

The goods market

EC 235 | Fall 2023

Required readings:

- Blanchard, ch. 3.

After reviewing some of the most important macroeconomic variables—*output*, *(un)employment*, and *inflation*—, it is time to start diving into the actual *name* of this course:

- *Macroeconomic Theory*!

And we will start this process by looking at the *composition* of aggregate output (GDP).

Never forget:

$$\text{GDP} = C + I + G + (X - IM)$$

Again:

$$\text{GDP} = C + I + G + (X - IM)$$

where:

- C : aggregate consumption;
- I : aggregate investment;
- G : government expenditures;
- X : exports;
- IM : imports.

Important remarks:

- *Investment* (I) in the macro sense is NOT the same as purchasing financial assets!
- I also includes *changes in inventories*;
- *Government spending* (G) does NOT include transfer payments (e.g., Medicare and Social Security);
- The difference between exports and imports ($X - IM$) is also known as the *trade balance*.

Reality check

Defining the *whole* economy's demand for goods and services (goods, for short) as Z , we can write the following *identity*:

$$Z \equiv C + I + G + (X - IM)$$

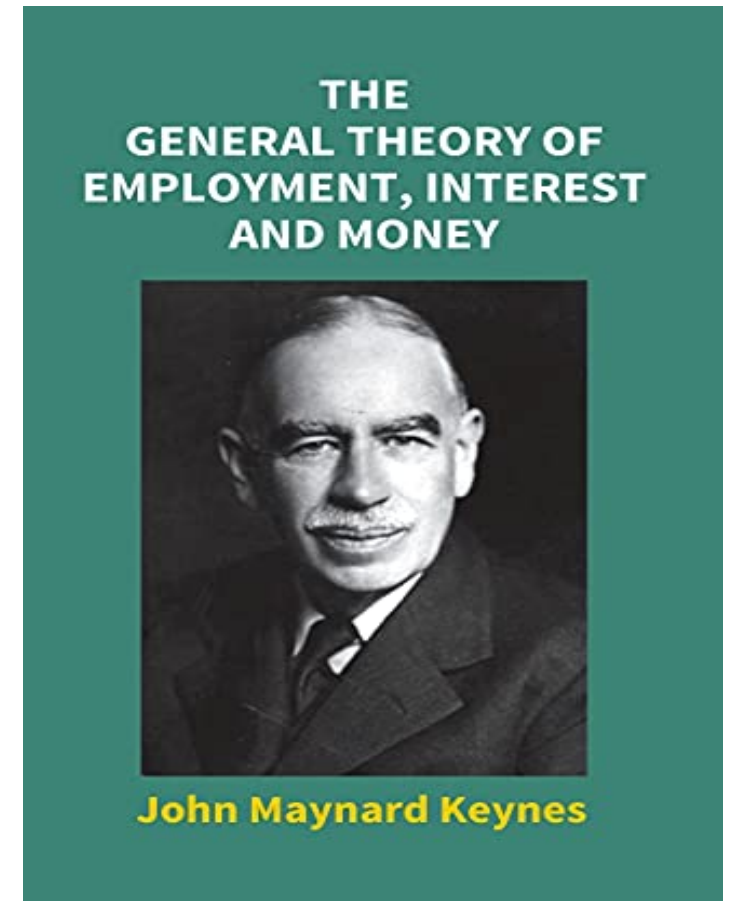
For simplicity's sake, our analysis will start off by assuming a *closed* economy (i.e., a country that does not do business with the rest of the world):

$$Z \equiv C + I + G$$

Now, we can start *modeling* the (macro)economy.

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But what *perspective* are we adopting to model the macroeconomy?



Chapter I

THE GENERAL THEORY

I have called this book the *General Theory of Employment, Interest and Money*, placing the emphasis on the prefix *general*. The object of such a title is to contrast the character of my arguments and conclusions with those of the *classical*¹ theory of the subject, upon which I was brought up and which dominates the economic thought, both practical and theoretical, of the governing and academic classes of this generation, as it has for a hundred years past. I shall argue that the postulates of the classical theory are applicable to a special case only and not to the general case, the situation which it assumes being a limiting point of the possible positions of equilibrium. Moreover, the characteristics of the special case assumed by the classical theory happen not to be those of the economic society in which we actually live, with the result that its teaching is misleading and disastrous if we attempt to apply it to the facts of experience.

¹ 'The classical economists' was a name invented by Marx to cover Ricardo and James Mill and their *predecessors*, that is to say for the founders of the theory which culminated in the Ricardian economics. I have become accustomed, perhaps perpetrating a solecism, to include in 'the classical school' the *followers* of Ricardo, those, that is to say, who adopted and perfected the theory of the Ricardian economics, including (for example) J. S. Mill, Marshall, Edgeworth and Prof. Pigou.

