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**ECONOMICS (PRINCIPAL)**

**9772/03**

Paper 3 Investigation

**For Examination from 2016**

SPECIMEN MARK SCHEME

**1 hour 15 minutes**

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**MAXIMUM MARK: 40**

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The syllabus is approved for use in England, Wales and Northern Ireland as a Cambridge International Level 3 Pre-U Certificate.

This document consists of **20** printed pages.

The purpose of the investigation paper is to enable candidates to select appropriate economic models, theories and concepts which they apply to the circumstances of the question, and to produce good, logical arguments and draw conclusions. Good essays will have a substantial conclusion which may recognise that various answers are possible or that it is not possible to draw firm conclusions in all cases. The best essays will have conclusions showing insight and originality of thought which is fully applied to the specific question set. The questions are set deliberately to require candidates to plan and structure an answer.

It is expected that candidates will have studied the topic area in some detail and should be aware of recent developments. Therefore, candidates should try to illustrate their arguments with recent and contemporary examples. Examiners should reward these appropriately. Certainly, a well-illustrated essay should score more highly than one which, while being sound in terms of theory used, does not draw on actual events. Very good essays may refer to economic data to support analytical and evaluative points and are likely to make use of international comparisons.

For each question there follows a pre-amble of what is expected from candidates – always remembering that an ‘unexpected but accurate approach’ must be rewarded. A general list of areas that might be included is then given, followed by an example of the sort of answer that would fall into each level of assessment, both in terms of ‘Theory and analysis’ and in terms of ‘Evaluation’.

### Marking criteria for Paper 3

For this paper, marks should be awarded in two categories. The first covers the knowledge and understanding (AO1) of relevant economics, how this is applied (AO2) and how the information/ issues are analysed (AO3) (Theory and analysis) and the second covers the candidate's evaluation (AO4) of the issues involved (Evaluation). Examiners should look to mark the essay holistically and decide into which relevant levels the answer lies. The levels will not necessarily be the same for the two categories.

#### Theory and analysis

Level 4 (18–22 marks)	An excellent answer that shows accurate and comprehensive application of relevant theory. There will be in-depth and coherent analysis. At the top end there will be signs of real insight and/or originality, not normally expected to be seen at this level.
Level 3 (12–17 marks)	An answer that logically addresses the issues involved and generally shows a correct application of the relevant theory. An attempt is made to analyse and there is some depth or coherence but not necessarily both.
Level 2 (6–11 marks)	Some correct application of relevant theory will be shown but there may well be inaccuracies contained within the answer. An appreciation of the need to analyse may be demonstrated, but not much more than this. The answer is likely to lack any real coherence.
Level 1 (1–5 marks)	The answer contains something of relevance to the set question. Theory may be misunderstood, or incorrectly applied. At this level, any analysis shown will be extremely superficial.
Level 0 (0 marks)	Nothing of any relevance to the set question is shown within the answer.

#### Evaluation

Level 3 (13–18 marks)	There is in-depth, coherent, comprehensive and well-balanced evaluation. At the top end there will be signs of real insight and/or originality, not normally expected to be seen at this level.
Level 2 (7–12 marks)	There is a definite attempt to consider various points of view or outcomes for different economic agents or short-run versus long-run consequences etc. but the coverage of these is less than comprehensive.
Level 1 (1–6 marks)	There is some attempt at evaluation but issues are more likely to be stated rather than examined.
Level 0 (0 marks)	There is no evidence of evaluation.

## 1 Transport and the Environment

**Evaluate the extent to which alternative sources of energy, such as biofuels, offer an effective solution to the environmental problems resulting from transport use in the UK.**

**[40]**

Candidates should demonstrate that they understand the nature of alternative energy sources. They should demonstrate a good understanding of the environmental problems resulting from transport use, notably atmospheric emissions and their impact on health and climate. They should understand the concept of externalities and recognise the contribution alternative fuels can make to their reduction. They should use appropriate analytical tools and data to support their arguments. The wider global context is likely to be relevant when considering both the technologies themselves and their likely impact. They should reach a clear and well-supported conclusion on the extent to which alternative energy sources offer an effective solution. Candidates are likely to focus primarily on passenger transport. Those who recognise that freight transport is also part of the problem, and solution, should be rewarded. Analysis may be assisted by the use of diagrams.

