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Intermediate Macroeconomics: Self-evaluation exercises

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Preface

This file is intended as a support tool for the course *Intermediate Macroeconomics*, which is offered during the second year of the *Degree in Economics* at the *University of the Basque Country / EHU*. For details on the precise content of the course program and the type of skills and objectives that it aims to cover, we suggest consulting the corresponding *Teaching Guide*. In any case, an important detail to bear in mind is that the textbook on which the course is supported is *Macroeconomics*, 6th Edition, by N. Gregory Mankiw, published by Worth Publishers. The Spanish edition, *Macroeconomía*, is published by Antoni Bosch Editor.

The tool consists of a collection of multiple choice questions, classified according to the eight topics that currently make up the topic list of the course, taking the form of *interactive self-evaluation tests*. The collection is made up of questions from past exams. Along these lines, this tool allows you to practice with questions similar to those that you will have to answer in the examination, provided you take the course.

If this is your case, you should take the following into consideration as a piece of warning: *do not even try to memorize the answer to every question, as it would be a useless exercise*. As you can guess, the questions are not repeated between examinations. Try, though, to grasp the format of the questions and answers, and practice so that you can learn the mechanics. This way you will improve your speed and ease, in addition to having a pretty good idea about your level of knowledge before taking the exam.

IMPORTANT: For this tool to work properly, you must view this file with Adobe Reader X© (Version 10.1.4 or later). Other readers of *PDF* files might not work.

ACKNOWLEDGEMENTS: For preparation of this educational tool the authors have had the invaluable assistance provided by many exercises from *Macroeconomic Theory* II exams, subject taught by colleagues of ours in the Department of Economic Analysis II at the University of the Basque Country UPV/EHU until 2010-2011. To everyone, our deepest gratitude.

Instructions

1. Click the **Start** button with your mouse.

2. Answer **ALL** the questions by clicking the option you think is the correct one. **There is only one** correct choice among the four alternatives offered. Go over all your answers if you wish to do so: the tool will allow you to rectify your answers by clicking alternatives that you previously rejected.

3. Click the **Finish** button with your mouse. This way both the number of right answers and the total number of questions that make up the test will be displayed.

4. Finally, click the **Correct** button with your mouse. Now go back to the beginning of the questions in order to compare your own answers with the right ones. You will find that there are new signs. The ✔ sign indicates that your answer is correct. Conversely, the ✗ sign indicates an incorrect answer; in this case, the correct choice is indicated with the ● sign. This is the edition for the academic year 2012-2013. In later editions the tool is expected to show also a brief explanation about the right choice for each of the questions of the test. For the time being, however, you will have to settle for the current design and, of course, you can always ask the course instructor.

1. Aggregate Demand. Closed Economy (I/II)

1. **In a closed economy with sticky prices, suppose that taxes are proportional to income. The multiplier for government purchases**
   (a) is less than what it would be if taxes were fixed.
   (b) is larger than what it would be if taxes were fixed
   (c) is the same as what it would be if taxes were fixed
   (d) is the same as the tax multiplier

2. **In the Keynesian cross, if the marginal propensity to consume is** 0.5,
   (a) a tax increase of €2 million would reduce income by €4 million
   (b) a decrease in taxes of €4 million would increase income by €8 million
   (c) the tax multiplier is -5
   (d) spending multiplier is 2

3. **In the Keynesian cross, if** $G = T = I = 100$, $MPC = 0.80$ **and the government increased public spending in** 100 **units and taxes in** 50 **units, income would increase in**
   (a) 125 units
   (b) 300 units
   (c) 175 units
   (d) 150 units

4. **Consider a closed economy with sticky prices where the** IS **curve is downward sloping and the** LM **is upward sloping. A policy of expansion of public spending generates**
   (a) a reduction in consumption and investment in amounts such that the equilibrium income does not increase
   (b) an increase in consumption and a reduced investment in such a way that equilibrium income is not modified
   (c) an increase in consumption and an investment unchanged, thereby increasing equilibrium income
   (d) an increase in consumption and a reduced investment in amounts such that the equilibrium income increases

5. **Consider a closed economy with sticky prices with a downward sloping IS curve and an upward sloping LM curve. Suppose that citizens, with low returns on their savings, decide to devote a greater proportion of their income to consumption. This change results in the short term in**

