

Econ 1115: Principles of Macroeconomics

Lecture 12: Aggregate Demand and Supply

Rizwanur Rob

rob.r@husky.neu.edu
302 Holmes Hall
Department of Economics
Northeastern University

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Pro-cyclical vs Countercyclical

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Pro-cyclical vs Countercyclical

Many economic variables have strong correlation with the business cycle.

If they are positively related, they are called pro-cyclical.

If they are negatively related, these variables are called counter-cyclical.

So let's take a look at some of the variables we have discussed and see whether they are pro-cyclical or counter-cyclical.

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- Consumption
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- Exports
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- Savings

Outline

- 1 Aggregate Demand
- 2 Aggregate Supply
- 3 Theories about growth and development

Aggregate Demand and Supply

- Most important chapter in macroeconomics.
- Is the most useful model we will be covering in class.
- Represents the demand and supply side of the economy as a whole.

Aggregate Demand

Aggregate demand is the total spending in the economy. It is the sum of all the individual demands in the economy.

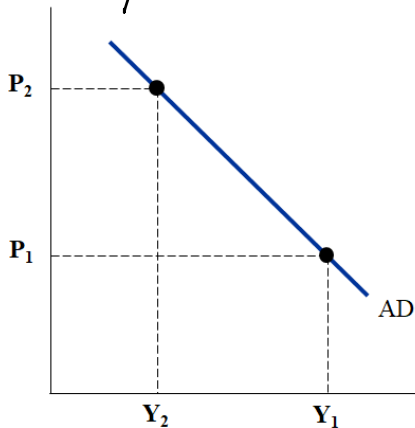
Aggregate Demand

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Thus the curve shows the quantity of goods and services that households, firms, the government, and customers abroad want to buy at each price level.

GDP deflator

Price level / Inflation

Real
GDPY
real output

Shape of AD

Why is the AD demand curve downward sloping?

- Wealth effect
- Interest rate effect
- Exchange rate effect

$$AD = C + I + G + (X-M)$$

Wealth effect

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- Remember, we are holding income and other things constant.

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Exchange rate effect

- Increase in price levels causes exports to become less competitive, and imports to become relatively cheaper which decreases (X-M):

Price
levels ↑

one component
of AD ↓
C, I, NX ↓

Exchange rate effect

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- This decreases net exports

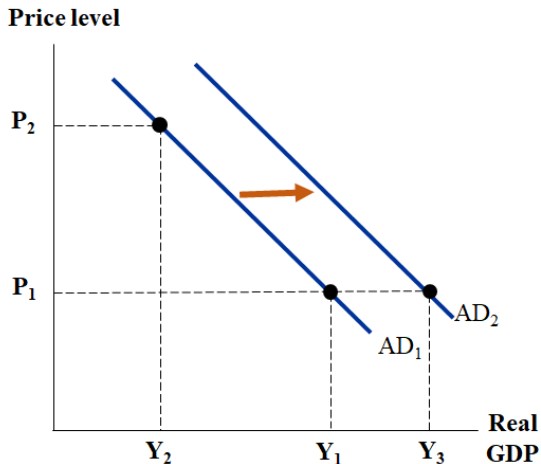
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Shifting the AD



What shifts the AD curve?

A change in the components of AD (spending groups), but not due to a change in the price level.

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- A change in consumption:
- A change in investment:
- A change in government spending:
- A change in net exports:

These include interest rates, consumer and business confidence, taxes, exchange rates, wealth shocks, government policy, the income in other countries, and expected inflation, changes in exchange rates.

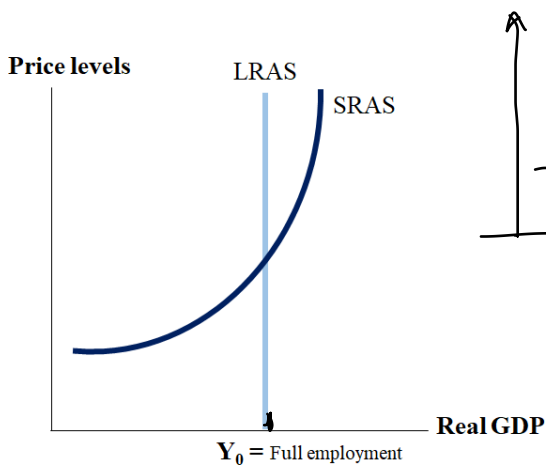
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Aggregate Supply

The aggregate supply curve shows the quantity of goods and services that firms produce and sell at each price level.

What does the AS curve look like? There are two to consider.

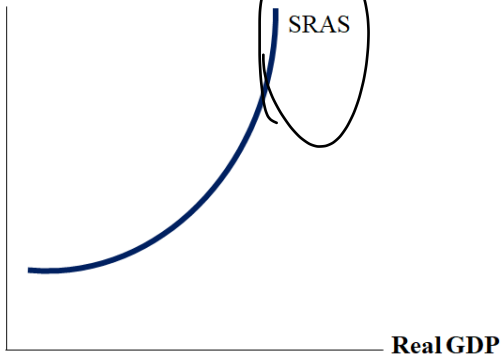




- We will mostly deal with the SRAS.
- The LRAS is also known as the full-employment or natural level of unemployment output.

The short-run aggregate supply curve

Price levels



Shape of the short-run AS

The AS curve is initially flat, then becomes steeper before becoming vertical. This is significant and this shape arises due to the following reasons.

- Sticky wages and Phillips curve

inflation/wages
is negatively
related to unemployment

Shape of the short-run AS

The AS curve is initially flat, then becomes steeper before becoming vertical. This is significant and this shape arises due to the following reasons.

- Sticky wages and Phillips curve
- Misperceptions

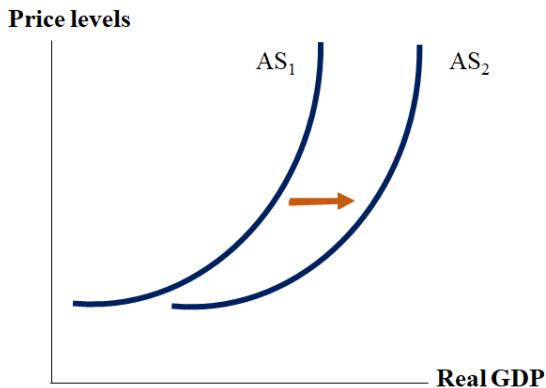
Full employment output

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- Full-employment is not equivalent to zero unemployment, but rather one where unemployment is at its "natural rate".

Shifting the AS curve



What shifts the AS curve?

- Changes in the cost of production

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- Changes in the cost of production
- Technology
- Expectations

What shifts the AS curve?

- Changes in the cost of production
- Technology
- Expectations
- New resources, natural disasters and war

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- Why are some countries richer than others?

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- Why do some countries grow faster?

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- Why do some countries grow faster?
- What policies can help raise growth rates and living standards in poorer countries?

Economics suggests that workers are paid wages that reflect their productivity. Thus to increase income levels in poorer countries, we need to raise labor productivity.

Post-World War II development theories

1 Classical growth theories

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- 2 Structural change models

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Post-World War II development theories

- 1 Classical growth theories
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- 4 Neoclassical growth theory - free markets, public choice and institutions
- 5 Contemporary development models

Neoclassical growth theory - Solow model

Our initial growth model and equation

$$Y = AK^\alpha N^\beta$$

Conclusions from the Solow growth model

- Growth theories suggest that the incomes for different countries will converge (absolute vs conditional) over time.

Neoclassical growth theory - Solow model

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- Increasing capital stocks will lead to higher productivity and wages

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- Increasing capital stocks will lead to higher productivity and wages
- Countries can grow faster by increasing savings and investing in capital goods, but eventually diminishing returns.

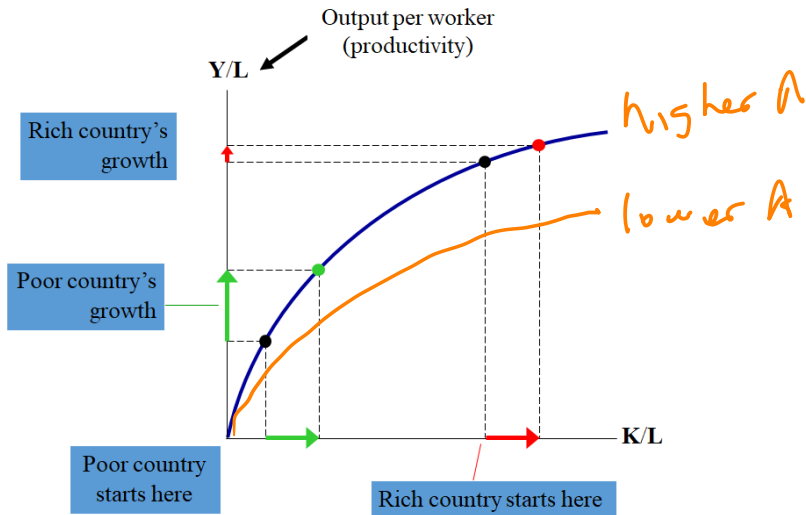
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Conclusions from the Solow growth model

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- Increasing capital stocks will lead to higher productivity and wages
- Countries can grow faster by increasing savings and investing in capital goods, but eventually diminishing returns.
- Long-run growth only happens when there is growth in technology (growth in A)



However empirical results show that absolute convergence does not hold and long-run growth is not inevitable. Later macroeconomic growth models have attempted to identify the source of technological progress in a deterministic way, but much remains to be done. However, even those models fail to explain why there is such differences in the growth rates and incomes across countries

In the modern world we know technology diffuses quickly. So A cannot just be technology, but must be other factors too.

