



Rewarding Learning

**ADVANCED SUBSIDIARY (AS)
General Certificate of Education
2014**

Economics

Assessment Unit AS 1

Markets and Prices

[AE111]

TUESDAY 3 JUNE, MORNING

**MARK
SCHEME**

General Marking Instructions

Introduction

Mark schemes are published to assist teachers and students in their preparation for examinations. Through the mark schemes teachers and students will be able to see what examiners are looking for in response to questions and exactly where the marks have been awarded. The publishing of the mark schemes may help to show that examiners are not concerned about finding out what a student does not know but rather with rewarding students for what they do know.

The Purpose of Mark Schemes

Examination papers are set and revised by teams of examiners and revisers appointed by the Council. The teams of examiners and revisers include experienced teachers who are familiar with the level and standards expected of students in schools and colleges.

The job of the examiners is to set the questions and the mark schemes; and the job of the revisers is to review the questions and mark schemes commenting on a large range of issues about which they must be satisfied before the question papers and mark schemes are finalised.

The questions and the mark schemes are developed in association with each other so that the issues of differentiation and positive achievement can be addressed right from the start. Mark schemes, therefore, are regarded as part of an integral process which begins with the setting of questions and ends with the marking of the examination.

The main purpose of the mark scheme is to provide a uniform basis for the marking process so that all the markers are following exactly the same instructions and making the same judgements in so far as this is possible. Before marking begins a standardising meeting is held where all the markers are briefed using the mark scheme and samples of the students' work in the form of scripts. Consideration is also given at this stage to any comments on the operational papers received from teachers and their organisations. During this meeting, and up to and including the end of the marking, there is provision for amendments to be made to the mark scheme. What is published represents this final form of the mark scheme.

It is important to recognise that in some cases there may well be other correct responses which are equally acceptable to those published: the mark scheme can only cover those responses which emerged in the examination. There may also be instances where certain judgements may have to be left to the experience of the examiner, for example, where there is no absolute correct response – all teachers will be familiar with making such judgements.

General Marking Instructions

This mark scheme is intended to ensure that the AS examinations are marked consistently and fairly. The mark scheme provides examiners with an indication of the nature and range of candidate responses likely to be worthy of credit. It also sets out the criteria which they should 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. Some material may be included in the mark scheme for the benefit of teachers and pupils preparing for future examinations. Candidates are not expected to have provided this information. Such material is printed in the mark scheme in italics.

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 to 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.

Making calculations

In marking answers involving calculations, examiners should apply the “own figure rule” so that 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 all 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 selects 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 (a) Economic resources are the assets that a country has available to produce goods and services to meet the needs of society. These resources are often referred to as the factors of production and include:

Land – includes all the natural physical resources, e.g. oil and gas deposits

Labour – refers to the stock of labour in an economy

Capital – refers to fixed and working capital and infrastructure

Enterprise – the skills of the entrepreneurs who use factors to produce goods and services

The term scarcity refers to the fact that there are not enough resources to satisfy the wants of the population and therefore choices must be made.

[2] For explanation of economic resources or factors of production

[2] For explanation of scarcity

[4]

- (b) The production of shale gas has become economically viable for two reasons:

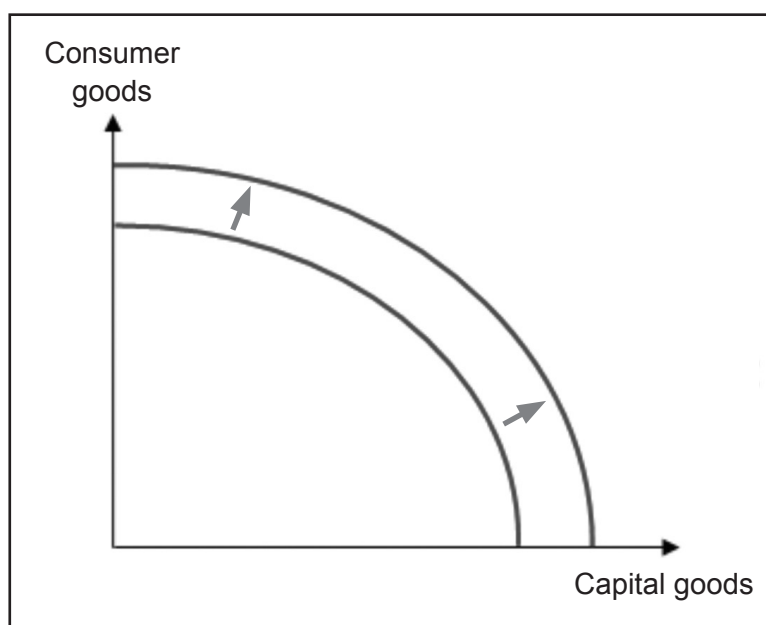
- Advances in technology have lowered the cost of extracting the gas from the shale rock.
- High wholesale gas prices have increased the profits available from exploiting the gas reserves.

[2] For reference to reduced production costs

[2] For reference to increased returns as a result of higher gas prices

[4]

- (c) A PPF shows the maximum combination of two or more goods a country can produce using all its resources efficiently. The exploitation of shale gas would lead to an increase in the quantity of resources available to the economy and therefore increase the country's productive potential. This can be represented by a shift of the PPF to the right. This is illustrated in the diagram below.



Level 1 ([1]–[2])

Candidate shows little understanding of the likely impact of exploiting natural gas reserves on Northern Ireland's productive potential. No attempt is made to represent this in a diagram or if an attempt is made it will contain significant errors. Quality of written communication is limited.

Level 2 ([3]–[4])

Candidate shows some understanding of the likely impact of exploiting natural gas reserves on Northern Ireland's productive potential. An attempt is made to draw a diagram but this may contain minor errors. Quality of written communication is satisfactory.

Level 3 ([5]–[6])

Candidate shows comprehensive understanding of the likely impact of exploiting natural gas reserves on Northern Ireland's productive potential. This is represented in an accurately drawn diagram. Quality of written communication is of a high standard. [6]

- (d) The source identifies a number of reasons why the move towards shale gas production could be considered to be bad for the environment:
- The fracking process used to release the gas can cause poisonous chemicals to leak into local water supplies
 - The fracking process can also create minor earthquakes
 - By depressing energy prices, shale gas production may divert investment away from renewable energy sources and therefore slow the carbon reduction process.
 - Shale gas wells can leak significant amounts of methane gas, which is a potent greenhouse gas. When the methane leaks caused by fracking are taken into consideration, the atmospheric warming effects of shale gas could be greater than that of coal.

Level 1 ([1]–[2])

Candidate provides little explanation of why the move towards shale gas production could be considered to be bad for the environment. At this level the candidate may simply quote directly from the source without any independent explanation. Quality of written communication is limited.

Level 2 ([3]–[4])

Candidate provides some explanation of why the move towards shale gas production could be considered to be bad for the environment. Quality of written communication is satisfactory.

