
A-LEVEL ECONOMICS

7136/3 Economic principles and issues
Report on the Examination

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General – Section A (multiple choice questions)

The overall standard of the students' responses to the 30 multiple choice questions (MCQ's) in Section A of this paper indicate that the demands of the test were slightly higher than those of the 2017 test. All the questions worked as intended and produced results within the statistically acceptable range.

The percentage of students choosing the correct key (answer) is known as the facility index.

The individual question test statistics indicate that students found twelve questions either easy or very easy in that 65% or more of the students answered them correctly. The twelve questions were 4, 8, 9, 10, 12, 15, 21, 22, 23, 24, 26, and 27. Only, three of these were exceptionally easy with facilities of 80% or higher. These were Questions 12, 21, and 26. The easiest of these was Question 26 with a facility of 87%, followed by Question 21 with a facility of 84% and Question 12 with a facility of 80%.

Students found eight of the questions demanding or exceptionally demanding with facilities below 49%. The demanding question, with facilities in the range 40 - 49%, were 1, 2, 3 and 14. The most demanding of these was Question 14 with a facility of 40%. Next was Question 2 with a facility of 44%, followed by Question 1 with a facility of 47%, and Question 3 with a facility of 48%. The exceptionally demanding questions, with facilities less than 40%, were 5, 9, 20 and 30. The most demanding of these was Question 20 with a facility of only 22%. Next was Question 5 with a facility of 29%, followed by Question 19 with a facility of 34% and Question 30 with a facility of 37%.

An indication of the difficulty students had with the demanding and exceptionally demanding questions is that five of these eight questions had prominent distractors. The questions with prominent distractors were 2, 5, 14, 20 and 30.

The remaining questions had facilities between 50% - 64%. The questions were 6, 7, 11, 13, 16, 17, 18, 25, 28, and 29. These questions, with one exception, presented no difficulty for students of average and above average overall ability in the test. The exception was Question 18 which had a facility of 53% and a distractor chosen by 39% of students.

Question 1

The key, B, was selected by only 47% of students. This question tested students' knowledge and understanding of the different types of goods, especially merit and demerit goods. The examiners expected the topic area of goods and their defining characteristics to be well understood by students and were surprised that the majority of students failed to answer this question correctly.

- Response A, selected by 20% of students. The response is incorrect because it defines a demerit rather than a merit good.
- Response B was selected by 47% of students. A merit good is one for which the marginal social benefit is greater than its marginal private benefit. This means that merit goods are underprovided relative to the social optimum in a free market. But they are also private goods because they are both excludable and rival in consumption and accordingly are provided by the market.
- Response C was selected by 10% of students who confused public goods with merit goods. The non-excludability characteristic of public goods means that they must be provided by the government because are unlikely to be provided by the free market.

- Response D, a distractor, was selected by 25% of students. The response is incorrect because non-excludability and non-rivalry are the defining characteristics of public good not a merit good.

Question 2

The key, A, was selected by only 44% of students. Response C was a prominent distractor selected by 53% of students. The examiners' anticipated that the quantitative nature of this question would make it demanding for many students but they did not expect it to have a prominent distractor.

The fact that 66% of students selected distractors, and the majority of these selected distractor C, indicates all too clearly that the concept of the national debt, and the implications of government borrowing for the size of the national debt, is not understood by many students.

- Response A is unambiguously correct. £40 billion of extra government borrowing adds 4% to the outstanding total of £1000 billion of accumulated past government borrowing.
- Students selecting response B, the prominent distractor, added the governments extra borrowing of £40 billion to its planned expenditure of £100 billion to reach the conclusion that the national debt increased by 14%. This implies a serious lack of clear understanding of how governments' finance their expenditure and the mistaken idea that the national debt is the result of government expenditure rather than just that part of government expenditure financed by borrowing.
- Responses B and C, selected by only 2% of students respectively can only be explained in terms of lack of understanding of the topic area.

Question 5

The key, D, was selected by only 29% of students. Response A was a prominent distractor selected by 33% of students. The question tests students' knowledge and understanding of the meaning and operation of a government subsidy paid to producers. The question is expressed in terms of the standard textbook diagram for such a subsidy and as such should have presented little difficulty if students understood how a subsidy works.

