

Examiner's Report

December 2018 Session

**Paper 4
Business Economics and
Financial Mathematics**

General Comments

This paper consisted of three sections. Section A contained multiple-choice questions; Section B had two compulsory short questions and Section C had three optional long questions. The questions tested candidates' understanding and knowledge of both economics and financial mathematics. The overall pass rate was about the same as that of the previous session, with the poor performance in Section A more or less offset by the better performance in Sections B and C.

Section A – 15 Multiple-choice Questions

The questions in this section were compulsory and divided into two parts. The first part consisted of ten questions, each correct answer of which was worth one mark. The second part had five questions, which were worth two marks each. The general performance (in terms of the average score and pass rate) was worse than that in the previous session. As these multiple-choice questions were designed to cover the whole syllabus and the calculation techniques involved were fundamental to business decision-making purpose, the weak performance in this section would reflect that candidates had not prepared satisfactorily for the examination.

An efficient and effective way for candidates to gain a basic understanding of the whole syllabus and the types of questions that they might face in the examination is to go through the entire study text for this Paper. Relevant sections of the supplementary readings (including the economics book) assigned for this Paper should also be studied whenever necessary.

Section B – 2 Compulsory Questions

Question B1

This question consisted of five parts, of which only part (a) was calculation-based (while the other parts were concept-based). It was designed to test candidates' understanding of the basic concepts of microeconomics and their application. Part (a) involved simple calculations of equilibrium values. Part (b) required candidates to define excess demand and supply, followed in part (c) by a straightforward application of the concepts based on the numerical results derived in part (a). Part (d) tested candidates' knowledge of the factors that would shift the demand curve of a product. Part (e) of the question tested candidates' understanding of the implication of a monopolistic market structure for the market demand curve.

The overall performance was satisfactory. To better prepare for this type of standard questions, candidates are strongly advised to read not only the study text but also the supplementary reading materials on economics assigned for this Paper as well as the past exam papers.

Question B2

This question was composed of two separate parts, with part (a) focusing on the time value of money and part (b) on sampling techniques.

Part (a), made up of two separate sub-parts, was entirely calculation-based. Part (a)(i) tested candidates' ability to handle the conversion of interest rates (from an annual percentage rate ("APR") to effective annual rate ("EAR")) while part (a)(ii) involved a simple calculation of the present value of a perpetual stream of fixed cash flows. The performance was satisfactory.

Part (b) was divided into two sub-parts, with part (b)(i) asking candidates to briefly discuss the two basic sampling methods (probability and non-probability sampling) and part (b)(ii) requiring candidates to describe any two probability sampling methods. Compared to Question B1, the performance was much worse in this question. As similar issues and calculation techniques covered in both parts of the question had been examined repeatedly in the past, the relatively poor performance pointed to the inadequate preparation on the part of candidates.

Section C – 3 Optional Questions

Question C1

This question consisted of five separate parts, and was designed to test candidates' understanding of the basic concepts of microeconomics and their application in an international trade setting. Except for part (b), which involved defining and calculating opportunity cost, all were entirely concept-based questions.

The first three parts adopted the same question format, with parts (a) and (c) requiring candidates to first define a concept (absolute advantage and comparative advantage respectively) and then apply it to determine which country has an advantage (absolute and comparative) in which product. Part (b)'s application involved the calculation of the opportunity cost of the product in each country. The other parts (parts (d) and (e)) had a similar question format with the focus shifting to gains from trade.

The overall performance in this question was fair. Candidates who performed well were generally able to demonstrate a firm grip of the opportunity cost concept and its calculation.

An efficient and effective way to prepare for questions related to international trade issues is to go through the relevant sections of the study text for this paper.

Question C2

This question consisted of five parts, of which parts (a), (b) and (d) were calculations-based. Parts (a) and (b) focused on calculating the NPV of the projects proposed while part (c) on interpreting the results. Part (d), also related to NPV's calculations, was designed to test candidates' ability to apply the relevant formula in a slightly different setting (finding the size of the periodic cash flows rather than the NPV of the project itself). Part (e) was similar in nature to part (c) but went deeper into testing candidates' understanding of the true meaning of the value of NPV by differentiating between profit/loss and value creation/destruction.

This was the most attempted question in Section C but the performance was much worse than that in the other two questions. To better prepare for this type of applied question, candidates need to gain a better understanding of the basic concepts and the relevant techniques involving the calculation of the present value of multiple cash flows. It would be useful to review the past examination papers related to multiple cash flows.

Question C3

This question focused on descriptive statistics (as vs. inferential statistics) and was divided into three parts. Like the other two optional questions, this one also involved both conceptual and calculation-based questions.

Part (a) was divided into four sub-parts, with the last three being interrelated. Part (a)(i) asked the candidates to briefly discuss the difference between time-series and cross-section data. Parts (a)(ii), (a)(iii) and (a)(iv) focused on the calculation and interpretation of the two commonly used averages (mean and median) based on the data provided.

Part (b) focused on the discussion of a specific dispersion measure (range) and its disadvantages.

Part (c) continued to focus on dispersion measures and was divided into two sub-parts. Part (c)(i) involved the calculation of standard deviation and part (c)(ii) a brief discussion of alternative dispersion statistics.

The overall performance in this question was the best among the three. As this type of questions had been examined repeatedly in the past, and the concepts involved were quite straightforward, the relatively good performance was expected.

[END OF EXAMINER'S REPORT]