**Answers may include:**

**Knowledge** and **understanding** of alternative energy sources and the environmental problems resulting from transport use.

Examples:

- Alternative energy sources, including:
  - biofuels
  - hydrogen
  - electricity generated by:
    - fossil fuels
    - nuclear power
    - renewables
- Negative externalities, including:
  - atmospheric pollution
  - visual and noise pollution
  - blight.

**Application** of alternative energy and environmental problems in a UK transport context.

Examples:

- Existing alternative energy technologies in the UK:
  - biofuel (5% content of existing petrol)
  - electric vehicles
  - renewable electricity generation
- Transport-related environmental problems in the UK:
  - transport emissions growth
  - emissions reduction targets
  - health issues, including growth in respiratory illness
  - range of other non-atmospheric externalities in context.

**Analysis** of the effect of alternative energy on environmental problems.

Examples:

- Use of biofuels:
  - reduced dependence on fossil fuels
  - potential to be renewable and reduce emissions
- Use of electric vehicles:
  - reduced emissions in urban areas – health benefits
  - more efficient use of energy
  - reduced noise pollution
  - potential to use overnight electricity
- Renewable energy generation:
  - reduced emissions on a national and global scale
  - sustainability benefits
- Use of hydrogen fuel cells:
  - reduced emissions
  - increased range and ease of use compared with electric vehicles
- Government measures to encourage use of alternative sources of energy, including:
  - biofuel requirement in petrol (RTFO)
  - subsidy for purchasers of electric vehicles
  - encouragement for renewables:
    - Feed-in-Tariffs
    - Renewable Obligation
    - Renewable Energy Tariffs
    - Renewable Heat Incentive.

Candidates are likely to support their analysis by referring to externalities and arguing that alternative energy sources are likely to reduce the external costs associated with transport use and move transport markets closer to the social optimum. Good candidates are likely to support their analysis with appropriate diagrams as well as relevant and recent data on, for example, the extent to which specific technologies can reduce emissions. They may also refer to the positive externalities generated by the use of government subsidy, regulation and legislation in transport energy markets.

Candidates may also use macroeconomic analysis and consider the impacts on international competitiveness, both positive and negative, of the move away from fossil fuels. They may consider the extra costs of alternative energy sources and/or the comparative advantage enjoyed by the UK in the production of renewables.

**Evaluation** of the extent to which alternative energy sources provide an effective solution to transport-related environmental problems.

Basic evaluation may suggest that alternative energy sources offer a potential solution but that there are many practical obstacles to their widespread use and that progress is therefore likely to be slow. Candidates may also argue that some forms of environmental problem created by transport, such as visual pollution, will be completely unaffected by alternative energy sources.

Stronger candidates are likely to deal more explicitly with the specific obstacles to each energy source and the effectiveness of relevant government policy. They are also likely to deal explicitly with the issue of credibility, in other words the extent to which the potential of relevant technologies is likely to be realised on a sufficient scale and with sufficient speed to meet emissions targets that the UK has committed to.

Evaluation of the case for electric cars is likely to consider the fact that electric cars are more expensive than petrol equivalents, thus the concept of price elasticity of demand will be useful in examining the impact of government subsidy. Income elasticity will also be relevant here when considering the link between the switch to alternatives by consumers and the link to economic growth. Economies of scale may also be used to argue that the relative prices of fossil-fuelled and electric cars may move closer over time. Practical issues are also likely to be relevant, such as range and charging facilities. Candidates who support their analysis with relevant data, such as the percentage of daily journeys that are within the range of electric vehicles, should be rewarded. Candidates may make the point that the emissions are simply transferred from the vehicle to the power station, although this depends on the efficiency of energy use (approx. 25% better in an electric vehicle) and the way in which the vehicle is charged (particularly if it is charged at night).