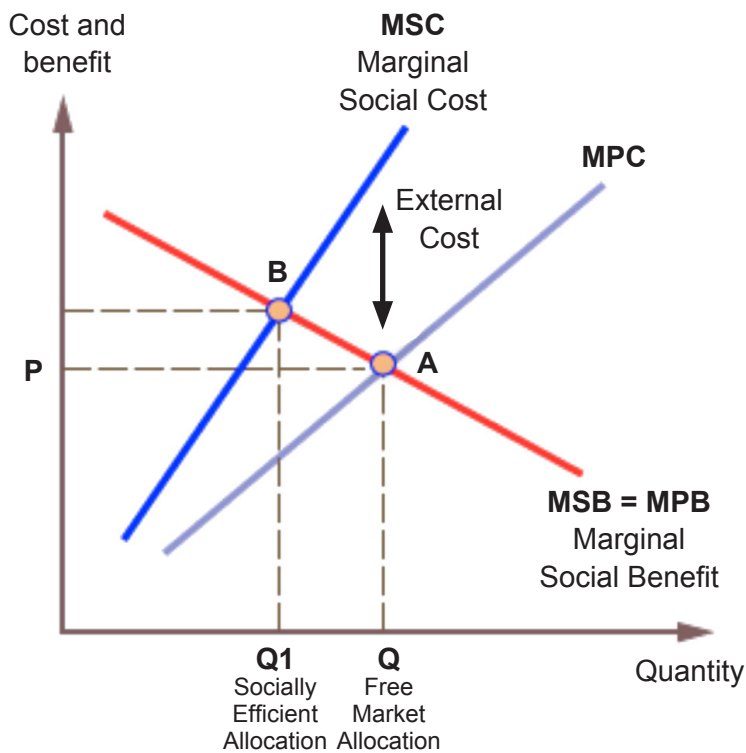
Level 3 ([5]–[6])

Candidate provides a clear and comprehensive explanation why the move towards shale gas production could be considered to be bad for the environment. At this level the candidate is likely to identify at least 3 reasons and will provide a clear explanation of each reason. Quality of written communication is of a high standard. [6]

- (e) Market failure occurs whenever the market mechanism leads to an inefficient or unequal allocation of resources.

Allocative efficiency is achieved when the cost of producing a good is equal to the value consumers place on the good which is reflected in the price they are willing to pay. The production of shale gas produces significant external costs, which means that the marginal social cost (MSC) of production is significantly higher than the marginal private cost (MPC). In a free market firms will produce at point A where MPC is equal to the MSB (demand) as shown on the diagram.

However this level of production represents an inefficient allocation of resources since the price does not equal the marginal social cost of production. The only point at which price equals MSC is point B.



Level 1 ([1]–[2])

Candidate shows little understanding of why economists believe that shale gas production may lead to market failure. No attempt is made to represent this in a diagram or if an attempt is made it will contain significant errors. Quality of written communication is limited.

Level 2 ([3]–[5])

Candidate shows some understanding of why economists believe that shale gas production may lead to market failure. The diagram will support the analysis but may contain some minor errors. Quality of written communication is satisfactory.

Level 3 ([6]–[8])

Candidate shows comprehensive understanding of why economists believe that shale gas production may lead to market failure. This analysis is supported by a clear and accurate diagram. Quality of written communication is of a high standard. [8]

- (f) There are a number of policies that the government could use to reduce the negative environmental impact of shale gas production. The source refers to regulation and the imposition of fines for polluting firms. Alternative policies include environmental taxation, the use of tradable pollution permits, the provision of subsidies and the extension of property rights. Each of these policies has its strengths and weaknesses - however most economists would argue that the best policy is one which would internalize the externality and make the polluter pay the full social cost of production.

Issues, analysis and areas for discussion include:

- Use of environmental taxes
- Tax avoidance
- The effectiveness of regulation
- Admin costs of tradable permits
- Impact on price
- Impact on efficiency
- Reference to government failure
- Appropriate examples
- Appropriate diagrams

Level 1 ([1]–[4])

Candidate shows little understanding of the policies the government could use to reduce the environmental impact of shale gas production. 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 policies the government could use to reduce the environmental impact of shale gas production. 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 policies the government could use to reduce the environmental impact of shale gas production. There is significant evaluation and judgement and quality of written communication is of a high standard. [12]

AVAILABLE
MARKS

40

2 Government intervention required to make markets work better.

- (a) A free market economy is an economic system which resolves the basic economic problem mainly through the market / price mechanism.

In a free market economy the relative price of a good is a key factor in determining what goods will be produced, how those goods will be produced and for whom the goods will be produced. The government do not interfere with the allocation of resources in a free market economy.

