in the number of candidates who answered all four optional questions, and in those who only answered three in total (two from **Section B**). Time allocation was a problem for a considerable number of candidates, who spent far too long on the short (2 and 4 mark) questions, leaving themselves insufficient time for the longer questions, sometimes running out of time completely before even attempting the final **Part d** question, worth 8 marks.

Comments on specific questions

Section A

Question 1

- (a) This is an example of a good, straightforward answer that took very little time and allowed the candidate to move quickly on to the next question: ' $14.2 \times 0.76 = \$10.792 \text{ billion}$ '.

This is an example of an unnecessarily complicated calculation that produced an incorrect answer and wasted time that could have been used answering other questions:

'14.2 billion = 14, 200, 000, 000. 14 200 000 000 ÷ 100 = 142 000 000. 142 000 000 × 76 = 107 920 000 000 tertiary sector value'

It is very easy to become confused by the sheer number of zeros when working in billions and here the answer is incorrect because it contains one too many zeros. Candidates are strongly advised to avoid converting billions to numbers of ten or more digits and to keep the word 'billion' in their working instead. The correct answer to this question is \$10.792 billion but one (10.8 bn) or two decimal places (10.79 bn) is acceptable. Unfortunately a number of candidates gave the answer as \$10.7 bn but this is not strictly correct when rounded to one decimal place. Working in mathematical notation (powers of 10) is not necessary in questions such as this.

- (b) There was generally a good understanding of primary and tertiary sectors of the economy demonstrated in answers. The main problem seen in answers was a confusion of manufacturing (secondary) and service (tertiary) sectors shown by some candidates.
- (c) This question was very well answered, with most candidates able to identify increased life expectancy and falling infant mortality rates from the source material.
- (d) Similarly, most candidates found it a straightforward task to identify two reasons why millions of tourists visit Mauritius, such as tourist attractions and no visa requirements, going on to explain these points by giving the example of beautiful beaches and the easiness or low cost of travel to Mauritius.
- (e) Although candidates were generally successful at identifying two advantages of a firm setting up in Mauritius, there was often a problem here with identifying too many advantages and not explaining them fully. The question requires two advantages to be explained, with fast growth and political stability (from the source material) being two of them. Unfortunately many candidates treated this as a single advantage, when in fact they are separate issues, and then identified a third advantage – 'also few regulations'. Only two advantages were asked for in the question and 'also' implies more than two here.
- (f) *'Percentage of international trade to GDP and GDP per head has a positive relationship. As percentage of international trade to GDP increases, so does GDP per head. Luxembourg has the highest percentage of international trade to GDP and the highest GDP per head. However Kenya has the lowest percentage with 33 per cent and the lowest has the lowest GDP per head with \$187. However Mauritius is an exception because it has a higher percentage than Qatar but much lower GDP per head than Qatar.'*

This is an excellent example of an answer to this question which is concise but covers the analysis comprehensively by using the source material well. It gives a simple overview (positive relationship), then identifies Luxembourg as the highest in both categories and Kenya as the lowest in both as supporting evidence of the relationship. The exception of Mauritius to this pattern is then identified and explained by comparing the figures to those of Qatar. No further analysis is therefore required.

On the other hand, many candidates simply take figures from the data but provide no analysis of them, e.g. *'Luxembourg has a GDP per head of \$114,704 with a percentage figure of 382 per cent'*. This is not analysing the data and cannot therefore be rewarded. External information not given in the table, such as the population or development status of the five selected countries, was rewarded if it was accurate and relevant but was not successful when vague and speculative.

- (g) This question was well answered, with candidates able to use the source material to observe that outward investment enables firms to enter new markets, to increase their revenues and profits, while importing products at a lower cost. They could then look at the other side of the discussion by commenting that these profits might not be reinvested back to help the home country and that this involved opportunity costs. As observed in the key comments above, the main weakness in answers was to answer with regard to the economy or government rather than a firm.
- (h) As with **Question 1g**, this question proved straightforward for candidates who used the source material appropriately. Good answers considered the benefits of infrastructure spending in terms of

boosting job opportunities, investment and economic growth, whilst boosting tourism was mentioned by nearly every candidate. This was contrasted with the dangers from demand-pull inflation and the opportunity costs in terms of spending on other government priorities, such as education. The main weakness seen in answers was focusing on firms rather than the Mauritian economy, as required by the question.

Section B

Question 2

- (a) The best answers were brief and to the point, contrasting the supply of an individual firm with the total supply of all the firms in the market. Weaker answers tended to be vague and give individual supply as being from one person (rather than one firm) and market supply as lots of people supplying (rather than firms).
- (b) Good answers used the ideas of geographical mobility and occupational mobility to give examples of how, for example, availability of transport and workplace skills respectively would influence mobility of labour. Weaker answers usually concentrated on the demand for labour from firms rather than the supply of labour by workers.
- (c) As noted in the key comments above, candidates often answered a different question, analysing the benefits of small firms to the economy rather than reasons for their existence. It was difficult for this approach to gain reward. The best answers were those where the idea of limitations to growth were analysed, such as lack of incentives and lack of available capital. The most popular approach was to refer to the idea that the owners of small firms preferred to maintain control by remaining small and keeping the firm 'within the family'.
- (d) The following is an example of an answer that is clearly a Level 3 (L3) response because it is a reasoned discussion that considers both sides of the question. The first half is a little stronger than the second half because there is more depth, but only one aspect (inflation) is discussed in the second half, and the very last part of the answer is unclear:

'A reduction in unemployment rate may benefit the economy because you are making use of more of the resources you have available so there is actual economic growth (production increase as well) (L1). As less people are unemployed they do not take unemployment benefits, so there is a decrease in government expenditure (L2) which can enable the government to use that money in other things that benefit the economy, such as education. As less people are unemployed they gain an income which they can use to consume, so consumption increases, so firms increase their output to supply this increase in demand, so investment increases. All this causes aggregate demand to increase.