The issue of electricity generation also offers considerable scope for evaluation with the issue of the practicality of renewable usage likely to be at the fore. Stronger candidates are likely to recognise that the attractiveness of renewables is closely linked to the market price of oil and gas. Political issues relating to the siting and operation of renewable energy sources, and the externalities involved therein, could be discussed, along with the even more contentious issue of nuclear power. Whilst this general discussion is very relevant to the question, candidates should not lose sight of the transport context stated in the question.

Biofuel and hydrogen use could also provide a source of discussion, particularly in terms of the energy used in their production and the extent to which their use is likely to reduce emissions overall.

Candidates may consider the wider context of transport emissions and question whether the use of alternative energy by domestic users in the UK is likely to have a significant impact on emissions. There is no obvious solution to the issue of aviation emissions, for example, and the global transportation of goods may be beyond the influence of UK consumers and legislators. The argument could also be made that the market will inevitably resolve this problem in the medium to long term as the oil price rises and price signals cause economic agents to change their behaviours. In this context, government intervention may even be harmful to the adoption of alternative fuels due to crowding-out.

Alternatively, the argument could be made that the drive toward alternative fuels masks the real problem, which is our over-use of natural resources, of which fossil fuels are but one. More fundamental lifestyle changes than the simple shift from petrol to electric cars are likely to be required to solve global resource depletion issues.

**Theory and analysis**

Level 4 (18–22 marks)	There is clear evidence of a thorough knowledge of the relevance of alternative energy in a transport context. A range of technologies is considered and their impact on environmental problems analysed in depth. At the top end there should be effective use of supporting theoretical concepts.
Level 3 (12–17 marks)	At least two technologies are analysed, but there is a lack of breadth or depth in some of the analysis and the answer is more likely to read as a prepared list of costs and benefits rather than a well-structured essay. Lacks critical awareness in some areas.
Level 2 (6–11 marks)	Environmental costs of transport and the potential benefits of alternative energy sources are clearly understood, although the analysis may lack effective use of economic concepts and diagrams. There may be some inaccuracies or oversimplifications and/or limited critical awareness.
Level 1 (1–5 marks)	There may well be a misunderstanding of the nature of alternative energy sources and their impact on the environmental problems associated with transport use.
Level 0 (0 marks)	Nothing of any relevance to the set question is shown within the answer.

## Evaluation

Here follows a recap of some of the areas that might be included and a breakdown of what will be expected at the various levels.

Issues include:

- Do the advantages of alternative energy source outweigh their disadvantages?
- Will adoption of alternative energy source in a transport context be relatively rapid and widespread?
- Can the specific obstacles related to individual technologies be overcome?
- Does the switch to electric vehicles simply displace the emissions?
- Is government intervention helpful?
- Are aviation emissions a bigger problem for which alternative energy technology has no ready solution?
- Will the market solve the problem anyway?
- Are more fundamental changes to our lifestyles required?

Level 3 (13–18 marks)	Given the length of this paper, to achieve this level of evaluation there must be significant and comprehensive coverage of several relevant areas. At the top end of this level, there will signs of real in-depth research and/or originality. In all cases there will be a clear conclusion drawn at the end that relates specifically to the set question.
Level 2 (7–12 marks)	At least two relevant issues will be considered in reasonable depth but the overall scope of evaluation leaves areas unexplored and conclusions may lack any rigorous justification.
Level 1 (1–6 marks)	Some of the issues that could be open to evaluation may be introduced into the discussion but there is no attempt to go further than to show an appreciation of the issue – for example, ‘electric vehicles reduce emissions but are too expensive and unpopular with consumers’. There is no attempt to draw together the relevant issues in a conclusion.
Level 0 (0 marks)	There is no evidence of evaluation.

## 2 China and the Global Economy

**Evaluate the extent to which China's future economic growth potential is limited by domestic supply constraints. [40]**

Candidates should demonstrate their understanding of supply constraints and their impact on economic growth. They should understand the nature and extent of China's factor endowments. They should also consider the extent to which these endowments can change over time and analyse the factors that will affect future factor endowments. They should illustrate their answer with specific examples relating to individual factors. They should use appropriate analytical tools and data to support their arguments. They should be able to come to a clear and supported conclusion on the extent to which factor endowments in the present and future will place limits on economic growth. Good candidates are likely to explicitly consider the issues relevant to each factor. Analysis may be assisted by the use of diagrams.

