



Rewarding Learning

**ADVANCED
General Certificate of Education
2016**

Economics

Assessment Unit A2 1

Business Economics

[AE211]

MONDAY 16 MAY, MORNING

**MARK
SCHEME**

General Marking Instructions

This mark scheme is intended to ensure that the A2 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 schemes should be read in conjunction with these general marking instructions which apply to all papers.

Quality of candidates' responses

In marking the examination paper, examiners will be looking for a quality of response reflecting the level of maturity which may reasonably be expected of 18-year-olds, which is the age at which the majority of candidates sit their A2 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 18-year-old candidates. Conversely, marks should only be awarded for valid responses and not given for an attempt which is completely incorrect and 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.

Marking 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.

Level 4: Quality of written communication is excellent.

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.

Level 4 (Excellent): The candidate successfully selects and uses the most appropriate form and style of writing, supported with precise and accurate use of diagrams where appropriate. Relevant material is extremely well organised with the highest degree of clarity and coherence. There is extensive and accurate use of appropriate specialist vocabulary. Presentation, spelling, punctuation and grammar are of the highest standard and ensure that meaning is absolutely clear.

- 1 (a) AstraZeneca spent £2.6bn on R&D in 2013. This is almost twice the R&D spend of largest firm Johnston and Johnston but is lower than both Pfizer and GSK. Measured in absolute terms, the R&D spend of AstraZeneca is approximately 65% of the largest spender Pfizer.

However if we measure the R&D spend of each company as a proportion of the total sales revenue of the company we can see that “AstraZeneca punches well above its weight when measured on a pro rata basis”.

The £2.6bn spent on R&D by AstraZeneca represents 16.9% of its total revenue which is way above that of second placed Pfizer (12.9%), third placed GSK (9.9%) and last placed Johnston & Johnston (3.3%).

MAX [3] for comparison made only in absolute terms

MAX [2] for comparison made on a pro rata basis

[5]

- (b) The source material identifies a number of reasons why AstraZeneca would be an attractive takeover target for a company such as Pfizer.

- The company holds the patent on a number of popular prescription medicines for the treatment of illnesses such as diabetes, cancer and asthma
- The company has a reputation for innovation and has a number of new treatments in the pipeline
- The company earns very healthy profits on relatively modest revenues
- Pfizer could base the combined company in the UK and therefore take advantage of lower UK tax rates
- There may be significant scope for cost savings across the combined company as they take advantage of economies of scale and potential synergies
- The owners of Pfizer may believe that the current share price significantly undervalues the company – indeed their last offer represented a significant premium on the price at which AstraZeneca’s shares were trading prior to the bid
- Pfizer are facing a “patent cliff” and may wish to purchase rivals in an attempt to secure revenues into the future.

Other potential reasons not mentioned in the source include:

- A desire by Pfizer to grow the company to gain market share and market power
- The bid may simply be the result of egotistical ambitions of the Pfizer board
- *Pfizer has a large cash pile which is held outside the USA which would be liable for corporate tax if it was repatriated* – buying a foreign company such as AstraZeneca represents a tax efficient way of using this money.

Level 1 ([1]–[3])

Candidate shows very limited understanding of why Pfizer would be interested in buying AstraZeneca. There is no significant analysis or application and quality of written communication is limited.

Level 2 ([4]–[7])

Candidate provides some understanding of why Pfizer would be interested in buying AstraZeneca. There is a degree of analysis and application and quality of written communication is satisfactory.

Level 3 ([8]–[10])

Candidate provides a clear and comprehensive understanding of why Pfizer would be interested in buying AstraZeneca. There is significant analysis and application and quality of written communication is of a high standard. [10]

- (c) Governments around the world use the patent system to protect the intellectual property of firms, as they believe that it is the most effective way of encouraging innovation and dynamic efficiency. A patent acts as a barrier to entry and allows innovative firms to earn supernormal profits from their original ideas. If firms were able to simply copy the innovations of rival firms, no rational firm would spend time or money on research and development as it would be in their best interest to free ride on the innovations of others. Therefore in the absence of a patent system there would be little innovation and hence little dynamic efficiency.

