

INSTITUTE AND FACULTY OF ACTUARIES

EXAMINERS' REPORT

September 2013 Examinations

Subject CT7 – Business Economics Core Technical

Introduction

The Examiners' Report is written by the Principal Examiner with the aim of helping candidates, both those who are sitting the examination for the first time and using past papers as a revision aid and also those who have previously failed the subject.

The Examiners are charged by Council with examining the published syllabus. The Examiners have access to the Core Reading, which is designed to interpret the syllabus, and will generally base questions around it but are not required to examine the content of Core Reading specifically or exclusively.

For numerical questions the Examiners' preferred approach to the solution is reproduced in this report; other valid approaches are given appropriate credit. For essay-style questions, particularly the open-ended questions in the later subjects, the report may contain more points than the Examiners will expect from a solution that scores full marks.

The report is written based on the legislative and regulatory context pertaining to the date that the examination was set. Candidates should take into account the possibility that circumstances may have changed if using these reports for revision.

D C Bowie
Chairman of the Board of Examiners

December 2013

General comments on Subject CT7

The Business Economics examination paper includes different types of questions requiring a variety of styles of answers in the degree of detail required. The questions clarify the amount of detail necessary in the answer.

For questions requiring calculations with workings, full mark would only be awarded if workings are shown. Similarly, in questions requiring explanation, full mark will be awarded for providing adequate explanation. For essay questions, candidates are expected to include the relevant facts and issues *as well as* the linkages so that a direct and coherent answer to the specific question is provided. Thus, mere statement of facts and a general discussion of issues around the specific question will not be sufficient to gain a high mark. Where a question requires drawing diagrams and showing particular points or areas on the diagram, the diagram needs to be clearly drawn and labelled and clear explanation offered.

Comments on the September 2013 paper

The paper was of a similar standard to the last three years' papers which test the new syllabus. The new syllabus, first introduced in 2010, includes a discussion of many new topics relevant to the world of business and to the economy as a whole. The syllabus places a greater emphasis on, and provides a greater scope for testing the candidate's discursive and analytical as well as technical skills.

The standard of the performance in this diet was similar to the previous diets. Candidates were generally able to provide correct answers to parts of the questions where these involved offering standard numerical solutions and diagrams, or listing of the relevant factors. In listing the relevant factor, a list of distinct factors is required and marks were not awarded for re-wording of the same, or stating similar factors. In answering questions such as question 29 that involve a diagrams or diagrams showing a base case and a new position for a different scenario, candidates need to be aware that both positions need to be clearly shown. It is important to make the changes explicit particularly if one diagram is used since the knowledge needs to be communicated reasonably well to the examiners in order to gain the credit. Question 32 required explanation with the use of examples. Here context related specific examples are expected as these show the real understanding of the case.

1	D
2	A
3	A
4	C
5	A
6	B
7	C
8	C
9	C
10	C
11	A
12	D
13	D
14	C
15	D
16	D
17	C
18	D
19	C
20	B
21	C
22	A,B,C,D
23	C
24	D
25	C
26	C

The multiple choice section was generally well answered. Marks for question 22 were awarded to all candidates as the question needed to provide more information for a specific answer to be valid.

- 27** By growing pears, the orchard owner is sacrificing the profit it could make from apples. The profit from apples is £60 (revenue from apples is £200 and costs are £140). Therefore, when calculating the cost of producing pears the foregone profit needs to be added.

Revenue per tonne of pears is £350 and the cost of producing pears is £140 PLUS £60 opportunity cost. The overall profit is therefore £150.

In answering this question, the important point to note is that economists calculate costs slightly differently. Many candidates did not account for the opportunity costs and so were not awarded the full marks.

- 28** Specialisation and division of labour. Cars are likely to be manufactured in large plants with employees doing specific jobs which are repetitive. Less training is required and people become very efficient at their job. Workers do not have to switch from one activity to another. The firm can employ people with specific skills for specific jobs i.e. welder, bodywork, tyres, electronics etc.

Indivisibilities. Cars are normally manufactured on a large scale, one person would not have sufficient demand for a car manufacturing plant. A car plant is only efficient to use when there are a sufficiently large number of cars being made.

Greater efficiency of large machines. Large machines are generally more efficient. Only one worker may be required to operate the large machines that take a car from one part of the plant to another.

