

Homework 8 – KEY

Average: 83.92 + Opts GI bonus

Due on 24/10/2023, by 23:00

This assignment is optional but STRONGLY RECOMMENDED. If you do not submit the answers till the deadline, the score of your final exam will substitute for the score for this assignment. Submit only the correct letter for each task on eLearn under 'Quizzes' within 'COR2100-Economics and Society G7-8-26-49'. Note that the actual text of questions and answers is not supposed to appear on the eLearn quiz. You have unlimited attempts. The system is programmed to credit your last attempt. Be informed that if you submit an attempt and afterwards you re-open the quiz, you must submit your answers AGAIN. Otherwise, the system will grade the unfinished attempt with 0 (because it is the last one) and there is NOTHING I can do to fix this after the fact. Late homework or homework submitted outside eLearn cannot be accepted as this would violate SMU official policy for fairness and transparency in grading. This assignment is protected by Grade Insurance™: If the assignment's average turns out to be below 75, an equal amount of bonus points will be given to every work, for the average to become 75. Direct any homework questions to your TA.

1✓ Which of the following is accurate according to the Malthusian theory?

- 91%A. **Population growth will eventually reduce living standards to the point of triggering a population decline.**
- B. Population growth will eventually reduce living standards to the point of triggering further population increase.
- C. Population growth will eventually increase living standards to the point of triggering a population decline.
- D. Population growth will eventually increase living standards to the point of triggering further population increase.

[According to the Malthusian cycle, the increase in population will reduce GDP pc and famine, war etc. will decrease population]

2✓ Which of the following is accurate according to the Malthusian theory?

- A. Fertility is determined by the level of technology.
- B. Fertility is determined by the level of education.
- 94%C. **Fertility is determined by the level of income.**
- D. Fertility is determined by the level of healthcare.

[Malthus claimed that population should increase in times of prosperity and decrease in times of famine]

3✓ Which of the following is more likely to raise labor productivity in the long-run?

- A. Increase in taxation. *[This decreases workers' disposable income and gives them less incentive to be productive]*
- 97%B. **Technological innovation.** *[This will help workers produce more output per working hour]*
- C. Market regulation. *[This has nothing to do with labor productivity]*
- D. Immigration restrictions. *[This would decrease the ability to hire skillful workers from other countries]*

- 4✓ Which of the following is a reason why some less advanced economies experience catch-up growth?
- A. They have a high level of income inequality. *[This may alienate investors]*
 - B. They have a high level of natural resource endowment. *[Natural resources themselves do not attract foreign investments capable of bringing catch-up growth]*
 - 94% C. **They have a high potential of human capital development.** *[This attracts investors who will benefit from utilizing human capital]*
 - D. They face many geopolitical conflicts. *[This discourages foreign investors, who feel unsafe for their investments]*

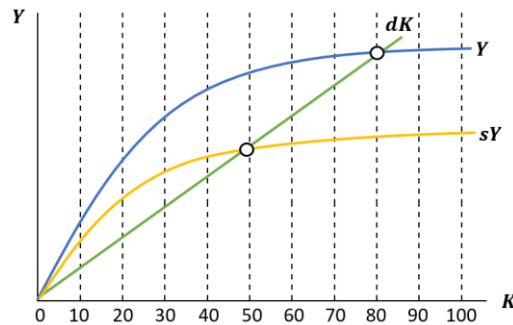


Figure 8.1

- 5✓ According to figure 8.1, at which K will the economy's growth rate fall to zero?
- A. Around 25.
 - 96% B. **Around 50.**
 - C. Around 75.
 - D. Around 100.
- [Zero long-run growth rate means that the economy is at the steady-state, where $sY = dK$]*
- 6✓ According to figure 8.1, if the skills of the labor force improve, which of the following is most likely to happen?
- A. sY and Y will shift upwards and dK will rotate clockwise.
 - 80% B. **sY and Y will shift upwards.**
 - C. Only Y will shift upwards.
 - D. dK will rotate clockwise.
 - E. sY and Y will shift downwards and dK will rotate counterclockwise.
 - F. sY and Y will shift downwards.
 - G. Only Y will shift downwards.
 - H. dK will rotate counterclockwise.
 - I. None of the curves will shift or rotate.
- [The production function (Y) must shift upwards and thus it will take with it the sY curve that depends of Y]*
7. According to figure 8.1, if K increases, which of the following is most likely to happen?
- A. sY and Y will shift upwards and dK will rotate clockwise.
 - 15% B. **sY and Y will shift upwards.**
 - C. Only Y will shift upwards.
 - D. dK will rotate clockwise.
 - E. sY and Y will shift upwards and dK will rotate counterclockwise.
 - F. sY and Y will shift downwards.
 - G. Only Y will shift downwards.
 - H. dK will rotate counterclockwise.
 - 55% I. **None of the curves will shift or rotate.**
- [Changes in capital stock are depicted by movements along the curves because K is on the axis]*

