INSTITUTE AND FACULTY OF ACTUARIES

EXAMINERS' REPORT

April 2014 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

June 2014

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 Multiple Choice questions, it is not necessary to show workings or to offer explanation. 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 correctly labelled and clear explanation offered.

Comments on the April 2014 paper

The standard of the performance in most questions 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. However, too often diagrams were found not to be fully and accurately labelled, and also quite a few marks were lost by capable candidates not paying full attention to the wording of the question (for example questions 28, 31 and 32) or not being able to articulate adequately, their understanding of the answer.

Questions 36 and Question 37 offered more scope for a wider discussion of policy and proved more challenging. Examiners were looking for a reasoned discussion of the issues involved and not bullet point type of references to the possible issues. Several otherwise very good scripts were let down by relatively weak answers to questions 36 and 37, possibly due to lack of time. Candidates need to be aware of time management and allow sufficient time to be able to provide complete answers to these types of questions.

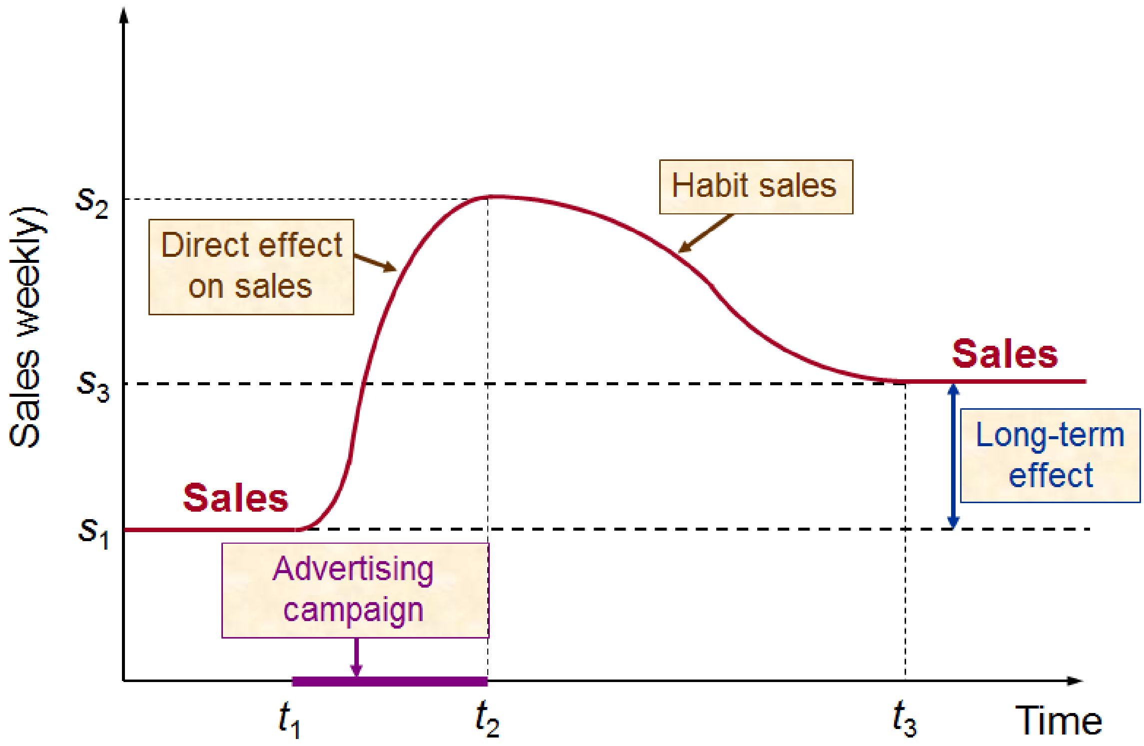
1 C
2 C
3 B
4 D
5 C
6 D
7 B or D
8 A
9 B
10 A
11 C
12 C
13 D
14 D
15 C
16 D
17 A
18 D
19 C
20 B
21 A
22 A
23 D
24 C
25 B
26 A

Some candidates provided quite detailed explanations to support their answers. Explanation of the answers to multiple choice questions is not required and uses valuable time.
In question 7 the "downward shift" could be interpreted as a shift of the supply curve or a reduction in the quantity supplied, so both B and D were accepted as correct answers.
In question 21 equilibrium unemployment could occur due to any combination of the four types of unemployment listed under the answers so all answers were accepted as correct.
Questions 5, 17 and 22 seemed to prove more challenging to the candidates.