   (a) an increase in income and consumption of the same amount
   (b) an increase in income and a fall in the interest rate
   (c) an increase in real balances
   (d) an increase in income less than the horizontal shift of the IS curve

6. **In the Keynesian cross, if the marginal propensity to consume is** 0.6

   (a) a tax increase of €2 million would reduce income by €4 million
   (b) a decrease in taxes of €4 million income increased by €8 million
   (c) the tax multiplier is -5
   (d) spending multiplier is 2.5

7. **In the Keynesian cross, if** $G = T = I = 100$, $MPC = 0.85$ **and government spending increases by 200 units and taxes by 100 unitss, rent increases by**

   (a) 805.15 units
   (b) 643.12 units
   (c) 766.67 units
   (d) 532.99 units

2. Aggregate Demand. Closed Economy (II/II)

8. **In a closed economy, a change in government spending causes a horizontal shift of the IS curve by an amount**

    (a) smaller than the variation in public spending
    (b) equal to the change in government spending
    (c) greater than the variation in public spending
    (d) that may be above, below or equal to the change in government spending

9. **In a closed economy with sticky prices, if the central bank reduces the money supply by 5%**

    (a) The IS curve shifts to the right
    (b) The IS curve shifts to the left
    (c) The LM curve shifts to the right
    (d) The LM curve shifts to the left

10. **Assume a closed economy described by the following equations: $C = 200 + 0.5(Y - T)$, $I = 75$, $G = 20$, $T = 15$, $L^d = Y - 50r$, $M = 100$, $P = 1$. The production and the interest rate in equilibrium are equal to**

    (a) $Y = 650$, $r = 7.5$
    (b) $Y = 600$, $r = 10.8$
    (c) $Y = 550$, $r = 5.5$
    (d) $Y = 575$, $r = 9.5$

11. **When the IS curve is downward sloping and the LM curve is upward sloping, an increase in government spending equal to ΔG**

    (a) increases income by an amount equal to $\Delta G/(1 - MPC)$
    (b) increases income by an amount greater than $\Delta G/(1 - MPC)$
    (c) increases income by an amount less than $\Delta G/(1 - MPC)$
    (d) produces no effect on income

12. **In the $IS - LM$ model for a closed economy, if consumers' confidence in the economy decreases, policy makers can stabilize the economy by**

    (a) reducing the money supply
    (b) increasing the money supply
    (c) reducing government spending
    (d) increasing taxes

13. The aggregate demand is

(a) the relationship between the amount of product sold and the price level

(b) the relationship between the amount of product demanded and the general price level

(c) the relationship between the interest rate and the level of income that arises in the money market

(d) the relationship between the interest rate and the level of income that arises in the goods market

14. In the $IS - LM$ model, if the central bank reduces the money supply,

(a) there is a recession in the short term

(b) does not affect output in the short term

(c) prices are reduced in the short term

(d) there will be a process of "stagflation" in the short term

15. A drop in the money supply will lead to

(a) a leftward shift in the aggregate demand

(b) a rightward shift in the aggregate demand

(c) an upward movement along the aggregate demand

(d) a downward movement along the aggregate demand

16. Assume a closed economy described by the following equations $C = 150 + 0.75(Y - T)$, $I = 90 - 10r$, $G = 300$, $T = 90$, $L^d = Y - 100r$, $M = 4,000$. **The aggregate demand curve would be given by the following equation:**

(a) $Y = 1350 + (1129.43/P)$

(b) $Y = 1250 + (1142.86/P)$

(c) $Y = 1350 + (1142.86/P)$

(d) $Y = 1250 + (1129.43/P)$

17. In the $IS - LM$ model of a closed economy with sticky prices, monetary policy affects the equilibrium level of income if

(a) the marginal propensity to consume is equal to zero

(b) money demand depends on the rate of interest

(c) investment demand is insensitive to the interest rate

(d) money demand depends on the income level

18. Consider a closed economy with sticky prices in which the Central Bank's target is to maintain a stable level of production in the short term. Faced with a reduction in taxes by the Government, the Central Bank must

(a) increase the money supply

(b) keep the money supply constant

(c) reduce the money supply

(d) increase public spending

19. Suppose an $IS - LM$ model in which money demand depends on the rate of interest. A tax cut will have the following implications for the equilibrium:

(a) income, consumption, savings and investment remain constant

(b) income, consumption, savings and investment increase, the latter two in the same amount

