INSTITUTE AND FACULTY OF ACTUARIES

EXAMINERS’ REPORT

September 2018

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.

Mike Hammer
Chair of the Board of Examiners
December 2018

A. General comments on the *aims of this subject and how it is marked*

1. The aim of the Business Economics subject is to introduce students to the core economic principles and their relevance to the business environment. It provides a grounding in the fundamental concepts of micro and macro economics as they affect the operation of insurance and other financial systems, both for individuals and their requirements for financial security, and for financial institutions and their ability to provide products that meet individual and institutional clients' needs.

2. The Business Economics examination paper includes different types of questions requiring a variety of styles of answers in the nature of the answer and the degree of detail required.

B. General comments on *student performance in this diet of the examination*

Candidates' performance was of similar standard to previous diets. Where answers included sufficient detail and related to the particular context higher marks were achieved.

C. Pass Mark

The Pass Mark for this exam was 60.

Solutions

1. C [1½]
2. A [1½]
3. B [1½]
4. B [1½]
5. B [1½]
6. C [1½]
7. C [1½]
8. B [1½]
9. A [1½]
10. C [1½]
11. D [1½]
12. D [1½]
13. B [1½]
14. A [1½]
15. A [1½]
16. D [1½]
17. C [1½]
18. C [1½]
19. D [1½]
20. C [1½]
21. D [1½]
22. C [1½]
23. C [1½]
24. D [1½]
25. C [1½]
26. C [1½]

The multiple choice section of the paper was generally answered well.

27 (a) Macroeconomics examines the economy as a whole or in aggregate and is therefore concerned with aggregate demand and supply. Aggregate demand is concerned with the total amount of spending within the economy by the different groups (consumers, overseas customers via exports, government and firms). Aggregate supply is associated with the total national output of goods and services.

Microeconomics on the other hand examines the individual parts of an economy and the factors that determine supply and demand for particular goods, services and resources.

[2]

(b) A market is a place where buyers and sellers come together. This may be in a physical space such as a street or store or it could be online. An example would be someone seeking to sell their hairdressing services whilst customers seek out a hairdresser. The two parties meet and agree on a price and trade; a haircut for payment.

[2]
[Total 4]

This question was answered well by most candidates. A few candidates provided a type of market structure rather than a specific market as required by the question.

28 Using ice cream as an example, as the price of ice cream rises and income is unchanged, the purchasing power of income falls as we can buy less ice cream. This is the income effect. The substitution effect arises as when the price of ice cream rises, it becomes relatively more expensive compared to other goods such as yoghurt/mousse/other chilled desserts. People may switch away from ice cream to an alternative. Both effects serve to reduce the demand for ice cream as its price rises.

These factors are the reason why we have a downward sloping demand curve.

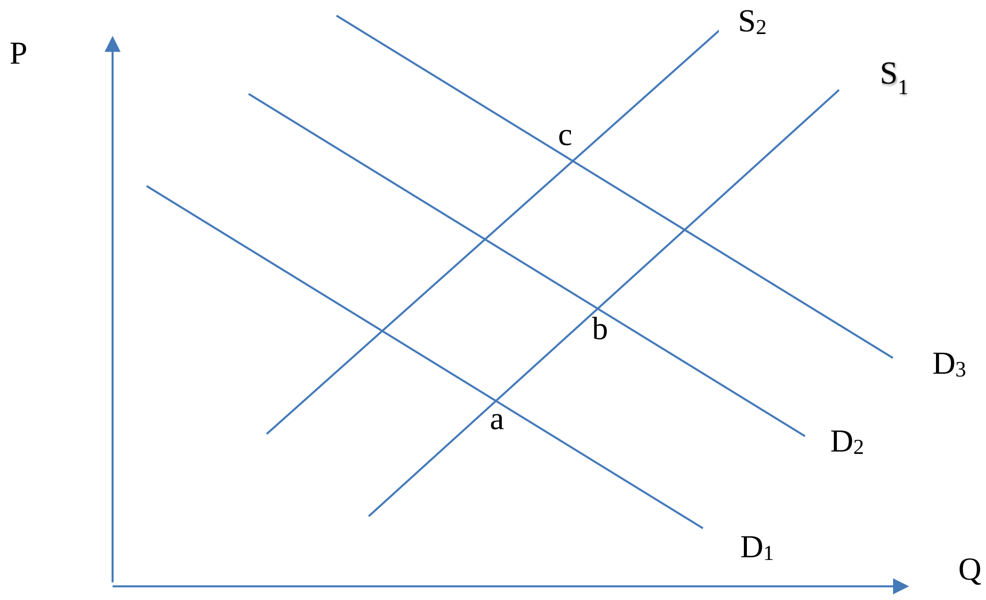
[4]

The answers to this question were varied. Many candidates did not correctly identify the income and substitution effects of a price rise.

