

國立清華大學 104 學年度碩士班考試入學試題

系所班組別：經濟學系

考試科目（代碼）：總體經濟學（4002）

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Part I:

Section 1: Multiple Choice Questions (24 points)

1. A few models of short-run aggregate supply are based on some market imperfection. Particularly, the imperfection in the sticky-price model is that:
 - (a) firms confuse changes in the overall level of prices with changes in relative prices.
 - (b) expectations are formed adaptively rather than rationally.
 - (c) some firms do not adjust their prices instantly to changes in demand.
 - (d) the real wage adjusts to bring labor supply and labor demand into equilibrium.
2. All of the following are arguments against Ricardian equivalence *except* consumers:
 - (a) make consumption decisions myopically.
 - (b) are rational and forward-looking in consumption decision-making.
 - (c) are borrowing constrained.
 - (d) do not expect future taxes to fall on them.
3. According to classical economists, the increase in unemployment in recessions is caused by
 - (a) slack aggregate demand.
 - (b) the failure of wages to adjust to restore equilibrium in the labor market.
 - (c) the power of labor unions, which prevent firms from cutting wages.
 - (d) a mismatch of workers and jobs.

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4. When debt levels are very high, changes in interest rates have a much smaller effect on consumer spending, business investment, and net exports. This would
- (a) flatten the money supply curve.
 - (b) steepen the money supply curve.
 - (c) make a given autonomous monetary policy action less effective in changing economic output than when debt levels are low.
 - (d) make a given autonomous monetary policy action more effective in changing economic output than when debt levels are low.
5. In the Keynesian model, the real wage is mildly procyclical because
- (a) demand for labor fluctuates with the demand for final goods.
 - (b) firms take advantage of recessions to pay slightly lower wages, since there's excess labor supply.
 - (c) workers' effort may depend on the unemployment rate and the real wage.
 - (d) the supply of labor fluctuates with the business cycle.
6. Historically, Brazil has suffered higher and more variable rates of inflation than Taiwan. You would expect the short-run aggregate supply curve of Brazil to be _____ than that of Taiwan, and the Phillips curve of Brazil to be _____ than that of Taiwan.
- (a) flatter; flatter
 - (b) flatter; steeper
 - (c) steeper; flatter
 - (d) steeper; steeper

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7. If people's expectations of inflation are formed rationally rather than on adaptive expectations and if policymakers make a credible policy move to reduce inflation, then the costs of reducing inflation will be _____ traditional estimates of the sacrifice ratio.
- (a) much higher than
 - (b) much lower than
 - (c) exactly equal to
 - (d) approximately two percent greater than
8. The primary criticism by Keynesians of the credibility argument for rules is that
- (a) reputations are a less costly method of gaining credibility.
 - (b) reputations are a less costly method of maintaining credibility.
 - (c) the cost of losing flexibility over policy choices may exceed the benefit of gaining credibility.
 - (d) rules that reduce presidential and congressional influence over monetary policy could ultimately be harmful to the economy.

Section II: Short-answer Questions (26 points)

- 1 (12 points) A news titled "Euro Area Falls Into Deflation" from the TradingEconomics.com posted on Jan. 7, 2015 states that:

Eurozone annual inflation rate is expected to be -0.2 percent year-on-year in December, down from 0.3 percent in November, provisional estimates from Eurostat showed. It is the first fall in consumer prices since October of 2009. This negative rate is driven by a fall in energy prices (-6.3 percent, compared with -2.6 percent in November), while prices remain stable for food, alcohol and tobacco (0.0 percent, compared with 0.5 percent in November) and non-energy industrial goods (0.0 percent, compared with -0.1 percent in November). The only annual increase is expected for services (1.2 percent, stable compared with November).

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Figure 1 depicts the annual inflation rate in Euro Area during 12 months in year 2014.