27 (i) 130 units
(ii) No
(iii) £1.75
(iv) £925

Parts (i) and (ii) of this question were generally answered well. However in part (iii) many candidates divided the total cost by the 4 units of labour rather than the units of output.

28



A successful one-off advertising campaign is likely to lead to a significant increase in sales in the short run as the advertising campaign widens the market for a product and attracts sales from competitors with sales rising from S1 to S2 during the campaign. After the advertising campaign finishes, the sales will generally start to decline but not to the initial level; for example, it could be at S3 as many of the new customers continue to buy the product out of habit. In the long run sales will tend to flatten but with a higher level than the initial sales level.

This question was answered well by most candidates.

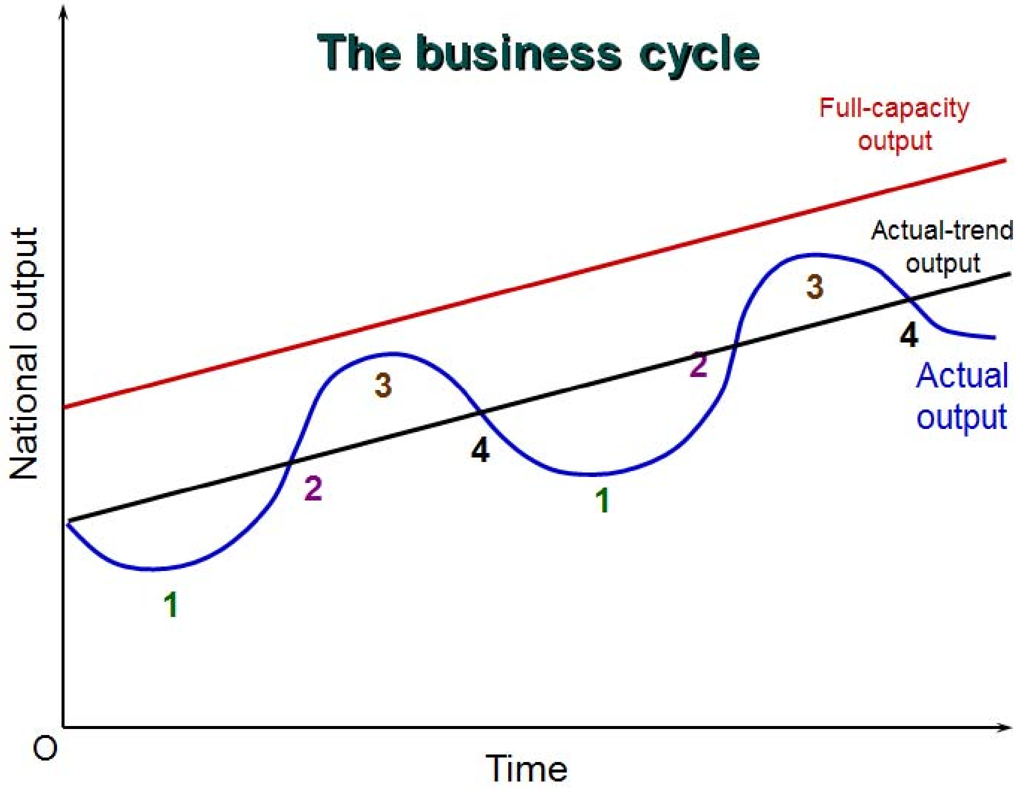
29 Public goods have two important characteristics non-rivalry and non-excludability.

