Notes - Gruber, Public Finance

Chapter 11.1

In US, 90% of elementary and secondary students (up to high school) are in public school. What aspects of the market for primary/secondary education justify this involvement?

Education confers positive externalities on other members of society. If education makes an individual X more productive as a worker, this added productivity benefits society through a higher standard of living.

Note that if X’s increased marginal product of labor is fully reflected in an increase in wages, then X’s education creates no inefficient externality.

Suppose X’s higher productivity due to education raises the productivity of X’s co-workers/employees/employers. For example, suppose X and Y have complementary tasks in a company (e.g. X proofreads papers that Y writes). There is still no inefficient externality, as long as X’s effect on her coworkers is incorporated into her wage. This should happen, since the company realizes that X could move to another company, and thus the first company would lose X’s productivity-enhancing effect on other workers.

However, if due to X’s education, X contributes to the general level of knowledge in society, then education has created an inefficient externality. This is because X’s education has raised the productivity of people outside X’s firm, so X can’t be remunerated for the rise in productivity of these other people. In such a case, there will be too little education produced and consumed relative to the efficient amount.

Other externalities due to education

More informed voters, more likely to vote or participate in grass-roots organization - may be better for all of society (or may not)

People are supposed to be ”socialized” in school - common values and language may allow society to function better. This is another reason why gov provides public education besides externality - it wants to be in charge of the material taught in school.

Other reasons for providing public education

1. Government can provide education for free, but if it were left to private provision, it would cost something.

Due to credit market failures, poor families with no collateral would not be able to borrow to educate their children.

Consider a poor family with a gifted child. It would be socially optimal for the child to get education.

Family could theoretically borrow against child’s future labor earnings. But this
provides no collateral - asset a bank could claim if loan is defaulted on. Thus banks would usually be unwilling to make such a loan. (Why do they make student loans though - what is different - is collateral involved? Student loans have high interest rates).

Rather than providing loans for poor to invest education, gov provides fixed amount of education.

2. Parents might choose less than optimal level of education for child. In previous times in US, parents might prefer for child to work rather than go to school. Even if credit markets were perfect, parents might not be willing to forgo the current consumption lost in making interest payments on the loans. Parents might not be aware of the consumption-increasing results of education, might think it is not useful and thus might not want to pay for it.

3. Redistribution

As long as education is a normal good, demand for education (given price) rises with income. That would mean that higher-income families would give more education to their children. But since higher levels of education are associated with higher incomes later in life, this would tend to ensure that children of higher-income families have higher incomes themselves.

Chapter 11.2

Gov involvement in education

What are the effects of free public education on the level of educational attainment in society?

Public education provision may crowd out private education provision. Perhaps providing a fixed amount of public education could lower educational attainment (both amount and quality) by leading people to choose lower-quality public schools over higher-quality public schools.

Peltzman’s model: People choose how much to spend on children’s education. (In this framework, spending more = better education). There is a discrete choice between free public education and paying private education. Parents can’t top off public education by adding private education to it.

Some parents decide to reduce amount of education desired to take advantage of free public schools. (They prefer to get public school education and no cost than private school education at some cost - this corresponds to family Y in the notes/book). Thus provision of free public education has caused some children to get less education.

Assumptions needed for Peltzman’s model: 2 types of education are perfect substitutes, and can’t supplement one with the other.

Concern is that total demand for education per student might fall or not increase due to public education. But private education could be tutoring, enrichment,
going beyond public education. In this situation, private and public education would be complements, not substitutes. Using one would raise the productivity and the demand for the other.

Solving the crowding-out problem: vouchers

Educational vouchers: Parents are given credit which can be used towards the cost of education at any school, public or private.

Voucher raises income, forcing families to spend the additional amount on education. Supporters of vouchers’ arguments are like general arguments for free choice in markets.

1. Consumer sovereignty - parents can let the school they choose more closely match their tastes.

2. Increased competition for students should make both private and public schools better. Public schools have inefficient bureaucracy - competition would decrease that.