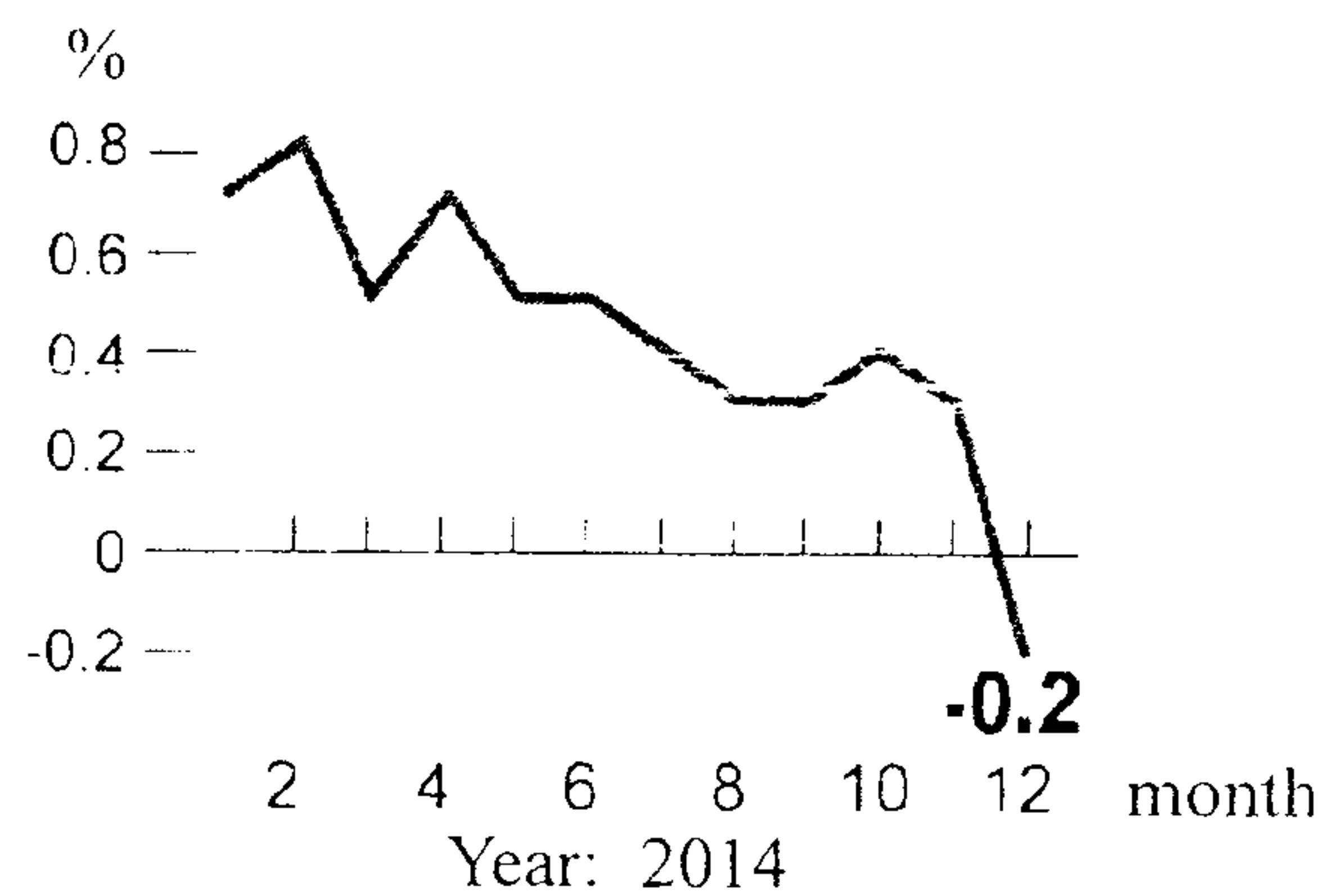


Figure 1: Euro Area Inflation Rate
Annual % Change on Consumer Price Index

On the same day (Jan. 7, 2015), an article from the Economist reports that:

Weak demand, driven by austerity, debt and a lack of economic growth is dragging down prices. The falling oil price is making things cheaper, too. One might think falling prices would be something to celebrate. But concerns about deflation traps and downward spirals abound. The European Central Bank may launch a programme of quantitative easing this month to fend off the threat.

