

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. I will probably ask one of the questions from the book at the end of the chapters.

The review session will be at a time TBD, probably on Monday 3/18.

Chapter 8: What is *human capital* and why does it matter? What are *stocks* and *flows*? How do they relate to **education**? What are *gross and net enrollment rates* and how can the former be greater than 100%? If it is greater than 100%, then is that good or bad? How does education differ between boys and girls? What is the difference between **schooling and education**? How do earnings depend upon education? Be able to calculate the **private return** using the **present value calculations**. How do you calculate the **social return**? How do the **social costs and benefits** differ from the **private costs and benefits**? Be able to set up the formula to calculate the **internal rate of return**. Understand why the numbers in Table 8-3 take the patterns they do. Why might those numbers be inaccurate? How can we make schooling more productive? This includes changing underinvestment and misallocation of resources, as well as improving schools and lowering the costs of going to school.

Chapter 9: What determines the shape of **mortality pyramids** like those on Page 300? What are the *under-five mortality rate*, the *morbidity rate*, and *mortality rate*? What causes *stunting*? How do *life expectancy* and *HALE life expectancy* differ? (Shouldn't the latter be just called HALE?) Why is that difference important? What is meant by *epidemiological transition*? What are the three stages and why do they occur? How are **health** and income related? How do they relate to growth? For the three diseases, **HIV/AIDS, malaria, and tuberculosis**, what causes those diseases? Where are they problems? What are the effects of them on society and the individual? How have they been effectively reduced? What is the **DOTS** method? How was polio eradicated in Latin America? How were diarrheal deaths reduced?

Chapter 10: How do you do a **project appraisal** using the **cost-benefit analysis** and a **NPV** calculation. This is just like in Chapter 8 except we also have the value of the equipment at the end of the time. What are **opportunity costs** and how do they relate to the **shadow prices**? How do **commercial project appraisal** differ from **economic project appraisal** and **social project appraisal**? Be able to do a calculation like that in the table on Page 357. Why does using the shadow price of labor instead of the wage rate always increase the NPV while using the shadow price of foreign exchange has an ambiguous effect on the NPV? What is **rent seeking**? Why is it bad? (I am not referring to what the Dead Kennedys sing about.) How do the following hurt a country's ability to have entrepreneurs start new companies: **corruption, licenses & permits, laws restricting firing employees, poor courts for enforcing contracts, lack of domestic saving, and taxes on firms**? What is meant by **FDI**? What are the advantages of it from the point of view of the host (developing) country and what problems can it cause? What are some of the ways developing countries try to reduce the problems of FDI? What are the pluses and minuses of those actions?

Chapter 20 until Page 773: What are **greenhouse gases**? Be able to draw and explain the four different **Environmental Kuznet Curves**. Understand what the terms **comprehensive wealth, total wealth,**

produced capital, natural capital, and intangible capital and why those are important. What is the **Hartwick Rule**? Understand how we calculate **saving, net saving (NS), and adjusted net saving (ANS)**. Why do we care about ANS and the **ANS Gap** and the **Malthusian term**? What are **externalities** and **common-pool resources (CPRs)**? Understand the problems they cause. Be able to use the S/D (**SMC/PMC/D**) diagram to explain why externalities result in sub-optimal outputs. Explain why the **Coase Theorem** means the end result does not depend upon who has the **property rights**. Understand when it may not hold and why it might not hold then. ~~Be able to use the MEC/MAC diagram to find the optimal level of pollution. Understand why the curves look like I drew rather than what the book drew. How can taxes, tradable permits (cap and trade), and regulations be used to get the market to the optimal point? What are the advantages and disadvantages of them? How might informal regulation work? Why is climate change such a big problem and why is it hard to address?~~ (The struck out part will be on the next exam.)

This is the non-graded Assignment #7A that will be reviewed with Assignment #7.

- 1) (10 points) On Page 764, the table shows that the amount of “natural capital” as a percentage of total capital, decreased over time for the poor countries. That can be both good and bad, depending upon the cause. Explain why that is true.
- 2) (30points) Draw the Environmental Kuznets Curve, in all four of its forms. Briefly explain why each curve takes its shape. Which do you think is the most likely scenario for the world as a whole? Explain your logic.
- 3) (20 points) Go to the article below, and look at the two paragraphs above the header Oil Fund 2.0 and the three paragraphs below it. Did Norway’s original plan (the first pair of paragraphs) fit the Hartwick Rule? Explain your logic. Given what we studied in Chapter 20, why does the new plan (the latter three paragraphs) make sense for the world? Explain your logic
<https://www.imf.org/en/Publications/fandd/issues/2022/12/POV-putting-oil-profits-to-global-benefit-isac-hsen-gylfason>
- 4) (20 points) What is ANS? Why is it important? Why is it hard to calculate?
- 5) (20 points) Draw the supply/demand diagram for a product which causes a negative externality. Use it to prove that we will not get the optimal production of the good? Explain your logic.