**Answers may include:**

**Knowledge** and **understanding** of supply constraints and the link with economic growth.

Examples:

- Factors of production
- Economic growth and its determinants.

**Application** of supply constraints in a Chinese context.

Examples:

- Land – fertile agricultural land, natural resources, energy generation
- Labour – quantity, age profile, mobility, qualifications
- Capital – quantity, flexibility, restrictions on movement
- Enterprise – business culture, attitude to risk, government support.

**Analysis** of the influence of supply and constraints relating to supply on economic growth in China.

Examples:

- Link between factor endowments and growth:
  - productive potential of the economy
  - supply-side of the economy
- Supply constraints, including:
  - limited natural resources
  - limited energy resources
  - potential shortage of food
  - ageing population
  - skill shortages
  - mobility.

Candidates should be rewarded for supporting their analysis with diagrams. For the higher analytical marks candidates should be able to support their answer with relevant data on, for example, the specific issues relating to individual factors.

**Evaluation** of the extent to which supply constraints will place limits on economic growth.

At the lower end, candidates are likely to conclude that limited resources will always place some limits on growth. Reference may be made to specific examples of limits relevant to China and the impact they may already be having on economic growth potential. There is not likely to be an explicit recognition of the dynamic nature of resource development and use.

At higher levels candidates will recognise that this issue is more complex and has a global dimension. Examples of relevant arguments include:

- The ability of the Chinese economy to command the supply of factors from other economies, particularly raw materials. They may cite the efforts made by China to gain access to, and even control of, mineral resources in, for example, East Africa and Southern Asia.
- The ability of firms to innovate, discovering new technological solutions which ease or remove the limits placed on economic growth by depleted resources.
- The ability of firms to find new reserves of natural resources and/or develop cost effective methods of extracting known reserves.
- The role of the market in making unprofitable resources and technologies more economically viable over time.

Candidates may also discuss the way in which factors are managed and developed within China, specifically:

- Energy resources, and the extent to which China can reduce its dependence on fossil fuels
- Labour shortages, and the extent to which the Chinese education system can anticipate and provide
- Lack of labour mobility and the ability of the state to direct labour resources
- The ageing population and the extent to which savings ratios may change over time.

Sustainability is likely to be a key concept in evaluation, primarily in terms of keeping Chinese growth at current levels for the foreseeable future. Candidates may consider the extent to which state planning contributes to or mitigates against sustainability.

Candidates may also consider other factors that could place limits on growth before the Chinese economy faces a shortage of factors of production. The health of the global economy, particularly global demand for Chinese exports, trade imbalances and currency wars could all be relevant in this context. Internal factors relevant to the Chinese economy could also be discussed, including resistance to full market reform and the possibility of political and social unrest.

## Theory and analysis

Level 4 (18–22 marks)	The answer shows a thorough understanding of the limits within most factor markets. There will be balanced and in-depth analysis which links these limits to economic growth. At the top end of this level, there is likely to be a clear indication of the magnitude of these limits and a timescale over which they are likely to have an effect.
Level 3 (12–17 marks)	A good understanding of at least two factor markets. However, there is a lack of breadth or depth in some of the analysis and the answer is more likely to read as a prepared list of issues rather than a well-structured essay. Lacks critical awareness in some areas.
Level 2 (6–11 marks)	Some understanding of the effects of supply constraints but possibly considering a narrow range of arguments or lacking clear awareness of the current context. Any analysis will be very superficial, for example, arguing that limited energy resources within China at present must place a brake on growth.
Level 1 (1–5 marks)	There is little understanding of why supply constraints could place limits on Chinese growth.
Level 0 (0 marks)	Nothing of any relevance to the set question is shown within the answer.

## Evaluation

Here follows a recap of some of the areas that might be included and a breakdown of what will be expected at the various levels.

