Education
(Chapter-11)
Education
Background

• The largest expenditure item for state and local governments is education: state and local governments spend 30% of their budgets on education.

• Yet, U.S. students perform only around the international average on tests of reading, math and science ability.
Education Background

Primary school spending per pupil (year 2002 dollars)

- USA: $8,000
- Italy: $7,000
- Netherlands: $6,000
- South Korea: $9,000
- Chile: $5,000
- Malaysia: $4,000
- Slovak Republic: $7,000

Eighth-grade math scores

- USA: 630
- Italy: 560
- Netherlands: 490
- South Korea: 420
- Chile: 350
- Malaysia: 280
- Slovak Republic: 210
Education

Why should the government be involved in education?

• In the U.S., 90% of elementary and secondary students are in public education.

• Should the government be so dominant in the provision of education?
Education

Why should the government be involved in education?

• There are five reasons that might justify the role of the government in the provision of education:
  1. Productivity
  2. Better citizens
  3. Credit market failures
  4. Failure to maximize family utility
  5. Redistribution
Education

Why should the government be involved in education?

1. **Productivity**: If higher education increases the productivity of workers, the society can benefit from education in terms of the higher standard of living. This can be considered as a positive externality for the society, creating the need for the government to subsidize.
Education
Why should the government be involved in education?

2. **Better citizens:**
   - Education may make citizens more informed and active voters increasing the quality of the democratic process.
   - Education may increase the opportunities available for individuals at the legal market decreasing the crime rates.
Education

Why should the government be involved in education?

3. Credit market failures:
   • The failure of the credit market to make loans that would raise total social surplus by financing productive education.
   • Banks and other lenders are not likely to give educational loans since there is no collateral.
     • For a mortgage, collateral is the house.
Education
Why should the government be involved in education?

4. Failure to maximize family utility
   • Even if the educational credit markets work perfectly, households might not be willing to finance their children’s education.

5. Redistribution
   • Public provision of education might play a role in ‘leveling the playing field’ for disadvantaged kids who can not afford as high quality education as they wish.
Education
How is the government involved in education?

• Given the positive externalities created by education, there are two tools the government has to be involved: price regulation and quantity regulation.
  – Price regulation: offer discounts on private education to students (vouchers).
  – Quantity regulation: mandate individuals to obtain a certain amount of education.

• **Downside:** As with all public goods, the private sector will ‘crowd-out’ as the government intervenes.
Education

How is the government involved in education?

• **Free Public Education and Crowding-Out**
  
  – Initially: education is provided by the private sector and each student attends private schools.
  
  – The government intervenes and provides free public education with quality equal to $E_F$ dollars of spending per pupil.
Education

How is the government involved in education?

• **Free Public Education and Crowding-Out**
  – Assume 3 households (X, Y and Z) with the same income choosing between educational spending and consumption of other goods.
  – Initially, household Y spends more on education than X, and household Z spends more on education than Y.
Education

How is the government involved in education?

- **Free Public Education and Crowding-Out**
Education
How is the government involved in education?

- **Free Public Education and Crowding-Out**
  - For household X, the introduction of free public education increased the educational spending.
  - For household Z, the introduction of free public education did not change the educational spending.
  - For household Y, however, the introduction of free public education decreased the educational spending.
  - If group Y is large enough relative to group X, then total educational spending might decrease with the introduction of free public education.
Education
How is the government involved in education?

• **Solving the Crowd-out: Vouchers**
  
  Now assume that in addition to providing free education at an amount equal to $E$ dollars per pupil, the government offers vouchers at an amount equal to $E_F$ to each student to either use at their public school or another private school.
Education

How is the government involved in education?

- **Solving the Crowd-out: Vouchers**
Education
How is the government involved in education?

• **Solving the Crowd-out: Vouchers**
  – With vouchers, since households do not have to forgo the public subsidy to get higher quality private education, household Y will not reduce their educational spending.
  – Each household will increase their educational spending: no crowd-out.
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How is the government involved in education?

• **Supporters of vouchers**
  1. Allows better matches
  2. Increases competition between private and public schools leading to more efficient public sector.
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How is the government involved in education?

• **Opponents of vouchers**

  1. **Vouchers will lead to excessive school specialization**: in order to attract students (vouchers), schools will try to specialize.

  "I'm taking my voucher and going to circus school."
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How is the government involved in education?

• **Opponents of vouchers**

2. **Vouchers will lead to more segregation:**

   – Children with more motivated parents will move to higher quality schools. If educational motivation is correlated with race, income or child ability, segregation will take place.

   – On the other hand, by giving an opportunity for the students ‘stuck in their neighborhood’ to get higher quality education, vouchers might reduce segregation.
Education
How is the government involved in education?

• **Opponents of vouchers**
  
  3. **Vouchers are an inefficient use of resources:**
  
  – The public cost of educating a student at the public school: $E_F$. (household X)
  
  – The public cost of educating a student who transfers to a private school with the voucher: $E_F$. (household Y)
  
  – The public cost of educating a student who remains at the private school, but still takes the voucher: higher than $E_F$. (household Z)
Education
How is the government involved in education?

• **Opponents of vouchers**

  4. **The market for education may not be perfectly competitive**

     - If schools act like natural local monopolies, then the vouchers should not have any impact of increasing efficiency due to competitive pressures.

  5. **The cost of special education**

     - Private schools might avoid students with special need if the voucher is not high enough to cover their expenses.
Education
Measuring the Returns to Education

- How to determine how much to spend on education?
  - Cost-benefit analysis:
    - Cost of providing education
    - Benefit to the society from more educated citizens.
    - **Returns to education**: The benefits that accrue to society when students get more schooling or when they get schooling from a higher-quality environment.
Education
Measuring the Returns to Education

- **Education as human capital accumulation**
  - **Human capital**: A person’s stock of skills, which may be increased by further education.
  - In this theory, education increases productivity by increasing individuals’ worker skills.
Education
Measuring the Returns to Education

• **Education as a screening device**
  – **Screening**: A model that suggests that education provides only a means of separating high from low-ability individuals and does not actually improve skills.
  – In this theory, individuals with high ability levels tend to get more education, but education does not improve their productivity.
  – In other words, education acts as a screening device for employers. Thus, employers pay individuals with higher education more not because they are more productive, but because education is serving as a signal of underlying motivation.
Education
Measuring the Returns to Education

• **Policy implications**
  - **Human capital:** The government should subsidize education and individuals to get more education since it benefits society by increasing productivity.
  - **Screening:** The government should not subsidize the individuals, since the benefit from education is purely private.
  - However, since the labor market benefits from education using it as a screening device, the government should subsidize the educational institutions.
Education
Higher Education

• In contrast to the other levels of education in the U.S., the higher educational system in the U.S. is viewed as an enormous success.

• The main difference between elementary/secondary education and higher education in the U.S. is the degree of private provision:
  – Only 12% of all students are enrolled in private elementary and secondary schools.
  – 24% of all students attend private higher education institutions.
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Higher Education – Government Role

1. **State provision**: Direct provision of higher education through locally and state financed universities (like UF).
   - Offer subsidized tuition, lower tuition rates for in-state students etc.

2. **Pell grants**: For low-income students (family annual income lower than $15,000), provides a grant of $4,050.
3. **Loans:** The government provides low-interest federal loans to students.
   - Direct student loans: Loans directly taken from the Department of Education.
   - Guaranteed student loans: Loans taken from private banks with a repayment guarantee from the government.

4. **Tax relief:** Series of tax breaks for college-goers and their families.