29 (i) When the price of a good rises due to a shift in demand from D1 to D2, producers may be unsure as to whether the price increase is temporary or if the price will continue to increase. If there is an expectation that the price may continue to rise in future then producers may wish to hold onto stock to benefit from even higher future prices, supply curve shifts from S1 to S2. Consumers, on the other hand, will buy before a further rise in the price, shifting the demand further to D3. The equilibrium point will move from a to b to c and the price will continue to rise. The market participants' expectations in this case has a destabilising effect.

[2]

(ii)



[2]
[Total 4]

A variety of answers were offered for this question and the answers were not generally strong. Other answers accepted included the effects of an increase in costs or tax, and where the diagram correctly reflected the answer in part (i) it was accepted.

30 Diminishing marginal returns arise when as we add more of a variable factor to a fixed factor of production the additional output from each additional variable unit falls. In the context of a restaurant, the fixed factor of production would be the space in the kitchen or the dining area, the grills, ovens and stoves (or even the till point). The variable factor would be the staff (waiting or kitchen staff). As we add more cooks or waiting staff, managing and co-ordinating their efforts becomes difficult; people may take the wrong orders out to tables, a dining room crowded with waiters would impede efficient service and fewer customers would be served.

[4]

Most candidates seemed to have a reasonable understanding of marginal utility and diminishing marginal returns. However few were able to describe diminishing marginal returns for a restaurant.

31 (i) Collusive oligopoly is a situation when firms in an oligopoly agree to limit competition between themselves by such practices as agreeing on each keeping its market share, price fixing, setting output quota or limiting advertising.

[2]

(ii) Firms who are looking to work together (be collusive) work best under the following conditions.

- Very few firms – on a particular route or within a country/set of countries, the two airlines would find collusion easier if there are as few other competitors as possible.
- Open about costs and production methods – the more open and honest the two airlines are with one another the better idea the two will have about whether they can work together.
- Similar production methods and average costs – by having similar methods of operation, they are more similar and therefore price changes from one can easily be reflected in another.
- Similar products – the two firms ideally need to offer the same sort of product, one offering long haul and the other short haul for example may not be compatible. The need to be able to agree on price and the more similar the produce the easier this is and the less is the incentive for diverging from an agreement.
- Significant barriers to entry – both the airlines need to be able to keep other firms out of the market as a competitor could present an opportunity for breaking an agreement.
- No government measures to curb collusion – in a market where the government has little control over the ability of firms within the airline industry to collude, the two firms would find it more favourable to do so.

[6]
[Total 8]

This question was generally answered well. Where references were made to other strategies such as limiting product development, or forming a carte, credit was given.
In part (ii) factors favouring collusion not related to the airline industry were given credit.

32 (i) A negative externality arises when the behaviour of one party has a negative impact on another party who have not participated in the activity in question.

People may consume food in libraries and damage the books which other people may subsequently use by spilling their lunch on the books.

The over consumption of unhealthy food products may also lead to weight gain in people which puts additional burden on hospitals and health care facilities for weight related treatments and increases waiting times for all patients.

Or in a cinema for example, people like to eat popcorn. The negative externality on others is the rustling of the packet and the noise from eating the popcorn which may be distracting. [1]

(ii) Information awareness may be a good tool to try and curb such behaviour such as reminding people that the consumption of food within certain spaces may be unpleasant for others. It could be a total ban on food altogether within certain spaces such as in libraries (controlled by bag searches for example). Direct provision of healthy food could assist people in reducing their consumption of unhealthy food via vouchers for fruit or vegetables or healthy goods such as fruit/vegetables could be collected within supermarkets/schools/clinics.

