Module 5. Financing Education: How To Raise the Money to Pay for Schooling and Who Should Control Spending It?

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Introduction

In Module 1 and 2, we discussed the economic and social reasons for the public sector to finance education rather than leaving education to private operators and individual family resources. Barriers to borrowing capital for investing in schooling would result in a substantial underinvestment in education were all schooling privately paid for. If nations believe that a well-educated populace is the basis for a better society, underinvestment in education would reduce national wellbeing.

So educational finance can be defined as a series of "public" choices:

- How much money in the form of taxes should a society collect for spending on education?
- Who is to pay for the education?
- How should the money collected be spent to deliver education most effectively and equitably?
- Who should decide how to spend the money on education?

Each of these requires major social/political decisions and has major implications for the education sector. As we suggested in Module 1, public education is one of the largest industries (if not *the* largest) in every nation in the world, and in many local communities it is the largest single employer. Different communities, regions, and nations finance schooling differently and give decision-making power over public monies for education to different administrative entities. For example, Sweden uses progressive income taxes collected by the central government to pay for education, but distributes these revenues in block grants to municipalities, which in turn decide how much to allocate to education, health care, and social services at the local level. In the United States, school districts, counties, and states are responsible for raising public funds for education through property (local) and state income taxes. Other countries use various forms of national taxes to raise revenue for education and various forms of distributing the monies to schools. The form of taxation influences who pays for schooling and the forms of distribution of funds influences the allocation and control of resources in education.

Competencias a desarrollar

Upon completing this module, you should have developed the following skills:

1. Understand and explain alternative means of financing education and the advantages and disadvantages of each mode of financing.
2. Identify and be able to analyze the level of a country's or region's educational effort.
3. Understand the determinants of an efficient allocation of resources to different levels of education and to different inputs in education.
4. Understand the advantages and disadvantages of educational decentralization.
5. Understand the differences between financing and spending for educational efficiency versus financing and spending for educational equity.

Plan de Trabajo

To develop the skills listed above, you should read each section and then undertake the activities listed at the end of each section. The activities, necessary steps, approximate time, and resources you will need are listed below

Activity	Steps	Estimated Time	Necessary Resources
Section 2 Questions	Read and answer questions at the end of Section 3.	2 hours	1. Section 3 of this module 2. OECD report: *Education at a Glance: Education Indicators 2004.*
Section 3 Questions	Read and answer questions at the end of Section 2.	1 hour	1. Section 3 of this module
Section 4 Questions	Read and answer questions at the end of Section 3.	1 hour	1. Section 4 of this module
Section 5 Questions	Read and answer questions at the end of Section 5.	1 hour	1. Section 5 of this module
Section 6 Questions	Read and answer questions at the end of Section 6.	2 hours	1. Section 6 of this module 2. Data from the Spanish Ministry of Education 3. Data from Regional education agency (Cataluña)

1. Educational Effort

Educational effort can be defined as the amount of public resources a society devotes to education as a percentage of the society's economic product. Table 5-1 shows this percentage for about 20 countries. The figure varies from about 2 percent of national economic product (gross domestic product, or GDP) to more than 8 percent in some Scandinavian countries. Interestingly enough, some Asian countries considered as having excellent educational systems, such as Japan, spend a relatively low proportion of their economic product on education.

Table 5-1. *Public Expenditures on Education as a Percentage of GDP, 1998/1999 and 2001/2002, by Selected Country (percent)*

Country	Public Spending on Education as % of GDP, 1998/1999	Public Spending on Education as % of GDP, 2001/2002
Australia	4.8	4.9
Brazil	5.2	4.3
Canada	5.8	5.3
Chile	3.8	4.0
China	2.0	n.a.
Cuba	6.7	9.0
Denmark	8.3	8.4
Ethiopia	4.3	4.8
Finland	6.2	6.3
France	5.9	5.7
Germany	4.7	4.6
India	3.2	4.1
Indonesia	1.2	1.3
Iran	4.6	5.0
Japan	3.5	3.5
Kenya	6.6	6.2
Korea	4.1	4.9
Mexico	4.2	5.1
Morocco	2.5	n.a.
Peru	3.2	2.9
Philippines	4.2	3.2
Poland	5.4	5.6
Russian Federation	3.5	3.1
South Africa	6.1	n.a.
Spain	4.5	4.4
Sweden	8.0	7.6
Tunisia	7.6	6.8
Turkey	3.0	3.7
United States	5.4	5.7

Source: UNESCO. *Statistical Yearbook, 2004*.

