

## Chairman's Report Part I of the Economics Tripos 2015-2016

In June 2015 Part I exams were sat by 154 students. The proportion of students obtaining  $1^{sts}$ , 2.1s, 2.2s and  $3^{rds}$ , respectively, were 28.9%, 53.9%, 15.8% and 1.3%. There were no fails. Comments on performance at the level of individual papers will be provided in the internal examiners reports.

The Board of Examiners agreed that the Pigou Prize for best overall performance should be awarded to Laurence Nathan O'Brien, Jesus College

In general, the timetable for receiving and collating exam marks was adhered to, due largely to the work of Cherie Lee, Silvana Dean and Craig Peacock. As a consequence, the final meeting proceeded in an efficient manner with many of the issues solved previously. On behalf of the internal examiners I would like to thank them for the professional manner in which they undertook this task.

A number of procedural issues did take up a considerable amount of time. Most notably the Board discussed the case of one student who did not heed the instruction to stop writing at the end of the examination. When the student failed to respond to further requests, a note of the student's exam id was taken, and this incident was reported to the Faculty. Since the Board has no precedent to go by. It was decided in this instance to impose a penalty that was proportional to the additional time, and there was no further penalty for cheating. It is strongly recommended that this issue be considered by the Undergraduate Studies Committee so that a clear policy is introduced for future reference. This issue should also be reported to the University's Board of Examinations.

One significant change this year was that students received, for each paper, the breakdown of marks by question. This was done to provide students with additional information on their performance and also as an attempt to circumvent the time consuming process of appeals. The administration of this new system was smooth and initial impressions suggest that it has been successful.

Finally, I would like to thank the external examiner, Professor Robin Mason, for his assistance and attention to detail both prior to and during the final exam meeting. His Report draws attention to a number of issues that I wish to endorse. First, the examination marks across papers exhibit variation in the extent to which the full range of marks are used. Second, for some papers, and in particular those with a considerable quantitative component, it may be required to scale individual marks. Although this is often unavoidable, both individual examiners and examining boards should seek to design questions which minimise the likelihood of generating bimodal distributions.

Dr Melvyn Weeks

## External Examiner Cambridge Economics Tripos Part I

- 1 I should like to commend the Faculty of Economics on the high standards of the examination paper and the answers. The questions are clearly very demanding; the majority of students are clearly up to the demands. The standards are certainly comparable to e.g., the LSE and Oxford, where I have acted previously as external examiner.
- 2 I should like also to thank the Faculty for the excellent organization and administration of the process.
- 3 I found the processes for assessment, examination and the determination of awards to be sound and fair. The majority of my comments from last year have been reflected in this year's process.
- 4 There are therefore only a few issues arising from this year's papers and marks on which I should like to comment.
- As I noted last year, the use of adjustments to correct overall mark distributions that are out-ofline is standard and, in itself, unproblematic. I would encourage three practices:
  - (a) The adjustment method should preferably be simple, definitely be clear, so that its effects can be checked easily.
  - (b) Robustness checks could be carried out to see whether a particular adjustment on a particular paper affects an individual student's overall classification. (The adjustments to Papers 1 and 2 give rise to several examples of this.
  - (c) Given the degree of scaling with Paper 1, it would be worth considering in future years how questions can be designed to try to reduce the extent to which the distribution of marks is bimodal.
- I encourage some consideration to be given to how the more qualitative papers (Papers 4 and 5) can attain the full range of marks. Paper 4, in particular, appears to have a highly compressed mark range, with over 75% of candidates receiving a II.1, and no candidate receiving a mark over 71. This issue is no doubt more complicated than simply awarding higher (and lower) marks at the assessment stage. But the difference between the papers is sufficiently large as to merit attention.
- There was the highly unusual occurrence this year of a candidate in a particular examination continuing to write after the end of the examination period (for about five minutes). The examination board dealt with this case appropriately, in my view, but was not guided by any clear regulation. I suggest that the regulation for such a case be considered so that a consistent approach can be taken in future cases.

I would be happy to provide further comment if that would be of assistance.

