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Economics & Society
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Homework 11 – KEY

Not for submission for grading

This homework will not be graded. The answer key will be posted after a few days. Direct any homework questions to the TA of your section.

1. A village has a population of 100 people, out of which 45 are currently employed. How much is the unemployment rate in that village?

    A. Around 45%.
    B. Around 55%.
    C. Around 0%.
    D. **We do not have sufficient information to answer this.**
       [We have no way to tell how the 55 people who are not working are split between unemployed and non-labor-force, so we cannot know the denominator of the formula for the unemployment rate]

2. Which of the following statements is accurate regarding frictional and structural unemployment?

    A. **Frictional unemployment is due to some factor that has a short-term effect, while structural unemployment is due to a factor that has a more permanent effect.** *[Frictional unemployment refers to factors that will be resolved with time (logistics of finding a job etc.). Structural factors such as minimum wage etc. persist with time]*
    B. Structural unemployment occurs only in recessions. *[No, structural factors, such as the minimum wage, affect the economy even during expansions]*
    C. A recession will not have an effect on the amount of frictional unemployment. *[It will. There will be less job openings, so more time will be needed to find a job]*
    D. All of the above are accurate.

3. Which of the following factors is more likely to affect frictional unemployment?

    A. A labor union that negotiates a wage above the market clearing level. *[Structural factor]*
    B. A company which pays high wages in order to retain its personnel. *[Structural factor]*
    C. **An app called Workinder that automatically collects all the job openings and the profiles of candidates, proposes potential matches and arranges interviews when both parties agree on the match.** *[This will ease the logistics of the labor market and will decrease frictional unemployment]*
    D. A law that decreases the minimum wage. *[Structural factor]*

4. Which of the following factors is more likely to affect structural unemployment?

    A. A labor union that negotiates a wage above the market clearing level. *[Structural factor]*
    B. A company that offers high wages in order to retain its personnel. *[Structural factor]*
    C. A law that decreases the minimum wage. *[Structural factor]*
    D. **All of the above.**
    E. None of the above.

5. A law that requires an employer to have a verifiable reason in order to fire an employee should be expected to cause which of the following?

   A. **Increase the natural rate of unemployment.** *[It will make the firms more likely to hire less employees if it is harder for them to reduce headcount in case it is needed in the future]*

   B. Increase the cyclical unemployment. *[The law is a structural factor and it will affect the economy independently of the cycle]*

   C. Both A and B are accurate.

   D. None of the above is accurate.

6. An app called Workinder that automatically collects all the job openings and the profiles of candidates, proposes potential matches and automatically arranges interviews when both parties agree on the match should be expected to cause which of the following?

   A. **Decrease frictional unemployment.** *[The app will decrease some of the frictions in the labor market, and thus, it will limit frictional unemployment]*

   B. Decrease cyclical unemployment. *[The app will act independently of the cycle of the economy]*

   C. Increase the frictional unemployment.

   D. Increase cyclical unemployment.

7. What is going to be the effect on Singapore's unemployment rate if the government increases the amount of time that men are required to serve in the armed forces?

   A. Increase the rate of unemployment.

   B. Not affect the rate of unemployment.

   C. **Decrease the rate of unemployment.**

   D. There is not sufficient information to answer.

   [This means that the army will occupy men for a longer period, reducing the total number of men in the labor force (soldiers are not in the labor force). There will be the same number of potential jobs for a smaller labor force; thus, unemployment rate will appear lower]

8. What is going to be the effect on the unemployment rate if technological improvement makes the workforce more productive?

   A. Increase the rate of unemployment.

   B. Not affect the rate of unemployment.

   C. Decrease the rate of unemployment.

   D. **The effect on the rate of unemployment may be in either direction.**

   [Some firms may decrease the number of employees because they are not able to take advantage of the increase in production. Thus, these firms will just enjoy a reduction in cost. Some other firms will take advantage of the higher productivity to hire more employees to increase output]

9. At the market clearing wage, the unemployment rate in the economy will be which of the following?

   A. Equal to the natural rate of unemployment.

   B. Equal to the difference between the labor market capacity minus the employed workers.

   C. Equal to the frictional rate of unemployment.

   D. **Zero.** *[Those who would take a job at the market clearing wage can find one]*

10. Justin recently received a Master's in Robotics and he is currently working as a waiter at a restaurant while he is looking for a better job in his field. Which of the following is accurate?