1. The non-rivalry element means that one person's consumption of the good does not prevent someone else consuming the good. An example would be street lighting. The consumption of street lighting by one person does not prevent someone else benefiting from it as well.

2. Non excludability means that once the good is produced then it is not possible to prevent others enjoying the benefits of the good. For example, if one person in a town is protected from flooding by a dam all the other houses in the town will also benefit from the protection of the dam. Another good example is defence expenditure; once money is spent on a country's defence, then all the people in the country benefit from the defence expenditure.

In answering this question "non-competing" was also accepted in place of non-rivalry. Most candidates understood what a public good was, although some could not recall the main characteristics.

30 The business cycle is illustrated below:



The full capacity output trend is the maximum level of output that an economy can produce if firms and organisations in the private and public sector are working at full capacity and there is full employment of resources in the economy. There tends to be a positive upward trend in this due to technological progress, the use of ever more efficient production processes as well as other factors such as population growth. The actual trend output shows the trend of the actual output of the economy over time; it averages out the trends of actual GDP during the course of the business cycle.

Phase 1 is the upturn – in this phase a stagnant economy begins to recover and growth in actual real output resumes after a period of low well below trend growth.

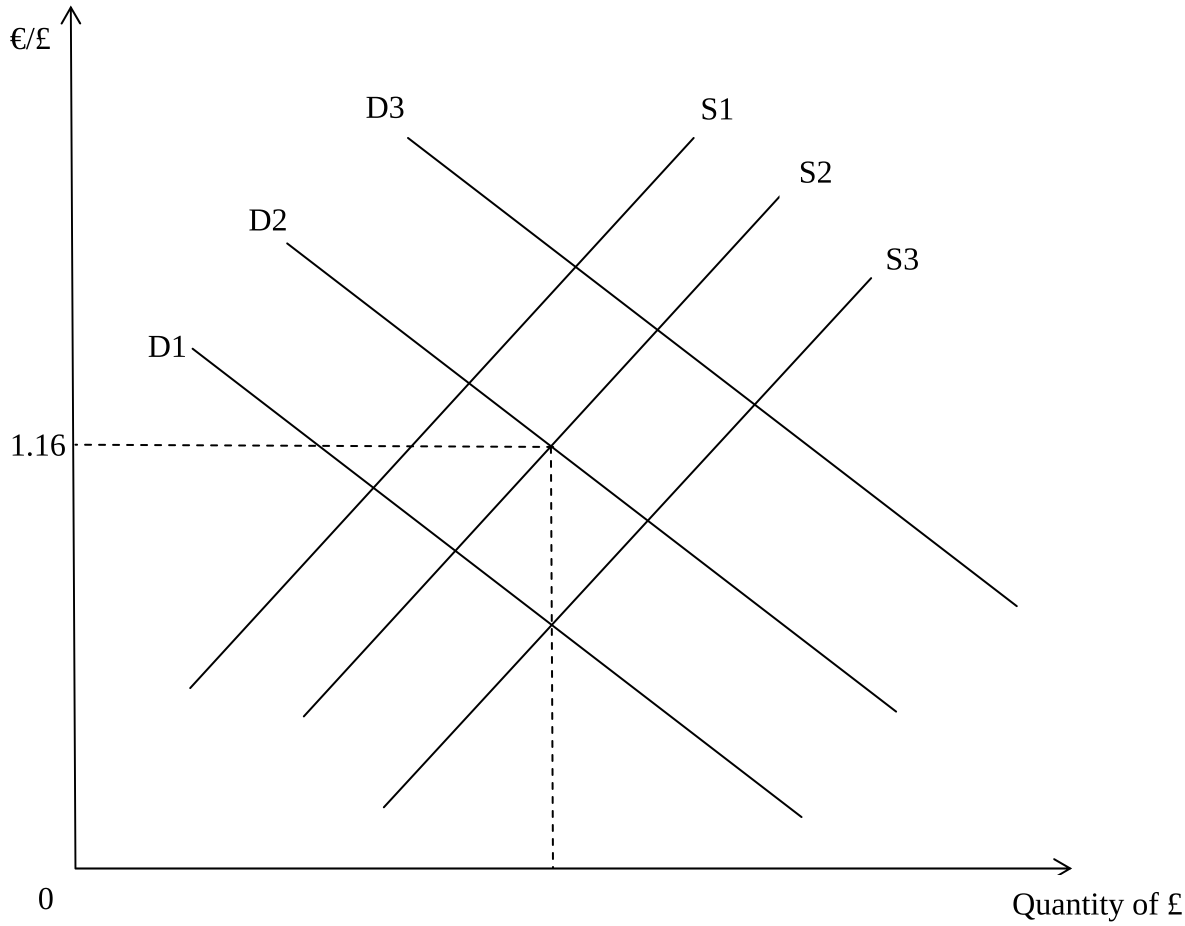
Phase 2 is the rapid expansion phase in which the GDP is rapidly growing and economic growth as measured by real GDP gains speed and the gap between actual and full capacity output markedly declines.