Professor Robin Mason

RAThem.

### Paper 1 Microeconomics 154 Scripts

#### **Section A**

According to the rubric of the paper, the questions in this section are each worth (25/3) marks. It is therefore essential that students make sure that they read and answer the question as posed, rather than trying to find a way of torturing the question into conformity with a supervision essay. The concise answer should then be backed up with a concise and lucid justification.

#### Question 1

This question was badly answered. A typical answer explained in great detail that:

- 1. In the case of monopoly in an Edgeworth box, the outcome will in general be Pareto inefficient.
- 2. In competitive equilbrium, the outcome will be Pareto efficient.
- 3. Therefore the outcome of the monopoly case is Pareto inferior to the competitive equilibrium.

This is a non sequitur. Only two students gave a convincing answer. Two or three others appeared to be groping in the right direction, but since they did not point confidently to the correct answer, it was hard to be sure whether this was simply luck.

#### Question 2

A surprisingly large number of students appeared to struggle with this question. There were two elements to the question. (1) Mary buys more CDs. (Both face identical costs, so membership is cheaper only if CD purchases exceed 10). (2) CDs are a normal good (given Cobb-Douglas preferences), so you buy more as you get richer. Putting (1) and (2) together gives the answer that Mary has more income.

#### Question 3

This was a question about Revealed Preference, and the application of WARP (although the use of these terms was not necessary). A distressingly large number of answers tried to find income and substitution effects. More distressingly, a number of answers essentially said "Since  $P^0(X^1 - X^0) = 0$ , therefore  $X^1 = X^0$ , and hence  $P^1(X^1 - X^0) = 0$ ".

### Question 4

This question was better answered than others, such as Question 1. However, there are effectively three parts to the question:

- 1."If their reservation values add up to \$120, is it Pareto-efficient for them to buy [the router]?"
- 2."If any cost must be split equally and each person's reservation value is known only to her, is it possible for them to reach the Pareto-efficient decision for all possible combinations of values?"

#### 3."Explain."

Many students did not signpost the separate parts of their answers adequately. More substantively:

1. Most students stated correctly that it would indeed be Pareto efficient to buy the router. (Actually, many preferred to buy a TV, even though the question specified a router). But they did not make clear what had to be done to make it so, namely to arrange appropriate side payments among the flat mates. Maximizing the sum of utilities is not the same as achieving Pareto efficiency.

- 2. The question states clearly that "any cost must be split equally". This places a substantial obstacle in the way of achieving the Pareto efficient outcome, even under perfect information, because it rules out side payments. In particular, it rules out the Clarke-Groves-Ledyard mechanism. With private values, things are even worse. One possible way out is to interpret Pareto efficiency to mean constrained Pareto efficiency. But this does involve a reinterpretation of the question, and would have to come as a final suggestion at the end. Moreover, the reinterpretation of Pareto efficiency would need to be made absolutely explicit.
- 3. In general, some attempt was made to explain.

#### Question 5

This looked very much like a question from a supervision essay. It was reasonably well answered.

#### Question 6

This was a relatively straightforward question, parts of which could be answered in at least a couple of different ways. Somewhat surprisingly, (and worryingly), several students struggled to translate graphical intuition into algebraic computation.

#### **Section B**

#### Question 7

This question was answered by almost all students. The vast majority got a significant part of the calculations right. Perhaps the part that they found the most difficult was finding the contract curve, although many got this right too.

#### **Question 8**

Approximately half the candidates chose to answer the question, and the overall quality of answers was good, as reflected in the relatively high marks attained on this question. Pleasingly, the best answers recognised the payment in part (b) of the question as the Equivalent Variation of the price change.

### Question 9

Relatively few students attempted this question, and most answers were at least adequate.

#### Question 10

Surprisingly few candidates attempted this question, perhaps because it might have appeared difficult at first glance. In fact, it was a relatively straightforward question, as reflected in the excellent marks attained by the (fewer than 10) candidates who chose to answer it.

#### Question 11

This was a more difficult question, but self-selection ensured that a significant number of those attempting it made satisfactory attempts.