    A. **Justin belongs to the labor force.** *[Employed individuals belong to the labor force]*

    B. Justin is unemployed. *[Justin has a job – it does not matter if he is looking for another]*

    C. Both A and B.

    D. None of the above is accurate.

11. Harut was working as a waiter making 800 euros per month. Last month, he convinced his boss to fraudulently file paperwork that she has fired Harut, so that Harut could collect 300 euros per month in unemployment benefits. In exchange, Harut continues working at the restaurant for 650 euros per month "under the table". Which of the following is accurate?

    A. **Schemes such as Harut's tend to cause an upward bias to the unemployment index.**

    B. Schemes such as Harut's tend to cause a downward bias to the unemployment index.

    C. Schemes such as Harut's do not affect the unemployment index.

    [Harut poses as unemployed even though, in essence he is employed. Thus, this scheme tends to inflate the unemployment index]

Scenario 11.1: If Singapore dedicates all its resources to the production of olive oil, it can produce 100 tons. If it dedicates all its resources to produce banking services, it can produce 180 units; If Greece dedicates its resources in the production of olive oil it can produce 120 tons. If it dedicates all its resources in the production of banking services it can produce 90 units.

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12. According to scenario 11.1, compute the opportunity costs for the production of each good for Singapore.

    A. **1 ton of olive oil costs 1.8 units of banking; 1 unit of banking costs 0.56 tons of olive oil.**

    B. 1 ton of olive oil costs 0.75 units of banking; 1 unit of banking costs 1.33 tons of olive oil.

    C. 1 ton of olive oil costs 1.8 units of banking; 1 unit of banking costs 1.33 tons of olive oil.

    D. 1 ton of olive oil costs 0.75 units of banking; 1 unit of banking costs 0.56 tons of olive oil.

    [For Singapore: To produce 100 tons of olive oil has to give up 180 units of banking. Thus, 1 ton of olive oil costs 1.8 units of banking. To produce 180 units of banking must give up 100 tons of olive oil. So, 1 unit of banking costs 0.56 tons of olive oil]

13. According to scenario 11.1, compute the opportunity costs for the production of each good for Greece.

    A. 1 ton of olive oil costs 1.8 units of banking; 1 unit of banking costs 0.56 tons of olive oil.

    B. **1 ton of olive oil costs 0.75 units of banking; 1 unit of banking costs 1.33 tons of olive oil.**

    C. 1 ton of olive oil costs 1.8 units of banking; 1 unit of banking costs 1.33 tons of olive oil.

    D. 1 ton of olive oil costs 0.75 units of banking; 1 unit of banking costs 0.56 tons of olive oil.

    [For Greece: To produce 120 tons of olive oil has to give up 90 units of banking. Thus, 1 ton of olive oil costs 0.75 units of banking. To produce 90 units of banking must give up 120 tons of olive oil. So, 1 unit of banking costs 1.33 tons of olive oil]

14. According to scenario 11.1, which of the following is accurate?
    - **A. Singapore has the absolute advantage in banking.**
    - B. Singapore has the absolute advantage in olive oil.
    - C. Singapore has the absolute advantage in the production of both goods.
    - D. Singapore does not have the absolute advantage in the production of any of the goods.
      [Greece can produce more olive oil than Singapore (120 tons for Greece vs. 100 tons for Singapore), so Greece has the absolute advantage in olive oil. Singapore can produce more banking services than Greece (180 units for Singapore vs. 90 units for Greece), thus Singapore has the absolute advantage in banking]

15. According to scenario 11.1, which of the following is accurate?
    - A. Greece has the absolute advantage in banking.
    - **B. Greece has the absolute advantage in olive oil.**
    - C. Greece has the absolute advantage in the production of both goods.
    - D. Greece does not have the absolute advantage in the production of any of the goods.
      [Greece can produce more olive oil than Singapore (120 tons for Greece vs. 100 tons for Singapore), so Greece has the absolute advantage in olive oil. Singapore can produce more banking services than Greece (180 units for Singapore vs. 90 units for Greece), thus Singapore has the absolute advantage in banking]

