

This review sheet is intended to cover everything that could be on the exam; however, it is possible that I will have accidentally left something off. You are still responsible for everything in the chapters covered except anything that I explicitly say you are not responsible for. Therefore, if I left something off of this sheet, it can still be on the exam. There will be no multiple-choice questions. Most of the questions will be like the ones in the homework assignments, and possibly a few definition questions, but I am more likely to ask questions that make you use the definitions rather than recite them.

The review session will probably be Wed., 3/23, at a time to be determined, in the normal room (I hope).

You will be given a pair of equations and asked to explain one of them. The equations at the end of the chapters will help you prepare for this part of the exam. Note that most semesters this course had four exams because it was a MWF class. So, some of the topics for this test were on Exam #3 in the past.

Chapter 4: What determines  $u^c$ ? What will move that curve? Why is where it crosses  $MPK^f$  the desired level of  $K$ ? Why is there an “ $d$ ” on the  $MPK$ ? What moves the  $MPK^f$  line? How does  $K^*$  relate to  $I$ ? Why might a change in the depreciation rate have uncertain effects upon investment? Why might the market take time to adjust? What moves the  $S^d$  and  $I^d$  lines on the graph? Why should they yield the equilibrium level of  $S$  and  $I$ ?

Chapter 5: What is the **current account (CA)**? How is it calculated? What is the **capital financial account (KFA)**? Why should the  $CA + KFA = 0$ ? How do **NFP** and **unilateral transfers** enter the equation? Do not worry about *official reserves* or *official settlements balance*. Note that the summary on page 175 does a great job of showing how all the terms relate to each other. Why does  $S^d = I^d + CA$  or more easily put  $S^d + KFA = I^d$ ? Be able to manipulate the  $S/I$  diagram for **small open economies**. Be able to show what moves the curves, and know how to find a  $CA$  deficit or a  $KFA$  deficit. Personally, I think that you can figure out  $KFA$  easier and more directly because if there is excess savings, what do we do with it? We buy foreign stocks and bonds. If we have excess investment, how do we finance it? We export bonds and stocks, i.e., we borrow from abroad. Know how government policy and shocks affect the diagram. Be able to manipulate the  $S/I$  diagram for **large open economies**. Be able to show what moves the curves, and know how to find a  $CA$  deficit or a  $KFA$  deficit. Personally, I think that you can figure out  $KFA$  easier and more directly because if there is excess savings, what do we do with it? We buy foreign stocks and bonds. If we have excess investment, how do we finance it? We export bonds and stocks, i.e., we borrow from abroad. Know how government policy and shocks affect the diagram. How are the **twin deficits** related?

Chapter 6: What causes economic growth? How do we measure  $A$ ? Be able to calculate the growth of **total factor productivity**. What is the **Solow Growth Model**. Be able to draw the **per-worker production function**. Understand what moves it. How do we find  $k_G$  (the “**golden rule**” **capital-labor ratio**),  $k_{max}$  (the **maximum capital-labor ratio**), and  $k^*$  (the **equilibrium capital-labor ratio**)? Why is the latter at the point where  $sf(k)$  crosses  $(n+d)k$ ? What moves those two lines? Why does the economy automatically move towards  $k^*$  and why is that not necessarily at  $k_G$ ? Understand the economic reasons for the changes in  $k$  that the diagram predicts. For **endogenous growth theory**, understand why they assume  $Y=AK$  and why  $\Delta Y/Y = sA - d$ . What government policies affect “ $s$ ,” “ $A$ ,” and “ $d$ ”? (Nothing the government does really affects  $d$ .) Why do they have those effects? (They can be seen on pages 240 - 242.) For this chapter, it is crucial that you remember the differences between small and CAPITAL letters. Remember that small letters are rates, ratios, or fractions. Do NOT use them interchangeably with capital letters.

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Non-graded Assignment #6A to be reviewed with Assignment #6.

- 1) (15 points) Explain  $c^* = f(k^*) - (n+d)k^*$ .
- 2) (15 points each) Illustrate the following events on the Solow Growth Model diagram. Explain why the line(s) moved as drawn. What happens to equilibrium output per worker and capital per worker? What is the economic intuition behind those results?
  - A) The population starts growing faster.
  - B) A new technology is developed which improves production capabilities.
- 3) (25 points) Draw a Solow Growth Model and have one country with a lower  $k$  than another country. Prove that eventually the two countries will have the same  $k^*$ . Why don't we see this happening?
- 4) (15 points each) Use the endogenous growth model to explain each statement below.
  - A) Why President Barak Obama is trying to improve the country's infrastructure?
  - B) Why did President George W. Bush lower the tax on dividends?