Phase 3 is the peaking-out or boom phase when economic growth rate starts to flatten out and real GDP is much closer to its full capacity output.

Phase 4 is the slowdown/recession phase during which the economic growth rate starts to slow down significantly and it can even become negative resulting in a larger gap between actual output and full capacity output.

This question was generally answered well, but with varying quality diagrams. Some candidates confused the business cycle with the product cycle.

31



(a) Savers abroad will deposit their money in the UK so demand for sterling goes up to D3. Fewer UK residents will want to save abroad so supply of Sterling will fall to S1. Sterling will appreciate.

(b) UK exports become more expensive so demand for sterling will fall to D1 and UK imports from abroad become cheaper so supply of sterling will rise to S3. The exchange rate will depreciate.

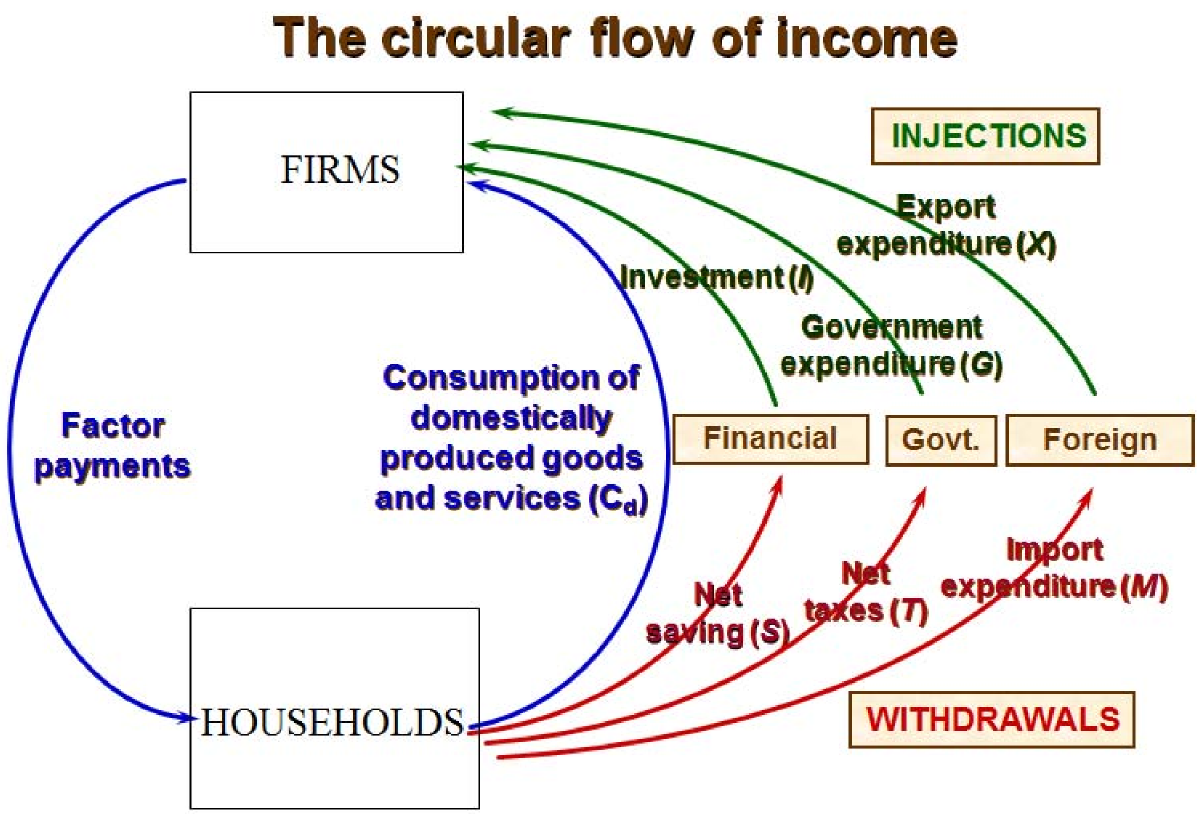
(c) More UK residents invest abroad so supply will rise and shift to S3 and more people abroad will want to invest abroad rather than in the UK so demand will fall and shift to D1. Sterling will depreciate.