But on the other hand this increase in aggregate demand may cause demand-pull inflation (L3) as firms cannot increase more their production with the increase in demand (it may be caused because all the unemployed had become employed) which cause an increase in price so consumption decreases, which may finally cause a decrease in aggregate demand and in actual economic growth'
(L3) overall.

Question 3

- (a) Most candidates provided a satisfactory definition of inflation for two marks. The idea of rising price was usually understood but time was mentioned less often, and the 'general level' was frequently missed in answers. The weakest answers referred to the price of a product rather than prices in general.
- (b) The most successful candidates stuck to the question, which was fundamentally about the low confidence individuals may have regarding their own economic situation. These candidates then gave straightforward answers about reduced spending and reduced borrowing as a result of this low confidence in the economy, backing this up by explaining that consumers would save instead and that they would be concerned about the risks of borrowing. Many other candidates instead deviated from the question to consider influences on spending and borrowing apart from low confidence.

(c) Good answers started with the basic macroeconomic aims (economic growth, low inflation, full employment, and balance of payments) and examined how conflicts could arise. The most popular approach was to explain how interest rate cuts would boost borrowing and thus consumption and total demand in the economy, whilst at the same time reducing saving. This in turn, however, could fuel demand-pull inflation, which conflicts with a macroeconomic aim outlined earlier. The best answers also explained that the extra demand could be for imports, worsening the current account situation. Less good answers strayed in a confused way into the impact of interest rate cuts upon banks and the government, sometimes arguing that the government would lose out because they would not earn as much interest as they previously had and that that would mean less spending on public services.

(d) The following is a response that has Level 1 identifications of economic concepts but does not develop these ideas any further in order to reach Level 2. For example, inflation being caused is indicated but not explained, and certainty is identified but its importance is not developed further:

'A country can benefit but also be damaged by a fixed foreign exchange rate system. It can have problems since it is attached to only one fixed number and it can not change it. This makes monetary policy worthless as they can not change the price of the exchange rate (L1). This could cause inflation. However countries could benefit as they have a more clear and certain price always on imports and exports (L1) as prices do not change'. (L1) overall.

The best answers explained the significance of the level at which the exchange rate had been fixed – too high or too low. For example, the argument that a fixed exchange rate could cause inflation was better if related to an exchange rate that was too low.

Question 4

(a) This question was generally well answered, with environmental protection by far the most popular answer given. There were, however, some excellent answers that considered other issues, such as support for charitable work and providing housing for workers.

(b) Candidates who gave a simple, clearly structured answer to this question were by far the most successful. It was a straightforward task to identify two types of merger, e.g. horizontal and vertical, and then explain them by reference to the appropriate stages or sectors of production. Candidates who found this question problematic tended to produce long answers without reference to specific types of merger.

(c) There was a significant split between those candidates who were comfortable with drawing and labelling diagrams accurately and those for whom their diagrams were inaccurate or demonstrated a lack of care. Candidates who appeared to understand the economics often missed out on marks because they did not label the axes, curves, or equilibrium points at all, or labelled them incorrectly. The best answers were those that were thorough in the presentation of the diagram and then commented precisely on the increased demand for solar energy and the subsequent rise in its price and/or quantity.

It is important for candidates to be aware that describing the diagram is not the same as analysing it: to say 'the demand curve moves to the right' is insufficient, whereas 'demand for solar energy increases' is an appropriate comment.

(d) The following is an example of a Level 3 (L3) response to this question about whether a merger can help a firm survive. Its strength lies not in its length but in the way that the discussion is developed concisely, and without deviating from the topic. It would have been even better if it had included specific mention of economies of scale as an aid to survival, although they are implied:

'A merger can help a firm survive because it allows them to have a large diversity of products (L1). This means that if a product loses its demand, the firm would still have other products to sell and avoid losing their revenues (L2). A merger also helps them to reduce costs as they can get rid of duplicate assets meaning that costs of production will decrease, allowing them to charge lower prices to consumers while still being profitable and compete in the market. However the firm could suffer from diseconomies of scale if it grows too large. (L3) For example its large scale could become costly to handle. Workers may also become demotivated causing a reduction in productivity and output. Also the firm may lose its focus if they attempt to produce an incredibly

wide variety of goods and services, which could affect its quality as they would be focusing on more of what they can handle'. (L3) overall.