The 33% of students selecting the prominent distractor A incorrectly identified the total amount received by producers of renewable energy directly from their customers, area $OGME_2$ in the diagram, as the total amount received including the subsidy payment. They did not recognise that the total subsidy payment received by the producers from the government, area $GJKM$ in the diagram, needed to be added to the amount, $OGME_2$, they also received directly from their customers to give a total of $OJKE_2$ as the amount of money received from both consumers and the government.

The two areas in the diagram indicated in distractors B and C, selected by 22% and 16% of students respectively, underestimated the amount of subsidy payment received by incorrectly equating the per unit subsid, KM , with the reduction in the market price, LM , which resulted from the subsidy. The nature of this confusion demonstrates incomplete understanding of the operation of a subsidy.

Question 14

The key, C, was selected by only 40% of students. Response D was selected by 39% of students almost making it a prominent distractor. Using the data in the table it is a simple matter to identify when diminishing marginal returns to labour set in if it is understood that the marginal return from employing an additional worker is measured by the resultant change in total product.

The marginal product from employing the 5th worker is 132. The marginal product of employing the 6th worker is 160. The marginal product of employing the 7th worker is 77. The marginal product of the 8th worker is 31.

- Response A. The choice of the least popular distractor, only selected by 5% of students, would appear to have been based on the change the average product rather than total product and incorrectly identifying this has occurring with the 5th worker.
- Response B, selected by 16% of students, has no obvious correspondence with the data for the total or average products of labour contained in the table.
- Response C. is the key based on the above data for the marginal product of labour. Diminishing marginal returns to labour sets in when the marginal product of the additional worker declines from 160 to 77. This happens when the firm employs the 7th worker.
- Response D also appears to have been based on the change the average product rather than total product and the incorrect identification of this has occurring with the employment of the 8th worker.

Question 18

The question had a facility of 53%, key A, and discriminated effectively between more and less able students. However, 39% of students chose distractor B which would seem to indicate a significant weakness in knowledge and understanding of the consequences for an economy of a change in its exchange rate. The question relates to the cause of a movement to the right of both the short-run and long-run aggregate supply curves for an economy. The shift to the right of the long-run aggregate supply curve implies either a reduction in the natural rate of unemployment and/or an increase in its productive potential, due to an increase in productivity and/or its resource availability. The move to the right of the short-run aggregate supply curve implies a reduction in domestic production costs and/or the cost of imports.

- Response A involves an increase in the economy's productive potential and a fall in production costs through the increased availability of renewable energy. In comparison with the other three responses, this is the only one consistent with a movement to the right of both short-run and long-run aggregate supply curves.
- Response B involves an increase in employment which could result from a decrease in the natural rate of unemployment and explain the shift to the right of the long-run aggregate supply curve. But a depreciation of the exchange rate, all other things being equal, would lead to an increase in the cost of imports and shift the short-run aggregate supply curve to the left. This combination of factors cannot explain the rightward movement of both the short-run and long-run aggregate supply curves. The most likely explanation for why 39% of students chose this response is that they mistakenly thought depreciation of the currency explained the downward movement of the short-run aggregate supply curve. They would not have made this mistake if they had been able to apply a sound knowledge and

understanding of the economic consequences for an economy of a depreciation of its exchange rate.

- Response C was rejected by 95% students. An increase in the natural rate of unemployment combined with an increase in the level of money wage rates would result in a shift to the left of both the short-run and long-run aggregate supply curves.
- Response D was rejected by 97% of students. A supply shock to the economy which increased the rate of inflation would result from shift to the left of the long-run and/or short-run aggregate supply curves.

Question 19

The key, D, was only selected by 34% of students. Distractors B and C were each chosen by 27% of students. Distractor A was chosen by 12% of students. This pattern of responses suggests that the majority of students had a poor knowledge and understanding of exchange rate concepts and currency relationships and were guessing the answer. Students need to be well taught that MCQ data interpretation questions require careful consideration of all the information needed to reach a particular conclusion and not just the information given.

All four currencies in the table are stated to be undervalued against the US Dollar. The question contains no information on each countries exchange rate policy or movements in its exchange rate against the US Dollar.

