EE312 Macroeconomics, 1/2015 (Sec. 046402)
Problem Sets 4

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

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

Chapter 5. Two-periods Consumption-Saving Decision

1. .....F..... (T/F) Consumption smoothing implies that consumers consume the same amount each period.

   (Explain) False. Consumption smoothing implies consumers wish to avoid large deviations in consumption over time.

2. .....F.......(T/F) Consumption smoothing has empirical support because real GDP is less variable than aggregate consumption

   False. The data show that consumption is less variable than GDP, which supports consumption smoothing.

3. .....F......(T/F) Eliminating consumer durables from the measure of real aggregate consumption would lead to greater variability of consumption with respect to aggregate income.

   False. Eliminating consumer durables from the measure of real aggregate consumption would lead to less variability. Durables are more volatile than non-durables.

4. .....F......(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.

   False. The lender with such preferences will always reduce current consumption.

5. .....F......(T/F) A decrease in the real interest rate might cause a borrower to decrease current consumption if the substitution effect outweighs the income effect.

   False. Both effects are negative with respect to current consumption and thus current consumption must fall.

6. .....T......(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

   True.

7. .....F......(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.

   False. A change in current taxes offset by an equal and opposite change in the present value of future taxes, has no effect on the real interest rate or on the consumption of individual consumers in equilibrium. Note that this answer assumes $r \neq 0$.

8. .....F......(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.

   False. Friedman argued that people response more to permanent income. Hence, the marginal propensity to consume out of permanent income is greater than the marginal propensity to consume out of temporary income.

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.

   ANSWER.

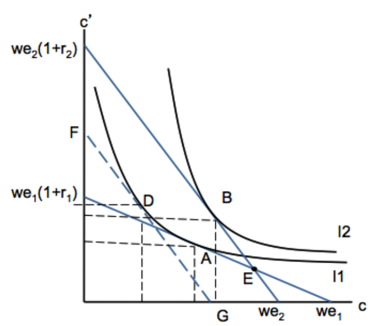
   The consumer's lifetime budget constraint is $C + \dfrac{C'}{1+r} = y - t + \dfrac{y' - t'}{1+r}$. Given the parameter values, the constraint can be rewritten as $C + \dfrac{C'}{1+0.25} = 100 - 10 + \dfrac{100-20}{1+0.25}$. The consumer's lifetime wealth is $90 + 80/1.25 = 154$. $C + \dfrac{C'}{1+0.25} = 154$.

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.

   ANSWER.

   Effect of higher r on the lender

   - Future consumption becomes cheaper in terms of current consumption.
   - **The substitution effect**: more future consumption for less current consumption.
   - **The income effect**: given savings yield more future income — higher current and future consumptions.
   - Higher future consumption; unclear current consumption and savings, given y and y'
   - Suppose income effect outweighs substitution effect
     - future consumption increases.
     - current consumption increases



     - initially; optimal consumption is at point A
     - GF is an imaginary budgetline paralell to the new budget line
     - AD is substitution effect
     - DB is income effect
     - DB is bigger than AD
     - both current and future consumption increases
     - .