Question 5

- (a) This question was quite well answered, with a clear understanding by most candidates that regulations are rules or laws imposed by the government. Some other candidates lacked a clear idea about the nature of regulations. They often gave taxation, including tariffs, as an answer but these are methods using changes to prices of products to influence behaviour in a market, rather than using rules or laws.
- (b) Candidates who understood the nature of 'the quantity of labour' had little difficulty in identifying two causes of its fall and explaining them. Good answers identified factors such as high death rates or increased emigration, and there were also some impressive topical references to war and pandemics reducing the population and hence reducing the workforce. Other candidates mistakenly took the quantity of labour to be the level of employment and therefore answered the question in terms of a fall in employment or a rise in unemployment. The quantity of labour (the labour force) includes the unemployed (those seeking work) as well as the employed.
- (c) Comprehensive answers to this question were rare, chiefly because most candidates did not develop their answers beyond pointing out that profits would be affected, either adversely or positively, and that investment was likely to increase if corporation tax was low. The better answers went beyond identifying these effects and explained how they could affect multinational companies, such as how a low corporation tax and increased profits could lead not only to increased investment but also to increased output and productivity. Very few candidates mentioned the effect on government revenue from corporation tax, where revenue from a high rate of tax might result in more expenditure on education and training, thus benefiting the MNCs in terms of the availability of skilled labour.
- (d) The following is a good Level 2 response to this question about the possible harm to an economy from falling economic growth. It does not quite reach Level 3 because there is insufficient use of economic analysis and not enough development of the issues identified:

'A decrease in a country's economic growth rate could harm its economy since it could lead to a recession. This means there would be less disposable income for consumers, (L1) decreasing demand and therefore affecting the economy. If the country is doing badly already, then a decrease in the economic growth rate would pull it down further. A decrease in the economic growth rate can decrease confidence within the country, decreasing investment (L2) and harming firms in the process. If there is less investment then firms would have less money to spend, which can result in firing workers to save money, increasing the number of unemployed.

However, a decrease in a country's economic growth rate would not always harm its economy because if the country was dealing with high inflation this could help it regulate back to its normal and stable place. A steady decrease in the rate of economic growth can help if the country's prices were too high making them unaffordable to consumers so now they can purchase their products again. Plus, it gives time to firms that were struggling with the overpowering demand to come up with better alternatives and plans to control situations like this in the future. (L2) overall.

As was the case with other **part d** responses, strong candidates often tended to under-perform in these discussion questions. This was basically because they did not produce enough, often having written longer answers for the much shorter questions. This could lead to a candidate running out of time and writing only a cursory answer for this last 8-mark question. As noted in the general comments above, time allocation is a very important skill for candidates to acquire and practise.

ECONOMICS

<p>Paper 0455/22 Structured Questions</p>

Key messages

There appeared to be an increase in the proportion of candidates answering all four of the optional questions. Candidates' chances of gaining high marks are strengthened by them answering the three required optional questions rather than all four optional questions. This is because it enables them to spend more time considering and writing their answers.

To achieve Level 3 on the optional **(d)** questions, candidates need to examine the question in depth and to base their comments on relevant economic analysis. A number of candidates just stated points or made comments on unlikely outcomes without explaining why they may occur.

General comments

Question 2 was the most popular question. A relatively small proportion of candidates did not attempt all the required questions. The handwriting was generally good and most candidates did identify clearly which questions they were answering.

Most candidates did devote the appropriate time to the different questions, although there were some very brief answers to the **(d)** optional parts.

In relation to the **(c)** and **(d)** parts of the optional questions, the logical development of links would have been useful in many answers. For example, some of the stronger answers to **Question 3(c)** explained how lower government spending in education could reduce the skills of workers which, in turn, could reduce their future earnings.

There was some evidence of candidates needing to read the questions more clearly. For example, some candidates defined inelastic demand in their answers to **Question 4(c)**.

As in previous sessions, some candidates confused productivity with production. A number in their answers to **Question 1(h)** confused a minimum with a maximum price. There was also confusion about a budget deficit and a current account deficit. This was shown in answers to **Question 1(e)**, **Question 1(g)** and **Question 5(b)**. In addition, in their answers to **Question 5(d)**, some candidates confused savings and investment.

Comments on specific questions

Section A

Question 1

There was a spread of performance on this question, but a relatively high number of candidates did well on this compulsory question.

- (a)** A small proportion of candidates did not attempt this question and some multiplied 6,400 naira by 400 naira. However, most candidates did carry out the right calculation and came up with the right figure.

- (b) Not all candidates followed the instruction at the start of **Question 1** to 'Refer to the source material in your answers'. Those who did follow the instruction were able to identify two of the three ways mentioned in the source material.
- (c) This was generally well answered. Most candidates seemed aware of the nature of a horizontal merger. These recognised that two commercial banks are in the same sector, tertiary, and provide the same service.
- (d) Some candidates made good use of the source material and explained well how the points they had identified from the source material would result in a large US commercial bank charging a high price for its services. There were some particularly good answers based on increased market power and the employment of skilled workers. A small proportion seemed to think that it was sufficient just to use the words of the question. These stated that a bank could charge high prices if it was large.
- (e) Most candidates did reasonably well on this question. A number of candidates showed a good awareness of how both direct and indirect tax revenue would be affected by an increase in unemployment. A small proportion of candidates, however, wrote about how exports and imports might be affected. As mentioned above, these confused a government's budget with a current account balance. Careful reading of the source material should have avoided this as it mentions both tax revenue and government spending after reference to the government's budget.
- (f) Over time, candidates have got better at answering this type of question. A relatively high proportion of candidates recognised that there was generally an inverse relationship, provided two pieces of supporting evidence, noted there was an exception and provided evidence of the exception. There was some good explanation of the inverse relationship. However, some candidates explained the likely relationship but did not make use of the data provided. A number of others just described the data and did not interpret it.
- (g) The good answers to this question explained how a government subsidy would be expected to influence output and price and then related lower price to international competitiveness and net exports. There were some particularly good comments on how the subsidy might enable farmers to invest in better equipment and so raise the quality of their exports. These answers also recognised that a subsidy might create inefficiency and might not result in more exports being sold if incomes abroad fell or there was another relevant reason why, despite the subsidy, demand for exports may not increase. Some candidates, however, because of confusion over the nature of the current account of the balance of payments, wrote about the effect on government spending and tax revenue. A small number of candidates confused the current account of the balance of payments with commercial banks' current accounts.