It is also interesting to situate Spain in this conception of effort. Spain spends less on public education than most other European countries, and less than the United States. Is this because Spain is more efficient in using its public resources in education, or because the Spanish population has a lower preference for education than in most other European countries/

2. Factors Determining How Much Money a Society Collects for Education

Some countries and regions of countries spend much more on the education of their children and youth than others. What factors influence how much people are willing to spend on education?

As discussed in Module 2, we can divide the amount of spending on education into two parts: private and public. Private direct spending on education consists of tuition and fees families pay for their children's schooling, spending on books and school supplies, and any uniforms and other extra costs families bear directly. Public spending comes from taxes and voluntary contributions, generally from all families, not just for those with children in school.

How much of the education should a society publicly fund and how high should the level of public funding per student be? We can call the resolution of the combination of these two questions the level of "public effort." Public effort is a function of a number of factors:

- *The demographic makeup of the population*. If the population is younger, there is greater pressure to spend more on education. However, imagine that those with more education (and more income) in the population have fewer children and that those with less education (and less resources) have more children. This may create a situation where the more educated are less willing to be taxed to increase spending on education. Imagine another situation where a high fraction of the children in schools are immigrants and ethnic minorities. Again, the ethnic majorities may be less willing to be taxed to fund spending on public schooling and may indeed fight to keep public spending on education from rising. Lower taxes would give majority ethnic group families more private resources to invest in private schooling for their children and help them avoid sending their children to public schools that are increasingly attended by lower-income, immigrant or minority ethnic group children. The conflict over resources between the lower-fertility majority ethnic group and the higher-fertility minority ethnic groups is currently a key feature of public funding of more developed countries' education systems.

- *The public perception of education, or the "taste" of the public for education.* Different regions, countries, and ethnic groups have varying taste for formal education. This influences how much families are willing to spend on their children's education relative to other goods and services. What determines the

level of taste for education? Usually, taste for any product or service is the result of historical conditions and the culture that develops in such conditions. We also need to remember that Western formal education conflicts with some traditional cultures' conception of education, which often centers either on oral tradition or the reading of religious scriptures. Recent studies have rejected these "historical" explanations in favor of more market-oriented interpretations: they argue that "traditional" families judge the quality of their children's schooling and make rational decisions about whether to send their children to school based on how "good" the available schooling is. The better it is, the more likely parents are to allocate resources to their children's schooling (Marshall, 2004). Yet, in developed countries, we find, for example, that taxpayers in some regions are willing to pay higher taxes to support education than in other regions. For example, in New York State, taxpayers are willing to spend more public resources for education than in California or Alabama. Is this based on the perceived quality of schooling in those states? Or are these differences due to other factors?

- *The Perceived Economic and Social Benefits of Education.* Some groups may perceive rates of return as higher than other groups do. With similar academic achievement levels in secondary school, both Asian-origin Americans and African-Americans are more likely to attend to university than non-Hispanic whites or Hispanics. One reason may be that the first two groups perceive rates of return to college education as higher than do whites or Hispanics. We know that young women in the United States have higher economic rates of return to university education than men, and we observe that women are more likely to complete higher education than men. If groups perceive that schooling has a high payoff, they are more likely to push for increased public spending on education; if they perceive low payoffs, they will not be willing to invest as much in public or private education.

