Rewarding Learning

ADVANCED SUBSIDIARY (AS)
General Certificate of Education
January 2013

Economics

Assessment Unit AS 1

assessing

Markets and Prices

[AE111]

TUESDAY 15 JANUARY, AFTERNOON

MARK SCHEME

General Marking Instructions

This mark scheme is intended to ensure that the AS examinations are marked consis
fairly. The mark scheme provides examiners with an indication of the nature and range
candidate responses likely to be worthy of credit. It also sets out the criteria which they sh
apply in allocating marks to candidates' responses. The mark scheme should be read in conjunction with these general marking instructions which apply to all papers.

Quality of candidates' responses
In marking the examination papers, examiners will be looking for a quality of response reflecting the level of maturity which may reasonably be expected of 17-year-olds, which is the age at which the majority of candidates sit their AS examinations.

Flexibility in marking
The mark scheme is not intended to be totally prescriptive. For many questions, there may be a number of equally legitimate responses and different methods by which the candidates may achieve good marks. No mark scheme can cover all the answers which candidates may produce. In the event of unanticipated answers, examiners are expected to use their professional judgement to assess the validity of answers. If an answer is particularly problematic, then examiners should seek the guidance of the Supervising Examiner for the paper concerned.

Positive marking
Examiners are encouraged to be positive in their marking, giving appropriate credit for valid responses rather than penalising candidates for errors or omissions. Examiners should make use of the whole of the available mark range for any particular question and be prepared to award full marks for a response which is as good as might reasonably be expected for 17-year-old candidates. Conversely, marks should only be awarded for valid responses and not given for an attempt which is completely incorrect or inappropriate.

Types of mark schemes
Mark schemes for questions which require candidates to respond in extended written form are marked on the basis of levels of response which take account of the quality of written communication. These questions are indicated on the cover of the examination paper. Other questions which require only short answers are marked on a point for point basis with marks awarded for each valid piece of information provided.

Levels of response
Questions requiring candidates to respond in extended writing are marked in terms of levels of response. In deciding which level of response to award, examiners should look for the "best fit" bearing in mind that weakness in one area may be compensated for by strength in another. In deciding which mark within a particular level to award any response, examiners are expected to use their professional judgement. The following guidance is provided to assist examiners.

> **Threshold performance:** Response which just merits inclusion in the level and should be awarded a mark at or near the bottom of the range.
>
> **Intermediate performance:** Response which clearly merits inclusion in the level and should be awarded a mark at or near the middle of the range.
>
> **High performance:** Response which fully satisfies the level description and should be awarded a mark at or near the top of the range.

Marking calculations

In marking answers involving calculations, examiners should apply the “own figure [illegible] at candidates are not penalised more than once for a computational error.

Quality of written communication

Quality of written communication is taken into account in assessing candidates’ responses to questions that require them to respond in extended written form. These questions are marked on the basis of levels of response. The description for each level of response includes reference to the quality of written communication. Where the quality of candidates’ economics is not matched by the quality of written communication, marks awarded will not exceed the maximum for Level 2 in questions which have three levels of response or the maximum for Level 3 in those which have four levels of response.

For conciseness, quality of written communication is distinguished within levels of response as follows:

Level 1: Quality of written communication is limited.
Level 2: Quality of written communication is satisfactory.
Level 3: Quality of written communication is of a high standard.

In interpreting these level descriptions, examiners should refer to the more detailed guidance provided below:

Level 1 (Limited): The candidate makes only a limited attempt to select and use an appropriate form and style of writing. The organisation of material may lack clarity and coherence. There is little use of specialist vocabulary. Presentation, spelling, punctuation and grammar may be such that intended meaning is not clear.

Level 2 (Satisfactory): The candidate makes a reasonable attempt to select and use an appropriate form and style of writing, supported with appropriate use of diagrams as required. Relevant material is organised with some clarity and coherence. There is some use of appropriate specialist vocabulary. Presentation, spelling, punctuation and grammar are sufficiently competent to make meaning evident.