[3]
[Total 4]

The answers to part (i) of this question were generally satisfactory. In part (ii) most candidates were able to provide at least one measure. Measures such as fines and rules and legislation were also accepted.

33

Decreasing costs – as countries specialise in a particular good they tend to experience economies of scale (falling unit costs), this can particularly arise within small countries where the local market is limited and presents no natural opportunity for falling costs via expansion.

Differences in demand – one country may prefer a particular good to another and find that the demand for their product is higher in another country. By engaging in trade, demand within both countries can be fulfilled.

Increased competition – imports from overseas can potentially create more competition within a market and stimulate efficiency within the home market (if such competition were previously lacking). This could lead to greater R&D and new product development.

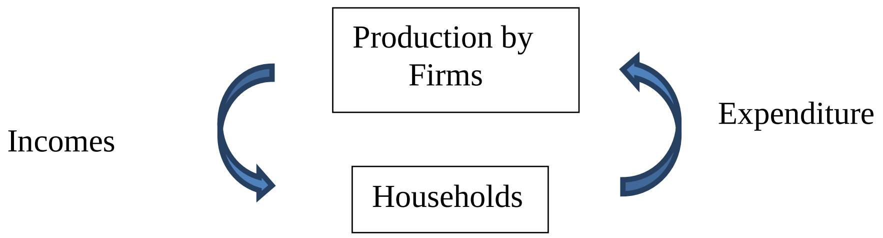
Trade as an engine of growth – increased demand elsewhere leading to a rise in exports can help to stimulate growth within a country.

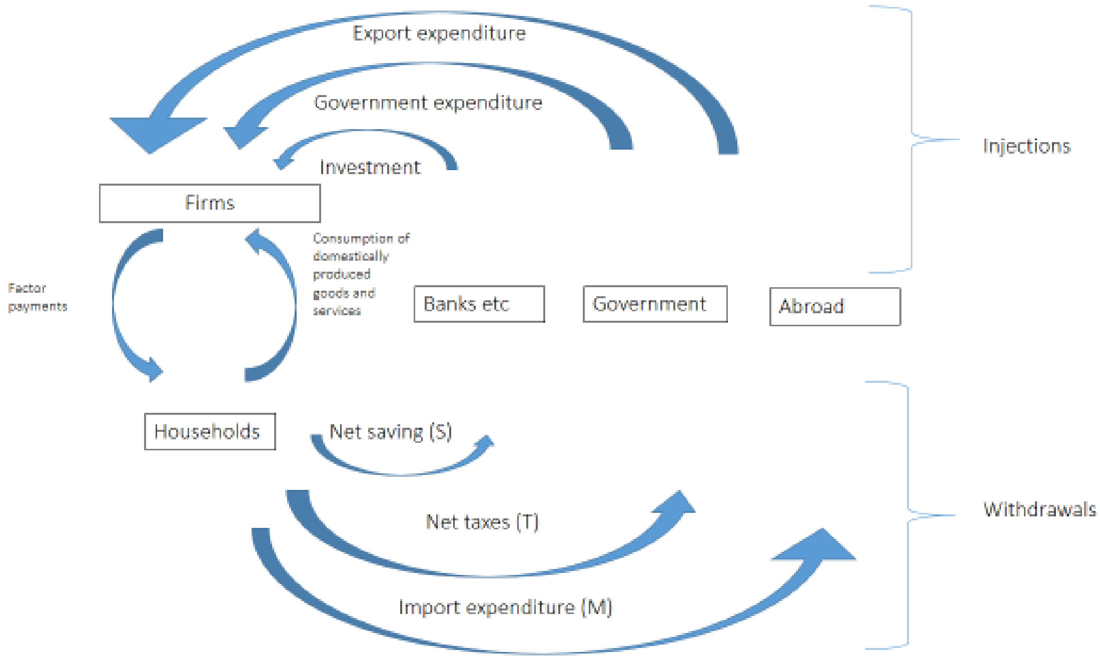
Non-economic advantages – other benefits may include political and social/cultural advantages as a result of exposure to other firms across the world and differing ways of producing goods/services. [4]

Most candidates provided the correct answer and sufficient detail to score well.