An example of a good answer was:

Implementation of a subsidy by the Nigerian government to farmers may help to reduce the current account deficit because subsidies reduce costs of production for farmers. Since costs are low, farmers can afford to reduce prices to increase demand. Lower prices make agricultural products more competitive in international markets, hence other countries will demand them more. This increase exports, therefore reducing a current account deficit. Subsidies reduce costs for farmers therefore they can afford to invest in the best machinery such as tractors. This improves quality of yield and make products more competitive for international markets. Giving subsidies will also mean farmers can afford to hire better and more labour, producing at a more efficient level.

However, other countries may retaliate and also provide subsidies as a protectionist measure, therefore prices of imports become cheaper and compete with exports for demand. People will prefer imports if they are of a higher quality. Farmers may also not transfer the fall in costs to reduced prices therefore exports are still expensive.

- (h) Some candidates were confused about the nature of a minimum price but there was a relatively high proportion of good answers. These strong answers applied a range of relevant economics to assess whether the US government should impose a minimum price on chocolate. For example, a number recognised that external costs could arise from bad health and that the outcome of the imposition of a minimum price may be influenced by the price elasticity of demand for chocolate.

An example of a good answer:

The US government should impose a minimum price on chocolate. It may raise the price of chocolate, discourage consumption due to high price and reduce negative externality of chocolate consumption as nearly 35 per cent of children are overweight, A minimum price can move social costs closer to social benefits.

However, the demand for chocolate, an addictive product, may be inelastic. Therefore imposition of a minimum price may not impact consumers, It may raise government expenditure and reduce tax revenue which could be used to fund other schemes such as education and healthcare. It may reduce the profits of major chocolate producing firms leading to unemployment.

Section B

Question 2

The vast majority of candidates answered this question. The two question parts that candidates did best on were **Question 2(a)** and **Question 2(b)**.

- (a) This was well answered. Most candidates were able to give a precise definition of opportunity cost. Some candidates gave an example of opportunity cost but this was not required.
- (b) Most candidates recognised the nature of the economic problem and wrote about limited resources, unlimited wants and scarcity. Not all went on to explain why this situation will always occur. A small proportion of candidates wrote about an economic problem that an economy may be facing such as inflation. Careful reading of the stem should have avoided this problem.
- (c) The key to doing well on this question was to recognise that it was asking why the wages of all teachers and not just the wages of specialised teachers may increase. There was some good analysis provided in terms of demand for and supply of teachers and trade union power.
- (d) The stronger answers here were those which developed the points they made, using economic concepts and terms. For example, a number of candidates developed the point about teachers being able to concentrate on a subject they are good at teaching, into how this may influence their productivity, promotion chances and wages. There were some good comments on how specialisation may influence teachers' ability to gain another job in a different country or a different region.

An example of a Level 3 answer:

A teacher may benefit from specialisation. Specialisation means skills of teachers may increase as they specialise in one subject. This raises their educational qualifications leading to higher demand from schools. This raises their wages. Moreover, increased specialisation of teachers may raise the job opportunities of teachers as they have higher educational qualifications. Furthermore, highly qualified teachers may have higher chances of promotion by schools as the skills of the teachers may be higher compared to less qualified teachers, Moreover specialisation may enable teachers to emigrate abroad as they have greater job opportunities. This may raise their personal satisfaction and improve their standards of living.

However, a teacher may experience demotivation from teaching the same subject. This may not make them personally satisfied. Moreover, the opportunity cost of specialisation may be high as teachers' teaching capabilities are limited to a specific subject. The teacher cannot teach another subject. This may limit their job opportunities. Moreover reduced demand for a certain subject by schools may lower demand for teachers teaching that subject. This may cause teachers to be structurally unemployed, reducing their income and standard of living. This may, in turn, lead to depression as their mental health condition may worsen. Furthermore, the education level may be low in some countries. Therefore, the demand for highly qualified teachers may be low on that country. Therefore, a teacher may not benefit from specialising.

There might have been rather more on how specialisation could increase living standards but overall it was a strong, lucid answer with depth.

An example of a Level 2 answer:

Specialisation means doing the task you are best at performing. Teachers will benefit from specialisation as it will increase their chances of being employed. Receiving high wages will also be very likely. They can get fringe benefits from the school authority. They will be good at work and will increase their job satisfaction. Increased living standards, less chances of the passion of teaching not being fulfilled.

They may not benefit as lower occupational mobility as only specialise in one subject. May become less satisfied with job as might become bored. Cannot do anything else. May not get job if subjects get banned in a country or if the subject gets outdated and is no longer required.