Note that part (c) has three subparts:

- 1."Show that if each firm maximizes its own profits, the outcome will be Pareto-inefficient from the firms' point of view."
- 2."Is there over-production or under-production?"
- 3."Explain the reason for this inefficiency."

Students did not adequately signpost their answers to these subparts.

Subpart 1 proved particularly challenging. As in several other questions, students did not seem to have an adequate mastery of Pareto efficiency. They needed to explain exactly why the outcome is Pareto inefficient from the firms' point of view.

Part (d) was tricky, because the simplest solution is a nonlinear Pigouvian tax. However, there were some good attempts.

Part (e) required much more careful interpretation than most students appreciated.

#### Question 12

This question was a (disappointing) example of a case where several answers simply regurgitated the Ricardo model, without addressing the question of wages directly. While virtually all the answers recognised the benefits of trade driven by comparative advantage, relatively few focused on the effect on real wages, driven by changes in goods prices, and the link between wages and productivity.

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At the risk of repeating past examiners' reports, we would like to (re-)emphasize that it is important that students should: (i) write answers clearly and legibly; and (ii) read the question carefully before answering. Further, especially in multi-part questions that combine problem-solving with explanations, it is important not to omit the latter.

Dr Sanjay Jain Prof. Christopher Harris

# Paper 2 Macroeconomics 154 Scripts

#### Overview

The macroeconomics paper retained its usual format of six compulsory short questions in Part A, and six long questions in Part B, two of which were to be chosen by each candidate. All candidates answered the correct number of questions, though one candidate left a blank response to question A6. Students should note that even when they find a question difficult, the marginal returns to writing *something* sensible are usually quite high. A blank script cannot fail to score zero.

The average mark for the paper was 64.1, slightly down on recent years, and the overall distribution of marks was as follows:

Marks over 70	39 scripts (25.3%)
Marks 60–69	80 scripts (51.9%)
Marks 50–59	33 scripts (21.4%)
Marks 40–49	2 scripts (1.3%)

The number of answers to each question, and the average mark for each, was as follows:

Question	A1	A2	A3	A4	A5	A6	В7	B8	B9	B10	B11	B12
Scripts	154	154	154	154	154	154	40	8	24	18	120	98
Av. mark	61.6	62.6	69.1	62.6	66.5	60.3	68.4	65.9	66.3	64.6	63.6	62.7

As in previous years, the three problem-style questions in Part B drew the highest number of responses. The essay questions B8, B9 and B10 attracted far fewer candidates. The similarity in mean marks across the optional questions masks significant distributional differences: the range of marks awarded for the problem-style questions ran from 30 to 95, whereas all essays scored between 58 and 73.

### **Error in question B11**

Unfortunately, there was an error in the printed version of question B11, part (a) ii. Students were asked to demonstrate an inequality that was stated incorrectly. This was a relatively minor part of the overall question, and responses to it were discarded when assessing students' grades for the question. Nonetheless, there was a clear risk that the error could have caused some students to waste undue time, and scripts were checked carefully for evidence that this was the case. Fortunately, the overwhelming majority of scripts 'proved' the incorrect inequality without batting an eyelid. There was clear evidence of wasted time in around 15 scripts – ranging from a few lines of crossed-out workings to over a page. In two of these cases it was clear that the candidates had then been short on time at the end of the exam, and this had impaired their overall performance. Both of these candidates answered question B11 last, and were awarded marks for the whole question consistent with their performance before the time constraints came to bind.

#### **Comments on individual questions**

**A1:** The majority of students answered this question correctly. However, some students seemed to confuse (a) steady state growth and growth in transition and (b) per capita growth and the growth of the level of Y.

**A2:** While most students answered this question well, using both equations and graphs, a number of students used the wrong model(s) and assumptions and therefore could not answer the question satisfactorily.

**A3:** This was an easy question, which most students answered correctly. Strong candidates used equations to back up their argument.

