Homework 8 – KEY

Average: 79.9 + 0pts GI bonus

Due on 19/3/2024, 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 G7-8-9-10'. 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. An economy grows at 9% per year. After how many years will its GDP be 50% higher than its current?

    A. Around 3 years.
    84% **B. Around 5 years.**
    C. Around 7 years.
    D. Around 10 years.
    E. Around 20 years.
    F. Around 5,000 years.

    [For simplicity, assume it starts with a GDP of 100, after 1 year it will be 109, after 2 years 118.81, after 3 years 129.50, after 4 years 141.16, after 5 years 153.86 or 53.86% above its current GDP]

2. Which of the following is LESS likely to raise labor productivity in the long-run?

    A. Increase in education and training. *[Well-educated and trained workers will be more productive]*
    B. Increase in capital investment. *[It will help workers produce more per hour]*
    99% **C. Replacement of capital with labor.** *[Replacing capital with labor will lower the output produced per worker]*
    D. Improvement in the health system. *[Healthier workers will be more productive]*

3. Which of the following is accurate according to the Malthusian theory?

    A. An increase in production will lower the population.
    88% **B. An increase in production will increase the population.**
    C. An increase in production will not affect the population.
    D. An increase in production will decrease GDP per capita.

    [Increase in production will lead to higher GDP per capita, which will trigger population growth]

4. Which of the following could benefit a nation's chances for catch-up growth?

    A. Low levels of foreign investment. *[Nations need foreign investors to grow their GDP]*
    B. Low level of education. *[Catch-up growth will be easier with an educated labor force]*
    94% **C. Political stability.** *[Will lower the risk of foreign investment]*
    D. Strict environmental regulations. *[Unfortunately, this will discourage foreign investors]*
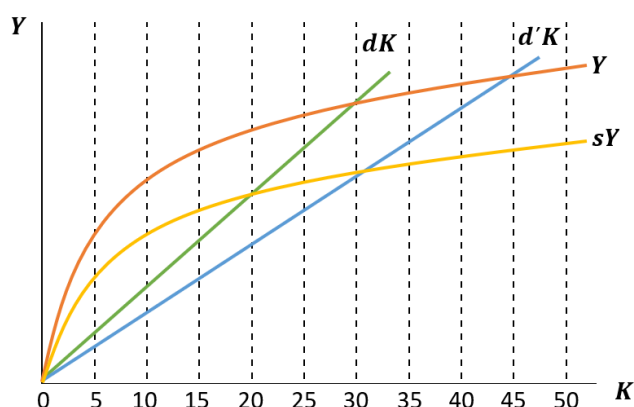
5. According to scenario 8.1, for which levels of K does the economy experience a positive growth rate, before the change in depreciation rate?

81%A. For $K < 20$.

15%B. For $K < 30$.

C. For $K < 45$.

D. For $K > 20$.

E. For $K > 30$.

F. For $K > 45$.

[For $K < 20$, $sY > dK$, so total output will tend to increase]

6. According to scenario 8.1, which of the following is most likely to have caused the change in d?

12%A. The development of new capital that is less durable.

83%B. **The development of new capital that is more durable.**

C. The development of more new capital.

D. The development of less new capital.

E. A natural disaster.

[The new depreciation curve is below the previous, thus less percentage of capital decays]

7. According to scenario 8.1, by how much has the steady-state K changed due to the change in depreciation rate?

A. Around -25 units.

B. Around -15 units.

C. Around -10 units.

80%D. **Around 10 units.**

11%E. Around 15 units.

F. Around 25 units.

[The steady-state capital is at $dK = sY$. Thus, it has increased from 20 to 30 units]

8. According to scenario 8.1, which of the following could be the growth rate of the economy at $K = 45$ after the change in depreciation rate?

48%A. Around -7%.

B. Around 0%.

C. Around 4%.

D. Around 7%.

34%E. We have no sufficient information to answer.

[At $K = 45$, $sY < d'K$ so the economy should shrink next year]

9. According to scenario 8.1, which of the following is most likely to offset the change in d, thus leaving the steady state output unchanged?

12%A. An increase in savings. *[This would lead to an even higher new steady-state output]*

37%B. An increase in consumption. *[Increase in consumption assumes a decrease in s, which could offset the decrease in d, since it would shift the sY curve downwards]*

18%C. An improvement of technology. *[This would lead to an even higher new steady-state output]*

33%D. None of the above.