(c) income remains constant, consumption increases by the same amount that reduces the investment, and saving decreases

(d) income and consumption increase, and savings and investment fall, and the increase in consumption is larger than the decline in investment

3. Aggregate Demand. Open Economy

20. **If the central bank sets the exchange rate below the equilibrium exchange rate,**
    (a) the IS^* curve will shift to the right
    (b) the LM^* curve will shift to the left
    (c) the IS^* curve will shift to the left
    (d) the LM^* curve will shift to the right

21. **If the exchange rate set by the Central Bank is higher than the exchange rate in the currency market, arbitrageurs**
    (a) will buy foreign currency from the Central Bank
    (b) will sell foreign currency to the Central Bank
    (c) will sell national currency in the currency market
    (d) will buy local currency from the Central Bank

22. **What could raise the world interest rate?**
    (a) An increase in taxes worldwide
    (b) An increase in money supply in all countries
    (c) A greater pessimism of investors worldwide
    (d) An increase in the demand for money in all countries

23. **In a small open economy under a fixed exchange rate regime, an expansionary fiscal policy implies that**
    (a) the IS^* curve shifts to the right, while the LM^* curve remains unchanged
    (b) the LM^* curve shifts to the right, while the IS^* curve remains unchanged
    (c) neither the IS^*curve nor the LM^* curve change
    (d) both the IS^* curve and the LM^*curve shift to the right

24. **In a small open economy under a flexible exchange rate regime, if the government introduces a quota on imports,**
    (a) the trade balance will improve
    (b) the trade balance will deteriorate
    (c) the net export curve will shift to the left
    (d) the net export curve will shift to the right

25. In a small open economy, a fiscal expansion

(a) reduces the level of income if the exchange rate is fixed
(b) increases the level of income if the exchange rate fluctuates
(c) increases the level of income if the exchange rate is fixed
(d) reduces the level of income if the exchange rate fluctuates

26. What could lower the world interest rate?

(a) A worldwide tax cut
(b) A decrease in the money supply in all countries
(c) An increased optimism of investors worldwide
(d) A decrease in the demand for money in all countries

27. In a small open economy under a fixed exchange rate regime, as we move down along the aggregate demand curve,

(a) the real exchange rate decreases
(b) the real exchange rate increases
(c) the interest rate decreases
(d) the interest rate increases

28. For the interest rates of a small open economy and of the rest of the world to be equal it is necessary that

(a) the exchange rate is fixed
(b) the exchange rate is flexible
(c) there is free mobility of capital
(d) there is no free mobility of capital

29. In the Mundell-Fleming model with fixed exchange rates, an improvement in the trade balance will be obtained following

(a) an expansionary monetary policy
(b) an expansionary fiscal policy
(c) a revaluation of the national currency
(d) a devaluation of the national currency

4. Aggregate Supply. The Phillips Curve

30. According to all models of aggregate supply that we have studied in class,

(a) the aggregate supply curve is horizontal in the short term

(b) output deviates from its natural rate when the price level deviates from the expected price level

(c) the aggregate supply curve implies a long-term trade-off between inflation and unemployment

(d) the expected price level affects the natural rate

31. Which of the following events does NOT shift the Phillips curve?

(a) The announcement of a restrictive monetary policy that alters inflation expectations

(b) A training program for unemployed workers that raises productivity and, therefore, reduces the natural rate of unemployment

(c) An unexpected drop in aggregate spending that generates cyclical unemployment

(d) A negative supply shock that makes production more expensive

32. If the Phillips curve in an economy is given by $\pi = \pi_{-1} - 0.5(u - 0.02)$**, then**

(a) the natural rate of unemployment is 6%

(b) it takes 6 percentage points of cyclical unemployment to reduce inflation by 3 percentage points

(c) requires 3 percentage points of cyclical unemployment to reduce the rate of inflation by 6 percentage points

(d) the natural rate of unemployment is 3%

33. In the sticky-wage model, if wages are fully indexed by inflation, an increase of public spending implies

(a) an increase in both production and prices in the short term

(b) an increase in production and constant prices in the short term

(c) an increase in prices and short-term constant output

(d) a constant level of production and prices in the short term

34. **Suppose that an economy has the following Phillips curve:** $\pi = \pi_{-1} - 0.5(u - 0.06)$. The inflation rate is 10% and the central bank wants to reduce it to 7.5%. The necessary cyclical unemployment is
    (a) 4%
    (b) 5%
    (c) 10%
    (d) 20%