Level 3 (High Standard): The candidate successfully reflects and uses an appropriate form and style of writing, supported with the effective use of diagrams where appropriate. Relevant material is organised with a high degree of clarity and coherence. There is widespread use of appropriate specialist vocabulary. Presentation, spelling, punctuation and grammar are of a sufficiently high standard to make meaning clear.

1 Data response

(a) It is clear from Figure 1 that there is a strong positive relationship between the price of crude oil and the price of unleaded petrol. In January 2000 crude oil was trading at $26 a barrel. The price of crude increased to a peak of $139 a barrel in June 2008. Crude oil then fell in price quite rapidly until the end of 2008 before beginning to increase again. In April 2011 crude oil was trading at $110 a barrel. This represents a 323% increase over the period shown.

Unleaded petrol was 75p a litre in 2000. It increased to 117p in June 2008, and like oil decreased rapidly until the end of 2008 when it began to increase again reaching its peak in April 2011 of 130p. This represents a 73.3% increase over the period.

Level 1 ([1]–[2])
Candidate provides no significant comparison of the trends in the price of unleaded petrol with that of Brent crude between January 2000 and March 2011. Quality of written communication is limited.

Level 2 ([3]–[4])
Candidate provides some comparison of the trends in the price of unleaded petrol with that of Brent crude between January 2000 and March 2011. Quality of written communication is satisfactory.

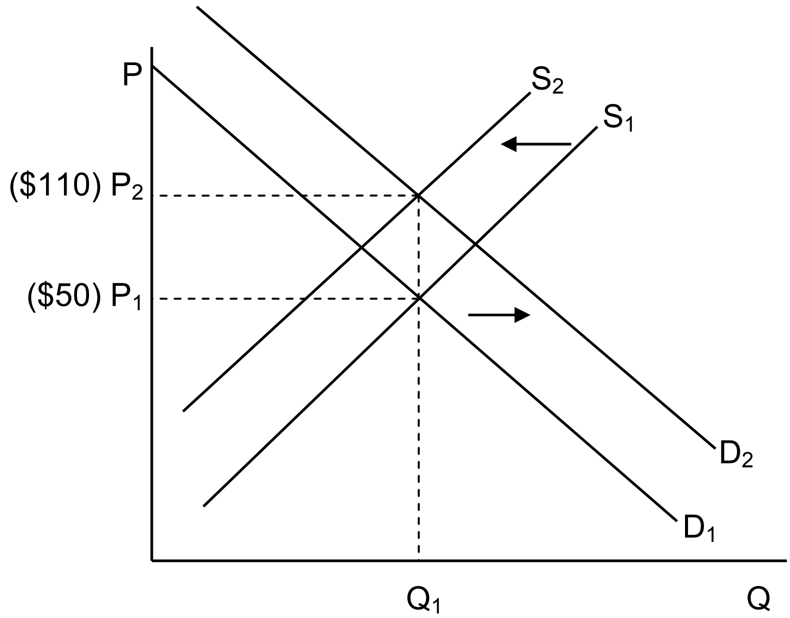
Level 3 ([5]–[6])
Candidate provides an extensive comparison including some data manipulation of the trends in the price of unleaded petrol with that of Brent crude between January 2000 and March 2011. Quality of written communication is of a high standard. [6]

(b) Petrol is derived from crude oil so it follows that a change in the price of crude oil is likely to lead to a change in the price of unleaded petrol. This explains the positive correlation. However, the price of petrol is influenced by factors other than the dollar price of crude oil, the most obvious factor being the level of taxation levied by the government. This explains why the price of unleaded petrol peaked in April 2011 despite the price of oil being lower in dollars than it was in June 2008. Another factor affecting the price of petrol in the UK is the value of sterling against the dollar. Clearly a fall in the value of sterling against the dollar will lead to an increase in the price of petrol since it increases the sterling price of crude oil.