34 (i) product, income and expenditure [1]

(ii)





The product method adds up the value of all the goods and services produced within the differing industries. This output from the different industries generates income, the income has to be the same as the output of goods and services as it is associated with those involved in the production of those goods and services in the form of wages, salaries, rent, interest and profit. Finally we can add the expenditure on the final output of goods and services within the economy by the different groups; consumers, government, investment, exports and imports.

[3]
[Total 4]

This question was generally answered well. Most candidates provided the correct diagram for part (i) of this question. Both the simple and the more detailed diagrams of the circular flow of income were accepted. However to score the full mark, candidates were required to *provide full explanation of the three methods and why these are equivalent. Where measuring GDP was illustrated by a mathematical model accompanied by full explanation, the answer was given credit.*

35 (i)

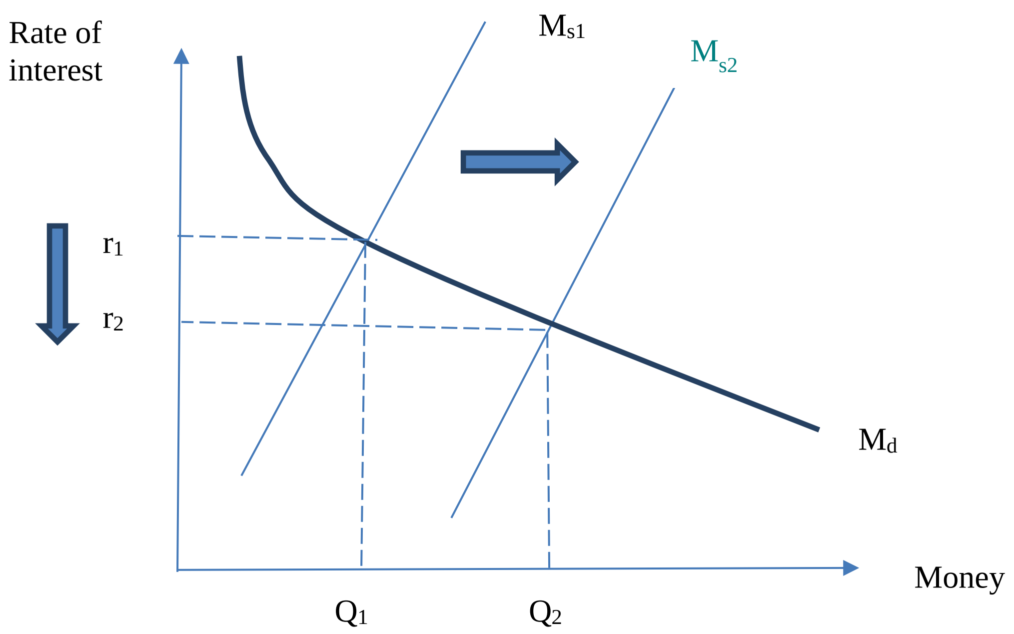
Open market operations – the sale or purchase of bonds/securities by the government monetary authority to adjust the monetary base within the open market. To reduce the money supply, money is taken from the banking system in exchange for the bonds/securities or by selling securities/bonds.

Central bank lending - the central bank can lend additional funds to the commercial banks. By changing the amount it is willing to lend to the banks, it changes the amount of liquidity held by the banks and thus the amount of credit that can be created. The higher the interest rate, the less willing the banks are to borrow, resulting in a smaller monetary base.

Funding – by changing the liquidity position of banks, the funding of government debt can be altered. Additional bonds can be issued to reduce the money supply.

Variable minimum reserve ratios – banks may be required to hold a proportion of their assets in liquid form. The ratio of total assets to liabilities is the minimum reserve ratio. If this ratio is increased, banks need to hold more liquid assets, this reduces the amount of credit available and the money supply falls. [3]

(ii)



[2]
[Total 5]

This question was generally answered well with most candidates providing sufficient detail in their answers.

36 (i) The growth vector matrix consists of four quadrants – market penetration, product development, market development and diversification**.**

Given that the firm is currently operating in a local market, it could seek to consider market penetration as it has the lowest level of risk. The firm would seek to find new customers with advertising and promotions. If the market is quite static then such a strategy would seek to attract customers from other firms.