Starting off with *aggregate consumption* (C), it is a positive function of *disposable income* (Y_D):

$$C = C(Y_D)$$

where

$$\frac{\partial C}{\partial Y_D} > 0$$

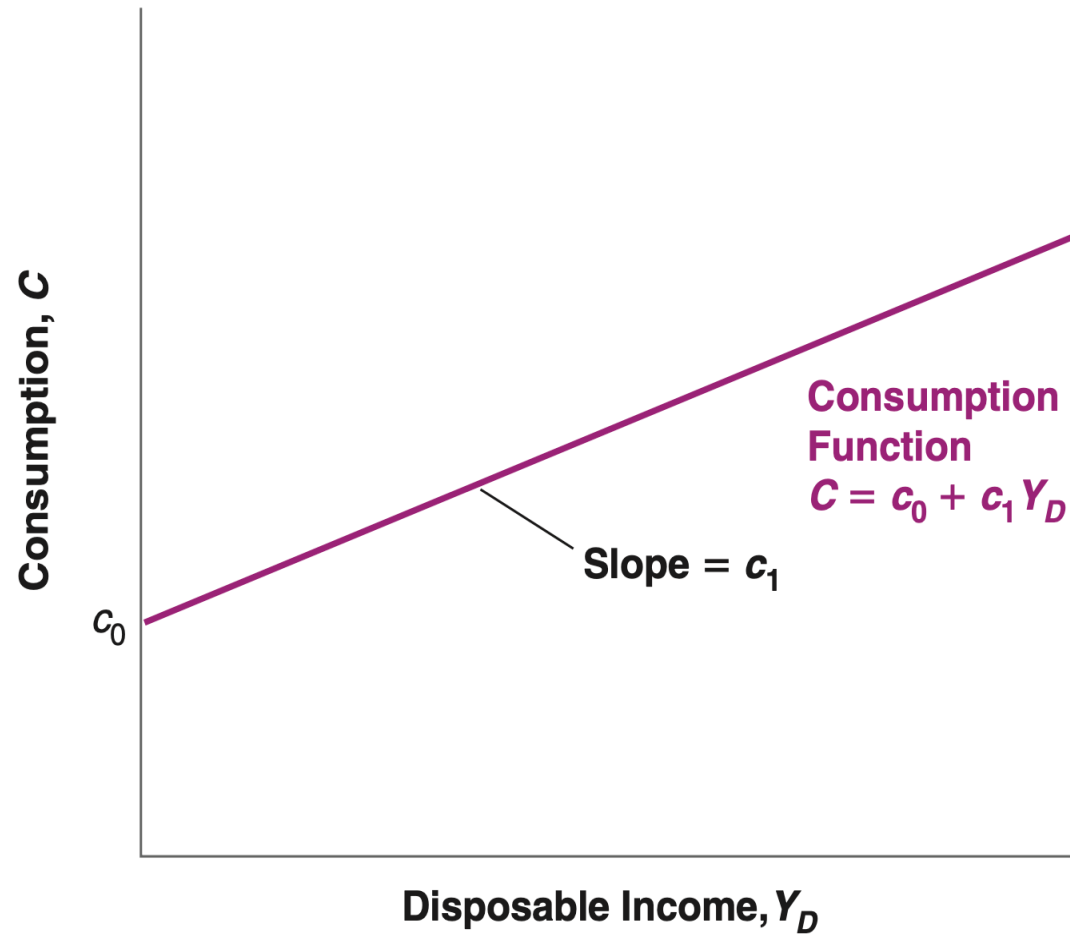
Here, $C(Y_D)$ denotes a *behavioral equation* representing the *aggregate consumption function* of this economy.

The *simplest* way to define the *functional form* of the consumption function is through a *linear* representation like

$$C = c_0 + c_1 Y_D$$

In words:

- Aggregate consumption is a *linear function* of disposable income;
- c_0 represents *autonomous* consumption (i.e., independent of income);
- c_1 is the economy's (marginal) *propensity to consume*.
 - What does c_1 represent?



Since $Y_D = Y - T$, we can *rewrite* the consumption function as

$$C = c_0 + c_1 \underbrace{(Y - T)}_{\text{disposable income}}$$

What are the effects of:

- Aggregate income (Y) on consumption?
- Taxes (T) on consumption?

Moving on to aggregate investment, I , we will assume (for the time being) that it is given *exogenously*:

$$I = \bar{I}$$

We will *relax* this assumption later on.

Finally, government spending (G) denotes one component of *fiscal policy*.

The other are Net Taxes (T).

We will also assume that public spending and taxes are *exogenous*.

Now we are ready to write a more *detailed* equation for aggregate demand:

$$Z \equiv c_0 + c_1(Y - T) + \bar{I} + G$$

Equilibrium in the goods market requires that production Y be equal to the demand for goods Z :

$$Y = Z$$

Let us explore this scenario in three ways:

1. Algebraically;
2. Graphically;
3. Verbally.

An *alternative* way of looking at the equality between production and demand is to focus on *investment* (I) and *saving* (S).

Private saving (S) (i.e., consumers' saving) is the remainder of their disposable income after consumption:

$$S \equiv Y_D - C$$

Or, equivalently,

$$S \equiv Y - T - C$$

The previous identity concerns the *private sector*.

We can include the *public sector* by recalling *aggregate output* (Y):

$$Y = C + I + G$$

Subtract *taxes* (T) and *consumption* (C) on both sides:

$$Y - C - T = I + G - T$$

$$\underbrace{Y - C - T}_S = I + G - T$$

$$S = I + G - T$$

$$I = S + (T - G)$$

The left-hand side is the *sum of private and public saving*.

$$I = S + (T - G)$$

This relation states that *equilibrium* in the goods market requires that aggregate investment equals saving—the sum of private and public saving.

In other words, *what firms want to invest must be equal to what people and the government want to save.*

Starting from:

$$S_p = Y - T - C$$

Using the definition of aggregate consumption (C), find an expression for aggregate saving (S) containing autonomous consumption (c_0) and the *marginal propensity to save* ($1 - c_1$).