[3] for explaining that petrol is derived from oil
[2] for explaining that other factors influence the price of unleaded petrol
Constrained maximum of [4] [4]

(c) Paragraph 2 states that the price of crude oil has risen from less than \$50 a barrel in 2009 to \$110 in April 2011. This increase has been caused by both demand and supply side factors.

The source states that there has been heavy demand from countries such as China and India, and higher than expected energy needs in the west. This has caused the demand curve to shift to the right. At the same time there have been supply disruptions following the political unrest in oil producing countries such as Libya and Bahrain. This has caused the supply curve to shift to the left. This is shown on the diagram below:



Level 1 ([1]–[2])
Candidate provides little explanation of the factors which have led to the increase in crude oil prices since 2009. No attempt is made to represent this in a diagram or if an attempt is made it will contain significant errors. There is no significant economic analysis and quality of written communication is limited.

Level 2 ([3]–[5])
Candidate provides some explanation of the factors which have led to the increase in crude oil prices since 2009. An attempt is made to represent this in a diagram but it may contain some minor errors or focus exclusively on either demand or supply. There is a degree of economic analysis and quality of written communication is satisfactory.

Level 3 ([6]–[8])
Candidate provides a clear and comprehensive explanation of the factors which have led to the increase in crude oil prices since 2009. A clear and accurate diagram is drawn which illustrates both the demand and supply side factors. There is significant economic analysis and quality of written communication is of a high standard. [8]

(d) PED = % change in QD/ %Change in price
Paragraph 4 states that petrol sales have fallen by 13% between Easter 2010 and Easter 2011. Paragraph 1 states that the average price of petrol has increased by 15p to a high of £1.30. This represents a 13.04% increase in price. Therefore the PED for petrol is –13%/13.04% which equals -0.99.

[1] for equation or definition
[1] for identification of appropriate data, [2] for calculation and correct answer (accept –1 or 1) [4]

(e) Most economists would consider petrol to be more inelastic than the figure calculated above suggests. When calculating PED we assume ceteris paribus, that is that all other things remain unchanged. However, in reality ceteris paribus does not hold. It could be argued that some of the fall in petrol sales, has been brought about by other factors such as a fall in real wages, higher levels of unemployment or a reduction in consumer confidence.

Other factors which could influence the accuracy of the result include:
- the fact that an average price was used in the calculation
- the accuracy of the sales figures – higher petrol prices may lead to an increase in black market sales.

Level 1 ([1]–[2])
Candidate provides little significant explanation as to why some economists might question the accuracy of the PED calculation. Quality of written communication is limited.

Level 2 ([2]–[4])
Candidate provides some explanation as to why some economists might question the accuracy of the PED calculation. Quality of written communication is satisfactory.

Level 3 ([5]–[6])
Candidate provides a comprehensive explanation as to why some economists might question the accuracy of the PED calculation. Quality of written communication is of a high standard. [6]

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(f) Those who are in favour of the fuel price stabiliser argue that it would ensure that UK families and firms were less exposed to volatile oil markets. They argue that if it was introduced immediately it would reduce fuel prices which would help stimulate the economy. They also argue that it would enhance economic stability by helping to reduce the impact of oil price changes on inflation and the government finances. They also argue that it would give greater certainty about the price of carbon which would in turn allow individuals and firms to factor environmental costs into investment and spending decisions.

However, those opposed to the fuel price stabiliser argue that it could cost the treasury up to £6 billion a year in lost revenue and would be very difficult to implement in reality. They also argue that it would lower the price of carbon and therefore lead to greater levels of pollution.

Issues, discussion and evaluation include:
- impact on government finances
- impact on consumer welfare
- impact on levels of pollution
- impact of fuel price stabiliser on wider economy
- impact on inflation
- difficulty in implementing and managing the system
- impact on firms pricing decisions and profits
- impact on traffic levels
- impact on demand for different forms of transport
- relevant diagrams
- appropriate examples
- international comparisons.