**A4:** These questions tested students' ability to think through the underlying structure of the AS-AD model. Part (a) was generally answered well. Almost all students understood the link between MPC and the slope of the IS curve. Some struggled to link this to the slope of the AD curve, and intuition relating to the foundations of the AD curve was sometimes weak. Part (b) hinted at the models of price setting that were behind the derivation of the AS curve – growth in online retailing presumably making it easier for firms to change prices, and spreading information about prices across the economy more easily. Very few identified this, but strong marks were given for well-argued, plausible alternative stories.

**A5:** This was closely related to a supervision question asking the same for a fiscal expansion. Most students identified that the IS curve would be upward-sloping in (e,Y) space when the ML condition was not met. Some struggled with the fact that the monetary expansion might intuitively be expected to cause a depreciation, and argued that the model was unstable because this would cause a downward demand spiral – omitting to show that there was an equilibrium with an *appreciated* real exchange rate. Better answers commented on this possible instability, but after identifying the correct new equilibrium.

**A6:** As anticipated, most students answered this question by reference to the zero bound, and did so well. Weaker students relied on loose arguments based around the Fisher equation, often failing to spot that the MP curve used in the lectures defines a desired real, not nominal, policy interest rate.

**B7:** Only 40 students attempted this question. Most found parts (a) and (b) quite straightforward. For parts (c) and (d) everyone looked at the case when labour supply drops, but very few people also acknowledged that that there will be a drop in productivity (fall in A). Finally, the importance of commenting on, and providing intuition for, mathematical derivations, cannot be underestimated, especially if the student ends up aborting subsequent part(s) of the question or running out of time.

**B8–10**: Only a handful of students (8, 24, and 18 respectively) answered these essay type questions. Overall, while the answers were satisfactory in most cases, a number of issues should be noted:

- a) It is surprising that most students, while writing a number of pages, will not explicitly provide any answer(s) to the question(s) asked. Instead they write an essay based on essay plans they have prepared during revision, which are usually related to the exam question, but not actually addressing the precise question.
- b) Students should make sure that they include an introduction and conclusion.
- c) It is crucial that students present a clear structure for their arguments, and relate each of them to the key concept they are asked to discuss.

- d) A good essay should demonstrate that the student is capable of processing, analysing and being critical of the material learned.
- e) A good essay should also be well-structured and written in clear and simple English.

**B11:** This was the most popular question, attracting answers from around 80 per cent of candidates. Discarding the error in (a) ii (discussed above), the first two parts were relatively easy and were answered well. Part (c) was a better discriminator. Weaker candidates solved only for the Keynesian multiplier in response to shocks to consumption, without allowing for the endogenous response of the real interest rate via the monetary policy rule. In some cases, it was clear that this weakness was known by the candidates themselves, as they were able to point it out graphically. In others it was not evident that the distinction was well understood. Finally, it is emphasised that the ability to draw a clear graphical representation of mathematical problems is an important skill that this question actively tested. Some candidates proved mathematically that the equilibrium responsiveness of output to consumption shocks fell after the tax reform, but then drew diagrams that suggested this depended on the monetary rule – contradicting their earlier findings.

**B12:** This was the second-most popular question on the paper. It attracted answers of varying quality. Part (a) appeared quite straightforward, but a significant minority of candidates were not able to obtain solutions for the variables required. This was usually because they did not impose the 'perfect capital mobility' condition that the domestic real interest rate should equal the world rate. In some cases, students erroneously substituted this for a PPP restriction, or a restriction that output should equal 'capacity' of 4200; in some cases, they simply omitted it, leaving the problem underdetermined. Parts (b) and (c) attracted similar errors, usually from the same candidates. The interpretation of the new policy rule in (b) i was that there might be an additional concern on the part of the central bank to cut interest rates in the face of an over-valued exchange rate (above and beyond the incentive to do so because of the impact on output). Relatively few students identified this. Again, requiring a graphical interpretation in part (c) proved a useful discriminator. Many stronger students showed the depth of their understanding here, correctly identifying that the new policy rule should prevent the usual exchange rate 'crowding out' of higher government spending.