35. **A negative shock to aggregate demand**
    (a) shifts the aggregate demand curve to the right
    (b) shifts the aggregate demand curve to the left
    (c) shifts the aggregate supply curve to the right
    (d) shifts the aggregate supply curve to the left

36. **If the short-run aggregate supply curve is upward sloping, an unanticipated expansionary monetary policy**
    (a) reduces investment
    (b) increases investment
    (c) leaves investment unchanged
    (d) reduces aggregate output

37. **If the short-run aggregate supply curve has a positive slope, an expansionary monetary policy will result in the short-term in**
    (a) a rightward shift of the aggregate supply curve
    (b) a downward movement along the aggregate supply curve
    (c) a rightward shift of the aggregate demand curve
    (d) no downward movement along the aggregate demand curve

38. **In the sticky-wage model, an unanticipated increase in money supply will lead to**
    (a) a change in aggregate demand that increases production in the short term
    (b) a recession in the short term
    (c) a change in aggregate supply because wages do not adjust to new price levels, what increases employment and production in the short term
    (d) an increase of the natural rate of production

39. **The sacrifice required to reduce inflation**
    (a) is the same regardless of whether expectations are rational or adaptive
    (b) is lower when expectations are rational and deflation policy is credible than when expectations are adaptive
    (c) is lower when expectations are adaptive than when expectations are rational and deflation policy is credible
    (d) is lower in the upturns of the cycle than in the depressive phases

40. A shift in the Phillips curve that makes the choice (between unemployment and inflation) that policy makers face more unfavorable will occur if

(a) expected inflation falls

(b) there is a positive supply shock

(c) there is an increase in the natural rate of unemployment

(d) expectations are rational

5. Government Deficit. Government Debt

41. **An increase in the elderly population of a country affects fiscal policy more directly because:**
    (a) older people generally are not required to pay taxes
    (b) governments provide pensions and health care for the elderly
    (c) the elderly are in favor of higher interest rates on their savings
    (d) governments spend more on education as the proportion of elderly increases

42. **According to the traditional view of government debt, a tax cut holding constant government purchases generates**
    (a) lower taxes in the future
    (b) lower purchases of government in the future
    (c) lower output in the short term
    (d) greater output in the short term

43. **The Ricardian theory of government debt suggests that**
    (a) individuals are myopic and do not understand the impact of government budget deficits
    (b) individuals consume according to their current income and expected future income
    (c) some individuals face credit constraints
    (d) people do not care about future generations

44. **In a period of deflation, if the real government debt is constant**
    (a) the real deficit is negative
    (b) the nominal deficit is positive
    (c) the nominal deficit is negative
    (d) the real deficit is positive

45. **Suppose that initially the government budget is balanced. The government uses taxes to buy an office building. As a result, the government budget has**
    (a) a surplus according to standard budget accounting
    (b) a deficit according to standard budget accounting
    (c) a budget surplus under capital budgeting
    (d) a budget deficit under capital budgeting

46. If the government debt, D, is 5 billion, the nominal interest rate is 7.5% and the real interest rate is 2.5%, then the nominal budget deficit overstates the deficit real by _____ billion.

(a) 0.35
(b) 0.25
(c) 0.15
(d) 0.05

47. When the government issues additional debt to acquire an asset under the current budget procedures, the deficit _____ , while under the capital budgeting procedure the deficit _____ .

(a) does not change; rises
(b) rises; does not change
(c) does not change; falls
(d) falls; does not change

48. If the nominal government debt does not change, then

(a) the economy is in long-run equilibrium
(b) the nominal deficit has to be zero
(c) GDP should equal its natural rate
(d) capital per worker is constant

49. Under the current accounting system of the budget deficit, an increase in the future pensions of officials

(a) will increase the current deficit
(b) will reduce the current deficit
(c) will reduce the current deficit
(d) might either increase or reduce the current deficit

50. The inflation-adjusted deficit should include only the _____ interest paid on the debt, not the _____ interest.

(a) real; nominal
(b) nominal; real
(c) external; interior
(d) interior; external

51. If the government debt, D, is equal to €6 billion, the nominal interest rate is 7% and the real interest rate is 3%, then the nominal budget deficit overstates the real deficit in _____ billion.