10. Two economies are described by identical Y, sY, dK curves, which yield a steady-state capital of 200. Economy A has $K = 250$ and economy B has $K = 300$. Which of the following is accurate regarding next year's performance?

A. Both economies will grow but economy A will grow faster.

B. Both economies will grow but economy B will grow faster.

10%C. Both economies will shrink but economy A will shrink faster.

79%D. Both economies will shrink but economy B will shrink faster.

E. Economy A will grow and economy B will shrink.

F. Economy A will shrink and economy B will grow.

[Since both economies are above their steady state, next year they will both shrink, with economy B shrinking faster because it is farther from its steady state than A]

11. Which of the following is generally an opportunity cost of investment in human capital?

78%A. Delayed entry in the workforce. *[Due to higher education, people stay out of workforce for more years]*

B. Higher unemployment rates. *[Human capital investment decreases unemployment]*

C. Lower levels of entrepreneurship. *[The opposite is a result of investment in human capital and it's a benefit]*

14%D. Increased social and economic mobility. *[This is also a benefit for the economy]*

12. Which of the following is more likely to shift the Y curve upwards?

A. Increasing the taxes on income earned by researchers. *[This would discourage R&D and restrain technological change]*

B. Decrease the import tariffs on consumer goods. *[This would discourage local innovation in production because imported goods would become more attractive]*

C. Ban of the use of fossil fuels in production. *[This could lead to some technological breakthrough in the future but in the short term it would reduce the productive ability of the economy]*

93%D. Incubators and accelerators for start-ups. *[Helping start-ups would lead to high future production]*

13. √ Which of the following best describes the catch-up effect?

    A. Developing countries growing with the same rate as the developed ones.

    91%B. **Developing countries growing faster than the developed ones.**

    C. Developed countries surpassing the growth rates of developing countries.

    D. Developed countries reaching the growth rates of other developed countries.

    [Catch up effect refers to when developing economies tend to grow at faster rates than the richer ones, allowing them to catch up in terms of per capita income]

14. √ Which of the following best describes sustained growth?

    80%A. **A country's GDP grows at a consistent rate around 2-3% for several years.**

    10%B. A country's GDP grows at a consistent rate around 5-9% for several years.

    C. A country's GDP grows around 5-7% for one year and then grows around 3-5% the years after.

    D. A country's GDP grows around 3-5% for one year and then grows around 5-7% the years after.

    [Sustained growth refers to a prolonged period of economic growth that is equal to the growth rate of technology and development of human capital. Historically, sustained growth has not surpassed 3%]

15. An economy's production function exhibits diminishing marginal product. Which of the following could happen to Y, if we remove 10 units of labor?

    10%A. Y will decrease by 15 units.

    B. Y will decrease by 10 units.

    66%C. **Y will decrease by 5 units.**

    D. Y will not be affected.

    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 decreases (or increases) by a certain rate, the decrease (or increase) in total output is relatively smaller]

16. √ Which of the following factors determines the growth rate of an economy?

    A. Investor's confidence. *[It is the most important factor of investment decision making]*

    B. Consumer's confidence. *[Consumption is a large part of GDP; hence low consumer's confidence limits the extent to which the economy can grow]*

    89%C. **Both A and B.**

    D. None of the above.

17. Which of the following is likely to raise labor productivity in the short-run?

    A. Investment in education.

    11%B. Investment in R&D.

    12%C. Both A and B.

    71%D. **None of the above.**

    [It will take some time for the investment in both education and technology to increase labor productivity]

18. ✓ Which of the following is most likely to hinder a nation's prosperity?

    A. Competitive behavior in the nation's markets. *[It would encourage innovation and business growth]*

    93%B. **A tax on foreign investment.** *[It would limit foreign capital from producing local output and lower economic growth]*

    C. Freedom of the press. *[It could help limit corruption]*

    D. An enforced ban on child labor. *[This may decrease production in the S-R but it will have a positive impact on prosperity]*

19. Which of the following could be a reason for low prosperity in an economy with relatively high GDP per capita?

    62%A. **Income inequality.** *[The GDP is indeed high but is concentrated to the hands of a few people]*

    B. High volume of underground transactions. *[This could explain if prosperity was high but GDP per capita low]*

    35%C. Both of the above.

    D. None of the above.

20. ✓ How can corruption slow down an economy?

    A. It discourages foreign investment.

    B. It discourages local investment.

    C. It discourages the development of local human capital.

    97%D. **All of the above.** *[No one wants to invest in capital or education in an economy where most outcomes depend on connections and bribes]*