ECON 1 – Section 16

Savings and Capital Formation.

Contact Details

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- Handouts (only sections 104 & 133) after class in: http://www.ocf.berkeley.edu/~jaychen/econ1/
  - Please read: **Read before downloading!**.

Section 16 Agenda

- **Administrative Stuff (3 min).**
- **Recap Quiz (5 min)**
- **Problem 22.2 (10 min).**
- **Problem 22.3 (10 min).**
- **Problem 22.9 (15 min).**
- **Re-cap (2 min).**

Administrative Stuff

- **PS#3 due today!!!!**
- Leave them on the table. I will return them next Monday.
- Remember to complete the survey online.

Review of Last Lecture - 10/23rd

- Chapter 22:
  - Saving: National Saving, Public and Private saving
  - Saving as flow, wealth as stock, Changes in Wealth
  - Why people save; impact of r on savings
  - Factors that affect I; impact of r on investment
  - S and D for savings and investment (S=I in closed economy)
  - S & D for funds (S & I): shifts of S and D, crowding out

Important to remember:

- **National Savings:**
  - **Saving of total economy** = GDP less consumption expenditures and government purchases of goods and services.
  - **S = Y – C – G**
  - **National Savings = Private Sav. + Public Sav.**

$$\boxed{S = (Y - T - C) + (T - G)}$$

$$\updownarrow$$

$$\boxed{S = S_{private} + S_{public}}$$

Recap Quiz - 1

- The saving rate is equal to:
  1) current income minus spending on current needs.
  2) saving divided by income.
  3) income minus consumption.
  4) the change in saving that corresponds to a change in income.
  5) saving divided by consumption.

Recap Quiz - 2

- Wealth can be defined as
  1) anything of value that one owns.
  2) the debt one owes.
  3) total income plus savings.
  4) assets minus liabilities.
  5) income plus assets.

Recap Quiz - 3

- Increases in the value of existing assets are known as
  1) wealth.
  2) savings.
  3) capital gains.
  4) capital losses.
  5) income.

Recap Quiz - 4

- If tax collections exceed government spending, there is a budget
  1) shortfall.
  2) deficit.
  3) surplus.
  4) windfall.
  5) balance.

Flows and Stocks

- <u>REMEMBER:</u>
- **<u>Flow:</u>** A measure that is defined *per unit of time.*
- **<u>Stock:</u>** A measure that is defined *at a point in time.*

Problem 22.2 (F&B page 600)

- State whether each of the following is a stock or a flow and explain:
- A) The Gross Domestic Product.
- B) National Savings.
- C) The value of the US housing stock on Jan, 1st, 2001
- D) The amount of US currency in circulation as of this morning.
- E) The government budget deficit
- F) The quantity of outstanding government debt on Jan. 1st, 2001

Problem 22.2 (cont'd)

- A) The Gross Domestic Product.
  - Flow. GDP represents production per unit of time, such as a year or a quarter.
- B) National Savings.
  - Flow. National saving is measured per unit of time, analogous to individual saving.
- C) The value of the US housing stock on Jan, 1st, 2001
  - Stock. This value is measured at a point in time.

Problem 22.2 (Conclusion)

- D) The amount of US currency in circulation as of this morning.
  - Stock. Again, the value is measured at a point in time.
- E) The government budget deficit.
  - Flow. The deficit is the government's spending less its receipts. Spending and receipts are measured per unit of time, such as a year or quarter.
- F) The quantity of outstanding government debt on Jan. 1st, 2001
  - Stock. The quantity of government debt outstanding is measured at a point in time.

Problem 22.3 (F&B page 600)

- **Remember: Why Do People Save?**
- **Life-cycle saving:** for long-term objectives
  - Retirement
  - College tuition
  - Buying home or car
- **Precautionary saving:** for unexpected setbacks
  - Loss of job
  - Medical emergency
- **Bequest saving:** to leave an inheritance

Problem 22.3 (cont'd)

- Ellie and Vince are a married couple, both with college degrees and jobs.
- How would you expect each of the following events to affect the amount they save each month?
- A) Ellie learns she is pregnant.

Problem 22.3 (cont'd)

  - For **life-cycle** reasons (anticipation of future child-care expenses, tuitions), Ellie and Vince will probably increase their current saving.
  - There is also the possibility that in the future one or both parents may work less in order to be at home; to prepare for the possibility of reduced income in the future the couple should save more today.
- B) Vince reads in the paper about posible layoffs in his industry.
  - Vince's risk of layoff has increased, so the couple should increase their saving for **precautionary** reasons.

Problem 22.3 (cont'd)

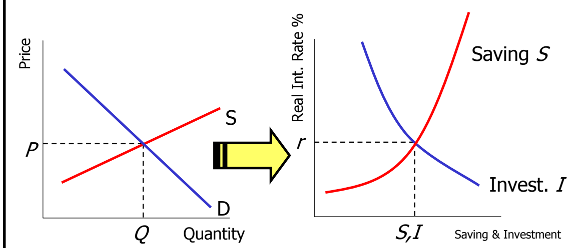
- C) Vince had hoped that his parents would lend him money for a purchase of a home. Now he learns they can't afford it.
  - More saving is needed to meet a **life-cycle** objective.
- D) Ellie announces that she would like to go to law school in the next few years.
  - More saving is needed for a **life-cycle** objective; as the couple faces both a reduction in their income and tuition expenses in a few years, they need to save more now.

Problem 22.3 (Conclusion)

- E) A boom in the stock market greatly increases the value of the couple's retirement funds.
  - Less saving is needed to meet the **life-cycle** objective of retirement.
- F) Ellie and Vince agree that they would like to leave a substantial amount to local charities in their wills.
  - For **bequest** reasons, the couple should save more.