(a) €0.36
(b) €0.24
(c) €0.17
(d) €0.08

6. Stabilization Policy. Rules vs. Discretion. Time Inconsistency

52. If the purpose of the central bank is to maintain the inflation rate to a target level of 2% and the current inflation rate is 3%, the central bank

(a) will reduce the growth rate of nominal money supply
(b) will reduce the velocity of money
(c) will increase the velocity of money
(d) will maintain a constant growth rate of money supply

53. A rule of active stabilization policy could be:

(a) a constant money supply growth rate of 3%
(b) a balanced budget
(c) a money supply growth rate of $3\% + (u - 5\%)$
(d) a money supply growth rate of $3\% - (u - 5\%)$

54. Policies that stimulate or depress the economy without any deliberate policy change are called

(a) leading indicators
(b) time inconsistent policies
(c) rational expectation policies
(d) automatic stabilizers

55. Assume a central bank's loss function $L(u, \pi) = 0.5(u^2 + 4\pi^2)$ and a Phillips curve $u = 0.08 - 2(\pi - \pi^e)$. If π^d and u^d denote the resulting optimal inflation rate and the optimal unemployment rate, respectively, if the policy is discretionary, then

(a) $\pi^d = 0.08$ and $u^d = 0.5$
(b) $\pi^d = 0.04$ and $u^d = 0.08$
(c) $\pi^d = 0.08$ and $u^d = 0.08$
(d) $\pi^d = 0.04$ and $u^d = 0.5$

56. If agents' inflation expectations are rational instead of adaptive, and if policy makers make a credible change in policy to reduce inflation, then the costs of reducing inflation will be _____ traditional estimates of the sacrifice ratio.

(a) much greater than
(b) much lower than
(c) exactly the same as
(d) approximately 2% higher than

57. According to the proponents of rational expectations, the traditional estimates of the sacrifice ratio are not reliable because

(a) they ignore the inside lags
(b) they overestimate the outside lags
(c) they are based on adaptive expectations
(d) they are time inconsistent

58. According to the Lucas critique, when economists evaluate alternative policies, they should consider

(a) how policies affect expectations and behavior of the private sector
(b) whether the policy will offset the impact of automatic stabilizers or not

(c) the phase of the political business cycle in which the policy will be implemented
(d) the length of the inside lags of policies

59. Suppose that the loss function of the central bank is $L(u, \pi) = 0.5(u^2 + 4\pi^2)$, and that the Phillips curve is $u = 0.08 - 2(\pi - \pi^e)$. If π^r and u^r denote the resulting optimal inflation rate and the optimal unemployment rate if the policy follows a rule, then

(a) $\pi^r = 0.08$ and $u^r = 0.5$
(b) $\pi^r = 0.00$ and $u^r = 0.08$
(c) $\pi^r = 0.08$ and $u^r = 0.08$
(d) $\pi^r = 0.04$ and $u^r = 0.5$

7. Microfundations (I/II). Aggregate Consumption

60. **NOTE:** *This problem and the following 2 share the same statement, and they only differ in the decision variable which you are asked to solve for.* **Suppose a consumer faces the following problem**

$$\max_{\{c_1,c_2,s\}} \quad \ln c_1 + 0.65 \ln c_2$$

$$\text{s. t.} \quad \begin{cases} 100 = c_1 + s \\ c_2 = 1.05s + 125 \\ s \geq 0 \end{cases},$$

where the notation is the same as the one we used in class. Then the optimal first-period consumption for this consumer is equal to

(a) $c_1 = 90$
(b) $c_1 = 100$
(c) $c_1 = 80$
(d) $c_1 = 125$

61. **Suppose a consumer faces the following problem**

$$\max_{\{c_1,c_2,s\}} \quad \ln c_1 + 0.65 \ln c_2$$

$$\text{s. t.} \quad \begin{cases} 100 = c_1 + s \\ c_2 = 1.05s + 125 \\ s \geq 0 \end{cases},$$

where the notation is the same as the one we used in class. Then the optimal second-period consumption for this consumer is equal to

(a) $c_2 = 100$
(b) $c_2 = 80$
(c) $c_2 = 90$
(d) $c_2 = 125$

62. Suppose that a consumer faces the following problem

$$\max_{\{c_1,c_2,s\}} \quad \ln c_1 + 0.65 \ln c_2$$
$$\text{s. t.} \quad \begin{cases} 100 = c_1 + s \\ c_2 = 1.05s + 125 \\ s \geq 0 \end{cases},$$

where the notation is the same as the one we used in class. Then the optimal first-period savings for the consumer are equal to

