INSTITUTE AND FACULTY OF ACTUARIES

EXAMINERS' REPORT

September 2020

Subject CB2 – Business Economics
Core Principles

Introduction

The Examiners' Report is written by the Chief 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 2020

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

The aim of the Business Economics subject is to introduce candidates 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.

B. Comments on *candidates' performance in this diet of the examination.*

Due to the online format of the examination, the examination paper in this diet excluded questions that involve producing diagrams in answering questions. The focus was mainly on probing candidates' understanding of the theory by requiring explanation of concepts within a context.
Performance in answering the multiple choice questions was similar to the previous diets. Responses to short answer questions aimed at testing candidates' understanding of economic concepts wihin a chosen context was reasonable. However, answering long answer questions that required a deeper understanding of economic theory and policy, together with exploring interlinckages within the wider economic context proved more challlanging for most candodates.

C. Pass Mark

The Pass Mark for this exam was 60.
1079 candidates presented themselves and 703 passed.

Solutions for Subject CB2 September 2020

Q1	C	[1½]
Q2	B	[1½]
Q3	B	[1½]
Q4	A	[1½]
Q5	B	[1½]
Q6	A	[1½]
Q7	A	[1½]
Q8	B	[1½]
Q9	D	[1½]
Q10	D	[1½]
Q11	C	[1½]
Q12	C	[1½]
Q13	B	[1½]
Q14	C	[1½]
Q15	A	[1½]
Q16	D	[1½]
Q17	C	[1½]
Q18	D	[1½]
Q19	D	[1½]
Q20	D	[1½]
Q21	B	[1½]
Q22	B	[1½]
Q23	C	[1½]
Q24	C	[1½]
Q25	B	[1½]
Q26	A	[1½]

The multiple choice questions were generally answered well.

Q27

(i)

- In an oligopolistic market there are only a few firms.
- There are generally significant barriers to entry.

- Under oligopoly there is a high degree of interdependence between firms. This means that firms have to take into account decisions made by other firms when making their price and output decisions.
- In an oligopolistic market structure, firms tend to have differentiated products and compete on price, quality and may engage on non-price competitive behaviour such a advertising.

[2]

(ii)

- In an oligopolistic market there are only a small number of firms whereas in a monopoly there is just one firm.
- Under oligopoly there is a high degree of interdependence between firms. This means that firms have to take into account decisions made by other firms when making their price and output decisions. This is a problem that a monopolist does not have to worry about. Although there might be concerns about potential competitors entering if it sets prices too high.
- Under oligopoly each firm has only a share of the market demand curve whereas for a monopoly the market demand curve is the firm's demand curve.
- With oligopoly each firm may be selling either identical or differentiated products and they tend to compete with each other on both price and quality. A monopolist may produce just one good or a variety of goods.
- There are barriers to entry in both market structures although they need to be strong enough to block new firms' entry in the case of a monopoly. The existence of barriers to entry means that there is the potential to make abnormal profits in the long run in both market structures but clearly a monopolist would have the potential to yield superior abnormal profits compared to firms operating in an oligopolistic market structure.

[3]
[Total 5]

In part (i) of this question all four features of oligopoly needed to be explained (few firms, barriers to entry, interdependence, and product differentiation, 1/2 mark each) to gain the full marks.
To gain the full marks for part (ii), candidates were required to offer the chracteristics listed above, clearly explaining the differences between the two structures. In both parts credit was awarded for partial answers.
This question was generally answered well.

Q28

Left to itself the market will equate supply and demand via changes in price. If the government intervenes in the pricing decision it may cause a disequilibrium to occur which is likely to have adverse consequences.

An example of problems induced by setting a price floor or minimum guaranteed price is in the agricultural market. When governments set a high guaranteed minimum price for agricultural output which is above the free market price there are two effects

- Consumers face higher food prices and cut back on consumption and
- farmers are encouraged to increase agricultural output. The result is an agricultural surplus, the government has to purchase the surplus and then decide what to do with it, it might store it but this is costly, it might give it away or it might dump the food on the world market. The policy while highly beneficial to farmers will damage the interests of consumers.