(d) Sterling will be sold expecting its value to fall. The supply will increase and shift to S3. Sterling will depreciate.

(e) If UK incomes fall, the demand for imports and supply of sterling will fall and shift to S1. Incomes abroad will be higher relative to the UK so demand for UK exports and hence sterling will rise and shift to D3. Sterling will appreciate.

This question was often answered well. However, many candidates lost marks by providing the relevant supply and demand lines and did not provide comments on the exchange rate movement. Also there seemed to be confusion between whether it was the Euro or Sterling that was appreciating.

32



Households work for firms to produce goods and services in return for which they receive income in the form of wages, profits, rental and return on capital. This income is either spent on domestically produced goods, saved with financial institutions, paid in tax to the government or spent on foreign produced goods in the form of imports. Leakages in the form of savings, taxes and import expenditure ultimately get recycled into the economy through injections in the form of investment, government expenditure and exports.

This was a standard concept diagram. It was disappointing to see many candidates not being able to recall the full diagram accurately, while others providing a correct diagram but with no explanation to support it.

33 (i) Country A

(ii) No

(iii) Yes. Country A will export Good X to Country B in return for imports of Good Y. The terms of trade must lie between 2 units of Good Y per one unit of Good X (the Country A's opportunity cost) and 25 units of Good Y per one unit of Good X (Country B's opportunity cost). Trade on these terms will benefit Country B because it can import Good X at a cost of 20 which is cheaper than producing it at a cost of 25. It also benefits Country A since it sells Good X at 20, higher than the cost of producing it at 2.

The answers to this question were of mixed quality although parts (i) and (ii) of the question were standard concepts.

34 (i) We need taxes to be £200 million so national income must be £200/0.25 = £800 million to have a balanced budget.