Issues include:

- Will supply constraints limit growth in the Chinese economy?
- Will China be able to secure sufficient factors in global markets?
- Will exploration and technology keep pace with global demand for resources?
- To what extent will the market mechanism automatically regulate supply of scarce resources?
- Can China effectively manage its factors to ensure sustainable growth?
- Does state planning increase or decrease sustainability?
- Will other issues intervene to curtail China's economic growth?

Level 3 (13–18 marks)	Given the length of this paper, to achieve this level of evaluation there must be significant and comprehensive coverage of several relevant areas. At the top end of this level, there will signs of real in-depth research and/or originality. In all cases there will be a clear conclusion drawn at the end that relates specifically to the set question.
Level 2 (7–12 marks)	At least two relevant issues will be considered in reasonable depth but the overall scope of evaluation leaves areas unexplored and conclusions may lack any rigorous justification.
Level 1 (1–6 marks)	Some of the issues that could be open to evaluation may be introduced into the discussion but there is no attempt to go further than to show an appreciation of the issue – for example, 'China has limited endowment of factors so this must, at some point, place limits on growth'. There is no attempt to draw together the relevant issues in a conclusion.
Level 0 (0 marks)	There is no evidence of evaluation.

### 3 The Millennium Development Goals and the Post-2015 Development Agenda

**Evaluate the extent to which the Millennium Development Goals and the Post-2015 Development Agenda provide a blueprint for economic growth that can be replicated across all LEDCs.** [40]

Candidates should demonstrate a clear understanding of the Millennium Development Goals (MDGs) and their application to LEDCs and economic growth and the Post-2015 Development Agenda. They should demonstrate the ability to discuss the use of the MDG blueprint to generate economic growth for all LEDCs. Candidates should make use of appropriate analytical tools and data to support their arguments. They should be familiar with the progress of MDGs to date and the developments Post-2015, and should be able to make appropriate use of associated statistics as they focus on the specific question. Knowledge of the specific goals is expected and should be rewarded, as well as highlighting the experiences of specific noteworthy countries.

Candidates should reach a clear and well-supported conclusion on the extent to which the blueprint of the MDGs can be replicated across LEDCs.

Strong responses are likely to consider the validity of the MDGs as a development tool and be able to use a range of LEDC-specific examples to discuss a variety of outcomes. Analysis may be assisted by the use of diagrams.

**Answers may include:**

**Knowledge and understanding** of MDGs and economic growth.

Examples:

- The purpose/nature and details of the MDGs
- The nature of economic growth, LEDCs – definitions, measures, examples
- The Post-2015 Development Agenda.

**Application** of MDGs to LEDCs.

Examples:

- Specific examples from Asia and their experience: e.g. in Bangladesh success in Goal 4: reduce child mortality rates
- Specific examples from sub-Saharan Africa e.g. in Ghanaian success in Goal 2 of primary enrolment
- Specific examples from Latin America e.g. Chile in achieving Goal 1: poverty reduction.

**Analysis** of the link between MDGs and the blueprint they offer for growth.

Examples:

- A discussion at the ease/difficulty that current LEDCs have found in achieving the MDGs as a path for economic growth
- Improving mortality, malaria, HIV/AIDS:
  - Link to economic growth but within the context of a blueprint for other countries to follow
- Environmental sustainability
  - Government commitment to this cause
  - Short term versus long term concerns as a blueprint for growth
- Gender Equality
  - Link between female empowerment and economic growth.

Good candidates are likely to support their analysis with relevant diagrams. As this question is specifically about whether countries can use the MDGs and the Post-2015 Development Agenda as a blueprint for economic growth – a candidate who uses the aims of the MDGs with their resultant effects on AD/AS and thus economic growth, but crucially includes links to the specific issues of whether this can be replicated, should be rewarded.

Candidates should also be able to support their answer with relevant data as to the current success of the MDGs in not only delivering economic growth but specifically whether countries will struggle to, or easily replicate, the blueprint the MDGs offer.

**Evaluation** of the extent to which the Millennium Development Goals and the Post-2015 Development Agenda provide a blueprint for economic growth that can be replicated across all LEDCs.