- i. (3 points) The core inflation rate was 0.7 percent in November 2014. Do you expect the rate to be higher or lower in December than 0.7 percent in the previous month?
- ii. (4 points) The consumer price level fell by 0.2%, marking the return of deflation for the first time since 2009. According to the two reports, what triggers the negative inflation rate in Euro area during December 2014?

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- iii. (5 points) On 5 June 2014, the ECB announced a program, TLTRO (targeted longer-term refinancing operation), of lending to banks for a four-year period at a near-zero rate of interest to stimulate the economy. The "TLTRO" program is exactly the quantitative easing. True or False? Explain.
2. (14 points) Suppose the U.S. Fed has just learned that Japan and the Euro area may head for recession, which will reduce U.S. exports. This is an economic shock that shifts the *IS* curve down. What would the Fed do in response to the shock if the Fed wants to keep the U.S. economy at full-employment equilibrium under each of the following cases?
- (7 points) The Fed uses the real business cycles model.
 - (7 points) The Fed uses the Keynesian (efficiency wage) model.
- In each case, provide your answer concisely without showing any diagram.

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Part 2:

以下部分請依題序作答，否則不予計分。

Section I (32 points): Multiple Choices

1. Government's decision for tax and expenditure may affect household's decision for saving and consumption. If the government cut tax without cutting the expenditure and finance the gap by issuing debt today, how will the tax cut affects the decision for saving and consumption?

- I. National saving does not change if Ricardian equivalence holds.
- II. National saving increases if Ricardian equivalence does not hold.
- III. Household's saving does not change if Ricardian equivalence holds.
- IV. Household's saving increases if Ricardian equivalence does not hold.

- (A) I, II and III
- (B) I, II and IV
- (C) I, III and IV
- (D) II, III and IV
- (E) None of the above

2. Which of the following statement is **wrong** regarding labor market equilibrium?

- I. Imposing minimum wages leads to unemployment almost surely.¹
- II. Efficiency wage theory suggests that it is normal to observe unemployment.
- III. Technology innovation reduces unemployment rate almost surely.

- (A) I and II
- (B) I and III
- (C) II and III
- (D) I, II and III
- (E) None of the above

¹ Almost surely: with probability one.

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3. Which of the following about income effect and substitution effect are true?
- I. Regarding an individual's decision for work and leisure, income effect suggests that higher wage rates lead to more leisure.
 - II. Regarding an individual's decision for work and leisure, substitution effect suggests that higher wage rates lead to more leisure.
 - III. Regarding an individual's decision for saving and consumption, income effect suggests that higher interest rate results in the lower the savings.
 - IV. Regarding an individual's decision for saving and consumption, substitution effect suggests that higher interest rate results in the lower the savings.
- (A) I and III
(B) II and III
(C) I and IV
(D) II and IV
(E) None of the above
4. Consider goods market equilibrium. A large number of accessible oil deposit found earlier will be depleted earlier than expected, which decreases the expected future marginal product of capital as well as a decrease in expected future income. Then, the new equilibrium rate of return on capital is _____ and the equilibrium quantity is _____.
- (A) higher; higher;
(B) higher; lower;
(C) lower; higher;
(D) lower; lower;
(E) None of the above

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Question 5-6: Measuring the Economy

The list below provides information about an economy:

Gross national product (GNP) = 220

Gross private investment = 40

Private consumption = 150

Taxes = 70

Government purchase of goods and services = 30

Government transfer payments to the domestic private sector = 25

Interest payments from the government to the domestic private sector = 15

(Assume all interest payments by the government go to domestic households)

Government investment = 0;