Level 1 ([1]–[4])
Candidate shows limited understanding of the arguments for and against the proposal to introduce a fuel price stabiliser. There is no significant evaluation of the issues and quality of written communication is limited.

Level 2 ([5]–[8])
Candidate provides some understanding of the arguments for and against the proposal to introduce a fuel price stabiliser. There is a degree of evaluation and quality of written communication is satisfactory.

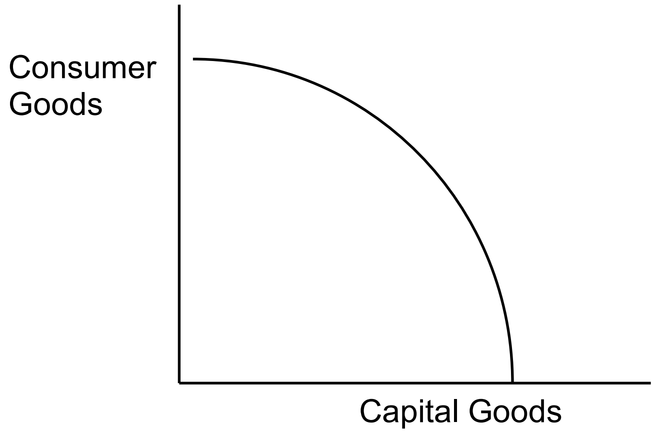
Level 3 ([9]–[12])
Candidate provides a clear and comprehensive understanding of the arguments for and against the proposal to introduce a fuel price stabiliser. There is significant evaluation and judgement and quality of written communication is of a high standard. [12] 40

2 **Population growth puts strain on nation's resources**

(a) The production possibility frontier (PPF) shows the alternative maximum combinations of two items which can be produced from a fixed quantity of resources.

It reflects scarcity in that it is only possible to obtain more consumer goods by having fewer capital goods. However, the nature of this trade off is not fixed. If it were then the production possibility curve (PPF) would be a straight line.

Any point on the PPF represents an efficient allocation of resources whereas points inside the PPF represent an inefficient allocation of resources since it would be possible to produce more of one good without sacrificing any of the other.



Level 1 ([1]–[3])
Candidate shows little knowledge or understanding of production possibility curves. There is at best a seriously flawed definition and little development through relevant examples, diagrams or technical language. Quality of written communication is limited.

Level 2 ([4]–[7])
Candidate shows some knowledge or understanding of production possibility curves. There is a credible definition though this may contain minor errors and some development through relevant examples, diagrams or technical language. Quality of written communication is satisfactory.

Level 3 ([8]–[10])
Candidate shows extensive knowledge or understanding of production possibility curves. There is an accurate definition and extensive development through relevant examples, diagrams or technical language. Quality of written communication is of a high standard. [10]

(b) Although economic resources are fixed in the short term, in the long run it becomes possible to obtain more resources or to make better use of those which we have. Therefore the PPF will shift to the right if a country can increase the quantity or quality of resources available to it. There are a number of ways in which this can be achieved.

Issues, analysis and areas for discussion include the following:
- investment in human capital through education and training
- investment in physical capital
- increased labour force through increased population or greater participation
- development of new technology
- government investment in the economy's infrastructure
- development of social capital
- discovery of natural resources such as oil
- appropriate diagrams
- reference to factors of production
- historical and international examples.

Level 1 ([1]–[5])
Candidate provides little analysis of the factors which might cause an outward shift in an economy's production possibility curve. There are few if any relevant examples and diagrams will be non-existent or seriously flawed. Quality of written communication is limited.

Level 2 ([6]–[10])
Candidate provides some analysis of the factors which might cause an outward shift in an economy's production possibility curve. There are some relevant examples, perhaps supported by a relevant, if slightly flawed diagram. Quality of written communication is satisfactory.