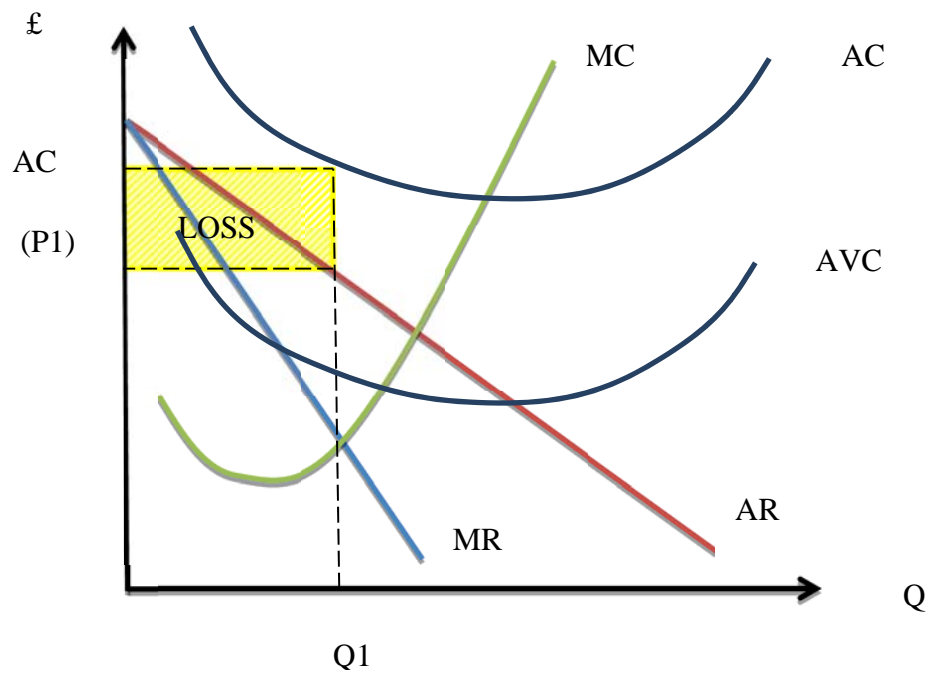
Multi-stage production. A large factory is able to provide a number of activities under one roof rather than moving production from one plant to another. For cars the cutting of the metal for the frame of the car, the addition of electrical components and the fabric for the seats may be manufactured within the same plant along a production line.

Organisational and financial economies. Large firms such as car manufacturers are likely to have centralised administration and other activities such as human resources, marketing and finance.

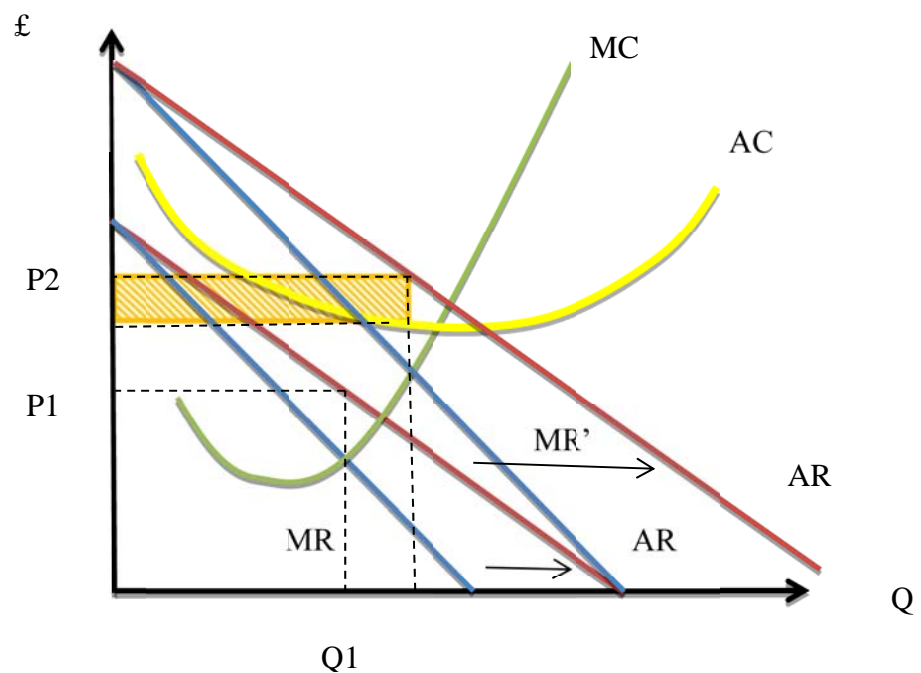
Economies of scope. Large firms such as car manufactures often produce a line of similar products but which use similar technology. For example the engines used in cars may be used in several different models, the paint colours are used for all the cars across the range etc. This allows the firm to buy some of the inputs in much larger quantities. There are also shared distribution costs as the firm can ship several different models of car in one order and can share the costs of marketing across different models.

In this question the answer needs to be specifically related to the car industry, a market that is familiar to most. Many applicants who provided a list of factors without relating the factor to the case did not gain the full marks. Additional relevant factors not listed above were allowed credit.