However, there is a way even in the public school mechanism that allows for competition among school systems - parents can, to some extent, vote with their feet - that is, move away from worse performing school systems to better performing ones.

Problems with vouchers.

1. School specialization could become too much. Maybe parents or children - whoever gets to choose what school the child goes to - don’t have enough foresight to predict what type of school could get a child the most productive job later on. Maybe people could graduate from school without basic skills. Could have regulations that all schools must provide a certain level of basic skills, but such regulations would entail a large and expensive bureaucracy and in some way defeat the purpose of school choice. Communication a problem among graduates of different highly specialized schools?

2. Segregation by race, income or child ability - with vouchers, some schools would charge more than others. The voucher would pay for only a part of the most expensive schools’ tuition. (In terms of tuition, schools would be free to charge whatever price results from supply and demand, taking into account their quality - a case of monopolistic competition). Thus children would likely be separated on the basis of both parent’s income and parent’s willingness to pay for education. Just like with entirely privately provided education, there could end up being (more of) a separation of elites whose children go to the best schools, and end up with more income, thus enabling their children to go to the best schools and so on, and non-elites, who don’t have this option.

Supporters of vouchers argue that vouchers could reduce the segregation that exists due to the monopoly that local school system has over education. (With the background that schools in poor localities tend to be worse than schools in rich localities, as property taxes are mostly what pays for school funding).
With vouchers, a child of a poor neighborhood could theoretically break the public school’s monopoly by taking the voucher and going to a private school. However, there is still a problem with this argument - how many high-quality private schools would locate in poor neighborhoods, when they could charge higher prices to rich parents in rich neighborhoods? And there are not going to be enough private schools in any locality to make the market for private schools in one area a competitive market - it will probably be an oligopoly.

3. Vouchers are an inefficient and inequitable use of public resources. In the discussion of the effects of vouchers, we ignored how vouchers and education would be funded. Education is financed mostly by local property taxes and state taxes. If the current system were replaced by a voucher system, total public sector costs would rise, as the government would be paying for private school tuition that previously parents paid themselves. For families such as X, costs would not increase due to introduction of a voucher system, because the children would stay in public schools. Costs to the public sector for education children from family X would remain at $E_F$. Children from families such as Y would move to private schools but the costs to the public sector would stay the same at $E_F$. The families are paying the extra costs of the private school. But for children from family Z, public sector costs increase. Previously family Z was paying the entire cost of the children’s education but now because they receive a voucher the government covers a part $E_F$ of this cost. This increased government spending may be associated with only a small rise in education consumed.

So a cost of greatly increasing the level of education of family Y is the cost of giving a large subsidy to family Z which doesn’t increase consumption of education very much. If vouchers are most used by families who were already paying for private school on their own, this is an inefficient use of public resources in terms of increasing educational achievement at the lowest possible cost. But if vouchers are most used by families such as Y it may be an efficient use of public resources.

Equity (fairness) considerations can also be made. Families who choose private schools to begin with are more likely to have high incomes. If much of the voucher expenditure goes to families with high incomes, it is an inequitable use of public funds. To remedy this, the government could give vouchers whose value falls as income rises.

4. The education market may not be competitive. Voucher supporters’ arguments are based on a perfectly competitive model of education. But the education market is closer to a natural monopoly. Due to economies of scale in provision of education, it may be less efficient to have many small schools competing for students.

What is the present regulation with respect to vouchers?

6 states and Wash. DC have voucher programs. Most give vouchers to low
income families allowing them to send kids to private schools (some restrict the schools to be nonreligious). Math and reading test scores tend to be either no statistically significant effect or small improvement. Improvement tends to be bigger for math.

Experimental voucher programs have taken place in Milwaukee (starting 1990, families with income no more than 175% of poverty line could apply for voucher worth $3200 to be used at any non-religious private school).

Some school districts allow students to choose among public schools. Magnet schools are special public schools for talented or special-interest students, charter schools are public schools not subjected to regulations on most public schools such as restrictions on teacher qualification.