

Guidelines for Final Exam for Advanced Macroeconomics (Final Version)

The exam will last for two hours and will have three sections, which will carry equal weights:

1. The first section will feature a choice of questions that ask you to discuss an important topic from the course. **You will be asked to answer 5 questions from 10.** The 10 questions that appear on the exam will come from the list below which will be added to as the term goes on. This will count for 40% of the marks on the exam.
2. The second section will feature questions focused on the models presented in class with an emphasis on questions that can be answered using graphs (though full and complete answers could involve the use of equations). **You will be asked to pick 2 questions from 4.** The 4 questions that appear on the exam will come from the list below which will be added to as the term goes on. This will count for 20% of the marks on the exam.
3. The third section will feature questions focused on the models presented in class with an emphasis on questions that can be answered using equations. **You will be asked to pick 2 questions from 4.** The website has a separate hand-out that provides four different questions that illustrate the style of these questions. These are just samples. New questions will appear on the exam and any of the models described in the class could feature. This will count for 40% of the marks on the exam.

If you decide to answer more than the required number of questions, I will grade all of them and score you on the best ones.

Sample Discussion Questions for Section One

1. Discuss the theory and evidence relating to the Phillips curve.
2. Explain the IS-MP curve including the factors that determine its slope and position.
3. How do the public's inflation expectations and the central bank's inflation target combine to influence actual inflation and output in the IS-MP-PC model?
4. Discuss the Taylor principle.

5. What is the liquidity trap? What policy measures can be taken to get out of it?
6. Discuss the arguments for and against having a “tough” central bank that raises interest rates aggressively when inflation increases and has a highly credible commitment to low inflation.
7. What is a first-order stochastic difference equation and how do you solve them?
8. Robert Shiller argued that stock prices were too volatile to be characterised by rational expectations. What reasoning did he use?
9. Discuss the theory and evidence on predictability of stock prices.
10. What is the Lucas critique? Can you give an example of when it might apply?
11. What assumptions were required to derive the Rational Expectations Permanent Income Hypothesis (RE-PIH) model? How well does the model perform in practice and what might account for any weaknesses?
12. Discuss the theory and evidence relating to Ricardian equivalence.
13. What is the Trilemma and what are its implications for the relationship between monetary policy and exchange rate regimes?
14. What is Uncovered Interest Parity and what are its implications for the behaviour of variable exchange rates under free movement of capital under rational expectations?
15. What is growth accounting and how are growth accounting calculations done?
16. Describe the convergence dynamics in the Solow model and discuss its predictions for the contributions of TFP growth and capital deepening on a steady growth path.
17. How does Paul Romer’s model explain improvements in Total Factor Productivity?
18. Discuss Robert Gordon’s paper on the history and future of technological innovation.
19. Discuss the leader-follower model of technological change.
20. Discuss the relationship between institutions and output per worker. How did Hall and Jones go about assessing this relationship?

21. How are long-run living standards determined in the Malthusian model and how does this differ from the Solow model?
22. Discuss “The Economics of Easter Island”.

Sample Model-Related Topics for Section Two

1. Explain the impact of a temporary aggregate supply shock in the IS-MP-PC model under adaptive expectations.
2. Explain the impact of a temporary aggregate demand shock in the IS-MP-PC model under adaptive expectations.
3. Explain the dynamics of the IS-MP-PC economy when the monetary policy rule doesn't conform to the Taylor principle.
4. Explain the properties of the IS-MP-PC model with a simple inflation-targeting monetary policy rule when you incorporate a zero lower bound on interest rates.
5. Explain the properties of the IS-MP-PC model with monetary policy following a Taylor-type rule when you incorporate a zero lower bound on interest rates.
6. Explain how an increase in the savings rate affects real output and the capital stock in the Solow model.
7. Explain how an increase in productive efficiency (TFP) affects real output and the capital stock in the Solow model.
8. Explain how an increase in the depreciation rate affects real output and the capital stock in the Solow model.
9. Explain the dynamics of population and resources in the Brander and Taylor's “Easter Island” model.

Some Tips for Studying for the Exam

The key to doing well in this exam is understanding the models, evidence and events that we have discussed. In preparing, I recommend the following.

- Try to understand the key economic points behind the models. This is crucial. While ideally I would like everyone in the class to understand all the technicalities of the models presented, I know this isn't possible. Even

if you can't answer a question in full using the equations or graphs presented, an answer that shows you have studied the material and have a good idea what the key points are can still score reasonably well.

- Understand the evidence that is presented in favour of or against certain models. There is very little fancy econometrics in the class so most of the evidence discussed can be understood in fairly simple terms (e.g. a model predicts a certain thing but it turns out to not be true.)
- Figure out why the graphs describing the model work the way they do and be able to replicate them.
- Some students find it extremely difficult to absorb material with equations. I recommend breaking each bit down into its components and understanding them separately and only then putting them all together. What variables are described in the model? What do individual equations mean? What conclusions are arrived at? In most cases, the notes provide discussions and explanations aimed at translating the equations into something approximating plain English (or at least that was the goal ...)

Strategies for the Exam

A few suggestions about the final exam:

- **Whelan's Golden Rule of Exams:** Please answer the required amount of questions. Even if you don't know much about a question, *write something*. I do not want to fail people but the rules are that if you write nothing, you get zero. Even a short and very poor answer could still get 30%. The difference between this and zero could be the difference between passing and failing.
- Read all parts of the question and attempt to answer each part. If a question contains two elements (e.g. "Discuss ..." and "Why is ...?") then I am expecting you to address both elements and answers that ignore one of them will score poorly.
- Be careful about studying in groups and sharing sample answers. Quite often, I see a number of very similar answers on particular topics, with each of them repeating the same very specific mistakes. Indeed, in general, answers that have clearly been shared among groups are of noticeably lower quality than average. The lecture notes and materials and the class website will be a much more reliable source of answer material than answers obtained from a friend.

- Provide proper explanations that show you really understand the material. For example, students sometimes write things like “you need to have $\beta_\pi > 1$ for the IS-MP-PC model to be stable” and then leave it at that. However, I’m looking for an explanation of *why* we need to have $\beta_\pi > 1$.
- For Section A of the final exam, I am not looking for very long answers. Allocating time according to points, you would have 10 minutes per question in Section A. This isn’t enough time for very long discursive answers. However, at 10 minutes, it is certainly time to write more than one or two sentences and some students are capable of writing very impressive answers. Certainly, you have been provided with enough information to fill 10 minutes of writing about each of the sample topics and short minimalist answers will score badly.
- I don’t expect everyone to have read large amounts of the papers that were provided – to some extent, they are provided for completeness and to give people the opportunity to study topics in more detail if they wish. However, it is certainly the case that using arguments or facts from papers that you have read is one way to improve your answers in Section A.
- For Section B, each of the questions can be answered by providing a well-marked graph along with a brief description of what it shows. A really good answer might also describe the equations underlying the graph but you can score an A without this, if perhaps not an A+.
- If you’re not sure how to draw the relevant graphs for Section B or how to use equations to explain what’s being asked, you can at least try to explain in your own words what you think the answer is.
- Section B counts for 20% of the points, I think there is an opportunity here to do this section in less than one-fifth of the time allocated, which can allow you to devote more time elsewhere.
- Section C is largely asking for you to explain the properties of the models using equations. While this material may be trickier than the rest of the exam, you are not being asked to provide substantial additional discussions so relatively short (but clear) answers can still score very well.
- I know that those of you with poor handwriting cannot do much about it (and the exam is not a test of handwriting) but spacing out your answers well and numbering your points can make it easier to assess your answers.