29 (i)



- (ii) An increase in consumer demand will shift the demand curve for the firm to the right. In the short run the firm will make profits (assuming a large enough increase in consumer demand). See shaded areas. The price and quantity traded will rise from P_1 to P_2 and Q_1 to Q_2 .



This question was answered well overall, although some candidates did not clearly show the two positions on their diagram.

30 Factors which will assist collusion include:
(FOUR to be listed.)

- Very few firms which are well known to each other.
- Firms which are open with one another about costs and production methods.
- Similar production methods and average costs. Hence they are likely to want to change prices at the same time and by the same percentage.
- Produce similar products and can more easily reach agreement on price.
- There is a dominant firm.
- Significant barriers to entry exist and there is little fear of disruption by new firms.
- The market is stable. When the industry demand or production costs change rapidly it is very difficult to make agreements – amendment and prediction issues.
- No government intervention to curb collusion

This question was answered well overall.

31 Firms may seek to form strategic alliances for the following reasons:
(TWO to be described.)

New markets: As firms grow they may seek to expand into international markets and join other firms which exist in the market. The advantage of this approach is that an existing firm may have knowledge of the local market, established supplier and distribution links/networks. Firms that are seeking to diversify into new markets will seek to make similar gains. Instead of developing new skills, knowledge and networks a firm can choose to build a relationship with an existing firm in the market.

Risk sharing: New ventures are often risky and for one firm to enter into a new activity on their own, the risk may be too great. Strategic alliances enable firms to seek to spread risk between them and create new opportunities. An example is the Channel Tunnel where a number of firms came together to build the link between the UK and France. The risk associated with building the tunnel was very high, too high for only one firm. Collectively the risk was spread between the firms with each firm specialising in their area of expertise.

Capital pooling: Some activities can have very high initial costs or high ongoing running costs which prevent an individual firm from embarking on an activity. By firms joining together, capital resources can be combined and can improve overall credibility for generating additional finance from investors.

This question was answered well overall.

32 (i) Price elasticity of demand can be influenced by the following:

- The number and closeness of substitutes

The more substitutes there are for a good and the closer the substitutes are, the more likely it is that people will switch to an alternative goods as the price of the good rises, hence the greater the PED.

- The proportion of income spent on the good

The greater the proportion of income that we spend on the good, the more we will change (reduce) our consumption following a price rise. The income effect will be large and demand is more elastic. Salt is a commonly used example as having a low PED. We don't tend to spend very much on salt as a proportion of our overall income. Therefore even a relatively large increase in the price of salt is unlikely to affect our demand for salt by very much. The effect will be larger if the item represents a relatively large proportion of our income.

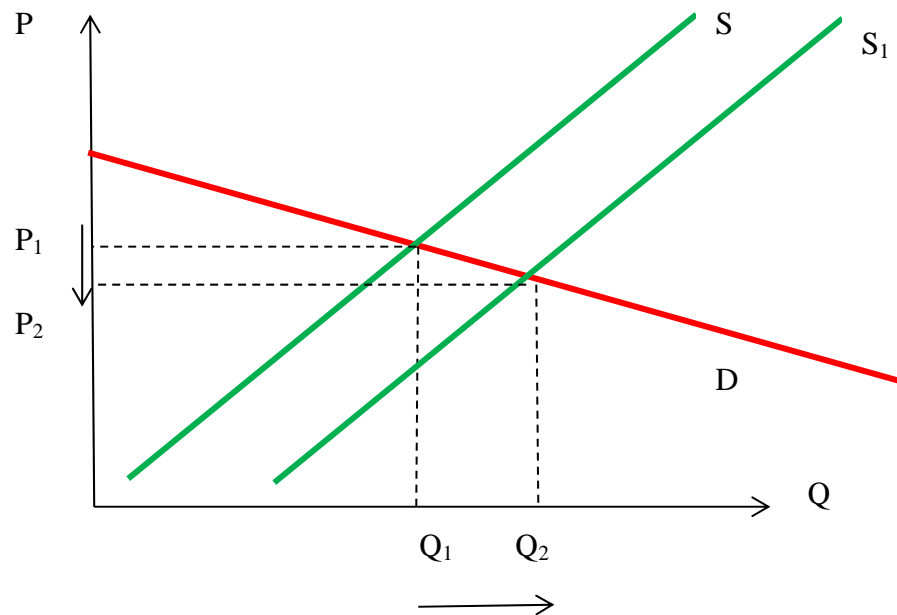
- The time period since price change

The greater the time period that has elapsed since the price change, the more elastic demand will be. Demand for a good tends to be inelastic in the short run as there may not be many alternatives.