Dr Charles Brendon Dr Kamiar Mohaddes

# Paper 3 Quantitative Methods in Economics - Statistics 154 Scripts

The statistics portion of this year's paper 3 exam asked students to demonstrate both concrete applied skills (i.e., calculating probabilities, conducting hypothesis tests and interpreting regression output), theoretical understanding (i.e., proofs of major concepts), and conceptual understanding (i.e., discursive questions on concepts which could use, but did not require, mathematical analysis).

While many students displayed a robust and deep understanding of the course material, the number of students with a weak command of the course content was somewhat worrisome.

For question 7, many students did well. Some students who performed poorly did not understand the difference between marginal and conditional distributions. A few students lost marks by answering only half of the question posed in section b.

For question 8, most students did part a correctly and received full or almost full marks. Some students began to struggle with b. Many got part c correct, but a few who managed both parts a and b did not attempt c or failed to do it correctly. A handful of very weak students struggled with basic use of the summation operator and did not seem to understand the difference between constants in a summation and indexed variables.

For question 9, most students were successful with part a. Many struggled with part b and received partial credit for a solid attempt. A number of students struggled with their example in part c, but had the basic insight required to attempt the problem and received partial credit.

For question 10, few managed part a. Most were successful with b. The range of answers for c was large. Some offered clear, precise and correct explanations. Others revealed basic misunderstanding of the assumptions of the Gauss-Markov Theorem.

Q11. A majority of students chose to answer this question as their option and a large number scored high marks on the question overall. Students generally did well on the parts requiring hypothesis tests. Responses on questions about power were mixed. Many who struggled with the mathematical expression in e earned some marks for their interpretation and intuition behind the result.

Q12. Few students chose to answer this question but those who did generally performed well. The most challenging parts for many students were the conceptual questions in parts e and f related to R^2 and the Gauss-Markov assumptions.

Dr Meredith Crowley

#### **Quantitative Methods in Economics – Exam**

There is a broad range apparent for this paper. The better students can produce nearly flawless answers but there is a long tail where even quite straightforward manipulations of standard definitions (for example the relation between joint marginal and conditional probabilities) seems to generate confusion. A large number of marks are also lost from failure to do what they are told in the question. If the question requests a first order Taylor expansion, then it is difficult to see why some candidates write out a third order.

The performance on the statistics questions was noticeably weaker than the maths. For maths 45% were over 70 but only 26% of the statistics met this grade. Nearly a quarter of the statistics marks were below 50. Overall 2/3 of the scripts scored over 60 but of the remaining 1/3 a rather worrying 10% of the overall cohort scored under 50.

#### **Section A and B Maths**

- Q1 Many failed to do what they were told and produce a general Taylor expansion in (a) and a first order expansion in (b). Part (a) needed some discussion of why higher order terms become smaller more rapidly than the linear term to justify the approximation  $\ln(1+x) \approx x$
- Q2 A straightforward question mostly answered correctly
- Q3 Again a fairly standard question mostly answered correctly though some were unable to calculate  $2^{nd}$  derivatives and quite a few struggled to see that  $(x-3)^2>0$  always.
- Q4 Very few answered correctly. Part (a) required to express small changes in the relations via a differential expression and represent these in matrices. Part (b) required use of Cramer's rule. Many assumed the relations were linear (ie C(Y)=cY etc) which was not part of the question.
- Q5 A straightforward question where the major problems were caused by miscalculation. In part (b) many forgot that the change in utility would be **minus** the Lagrange multiplier. In part (c) many forgot to subtract hours of leisure from 24 to calculate tax take.
- Q6 A relatively straightforward question on a discriminating monopolist. Part (c) deriving the non-discriminating demand curve foxed some people (the curve has a kink so is calculated in two parts). In part (d) behaviour has to be checked on both sections of the demand curve because it is actually optimal for the firm to produce only for market 1.

#### **Dr** Donald Roberson

# Paper 4 Political and Sociological Aspects of Economics 154 Scripts

Candidates' choice of questions was principally spread across those relating to 'Governing Britain since 1945' and the 'Analysis of Economic Development'. A few candidates chose to answer the question relating to the new course 'Economics as a Political Subject', and a small number chose to answer the question relating to 'European Integration'.