(ii) The budget would be in deficit by £50 million

Tax would be 0.25×600 = £150 million

Less expenditure = £200 million

Deficit = £50 million

(iii) The multiplier = $1/[1 - c(1 - t)] = 1/[1 - 0.8(1 - 0.25)] = 2.5$

So increase in national income is £100 × 2.5 = £250 million

(iv) $Y = 0.8\,(Y - tY) + G + 100$

Given Y = £900 million at full employment

$900 = 0.8\,[900 - 0.25\,(900)] + G + 100$

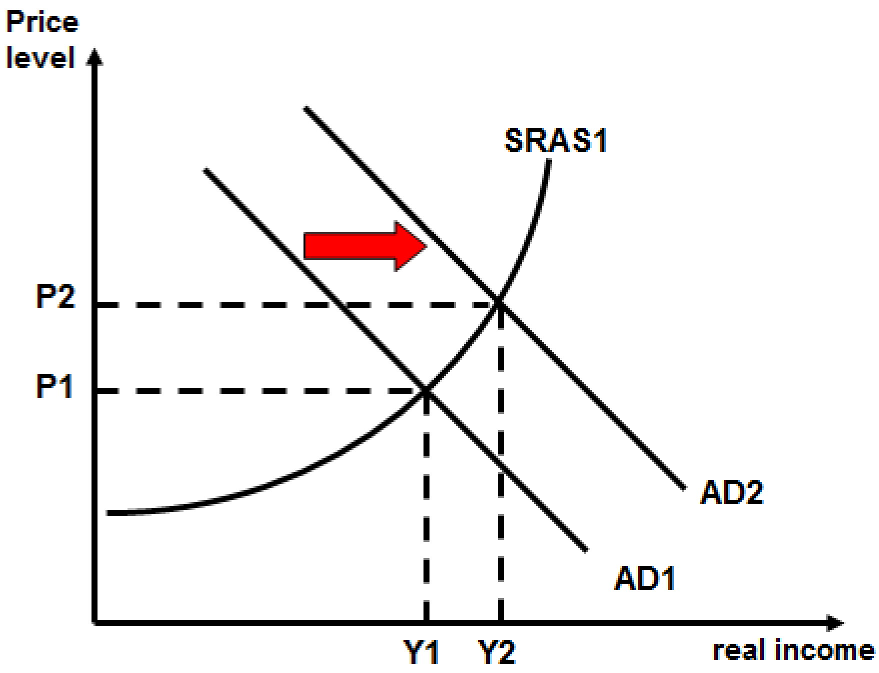
implies $G = 260$

Therefore government expenditure needs to be £260 million

This question was generally answered well. Part (i) of this question proved more challenging to the candidates.

35 Demand-pull inflation is a type of inflation that results from an initial increase in aggregate demand as shown in the diagram below. Demand-pull inflation may begin with any factor that increases aggregate demand:

1. Increase in the quantity of money and lower interest rates
2. An increase in government expenditures or tax cuts
3. Changes in consumer and investment demand
4. An increase in export demand due for example to global economic growth