- Response A. The question contains no data making it possible to conclude that the Australian Dollar has appreciated against the US Dollar. The fact that this was the least popular distractor seems to suggest that the majority of students thought appreciation was inconsistent with currency undervaluation. This is incorrect because an undervalued currency can still remain undervalued, albeit by less, if it appreciates against the other currency.
- Response B cannot be concluded from the data in the question. It contains no data to link the undervaluation of the Brazilian Real with a possible equivalent devaluation against the US Dollar. The students selecting this distractor based their choice on the apparent, but unsupported, connection between the use of the term 'devalued by 32%' in the response and 'undervalued by 32%' in the table.
- Response C cannot be concluded from the data in the question. It contains no data to link the undervaluation of the Chinese Yuan with a possible equivalent depreciation against the US Dollar. The students selecting this distractor based their choice on the apparent, but unsupported, connection between the statement that the 'Chinese Yuan has depreciated the most against the US Dollar' and the data showing the Chinese Yuan to be the most undervalued of the four currencies against the US Dollar.
- Response D can be concluded from the data in the table. The comparison of a pair of currencies to determine whether one is under or overvalued against the other involves the concept of purchasing power parity. The Danish Krone is the least undervalued against the US Dollar of the four currencies and therefore has the closest purchasing power parity with the US Dollar.

Question 20

The key, A, was only selected by 22% of students. The question had two prominent distractors. Distractor B was chosen by 30% of students and distractor D was chosen by 32% of students. Distractor C was chosen by 16% of students. This pattern of responses also suggests that the majority of students were guessing the answer.

There is no obvious explanation for why so many students found this question extremely difficult. The concept of economies of scale and the implications of economies of scale for the shape of a firm's long-run average cost curve and its market power should be well understood by students.

- Response A. If a firm benefits from significant and persistent economies of scale as it increases output its long-run average cost curve will fall continuously throughout its range. This will give the firm a cost advantage over smaller competitors and enable it to drive them out of the market. This, in turn, will increase its share of the market and its cost advantage over competing firms. The end result of this process is that the firm takes over the entire market and exercise monopoly power. It is surprising that only 22% of students recognised this and selected response A because the benefit of significant economies of scale is one of the classic explanations for the existence of monopoly power. This makes Response A by far the most likely of the four options.
- Response B is incorrect. For the firm's long-run average cost curve to become 'U' shaped it would need to exhaust its economies of scale and experience diseconomies of scale as it grew in size. There is no information in the stem to indicate that the firm exhausts its economies of scale as it expands output.
- Response C is superficially plausible but not very likely. The incumbent firm's significant and persistent economies of scale are likely to result in increased profits as it grows in size, especially if the firm exercises its increasing market power. However, the same economies of scale give the firm a pricing advantage over potential new entrants which will act as a barrier to entry.
- Response D, the most prominent of the three distractors is incorrect because it relates to total not average cost. Persistent economies of scale result in a reduction in a firm's long-run average cost of production but this cannot reduce its total cost of production. Even if average cost fell to zero, which is impossible if the firm has any fixed costs, its total cost would stop increasing with additional output but it could never decrease.

Question 30

The key, C, was only selected by 37% of students. Response D was selected by 56% of students making it a very prominent distractor. The main reason for this poor result is that a majority of students interpreted the continuous rise in the absolute value of the index of consumer prices over the six quarters as implying inflation. Students should have taken time to calculate the percentage rate of change of prices between each quarter before answering this question. Rising inflation means that prices not only rise but do at an increasing rate. Disinflation exists when prices increase over time but their rate of increase declines while still remaining positive.

- Response A is incorrect from inspection of the data. The continuous rise in the index of consumer prices over the six quarters which rules out deflation.
- Response B is incorrect because the economy only experienced recession during the first three quarters and over the same period prices increased at an increasing not a decreasing

rate. Between the first and second quarters the rate of inflation was 5%. Between the second and third quarters the rate of inflation rose to 5.7%. Between the first and fourth quarters the rate of increase in prices fell to 4.5% and continued to fall in the following quarters.