Level 3 ([11]–[15])
Candidate provides extensive analysis of the factors which might cause an outward shift in an economy's production possibility curve. There is significant development through examples and or flawless diagrams. Quality of written communication is of a high standard. [15]

(c) Those who argue for tighter controls on population growth argue that it increases the strain on the nation's scarce resources. They argue that population growth can lead to increased costs for the government, in areas such as the NHS, pension provision and education, increased pressure on the housing market and increased competition in the jobs market. They argue that uncontrolled population growth can have negative effects on the environment and can lead to food, water and energy shortages.

However, those in favour of population growth argue that it adds to the stock of a nation's human capital and therefore increases a nation's productive potential. They argue that population growth, either through immigration or increased birth rates, is necessary in light of the UK's ageing population. They also argue that the UK is currently under populated compared to some other EU nations and that there is considerable scope for further increases in population.

Issues for discussion and evaluation include:
- impact of population growth on public services
- impact on government finances
- impact on population structure
- impact on environment
- impact on food, water and energy supplies
- impact of population growth on the spread of ideas
- reference to immigration
- reference to skills shortages in certain areas
- reference to policies to control population growth – immigration policy, birth rate policies
- reference to UK population density and comparison to other EU or developed nations
- impact of population growth on employment
- impact of population growth on economic growth.

Level 1 ([1]–[5])
Candidate shows very limited understanding of the arguments for and against the view that the UK government should attempt to influence population growth. There is no significant evaluation of the issues and quality of written communication is limited.

Level 2 ([6]–[10])
Candidate provides some understanding of the arguments for and against the view that the UK government should attempt to influence population growth. There is a degree of evaluation and quality of written communication is satisfactory.

Level 3 ([11]–[15])
Candidate provides a clear and comprehensive understanding of the arguments for and against the view that the UK government should attempt to influence population growth. There is significant evaluation and judgement and quality of written communication is of a high standard. [15] 40

3 Government failure is worse than market failure

(a) Market failure occurs whenever the market mechanism leads to an inefficient or inequitable allocation of resources. This means that the wrong products are produced or they are produced in an inefficient manner.

Markets may fail for a variety of reasons including a lack of information on the part of consumers or producers, because of the existence of barriers to entry or because of the existence of externalities.

Examples of market failure include the existence of monopolies, the failure to provide public goods, the under provision of merit goods and an unequal distribution of income and wealth.

Appropriate development:
- definition and explanation of market failure
- causes of market failure
- examples of market failure
- reference to measures of efficiency
- appropriate diagrams.

Level 1 ([1]–[3])
Candidate shows little knowledge or understanding of the term market failure. There is at best a seriously flawed definition and little development through relevant examples, or technical language. Quality of written communication is limited.

Level 2 ([4]–[7])
Candidate shows some knowledge or understanding of the term market failure. There is a credible definition though this may contain minor errors and some development through relevant examples or technical language. Quality of written communication is satisfactory.

Level 3 ([8]–[10])
Candidate shows extensive knowledge or understanding of the term market failure. There is an accurate definition and extensive development through relevant examples, or technical language. Quality of written communication is of a high standard. [10]

(b) A public good is a good (or service) which has the following characteristics:

1. It is **non-rival**: This means that consumption by one person does not reduce the amount available for consumption by another person. The provision of street lighting illustrates the concept of non-rivalry, because if one person uses the light provided by the streetlight it does not prevent another person from benefiting from the light.

2. It is **non-excludable:** This means that once the good/service is provided no person can be excluded from benefiting. Using the example of the streetlight again once the light is provided no person on that street can be prevented from using it.

Since public goods are non-excludable it is impossible to prevent someone from consuming them once they are provided. No rational economic agent would be willing to pay for public goods since it would be in their best interest to wait for someone else to pay for them and they could then free ride on others. Because of this free rider problem public goods would not be provided in a free market economy.