A teacher will overall benefit from this as specialised workforce is cherished by the school and they can also get high posts in the school and get promotions and earn more money when they get experienced as well.

This is a two-sided answer. There is some limited exploration of the points made.

Question 3

- (a) The stronger answers here recognised that full employment may involve a very low percentage of workers being unemployed – some frictional unemployment. A number of candidates just defined unemployment.
- (b) The key to answering this question was to recognise that both a progressive income tax system and a proportional income tax system would take a larger amount of tax from the rich than the poor. If that was understood, candidates could then concentrate in their answers on the difference between the two types of tax systems in terms of percentage of income taken in tax from the rich and the poor. The stronger answers did write about how the tax **rate** would rise with income, in the case of a progressive income tax system but would stay the same in terms of a proportional income tax. A small number of candidates confused a progressive and a regressive income tax system. There were also some who wrote about a regressive indirect tax system.
- (c) This was well answered. There were some good links provided between, for example, lower welfare payments and ability to purchase basic necessities and between government subsidies and the prices that some poor consumers may have to pay.
- (d) There was a mixed performance on this question. While a fall in unemployment may mean that workers have found jobs in low paying industries and occupations, some candidates seemed to think that the fall in unemployment would cause a fall in wages. They wrote about workers having to compete harder to get a job, without recognising that lower unemployment may result in employers competing for scarce labour. There was also some confusion shown by candidates writing that more people employed must mean each can work fewer hours. They did not seem to recognise that more workers being employed may be the result of firms increasing their output. The common confusion that there is only a fixed number of jobs was also shown in some answers, with some candidates writing that if some workers have found jobs, it must be because others have lost their jobs. There were, however, some good answers which used relevant economics to focus specifically on how workers may or may not benefit. These examined, for example, how a fall in unemployment could raise wages by strengthening trade union power while the possible resulting inflation may reduce their purchasing power.

An example of a Level 3 answer:

A fall in unemployment rate may result in more people being employed in firms which will result in higher incomes for them and they could be able to buy more goods and services and satisfy their wants. The rise in income will result in more workers having higher purchasing power. Fall in country's unemployment might be because of higher demand for labour, this would result in a rise in wages. Also, the power of trade unions may rise which will result in labour having more power and they can demand better working conditions and higher wages. Overall, benefits for workers.

However, they might have to work longer hours and have less leisure time which might make a job hectic for them and this might be more important for workers to reduce their working hours.

Moreover, they might be employed in primary sectors and they might have hard working conditions due to manual work so they might not have better working conditions and this would not be improved by a fall in a country's unemployment rate. Also, the fall in the rate of unemployment might be low but there could still be a high number of workers unemployed. More people could have joined the workforce and some may not have found a job. These people may need more skills and more training before they can get another job. Hence, a fall in unemployment rate is good but other factors should also be good to benefit workers overall.

This is a thoughtful answer with depth on both sides.

An example of a Level two answer:

Unemployment rate is the percentage of the people who are unemployed over the labour force.

A fall in unemployment rate means that employment increases, A fall in unemployment might benefit workers as this means the economy is growing. Workers are able to increase incomes and help pay for a living. When employment increases, labour increases. If there is an increase in labour, firms tend to lower the cost of their goods and services as output increases.

However, a fall in a country's unemployment rate might not benefit workers. If there is more employment, this means more people have money to spend. Demand for goods and services increase and therefore firms would tend to increase prices. This is called demand-pull inflation where general prices increase due to higher demand. This also happens when demand exceeds the supply leaving firms with no choice but to increase prices to decrease demand.

There was some limited exploration of both sides. The answer would have benefited from more depth on living standards, consideration of more points and more focus on the effects on workers.

Question 4

Some of the candidates who answered this question struggled with **Question 4(c)**.

- (a) A number of answers to this question lacked precision. Such answers often wrote about how a change in price would cause a small change in supply. Inelastic supply is, of course where a **percentage** change in price cause a smaller **percentage** change in supply. A small number of candidates defined inelastic demand.
- (b) Those candidates who understand public goods did well on this question. However, a number confused public goods and merit goods and others confused public goods with free goods and basic necessities. Most answers did, however, show an awareness that public goods would not generate profits.
- (c) There were some strong answers to this question. These contained good diagrams which were clearly and accurately labelled and which showed the supply curve shifting to the left. They also had good written analysis, recognising that a higher price of wood would increase the cost of producing furniture and would result in a rise in the price of furniture. However, some of the answers concentrated on the market for wood and ignored furniture and a small proportion got the demand and supply curves confused.
- (d) The general performance on this question was good. There were some interesting points made particularly in terms of the cost, price and quality of products produced and the effects on working conditions and employment. Some answers were, however, rather narrowly focused and a number made unsupported statements.

An example of a Level 3 answer:

Advances in technology allows firms to be more efficient and workers more productive, as the average costs of production decreases in the long run despite high initial set-up costs. These technological economies of scale enables general low prices, allowing the overall population to have more purchasing power, and goods become more accessible. Piece-rates salaries also increase as workers work faster and with less human errors with the aid of machinery and equipment. Furthermore, there may be more variety and options for consumers as well as higher quality products. Advances in medical equipment improve healthcare, and the life expectancy of a

population, reducing the retirement age and allows for a skilled labour force. Advances in technology may also grant the government more opportunities to invest in better services, public and merit goods e.g. transportation and so can improve the living standards of the population. If invested into research and developed technology, the country develops quicker as its exports become more competitive and foreign direct investment and multinational companies are attracted, creating jobs.