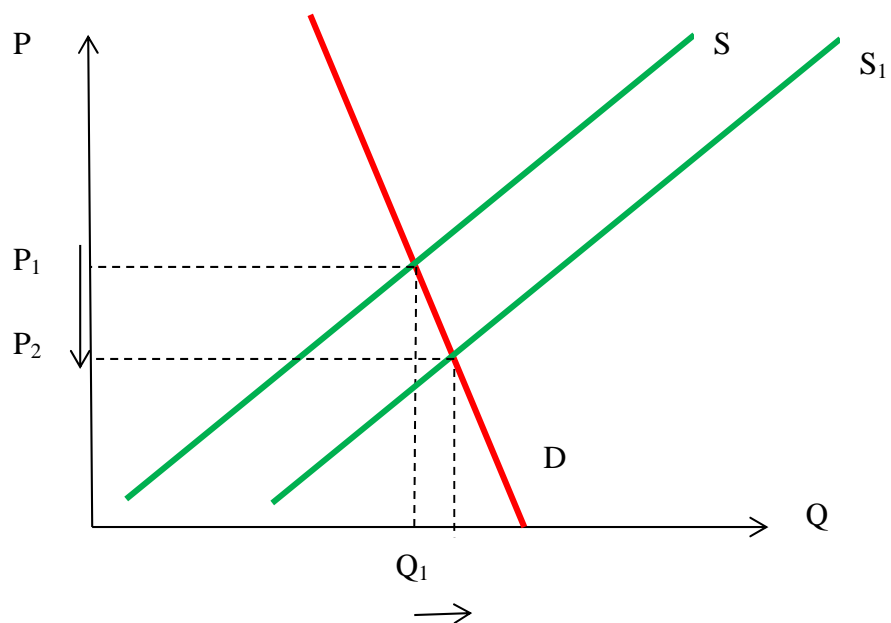
- Type of good – necessity or luxury

Necessity goods have a relatively inelastic demand whereas luxurious goods tend to be more elastic. Demand for basic goods is fairly constant regardless of changes in price. People tend to be more price-sensitive to a good which is not essential.

- (ii) (a) Elastic. Increase in supply shown by rightwards shift. Small fall in price and larger increase in quantity traded.



- (b) Inelastic. Increase in supply shown by rightwards shift. Large fall in price and smaller increase in quantity traded.



In part (i) of this question other relevant factors such as addiction to a good were given credit. In part (ii) one diagram for both parts were accepted provided that changes were clearly shown.

- 33** Drawbacks may be outlined with the use of an example or a diagram to illustrate. (TWO to be discussed.)

Shortages and surpluses. Shortages occur when the price is below the equilibrium. This can lead to waiting lists/queuing, rationing and preferential treatment to some individuals. This sort of problem can encourage underground or black market activity. If the price is above the equilibrium this can lead to people storing goods, destroying goods or dumping of goods in other markets. Suppliers may be forced to adhere to quotas.

Poor information. A government may not know the full costs and benefits of certain intervention activities. It may seek to assist one group at the cost of another and/or misinterpret behaviour.

Bureaucracy and inefficiency. Intervention requires administrative support. The more widespread the intervention, the greater this burden is likely to be in terms of both manpower and resources. These resources could be used more efficiently in other activities.

Lack of market incentives. If intervention removes market forces or cushions their effect (by the use of subsidies, welfare provisions, guaranteed prices etc) it may remove incentives which are provided by the market mechanism. Welfare payments may remove the incentive to look for a job or take a job. Whilst markets are not perfect, generally the market rewards those which seek to be more efficient.

Shifts in government policy. The overall efficiency of some industries may be affected negatively if government policy frequently changes. Frequent changes make it difficult for firms to plan if they are unable to predict, taxes, subsidies and price/wage controls.

Lack of freedom for the individual. Intervention by the government removes some of the freedom of choice that people have in making economic decisions. Individuals should be as free as possible to pursue their own interests with as little intervention as possible.

This question was answered well overall.

