
# Lecture 10

## Short-run GDP Fluctuations

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Economics
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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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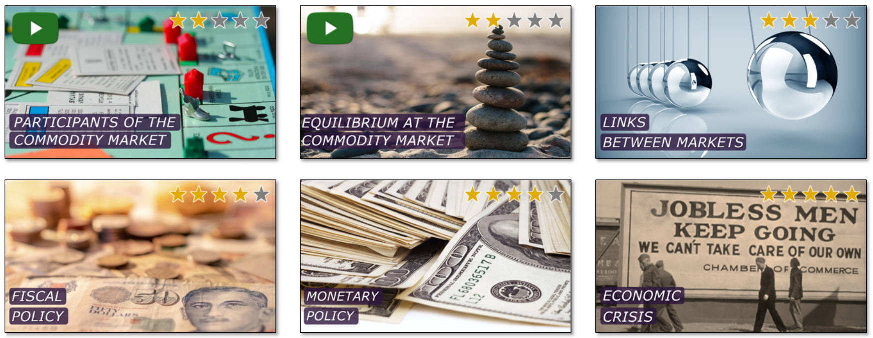
## Short-run GDP Fluctuations



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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***.




## 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
- If you had $1,400, and the ***interest rate*** was 3.5%?

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

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




## 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 $r^*$ | $\longrightarrow$ | Decrease in $I$ |




## Fiscal policy



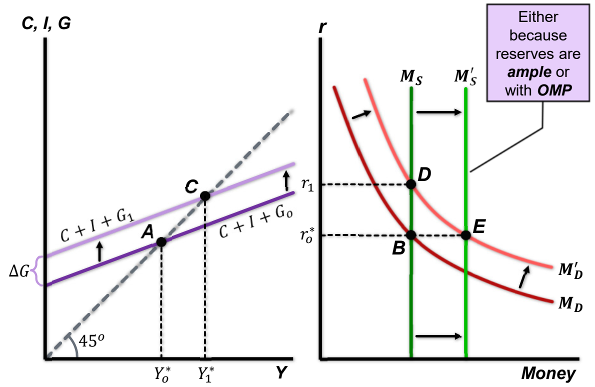
- The government can ***boost Y*** by either expanding $G$ or contracting $t$
  - these practices are known as ***Expansionary Fiscal Policy***
- Both alternatives may cause ***budget deficits***
  - that is, $G > T$
- Deficits are ***funded*** by issuing ***government securities***
  - effectively ***borrowing*** 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 $r_o^*$






## 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 $Y^*$

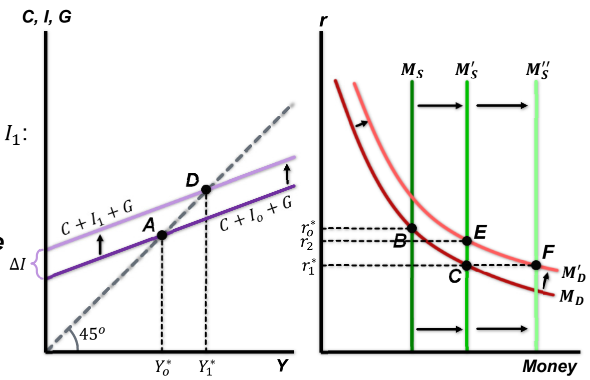
  to ***ease inflation*** by decreasing the money supply

## Link 2 with monetary policy !



- Markets initially ***equilibrate*** at $Y_o^*$ and $r_o^*$
- CB ***cuts*** to $r_1^*$ **[L2]**
- Investment ***increases*** to $I_1$:
  - ***Output*** rises to $Y_1^*$ **[L1]**
  - $M_D$ ***shifts*** to $M_D'$.
- ***Money supply*** must ***rise*** further to ***prevent*** the rate from rebounding to $r_2$.



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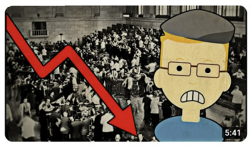
## External video

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

YouTube



The Great Depression - 5 Minute History Lesson
2.4M views • 4 years ago
The Plain Bagel
To clarify, Hitler was NOT the founder of the Nazi party, sorry for any confusion! **The Great Depression** was the worst economic ...
Intro | The Roaring 20s | Black Thursday | Conclusion 4 chapters



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## 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 lend $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***.



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## 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*)

# WARNING!

The slides in this handout are created with the intention to serve a visual aid for the audience during the live presentation of the material in the lecture. As such, **they are not designed to be standalone reading material** and should be used strictly as **reference**, side by side with notes taken in the lecture. Studying solely from the slides **is not recommended** and might in some cases **mislead** those who have not attended the relevant lecture. **Less than 20% of tasks in test and exam can be answered solely from the slides**.