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請依題號寫下答案

一、是非題：每題 8 分。請先回答是或非，再繪圖並說明理由；*沒寫理由或沒*

繪圖均以零分計。

1. According to the theory of rational expectations, the cost of disinflationary monetary policy could be zero.

2. Suppose that there are only two large countries, home and foreign. Other things equal, a decrease in the effective tax rate of the home country causes the financial account balance of the foreign country to increase.

3. In the AK model, other things equal, an increase in the saving rate causes both the short-run and long-run economic growth rate to increase.

4. According to the efficiency wages model, an adverse supply shock causes the unemployment rate to fall.

5. Other things equal, the short-run nominal GDP increases with banks' excess reserves.

6. Other things equal, both the short-run and long-run nominal GDP increase when the technology advances.

二、問答題:

1. Suppose the economy is in a long-run equilibrium.

   a (6 points) Draw the economy's short-run and long-run Phillips curves.

   b (4 points) Suppose a wave of business pessimism reduces aggregate demand. Show the effect of this shock on your diagram from part (a). If the central bank undertakes expansionary monetary policy, can it return the economy to its original inflation rate and original unemployment rate?

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    c   (8 points) Now suppose the economy is back in long-run equilibrium, and then the price of imported oil rises. Show the effect of this shock with a new diagram like that in part (a). If the central bank undertakes expansionary monetary policy, can it return the economy to its original inflation rate and original unemployment rate? If the central bank undertakes contractionary monetary policy, can it return the economy to its original inflation rate and original unemployment rate? Explain why this situation differs from that in part (b).

2. The savings rates of Chinese households are among the highest in the world. This question asks you to analyze the consequences and potential causes of high Chinese saving using some standard macroeconomic models. As you answer different parts of the question, assume that the Chinese saving rate underwent a large once-and-for-all shift upward some time ago (say, around 1978) and that the saving rate has remained at this high level since then.

    a   (6 points) Consider China's situation after any adjustments to the new saving rate have taken place. Is there a theoretical possibility that the level of Chinese saving will be "too high," in the sense that the new steady-state level of living standards is lower that it would be with a lower saving rate? Next, would a "too high" savings rate be Pareto optimal with respect to different generations in China?

    b   (4 points) For this part of the question, suppose you are told that the shift toward higher saving occurred at the same time that three other economic changes occurred in China. First, the Chinese welfare state became less generous, in that free housing was no longer offered to young workers. Second, government spending on social programs like unemployment benefits and health care was also reduced. Third, employment became more unstable as the right to a lifetime job was ended. How might standard models of consumption link these economic changes to the drop in saving?

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3. Consider an economy that has access to a production technology

$$Y = K^\alpha L^{1-\alpha}, \text{ with } \alpha \in (0,1)$$

where the savings rate is exogenously given and equals s, the population grows at a constant rate n, there is no technology progress ($g = 0$) and the depreciation rate δ is 0. Also, assume that everybody is employed, thus population equals employment.

a　(6 points) Write down an equation for $\dot{Y}$ and $\dot{K}$ (where $\dot{Y} = \frac{dY}{d\text{time}}$ and $\dot{K} = \frac{dK}{d\text{time}}$). Define k as capital per worker. Please derive an expression for $\dot{k}$ as a function of n, s and y (output per worker).

b　(6 points) Apply steady-state (that is, let $\dot{k} = 0$) as the long-run equilibrium concept, find the long-run equilibrium values for the capital per capita (k), and the output per capita (y). What is the growth rate of output per capita in the long run?

c　(6 points) Determine the value of k^* that maximizes consumption per capita (c), denote it by k^{gold}. What value(s) of the savings rate s make the economy converge to this ?

d　(6 points) Suppose that this economy starts with a savings rate different than the one required to achieve the maximum consumption per capita in the long run. One politician discovers this and claims that the government should try to correct it and move the savings rate towards the value that maximizes consumption. If the government cares only about people who is alive now, should they implement this policy? Be careful with your argument.