

Ch 11: Income Expenditure Model

Goals

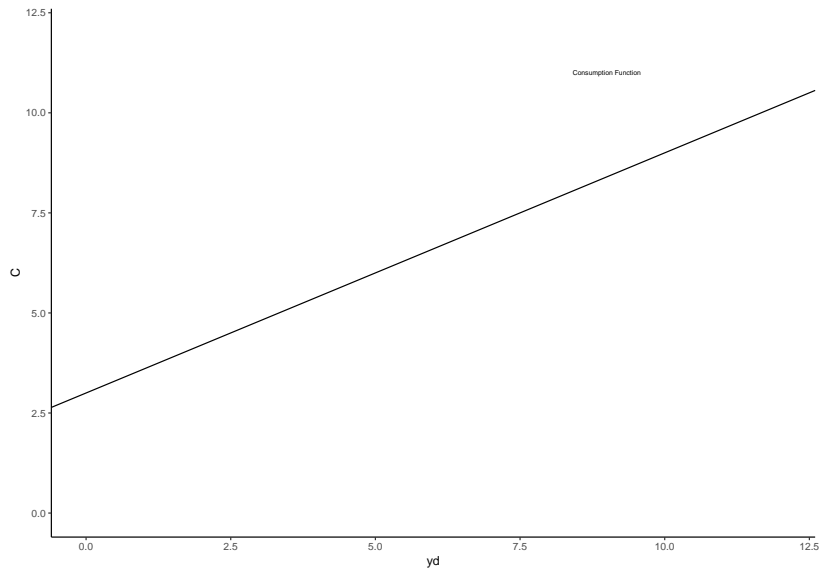
- ▶ Look at the simple income-expenditure model
- ▶ Talk about some limitations
- ▶ Examine one of the many multipliers

A Simple Idea

- ▶ People get disposable income, y_d .
- ▶ They spend some money just because, a . This is called autonomous consumption.
- ▶ They save some fraction, the marginal propensity to save (MPS), of each additional dollar of disposable income and spend other fraction, the marginal propensity to consume, (MPC), $MPC = 1 - MPS$.

$$C = a + MPC * y_d$$

Picture



Of Note

- ▶ MPC, the slope, does not tell you the average savings rate $\frac{y_d - C}{y_d}$ but the fraction of each additional dollar of income that you save.
- ▶ At low levels of income, you spend more than you earn.
- ▶ At high levels of income, you spend less than you earn.
- ▶ a is the intercept and MPC is the slope

What Moves the Consumption Function?

- ▶ Beliefs about the future
 - ▶ If you think your income will be higher in the future, spend more now and save less, i.e., shift up.
 - ▶ If you think your income will be lower in the future, spend less now and save more, i.e., shift down.
- ▶ Wealth
 - ▶ Adequate or inadequate wealth depends on where you are in your earning years.
 - ▶ Booming stock market often indicates an increase in wealth, and an increase, shift up, in the expenditure function.

Massive Simplifications

- ▶ Why are you saving?
- ▶ Why linear?
- ▶ When do I die/retire/have my rainy day?

Lets Build an Economy

- ▶ C is as described, $C = a + MPC * yd$
- ▶ No government or international sector
- ▶ I is the same for all yd but can move based on the interest rate.
 - ▶ It has two components, planned ($I_{planned}$) and unplanned ($I_{unplanned}$)
- ▶ The aggregate expenditure function (AE) is the sum of C and $I_{planned}$.

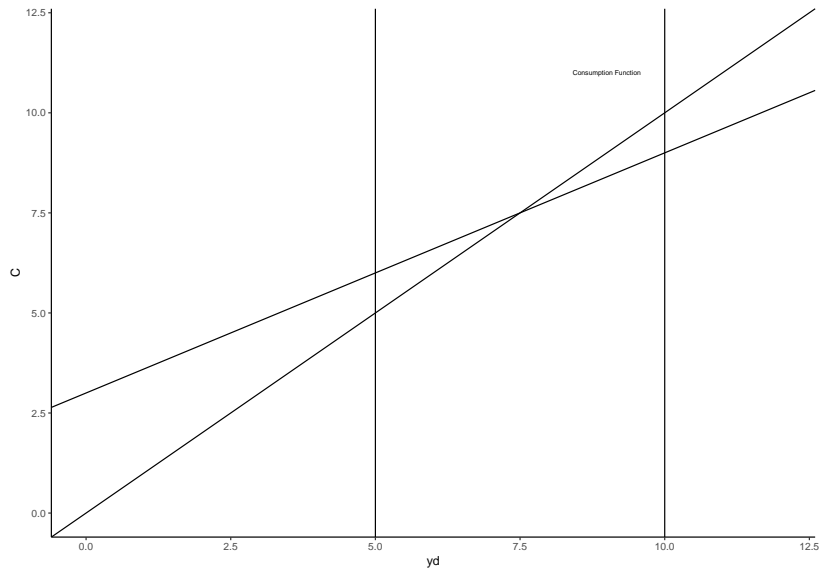
$$AE = a + MPC * yd + I_{planned}$$

A Principle Returns

Principle #10: One person's spending is another person's income.

- ▶ We need to have expenditures, AE , equal to income, yd .
- ▶ If AE is higher than yd , then inventories shrink, $I_{unplanned} < 0$
- ▶ If AE is lower than yd , then inventories expand, $I_{unplanned} > 0$

On the Graph



Note

- ▶ If $AE > yd$, i.e, when yd is low, inventories shrink
- ▶ if $AE < yd$, i.e, when yd is high, inventories build
- ▶ Inventory change is what makes the income expenditure equilibrium stable.
- ▶ Often called the “Keynesian Cross”

So, what is the equilibrium

$$y_d = a + y_d(MPC) + I_{planned}$$

$$(1 - MPC)y_d = a + I_{planned}$$

$$y_d = \frac{a + I_{planned}}{(1 - MPC)}$$

(One of the) Multiplier(s)

$$\frac{1}{1 - MPC}$$

- ▶ This is one of many ‘multipliers’ in introductory macroeconomics.
- ▶ Often goes by, “Fiscal Policy Multiplier”. You will see why in later chapters.

Numerical without Investment

$$yd = 3 + yd(.6) + 0$$

$$(1 - .6)y d = 3$$

$$y d = \frac{3}{(1 - .6)} = 7.5$$

Here is where it gets odd

Lets start saving more because we think the economy is going to tank. a drops from 3 to 2.

$$yd = 2 + yd(.6) + 0$$

$$(1 - .6)yd = 2$$

$$yd = \frac{2}{(1 - .6)} = 5$$

Equilibrium GDP dropped from 7.5 to 5. This is called the paradox of thrift.

The Paradox of Thrift

- ▶ If you believe the economy will be worse, lower GDP, in the future
- ▶ You act like it and save more now.
- ▶ When you save more now, GDP falls.

Next Up

Getting the Price Level and GDP to talk to each other. The next two chapters are very graph heavy.