- *The Perceived View of Public versus Private Education.* How do families rate public versus private education? If the population views private education as much better than public, families will be less willing to increase public funding for education unless much of that public funding goes to subsidize private education. In much of Latin America, public education is considered inferior to private, even though studies have shown that once the socio-economic background of students is accounted for, the difference in student performance in private schools is about the same as in public schools (McEwan and Carnoy, 2000; Somers, McEwan, and Willms, 2003). Thus, there is less pressure from influential middle-class taxpayers from investing more in public education than in, say, the Scandinavian countries or France, where almost everyone attends public schools, and public schools are considered high quality. In Latin America, the middle class prefers to send its children to private schools if it can afford to, so is less interested in trying to improve public schools. In Northern Europe, the opposite is true.

- *Greater Educational Choice.* One argument for greater educational choice, especially among lower and middle income populations, is that these groups are more likely to support increased public spending on education if more choice were available among publicly funded schools, whether publicly or privately run. Charter schools in the United States or voucher schools in Chile are examples of educational finance schemes intended to increase choice, hence increase parent satisfaction and support for education. Unfortunately, these choice schemes are also seen by governments as the means to reduce public spending on education, since they are allegedly ways to reduce the per student costs of schooling through greater managerial efficiency, reduced teacher pay, and other cost-saving measures. They also may represent a means to mobilize private resources instead of public in the form of tuition fees and other add-ons for parents exercising choice to have their children attend non-publicly-run schools. In Chile, for example, the government has mobilized large amounts of private resources by allowing publicly-subsidized private voucher schools to charge fees up to about $15 per month without losing their subsidy. About one-third of voucher schools charge such fees.

- *Greater Parent Participation in School Decision-Making*. If parents are allowed to participate on school councils and other forms of parent involvement in public school decision-making, they should be more committed to their children's schools and public education in general. This should increase their willingness to be taxed to support public education. The sense of "ownership" of public services should increase family identification with such services, hence to pay more for the services. Greater parent involvement also means that parents should have more information on what the increased spending is being used for—in some cases, the parent councils actually have a say in allocating additional resources.

Activities for Section 2.

1. In Cataluna and Spain as a whole, how would you explain the relatively low level of public educational financial effort using the reasons above?
2. What is the role of private education in Cataluna and Spain compared to other European countries? Look for data that describes the proportion of Spanish children's enrollment in private schooling. How does this differ from the proportion in the rest of Europe?
3. What effect do you think that recent immigration has had on public educational effort in Spain?

3. Who should pay for education?

When money is invested in educating an individual, who benefits from the return on that investment? The individual and his or her family receive benefits in the

form of increased occupational opportunities, higher salaries, and the pure pleasure, or "consumption" benefits that one derives from education. Does this mean that individuals alone should pay the costs of their education? Not necessarily. Societies also benefit from the collective increases in economic productivity and social stability that result from investments in the education of individuals. But not all individuals benefit equally from either individual or social returns to investments in education. Some individuals receive and enjoy many years of education while others attend few years of schooling and have little to show for it in terms of increased economic productivity or pleasure. In this section we discuss the complex issues of identifying who benefits and who should pay for investments in education.

3.1 Who benefits from education?

Almost everyone benefits from investments in education. Individuals receive private returns to educational investments in the form of increased salaries, occupational opportunities, and greater knowledge. Society benefits from investments in education if these investments result in economic growth, increased civic participation and social stability, reduced crime, or a richer cultural life. But does everyone benefit equally? In general, those who receive the most education benefit the most, because they enjoy both private and social returns to educational investment. Those who receive the least amount education receive less in terms of private returns, but they do receive social benefits. Parents of school-aged children benefit from investments in public education because these investments reduce the amount they must pay out of pocket for the education of their children. In contrast, the elderly whose children are out of school benefit less directly from the provision of public education. Should the elderly pay less than the parents of young children for public education? Should those who enjoy education more (that is, their level of consumption benefit is higher) pay more for public education than those who struggle through school? These questions have no easy answer, but the concepts of public goods and externalities provide some conceptual tools to explore them.