Not only do patents and the subsequent supernormal profits provide the incentive for innovation they also provide the funds for continuing innovation. Innovative firms spend much of their supernormal profits on R&D in the hope of developing further product or process innovations that will allow them to continue to earn supernormal profits.

Others however argue that the patent system encourages inefficiency and can reduce innovation as firms can continue to earn supernormal profit on previous innovations. For this reason most patents, particularly in high tech industries and biomedical sciences are time limited. They also argue that patents allow firms to charge higher prices and therefore they reduce the welfare of those who purchase treatments (individual patients or national health providers). Finally critics of the patent system argue that they stifle innovation by reducing the spread of information and limiting cooperation. *Boldrin and Levine argue that the current patent system is so complex and full of perverse incentives that abolishing the patent system and allowing free competition would actually enhance innovation.*

Areas for analysis and development include:

- Link between patents and continuous innovation
- Reference to profit being a reward for successful risk taking
- Impact on efficiency
- Patents as a barrier to entry
- Link to supernormal profit
- Impact on investment and economic growth
- Impact on prices and consumer welfare
- Moral arguments over allowing firms to profiteer at the expense of vulnerable patients
- Administration costs to both governments and companies of the patent system – cost of litigation
- Reference to innovation as a public good and the free rider problem in the absence of a patent system
- Negative impact of patents on information sharing.

Level 1 ([1]–[3])

Candidate shows very limited understanding of the arguments for allowing firms to patent life-saving or life-enhancing drugs. There is no significant analysis, application or evaluation of the issues and quality of written communication is limited.

Level 2 ([4]–[7])

Candidate provides some understanding of the arguments for allowing firms to patent life-saving or life-enhancing drugs. There is a degree of analysis and application and quality of written communication is satisfactory.

Level 3 ([8]–[10])

Candidate provides a clear and comprehensive understanding of the arguments for allowing firms to patent life-saving or life-enhancing drugs. There is significant analysis and application with some degree of evaluation and quality of written communication is of a high standard. [10]

- (d) Those who are opposed to the foreign takeover of UK firms argue that since foreign firms feel no allegiance to the UK they can be bad for the UK economy in a number of ways:
- Foreign takeovers often lead to plant closures and job losses in the UK as the new company seeks cost savings – US company Kraft closed down their UK factories and moved production to eastern Europe despite making promises to keep production in the UK
 - Foreign takeovers lead to lower tax revenues for the UK government as foreign firms are more likely to move their headquarters to a low tax centre – *Boots moved its headquarters to Switzerland after being taken over by KRR at an annual cost of about £80mn in lost tax revenues for the UK exchequer*
 - Some argue that foreign firms are less likely to invest in physical and human capital than indigenous firms
 - When economic conditions become unfavourable foreign firms are more likely to retreat to their home nation
 - Foreign firms have little understanding or respect for UK traditions and systems and as a result foreign takeovers can undermine UK business culture. – *when asked to appear before a Commons Select Committee Kraft CEO Irene Rosenfeld refused stating “appearing before the panel is not the best use of my personal time”*
 - Trade unions argue that pay and conditions often deteriorate in the aftermath of foreign takeovers and this ultimately harms the UK economy. – *Kraft told Cadbury’s staff that they would face a 3 year pay freeze if they refused to opt out of the final salary pension scheme*
 - Foreign firms often buy UK companies to strip their assets and sell them on at a profit. – *Debenhams was bought in 2003 by 2 US based private equity firms who loaded the company with debt, sold off its best assets and then sold the company for a quick profit. The subsequent debt nearly crippled Debenhams and it is only recently that the company has recovered.*

Opponents of foreign takeovers argue that other Western European governments such as France have national interest tests for foreign takeovers which allow them to prevent important national companies falling

under foreign ownership. They believe the UK should adopt a similar test to limit foreign takeovers of UK firms.

There are others however who argue that foreign takeovers are in most cases benign and in some cases may actually benefit the UK economy. Specifically they argue that:

- Foreign firms bring much needed investment to the UK which has a positive impact on the balance of payments and economic growth
- Foreign firms bring experience and expertise to the UK which benefits not only the target company but also other companies who can learn from foreign firms – *Motor firm Bentley was bought by Volkswagen Group who invested heavily in plant and innovation. The performance of Bentley has improved significantly as a result*
- In some cases the pay and conditions in foreign firms is better than that of UK firms
- Foreign takeovers are simply an endorsement of the UK's reputation as an open economy which is a good place to do business – a complete ban would send out a poor message about the UK economy
- Foreign takeovers can lead to higher tax revenues if the combined firm bases itself in the UK as Pfizer had suggested it would.