- Response C is correct. Starting in the fourth quarter. Although the absolute level of prices continued to rise over the final three quarters the rate of increase declined from 4.5% in the fourth quarter to 2.5% in the six quarter. Thus while recovering from recession the economy experienced disinflation not inflation.
- It follows from above explanation of why Response C is unambiguously correct that response D must be incorrect. Despite the increase in the level of prices over the whole period the economy experienced deflation because the rate of increase slowed during the period of recovery from recession.

General – Section B

The overall standard of the responses to the questions was similar to last year. Most students were able to demonstrate reasonable knowledge of relevant economic concepts and principles and many were able to apply these appropriately to the context. Weaker students struggled to develop their analysis; they omitted important links in the chain of reasoning and the logic was sometimes hard to follow. As usual, most students attempted to make judgements, but a key difference between the very good and the weaker students was the extent to which they were able to provide convincing support for their views and their overall conclusion.

The use of the numerical/statistical data was much better than last year, there were fewer errors and units of measurement were usually quoted accurately. Good answers frequently included appropriate calculations that were used effectively to support conclusions.

Many students included a variety of diagrams in their responses, but it was very disappointing that the quality of too many of the diagrams was poor. The general quality of the diagrams was noticeably worse than last year. Students should be reminded of the need to label diagrams accurately and to use them to support their analysis. Quite a few students used a macro diagram when a micro diagram was required and vice versa. A large number of students drew some meaningless, confused diagrams that included elements of both micro and macroeconomics. Students would benefit from devoting more time to learning and practising how to construct accurate diagrams. Practice in selecting suitable diagrams and how to use them properly would also be worthwhile.

Many students made good use of the extracts, but the weaker students just quoted from parts of the text without using it effectively to help them develop arguments and support conclusions. Some students misinterpreted some parts of some of the extracts and this often led to a muddled response. It is important that students devote sufficient time to reading the extracts to try to avoid such problems.

Most students used the time well and there was very little evidence to indicate that they had to curtail their answers abruptly. Frustratingly, poor handwriting meant that it was very difficult to read the answers of a very small number of students. Students should be made aware that it is important that handwriting is legible. Whilst examiners do their best to read even the most challenging handwriting, they cannot award marks for material that can't be read.

Question 31

It is pleasing to be able to report that students' responses to this question were generally better than their answers to the equivalent question in 2017. Most students used the numerical data to support their judgements, they usually quoted the figures accurately and included the correct units of measurement. Calculations were also generally accurate although not universally so.

The best answers recognised that the data in Figure 1 showed that, in absolute terms, the reliance on fossil fuels had increased over the period but had fallen as a proportion of total energy consumption, albeit by a comparatively small percentage, i.e. from 87.4% to 85.5%. Other strong responses came to a similar conclusion by calculating the percentage change in consumption of each fuel type; these calculations showed that the growth in consumption of hydroelectricity and 'other renewables' was faster than the growth in consumption of each of the fossil fuels. Many of these good answers also recognised that, over the period as a whole, the consumption of nuclear energy, a non-fossil fuel, had declined and that since 2012 less energy was produced from coal. Some also referred to Extract B where it mentions policies that are shifting production away from coal towards natural gas and renewable energy. Unfortunately, despite the footnote below Figure

1, a few believed that natural gas is a source of renewable energy. This error led to unconvincing judgements regarding the changing reliance on fossil fuels.

Some students only considered the absolute changes in energy consumption and failed to group the data into fossil and non-fossil fuels. This often resulted in judgements that were not very well supported. Some of the weaker answers tried to draw conclusions from comparing a limited selection of fuels, for example, by contrasting the changes in the consumption of oil and hydroelectricity. This invariably led to weak conclusions, supported by very limited evidence.

Many answers considered the significance of the data in Figures 3 and 4. The fall in the price of coal and oil since 2011 was taken as evidence that the demand for these fuels was falling. However, the best answers recognised that this may not be the case, identifying that other factors, perhaps falling costs of extraction and an increase in supply, might explain the lower prices. Some of these responses referred to the impact of fracking in the US and quoted from Extract B to support their reasoning.