(a) $s = 100$
(b) $s = 0$
(c) $s = 125$
(d) $s = 90$

63. The intertemporal budget constraint for a consumer who lives for two periods and who faces a positive interest rate r can be represented by the equation

(a) $c_1 + c_2 = y_1 + y_2$
(b) $(1 + r)c_1 + c_2 = (1 + r)y_1 + y_2$
(c) $c_1 + c_2(1 + r) = y_1 + y_2(1 + r)$
(d) $c_1/(1 + r) + c_2(1 + r) = y_1/(1 + r) + (1 + r)y_2$

64. Consider Irving Fisher's two-period model. If $y_1 = 20,000$, $y_2 = 15,000$, the interest rate r equals 0.50 (50 percent), and there is a restriction credit, $s \geq 0$, which is binding, then c_1 equals:

(a) $20,000$
(b) $15,000$
(c) $28,333$
(d) $35,000$

65. NOTE: *This problem and the following 2 share the same statement, they only differ in the decision variable which you are asked to solve for.* **Suppose that a consumer faces the following problem**

$$\max_{\{c_1,c_2,s\}} \quad \ln c_1 + 0.65 \ln c_2$$
$$\text{s. t.} \quad \begin{cases} 100 = c_1 + s \\ c_2 = 1.05s + 125 \end{cases},$$

where the notation is the same as the one we used in class. In addition, this consumer cannot obtain credit above 30% of his first-period income. Then the optimal first-period savings for this consumer equal

(a) $s = 0$
(b) $s = -30$
(c) $s = 30$
(d) $s = 100$

66. Suppose a consumer who faces the following problem

$$\max_{\{c_1,c_2,s\}} \quad \ln c_1 + 0.5\ln c_2$$
$$\text{s. t.} \quad \begin{cases} 100 = c_1 + s \\ c_2 = 1.05s + 125 \end{cases},$$

where the notation is the same as the one we used in class. In addition, this consumer cannot obtain credit above 30% of his first-period income. Then the optimal first-period consumption for this consumer equals

(a) $c_1 = 100$
(b) $c_1 = 120$
(c) $c_1 = 125$
(d) $c_1 = 130$

67. Suppose a consumer who faces the following problem

$$\max_{\{c_1,c_2,s\}} \quad \ln c_1 + 0.65\ln c_2$$
$$\text{s. t.} \quad \begin{cases} 100 = c_1 + s \\ c_2 = 1.05s + 125 \end{cases},$$

where the notation is the same as the one we used in class. In addition, this consumer cannot obtain credit above 30% of his/her first-period income. Then the optimal second-period consumption for this consumer is equal to

(a) $c_2 = 100$
(b) $c_2 = 95$
(c) $c_2 = 93.5$
(d) $c_2 = 125$

68. The intertemporal budget constraint of a consumer who lives for two periods and faces a positive interest rate r can be represented by the equation

(a) $(1+r)c_1 + (1+r)c_2 = (1+r)y_1 + (1+r)y_2$
(b) $c_1 + c_2(1+r) = y_1 + y_2(1+r)$
(c) $c_1/(1+r) + c_2/(1+r) = y_1/(1+r) + y_2/(1+r)$
(d) $(1+r)c_1 + c_2 = (1+r)y_1 + y_2$

69. Consider Irving Fisher's two-period model. If $y_1 = 30,000$, $y_2 = 15,000$, the interest rate r equals 0.50 (50 percent), and there is a restriction on credit such that $s \geq 0$ and which is binding, then c_1 equals:

(a) $30,000$
(b) $15,000$
(c) $28,333$
(d) $35,000$

70. Suppose a consumer who maximizes the utility function $U(c_1, c_2) = \ln c_1 + \beta \ln c_2$ **subject to his/her intertemporal budget constraint, and where the notation is the same as the one used in class. Which of the following statements about this consumer's optimal intertemporal choice is true?**

(a) An increase in y_1 gives rise to an increase in c_1, while c_2 remains constant.

(b) An increase in y_1 gives rise to an increase in both c_1 and first-period savings.

(c) An increase in y_2 gives rise to an increase in c_2, while c_1 remains constant.

