Ch 12: Aggregate Supply and Demand

Goals

- Build **aggregate demand**, which shows the relationship between the price level and real GDP, from the income expenditure model.
- Intuit **short-run aggregate supply** from what we know about supply.
- Introduce **long-run aggregate supply**
- Show how an economy reacts to a shock in both the short and long run.

Big Intuition Time

Aggregate demand and supply show the relationship between real GDP and the price level.

The slopes are mostly because of **sticky nominal wealth and wages**.

- Your wage rate is nominal. When prices go up the value and cost of your wages fall. Basically, the higher the price level, the cheaper it is to pay you
- Your wealth is also nominal. When prices go up the value of those cash assets falls. Basically, the higher the price level, the poorer you feel.

Building Aggregate Demand

Consider that you have \$1M in the bank and the CPI is 200.

- You have real wealth of $\frac{\$1M}{200}100 = \$500K$
- Your savings makes you feel pretty bad about spending money now. It doesn't feel like enough. (BTW Better than most people.)
- So you reduce your autonomous spending, A_0 in $AE_{Planned} = A_0 + MPCyd$

But Then the Price Level Decreases

Now the price level goes from 200 to 100.

- You have real wealth of $\frac{\$1M}{100}100 = \$1,000K$
- You feel rich
- You increase autonomous spending.
  - That shifts up the expenditure function
  - That increases equilibrium expenditures

Like This

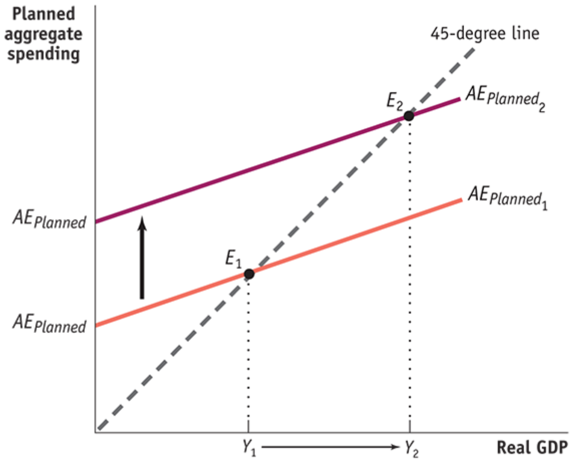
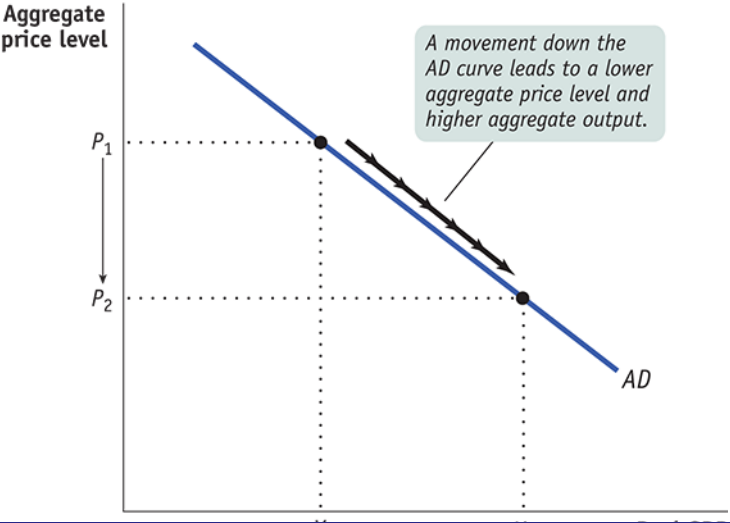


FIGURE 12-2 Krugman/Wells, *Macroeconomics*, 5e, © 2018 Worth Publishers

The Idea


Aggregate price level
P_1
P_2
A movement down the AD curve leads to a lower aggregate price level and higher aggregate output.
AD

To be clear

- This is not about other goods being relatively more or less expensive.
- But, just like microeconomics
  - Increase is to the right
  - Decrease is to the left

Things That Increase Demand

Flip the sign to decrease

- Consumers are optimistic about the future
  - I will have a better job in the future and will spend more now.
- There is an increase in the **real** value of wealth.
  - Not inflation, but what you can buy.
- Small existing physical capital stock
  - You need to grow it.
  - The 2008 crash was a housing bubble, lots were built, too much.
    - It took years to soak up those extra houses.
    - One reason why recovery took so long.

Things That Increase Demand (Con't)

- Government cuts taxes or increases spending (Fiscal Policy)
  - Remember that tax cut we just got?
- More money or decreases in interest rates
  - Both increase investment
  - Note that we are raising interest rates now.

What About Aggregate Supply?

This depends on wages being sticky in nominal terms but prices of goods being flexible.

Example

- Suppose the price level is 100 and your wages are 100K per year. Also suppose that your employer just breaks even on you.
    - The value of what you produce is exactly equal to your salary, 100K.
- Now the price level goes to 200
    - The value of what you produce is 200K
    - You are still paid 100K
    - Your employer hires more people just like you.
    - Output, real GDP, goes up

Price level goes up and output increases.

Flip the arrows in this diagram

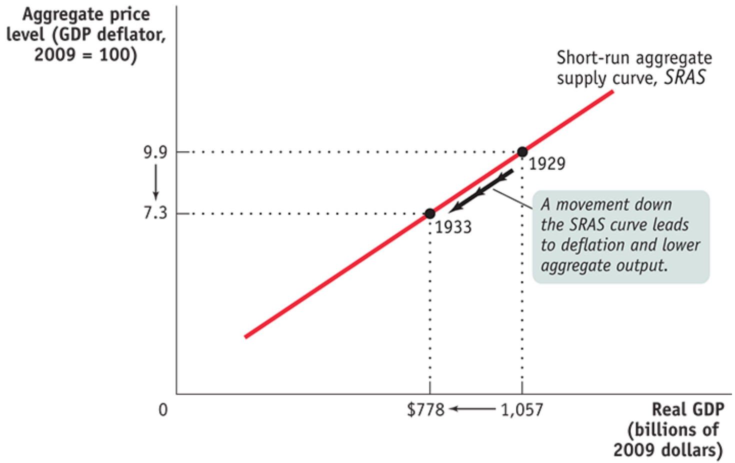


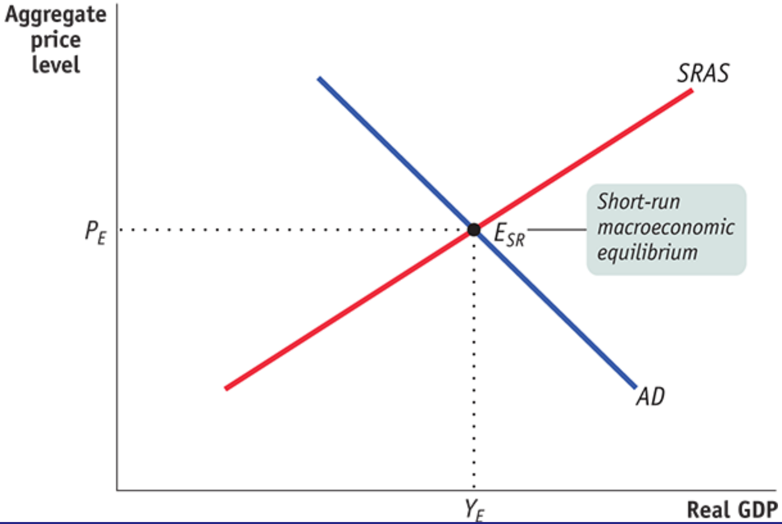
FIGURE 12-5 Krugman/Wells, *Macroeconomics*, 5e, © 2018 Worth Publishers

Things That Increase Supply

Remember you can flip the increase/decrease to get decrease.

- Commodity Prices Fall
  - Energy prices are a classic.
  - BTW it gets tricky if you are a producer of commodities, but that changes demand.
- *Nominal* Wages fall
  - Cheap workers? Hire them to make more stuff.
- Productivity Increases
  - Remember TFP

Put them Together



You now can

- Determine the price level and real GDP at the same time.
- IRL, we think about the vertical axis being the inflation rate and not the price level. This is just easier to wrap your head around.

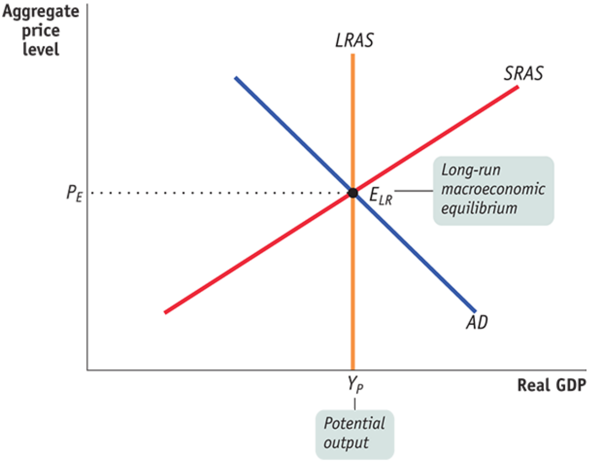
That is Just Short-Term

There is also a long-term aggregate supply function

- It is a little odd.
- It could be the level of output consistent with non cyclical unemployment.
- Or output consistent with NAIRU
- Or built up statistically

In any case, it is a number that does not change with the price level.
The Congressional Budget Office Estimates it.
https://fred.stlouisfed.org/series/GDPPOT

Long-Run and Short-Run Equilibrium



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Lets play with the Dynamics of this

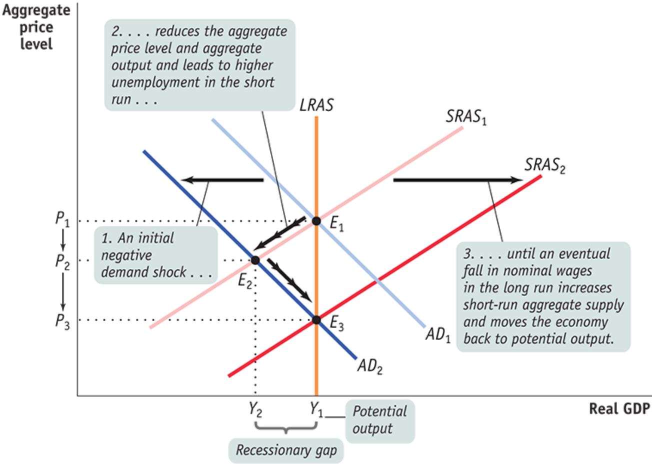
- Keep in mind that AD is the same in the short-run and the long-run
- In the long-run
  - Short-run AS shifts
  - Eventually shifts to where AD crosses LRAS.

Lets Play Some Examples

People suddenly believe there will be a recession in the future.

- This actually causes a recession.
- AD shifts left
- Short-run
  - Price level falls
  - Real GDP fall (Here is the recession)
- Real GDP less than potential means there is unemployment.
- Long-Run (All prices are flexible, even wages)
  - Wages fall because unemployment
  - Wage decreases cause an increase in SRAS
  - Keeps happening till real GDP is equal to potential GDP

Picture



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Try Again

Next Up

Fiscal Policy