



Macroeconomic Principles & Problems

Feedback 2018–2019

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Introduction

As I supervise the majority of students in the year, I thought it would be worthwhile collecting together the common errors, feedback and questions posed by students, to aid understanding of the material.

These notes are intended to be brief, and complementary to the lecture series. Please email me with any typos, corrections and suggestions at ddgw2@cam.ac.uk.

Macroeconomic Policy Supervision 1

General Comments

Overall, answers to this problem set were of a similar standard to last year, though the standard in both tails of the distribution was accentuated. This is reflected in a larger proportion of students receiving the lowest grade in 2018.¹

Q1 Answers to this question were usually too brief to be awarded highest marks.

Notice that an economic explanation was expected and should involve a careful description of the differences between multiplicative and additive sources of uncertainty (and certainty equivalence).

In particular, many answers failed to refer to the Brainard principle - the key topic of this question! This is also easy to illustrate using cases where $\sigma_\varepsilon = 0$ and $\sigma_\varepsilon \rightarrow \infty$ to show specific versions of the more general result. Few answers highlighted that this infers the optimal response is to only partially offset shocks.

As the second order conditions of the problem are trivial, these should be checked.

‘Independence’ should be stated as the reason why $Cov[\varepsilon_t, \eta_t] = 0$.

When giving intuition for the final result consider all variables (α , κ , σ_κ and σ_ν).

Q2 Answers to this question are expected to include the efficient policy frontier graph.

When arriving at key results during derivations, these should be explained. (E.g. Targetting Rule - what is it?)

The transmission of exogenous shocks through the model, and policy responses, should be explicitly outlined.

Be careful to use correct terminology in terms of a ‘demand’ and a ‘cost push’ shock.

$E[i_t] = E[\pi_t]$ certainly does not imply $i_t = \pi_t$, if this mistake was made, please redo the problem using the method outlined in the lecture notes.

¹Mechanically over half of that change is accounted for by the change in composition of colleges supervised.

Q3 For full marks in the first part of this question, students should provide an explanation for every parameter and shock.

The best answers to the final part of the question re-derived the optimal policy rule noting the change in information set.

Notice even where the certainty equivalence principal is obeyed, the outcome variables now depend on the unanticipated component of the IS shock, $(\eta_t - f_t)$.

Common Questions

1 When can we use the Leibniz rule?

A1 For our purposes it is sufficient to say that the function is continuous and continually differentiable. Also note that the limits of integration do not depend on r_t here (so we do not get additional terms).

2 When can the central bank minimise its loss function with respect to output (or the output gap)?

A2 The (short) answer is if and only if the central bank has complete control of output.

The general form of the problem is a minimisation with respect to the real interest rate, and the problem should always be first stated as such.

Under the case that (because of observing all shocks before enacting policy) by controlling the real (or nominal) interest rate, the central bank may perfectly control output we may then recast/rewrite the problem in terms of a minimisation with respect to output. You have argued that these are the same problem.

Importantly, this is not a trivial re-framing of the problem, and should always be remarked upon. It is unusual because in this environment you are minimising a loss function with respect to one of the parameters which causes you the loss!

3 Why is there a trade-off for a cost push shock, but not for a demand shock.

A3 The answer to this question relies upon mapping out the transmission of both shocks. In the first instance both shocks only enter one equation (demand shock enters IS, while cost push enters PC). Policymakers dislike both types of shock, and therefore use policy to return to stabilise the economy. However as policy directly influences the IS curve, shocks to this equation may be fully offset. In contrast the policymaker seeks to influence PC through a change in output, thereby generating the trade-off of inflation or output gap stabilisation in response to a cost-push shock.

Macroeconomic Policy Supervision 2

General Comments

This problem set was generally completed to a higher standard than the first.

Q1 Although most students spend substantial time and effort in detailing a derivation of the model, this added little to their arguments as many did not define D_{\min} or satisfactorily motivate the deficit bias.

The distinctly different reasons for a deficit arising in the model and a deficit *bias* arising should be made very clear.

Noting that y_t is exogenous in this model can strengthen the argument dramatically.

Very few students took limits for the minimum and maximum value of the bias, which were easy to give intuition for.

Q2 A number of scripts described the Code for Fiscal Stability, rather than the (current) Charter for Budget Responsibility. Some students needed to be careful to remain on topic and not answer a different question.

Generally answers to this question would not have been extensive enough to award full credit, and should have given greater detail in describing the fiscal framework. In particular, not mentioning the OBR highlighted an incomplete answer.

The best answers gave benefits of the current system, which they related to the historical context (as well as numerous drawbacks).

Q3 This question was awarded the highest marks.