A price ceiling (maximum permissible price) that is set below the free market price will also cause problems. For example, in the housing rental market governments sometimes set maximum rents below the free market rent that equated the supply and demand in the market. The effect of the rental control is that the supply of rented housing falls while the demand for rented housing rises resulting in a shortage of housing. The rental controls are to the benefit of those that are able to obtain rented accommodation but mean that many people are unable to do so. All in all there can be little doubt that while government intervention in the free market can be beneficial in some respects the interventions can harm the interests of other parties and create problems of surpluses and shortages which are invariably inefficient.

To obtain rented accommodation. The shortage problem will then have to be solved either by some means of rationing and the government might find itself under pressure to build new subsidised housing. Another possibility is that landlords will try to get around the rent controls either by charging for other items such as furniture rather than the accommodation. One might also witness the emergence of a black market for housing.

[Total 6]

This question required description of price celings and price floors (including the level of these in relation to the equilibrium price level and the resulting shortage or surplus) within a given context. Responses that included a full description of a price celing and a price floor as applied to a specific example scored the full marks (3 marks each). Credit was given where exmaples were not provided and a general description was offered without examples.
Most candidates made a good attempt in answering this question.

Q29

(i) C [1]
(ii) B, C, D [1]
(iii) D [2]
(iv) A, B [1]

[Total 5]

Parts (i) and (iii) of this question were generally answered well. Part (ii) and (iv) proved more challenging.

Q30

(i)

Equilibrium wage rate is determined in the labour market by the interaction of labour supply and labour demand. The aggregate supply of and demand for labour depend on the wage rate. Higher wage rates result in higher labour supply. The aggregate demand for labour on the other hand will be lower the higher the wage rate as employers tend to substitute cheaper factors of production (such as automation of production lines) for more expensive labour.
When the aggregate supply of labour equals the aggregate demand for labour the labour market will be in equilibrium, the resulting wage rate would be the equilibrium wage rate and the number employed is determined by the aggregate labour demand that is equal to the aggregate labour supply. Even when the labour market is in equilibrium, there will be some unemployment. This equilibrium or 'natural' unemployment occurs because not everyone in the labour force will accept jobs at the equilibrium wage rate, waiting for a better offer.

[3]

(ii)

If the real wage is set above the equilibrium wage then this results in excess supply of labour and the labour market would be in a state of disequilibrium. This could happen, for example, if trade unions drive the wage rate above the market clearing level or the national minimum wage is set too high. The Excess of supply over demand for labour is disequilibrium unemployment and in this case is called real-wage unemployment. The disequilibrium unemployment will persist as long as wages are 'sticky' downwards and do not immediately fall to a level to clear the market. Labour demand in this case determines the number of workers employed.
One effect of high real wage rate is to increase consumer expenditure by those employed at the higher wage rate. The increased aggregate demand would increase demand for labour as firms increase output. This will increase employment and reduce unemployment to some extent.

[3]

[Total 6]

Part (i) of this question required a description of labour supply and labour demand, determination of the equilibrium wage rate and the resulting employment and unemployment. Attempts at his part were reasonable.
Most answers to part (ii) lacked sufficient explanation to warrant the full marks for this part.

Q31

(i)

The equilibrium level of national income is given by:
$Y = C + I + G + X - M$
$Y = 0.6\ (1 - t)Y + 200 + 400 + 100 - 0.3Y$
$Y = 0.6(1 - 0.5)\ Y + 700 - 0.3Y$
$Y =$ £ 700 million [2]

(ii)

Equilibrium consumption will be $C = 0.6\ (1- 0.5)\ 700 = 210$ million. [1]

(iii)

The fiscal budget balance is given by taxes (T) minus government expenditure (G)

T = £350 million
G = £400 million
Hence there is a fiscal deficit of £50 million [1]

(iv)

The current account is given by:
X - M = 100 - 0.3 Y
= 100 - 0.3(700)
= 100 -210
= -110
There is a current account deficit of £110 million. [1]

[Total 5]

In part (i) of this question, correct aggregate demand formula and correct substitution carried 1 mark and correct final answer carried 1 mark. In parts (ii), (iii) and (iv) where the answers were based on the incorrect answer from part (i) but correct method was employed, full mark was awarded.
This question was generally answered well.