Some students seemed to believe that they had to use all of the figures in Extract C and failed to appreciate that the data in Figure 2 was of little, if any, help in answering this question. An important skill is to determine which pieces of data in the case study are relevant to the question. This question instructed students to use the data in Extract C, it didn't say that they needed to use all the data in Extract C or that they shouldn't use relevant data from other extracts. The weakest answers made little use of the data in Figure 1, failing to recognise that this was most relevant when judging whether the reliance on fossil fuels to produce energy is falling.

Many students, but not all, were aware that they ought to consider the limitations of the data. However, relatively few were able to provide a credible assessment of limitations of the data that might cast doubt on the reliability of their judgements. As indicated above, some recognised that the data relating to the causes of the change in the price of oil and coal was limited, making it difficult to determine whether the fall in price was evidence of a fall in demand for these fossil fuels. However, it was surprising that more students didn't mention that a period of 10 years is probably not enough time for such fundamental changes to take place.

Some answers were poorly organised, and this affected the quality of the analysis. A well-structured response with logical, well-developed chains of reasoning is an important ingredient in supporting judgements. Equally, effective use of the numerical/statistical data to support conclusions is also required if the student is to reach the top level. Good answers evaluated as they worked their way through the answer, making preliminary judgements before coming to a final, supported conclusion.

Whilst it is clear that many students were better prepared to answer questions of this type than last year, some did not use the numerical data very well. It is important that students appreciate that this question is testing all four assessment objectives and their quantitative skills. They should be provided with as many opportunities as possible to cultivate their ability to integrate numerical/statistical data in their answers and to use it to support conclusions.

Question 32

As emphasised in last year's report, this question is only testing three of the four assessment objectives: knowledge and understanding, application and analysis. Evaluation is not being assessed.

The better answers started by explaining what is meant by economic development and proceeded to construct a response which focused on factors that influence the development of an LEDC. These students often mentioned the Human Development Index and identified the various elements of the HDI. Some of the explanations of economic development were poor and this adversely affected the subsequent application and analysis. Surprisingly, a significant minority of students didn't attempt to explain the concept and many of these discussed the impact of low oil prices on the macroeconomic policy objectives. Whilst some credit was given for such an answer, application to the context of the question was usually weak.

The extracts, particularly Extract D, provided a number of clues to help students. Weak responses just quoted from the extracts and failed to build on the issues raised, leading to little, if any, developed analysis. Whilst it is right that students should refer to the extracts, they did not gain many marks if they didn't use the data as a platform to develop an answer that analysed effectively the impact of low oil prices on the economic development of an oil-producing LEDC. However, there were plenty of strong answers that used the data well.

Whilst most students recognised that a sustained low world market price for oil would be likely to harm the economic development of an oil-producing LEDC, at least in the short run, a small minority believed that it would help promote development by boosting exports. Either they did not read or did not understand the extracts. They were often very confused about the way in which oil prices are determined and didn't understand the significance of a relatively low price elasticity of demand for oil.

Diagrams were included in a number of answers but some of the diagrams were poor. For example, some students used an AD/AS diagram to illustrate the determination of oil prices. Other poor diagrams were confused hybrid micro/macro diagrams, for example, labelling the axes price and quantity, and the curves AD and AS. It was not unusual to see students include a slightly modified version of a standard tariff diagram that was linked to some very muddled analysis. These students seemed to forget that the question was about LEDCs who exported, rather than imported, oil. However, some diagrams were drawn accurately and used appropriately to support focused analysis. AD/AS diagrams were often used to help explain how a fall in the value of oil exports, and/or government spending, would affect national income and employment. Demand and supply diagrams were used to illustrate aspects of the oil market and oil revenues, and to support students' analysis of why a fall in the value of oil exports would affect the exchange rate of oil-exporting LEDCs. The best students went on to link the effects shown in the diagrams to economic development.

The best answers were well organised and developed a selection of the key issues that were relevant to the question. Good answers often began each paragraph by identifying one of the important issues identified in Extract D, developing a step-by-step chain of reasoning, linked to the definition of economic development they included in their introductory paragraph. Examples of relevant issues that were discussed by students include: the fall in oil revenues, falling employment and incomes in the oil industry, the reduction in government revenue and hence public expenditure on merit goods and infrastructure, the likely impact of cost-push inflationary pressures on living standards and the probable impact on FDI. As indicated above, good answers explained how these issues were likely to affect an LEDC's economic development.