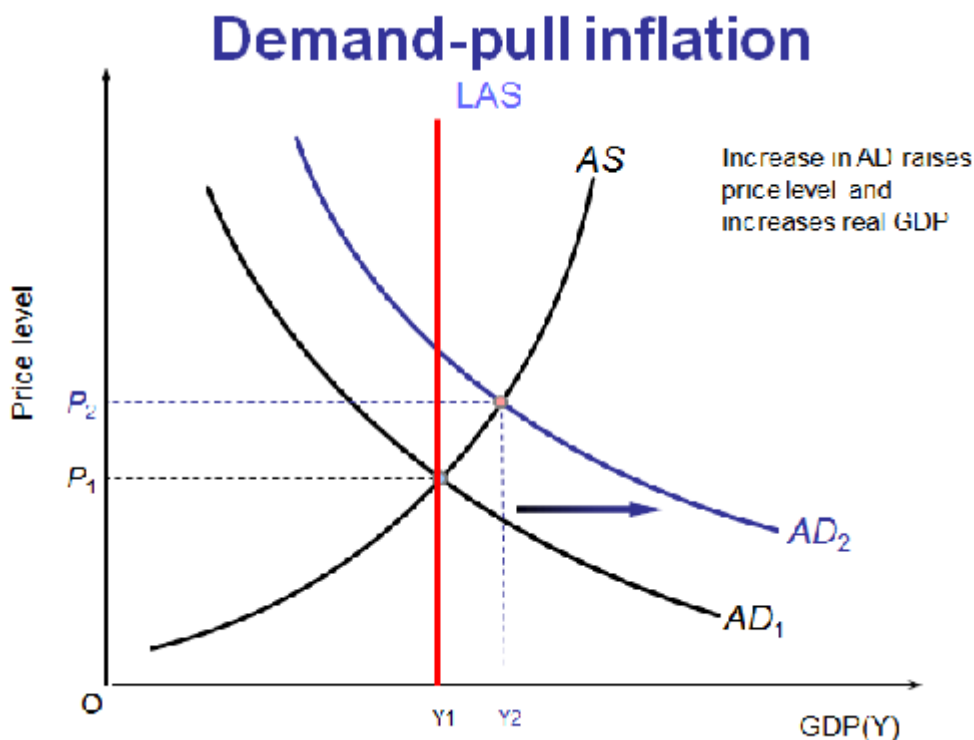
- 34**
- (i)
 - (a) Country A in both goods
 - (b) Country B
 - (c) Country A
 - (ii)
 - (a) Country A will devote half of its available resources to producing socks and half to producing shoes. Therefore Country A will produce 10 socks and 10 shoes.
 - (b) Country B will devote $\frac{1}{3}$ of its available resources to producing socks and $\frac{2}{3}$ of their resources producing shoes. Therefore Country B will produce 6 socks and 6 shoes.

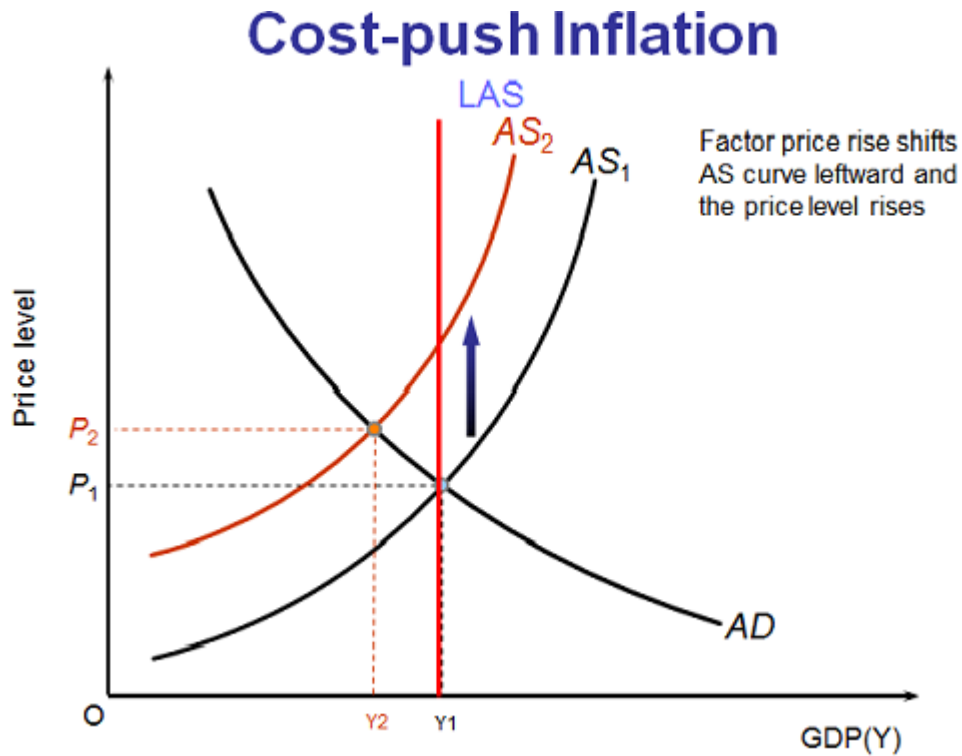
- (iii) With complete specialisation Country A will only produce shoes and Country B will only produce socks. Country A will produce 20 shoes and Country B will produce 18 socks. Comparing this to the situation in part (ii) where a total of 16 shoes and 16 socks were produced. Therefore the gain is 4 shoes and 2 socks.

Part (i) of this question was answered well. However quite a few candidates did not provide satisfactory answers to the subsequent parts.

