

EE312 Macroeconomics, 1/2015 (Sec. 046402)
Problem Sets 4 : Chapter 5 and Chapter 6

Please submit at the BE office, 5th floor department of Economics building.

Deadline of submission : Friday 13, November 2015, before 15.00 hrs.

Late submission will not be accepted.

*** Exam will consist of essay-type questions only.**

Chapter 5. Two-period Model. Consumption and Saving Decision.

PART 1. True or False. Short Answer. If the statement is False, comment.

1. (T/F) Consumption smoothing implies that consumers consume the same amount each period.
(Explain)
2.(T/F) Consumption smoothing has empirical support because real GDP is less variable than aggregate consumption
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3.(T/F) Eliminating consumer durables from the measure of real aggregate consumption would lead to greater variability of consumption with respect to aggregate income.
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4.(T/F) An increase in the real interest rate might cause a lender to increase current consumption if the substitution effect outweighs the income effect.
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5. A decrease in the real interest rate might cause a borrower to decrease current consumption if the substitution effect outweighs the income effect.
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6.(T/F) A temporary increase in income leads to an increase in saving while a permanent increase in income need not result in more saving
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7.(T/F) Under Ricardian Equivalence, a change in current taxes (say a decrease of \$10 billion), exactly offset by an equal and opposite change in future taxes (an increase of \$10 billion), has no effect on the real interest rate or on the consumption of individual consumers in equilibrium.
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8.(T/F) Milton Friedman argued that the marginal propensity to consume out of temporary income is greater than the marginal propensity to consume out of permanent income.
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Part 2. Short Answer.

1. Assuming $r = 0.25$, $t = 10$, $t' = 20$, $y = 100$ and $y' = 100$, write the consumer's lifetime budget constraint and derive the consumer's lifetime wealth.

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2. Show graphically the effect of a decrease in the real interest rate on current-period consumption for a lender whose income effect outweighs the substitution effect.

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Chapter 6. Real Intertemporal Model with Investment

PART 1. True or False. Short Answer. If the statement is False, comment.

1.(T/F) A firm will invest more the higher its expected future total factor productivity, the lower its current capital stock, and the lower the real interest rate.
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2.(T/F) The price of current leisure relative to future leisure is represented by $\frac{w(1+r)}{w'}$.
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3.(T/F) If w and w' are held constant, a decrease in the real interest rate results in an increase in the price of current leisure relative to future leisure.
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4.(T/F) Assume the real interest rate increases. If the income effect dominates the substitution effect, current consumption for lenders will fall.
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5.(T/F) Current leisure will increase when the real interest rate decreases if the income effect dominates the substitution effect.
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6.(T/F) An increase in the present value of taxes results in an increase in current labor supply.
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7.(T/F) The slope of the demand curve, $C^d(r)$ (plot against Y), is the marginal propensity to save.
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8.(T/F) The labor demand curve is downward sloping because hiring more labor increases total productivity.
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9.(T/F) As N increases, both total and marginal productivity rise.
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10.(T/F) Shifts in the labor demand curve are caused by changes in total factor productivity and the current capital stock..
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11.(T/F) Movements along the labor demand curve are caused by changes in real wages.
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12.(T/F) If capital fully depreciates every period (depreciation = 100%), the marginal benefit from investment will be $\frac{MPK'}{1+r}$.
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13.(T/F) An increase in wealth increases labor demand because laborers demand less money.
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14.(T/F) A decrease in productivity causes a change in N^S because workers must supply more labor to produce any given Y .
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Part 2. Short Answer.

1. Name three factors that determine the representative consumer's current supply of labor and how each factor affects supply.

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2. How do the three factors listed above affect the representative consumer's supply of labor?

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3. Explain what is meant by diminishing marginal productivity of labor.

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4. Explain the following true statement: A change in preferences affects labor supply while a change in technology affects labor demand.

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5. An increase in the real interest rate, holding current and future wages constant, results in an increase in the price of current leisure relative to future leisure. Is this statement true or false? Explain.

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6. What is the slope of the private demands for investment goods and government purchases in the current goods market diagram?

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7. What is the flaw in the following statement? “If the real interest rate rises, lifetime wealth declines, causing leisure to decline, labor supply to rise thereby causing a leftward shift in output supply.”

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8. Show changes in optimal investment schedule for decrease in z' and r . Graphically Illustrate.

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9. Prove graphically that the interest rate must fall with increases in G when $MPC = 1$. Graphically Illustrate.

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