However, this could put numerous workers, especially ones of the ageing population and unskilled at risk of losing their jobs due to a lack of knowledge on how to utilise the technology, and the employment opportunities may be taken by immigrants. Firms may also switch to capital-intensive production, creating job losses. This may also be stressful on the elderly who may be faced with new products they find difficult to use. For the government to afford these advanced technologies, there would be an opportunity cost incurred as this money could have been spent on education or state pensions etc., and this burden may then be placed on the population in terms of taxation. This may also lead to pollution and resource depletion as land may need to be constructed on for new firms and natural resources used in the production process e.g. aluminium for car bodies.

This is a strong answer, which makes good use of economics to explore the question in depth.

An example of a Level 1 answer:

Advantages in technology benefit a country's population because the processes of production become quicker and more goods and services can be provided. Instead, they do not benefit the population because there would be less jobs for the less specialised population.

This stated an advantage and a disadvantage of advantages in technology for a country's population but did not explain or develop them.

Question 5

This was the least popular question. There were some strong answers to the question but also a number of answers which showed some confusion over a number of the concepts covered by the questions

- (a) Most candidates were able to identify two methods of protection, with the two most common examples given being tariffs and quota. A number of candidates gave vague answers. For example, some wrote 'taxes' without making clear what was being taxed.
- (b) There was a mixed performance on this question. Some candidates produced good answers linked to, for example improving the current account balance and increasing domestic output. Others did not beyond stating it would reduce the amount spent on imports or confused the government budget balance with the current account balance.
- (c) There were some excellent answers to this question with candidates showing a strong understanding of the links between a lower foreign exchange rate and cost-push inflation and demand-pull inflation. Other candidates, however, wrote that it would cause imported inflation without analysing why this may occur and some confused the effects of a lower foreign exchange rate on the prices of exports and the price of imports.
- (d) A small proportion of candidates wrote about an increase rather than a decrease in the rate of interest. Of those who did answer the actual question set, most recognised that it would be likely to reduce saving and increase borrowing and spending. The stronger answers went on to examine the possible impact on a country's GDP.

An example of a Level 4 answer:

A decrease in the rate of interest reduces the cost of borrowing as there are lower interest payments. This could be taken advantage of by firms which could borrow more to fund investment expenditure, increasing the investment component of GDP. Entrepreneurs may also be encouraged to borrow to start up new firms, further increasing the investment component. Additionally, consumers may also take out loans to fund their expenditure due to the cheaper cost of borrowing, increasing the consumer spending component of GDP. Moreover, those with existing variable interest loans will have more money available to spend and increase GDP. Furthermore,

an increase in the rate of interest discourages saving as there is a lower return, When savings are lower, more is available to spend, potentially increasing GDP even further.

However, decreasing the rate of interest may also not increase GDP. For example, households and firms may borrow due to the cheaper cost of borrowing but spend on imports, increasing import expenditure, and thereby reducing the net exports component of GDP. Moreover, as savings are discouraged due to lower interest rates, there may be less money in banks to borrow. Furthermore, if there is low confidence in the economy (e.g. a recession), people may not act on the fall in interest rates.

However, overall, I believe that a reduction in interest rates will increase a country's GDP will increase a country's GDP as this expansionary monetary policy is likely to increase economic activity.

This is a very strong answer, revealing strong understanding and the ability to apply their knowledge to examine the question.

An example of Level 0 answer:

No, because when rate of interest decrease, business in the country would also decrease which means the GDP would also decrease which means the GDP would not be increased at all.

Unfortunately, there is nothing creditworthy here.

ECONOMICS

Paper 0455/23
Structured Questions

Key messages

Candidates should notice whether each part-question is requiring them to 'Identify', 'Explain', 'Analyse' or 'Discuss', and write their answers accordingly.

Candidates should notice when questions include a limit on the number of examples required.

The pieces of stimulus material in **Section B** are there to help candidates to understand the questions, and they should not confine their answer to what is mentioned in the stimulus.

General comments

The majority of candidates wrote neatly and spaced out their answers in a way that made it easy to read. In the case of a few candidates it was difficult to tell when they started answering another question. A 12-page booklet provides enough space for candidates to spread out their work. There were some instances of candidates writing so much that their handwriting became very difficult to read, especially towards the end.

In both **Section A** and **Section B** questions often state a limit on the number of examples required. For instance **Question 4(b)** states 'Explain two advantages to a firm of horizontal merger.' This guidance is given in order ensure candidates do not write everything they may know about horizontal mergers as there are not many marks for their answer, whereas a good explanation (not just a mention) of only two advantages can earn full marks for that part-question.

Each question in **Section B** starts with a few lines of stimulus material, which is there to give guidance on terms that may be used in the questions below it. Evidence in recent exams shows that this helps reduce the number of cases where candidates interpret a question wrongly. The guidance at the beginning of **Section B** states that candidates 'may refer to this material and/or to other examples' they may have studied. Candidates should not limit their answers to what is in the stimulus material as that could reduce the breadth of their answers given. For example, for **Question 5 (b)** there were a few candidates who tried to explain why Palau specifically had a lower standard of living than the US. In doing so, they limited their choice of two reasons why some countries have a higher or lower standard of living than other countries.