The only way around the problem is for the state to provide public goods and force everyone to pay for them through taxation or other compulsory charges. This is the reason why the government provide street lights, defence, etc.

Issues, analysis and areas for discussion include:
- reference to non excludability
- reference to non rivalry
- reference to the free rider problem
- appropriate examples
- appropriate diagrams
- reference to quasi-public goods.

Level 1 ([1]–[5])
Candidate provides little explanation or analysis of why free markets would fail to provide public goods. There is no significant economic analysis or application and quality of written communication is limited.

Level 2 ([6]–[10])
Candidate provides some explanation or analysis of why free markets would fail to provide public goods. There is a degree of economic analysis and application and quality of written communication is satisfactory.

Level 3 ([11]–[15])
Candidate provides a clear and comprehensive explanation or analysis of why free markets would fail to provide public goods. There is significant economic analysis and application and quality of written communication is of a high standard. [15]

(c) Free market economists argue that while markets sometimes fail to provide efficient outcomes, government intervention to correct these market failures often leads to a loss of economic welfare rather than a gain.

There are a number of reasons why government failure can occur:
- information failure – governments may take action on the basis of inaccurate or misleading information
- conflicting objectives – sometimes the appropriate government intervention is politically unpopular and is therefore ignored
- administration costs – sometimes the cost of administering a policy response is greater than the benefits gained
- market distortions – where intervention to correct a market failure leads to problems in other markets.

However, those who support government intervention argue that appropriate government intervention can reduce the inefficiency or inequality of the market system and can therefore lead to an improvement in economic welfare for all.

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Issues for discussion and evaluation include:
- reference to government failure
- causes of government failure
- information failure
- examples of market failure
- need for some form of government intervention
- administration cost of intervention
- measures of economic welfare
- measures of economic efficiency
- conflicting objectives
- appropriate examples
- appropriate diagrams
- regulatory capture.

Level 1 ([1]–[5])
Candidate shows little understanding of the arguments for and against the view that that government intervention to correct market failure is likely to make matters worse. There is little, if any, reference to real world examples, no significant evaluation of the issues and quality of written communication is limited.

Level 2 ([6]–[10])
Candidate provides some understanding of the arguments for and against the view that government intervention to correct market failure is likely to make matters worse. There is some attempt to relate the answer to real world examples, and a degree of evaluation. Quality of written communication is satisfactory.

Level 3 ([11]–[15])
Candidate provides a clear and comprehensive understanding of the arguments for and against the view that government intervention to correct market failure is likely to make matters worse. The answer is well illustrated by reference to real world examples and there is significant evaluation and judgement. Quality of written communication is of a high standard. [15] 40

4 Gap between rich and poor widens

(a) Price elasticity of supply measures how responsive quantity supplied is to a change in price.

It is calculated by dividing the percentage change in quantity supplied by the percentage change in price.

Appropriate development:
- calculation
- relevance of numerical values
- diagrams
- examples of elastic and inelastic products/factors.

Level 1 ([1]–[3])
Candidate shows little understanding of the term price elasticity of supply. There is no significant development and quality of written communication is limited.

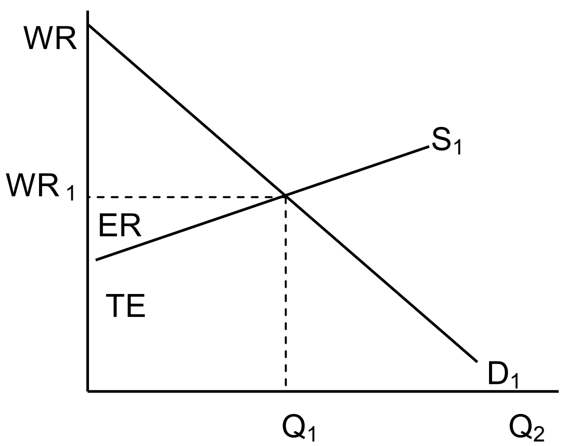
Level 2 ([4]–[7])
Candidate shows some understanding of the term price elasticity of supply. There is a degree of development and quality of written communication is satisfactory.

