

國立清華大學 103 學年度碩士班考試入學試題

系所班組別：經濟學系碩士班

考試科目（代碼）：總體經濟學(4102)

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Note:

1. There are three parts in this exam.
2. The allocations of points are shown in the parentheses.
3. Please mark the number of question clearly.
4. Be sure to arrange your answers following the order of the questions

Part I. Short-answer Problems (24 points)

Note: There will be no point if the following requirements are not satisfied.

1. You need to decide whether the underlined part of the statement in each question is true or false.
 2. Provide your answer as "True" or "False"; in addition, if it is false, write down the correct statement; if it is true, no further explanation is required.
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1. The Dow Jones Industrial Average index had fallen more than 50% during October 2007 to March 2009. Since sharp declines in the stock market are widely feared, the demand for M1 will rise and the demand for M2 will decline.
 2. Classical economists and Keynesians have different views about whether money is neutral. Classical economists believe that money is neutral in the short run, while Keynesians believe that there may be price inflexibility in the short run. Both classical economists and Keynesians believe money is neutral in the long run.
 3. The labor force of Wonderland is fixed at 200 million. In each month, there is 90% of the workers who were employed at the beginning of the month keep their jobs, and 90% of the workers who were unemployed at the beginning of the month find new jobs. The January unemployment rate in Wonderland is 10%. The unemployment rate in February will be lower than the January unemployment rate.
 4. Real business cycle theorists consider shocks to the production function to be most important. The Solow residual is the typical measure of the productivity shocks. We can interpret that cyclical changes in the Solow residuals mostly reflect changes in technology.

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5. According to the misperceptions theory, producers are unable to tell whether the increase in prices is a relative price increase or a rise in the general price level. The short-run aggregate supply curve based on this theory slopes upward, and thus an anticipated increase in the money supply increases output in the short run.
6. The European Central Bank may increase the money supply when it observes that the European economy is in a recession after the sovereign debt crises. The policy could be destabilizing when there is a time lag in the impact of policy of a few months, and the firms also need the same amount of time to adjust prices.
7. If unemployed workers can receive benefits longer, the natural rate of unemployment will rise. But, a government sponsored program to help unemployed workers learn new skill will reduce the natural rate of unemployment and thus will shift the expectations-augmented Phillips curve to the left.
8. To explain the procyclical behavior of average labor productivity, the Keynesian real business cycle theory include the price stickiness and labor hoarding as additional assumptions. Price stickiness may result from the profit-maximization behaviors of perfect competition firms that face menu costs. The labor hoarding means that employers demand more labor than necessary during recessions.

Part II. Essay Problems I (26 points)

Note: Show your answers **clearly and concisely**, otherwise there will be no point.

Question 1. (14 points)

Truman Bewley, an economist at Yale University, has written a book, *Why Wages Don't Fall During A Recession*, published in 1999 by Harvard University Press. Based on over 300 interviews with businesspeople, union leaders, and other professionals important to the labor market during the early 1990s recession, Mr. Bewley challenges a longstanding but unsettled puzzle in economics: why nominal wages hardly fall (and real wages do not fall enough) when unemployment is high. Professor Bewley's main finding is described in the February 26, 2000 "Economic Focus" column of the *Economist* magazine as:

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Why, then, are wages sticky? Mr. Bewley concludes that employers resist pay cuts largely because the savings from lower wages are usually outweighed by the cost of denting workers' morale: pay cuts hit workers, standard of living and lower their self-esteem. Falling morale raises staff turnover and reduces productivity. Cheerier workers are more productive workers, not only because they work better, but also because they identify more closely with the company's interests. ...In particular, high morale fosters teamwork and information-sharing, which are otherwise difficult to encourage. (*Economist* 2000, 90)

- (1) (8 points) If you are a Neoclassical economist, what are your explanations for the wage rigidity and the unemployment in a recession? If you are a Keynesian economist, what are your explanations for the wage rigidity and the unemployment in a recession? (Note: Show your answers without any diagram.)
- (2) (6 points) In view of Professor Bewley's theory, firms could prefer layoffs to pay cuts and thus wages may become less rigid during the U.S. 2007-2009 recession. Is this statement true or false? Explain.

Question 2. (6 points)

Suppose the machine tools industry in Taiwan experiences a major breakthrough in technology. The real business cycle theory predicts the behaviors of employment, the real wage, average labor productivity, and investment. However, the predictions may not match completely with the actual macroeconomic data of Taiwan. What could be a major reason of the inconsistency? (Note: Explain your answers without showing any diagram.)

Question 3. (6 points)

Whether a macroeconomy policy should be conducted by rule or discretion is debatable in macroeconomics. One argument for the rule is about the time inconsistency of discretionary policy. The time inconsistency could hurt policymakers' credibility, and thus reduce effectiveness of their policies. Describe an example of this argument.