Comments on specific questions

Section A

Question 1

- (a) The majority of candidates correctly calculated the price elasticity using the formula $\frac{-8 \text{ per cent}}{-50 \text{ per cent}}$, giving the answer as 0.16. Quite a few, mistakenly, gave the answer as '16 per cent'. Another common error was to invert the formula.
- (b) Candidates could select from the source material their two examples of key resource questions e.g. 'less oil and more of other goods and services...e.g. textiles' and 'using fewer capital goods.' Alternatively they could refer to two general resource questions e.g. 'what to produce?' and 'how to produce?' Some candidates wrote the third resource question of 'for whom to produce?' but that was not acceptable as there was no example of it in the source material. Another common error was to state that one of the resource questions was 'how much to produce?' which is incorrect.

- (c) Good answers identified sunshine as a free good and often stated that this was because it was unlimited or abundant in supply or a natural resource. Weaker answers tended to be too general e.g. 'sunshine is everywhere', or simply defined what was meant by 'opportunity cost.'
- (d) This was generally well done, as most candidates clearly understood what was meant by the term 'recession' and carefully selected the relevant information on lower oil exports and less government spending from the extract material to explain why this would lead to lower output and GDP.
- (e) Many candidates correctly identified that building more roads led to an increase in employment, higher income, and greater expenditure, thereby leading to economic growth. Another common argument was that building more roads led to less congestion and greater labour mobility as workers got to work more quickly, and this raised productivity. Weaker answers tended to identify some of these points but did not analyse the impact on the country. Some very weak answers simply wrote about the benefits to individuals rather than the country e.g. 'it lets people get to places more quickly.'
- (f) As the table on GDP per head and car ownership was relatively straightforward to read, most candidates correctly identified the positive relationship and the one exception involving New Zealand and Switzerland. It was good to see that most candidates were able to analyse this relationship using accurate data for countries in the table. There were far fewer merely descriptive comments than in previous years such as 'Senegal has lower car ownership compared to Switzerland', which does not explain that this was because Switzerland has a higher GDP per head. It was also encouraging to see that many candidates put forward a relevant reason why a country such as New Zealand might have higher car ownership than Switzerland even though it had a lower GDP per head.
- (g) There was a wide range of information in the source material which could be used for answering this question. A typical strong answer was where candidates carefully selected information to support arguments both for and against profits of Ecuador's textile firms increasing. Some candidates selected material that was not relevant to Ecuador's textile firms and had more to do with the state of the economy e.g. references to standard of living and greater sales of cars. While many could identify factors affecting profits, e.g. lower transport costs and economies of scale arising from growth, only the strongest answers made clear why this was (for example, that revenue might rise because of higher incomes while average costs might fall because of an increase in the scale of production). Many did state that profits rose but only referred to higher revenue, with no reference to costs. Few candidates successfully explained how the lack of significant wage increases and the effect on trade union activity and emigration of workers might impact on profits. Some weak answers simply copied sentences from the text e.g. 'A very small wage increase can affect trade union activity and emigration' without explaining the potential impact on profits.
- (h) Overall, this was quite well answered by many candidates, who recognised the negative impact on the economy of losing young and/or skilled workers from the labour force but also the benefits of remittances home to families from workers working abroad. Weaker answers usually identified factors but did not explain sufficiently the impact on Ecuador. Unfortunately, a few candidates assumed that emigration meant that workers were entering the country, so their answers were incorrect. Others explained the benefits to the countries to which workers emigrated, but that was not relevant to the question being asked.

Section B

Question 2

- (a) In general, the majority of candidates were able to explain that market disequilibrium meant there was either a surplus or a deficit in either demand or supply or that demand and supply were not equal or matched. Weak answers tended to focus on price and quantity e.g. 'Market disequilibrium is where prices and quantity keep changing.'
- (b) Most candidates were able to give a correct explanation of what was meant by opportunity cost. However, fewer were able to apply it to the example of apple farming. A good answer would have given an alternative to apples. For example, oranges and pears were often given. The question

also required candidates to explain that the decision about which crop to grow was driven by differences in cost, revenue, and profits. This was explained by some candidates, but many others simply stated that a choice had to be made.

- (c) The term 'labour-intensive production' was well understood by most candidates. A common answer was that such industries resulted in more job opportunities and more employment and therefore less unemployment; with more people employed there were higher incomes, reducing poverty. A few drew comparisons between using cheap labour in labour-intensive production with more expensive capital equipment. However, a few candidates lost focus by writing about how more employment meant greater tax revenue for the government and what the government might spend it on e.g. education and health. That might be true but was not directly relevant to the key characteristics of labour-intensive production.
- (d) Candidates tended to be stronger in discussing why consumers may benefit from competitive markets than why they might not. Answers often explained that competition resulted in lower prices, wider choice and better-quality goods and services, as firms competed for consumer demand. However, answers given on why consumers might not benefit tended to be limited to an explanation that it resulted in poor quality as firms cut costs in order to lower prices. Quite a few weak answers confused a competitive market with a market economic system and described the lack of public and merit goods.

