Lecture 10

Short-run GDP Fluctuations

Economics & Society

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Previously in E&S...

- Definition of money
  functions and properties of money
- Intrinsic value vs. fiat money
- The banking system
  CB – commercial banks
- The money supply
- The money demand
  for transactions – precaution – speculation
- Equilibrium interest rate and monetary policy
- Inflation

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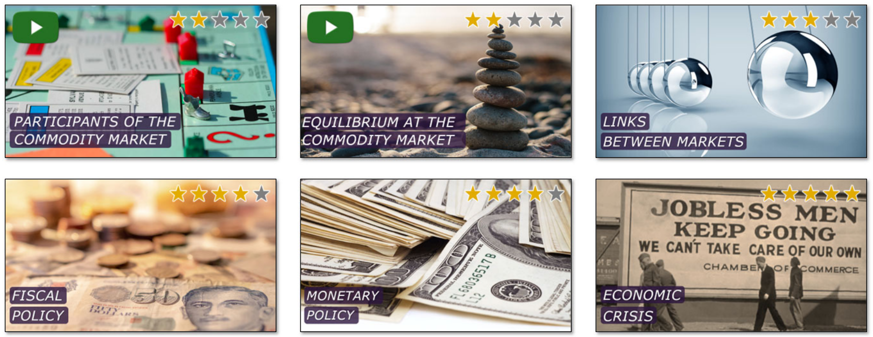
Short-run GDP Fluctuations

Estimated duration: 110min



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Market interdependence

- So far, we have explored the markets of the macroeconomy as if they were ***independent*** and ***isolated*** from each-other
- Yet, there exist ***channels*** through which macro markets can ***affect*** each-other:
  - The interest rate may ***affect*** the housing market
  - The housing market may ***affect*** the labor costs of companies
  - Labor costs may ***affect*** inflation.
- Here, we will see how the commodity market and the money market are ***linked***.

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Investment & the real interest rate

- Imagine that there exist 14 ***investment projects*** for $100 each, expected to yield the following ***per year returns***:

  13%, 10%, 8%, 6%, 5%, 5%, 4%, 4%, 3%, 2%, 2%, 1%, 1%, 1%
- If you had $1,400, and the ***interest rate*** was 4.5%, how much would you invest?

  6 projects for a total investment of **$600**
- If you had $1,400, and the ***interest rate*** was 3.5%?

  8 projects for a total investment of **$800**
- If the ***interest rate*** was 2.5%?

  9 projects for a total investment of **$900**
- Investment is ***inversely related*** to the real interest rate ***[Link 2]***.

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Links between markets

- The commodity market and the money market are ***connected*** through ***2 links***:

	COMMODITY MARKET		MONEY MARKET
LINK 1:	Increase in Y^*	$\longrightarrow$	Increase in M_D

	MONEY MARKET		COMMODITY MARKET
LINK 2:	Increase in r^*	$\longrightarrow$	Increase in I

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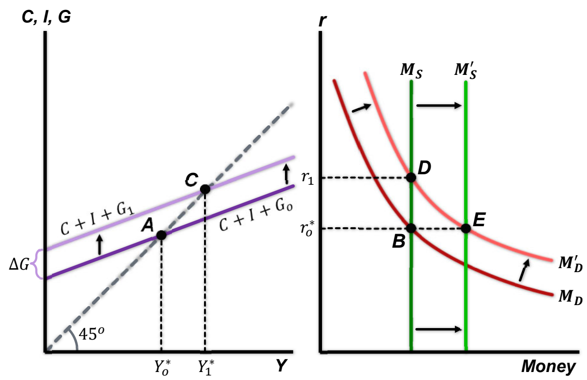
Fiscal policy

- The government can ***boost Y*** by either expanding G or contracting t
  - these practices are known as ***Expansionary Fiscal Policy***
- Both alternatives may cause ***budget deficits***
  - that is, $G > T$
- Deficits are ***funded*** by issuing ***government securities***
  - effectively ***borrowing*** from households and firms at an ***interest***
- Past years' deficits ***pile up*** forming the ***government debt***
- If the ***"debt / GDP" ratio*** becomes too high, lenders will ***stop buying*** securities
  - this may lead to a ***fiscal crisis***
- Decrease in G or increase in t are referred to as ***Contractionary Fiscal Policy***
  - can ***help*** lower government debt or ease inflation

Link 1 with fiscal policy !

- Commodity market ***equilibrates*** at Y_o^* and money market at r_o^*
- Fiscal policy **(G↑)** shifts the equilibrium in the commodity market to Y_1^*
- M_D ***shifts*** to M_D' **[L1]**
- r_o^* will tend to ***rise*** to r_1
- ***Unless*** M_S shifts to M_S'
  - to ***keep*** the rate at r_o^*



Stabilization by the CB !

- Since reserves are ample, M_S will increase ***automatically***
  - banks will provide ***more credit*** at r_o^* to cover the higher M_D
- Had the reserves been scarce, the CB would have to ***perform OMS***
- What would happen if the CB ***did not increase*** M_S to prevent r from increasing?