3.2 Capital market imperfections: externalities and public goods

A critical assumption of microeconomic theory is that for every commodity there is a market. Yet economists also recognize that markets often fail, as in the case of a monopoly, in which one firm controls the market and blocks other firms from entry. Another problem occurs if there is actually no market at all to allocate a good or service. The nonexistence of a functioning market can occur in the case of two closely related phenomena, **externalities** and public goods. Both of these concepts are important for understanding the debate over who should pay for education.

An externality occurs when the activity of one entity affects another entity in a way that is not accounted for by the market. Recall our discussion of externalities in Module 1. We gave the example of the agricultural university La Molina in Lima, Peru. Engineers trained at this university have generated innovations that other farmers who were not trained at La Molina have benefited from. These innovations are an example of

a positive externality because the training at La Molina was paid for by the original engineers (together with the government), but the benefits have accrued to many others who have not paid directly for the La Molina training.

When a positive externality benefits society as a whole, it can be considered a "pure" public good**.** Recall from Module 4 that a public good is one that (1) cannot be denied from the general public and (2) can be consumed by many people without decreasing the benefit to each. That is, a public good is "non-excludable" and "non-rival" (Rosen, 2002). For example, imagine a program to reduce air pollution in a large city. The resulting clean air is an example of a public good because no one can be denied access to breathing this clean air, and each individual can enjoy the air without diminishing the enjoyment of others. The problem is identifying who should pay for the clean air program. The fact that no individual can be denied access to the clean air also means that it is impossible to charge people for breathing it. While some people may pay for the clean air program out of a sense of civic responsibility, others will opt not to pay. In fact, some people may even hide their preferences for clean air in order to escape paying for the clean air program. Those who do not pay are known as "free riders" because they enjoy the benefits of an investment in a public good without contributing toward its costs. Due to the **free rider problem**, the private market cannot efficiently allocate clean air according to the preferences and ability of individuals to pay for it.

In technical terms, education is not a pure public good (like clean air) because a child can easily be excluded from a classroom, and adding children to any given classroom is likely to detract from the learning of the class as a whole. Yet the benefits of education, in terms of increased economic productivity, social cohesion, and safety, are closer to a pure public good. Unless there is strong segregation in a society, no one can exclude an individual from enjoying these social benefits; also, the enjoyment of one individual does not diminish the enjoyment of another. What would happen if we tried to charge individuals for this enjoyment? We could see the emergence of a free rider problem, in which individuals unwilling to pay for educational investments conceal their enjoyment of a well-educated society. Because not everyone who enjoyed the benefits of education would be willing to invest in it, we would likely see an inefficient allocation of society's resources toward education. More specifically, society would be likely to *under-invest* in educational services for its young people. This potential underinvestment is one of the reasons that governments invest in public education, rather than leaving educational investment to individual parents and children.

To reinforce the ideas of externalities and public goods in public education, imagine a society in which there was no public funding of education. Individuals would be entirely responsible for paying both direct and indirect costs of their education. In this society, who would be most likely to receive education? For the most part, only those who could afford education would receive it. Consequently, there would be little social mobility (assuming that education is required for social mobility) in this country, as the rich would educate their children and the poor would not. Additionally, if the private rates of return to education were high in this society, the investment of only the rich in education would result in an ever-widening gap between rich and poor. At the same time,

everyone would enjoy the social returns to the individual investments in education. This could result in resentment on the part of the wealthy, who could feel that they are shouldering an excessive burden for the social benefits that their investments generate. This resentment could cause the wealthy to become even less willing to invest in education for children other than their own, thereby making access to education of poor children even less probable.

3.3 Spending on different levels of education

In most countries, nearly all children attend and complete primary school. Yet by the time their cohort completes secondary level, many young people have completed their formal education, leaving a small minority to receive tertiary education. Of course, the percentage of young people who attend university varies considerably from country to country. In Spain, 17 percent of adults have earned a non-vocational tertiary degree, compared to the OECD average of 15 percent.[1] Among OECD countries, United States has the highest percentage with 29 percent, while Mexico (2 percent) has the lowest proportion of adults with a non-vocational tertiary degree (OECD, 2004).