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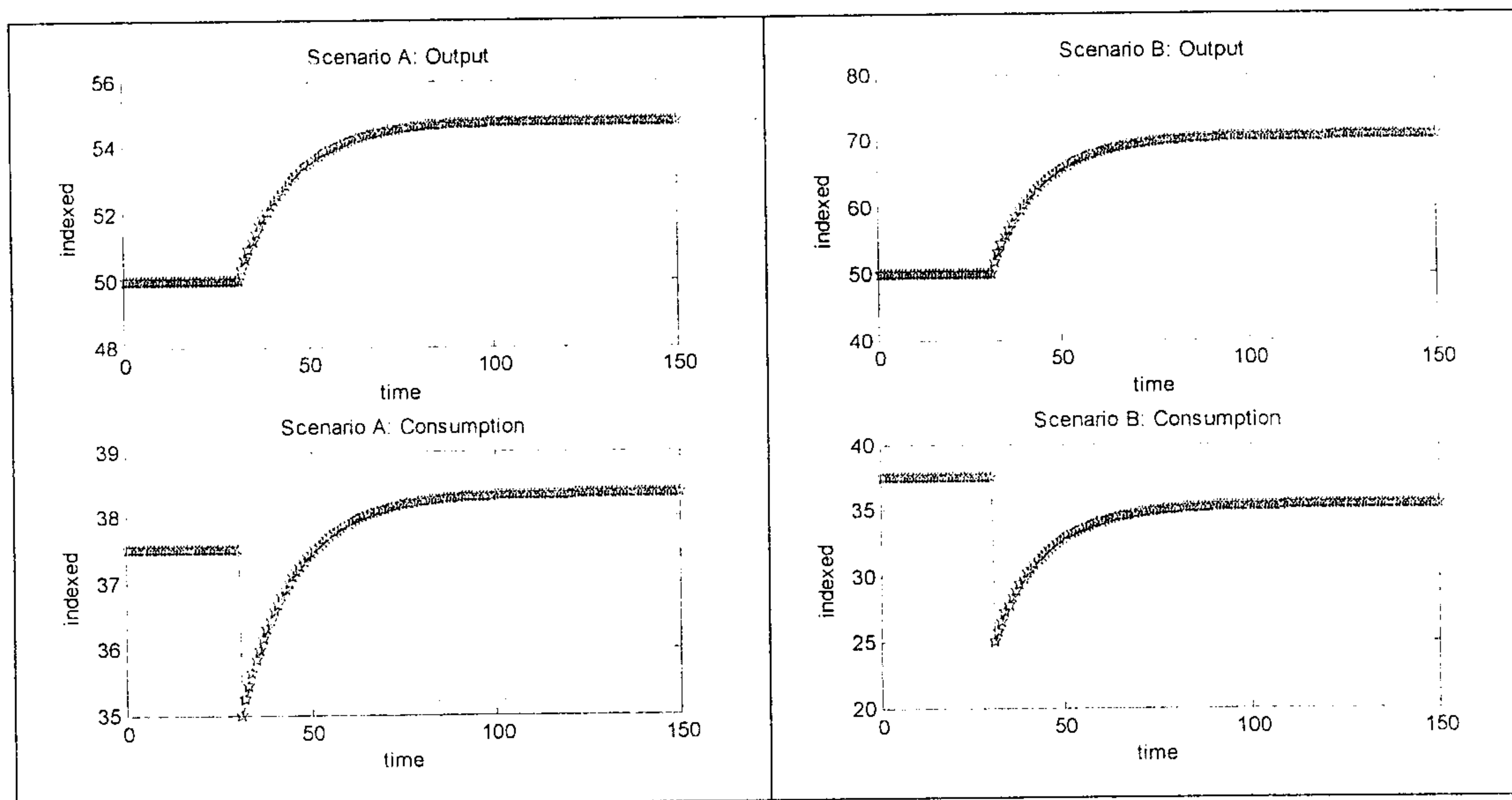
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Part III. Essay Problems II (50 points)

Question 1: Solow Model (14 points):

The figures below are the transition paths for output per capita and consumption per capita. These figures are the results from changes in the saving rate under the Solow model with population growth. The economy starts from the steady state. Before $t=30$, the saving rate was 0.25. At $t=30$, the saving rate increased to 0.3 for Scenario A and to 0.5 for Scenario B. These changes last forever.



- (1) (6 points) As shown above, both scenarios result in higher output per capita. However, the consumption per capita in the new steady state is higher than the original steady state for Scenario A but lower for Scenario B. Please describe the circumstances that higher saving rate can result in these two types of scenarios.
- (2) (4 points) Please explain why there is an immediate drop at $t=30$ for consumption but there is neither a jump nor a drop for output.
- (3) (4 points) We know that after the shock occurs, the transition to the steady state tends to be faster during the first few periods than the later periods. Please identify the feature of the graphs that captures this concept.

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Question 2: Saving Decisions (28 points)

(1) (12 points) Based on the two-period Fisher model of consumption and savings, please discuss the effects of an increase in real interest rate on the saving decisions. (Please provide answers from the perspective of the income effect and the substitution effect.)

(2) (16 points) When a government raises taxes but keeps the same level of government expenditure, we claim that the effects of a tax cut on consumption decisions depends on whether or not the Ricardian equivalence holds. Please discuss how the tax cut affects saving decision from the household's perspective and the nation's (aggregate) perspective.

Question 3 Labor Market Equilibrium (8 points):

When the economy faces a one-time positive supply shock at current period, how does the labor market equilibrium change? Please use a diagram to illustrate the changes. Please also label the changes on the full employment level and the market-clearing wage on the diagram.