Generally, all eight questions were answered well. The best answers were those where candidates clarified and explicated the notions relevant to the questions with great precision.

- 1. Answers to this question required an exposition of the causes of market failure and of the various types of market failure. A technical *viz.* geometric representation of market failure was very helpful. Answers also required an exposition of self-seeking by those who operate in the public realm which can cause government failure. The best answers pointed out that whether market failure is more or less significant than government failure is an empirical question and cannot be categorically stated. Superior answers also referred to the prominent role of the state in the East Asian 'miracle' economies and the superior performance in many advanced capitalist countries during the 'Golden Age of Capitalism', compared to more liberal periods before or after. Good answers also required reference to the inherently political nature of markets.
- 2. Answers to this question needed to address three areas of debate: was there a consensus in postwar British politics, was it 'coherent and effective' and did it accomplish the objectives of Labour and Conservative governments. Weaker candidates tended to only address the first of these debates, treating it like a generic question about the existence of consensus in post-war politics. Better candidates gave more weighting to the second two of these questions. Very good scripts explored the academic debates on these issues, with the very best going well exploring the standard readings over consensus by historians such as Paul Addison, Dennis Kavanagh and Ben Pimlott.
- 3. Good candidates needed to explore to what extent Thatcher's government created a new order in British politics (and whether that was adversarial or consensual in nature), as well as whether the style and policies pursued by her governments are consistent with traditional Conservative ideas. Weaker scripts simply listed the changes the Thatcher government made; less bad ones also looked at whether she made more substantial changes to the direction of British politics. The best scripts also investigated whether her policies and style were consistent with those of the Conservative party in the previous eras, under leaders including Robert Peel, Benjamin Disraeli and Harold Macmillan, going well beyond the idea that "Conservatism is what Conservatives do".
- 4. Good candidates investigated the extent to which Tony Blair's government developed a new set of policies, or simply copied those of the Thatcher and Major governments. Weaker candidates simply listed the policies or policy changes that the Blair government made when in power. The best candidates linked the topic to the academic literature on the subject, and made reference to whether the New Labour project can be seen as a new ideological or political development in British politics.

- 5. Good candidates examined to what extent the Eurozone constitutes an Optimum Currency Area. Candidates needed to examine the extent to which fiscal union, requiring the levying of 'federal taxes' is necessary for the completion of monetary union. This would constitute political union, *viz.* a most significant step towards a 'United States of Europe'. Conversely, if the EU dismantled monetary union an orderly transition to a re-introduction of national currencies would be difficult to manage. The depreciation of periphery currencies would cause massive bank balance sheet losses and cause a massive financial crisis that would damage the continent's future medium term growth prospects.
- 6. Good answers to this question discussed the problems with lending in poor countries, *viz.* collateral, nature of borrowers, market segmentation. Moral hazard and adverse selection required clear definitions in terms of affecting the pool of borrowers and the ability to monitor their efforts to repay. Good answers pointed out that informal lenders get round the informational issues as they are more embedded in the local community. Micro-credit also gets round this due to joint liability and linked loans. The best answers discussed the Grameen Bank in Bangladesh and the experience of micro-credit there.
- 7. The best answers discussed all of the problems associated with GNP *viz.* measurement, distribution, not including household services, black economy etc. Good answers discriminated clearly between economic development and the broader notions of development or human development. Such answers referenced the principal social indicators and the HDI, including discussion of the problems associated with the HDI and of its development. Good answers cited the Dasgupta and Weale paper that discusses how the correlation between the different measures works, using a Borda Index and Spearman Correlations. Good answers also noted that GDP is highly correlated with all of the social indicators.
- 8. Good answers provided a geometric representation of the Lewis model and discussed each of the assumptions, *viz.* use of factors, mobility of labour, surplus labour, w=MPL in modern sector; w>MPL in traditional sector etc. The best answers provided a richly detailed exposition of the pertinent empirical evidence from case studies. For example, the empirical evidence from Schultz that surplus labour does not exist and the Sen riposte. Also, case studies such as the UK which provides evidence of surplus labour, but caused by improvements in agricultural productivity; and China in which the Lewis turning point is believed to have occurred in 2010.