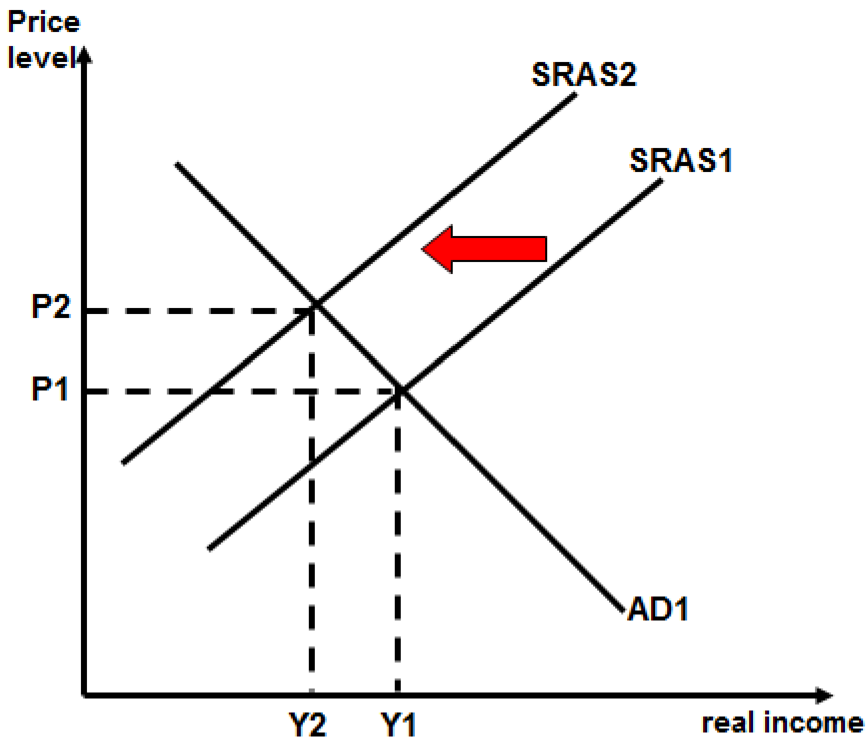


A shift to the right of the aggregate demand curve will lead to upward pressure on prices and some expansion of output. It is more likely to result in higher price rises closer to the full employment level of output than when there is a high level of unemployment.

Cost-push inflation is a type of inflation that results from an initial increase in costs.

There are three main sources of increased costs:

1. An increase in the money wage rate
2. An increase in the money price of raw materials, such as oil and commodities.
3. A depreciation of the exchange rate which raises import costs



A shift to the left of the aggregate supply curve will lead to upward pressure on prices and a fall in the level of output. The precise initial inflationary impact will depend upon the steepness of the aggregate demand curve. Cost push inflation is likely to be accompanied by a lower level of output rather than a higher output which is usually associated with demand pull inflation.

Many good answers were offered for this question. A few candidates discussed supply and demand in general terms ignoring the term "aggregate", others labelled the horizontal axis as "Q". The quality of explanations to support the diagrams varied significantly.

36 (i) The current account is made up of two accounts, the trade balance and the service balance. The trade balance is sometimes referred to as the visible balance because it represents the difference between receipts for exports of goods and expenditure on imports of goods which can be visibly seen crossing frontiers. The receipts for exports are recorded as a credit in the balance of payments, while the payment for imports is recorded as a debit.

The service balance is sometimes referred to as the invisible balance and shows the difference between revenue received for exports of services and payments made for imports of services such as shipping, tourism, insurance and banking. In addition, receipts and payments of interest, dividends and profits are recorded in the invisible balance because they represent the rewards for investment in overseas companies, bonds and equity while payments reflect the rewards to foreign residents for their investment in the domestic economy. As such, they are receipts and payments for the services of capital that earn and cost the country income just as do exports and imports. There is an item referred to, as unilateral transfers included in the invisible balance. These are payments or receipts for which there is no corresponding *quid pro quo*. Examples of such transactions are migrant workers' remittances to their families back home and foreign aid. Such receipts and payments represent a redistribution of income between domestic and foreign residents. Unilateral payments can be viewed as a fall in domestic income due to payments to foreigners and so are recorded as a debit. While unilateral receipts can be viewed as an increase in income due to receipts from foreigners and consequently are recorded as a credit. Overall the current account measures the earnings less expenditure vis-à-vis the rest of the world.

A current account deficit indicates that the country as a whole is spending more than it is earning. A current account surplus indicates that the country as a whole is earning more than it is spending vis-à-vis the rest of the world.

(ii) There is no easy way to tackle a current account deficit. A current account deficit means that a country's expenditure on goods/services vis-à-vis the rest of the world is greater than its revenue from exports of goods/services from the rest of the world. Devaluation is certainly a useful tool in the medium to long term in helping to correct a current account deficit. This is because devaluation makes exports more competitive as measured in the foreign currency and imports more expensive as measured in the domestic currency. In the short run, devaluation is less likely to be effective in correcting a current account deficit since the change in the quantity demanded for imports and exports are lower in the short run than in the long run. Imports cost more in the domestic currency while import volumes do not decline sufficiently and exports volumes may not rise sufficiently to compensate. As such, a deficit in the current account may worsen initially but it should improve over the medium terms as import volumes decline and export volumes rise.

One major problem with devaluation is that by making imports more expensive it could spark off wage and price pressures which to some extent will undermine the increased competitiveness one might otherwise have expected. In addition, the effectiveness of devaluation will be undermined if other trading competitors devalue their currencies so as maintain their international competitiveness.