Supply & Demand for Savings

- **Remember: In a closed economy (NX=0)**



S & D for Savings (cont'd)

- Explanation:
  - Y=C+I+G+NX
  - If NX=0, then I = Y-C-G = (Y-C-T) + (T-G)
  - Or I = S = $S_{Private}$ + S_{Public}.
- **Supply:** quantity of *savings* that businesses, households, and governments are willing to supply at each value of ***r***.
- **Demand:** quantity of *investment* that firms would choose and so amount they would borrow at each value of ***r***.

S & D for Savings (Conclusion)

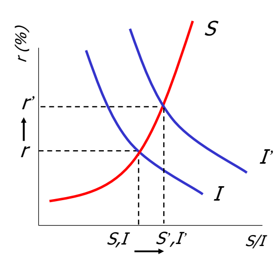
- In Financial markets:
  - Equate S and D for savings
  - Real interest rate: price of savings
- In equilibrium the "price" of savings is *r*.
- If a Technological improvement: I shifts right.
  - At any given *r*, an increase in the marginal product of capital makes firms more eager to invest.
- An increase in the Govm't deficit: shifts S left.
  - At any given *r*, a decrease in S_{Public} will decrease *S* (crowding out).

Problem 22.9 (F&B page 602)

- A) For each of the following scenarios, use supply and demand analysis to predict the changes in real interest rate (r), National Savings (S) and investment (I).
- A) The legislature passes a 10% investment tax credit.
  - Under this program, for every $100 that a firm spends on new capital equipment, it receives an extra $10 in tax refunds from the government.

Problem 22.9 (cont'd)

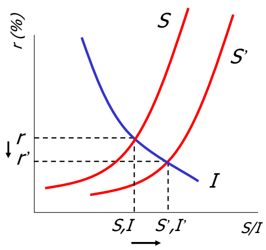
- A) The legislature passes a 10% investment tax credit.



- The investment tax credit effectively lowers the price of new capital goods to the firm by 10%.
- Firms' willingness to invest increases, raising the demand for saving (I).
- The real interest rate, investment, and national saving rise as the demand for saving (I) curve shifts to the right.

Problem 22.9 (cont'd)

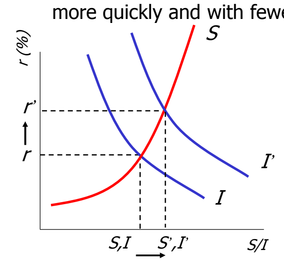
- B) A reduction in military spending moves the govm't budget from deficit into surplus.



- Increased public saving raises national saving.
- The supply of saving (S) curve shifts right.
- The real interest rate falls, national saving and investment rise.

Problem 22.9 (cont'd)

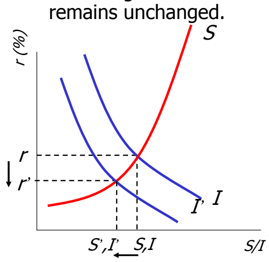
- C) A new generation of computer-controlled machines becomes available. This machines produce goods much more quickly and with fewer defects.



- Increased productivity of new capital goods makes investment more profitable.
- The demand for saving (I) curve shifts to the right.
- The real interest rate, investment, and national saving rise as the demand for saving (I) curve shifts to the right.

Problem 22.9 (cont'd)

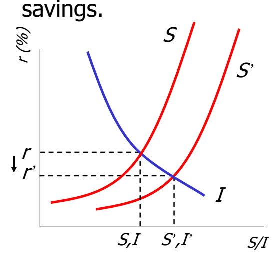
- D) The govm't raises its tax in corporate profits. Other tax changes are made such that the govmt deficit remains unchanged.



- The increased tax on corporate profits reduces the after-tax return to capital investments (a greater share of the income earned by capital goes to the government).
- Firms become less willing to invest, so that the demand for saving (I) shifts leftward. Public saving is unchanged by assumption, so the supply of saving curve (S) does not shift
- The real interest rate, investment, and national saving all decline .

Problem 22.9 (cont'd)

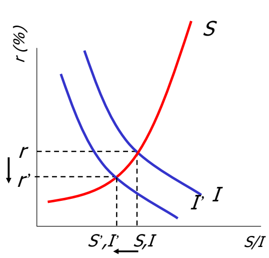
- E) Concerns about job security raise precautionary savings.



- Increased private saving raises national saving.
- The supply of saving (S) curve shifts right.
- The real interest rate falls, national saving and investment rise.

Problem 22.9 (Conclusion)

- F) New environmental regulations increase firms' costs of operating capital.



- The increased costs reduce the after-tax return to capital investments.
- Firms become less willing to invest, so that the demand for saving (I) shifts leftward.
- The real interest rate, investment, and national saving all decline .

Problems for next sections !!!

- For next section:
  - **<u>Chapter 23:</u> 1, 3 & 9.**
  - **<u>Chapter 26:</u> 2 & 3.**
  - **<u>Chapter 24:</u> 4.**
- Remember: This is not mandatory. It won't be graded. Only for those of you that need improvement in Exam grades.

Midterm Survey – GSI / Section !!!

- Reminder: Fill the online survey. Only 13 responded.
- Go to our website for the link http://www.ocf.berkeley.edu/~jaychen/econ1/
- It won't take more than 5 min.
- No names needed, but please only sections 104 and 133.

Next class

- Next Class:
  - Section 17 – Wednesday, Oct 30th
  - **PS#3 DUE Today!!!!**
  - If you want more practice, work on Next Sections Problems.
  - Read ch. 23, 26 & 24.
  - **FILL THE SURVEY ONLINE!!!!.**
  - You can download handouts this afternoon.
  - Thank you for coming on time !!!
- C-U Wednesday !!.