INTERMEDIATE MACROECONOMICS

2 – OUTPUT, AGGREGATE DEMAND & THE MULTIPLIER

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Write down 3 take-aways from the reading (textbook Chapter 3)

The Goods Market

3

When economists think about year-to-year movements in economic activity, they focus on the interactions among *demand, production, and income*:

- **Changes in the demand for goods lead to changes in production.**
- **Changes in production lead to changes in income.**
- **Changes in income lead to changes in the demand for goods.**

Nothing makes the point better than this cartoon:

PHILIP J. JULIANO/Pearson Education

2 – Output, Aggregate Demand and the Multiplier

- What determines the level of output in the short-run?
- How is equality between output and income reached?
- How does fiscal policy affect GDP?

Section 3: The roadmap

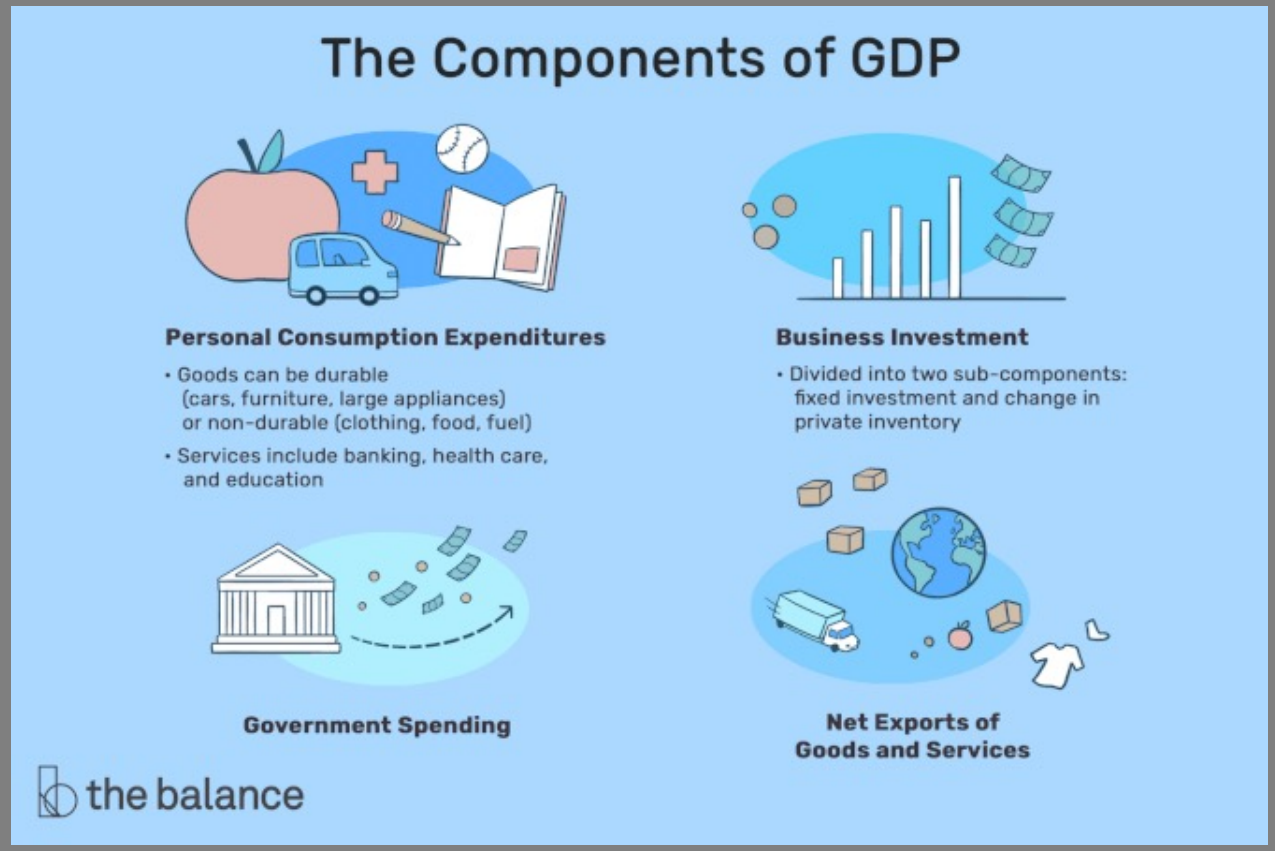
1. The composition of output.
2. Aggregate demand.
3. The determination of output.

Section 1: The take-aways

- In the short-run, the level of production depends on the level of demand.
- An increase in demand leads to an increase in production *larger* than the initial increase in demand.
- *Multiplier* process:

demand → production → income → demand

2.1 THE COMPOSITION OF OUTPUT



Who buys the output and what kind of goods?

- Consumption (C)
- Private investment (I)
- Government spending (G)
- + Exports (X)
- − Imports (IM)
- Inventory investment

Domestic purchases (C +I+G)

Net Exports (X-IM)

Table 3-1 The Composition of US GDP, 2018

		Billions of Dollars	Percent of GDP
	GDP (*Y*)	20,500	100.0
1	Consumption (*C*)	13,951	68.0
2	Investment (*I*)	3,595	17.5
	Nonresidential	2,800	13.6
	Residential	795	3.8
3	Government spending (*G*)	3,522	17.2
4	Net exports	−625	−3.0
	Exports (*X*)	2,550	12.4
	Imports (*IM*)	−3,156	−15.4
5	Inventory investment	56	0.2

Source: Survey of Current Business, February 2019, Table 1-1-5

2.2 AGGREGATE DEMAND

Aggregate demand (*Z*):
the total demand for domestic goods

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

- In a *closed* economy (*X = IM = 0*):

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

- How is each demand component determined?

Consumption

- Depends on disposable income (Y_D):

$$C = C(Y_D)$$

$$(+)$$

  - *consumption function*
  - a *behavioral* equation: describes the behavior of consumers.

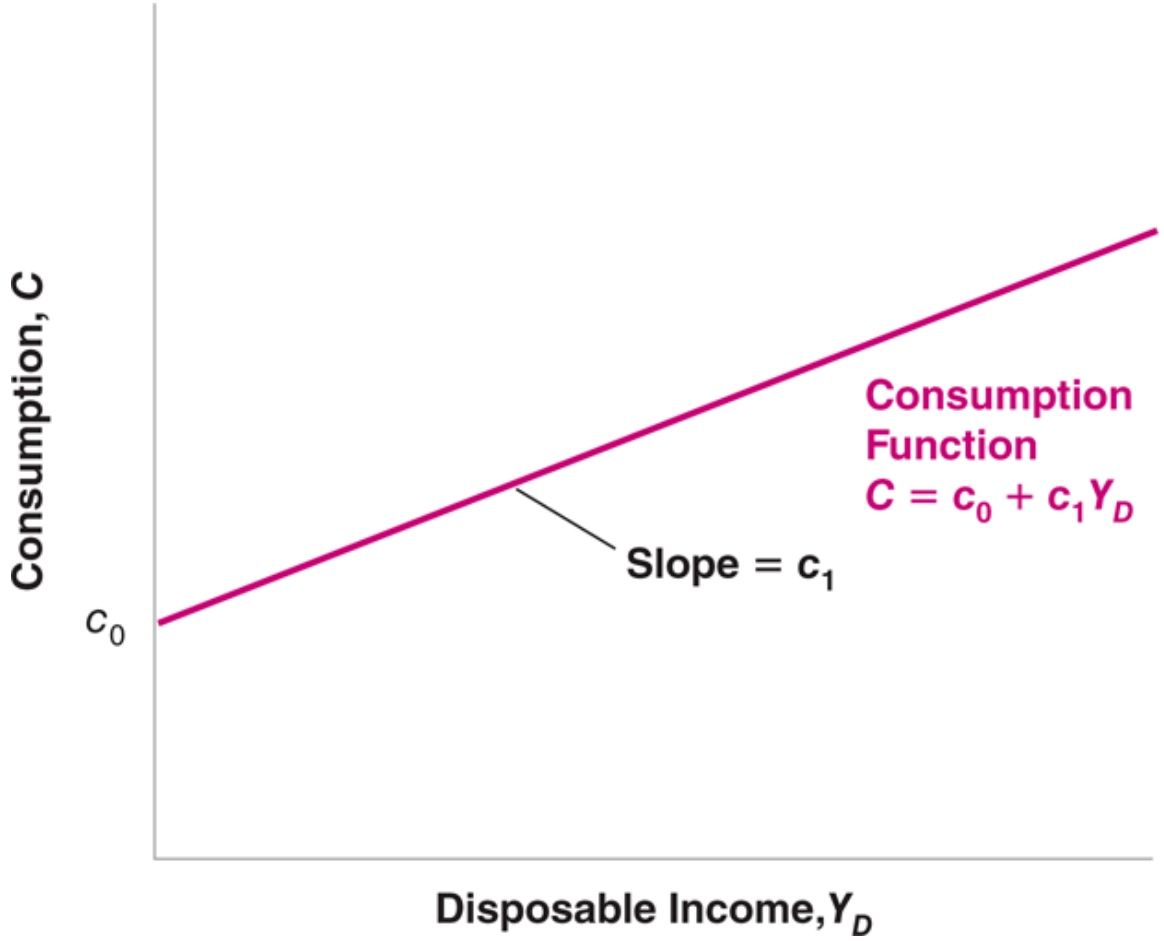
Consumption

- Assume a *linear* relation between C and Y_D:

$$C = c_0 + c_1 Y_D$$

- c_1 = propensity to consume.
- c_0 = autonomous consumption.

A linear consumption function



- A 1 dollar increase in Y_D increases consumption by c_1 dollars.
- An increase in c_0 shifts the entire line up.

Consumption

- Finally, disposable income is

$$Y_D = Y - T$$

  - Y = income.
  - T = taxes minus government transfers

- Replace Y_D in the consumption function:

$$C = \underbrace{c_0}_{\text{Autonomous consumption}} + \underbrace{c_1(Y - T)}_{\text{Induced consumption}}$$

Investment

- For now, we take investment as given (*exogenous)*:

$$I = \bar{I}$$

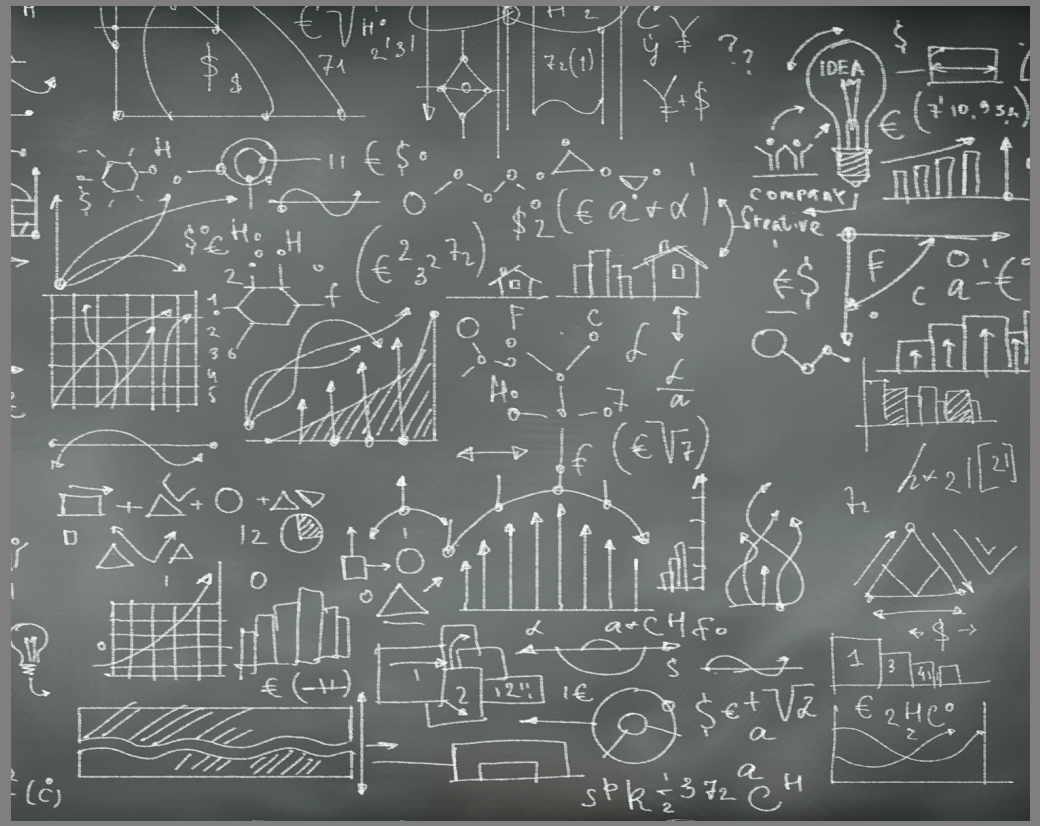
Taxes and government spending

- Government spending (G) and taxes (T) are exogenous

$$T = \overline{T}$$
$$G = \overline{G}$$

- Chosen by the Government at its discretion.
- They are the tools of *fiscal policy*.

2.3 THE DETERMINATION OF OUTPUT



Intermediate Macroeconomics (ECON 204) – Fall 2022
Instructor: Daniele Girardi

The determination of output

- Demand composition + behavioral equations = a simple *model* of the economy.
- Our model of a (closed) economy:

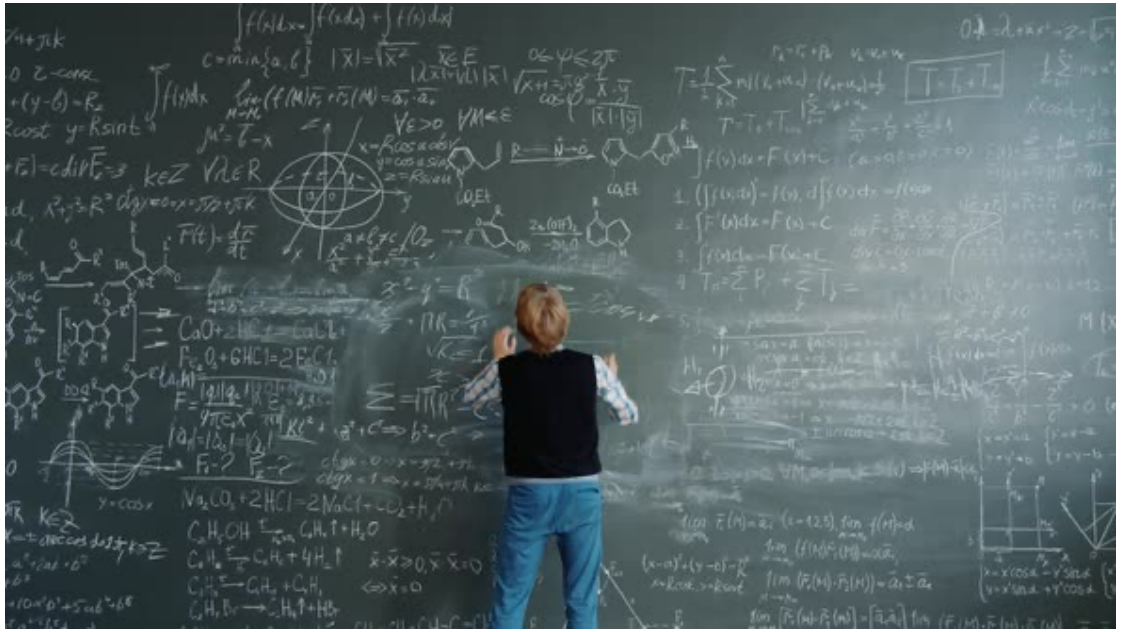
$$Z = C + I + G$$

$$C = c_0 + c_1(Y - \bar{T})$$

$$I = \bar{I}$$

$$T = \bar{T}$$

$$G = \bar{G}$$



The determination of output

- Plug the behavioral equations into the demand composition equation:

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

- Equilibrium in the goods market

$$Y = Z$$

  - *(*an *equilibrium condition)*

- *Now we are ready to solve the model!*