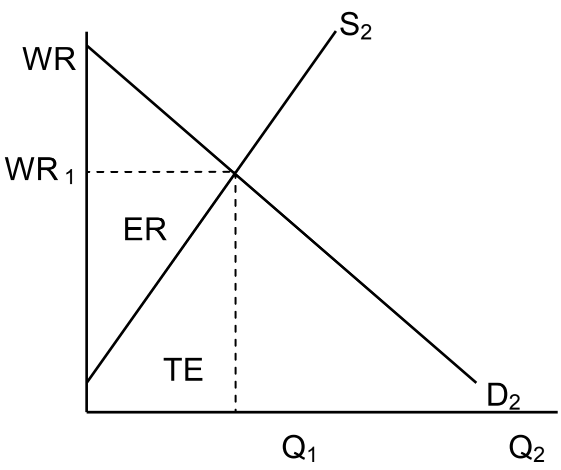
Level 3 ([8]–[10])
Candidate shows clear understanding of the term price elasticity of supply. There is significant development and quality of written communication is of a high standard. [10]

(b) Economic rent is defined as any payment to a factor of production over and above the minimum necessary to secure its services. Transfer earnings are the minimum reward required to keep a factor of production in its current use.

If the supply of a factor is price elastic then most of the reward paid to the factor will consist of transfer earnings, whereas if the supply of a factor is price inelastic then most of the reward paid will consist of economic rent.

This is shown on the diagrams below.





Issues, analysis and areas for discussion include:
- definition of economic rent
- definition of transfer earnings
- reference to factors of production
- appropriate diagram(s)
- numerical example
- appropriate examples.

Level 1 ([1]–[5])
Candidate provides little explanation of how the price elasticity of supply for labour influences how wages are divided between economic rent and transfer earnings. An attempt is made to represent this in a diagram but it may contain significant errors. There is no significant economic analysis and quality of written communication is limited.

Level 2 ([6]–[10])
Candidate provides some explanation of how the price elasticity of supply for labour influences how wages are divided between economic rent and transfer earnings. An attempt is made to represent this in a diagram but it may contain some minor errors. There is a degree of economic analysis and quality of written communication is satisfactory.

Level 3 ([11]–[15])
Candidate provides a clear and comprehensive explanation of how the price elasticity of supply for labour influences how wages are divided between economic rent and transfer earnings. A clear and accurate diagram is drawn. There is significant economic analysis and quality of written communication is of a high standard. [15]

(c) There are a range of policies which the government use to reduce poverty, these include changes to the tax and benefit system to redistribute income from the rich to the poor and policies such as the national minimum wage. Other policies include attempts to reduce unemployment and the provision of merit goods such as education.

Issues for analysis include:
- discussion of national minimum wage or living wage
- explanation of progressive taxation
- disincentive effects of high tax
- laffer curve effects of high taxation
- discussion of benefits in kind and cash
- means testing
- provision of merit goods such as housing and education
- discussion of measures to reduce unemployment.

Level 1 ([1]–[5])
Candidate displays little understanding of the policies governments can use to reduce income inequality. There is no significant evaluation of the issues and quality of written communication is limited.

Level 2 ([6]–[10])
Candidate provides some understanding of the policies governments can use to reduce income inequality. There is a degree of evaluation and quality of written communication is satisfactory.

		AVAILABLE MARKS
Level 3 ([11]–[15]) Candidate provides a clear and comprehensive understanding of the policies governments can use to reduce income inequality. There is significant evaluation and judgement and quality of written communication is of a high standard.	[15]	40
	Total	**80**