In the final part of this question answers should be given analytically (using maths), a distinction which separated the strongest answers from the rest.

Q4 A surprising number of students appeared to struggle to find the roots of the quadratic form in the final part of the question.

In this question students appeared reluctant to comment fully on the dynamics of the mechanism, usually only providing brief intuition for their answers (even when prompted to do so).

Common Questions

- 1 Government debt dynamics equation can be decomposed in the primary deficit ratio, interest effect, and the “denominator effect”. What is the definition of the “denominator effect” and the economic intuition behind it.

A1 The “denominator effect” simply refers to the fact that we are considering the debt-to-GDP ratio. Therefore if GDP were to increase the ratio would mechanically fall. There is little intuition to be gained from this statement, which is merely a restating of the definition we have chosen use.

Where GDP is continually growing the debt-to-GDP ratio will continually fall *mechanically* due to economic growth (or via growth of the denominator in that ratio). Each period we are dividing through by something new. We tend to look at this ratio as it tells us how many years worth of income it would take us to repay the debt. When income is growing, we are more easily able to make these payments with current income in any given subsequent year, hence the “denominator effect”.

International Financial System Supervision 1

General Comments:

Overall students found the difficulty of this problem set close to average, compared to previous years and supervisions.

Q1 A worryingly large number of students did not understand what was meant by the term “endowment economy” and attempted to answer the questions with investment. This led to a number of problems.

Similarly, some students had difficulty expressing endogenous variables as functions solely of exogenous parameters.

Q2 Some students did not draw the IPPF, which made commenting on the rotation difficult.

As above, the final part of this question caused some confusion. This requires variables to be expressed analytically solely in term of exogenous parameters.

Q3 The primary issue here arose when students did not consider the impact of macroeconomic uncertainty on a country’s choices of deficit /surplus. I.e. although the autarky interest rate is the same between countries, this infers only that the sign of deficit/surplus will be the same, not the magnitude.

Many students did not draw the Metzler diagram. In contrast, the best answers used this effectively to aid explanation of intuition and results.

Common Questions

1 Is a “savings glut” the same as a “liquidity trap”. If not, how would a liquidity trap affect the 2 period current account model?

A1 A “savings glut” means we have a *large* level of savings. *Large* invokes the question, larger than what? In Giancarlo’s lectures the Bernanke “savings glut” infers that global savings are now larger than they were before, say, the introduction of China to the global economy. In the model we represent this as global savings inducing the real equilibrium world interest rate to fall. This fall need not be to an effective lower bound.

A liquidity trap is an excess level of savings which makes monetary policy ineffective. In a closed economy the nominal interest rate hits the effective lower bound, and so monetary policy is unable to smooth the economic cycle. A savings glut need not induce a liquidity trap. In the 2-period current account model we consider the real interest rate, and have abstracted from nominal issues such as liquidity traps.

International Economics Supervision 2

General Comments:

Overall students found the difficulty of this problem set close to average. That masked some disparity with students tending to do well on the essay questions, and a number of students struggling with the problem. This may reflect a lack of time for students to complete the work ahead of supervisions, given other deadlines (in particular the dissertation submission deadline). Far fewer problem sets were submitted for this supervision. Both of these points are as in previous years.

Q1 As stated above a small minority of students chose not to answer this question. A number of mistakes were (unfortunately) made in setting up the extensive form of the game.

The vast majority of students drew revenue diagrams, rather than price schedules.

Some students did not fully appreciate the implications of being excluded from future international financial market participation after a recession.

Q2 Very few students fully answered all aspects of the question here.

Most explained the concept of an Optimal Currency Union, and described how the euro area compared to this.

A few students compared this situation to the US.

The best answers also introduced specific models to show how the euro area may experience problems with its currency arrangements, highlighting the role of fiscal policy.

Q3 This question was generally answered well, with small variation around a good level. Answers which gave responses mentioning both the problems associated with the “global leverage cycle” and ways in which a small open economy may mitigate the influence of this were awarded highest credit.

Summary Statistics

	Problem Set 1		Problem Set 2	
	2018-19	2017-18	2018-19	2017-18
Excellent	18.2%	21.8%	20.1%	17.5%
Good	42.0%	46.1%	66.8%	66.5%
Satisfactory	31.4%	27.7%	12.4%	15.1%
Poor	8.3%	4.4%	0.7%	0.9%
Handed in	88.0%	81.7%	93.2%	84.1%
Non-attendance	8.0%	12.7%	4.8%	4.8%
Handed in, but not attending	4.0%	4.8%	0.0%	0.0%
Attending, but not handed in	8.3%	6.3%	1.5%	8.7%