

## Study Problem in Keynesian Macroeconomics I

### The Simple Keynesian Model and Its Application

Consider three equations that pertain generally to any macroeconomy:

I. $Y = C + I + G$	The equality between $Y$ , which represents income, and $C + I + G$ , which represents total expenditures (or aggregate demand), is the (Keynesian) equilibrium condition.
II. $C = a + bY$	This simple linear equation shows the general form of the relationship between income and consumption. It describes consumer behavior. $a > 0$ ; $0 < b < 1$ .
III. $Y = C + S$	In the absence of taxation, this equation is an identity which defines savings. That is, saving ( $S$ ) is defined as that part of income not spent on consumption goods ( $Y - C$ ). With taxation, we would write $Y = C + S + T$ .

Now, consider some data (expressed in billions of dollars) that describe a particular economy:

i. $C = 100 + 0.8Y$	This is a specific consumption equation that describes the consumption behavior in some particular economy during some particular period of time.
ii. $I = 50$	This magnitude represents the current level of investment, which is based on the prevailing state of business confidence.
iii. $G = 60$ ; $T = 0$	These magnitudes represent the current levels of government spending and taxation. (Query: How is the government financing $G$ if $T$ is 0?)
iv. $Y_{fe} = 1300$	This is the full-employment level of income--the level of income that reflects an absence of (cyclical) unemployment and corresponds to a wage rate that clears the labor market.

Answer the following questions using Keynesian theory and the specific data given.

1. What is the MPC?, the MPS? What is the significance of the "100" in the equation  $C = 100 + 0.8Y$ ?
2. Calculate the investment multiplier and the government-spending multiplier.
3. Write the specific saving equation that corresponds to the consumption equation.
4. At what level of income does savings equal zero?
5. How much is aggregate demand when income is 1100? Is the economy in equilibrium at this level of income?
6. Graph  $C + I + G$  and the  $45^\circ$  line and locate  $Y=1100$  and  $Y=1300$  (relative to equilibrium income).
7. Find the equilibrium level of income? (Describe the process that brings about this Keynesian equilibrium.)
8. Suppose that government spending is increased by 30. Find the resulting equilibrium level of income?
9. How much more government spending is required to achieve full employment?
10. What assumptions about wage rates and prices do your calculations presuppose?