Q32

(i)

The LM curve for a closed economy shows different combinations of the rate of interest and level of income for which the money market is in equilibrium, that is, money demand equals money supply

[2]

(ii)

There are several factors that could shift the LM curve to the right.

- An increase in the money supply through an open market operation will lower equilibrium interest rate at each level of income and shift LM curve to the right.
- A fall in the general level of prices which will increase the real money supply.
- A fall in money demand not due to a fall in national income will shift the demand curve to the left. This will, at the current level of national income, reduce equilibrium interest rates and will shift the LM curve down. The demand for money could fall due, for example to any of the following:
  - Less extensive use of cash (using cards instead eg) which would reduce the demand for money.
  - Price expectations, if prices are expected to rise, then the demand for money will fall (addition)
  - If people are paid more frequently, then this would reduce the demand for money (addition)

[2]

[Total 4]

Most candidates made a reasonable attempt in part (i).
In part (ii) an explanation of each of the three factors given above was required to gain the full marks. Where factors leading to a shift in money demand were offered, the answer was accepted provided that explanation of a lower equilibrium interest rate was given. In each case the mechanism through which the factor change leads to a shift in the LM curve needed to be explained.
Most candidates offered at least one factor but often the answer lacked sufficient detail.

Q33

(i)

€60 million [1]

(ii)

0 [1]

(iii) Since €200 million is equilibrium income, aggregate demand is equal to income. [1]

(iv) €100 million [2]

[Total 5]

This question was generally answered well.

Q34

Monetarists are critical of the idea that there is a long term trade-off between inflation and unemployment. They argue that the long run Philips curve is vertical at the equilibrium/natural level of unemployment. In the short run, higher aggregate demand will reduce the level of unemployment because at the given price level, there is higher real aggregate demand. However, in the long run real aggregate demand will fall due to an increase in prices. They believe that the inflation rate in the long term is determined by the rate by which monetary growth exceeds the potential output of the economy.

They argue that if governments engage in monetary expansion to increase output and reduce unemployment, they will only achieve lower unemployment in the short run not the long run. They base their argument on the quantity theory of money. According to the relationship MV=PY, assuming that V and Y are stable and independent of changes in M, any increase in the money supply will only increase prices. They argue that attempts to increase the money supply will boost aggregate demand, output and employment for a short while and that in the longer term, firms and workers will adjust their expectations and raise wages and prices, so the aggregate demand will fall and output and employment will fall back again. The monetarists thus emphasise the role of expectation and argue that people revise/adapt their expectation of price changes continuously based on their recent experience. Repeated attempts by governments to reduce unemployment by increasing the money supply would only result in higher and higher price levels. Hence, monetarist believe that in the long run there is no trade-off between inflation and unemployment. They believe that the economy will settle at the natural rate of unemployment.

[Total 5]

The answer to this question required a clear explanation of the short-run and long-run effects of monetary expansion including the Philips curve, quantity theory and the role of adaptive expectation.
The responses to this question were varied and most answers lacked a coherent and clear explanation.

Q35

(i)

The growth of international trade is very important to both countries and the firms that operate within that country.
For the country as a whole it will be able to specialise in the goods and services in which it has a comparative advantage and import at a lower cost those in which it has a comparative disadvantage. This will tend to raise the overall living standards and economic welfare of most of its citizens although there will inevitably be some that lose, it is well established that the overall gains to the winners are greater than the losses of the losers. There is a potential for even the losers to gain if appropriate financial redistribution from the winners to the losers is carried out.

International trade can enable countries and firms to exploit economies of scale which reduces the long run average costs of production due to the existence of potential export markets enabling higher production than would be possible if producing only for the domestic economy.

International trade will also be beneficial as it will give consumers and firms access to a wider variety of products than can be produced within the domestic economy. This can be especially important in the food sector whereby a country can consume many types of food that it cannot produce itself.

A further advantage of international trade is that it may enable a country to get imported technology in the way of consumer goods and also plant and machinery that it cannot afford or does not have the expertise to produce itself, for example aircraft, mobile phones and robot machines for car factories.

A further advantage of international trade is that it can undermine the powers of domestic monopolies that are forced to compete, both in terms of price and quality, with international producers offering cheaper goods.

Another advantage of international trade for domestic firms is that it will give them the opportunity to grow their client base and having both domestic and foreign demand for their products will enable them to both become more profitable and have more stability of demand for their products.