Mr Nigel Knight Mr Charles Read

# Paper 5 British Economic History 154

The examiners were pleased by the standard of this year's exam scripts. The students had engaged with the material and most produced some informed and nicely reasoned essays. This is reflected in the high proportion of 2.1s and 1sts awarded. However, although some candidates achieved high firsts where they showed evidence of wider reading and thought beyond the lecture material, the proportion of firsts was a little lower than in previous years. This is part arose because many students displayed first class knowledge in one or two of the questions they answered but didn't manage to maintain this standard across the board. Only a very few students were in the lower end of the distribution, typically these produced rather cursory answers that tended to be rather general and insufficiently focussed on the question asked or, occasionally, memorised considerable detail on numbers but neglected to included enough on the arguments themselves. First class answers produced a coherent argument supported by relevant evidence.

Questions from all the time periods studied had large numbers of answers. Students had a good knowledge of the demographic changes that caused the growth in population asked about in Q.1, many discussed the role protoindustrialization might have played theoretically and assessed whether the evidence supported such a role, but few managed to say anything much about proletarianisation. Most just equated it with wage earning, often in agriculture, and didn't mention the ratchet effect that might encourage higher fertility. Q.2 on Parliamentary enclosure was generally answered nicely. The better answers articulated clear mechanisms through which the change in property rights might have encouraged more efficient agriculture and then evaluated the evidence, less good ones digressed into a more general essay on how agricultural improvement led to economic growth. Most of the answers that contrasted the views of Mokyr and Allen on the role of technology in industrialisation (Q.3) produced a good account of the arguments, the counterarguments and included some illustrative examples. For Q.4 a general essay on living standards was to be avoided and one largely focussed on heights and mortality was required, however, a critical evaluation of this evidence was also necessary to achieve a high mark for this question.

For the late Victorian period, Q.5 wanted a brief recounting of Broadberry's argument on the roles of manufacturing and services in Britain's longer-term relative decline, most candidates produced what was required but a few wrote very little on the performance of the service sector and digressed into a general failure essay and only one or two of the better answers mentioned the characteristics of the service sector that might allow inefficiencies there to persist. Q.6 did not require a detailed essay on every aspect of putative entrepreneurial failure but a brief summary of where failing has been argued to occur and then consideration of whether the failure to adopt corporate capitalism was problematic. Many candidates equated corporate capitalism solely with mass production and so concluded that it wasn't appropriate for Britain's factor endowments, but good answers also considered the impact on managerial hierarchy, industrial structure, R&D, financing and whether corporate capitalism was in every case beneficial to economic growth and, conversely, whether competition failed to secure efficiency. For Q.7 the candidates needed to avoid produced a capital export essay and also to move beyond anecdotal examples to consider whether existing institutions provided the financing required, if alternative institutions would have been more suitable, and whether the less-formal channels that existed provided adequate investment for industry. Most students responded well to this question.

The questions on the interwar period proved to be popular. Question 8 (unemployment) was generally well answered. Most students were able provide detailed analysis of the role of benefits and unions in explaining unemployment. The better students were able to combine a good theoretical understanding and provided extensive institutional-historical evidence. Q9 (devaluation) was generally well answered with students drawing on an analysis of a wide range of mechanisms, including effects on trade, monetary policy, expectations, banking crises, investment and Tobin Q, and Wealth effects on consumption. Many students were effective at combining comparative evidence and detailed analysis of the UK to strengthen their case. Weak answers generally focused only on a few points about trade and monetary policy. Q10 (1920-1 depression) proved less popular. Students generally had a good understanding of the causes of the depression of 1920-1 and explanations of persistence. However, only a few students were able to respond to the part of the question on productivity, mainly because students had not expanded their knowledge on the differences between output and productivity paths during the 1920s. Students and supervisors should invest more on understanding the trajectory of productivity during the inter-war period.

Dr Sara Horrell Dr Solomos Solomou

**End of Reports**