Areas for analysis and discussion include:

- Reference to possible impact on jobs in UK
- Discussion of possible impact on working conditions
- Reference to possible impact on tax revenues to Exchequer
- Impact of foreign takeovers on macro economy – balance of payments, economic growth etc.
- Reference to cultural differences between UK firms and foreign firms
- Reference to knowledge transfers between UK firms and foreign firms
- Discussion of impact of different motives for takeover – asset stripping, economies of scale, synergies, tax advantages, market power,
- Discussion of difficulty in banning all foreign takeovers and potential for retaliation
- Appropriate examples
- Appropriate diagrams.

Level 1 ([1]–[5])

Candidate displays little understanding of the arguments for or against the view that the UK government should ban foreign takeovers of UK firms. 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 ban foreign takeovers of UK firms. There is a degree of evaluation though this may lack depth or be one sided. 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 ban foreign takeovers of UK firms. There is significant evaluation and judgement and quality of written communication is of a high standard. [15]

2 UK grocery market becomes less concentrated as the big 4 lose market share to discount retailers

- (a) Concentration ratios are the most common method of measuring the concentration of an industry. A concentration ratio measure the combined market share of the top 3, 4 or 10 firms in an industry. Market share is defined as the proportion of total sales in a market that is accounted for by a particular brand, product or company. It is normally calculated by taking a company's sales revenue and dividing it by the total value of sales in that particular market. Alternatively it can be calculated by taking the company's total volume of sales and dividing it by the total volume of units sold in that market.

While these estimates of market share are very useful, they are not without their problems. For example:

- The figure calculated will vary according to whether it is based on the value of sales or the volume of sales. To illustrate this, consider the likely market share for Marks and Spencer. It should be fairly obvious that a calculation of market share based on the value of sales would give a much higher figure than one based on the volume of sales. This is because Marks and Spencer is likely to sell significantly less groceries than firms such as ASDA. However each unit sold by Marks and Spencer is likely to be of a much higher value.
- When trying to measure the market share of a company like Tesco, you need to consider whether the market you are measuring is for food, groceries or general consumer goods.
- You also need to consider whether the market you are measuring is the local market, the regional market or the national market. For example, while Tesco has a UK national market share of approximately 30.4%, its market share may be significantly larger in some smaller geographical areas.

If the market leaders own a large proportion of the market the market is described as highly concentrated. By contrast where the market leader has a small proportion of the market, the market could be described as highly competitive.

Areas for analysis and discussion include:

- Definition of concentration ratio
- Definition of market share
- Explanation of how market share and market concentration are measured
- Numerical example
- Reference to differences in figures based on value and volume
- Reference to difficulties in measuring market share, e.g. setting geographical boundaries or setting product boundaries
- Reference to alternative concentration ratios – employment, etc.
- Appropriate examples.
- Reference to alternative Measures of Market Concentration, e.g. MMI

Level 1 ([1]–[5])

Candidate shows little understanding of how an economist would measure the concentration of the UK grocery market. Quality of written communication is limited.

Level 2 ([6]–[10])

Candidate shows some understanding of how an economist would measure the concentration of the UK grocery market. Quality of written communication is satisfactory.

Level 3 ([11]–[15])

Candidate shows detailed and comprehensive understanding of how an economist would measure the concentration of the UK grocery market. Quality of written communication is of a high standard.

[15]

- (b) A reduction in market concentration is normally assumed to be good for consumers on the grounds that the consequent increase in competition will lead to lower prices, higher quality goods and services, greater innovation and greater choice.

On the other-hand lower levels of concentration can disadvantage consumers since the firms may be less likely to avail of economies of scale which in turn could lead to higher prices for consumers.