- 8✓ According to figure 8.1, which of the following is most likely to cause the economy to reach a steady state at $K = 40$?
- 91%A. **An increase in depreciation rate.** *[This would force the dK curve to rotate counterclockwise, thus allowing dK and sY to intercept at the level of $K = 40$]*
 - B. An increase in savings rate. *[This would shift sY upwards leading to an even higher level of steady state K]*
 - C. A technological improvement. *[This would shift Y and sY upwards leading to an even higher level of steady state K]*
 - D. None of the above.
- 9✓ According to figure 8.1, which of the following is most likely to cause the economy to reach a steady-state where $K = 100$?
- A. An increase in depreciation rate. *[This would force the dK curve to rotate counterclockwise, leading to a lower level of steady state K]*
 - B. An increase in savings rate. *[Increase in s would cause the sY curve to shift up. However, for its intersection with dK to be at $K = 100$ it would require the sY curve to exceed the Y curve. This would require s to surpass 1, which would practically mean that the economy saves more than what it makes and is impossible]*
 - 83%C. **A technological improvement.** *[This would shift Y and sY upwards, thus allowing dK and sY to intercept at the level of $K = 100$]*
 - 10%D. None of the above.
10. Refer to scenario 8.1. In which of the following levels of K is consumption the largest?
- A. At around 40 units.
 - 21%B. At around 50 units.
 - C. At around 60 units.
 - D. At around 70 units.
 - 71%E. **At around 80 units.**
[Consumption is equal to $Y - sY = (1 - s)Y$. Since $(1 - s)$ is constant throughout the graph, the more to the right we move (higher K yields higher Y), the larger the consumption]
- 11✓ An economy has Y , sY and dK curves that yield a steady-state Y of 90. The economy is currently at $Y = 80$. Which of the following is accurate regarding next year's performance according to the Solow model?
- A. The economy will have $Y = 90$. *[Maybe yes, most likely no]*
 - 87%B. **The economy will grow.** *[Yes, because it is below its steady-state]*
 - C. The economy will shrink.
 - D. The economy will stay stagnant.
 - E. The economy may grow or shrink or stay stagnant.
- 12✓ Which of the following is most likely to be a result of a firm's investing in its employees' training?
- 90%A. **Reduction in firm's profits at present.** *[Workers' training comes at a cost of fewer working hours plus the monetary cost of training, which would decrease the firm's short run profits]*
 - B. Lower levels of job satisfaction. *[Workers will manage to develop their skills, which makes them more satisfied]*
 - C. Ease of replacing employees. *[Since workers become more specialized and productive, it would be difficult for the firm to replace them]*
 - D. Decreased levels of innovation. *[Employees will become more innovative through training]*

13. ✓ Which of the following is LESS likely to stimulate technological change in an economy?

- 92%A. **Allowing firms to emit as many pollutants as they need to maximize profits.** *[This wouldn't encourage firms to search for new, more environmentally friendly methods of production]*
- B. Offering tax incentives for R&D in renewable energy resources. *[This would boost R&D in renewable energy]*
- C. Banning internal combust engine vehicles. *[This would incentivize car companies to increase their R&D in other types of car engines, i.e. electric ones]*
- D. Offering cheap loans to domestic AI companies. *[This would allow these types of firms to expand, thus boosting overall technological change]*

14. ✓ Which of the following is more likely to increase S (savings) in an economy?

- A. A high inflation rate. *[This would force people to spend more on consumption, thus leaving less space for savings]*
- B. Offering tax incentives for borrowing. *[Borrowing money has nothing to do with savings]*
- 97%C. **A higher interest rate.** *[Saving now translates to more future consumption when the interest rate increases]*
- D. A higher tax rate on profits from interest. *[It will make savings less attractive]*

15. ✓ Which of the following is most likely to be an example of the catch-up effect?

- A. USA reaching China's GDP growth rate.
- B. Canada reaching India's GDP.
- 85%C. **Brazil reaching Germany's GDP per capita.**
- D. Singapore reaching Netherland's capital accumulation.
[The catch-up effect refers to the phenomenon where poorer economies tend to grow at faster rates than the richer ones, allowing them to catch up in terms of per capita income]

16. Where does sustained growth come from?

- A. High amount of capital stock and low depreciation rate.
- 69%B. **Technological innovation and human capital development.**
- 29%C. Both A and B.
- D. None of the above.
[Sustained growth is how the steady-state GDP keeps growing at any capital stock and depreciation rate]

17. An economy is currently at steady-state but it keeps growing by 3% per year. Which of the following may explain the growth?

- 66%A. **It exhibits sustained growth.** *[Sustained growth is due to technological innovation or human capital development, thus it can still happen at the steady-state]*
- 12%B. It exhibits catch-up growth. *[An economy should be way below its steady-state to exhibit catch-up growth]*
- 22%C. It exhibits inflation. *[Irrelevant]*
- D. It exhibits unemployment. *[Irrelevant]*

18. ✓ Suppose that an economy's production function exhibits diminishing marginal product. Which of the following is most likely to be the result for the total output, if we add 10 more units of capital?

- A. Y will decrease by 15 units.
- B. Y will decrease by 10 units.
- C. Y will decrease by 5 units.
- D. Y will not change at all.

80% E. Y will increase by 5 units.

- F. Y will increase by 10 units.
- G. Y will increase by 15 units.

[Diminishing marginal product means that when one factor of production increases (or decreases) by a certain rate, the increase (or decrease) in total output is relatively smaller]

19. ✓ Which of the following factors is most likely to determine the growth rate of an economy?

94% A. **Corruption levels.** *[It significantly affects the number and type of investments that can be attracted to the economy]*

- B. Degree of religiosity among citizens. *[It has negligible impact on growth rate]*
- C. Number of public holidays. *[It has negligible impact on growth rate too]*
- D. The local language. *[It also has negligible impact on growth rate]*

20. Which of the following is accurate regarding catch-up growth?

A. It is fueled by technological innovation within the country. *[Domestic innovation fuels sustained growth]*

45% B. It is fueled by the development of the country's human capital. *[Development of domestic human capital fuels sustained growth]*

49% C. **It is fueled by companies founded by foreigners.** *[Catch-up growth is fueled by technological spillovers from foreign countries. That is, foreign companies that move their technologies to the country to take advantage of underutilized human capital]*

D. It is fueled by domestic physical capital. *[Catch-up economies lack domestic capital]*