Question 3

- (a) A common correct answer was to state that an indirect was a tax on goods and services and to give an example e.g. sales tax or VAT. A few wrongly described the features of a direct tax e.g. income tax. Quite a few candidates gave as their chief characteristic that an indirect tax was one simply passed on to a third party without explaining how. Others stated that it was regressive in nature, but this could equally be true of some direct taxes.
- (b) Generally this was poorly answered, as many candidates did not make clear the nature of the benefit that the MNC gained for the home country. Many answers were written giving the benefits which would apply in a host country rather than the home country. A few strong answers did make clear that the home country was the place of origin of the MNC where the firm had its headquarters rather than just a country it operated in. There was also some confusion over the difference in meaning between remittances and profits. The end result was a lack of clarity in many answers.
- (c) It was good to see that most candidates understood that an increase in productivity meant higher output per unit of labour. Many answers recognised that with higher productivity, firms benefited with greater output, revenue and profit and could afford to take on additional labour and pay higher wages in order to make more profit if there was demand for the product. Some candidates also pointed out that firms could get the same output with less labour and this could result in reducing their labour force, resulting in increased unemployment. Weak answers tended to be limited to showing an understanding of productivity without explaining the impact on unemployment.
- (d) Nearly all candidates understood that a decrease in unemployment resulted in more people being employed. Most candidates were also able to make the link to more people receiving income and being able to buy necessities, so reducing poverty. Strong answers developed this further by explaining that higher government revenue from higher incomes meant it could spend more on education and health, further helping those still unemployed. However, the argument why a lower unemployment rate might not reduce poverty was less well made. Weaker answers just referred to the fact that some people who were living in poverty would still not get a job e.g. the sick and elderly. Stronger answers also commented that wages paid were often low at minimum wage level and while absolute poverty might be reduced, relative poverty still remained.

Question 4

- (a) This was poorly answered for a number of reasons. Some simply explained what price elasticity was rather than what determined it. A common error was to refer to changes in demand and price or to give examples of what affected the elasticity of supply e.g. time. Quite a few others stated 'wants' and 'needs', which is too vague. Good answers often mentioned determinants, such as goods which were addictive or were a necessity and the proportion of income spent on them. Some

answers, while correct, were too long, as this time the question required only identification of the determinant and not an explanation of the effect that it had on price elasticity of demand.

- (b) Many answers were longer than they needed to be, as candidates spent too much time describing the nature of a horizontal merger and the process by which it could be achieved, for which credit would not be given. The two most common advantages given were that the larger company benefited from economies of scale and lower average costs and that with fewer competitors it increased its market share. Some candidates referred to greater profits or higher revenue for the merged firm but did not explain how this arose from a horizontal merger. A relatively common error was to state that a horizontal merger resulted in a wider range of goods and services being provided, which is unlikely in a horizontal merger.
- (c) A very high number of candidates provided a complete and accurate answer to this question. They drew a correct demand and supply curve diagram and then explained that there would be an increase in demand for toothpaste as a result of the growth in the population and also a rise in price. A few did not get full marks because they only wrote in general terms about an increase in demand rather than relating it to the market for toothpaste. There were also a few wrongly drawn diagrams e.g. showing a shift in supply rather than demand, or not showing the new equilibrium point.
- (d) Most candidates recognised that higher wages would attract more people to train to become dentists because of the incentives in terms of higher standard of living. However, only a few developed this to take account of how large the rise might be and how this compared to wages for similar professions. Candidates often identified that supply might not increase because of the number of years to train but did not make the point that this might not increase employment. A few also stated that higher wages meant higher costs and that some dental practices' customers may not be able to afford higher prices so that it might not result in more dentists being employed.

Question 5

- (a) Many candidates who chose Question 5 did not attempt this first part-question, which suggests a gap in their knowledge of international trade. Those that did give an answer often gave trade in goods and services as two components, but answers such as imports and exports were also acceptable. Fewer mentioned primary or secondary income.
- (b) The term 'living standards' was generally well understood. While many candidates were able to identify a factor affecting living standards, often the explanation was weak and not sufficiently developed. For example, education was often identified as a factor but the development of how it raised the standard of living e.g. higher wages/skills and therefore higher disposable income was missing. Similarly, GDP was often identified but countries with high GDP could simply be those that had a large population. Candidates needed to state a high GDP per head. There were many factors that could have been explained, including level of technology, natural resources and environmental factors. Weak answers either identified only one correct reason or did not explain why it affected the standard of living.
- (c) Most candidates were able to demonstrate that they understood what a tariff was and to analyse at least one reason why a country might impose tariffs on imports. Strong answers were able to mention and explain at least two reasons why a tariff might be imposed. Common reasons given included protecting infant industries, raising income for the government, and reducing a balance of payments deficit. Weak answers tended to identify one reason and not explain it well e.g. 'This way the country will receive more money from the tariff imposed.'
- (d) Candidates were often able to explain what a commercial bank was and that they made loans to households and firms. However, the question required them to explain how this would affect economic growth (either favourably or unfavourably) by making the link to firms borrowing to increase output and households taking loans to increasing demand for high-value goods. This would lead to an increase in total demand and/or supply, which might result in economic growth. Answers as to why it might not result in economic growth were less well developed and often limited to analysis about households getting into debt and money being spent on imports or causing demand-pull inflation.