Increase in r $\xrightarrow{\text{LINK 2}}$ Decrease in I ⟶ Decrease in Y $\xrightarrow{\text{LINK 1}}$ Decrease in M_D

↑ ↓

Increase in M_D $\xleftarrow{\text{LINK 1}}$ Increase in Y ⟵ Increase in I $\xleftarrow{\text{LINK 2}}$ Decrease in r

- The ***loop*** between Link 2 and Link 1 could be ***avoided*** if the CB prevents the interest rate from changing

Monetary policy

- The CB can ***intentionally trigger*** Link 2 to affect the economy
- Expansionary Monetary Policy:

  CB cuts r^* $\xrightarrow{\text{LINK 2}}$ Increase in I $\longrightarrow$ Increase in Y^*

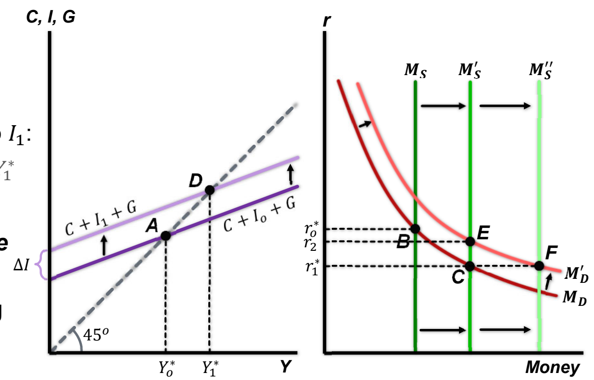
  to stimulate the economic activity when a ***recession*** is feared
- Contractionary Monetary Policy:

  CB raises r^* $\xrightarrow{\text{LINK 2}}$ Decrease in I $\longrightarrow$ Decrease in Y^*

  to ***ease inflation*** by decreasing the money supply.

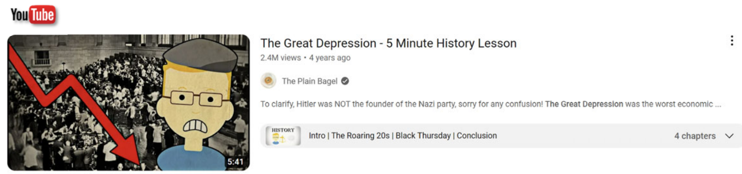
Link 2 with monetary policy !

- Markets initially ***equilibrate*** at Y_o^* and r_o^*
- CB ***cuts*** the rate to r_1^*
- Investment ***increases*** to I_1:
  - ***Output*** equilibrates at Y_1^*
  - M_D ***shifts*** to M'_D.
- ***Money supply*** must ***rise*** further to ***prevent*** the rate from rebounding to r_2.



External video

Let's watch a 5 min lesson for the Great Depression.



The 2007-09 Financial Crisis !

* In the years before 2007 several new unregulated ***shadow banks*** had appeared
  those institutions started offering some new ***"innovative" financial products***
* One of those was to ***package together*** high-risk mortgage loans:
  * When you lend $1,000 at 5% to a ***single debtor*** with 2% risk of default, you face 98% probability to earn $50 and 2% probability of losing $1,000
  * When you loan $1 at 5% to ***1,000 debtors*** with each 2% risk of default, it is almost certain that you will earn around $29.
* This ***works great*** but it has ***3 important limitations***:
  1. The law of averages applies ***only in normal times***
  2. The "feeling of ***false safety***" made banks to neglect proper due diligence
  3. The over-supply of loans led the housing market to a ***speculative bubble***

History repeats itself

* In the first sight of ***recession, mortgage defaults*** snowballed
  many banks had ***invested heavily*** in such MBS and could ***not survive the losses***
* Government and the Fed came to an ***ethical dilemma***:
  have ***taxpayers cover*** the losses or let the economy ***sink***?
* The 2007-09 crisis was basically a ***repetition*** of the Great Depression:
  * In the Great Depression the bubble was the ***stock market***
  * In the 2007-09 Crisis the bubble was the ***housing market***.
* Both happened because of ***regulation gaps*** in the financial markets
* The 2007-09 Crisis, however, ***lasted way less*** because it was extinguished successfully with ***expansionary policy***

The Greek Debt Crisis 2008 – today

* The Greek crisis was a ***national debt*** crisis
* During the 80s and 90s Greece was running on deficits
  mainly ***financed with seignorage***
* In 2002 the country entered the ***Eurozone*** as a founding member:
  * Greece could ***no more*** fund its deficits by printing money
  * But it could finance its spending with ***cheap loans*** in its new currency.
* While the country was living lavishly on loans, ***debt kept piling up***
* By 2008 Greece had an official ***debt / GDP ratio at 115%***
  in ***reality*** it was 127%
* At the same time, global financial crisis, made investors overly ***averse to risk***

The weak link

* Within months ***interest rates*** for Greek bonds exploded to 30%!
  all outstanding Greek securities were ***rated as "trash"***
* Greece was in the ***middle of a deep recession*** with ***nothing*** to fight it:
  * Monetary policy was in the hands of the ECB
  * The government had no money to conduct fiscal policy.
* The IMF, the ECB and the European Commission ***bailed out*** urgent loans
  under 2 ***conditions***: severe austerity and drastic reforms
* Within ***10 years***: GDP fell by 30%, unemployment exceeded 25%, infrastructure deteriorated, 6 governments were changed
  the nation's ***morale*** collapsed
* Today, Greece has turned back to a ***catch-up economy***

Thank you!

(you are welcomed to stay for *consultation* or *discussion*)

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WARNING!

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