- 35** Demand-pull inflation begins with an increase in aggregate demand – demand shock – AD curve shifts out to the right. The initial impact is to increase output, employment and prices.

Cost-push inflation begins with an increase in costs of production (e.g. wages, input prices; prices of raw materials, oil etc.) AS shifts to the left. The initial impact is to reduce output and employment and to increase prices.





This question was generally answered well.

36 Government can seek to encourage competition by undertaking the following activities.

- **Privatisation**

- Discussion may include reference to country specific cases and the relative success of the privatisation.
- In principle if privatisation only leads to the transfer of a firm from government to private hands then the scope for competition is very limited.
- Typical examples may include utilities such as water.
- Privatisation can lead to increased efficiency, greater consumer choice and lower prices. Privatisation could also include the introduction of privately provided services within state owned enterprises.

- **Deregulation**

- Removing monopoly rights, primarily in the public sector.

- **Introducing market relationships into the public sector**
 - An attempt by government to get different departments within one part of the public sector to trade with another to encourage competition and efficiency. To do this certain activities are devolved within an overall budget.
- **The Private Finance Initiative (PFI)**
 - A private firm following a tender process gains a contract with a government department or local authority to finance and build a project such as a road/prison.
 - The government then pays the firm to maintain the project or rents it from them. This leads to the government becoming a purchaser rather than a direct provider of the service.
 - This arrangement may also be referred to as a public-private partnership (PPP).

Competition is introduced by the tendering process and private sector expertise is introduced in the provision of the public service in question.
- **Free trade and capital movements**
 - Opening up trade and investment is a significant component of market-orientated supply-side policy.
 - Many countries have reduced the restrictions on the purchase and sale of currency which has encouraged the free flow of capital.
 - Trade has also been liberalised in many countries to remove barriers to trade, encouraging the movement of goods, services, capital and labour.

Most candidates made a reasonable attempt at this question but quite a few did not make distinct points. Other relevant points were awarded credit.

37 (i)

- The original Phillips Curve relationship examined the rate of change in money wages and unemployment.
- It showed the short run effect of a change in AD (relative to potential output) on output and price level; as AD increases, inflation rises and unemployment falls. Upward movement along the curve and vice versa.
- It bows out from the origin – initially as AD rises there is a lot of slack in the economy as surplus labour is available so employment increases without a need to increase wages. Over time more people become employed and so wages rise as labour becomes scarce. To attract workers

firms must offer higher wage rates as trade unions gain a stronger bargaining position.

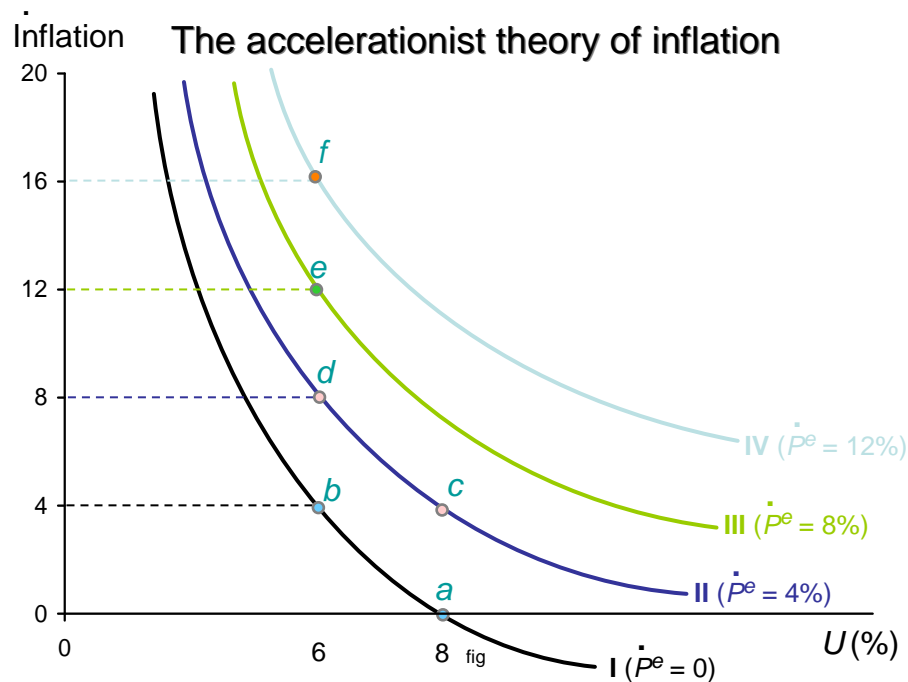
- It seemed to offer a trade-off; inflation versus unemployment. Lower unemployment was at the cost of higher inflation.
- The original relationship broke down in 1960's



(ii)