In a mixed economy most goods are allocated through the price mechanism; however the government has a more defined role in the allocation of resources. In mixed economies the government often intervene in markets such as health and education. Examples of mixed economies include the UK, Sweden and France.

Level 1 ([1]–[3])

Candidate shows little knowledge or understanding of the difference between a free market economy and a mixed economy. There is 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 difference between a free market economy and a mixed economy. There is an attempt to define both types of economic system, though these may contain minor errors. The answer contains 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 difference between a free market economy and a mixed economy. The answer contains accurate definitions and extensive development through relevant examples, or technical language. Quality of written communication is of a high standard. [10]

- (b) The basic economic problem can be summed up in the phrase, scarcity and choice. The fact that human wants are infinite, but the resources available to satisfy these wants are finite, results in society making choices. In a free market economy this basic economic problem is resolved mainly through the market / price mechanism. The signalling, rationing and distribution functions of the price mechanism answer the questions of what, how and for whom?

Issues, analysis and areas for discussion include:

- Reference to finite resources and infinite wants
- Reference to questions of what how and for whom?
- Features of a free market
- Impact of changes in demand and supply on price and output
- Analysis of factor and product markets
- Analysis of role of price and profit
- Analysis of utility maximisation by consumers and profit maximisation by firms
- Appropriate diagrams and examples

Level 1 ([1]–[5])

Candidate provides little explanation of how the free market deals with the basic economic problem. There is no significant economic analysis and quality of written communication is limited.

Level 2 ([6]–[10])

Candidate provides some explanation of how the free market deals with the basic economic problem. 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 free market deals with the basic economic problem. There is significant economic analysis and quality of written communication is of a high standard. [15]

- (c) The case for free markets is based on the view that they are likely to successfully and efficiently deliver a wide variety of goods and services in the right quantity and at a price that consumers are willing to pay. Hence a free market is assumed to lead to both allocative and productive efficiency.

However some economists argue that free markets often fail to provide efficient or equitable outcomes. This market failure has many causes such as the existence of externalities, or barriers to entry, or a lack of information on behalf of consumers or producers. 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.

Issues for discussion and evaluation include:

- Reference to market failure
- Examples of market failure
- Reference to government failure
- Causes of government failure
- Information 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

Level 1 ([1]–[5])

Candidate shows little understanding of the arguments for and against the view that it is only with the aid of significant government intervention that markets can produce efficient and equitable outcomes. There is little 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 it is only with the aid of significant government intervention that markets can produce efficient and equitable outcomes. 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 it is only with the aid of significant government intervention that markets can produce efficient and equitable outcomes. 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]

AVAILABLE
MARKS

40

3 Environmentalists call for subsidies to promote cycling.

- (a) Price elasticity of demand measures how responsive quantity demanded is to a change in price.

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

Appropriate development

- Calculation
- Relevance of numerical values
- Diagrams
- Examples of elastic and inelastic products

Level 1 ([1]–[3])

Candidate shows little understanding of the term price elasticity of demand. 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 demand. 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 demand. There is significant development and quality of written communication is of a high standard. [10]

- (b) An indirect tax is a tax which is levied on a good or service. When considering the impact of an increase in tax on fuel, governments may make use of estimates of elasticity in a number of ways:
- The government will use estimates of PED and PES to determine the likely impact of the increased tax on the price of petrol and diesel.
 - They will also use the concepts of PED and PES when considering the likely impact of the tax increase on the quantity of fuel consumed.
 - *Governments may use estimates of tax price elasticity of demand rather than the traditional price elasticity of demand as evidence seems to suggest that consumers are more responsive to a price increase caused by higher tax than to a similar price increase caused by non-tax factors.*
 - The government will use estimates XED to determine the likely impact of a tax increase on petrol and diesel on a range of other markets including

- The market for petrol/diesel powered cars
 - The market for electric cars
 - The market for biofuels
 - The market for other forms of transport such as buses and trains
- Because the price of fuel has a large impact on real disposable income the government may also use estimates of YED to determine the likely impact of fuel price increases on patterns of consumer expenditure.