(d) As a result of an increase in y_1, c_1 remains constant.

8. Microfundations (II/II). Aggregate Investment

71. **Holding other things equal, the decline in real interest rate _____ the price of housing and, therefore, the flow of investment in residential construction _____ .**

    (a) will increase, will increase
    (b) will increase, will fall
    (c) will reduce, will increase
    (d) will reduce, will fall

72. **Suppose a production technology represented by the function $Y = AK^\alpha L^{1-\alpha}$, $A > 0$, $\alpha \in (0,1)$. In equilibrium, ceteris paribus, which of the following changes will increase the real rental price of capital?**

    (a) a larger amount of labor employed
    (b) a larger capital stock
    (c) a less productive technology
    (d) a higher capital-labor ratio

73. **Tobin's proposition states that firms carry out investment projects provided that the market value of a firm is**

    (a) greater than the replacement cost of installed capital
    (b) less than the replacement cost of installed capital
    (c) higher than the Tobin's q
    (d) equal to the replacement cost of installed capital

74. **Suppose that investment firms make their decisions according to the neoclassical model that we have seen in class. Additionally, suppose that the government taxes these firms with a proportional tax on their rental income with a tax rate $\tau \in (0,1)$, so that their net investment demand is given by $I_n = 0.5[(1-\tau) \times (R/P) - (P_K/P) \times (r + \delta)]$. An increase in τ**

    (a) will increase these firms' net investment
    (b) will not affect these firms' net investment
    (c) will reduce these firms' net investment
    (d) will increase the user cost per unit of capital

75. Consider the following graph:
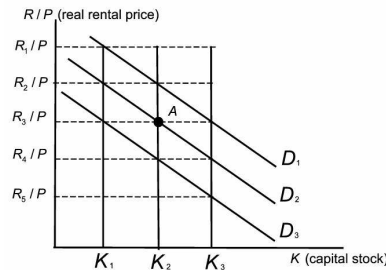
If the capital market is initially in equilibrium A with a real rental price R_3/P and a capital stock K_2, then, other things equal, a reduction in the capital stock to K_1 will change the real rental price of capital to

(a) R_1/P
(b) R_2/P
(c) R_3/P
(d) R_5/P

76. Suppose the mortgage market. An increased real interest rate

(a) will reduce housing demand, housing prices and residential investment
(b) will increase the demand for housing, housing prices and residential investment
(c) will reduce the demand for housing and residential housing investment, but will raise the housing prices
(d) will increase the demand for housing, but will reduce housing prices and residential investment

77. Suppose a production technology represented by the function $Y = AK^\alpha L^{1-\alpha}$, $A > 0$, $\alpha \in (0,1)$. In equilibrium, ceteris paribus, which of the following changes will not increase the real rental price of capital?

(a) a smaller amount of labor employed
(b) a lower capital stock
(c) a better technology
(d) a lower capital-labor ratio

**78.** Which of the following statements is true about James Tobin's q theory of investment?

(a) The marginal q is empirically observable, but the average q is not
(b) The average q is empirically observable, but the marginal q is not
(c) Average q is higher than marginal q in the short run
(d) Marginal q is higher than average q in the short run

79. **Suppose that investment firms make their investment decisions according to the neoclassical model that we have seen in class. Suppose also that the government wants to promote these firms via a proportional subsidy at a rate $\sigma \in (0,1)$ on the purchase of capital equipment. As a result, their net investment demand is given by $I_n = 0.05[(R/P) - (1-\sigma) \times (P_K/P) \times (r+\delta)]$. An increment in σ**

(a) will increase these firms' net investment
(b) will not affect these firms' net investment
(c) will reduce these firms' net investment
(d) will increases the rental price per unit of capital

80. **Consider the following graph:**
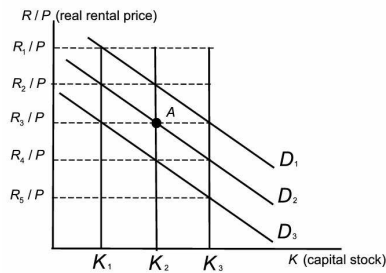
If the capital market is initially in equilibrium A with a real rental price R_3/P and a capital stock K_2, then, other things equal, an increase in the capital stock to K_3 will change the real rental price of capital to

(a) R_1/P
(b) R_2/P
(c) R_4/P
(d) R_5/P

Percentage of correct answers: