Elements of Macroeconomics

January 2023

1 Introduction

1.1 (Too) Brief History of Thought

To understand a social science it is always useful to know the environment in which the ideas and models emerged from. In macroeconomics economic crises changed the way we think and how we model the economy!

1. **Pre 1929: No distinction between Micro or Macro**
   - Strong belief in free markets/ the *invisible hand*
   - Western scholars tried to defend the market economy, while Eastern scholars tried to show the planned economy is better
   - Microeconomic choices of people and firms were easily aggregated to the macro level.
2. **1929: Great Depression**
   - Drop in output and employment too large to rationalize with a free market model
   - Keynesianism: Prices and Wages are sticky in the short-run. The government has to step in when a crisis occurs and fill the void of demand.
   - Micro and macro is different! We have *general equilibrium effects* (eg. If everyone wants to buy a house now, but the supply of houses is fixed, it just raises the price of housing)
3. **1970s: High Inflation and Oil Crises (1973, 1979/1980)**
   - Government spending does not alleviate, but worsens the problem!
   - Backlash: Markets are perfect, but government, unions,... are the sand in the wheel!
   - Models had no frictions, agents had perfect foresight, banks were not needed
4. **1990s-2008: Great Moderation**
   - No large crises: High economic growth and low inflation
   - The macro profession thought, they figured it all out
5. **2008: Great Financial Crisis**
   - Hugh crisis and former models could not help much
   - New-Keynesianism: prices and wages are sticky, heterogeneity and expectation matter

1.2 What is a model?

Reality is extremely complex. If we want to ask ourselves the effect of X on Y we need to simplify the situation. While natural sciences can create a controlled environment in the laboratory, economists have to use other tools. We develop models which contain only the essential parts for a specific question and abstracts from the rest.

With this, we can

- explain a mechanism in a clear form. *How do tariffs affect trade?*
- quantify an effect. *How much did tariffs reduce trade?*
- show counterfactuals. *How large would trade be if tariffs did not exist?*
- make forecasts. *Given the expected tariff increase, how large will trade be in a year?*

Important: This means that 1. Every model is designed for a specific question and cannot be used for others automatically! 2. The results hinge on the underlying assumptions!

2 Production Possibility Frontier and Gains from Trade

If you have two countries (A, B) and two goods (Cheese and Wine) and you want to know who should specialize in which good, do the following:

1. Draw the PPF: One good on X-axis (cheese) and the other on Y-axis (wine)
2. Calculate Opportunity Costs for each good:

$$\text{Opportunity Costs} = \frac{\text{Loss}}{\text{Gain}} = \text{Slope of PPF} = \frac{\Delta Y}{\Delta X}$$

3. Repeat the same for country B

→ You should have four opportunity costs! For each country and each good

4. Absolute advantage: A country has an absolute advantage in producing one good if it can produce more than the other!
5. Comparative advantage: A country has a comparative advantage in producing one good if its opportunity cost is lower!

→ Each country should specialize in the good where it has comparative advantage. Assume country A has a CA in cheese and country B in wine

6. Combine the PPF:
   - Maximum amount of cheese: Both countries produce only cheese
   - Maximum amount of wine: Both countries produce only wine
   - 'Kink-Point': Country A produces only cheese and country B produces only wine
   - Connect the three points!
7. Trade: Split the resources using relative prices