Some students showed little appreciation of the nature and characteristics of LEDCs or of the problems they face in promoting development. This indicates that some centres and students would benefit from devoting more attention to this part of the specification.

Question 33

In the scenario, students were told that they were an economist working for OPEC and were asked to recommend whether OPEC should restrict the supply of oil to try to raise the world market price. It was expected that students would focus on the costs and benefits for OPEC but some concentrated on the broader welfare considerations and the impact on the world economy, frequently focusing on oil consumers. Credit was given for a competent answer of this type but if the answer ignored the impact on the members of OPEC, the analysis and the evaluation were not well focused. Such responses failed to demonstrate the skills needed to get beyond Level 3. If a student also discussed how these wider considerations affected members of OPEC, then the answer was more relevant to the context and had the potential to demonstrate good evaluation.

Students should be reminded that in Section B of this paper, they are instructed to take on a particular role. It should be emphasised that the role they are required to adopt may affect the recommendation and how it is justified. It is important that they read the scenario and the extracts carefully to help to ensure that their response is fully focused.

Some answers included a supply and demand diagram to illustrate the impact of restricting the supply of oil on oil revenues. This was a simple but effective start to the question and provided the opportunity to discuss the significance of the price elasticity of demand for oil. Others used a monopoly diagram to explain that collusion and restricting supply could help members of OPEC maximise their joint profits. Some of these diagrams were drawn accurately but others contained basic errors. A few of the best students included a more sophisticated diagram to illustrate why a cartel setting quotas for individual members, may create an incentive for members to cheat on the agreement. However, it was disappointing, particularly given the hints in the extracts, that more students didn't recognise that the possibility of cheating on the agreement was an important consideration when recommending whether or not OPEC should attempt to restrict the supply of oil.

Many students recognised that an important argument in favour of trying to raise the price of oil was to improve the performance, stability and development of the economies that are heavily reliant on oil exports. However, a few of the weaker students focused almost entirely on this and produced a very unbalanced response, often just reversing the arguments they had presented in response to question 32.

The effect of a rise in the price of oil upon the development of substitutes and energy-saving technologies was mentioned by the majority of students. The better answers were able to develop their analysis of the effects of this on members of OPEC, with some discussing likelihood of creative destruction seriously damaging the economies of countries that rely on the exports of oil and gas. Most recognised that this might provide an argument for OPEC to be cautious about attempting to raise the price of oil. However, some students believed that promoting the development of renewable energy and energy-saving technologies was an argument in favour of restricting the supply of oil. Many of these students failed to consider the negative impact this might have on members of OPEC.

The effect of OPEC's actions on the fracking industry was considered by some. However, not all students recognised that oil produced from shale is a substitute for the oil supplied by members of

OPEC. They didn't appreciate that a high price for oil would benefit the fracking industry and lead to more competition for the members of OPEC. Others misinterpreted the extracts, for example, they didn't understand that it was the low oil price that drove US fracking companies to increase productivity, reducing the cost of extracting oil from shale. As a result, some of the discussion was muddled and the conclusions drawn were unconvincing.

Most students included a final recommendation in a conclusion, but sometimes the conclusion was brief, and the recommendation was not very well supported. The better students frequently considered the short-run and long-run effects when presenting their recommendation. The potential for the oil-producing LEDCs to diversify their economies by using the high profits generated from selling oil was used by some to justify restricting the supply of oil. Others concluded that actions leading to a rise in the price of oil were foolhardy and would hasten the development of substitutes, increasing the price elasticity of demand for oil and reducing the monopoly power of OPEC. Others believed that, in the current climate, growth in the use of renewable energy and energy-saving technologies is inevitable and that the price of oil won't make much difference. Others presented more nuanced conclusions. What matters is that students include a final judgement and support it effectively with convincing, well-developed analysis and evidence.

Use of statistics

Statistics used in this report may be taken from incomplete processing data. However, this data still gives a true account on how students have performed for each question.

Mark Ranges and Award of Grades

Grade boundaries and cumulative percentage grades are available on the [Results Statistics](#) page of the AQA Website.