Areas for analysis and discussion include:

- Impact on efficiency – static and dynamic
- Impact on prices
- Impact on quality
- Impact on choice – product range may actually fall in less concentrated markets as firms focus on core products
- Increased concentration does not necessarily mean less competition, some highly concentrated industries are fiercely competitive
- Analysis of economies of scale
- Impact on consumer surplus
- Impact on suppliers
- Appropriate diagrams
- Appropriate examples.

Level 1 ([1]–[7])

Candidate shows little understanding of the view that consumers will benefit from the reduced concentration of the UK grocery market. There is no significant application, analysis or evaluation and quality of written communication is limited.

Level 2 ([8]–[13])

Candidate shows some understanding of the view that consumers will benefit from the reduced concentration of the UK grocery market. There is some attempt at analysis and evaluation and quality of written communication is satisfactory.

Level 3 ([14]–[19])

Candidate shows in-depth understanding of the view that consumers will benefit from the reduced concentration of the UK grocery market. There is significant application, analysis and evaluation of the arguments and quality of written communication is of a high standard.

Level 4 ([20]–[25])

Candidate shows clear and comprehensive understanding of the view that consumers will benefit from the reduced concentration of the UK grocery market. There is a thorough analysis and evaluation of the arguments and they are clearly applied to the UK grocery market. Quality of written communication is excellent.

[25]

AVAILABLE
MARKS

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3 Diseconomies of scale are a thing of the past

- (a) The short run is the period of time whenever the input of at least one factor is fixed. The short run average and marginal cost curves are U shaped because of the law of diminishing returns. The law of diminishing returns states that as increasing quantities of a variable factor are added to a given quantity of a fixed factor, marginal product will at first increase but will eventually diminish. This in turn causes marginal and average costs to fall initially but to eventually increase. Hence these curves are normally U shaped.

Areas for analysis and discussion include:

- Distinction between short run and long run
- Distinction between fixed and variable costs
- Law of diminishing returns
- Analysis of link between MC and AC
- Link between marginal product and marginal cost
- Numerical example to illustrate diminishing returns
- Appropriate diagrams.

Level 1 ([1]–[5])

Candidate shows little understanding of the shape of a firm's short-run average and marginal cost curves. Quality of written communication is limited.

Level 2 ([6]–[10])

Candidate shows some understanding of the shape of a firm's short-run average and marginal cost curves. However this may be incomplete or contain errors. Quality of written communication is satisfactory.

Level 3 ([11]–[15])

Candidate shows detailed and comprehensive understanding of the shape of a firm short-run average and marginal cost curves. Quality of written communication is of a high standard. [15]

- (b) Diseconomies of scale are the disadvantages of increased size which lead to increasing average costs. Diseconomies of scale can be either internal or external. Internal diseconomies of scale are normally assumed to be the result of management problems. For example:
- In a large organisation it can be difficult to co-ordinate the work of a whole range of different sections and therefore some workers may be underutilised.
 - Large organisations often experience communication problems and therefore important information may get lost or delayed.
 - It is also difficult to keep an eye on every worker in a large organisation and therefore organisational slack may occur.
 - In large organisations industrial relations can deteriorate and worker morale can suffer which reduces productivity.

It could be argued that advances in technology have made communication systems more effective and have made it easier for firms to keep an eye on staff to ensure slack does not occur. Technology has also made it easier to produce detailed production plans to ensure that workers are fully utilised at all times.

Improved management techniques should also help to maintain effective industrial relations which should in turn motivate staff and improve productivity.

The use of outsourcing also allows the firm to grow its output without experiencing the increased cost associated with employing additional workers/resources directly.

It has also been argued that the increased globalisation of markets has significantly reduced the significance of external diseconomies of scale.

However experience would seem to suggest that when firms grow beyond a certain point they are likely to experience diseconomies of scale despite the impact of globalisation or the use of modern management techniques.

Areas for analysis and discussion include:

- definition/explanation of diseconomies of scale
- distinction between internal and external diseconomies
- examples of diseconomies of scale
- reference to how firms could avoid diseconomies of scale
- human resource management
- performance related pay
- use of ICT
- use of outsourcing/off shoring
- full utilisation of technical economies
- impact on LRAC curve
- reference to the difficulties firms face in dealing with external diseconomies
- reference to the maximum efficient scale
- appropriate diagrams
- appropriate examples.