Issues, analysis and areas for discussion include:

- Definition/explanation of indirect tax
- Reference to specific and Ad valorem taxes
- Reference to use of PED and PES in estimating the impact of tax increases on prices
- Use of elasticity estimates to measure the impact on consumer and producer welfare
- Calculation of incidence using elasticity values
- Reference to use of XED to estimate impact on a range of related markets
- Use of appropriate diagrams
- Appropriate examples

Level 1 ([1]–[5])

Candidate provides little explanation of how estimates of elasticity might be useful to a government considering increasing tax on petrol and diesel. There is no significant economic analysis and quality of written communication is limited.

Level 2 ([6]–[10])

Candidate provides some explanation how estimates of elasticity might be useful to a government considering increasing tax on petrol and diesel. 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 how estimates of elasticity might be useful to a government considering increasing tax on petrol and diesel. There is significant economic analysis and quality of written communication is of a high standard. [15]

- (c) The argument in favour of subsidising cycling is that it will change the behaviour of individuals since it will alter the balance of costs and benefits involved in the different modes of transport. Subsidising cycling through schemes *such as grants or tax relief on purchases and tax rebates for distance travelled* will provide an incentive for individuals to cycle rather than drive or take public transport and could therefore help reduce congestion and pollution.

Others argue that subsidies are unlikely to be successful in changing behaviour as the demand for cycling is relatively inelastic. The financial cost to the individual of cycling is already quite low when compared to other forms of transport, subsidising this further is unlikely to alter the behaviour of those who currently drive at peak times. They argue that there are a range of

alternative measures which might be more effective in encouraging cycling. Examples include the provision of cycling lanes, the introduction of a “borrow a bike” scheme such as that introduced recently in London, positive advertising on the benefits of cycling etc.

Issues for discussion and evaluation include:

- PED for cycling
- XED between cycling and other modes of transport
- Impact of issues such as climate, road safety, etc on decision making
- Opportunity cost of subsidy
- Administration cost of subsidy
- Problem involved in ensuring that those who apply for the subsidy actually cycle rather than drive
- Appropriate examples
- Discussion of alternative policies, e.g. the Borrow a Bike Scheme
- Appropriate diagrams

Level 1 ([1]–[5])

Candidate displays little understanding of the case for and against the view that subsidies are the most effective way of encouraging cycling. 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 case for and against the view that subsidies are the most effective way of encouraging cycling. 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 case for and against the view that subsidies are the most effective way of encouraging cycling. There is significant evaluation and judgement and quality of written communication is of a high standard.

[15]

40

4 Public sector workers in poorer areas to be paid less under new government proposals.

- (a) The market equilibrium wage rate is the wage rate that equalises the demand for labour and the supply of labour. At the equilibrium wage rate the number of workers who are willing to take employment is equal to the number of jobs available.

Appropriate development

- Explanation that demand for labour is derived from the demand for the product
- Explanation of equilibrium and disequilibrium
- Reference to factors which could cause demand or supply of labour curves to shift
- Reference to backward bending supply curve
- Appropriate diagrams
- Relevant examples

Level 1 ([1]–[3])

Candidate shows little understanding of the market clearing wage rate. There is no significant development and quality of written communication is limited.

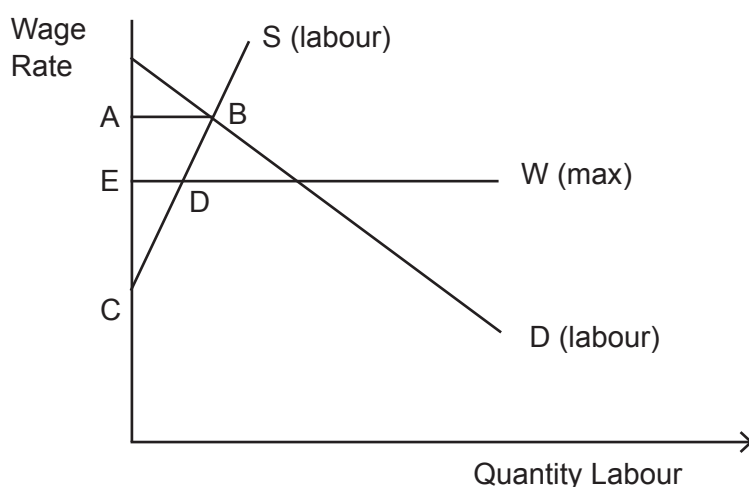
Level 2 ([4]–[7])