Product development would seek to introduce new products, so a new type of sweet/chocolate. With sufficient or growing demand for the product within the local market, this could lead to additional sales from existing customers.

Market development is associated with expansion into new markets which could be in different locations. If the local market is small, neighbouring markets could be explored. It is unlikely that overseas markets would be pursued given that the firm is only producing a small number of products in a local market at present. This would be an approach more suited to a larger firm.

Diversification would lead the firm to produce not only confectionary but other goods. This is the most risky strategy.

Market penetration or product development are likely to be the vectors of growth that a local confectioner might seek to place themselves in within the immediate future. Market development and diversification are likely to be associated with a firm that has already experienced some growth.

[5]

(ii) The marketing mix of the 4 Ps should be considered. Based on market penetration or product development being the selected growth strategies. The firm would seek to build a brand/identify for its confectionary. In terms of price, they would wish to ensure that the product is priced in line with other competitors (not the established multinational brands) but other niche/artisan products. The firm would seek to develop additional distribution channels/manufacturers for its product. Additional outlets to sell the product would also be likely to be sought if the firm undertook a strategy of market penetration. Finally, promotion is likely to play heavily within any marketing strategy, special promotions of existing products to new customers and/or trials for new products to existing customers would be part of an effective marketing strategy.

[5]
[Total 10]

In part (i) most candidates structured their response with reference to the growth vector matrix elements and provided correct suggestions. In part (ii) most answers demonstrated an understanding of the marketing mix. However some candidates did not provide suggestions relevant to the particular industry and did not score the full mark.

37 (i)

There are two key means to increase the potential growth of the economy; an increase in the resources available or an increase in the productivity of those resources.

Discussion on resources should relate to capital (encouraged by favourable lending conditions and a tax regime, positivity about the future, the rate of interest and the rate of growth within the economy). As the capital/output ratio rises, a higher proportion of national income being directed towards investment via higher savings rates.

Labour is another resource that can be increased. This may be through an increase in the population of working age individuals. The participation rate may be increased by making it easier for women to enter the labour force, enabling people to work until they are older/start working younger. Alternatively, there would be an increase in the population as a whole (higher birth rates or migration). Education and training are important sources of growth.

Finally, land and raw materials are the other resource that could potentially be increased if previously unused land were to be used (via irrigation for example) or through the discovery of a new deposit within the land. Scope here is normally rather limited.

Productivity of resources is perhaps more important. Investment leads to technological progress and innovation. [5]

(ii) There are four government objectives; economic growth, low unemployment, low and stable inflation and a favourable balance of payments.

Higher rates of economic growth may be preferable as growth represents an increase in output. A higher rate of inflation means that prices are rising within the market and households will have less purchasing power. In addition, decision making may also be constrained as firms and households face additional uncertainty. On the other hand, low levels of unemployment are desirable as the economy will be operating closer to its capacity and expenditure on benefits will be lower and tax revenues higher; these funds can then be spend by the government elsewhere in the economy.

The issue is that the 4 objectives conflict with one another. By increasing economic growth the rate of inflation may rise or in seeking to reduce unemployment there may be an increase in the rate of inflation. A higher rate of inflation is associated with a fall in the standard of living. This may be due to re-distributional effects and due to the lack of certainty and therefore lower investment.

The Phillips Curve specifically explores the potential trade-off between inflation and unemployment as two key government objectives. The PC shows an inverse relationship between the two objectives, where a lower rate of unemployment can be secured in exchange for a higher rate of inflation; effectively one objective can be achieved at the cost of another. However, in the long run there is no trade-off between these two objectives.

In order to control inflation, a contractionary demand side policy may be used, this could be in the form higher interest rates. Higher interest rates could discourage investment and potential future economic growth. Reduced government spending or higher rates of tax could also be used to curb inflation. [5]

[Total 10]

The answers to this question were generally poor with very few candidates providing a correct and sufficiently detailed answer.
In part (i), answers which referred to increased productivity of a resource and its connection to growth were accepted. Many candidates mentioned fiscal and monetary policies but to gain credit they were required to link these policies to increased capital, or technological improvement.
In part (ii) most candidates stated some of the objectives but few candidates commented on the interaction between the objectives.

END OF EXAMINERS' REPORT