- Expectations Augmented Phillips Curve was developed following the breakdown – where inflation depends on the inverse of unemployment rate and the expected rate of inflation. The higher the expected rate of inflation, the higher will be the wage demands made.
- Accelerationist theory – starting from point *a* with no inflation and 8% unemployment, suppose the government expands AD to reduce unemployment. Unemployment falls to 6% and we move to point *b* (upward and left along the Phillips Curve). Inflation has risen to 4% but expectation of inflation has remained unchanged.
- In the following year, people revise their expectation of inflation and PC shifts upwards. If nominal AD rises at the same rate then higher prices would result with AD unchanged in real terms. The economy moves to point *c*.
- Government can expand AD again to cut unemployment but this would lead to the economy moving to point *d* with inflation at 8% and later further shift of the curve.

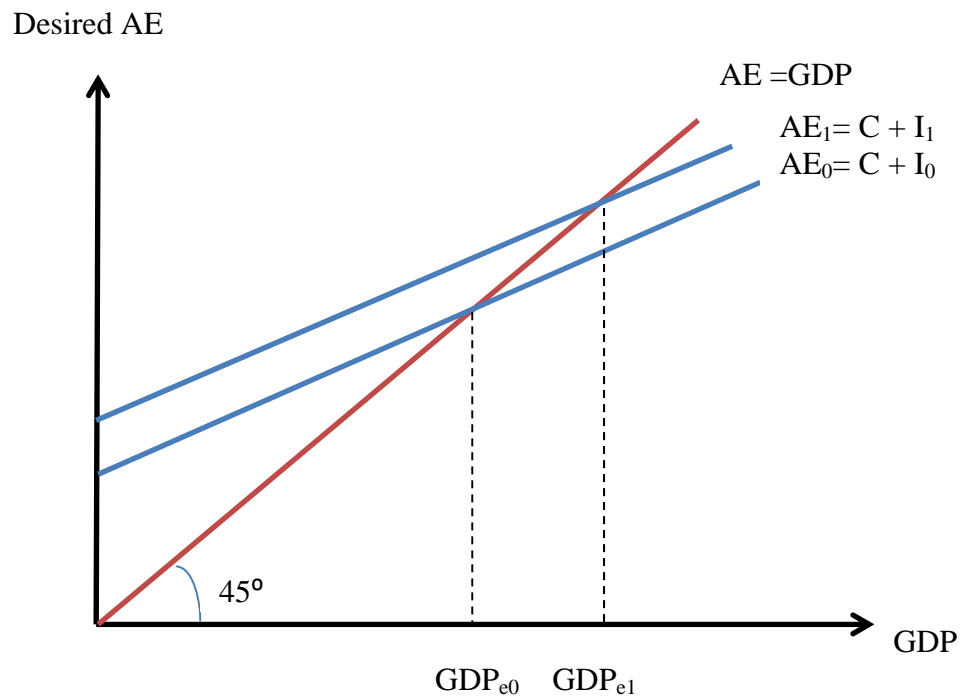
- The process continues. By reducing unemployment each time, inflationary expectations rise. Hence prices rise year on year.
- In the long run the Phillips Curve is vertical i.e. there is no trade-off.
- Implications – expanding AD can only reduce unemployment in the short run, the long run effect is higher prices. Expectations are important as is the credibility of the government in managing the target rate of inflation. (discussion)
- May go further and discuss rational expectations.



In part (i) many drew the original Philips curve without paying attention to its accuracy in term of its relation to the axes. For the second part, some very good answers were offered although there were also some very poor answers.

38

- (i) (a) An increase in business confidence would be associated with an increase in investment. **This would lead to an upward shift in the AE line as shown in the model below.** A discussion should be made regarding how we move from one equilibrium point to another.



An increase in expenditure to Where AE is above the 45 degree line $AE > GDP$ and when AE is below the 45 degree line $AE < GDP$. Where they intersect aggregate planned expenditure is equal to GDP.