Candidate shows some understanding of the market clearing wage rate. There is a degree of development and quality of written communication is satisfactory.

Level 3 ([8]–[10])

Candidate shows clear understanding of the market clearing wage rate. 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. A maximum wage is a legally enforced wage ceiling above which wages cannot go. Prior to the introduction of a maximum wage (which is below the equilibrium wage of highly paid workers) economic rent is equal to the area above the labour supply curve and below the equilibrium wage rate. This is shown as the area ABC on the diagram below. After the introduction of the maximum wage, the wage paid to workers decreases to W(MAX). As a result economic rent decreases to area CDE.



Obliviously a maximum wage set above the equilibrium will have no impact on the labour market and therefore no impact on economic rent.

Issues, analysis and areas for discussion include:

- Definition of economic rent
- Reference to transfer earnings
- Reference to impact of PES of labour
- Appropriate diagram
- Numerical example
- Appropriate examples

Level 1 ([1]–[5])

Candidate provides little explanation of the impact of a maximum wage on the economic rent of highly paid workers. 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 the impact of a maximum wage on the economic rent of highly paid workers. 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 the impact of a maximum wage on the economic rent of highly paid workers. A clear and accurate diagram is drawn. There is significant economic analysis and quality of written communication is of a high standard. [15]

- (c) The current government have proposed introducing regional pay scales for public sector workers on the basis that national pay scales hinder the efficient reallocation of resources through the market mechanism. They argue that national pay scales make a job such as teaching much more attractive in a low cost of living area such as NI, than the same job in a high cost of living area such as London. This therefore makes it difficult to recruit suitably qualified teachers in London and at the same time leaves a glut of qualified teachers searching for jobs in NI. (*In NI over 4000 recently qualified teachers are unemployed and places in teacher training colleges are massively oversubscribed*). They also argue that national pay scales are unfair since workers in low cost of living areas enjoy a higher standard of living than similar workers in high cost of living areas.

Those opposed to regional pay, however argue that it will lead to a brain drain from poorer areas and will widen the gap between wages in the richest and poorest areas. They also argue that it is unfair to pay people in different regions different salaries for doing the exact same job. Finally they also argue that regional pay could actually increase the total public sector wage bill as wages are likely to increase faster in higher cost of living areas and that wages are likely to fall in low cost of living areas.

Issues for discussion and evaluation include:

- Reference to national pay scales causing excess demand in some areas and excess supply in others
- References to efficiency or otherwise of national pay scales
- Reference to impact of national public sector pay scales on private sector employment patterns
- Difficulty in measuring accurately regional cost of living
- Reference to equity
- Reference to impact on income inequality between regions
- Reference to brain drain
- Reference to likely impact of lower real wages on already depressed areas
- Reference to impact of regional pay scales on quality of staff recruited in poorer areas

- Reference to difficulty in implementing regional pay – worker and union resistance
- Appropriate examples
- Appropriate diagrams

Level 1 ([1]–[5])

Candidate displays little understanding of the case for and against the proposal to introduce regional rates of pay for public sector workers. 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 case for and against the proposal to introduce regional rates of pay for public sector workers. 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 case for and against the proposal to introduce regional rates of pay for public sector workers. There is significant evaluation and judgement and quality of written communication is of a high standard. [15]

Total

**AVAILABLE
MARKS**

40

80