Potential candidates include:-

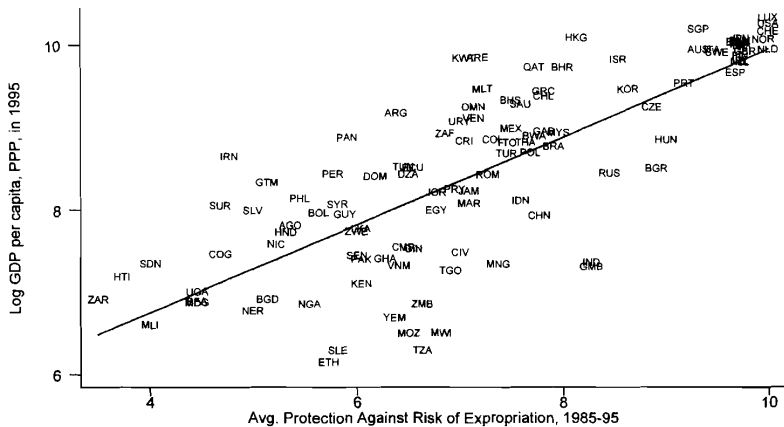
- Human capital
- Geography and natural resources
- Barriers to technology
- Institutions - political and economic

Human capital includes

- Education
- Healthcare and Nutrition

Economic and political institutions that matter

- Democracy or political agency and stability
- Property rights
- Courts and strong and fair law enforcement
- Free trade



Acemoglu's research

- Non-exploitative, democratic institutions support incentives for innovation and lead to faster growth

Acemoglu's research

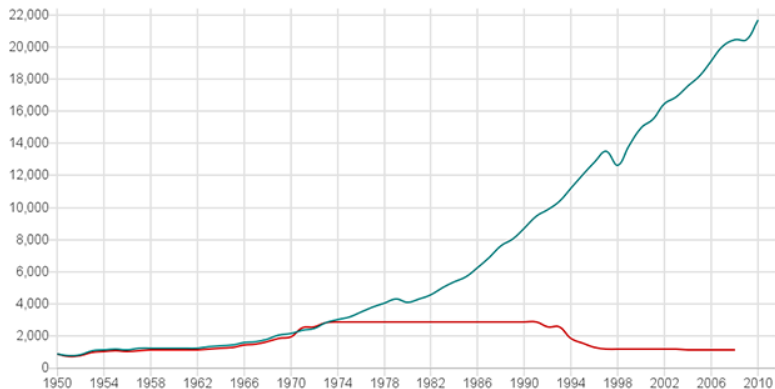
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Acemoglu's research

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- North Korea vs. South Korea

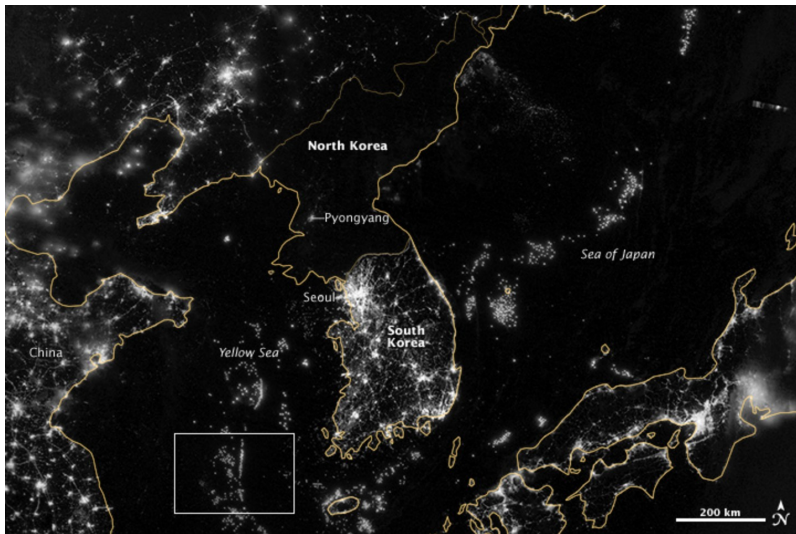
GDP per capita in USD, 1950-2010

— S. Korea — North Korea

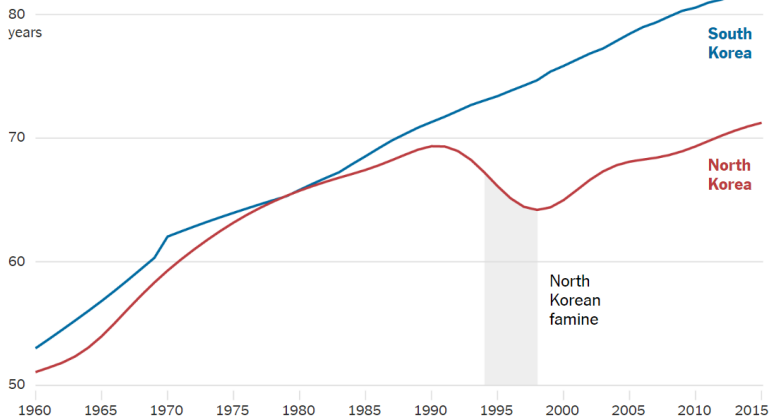


Source: The Maddison Project





Life expectancy



Source: The World Bank

Acemoglu's research

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- China's recent growth

Population

- High population growth
- Fertility rates
- Declining population and ageing populaton