There are means other than devaluation, that a government can use to correct a current account deficit. These include tighter fiscal and monetary policies. The current account which, ignoring transfers, is given by exports (X) minus imports (M) has its counterpart in either domestic investment (I) being greater than domestic savings (S) and/or government expenditure on goods and services (G) exceeding tax revenue (T) as given by the equation below:

$$(X - M) = (S - I) + (T - G)$$

A tighter monetary policy that raises the domestic interest rate, will discourage consumption (encourage savings) and reduce investment so helping to improve the first bracketed expression on the right hand side. Tighter fiscal policy in the form of a rise in taxes or cut in government expenditure will reduce national income and with it expenditure on imports also helping to improve the current account.

Devaluation is by no means the only mechanism for improving the current account and its relative effectiveness as compared to fiscal and monetary policies will depend upon the structural parameters of the particular economy under consideration. However, there can be little doubt that a combination of devaluation supported by tighter fiscal and monetary policies will be the most effective means of tackling a current account deficit although this may have adverse consequences for employment and output.

The answers to this question were generally weak. A disappointing number of candidates incorrectly offered fiscal/monetary expansion as a method to reduce a current account deficit.

37 (i) There a number of reasons as to why governments seek to control inflation. One of the most important is that it can result in an arbitrary redistribution of national income. In particular, it is especially harmful to those on fixed incomes as it erodes the real purchasing power of their income. Those that have borrowed at fixed rates of interest tend to gain at the expense of those that have lent at fixed rates of interest. Ultimately inflation will discourage saving. This is especially the case if inflation leads to the expectation of further price increases. Inflation also discourages investment since it adds greater uncertainty to business planning. Businesses find it hard to forecast their costs and revenue and face increased uncertainty about the interest rates that they will have to pay to finance investment.

Strikes and industrial disruption are generally higher in periods of inflation as workers seek compensation and differentials get distorted when some get pay rises above inflation while others have to settle for below inflation pay rises. Finally, inflation can undermine a country's international competitiveness, especially if it operates a fixed exchange rate. Inflation raises the cost of the country's exports resulting in fewer goods being sold abroad and more imports purchased by domestic residents, causing balance of payments problems. There are also sound reasons for governments to control inflation; a government that has a poor inflation record will have to pay an inflation premium in its borrowing costs. In analysing the costs of inflation economists tend to make a distinction between anticipated and unanticipated inflation.

Anticipated inflation, while being viewed as harmful, is generally considered to be less disruptive to an economy than unanticipated inflation. Economic agents can learn to live with stable and predictable inflation but the very high costs of inflation are imposed when it is volatile and unpredictable taking economic agents by surprise.

(ii) Once inflation is deeply rooted in the economic system, bringing it under control through tighter monetary policies and or fiscal policies can be a painful process conflicting with objectives such as full employment and economic growth. This is because tighter monetary policies, when implemented, may lack credibility with workers requiring evidence that inflation is under control before moderating their wage demands. To the extent that wage inflation is slow to respond to lower monetary growth and lower inflation, then real wages will be rising, implying a rise in unemployment. Only once workers start to observe a lower inflation and higher levels of unemployment will wage inflation start to converge towards lower inflation. During the transition period, lower inflation policies can lead to significant job losses and lower economic growth.

In addition, controlling inflation may mean the central bank raises short term interest rates. This may lead to an appreciation of the domestic currency in the foreign exchange market as it may attract capital inflows. The appreciation of the exchange rate can result in a reduction in exports and a rise in imports leading to deterioration in the country's trade position with a reduced surplus or larger deficit. In addition, the appreciation of the exchange rate reduces export volumes while raising import volumes and so could mean job losses and slower economic growth.

The answers to this question were generally disappointing. In part (i) many answers focussed on issues such as menu costs rather than on higher level issues appropriate to industrialised countries. In part (ii), many recalled the other macroeconomic objectives but only superficially dealt with how a policy of controlling inflation conflicts with those objectives.

END OF EXAMINERS' REPORT