Basic responses will, broadly speaking, accept the premise of the question arguing that the MDGs blueprint is easily replicated.

Basic evaluation will look at the difference between the existence of a theoretical link between an MDG and economic growth versus the practical issues of achieving this link. These responses may discuss the issue of financing, whilst stronger evaluation may focus on issues of political will, lack of infrastructure, time frames concerned, etc. Across all responses it is likely that LEDCs will be taken as a single entity. Strong evaluation will be more explicit in its investigation of the above, especially realising that LEDCs differ in their characteristics – and as such, ‘all’ LEDCs will not be able to replicate the MDG experience, with some having more success than others. A ‘one size fits all model’ will not sufficiently respond to the individual healthcare needs / existing infrastructure of LEDCs.

Stronger candidates will justify why some countries would be better at this than others. For example, a first-mover advantage / head-start or comparative advantage, that may help the success of one goal over another.

These candidates will realise that make some attempt to prioritise which MDGs offer a better blueprint than others. Some of the MDGs are easier to follow / more relevant to creating a blueprint for all economies to follow: environmental sustainability (Goal 7) is more of a long-term plan for economic growth whilst combatting HIV/AIDS (Goal 6) is a more immediate strategy for economic growth.

An attempt may be made, possibly in a conclusion, to challenge whether MDGs and the Post-2015 Development Agenda offer any kind of blueprint for any type of economy for economic growth – or whether their flawed and overambitious targets offer little hope. Or similarly, the MDGs may not be a blueprint but offer a starting point for discussion and gives focus to LEDC government targets.

**Theory and analysis**

Level 4 (18–22 marks)	Clear distinctions are made between different LEDCs and whether the MDGs and the Post-2015 Development Agenda offer a viable blueprint for them. A range of MDGs will be considered in depth and there will be a focus on specific LEDCs, as well as a critical awareness of their appropriateness for delivering desirable economic growth. At the top end, development of points is thorough and detailed with effective use of supporting evidence and data.
Level 3 (12–17 marks)	Clear links are made between the set question and the perspective being put forward. Responses will show a solid understanding of a range of MDGs, with relevant supporting data. Use of economic theory, terminology and application is correct and regular, though may contain some inaccuracies. A range of perspectives is discussed but responses may lack critical awareness.
Level 2 (6–11 marks)	A generalised response that falls short on critical awareness or current context. Points made may be generalised to all LEDCs and narrow in their analysis. Knowledge of MDGs and the Post-2015 Development Agenda may be lacking in range, or depth. Analysis will be very superficial and/or flawed in its use of economic theory.
Level 1 (1–5 marks)	There is no attempt to go beyond a simple list of MDGs. There may well be a misunderstanding of the role that MDGs or the Post-2015 Development Agenda may play in delivering economic growth.
Level 0 (0 marks)	Nothing of any relevance to the set question is shown within the answer.

## Evaluation

Here follows a re-cap of some of the areas that might be included and a breakdown of what will be expected at the various levels.

Issues include:

- Is it a given that the MDGs lead to economic growth or are they simply a target?
- Are some of the MDGs easier to replicate than others?
- Do the MDGs offer a blueprint for 'all' LEDCs – a 'one size fits all' solution?
- Short term versus long term considerations of using the MDGs as a blueprint?
- Challenging the question: Do MDGs and the Post-2015 Development Agenda offer any kind of blueprint for any type of economy for economic growth – or do flawed and over-ambitious targets offer little hope for existing LEDCs, let alone new ones?
- Is a blueprint for economic growth a justifiable solution or should the focus be on sustainable development, not growth *per se*?

Level 3 (13–18 marks)	Given the length of this paper, to achieve this level of evaluation there must be significant and comprehensive coverage of several relevant areas. At the top end of this level, there will signs of real in-depth research and/or originality. In all cases there will be a clear conclusion drawn at the end that relates specifically to the set question.
Level 2 (7–12 marks)	At least two relevant issues will be considered in reasonable depth but the overall scope of evaluation leaves areas unexplored and conclusions may lack any rigorous justification.
Level 1 (1–6 marks)	Some of the issues that could be open to evaluation may be introduced into the discussion but there is no attempt to go further than to show an appreciation of the issue – for example, 'the MDGs offers a blueprint but it is not always applicable to all LEDCs'. There is no attempt to draw together the relevant issues in a conclusion.
Level 0 (0 marks)	There is no evidence of evaluation.

