

ECONOMICS 1 (Lecture 1)

PROBLEM SET #4

Due in your last section in the week of April 19

1. Aggregate Demand and Consumption (Chap. 24): What does Marginal Propensity to Consume (MPC) represent? Give ballpark figures for the MPC of: an Econ 1 student, kids on Telegraph, your GSI, a professor, Michael Jordan, Dennis Rodman?
2. Aggregate Demand and Other Forms of Spending (Chap. 25): Can you represent Aggregate Demand and Aggregate Expenditures on the same graph? Why, or why not? Why is one sloping up and the other one sloping down? Explain briefly.
3. The Spending Multiplier (Chap. 26; see also appendix to Chap. 28): To understand how the multiplier works, imagine a simple economy where the only determinants of aggregate expenditure are consumption, investment, and government spending $\rightarrow [AE = C + I + G]$. There are no imports, exports or taxes, and we will not worry about inflation just yet. Consumption is defined as simply as $\rightarrow [C = a + bY_d]$: in this case, income is fully disposable ($Y = Y_d$). Investment, government expenses, as well as a portion of consumption (I_0 , G_0 , and a) are autonomous, meaning they are given outside the model and stay constant, until we decide to change them. (**Note: this exercise is the sort of thing you might be expected to do in an exam without a calculator**) (Hint for preparing the final: do *not* memorize multipliers, but understand where they come from)
 - a) Illustrate on a graph the equilibrium situation where $Y = AE$. What do we mean by equilibrium in this case? How would you expect the economy to get back to equilibrium if it were not?
 - b) What is b ? Show graphically what happens if it gets a bit smaller. Discuss (very) briefly.
 - c) On another graph, show what happens if G_0 gets bigger. Is the increase in Income (Y) necessarily equal to the increase in G_0 ? Why?
 - d) Solve the equilibrium condition for Y . What is the multiplier in this case? Give an intuitive explanation of the multiplier effect.
 - e) Let's repeat what we did in parts b) and c), but with numbers this time. Let's say $a = 30$, $b = 0.75$, $I_0 = 60$, and $G_0 = 130$. What is the equilibrium income? What happens if b goes up to 0.80? Or if instead, G_0 goes up to 150?
 - f) Note that the process of calculating a multiplier always involves the following: writing out the equilibrium condition ($AE = Y$) with all the elements of AE properly specified, and then solving for Y . Do solve for Y if we make the following changes: $Y_d = Y + tY + T$, exports are $X = X_0$, and imports are $M = M_0 + mY$. What are t , T , M_0 and m ? Is it reasonable to consider exports autonomous?
 - g) What would be the relevant multiplier for an increase in government spending financed by bonds?
 - h) What would be the relevant multiplier for an increase in government spending financed by a tax (T) increase?
 - i) Moving further along, let's put some numbers (with the initial ones in part f) in there: $X_0 = 60$, $M_0 = 40$, $T = 70$, $m = 0.10$, and $t = 0.20$. What is the new equilibrium income?
 - j) What is the value of the multiplier you found in part g)? What happens to equilibrium income if government expenses *decrease* by 10?
 - k) What is the value of the multiplier you found in part h)? What happens to equilibrium income if government expenses *increase* by 10? Why would you expect income to go up in

- this case, when government gives with one hand and takes the same with the other?
- 1) Discuss (intuitively) the relative size of all the three types of multipliers you have calculated so far.

 4. The Supply Side of the Macro Economy (Chap. 27): How are the multipliers calculated in question 3 affected in general if we take into account inflation (and deflation)? Do you need to know the slope of the Aggregate Supply curve? Give a brief intuitive explanation.

 5. Fiscal Policy (Chap. 28): We have dealt with most of the issues here in question 3. You may want to ask yourself whether you think that an increase in government spending would be as appropriate today as it was in the 1930s

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