

Keynes of the General Theory

In the *General Theory* Keynes begins by explaining why that the circular flow cannot determine the level of output produced in the economy. He agreed with Say that all output produced must be sold, but he did not agree that this meant there would be adequate demand for the output. He did not agree that the supply of output would create the demand for this output. Here is how one can make sense of this. The circular flow tells us that everything that is produced must be sold. If I try to save there must be a borrower who will borrow the income I do not spend and spend it. It is impossible to save if there is no borrower. It is like shaking hands; there must be two hands to shake hands, one hand is not enough. Having a saver is not enough too. You must have a borrower in order to save. Thus, in a simple economy with no government or trade

$$Y \equiv C + I$$

meaning that all output is either sold to consumers or is sold to business. Nothing is left unsold (remember that the firm will borrow and buy its own goods, if it cannot immediately sell the goods). Changes in inventories are included in I, which we call actual investment spending, or business buying of the national output. The right and left sides of the equation above represent the circular flow. However, we have not explained how the level of Y is determined. To do this, we must introduce a theory and breathe life into the identity above. We do this by introducing *planned buying*.

$$Y = C_p + I_p$$

This new equation is not an identity. It is not always true, which means that one side can be bigger than the other. Only at equilibrium are the two sides the same. The new term on the right is not actual investment. It is instead planned investment buying. That is why we label it with a subscript "p". We can do the same for consumption or consumer spending. It is also planned. Hence, equilibrium occurs when everything produced is bought and all buying is planned. There is no unplanned buying. Remember, it is possible that at times

$$Y > C_p + I_p$$

and this is what is meant by saying that there is inadequate demand for the supply of output, Y. This is the case of excess supply. The case of excess demand is simply

$$Y < C_p + I_p$$

meaning that planned buying is greater than what has been produced. Now, if there is excess supply, we would expect that output (the flow of goods and services) would slow down. Y would begin to fall. But, planned consumption would also begin to fall because our incomes are falling with the Y. Both Y and C_p would fall and what is more, Y falls *faster* than C_p , bringing the equation into equality.

Why does Y fall faster than C_p ? This is a little subtle. Y falls faster than C_p because part of Y was saved and so C_p and S_p both fall due to the fall in Y. Just as a \$100 increase in income causes you

to consume say \$80 more and save \$20 more, a \$100 fall in income caused C_p to fall by 80 and planned saving to fall by \$20. Therefore, Y_p falls, but C_p falls by less than this. Equilibrium will be restored.

Problem: Suppose $Y = 1500$, $C_p = 1300$, and $I_p = 100$. Note, that $Y > C_p + I_p$. Now, reduce Y and C_p by some amounts (you decide) with C_p falling less than Y , and having the result of re-establishing $Y = C_p + I_p$. Make sure that you do not reduce I_p .

Answer: Here is one possibility, Y falls by 500, C_p falls by 400. Hence, $\Delta Y = -500$, $\Delta C_p = -400$. Note that the ratio $\Delta C_p / \Delta Y = 0.80$. We call this ratio the *marginal propensity to consume* and give it the simple name MPC. In our example, when Y falls by 500, C_p falls by 400 and S_p (planned saving) falls by 100. The re-established equilibrium output level is $Y^e = 1000 = C_p + I_p = 900 + 100$. The numbers are exaggerated in order to make the point clear how that income, saving, and consumption adjust to re-establish equilibrium. In real life, if Y fell by 1/3 that would be a Great Depression. Usually, in developed countries the rate of production of output will seldom decline more than 5-10% in the worst of times.

In a large modern economy, out planned buying consists of 4 major parts and we write this as

$$\text{Planned Buying} = C_p + I_p + G + NX_p$$

Naturally each part of the right- hand side is important to the macroeconomy. Equilibrium is therefore equal to

$$Y = \text{Planned Buying}$$

and our job this semester is to investigate what factors affect each part of the planned buying. When planned buying is equal to the output produced, we have macroeconomic equilibrium in the goods and services market. We write this as

$$Y = C_p + I_p + G + NX_p$$

Often, we omit the subscripts "p" (except for I_p) and simply write

$$Y = C + I_p + G + NX$$

with the understanding that the right-hand side variables are actually dependent on many factors and are planned amounts. You can easily see now that equilibrium in the goods and services market of the economy is when all output is bought, and all buying is planned. Next week we will begin to look at the goods market more carefully and discuss the factors that affect the four types of buying in the goods market.

Keynes also realized that the macroeconomy was composed of other big markets. These markets included the money market, the other assets market, and the labor market. The other assets market is simply the market for all other assets other than money. Each of the markets has a supply and demand and equilibrium condition. Walras' Law allows us to suppress one market and look at only three: the goods market, the money market, and the labor market. This framework has been used for over 80 years to discuss macroeconomics. Only recently have there been new developments

involving the money market to redesign the structure of our model of the macroeconomy. The new structure places great emphasis on the behavior of the central bank in setting short term interest rates. We will discuss these new developments later. For now, it will be useful for us to look at the traditional model that has served us so well over the last eight decades.

Questions:

1. What is the difference between the national income identity and the equilibrium condition for the goods and services market?
2. What is the major variable that adjusts when there is disequilibrium in the goods market?
3. What factors affect planned consumption?
4. What factors affect planned investment spending?
5. What factors affect the government's spending?
6. What are net exports and what factors affect this variable?
7. What are the four big markets in macroeconomics?
8. When we write $Y = C + I_p + G + NX$, are imports included in C? Explain.
9. Why do we say that Y is a flow and how do we explain a decrease in Y?
10. Does G include spending on social security and welfare?