#### 4 Behavioural Economics and Government Policy

**‘The policies for solving market failures are likely to be more successful if we adopt the lessons learned from Behavioural Economics.’**

**To what extent do you agree with this statement?**

Candidates should demonstrate a clear understanding of the Behavioural Economics (BE) discipline and the role it can play in helping to solve market failures, with a good balance of theory and evidence. Responses should incorporate empirical evidence to support arguments, making reference to specific randomised control trials, rather than listing BE concepts. Candidates should focus on the full breadth of the quote, showing an in-depth understanding of the ‘lessons learned from Behavioural Economics’ and their applicability to solving market failures. Basic responses may offer a superficial analysis, perhaps based on anecdotal evidence.

Candidates should understand that behavioural economics has much to add in helping solve market failures by looking at the causes and solutions from a different perspective. A key differentiator will be candidates who show critical awareness of BE.

Basic responses may list concepts from the BE literature and fail to explain how BE could play a role in specific policies/problems. Strong responses will apply these concepts in addressing the specific question on how these can help policies be more successful.

Candidates may discuss how BE can solve market failures more generally, but they are free to discuss and focus on particular market failures as they wish and should be rewarded appropriately.

Innovative, original examples and case studies used to support candidates’ points should be rewarded. Analysis may be assisted by the use of relevant diagrams. Candidates should reach a clear and well-supported conclusion on the extent to which the policies for solving market failures are likely to be more successful if we adopt the lessons learned from Behavioural Economics.

**Answers may include:**

**Knowledge and understanding** of Behavioural Economics.

Examples:

- The discipline of BE which differentiates it from ‘standard’ economics
- BE concepts such as nudges, libertarian paternalism, time inconsistent preferences, information failures, bounded rationality, endowment effects, Prospect theory.

**Application** of behavioural economics to solving market failures.

Examples:

- The UK government has formed a Behavioural Insights Team
- Specific examples from recent research:
  - 2012 study by the University of Bristol on how altering the shape of beer glasses affects people’s drinking speeds
  - Use of status quo bias on saving for retirement
  - Use of default bias in organ donations in Europe
  - Duflo and Banerjee’s research on anti-poverty policies and randomised control trials
  - The UK Government’s behavioural report in 2013 on the lessons of BE on Charitable Giving
  - Sendhil Mullanaithan’s behavioural approach to development policy.

**Analysis** of how policies for solving market failures are likely to be more successful if we adopt the lessons learned from Behavioural Economics.

Analysis may focus on the different approach from the 'standard economic' approach and the BE approach:

**Examples:**

Major problems to solve may include:

- Consumer indebtedness
  - credit cards bill reporting
- Sustainability
  - comparing a person to his/her neighbours/friends is an effective way to alter behaviour
- Healthy eating / obesity
  - purchases made in cash induce healthier choices
- Low fertiliser use
  - not due to cost barriers (thus subsidies ineffective) but due to procrastination
- Low savings rates
- Poor medication use
  - cognitive biases cause people to forget to take their medication for controllable diseases such as diabetes/HIV
- Framing effects
  - people more responsive when informed of what they lose by inaction than when told how much it benefits them
- Kahnemann's cognitive biases – 'rules of thumb'
- Time inconsistent preferences and procrastination means many problems such as obesity, low savings rates etc. can be solved by 'pre-commitment devices'
- Time inconsistent preferences also gives an insight into how to address low savings.

**Evaluation** of the extent to which policies for solving market failures are likely to be more successful if we adopt the lessons learned from Behavioural Economics.

Basic responses will accept the premise of the question arguing that BE will significantly enhance policy making, showing little critical awareness of the issue.