16. According to scenario 11.1, which of the following is accurate?
    - **A. Singapore has the comparative advantage in banking.**
    - B. Singapore has the comparative advantage in olive oil.
    - C. Singapore has the comparative advantage in the production of both goods.
    - D. Singapore does not have the comparative advantage in the production of any of the goods.
      [Singapore has the comparative advantage in banking because it can produce it at an opportunity cost lower than Greece's (0.56 for Singapore vs. 1.33 for Greece) but not in olive oil, where Greece can produce it for a lower opportunity cost (0.75 for Greece vs. 1.8 for Singapore). So, Greece has the comparative advantage in olive oil]

17. According to scenario 11.1, which of the following is accurate?
    - A. Greece has the comparative advantage in banking.
    - **B. Greece has the comparative advantage in olive oil.**
    - C. Greece has the comparative advantage in the production of both goods.
    - D. Greece does not have the comparative advantage in the production of any of the goods.
      [Singapore has the comparative advantage in banking because it can produce it at an opportunity cost lower than Greece's (0.56 for Singapore vs. 1.33 for Greece) but not in olive oil, where Greece can produce it for a lower opportunity cost (0.75 for Greece vs. 1.8 for Singapore). So, Greece has the comparative advantage in olive oil]

18. According to scenario 11.1, would it be possible for the two countries to trade if the terms of trade were 1 ton of olive oil to 1 unit of banking services?
    - A. No, because Singapore would not benefit.
    - B. No, because Greece would not benefit.
    - **C. Yes, because both would benefit.**
    - D. We do not have sufficient information to answer.
      [Regarding olive oil, Singapore would want to buy for less than 1.8 and Greece would be willing to sell for more than 0.75. For Banking, Greece would want to buy for less than 1.33 and Singapore

would be willing to sell for more than 0.56. 1 to 1 is within the range that both countries would benefit from trade]

19. According to scenario 11.1, would it be possible for the two countries to trade if the terms of trade were 1.5 tons of olive oil for 1 unit of banking?

    A. No, because Singapore would not benefit.
    B. **No, because Greece would not benefit.**
    C. Yes, because both would benefit.
    D. We do not have sufficient information to answer.

    [Greece would not accept to pay 1.5 for banking because it can produce banking by itself at an opportunity cost of 1.33]

20. Consider the possibilities for trade of two goods between two countries. Which of the following is NOT possible?

    A. The same country has the absolute advantage in the production of both goods. *[Possible because a country can simply be better in both]*
    B. **The same country has the comparative advantage in the production of both goods.** *[Assume that country A produces quantity X_A for good X and Y_A for good Y, while country B produces X_B and Y_B, respectively. If country A has the comparative advantage in good X, then $\frac{Y_A}{X_A} > \frac{Y_B}{X_B}$. If country A has the comparative advantage in good Y too, then $\frac{X_A}{Y_A} > \frac{X_B}{Y_B}$. It is impossible for an inequality to hold and at the same time its reverse to hold, too]*
    C. A country has the absolute advantage but not the comparative advantage in the production of one of the goods. *[This happened in the example we used in class]*
    D. A country has the comparative advantage but not the absolute advantage in the production of one of the goods. *[This happened in the example we used in class]*

Good afternoon! As this is the last time that I am sharing my thoughts with you here, I am not sure what is of substantial value to write for the end. Looking back, I understand that I pushed you harder than you expected. If that scared you or frustrated you at times, I sincerely apologize but I did it for a reason. The great Persian poet Saadi once wrote: "No one throws stones and sticks on fruitless trees." In this course, my TAs and I treated you as winners, as individuals with potential, as future game-changers. Not once we tried to make Economics easier for you. Instead, we tried to make YOU better, to make you stand as a student at a world-class University. This semester, those of you who cared, walked a long way in this course. If you go back and revisit the tasks you failed a few months ago, you will now smile. Yet, it was not the tasks that became easier. It was your brain that became better, stronger and faster. From my side, I saw you learning, understanding and constantly improving. This was all that mattered to me and it makes me proud now that I see you go. Thank you for tolerating me and E&S for this term. I hope you will keep a pleasant memory from this course.   Kosmas