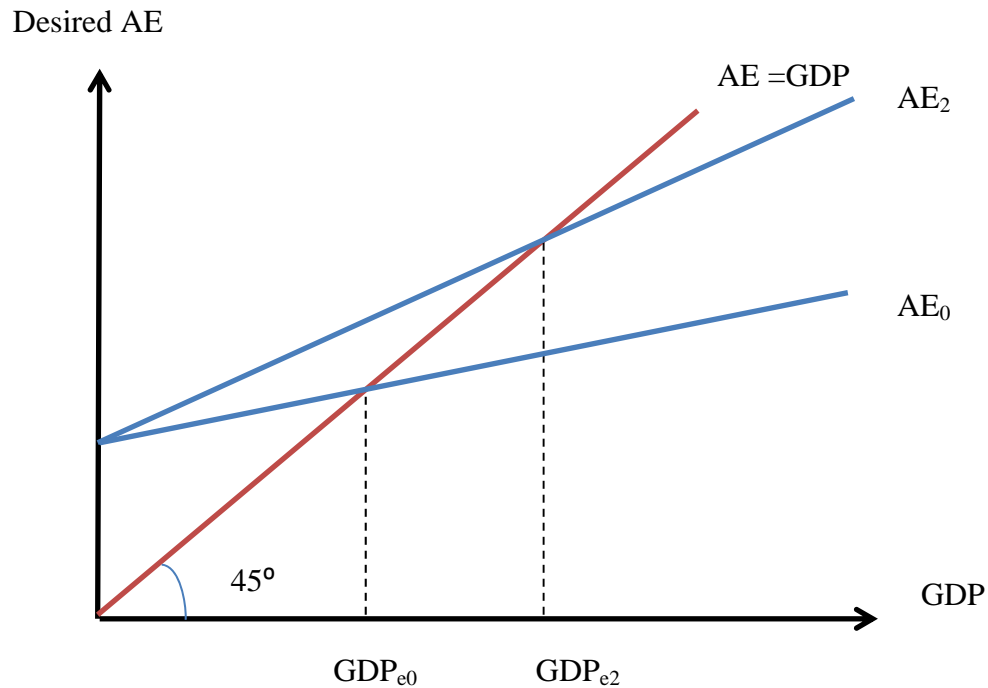
When AE is above GDP, firms stocks fall. Firms base their stock levels on expected sales so if stock levels are falling they will seek to restore stock levels by increasing production. They may hire additional labour to do this. This process continues until equilibrium is restored. In equilibrium unplanned stock changes are zero and firms do not change production.

The role of the multiplier should also be discussed.

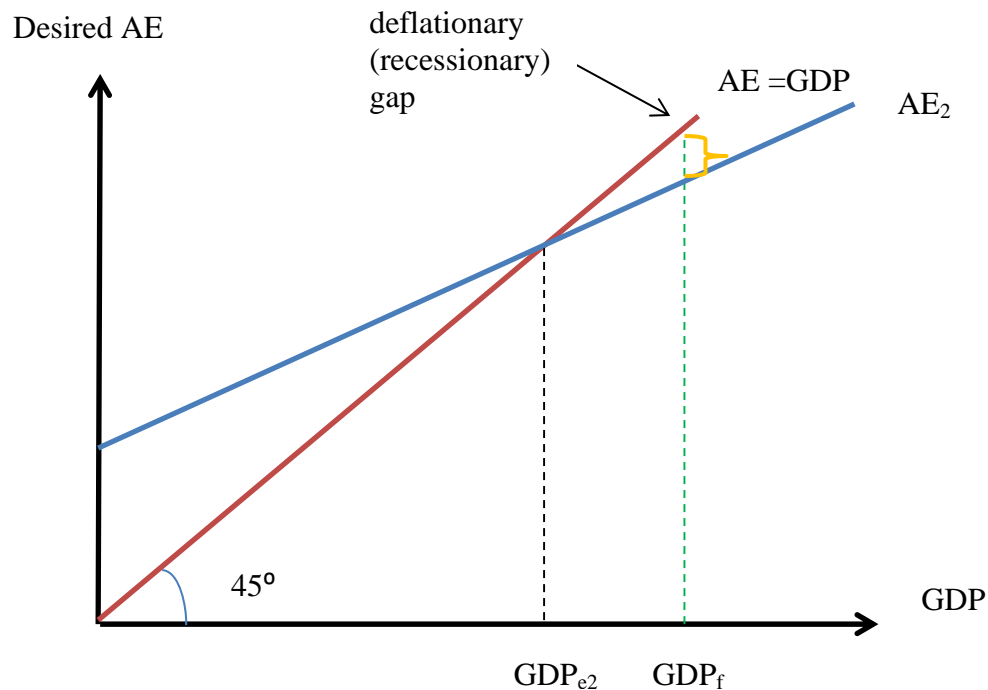
- (b) May discuss how an increase in the marginal propensity to consume would be reflected in the consumption function.

AE curve pivots upwards with no change in intercept.

A discussion of the effect of a change in the slope of the AE curve and the impact this has on the multiplier – the larger the mpc the steeper would be the AE curve and the greater the multiplier.



(ii)



In part (i), many candidates offered a relatively simple discussion without reference to the change in stocks which signals a change in demand, otherwise this part was answered reasonably well. In part (ii), to be able to show a deflationary gap, an assumption would have to be made about the equilibrium GDP in (i)(b) being below the full employment level. The assumption would be inconsistent with an inflationary gap so the 2 marks for this part were awarded to all candidates.

END OF EXAMINERS' REPORT