Candidates will understand that there are practical barriers that may stop some of the ideas from BE from being adopted in reality into policies, for various reasons (e.g. cost, commitment, policy myopia, credibility, and traction). However, market failures may be taken as homogenous (either in type or to all countries), with little appreciation that a solution for one type/one region may not be relevant in another.

Good responses will evaluate more explicitly, noting that the market failures differ in their country-specific characteristics for example, child poverty in the UK versus Botswana – and as such, BE insights alone may not be enough. They may show awareness that behavioural economics may be more suitable to some issues over others e.g. merit goods versus public goods.

Strong candidates will justify why some countries would be better at this than others. It is not a given that behavioural economics will automatically improve outcomes - governments need to be open to involving behavioural experts when programmes are first designed as well as experimenting on existing programmes. They need to be open to exploring new and surprising solutions. For example, the UK government has very much accepted and adopted behavioural thinking (e.g. The Behavioural Analysis Unit) whereas countries like Zimbabwe are still lacking with regards to the institutions required.

Candidates may attempt, possibly in a conclusion, to challenge whether behavioural economics is yet really in the main sphere of policy discussion and implementation – for example, barely taught on some university courses – and so in reality, although gaining traction amongst policy makers, any validation of the quote in the question is a longer term one, rather than a current one.

### Theory and Analysis

Level 4 (18–22 marks)	Clear distinctions are made between a range of ways in which BE can help different types of market failures, showing critical awareness. There will be detailed, nuanced discussion of how policies for solving market failures are likely to be more successful if we adopt the lessons learned from BE. A critique of the traditional economic approach versus BE may be offered. At the top end, development of points is thorough and detailed with effective use of supporting evidence and data.
Level 3 (12–17 marks)	Clear links are made between the set question and the perspective being put forward. Responses will show a solid understanding of a range of behavioural economics issues, with relevant supporting data. Use of economic theory, terminology and application is correct and regular, though may contain some inaccuracies. A range of perspectives is discussed but may lack critical awareness and supporting independent research may lack depth.
Level 2 (6–11 marks)	A generalised response that falls short on critical awareness. Analysis will be superficial. Responses may simply list and explain behavioural concepts, rather than focusing on market failures.
Level 1 (1–5 marks)	There is little understanding of how behavioural economics could help aid policy making to solve market failures.
Level 0 (0 marks)	Nothing of any relevance to the set question is shown within the answer.

## Evaluation

Here follows a re-cap of some of the areas that might be included and a breakdown of what will be expected at the various levels.

Issues include:

- Is it a given that taking in BE insights will definitely help resolve market failures, or could they themselves be subject to error and failure? Is BE still too nascent to refer to it as a panacea, and just another prong with which to analyse economic problems, but still running the risk of government failure?
- Does behavioural economics improve all parts of strategies to deal with economic problems or are there still some relevant 'conventional' solutions to market failures?
- Perhaps they offer more theoretical improvements than practical ones? Challenge the question: does BE actually provide any new insights into policy making?
- A discussion of what we may mean by 'more successful'? By what metric?
- A discussion of the time frame under consideration short run versus long run – BE is still an upcoming field that is yet to be fully incorporated into government thinking
- Critical awareness of solving market failures. Is there a difference between the world's market failures (that require global coordination) and more local market failures?
- Prioritising which market failures BE can help remedy the most/the easiest.

Level 3 (13–18 marks)	Given the length of this paper, to achieve this level of evaluation there must be significant and comprehensive coverage of several relevant areas. At the top end of this level, there will signs of real in-depth research and/or originality. In all cases there will be a clear conclusion drawn at the end that relates specifically to the set question.
Level 2 (7–12 marks)	At least two relevant issues will be considered in reasonable depth but the overall scope of evaluation leaves areas unexplored and conclusions may lack any rigorous justification.
Level 1 (1–6 marks)	Some of the issues that could be open to evaluation may be introduced into the discussion but there is no attempt to go further than to show an appreciation of the issues – for example, 'policies for solving market failures are likely to be more successful if we adopt the lessons learned from Behavioural Economics but it is still rather nascent, and not all governments are on board'. There is no attempt to draw together the relevant issues in a conclusion.
Level 0 (0 marks)	There is no evidence of evaluation