In the longer-term international trade can act as an engine for economic growth by making firms more competitive and dynamic leading to the closure of uncompetitive domestic firms thus free up their factors of production to be redeployed to more successful and dynamic parts of the economy.

[Total 5]

(ii)

The World Trade Organisation expects its members to abide by five key rules

- Non-discrimination. Under the most favoured nation (MFN) clause any trade concession that a country makes to one member nation must also be extended to all the other WTO members. The only exceptions to this MFN rule is the case of accepted free trade areas and customs unions where all tariff barriers are abolished within free trade areas.
- Reciprocity. Any nation benefitting from a tariff reduction made by another country must reciprocate by making similar tariff concessions itself.
- Quotas. There is a general prohibition of the usage of quotas in international trade, that is a country cannot impose quantitative restrictions on the volume of its imports of a particular good.
- Fair competition. If unfair barriers are erected against a particular WTO member country, the WTO can sanction retaliatory action by that country once permission has been granted by the WTO.
- Binding tariffs. Countries are not allowed to raise their existing tariffs without negotiating with their trading partners.

[5]

[Total 10]

Clear and detailed explanation of any five main benefit from those outlined above, scored the full marks in part (i), 1 mark allocted to each benefit. Clear explanation of other benefits not listed was also accepted.
Most candidates offered a reasonable explanation of the benefits of international trade for part (i).
In part (ii) each of the above five rules clearly and fully explained in candidate's own words carried 1 mark. Part (ii) was generally answered well.

Q36

(i)

There a number of reasons as to why governments seek to control inflation. Inflation results in costs. Economists, when analysing the costs of inflation, 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. The cost is relatively small if the rate of inflation is not high and if it does not fluctuate much so that consumers and firms could reasonably predict and make allowances for it. Economic agents can learn to live with stable and predictable inflation but serious costs are imposed when inflation is volatile and unpredictable taking economic agents by surprise. Unanticipated inflation would have more serious consequences.

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. (borrowers and lenders)
[1]

Inflation also discourages investment since it adds greater uncertainty (important) to business planning. Businesses find it hard to forecast their costs and revenue and face increased uncertainty over the interest rates that they will have to pay to finance investment.

Strikes and industrial disruption are generally higher in periods of rising inflation as workers seek compensation and differentials get distorted when some get rises above inflation while others have to settle for below inflation rises.

Finally, inflation can undermine a country's international competitiveness, especially if it operates a fixed exchange rate. Inflation by raising the cost of the country's exports will mean less goods are sold abroad and more imports will be purchased by domestic residents resulting in 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.
Persisting high and fluctuating inflation could result in hyperinflation (spiralling of prices and wages) which accentuates the harmful effects.

[5]

(ii)

Once inflation is deeply rooted in the economic system bringing it under control through tighter monetary 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 down towards lower inflation. During the transition period lower inflation policies can lead to significant job losses and lower economic growth.

Inflation control can also require a tough monetary response such as raising short term interest rates and this can lead to an appreciation of the exchange rate which makes exports less competitive and imports cheaper and can, therefore, result in job losses for those working in sectors of the economy involved in imports and exports. The change in international trade via a loss of competitiveness could lead to a worsening of the balance of payments. (additional sentence)
Furthermore higher interest rates designed to control inflation can also adversely affect investment and firm profits (especially those with high debt burdens) which will adversely affect employment and economics growth in the longer term.
Inflation control may also mean that the government adopts a tighter fiscal policy through a combination of lower government expenditure and higher taxes. This too can adversely affect economic output and longer term economic growth if crucial publicly financed infrastructure projects are cancelled.

[5]

[Total 10]

In part (i) a clear and detailed explanation of five reasons for controlling inflation from those described above was required to gain the full marks (1 mark each). Most candidates made a reasonable attempt in answering this part.

In part (ii) a clear and detailed explanation of the impact of policy (monetary or fiscal) to control inflation, on other macroeconomic objectives and the conflicts was required. The answers to this part were varied. Most answers did not sufficiently and clearly explain the impact of policy on the relevant parts of the economy and the mechanisms/linkages through which the policy operated.

END OF EXAMINERS' REPORT