Level 1 ([1]–[7])

Candidate shows little understanding of the view that modern firms can grow continually without ever experiencing diseconomies of scale. There is no significant analysis, application or evaluation and quality of written communication is limited.

Level 2 ([8]–[13])

Candidate shows some understanding of the view that modern firms can grow continually without ever experiencing diseconomies of scale. There is some attempt at analysis, application and evaluation and quality of written communication is satisfactory.

Level 3 ([14]–[19])

Candidate shows in-depth understanding of the view that modern firms can grow continually without ever experiencing diseconomies of scale. There is significant analysis, application and evaluation of the arguments and quality of written communication is of a high standard.

Level 4 ([20]–[25])

Candidate shows clear and comprehensive understanding of the view that modern firms can grow continually without ever experiencing diseconomies of scale. There is thorough analysis, application and evaluation of the arguments and quality of written communication is excellent. [25]

**AVAILABLE
MARKS**

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4 Former regulator claims that UK energy market is over regulated

- (a) A natural oligopoly occurs whenever maximum efficiency is achieved through a small number of suppliers rather than through a large number of competing suppliers.

A natural oligopoly generally occurs in industries where the fixed costs of production are so high that it is not profitable for more than a few firms to enter and compete.

In the UK energy industry there is a “natural” reason for the market being oligopolistic, namely that the Minimum Efficient Scale (MES) occurs at such a large proportion of total output that only a small number of firms could produce at the point where AC are minimised. For example if the MES occurred at 30% of the total output of the energy industry then clearly only 3 firms could operate in this industry efficiently.

Areas for analysis and discussion include:

- Definition of oligopoly
- Features of oligopolistic markets – interdependence, non-price competition, barriers to entry etc.
- Definition of natural oligopoly
- Discussion of economies of scale
- Discussion of fixed costs
- Relevant examples
- Relevant diagrams
- Discussion of MES.

Level 1 ([1]–[5])

Candidate shows little understanding of why some industries could be considered natural oligopolies. Quality of written communication is limited.

Level 2 ([6]–[10])

Candidate shows some understanding of why some industries could be considered natural oligopolies but this may be incomplete or contain errors. Quality of written communication is satisfactory.

Level 3 ([11]–[15])

Candidate shows detailed and comprehensive understanding of why some industries could be considered natural oligopolies. Quality of written communication is of a high standard. [15]

- (b) There are a range of measures available to government to deal with the abuse of market power in the UK energy market.

These include:

- The use of regulation and price controls
- The use of taxation
- Breaking the dominant firms up to increase competition
- Removing barriers to entry to make the market more competitive or contestable
- The use of subsidies
- Nationalisation.

Clearly each of these policies has their advantages and disadvantages.

**AVAILABLE
MARKS**

Areas for analysis and discussion include:

- The efficiency of government regulation – as the strap line suggests some feel that the UK energy is over regulated and that this is adding to costs and as a result leading to higher prices
- The difficulty in setting an appropriate price level
- Discussion of regulatory capture
- Evaluation based on contestable markets
- The costs and efficiency of nationalisation
- The opportunity cost of using subsidies
- Welfare implications of taxation
- Reference to UK competition policy – OFGEM, utility regulator in NI, Competition and Markets Authority (formerly the Competition Commission)
- Appropriate examples
- Appropriate diagrams.

Level 1 ([1]–[7])

Candidate shows little understanding of the measures available to government to deal with the abuse of market power in the UK energy market. There is no significant analysis or evaluation and quality of written communication is limited.

Level 2 ([8]–[13])

Candidate shows some understanding of the measures available to government to deal with the abuse of market power in the UK energy market. There is some attempt at analysis and evaluation and quality of written communication is satisfactory.

Level 3 ([14]–[19])

Candidate shows in-depth understanding of the measures available to government to deal with the abuse of market power in the UK energy market. There is significant analysis and evaluation of the arguments and quality of written communication is of a high standard.

Level 4 ([20]–[25])

Candidate shows clear and comprehensive understanding of measures available to government to deal with the abuse of market power in the UK energy market. There is significant evaluation and judgment of the arguments and quality of written communication is excellent.

[25]

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Total

80