Factor income received from the rest of the world = 7

Factor payment made to the rest of world = 10

5. What is the use of the private saving under this context?

- I. Investment
- II. Finance government deficit
- III. Holding foreign assets

- (A) I and II
- (B) I and III
- (C) I, II and III
- (D) I only
- (E) None of the above

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6. Which of the following statement is correct?
- I. This economy is an international borrower
 - II. This economy is an international lender
 - III. This economy has positive net exports
- (A) I only
 - (B) II only
 - (C) I and III
 - (D) II and III
 - (E) None of the above

Questions 7-8: Solow Model

Consider the following version of the Solow growth model. Y is total output, K is the capital stock, L is the number of workers, A is the production efficiency, C is consumption, and I is investment. Moreover, θ is capital share ($\theta=0.3$), δ is depreciation rate ($\delta=0.05$) and s is the fraction of output that is saved ($s=0.25$). The subscript “ t ” is the date. “ $t+1$ ” means next period. Each individual is endowed with one unit of labor.

Imagine that the economy is in a steady state, with population growth $n = 0.04$ (i.e., $L_{t+1} = (1 + n)L_t$) and no technological growth rate $g = 0$.

$$Y_t = AK_t^\theta L_t^{1-\theta} \quad (1)$$

$$C_t = (1 - s)Y_t \quad (2)$$

$$K_{t+1} = I_t + (1 - \delta)K_t \quad (3)$$

$$Y_t = C_t + I_t \quad (4)$$

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7. Which of the following statement about comparative statics are correct regarding the effect of changes in saving rate on steady state?

- I. When increase the saving rate from 0.25 to 0.3, output per capita increases.
 - II. When increase the saving rate from 0.25 to 0.3, consumption per capita increases.
 - III. When decrease the saving rate from 0.35 to 0.3, output per capita increases.
 - IV. When decrease the saving rate from 0.35 to 0.3, consumption per capita increases.
- (A) I, II and III
(B) I, III and IV
(C) I, II and IV
(D) I, II, III and IV
(E) None of the above

8. Let's assume that the economy starts from the steady state and then experienced a fall in population growth rate from 4% to 2% at time $t=20$, ceteris paribus. Please discuss what happens on the economy's output/consumption/capital per capita due to the change over time:

- I. These three variables will reach a higher steady state eventually.
 - II. These three variables will reach a lower steady state eventually.
 - III. The change does not affect these three variables at $t=20$.
 - IV. The change affects these three variables at $t=20$.
- (A) I and III
(B) I and IV
(C) II and III
(D) II and IV
(E) None of the above

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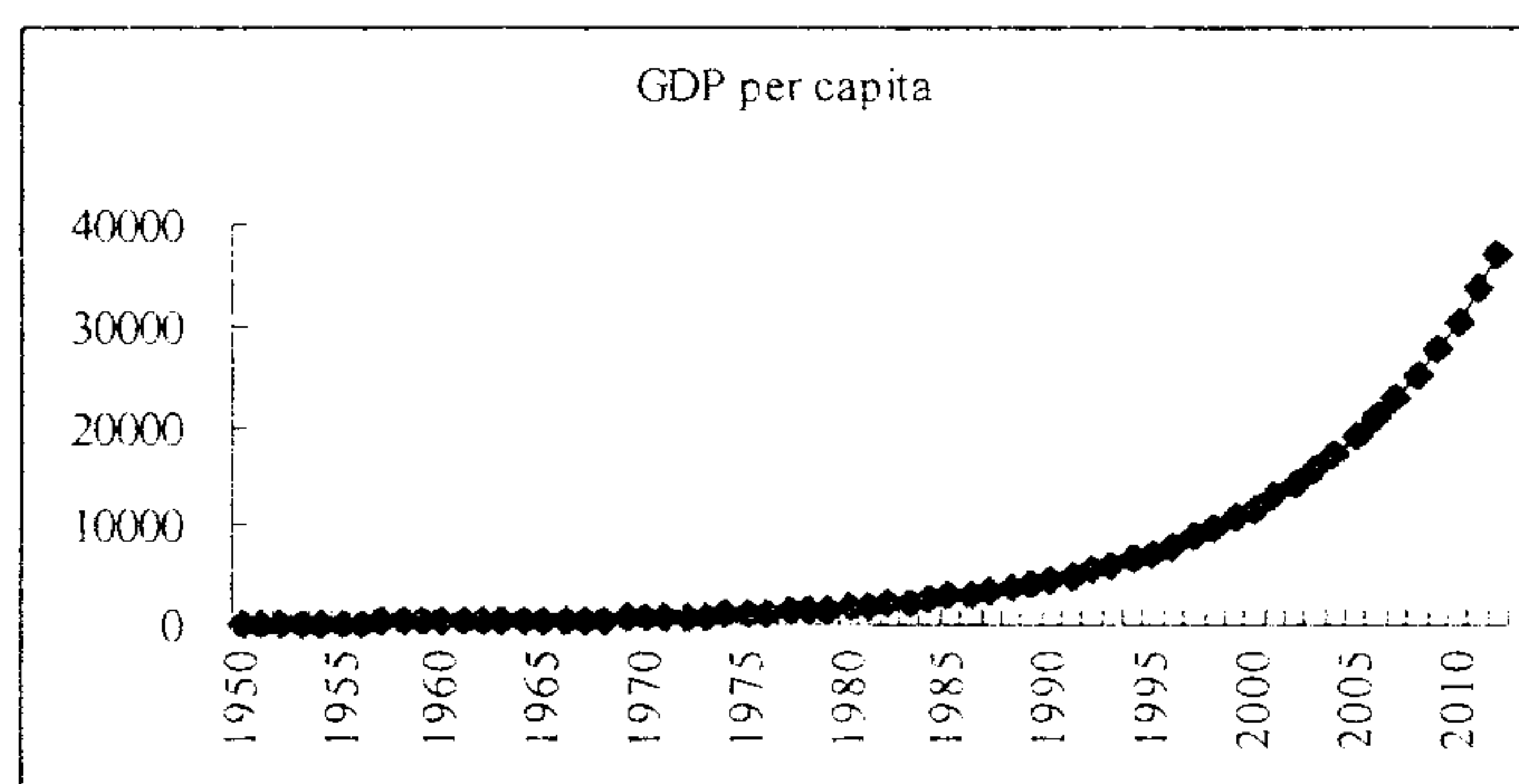
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Section II (8 points): True or False

1. You inherited a house built in 1950 this year and then you decided to sell it at 10 million. Then, you paid 1% of the price as the brokerage fee. The contribution of this transaction to GDP is 0.1 million.
2. When aggregate consumption increased by one million, GDP increased by one million almost surely.
3. In Economics, saving is a stock concept.
4. From the graph below, we can tell that the GDP per capita of this country grows faster in the 2000s than in the 1960s and 1970s.



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Section III (10 points): Short Answers

1. On an island of Caribbean, the natives fish and grow chia seeds. Let's assume that all the good produced are consumed by the final users unless used as intermediate goods or exported. The quantity sold and the corresponding price data for these products in two different years are shown below:

Year	2010	2011
Price Per Unit of Chia Seeds	\$10	\$15
Quantity of Chia Seeds Produced	5000	6000
Price Per Unit of Fish	\$20	\$30
Quantity of Fish Produced	700	500

It turns out that 200 units of fishes are used as fertilizer for producing chia seeds each year. We set year 2010 as the base year.

- (a) (4 points) Please compute the GDP growth rate of this economy from 2010 to 2011.
- (b) (4 points) Please compute the inflation rate of this economy from 2010 to 2011 based on the GDP deflator.
- (c) (2 points) True or False: If the governor found a mistake in the book keeping that 1000 units of chia seeds are exported instead of being consumed by the residents in 2011, the computed GDP growth rate is the same as the answer obtained from (a).