Who are the young people who are fortunate to receive a tertiary-level education? They tend to be the children of more educated and wealthier parents who have been able to support their children educationally and economically during their years of study in basic education. The young people who complete tertiary education are also likely to be the highest earners once they complete their studies and enter the labor market. One might conclude that because university students come from the most advantaged segments of society and will also earn more than those who do not receive university education, these students should pay the full costs of their education. Yet in many countries, public universities charge either no tuition or reduced tuition to students who receive admission. Additionally, societies tend to allocate disproportionately large amounts to the tertiary level relative to investment in primary and secondary education. For example, although only 14 percent of students in OECD countries are enrolled in tertiary institutions, 24 percent of all expenditure (public and private) on educational institutions is allocated to tertiary education (OECD, 2004).

Considering the high return to tertiary-level education, coupled with the small proportion of young people who receive a tertiary degree, one would expect to see greater private financing of tertiary studies. In fact, tertiary-level institutions tend to receive a much greater percentage of their funding from private sources than primary or secondary institutions. Among OECD countries, 92.4 percent of funding for primary, secondary, and non-tertiary post-secondary education comes from public sources, compared to 78.2 percent at the tertiary level. In Spain, 93.3 percent of funding for primary, secondary, and non-tertiary post-secondary education comes from public sources, while 75.5 percent of tertiary funding comes from public sources (OECD, 2004). The difference in funding sources suggests that to some degree, societies believe that due to the high private returns to tertiary education, individuals pursuing higher education should pay a greater share of the costs of their education.

[1] The OECD's formal classification is tertiary-type A degree or advanced research program.

In the United States, a long-standing debate concerning who should pay for tertiary education stemmed from the work of scholars Lee Hansen and Burton Weisbrod. Hansen and Weisbrod (1969) argued that broad-based government subsidies to universities were not equitable because children of middle and higher income families are more likely to attend these institutions than the children of poor families. Hansen and Weisbrod argued that a more equitable system would target funding toward students with the least ability to pay. In other words, funding should be based on a test of students' financial means. Critics responded that if higher income families paid a greater share (through taxes) of the funds for public higher education, then the system was in fact equitable. Although means testing has become more common as a way to target public funds to needy students, public funding of higher education in the United States continues to be skewed largely toward the children of higher income families.

3.4 Activities for Section 3

1. Think of an example of a positive externality that you enjoy in your daily life. Who bears the cost of this externality? How do you think that the funding of this externality might be made fairer for the person paying for it?
2. In your opinion, should the public be required to pay for all educational services? If not, which services do you think taxpayers should pay for and which should individual students and families pay for? Should everyone pay the same amount or should payment vary according to ability to pay or individual benefit gained from the education?
3. How much of your education is financed by public sources? What percentage of your education do you or your family pay for? Has this percentage changed over time? If so, what do you think accounts for changes in the public share of your education as you have attained greater levels of education?

4. Types of Taxes

Assuming that governments assume part of the burden of providing educational services, these governments must determine the best way to generate revenues to do so. The most common way for governments to generate revenues is through taxation. Taxes vary in many important ways, including how the tax burden is distributed among citizens, whether the tax is general or targeted at funding a specific project, and whether the tax is applied to income, sales, or "value added." To understand educational finance it is important to understand the different types of taxes and how they are used in financing educational services.

4.1 General taxes and targeted taxes

General taxes are applied to the general population without a specific target for the revenues they generate. For example, income taxes are general in that they contribute to general revenues, which legislators allocate according to government budgets. A general sales tax levies the same tax rate on the purchase of all commodities, with the exception of commodities that have been exempted for equity or other reasons. In

contrast, a targeted tax is devoted to raising revenues for a particular public project. For example, gasoline taxes in Europe are often targeted toward improving roads. As a result, people who use the roads more often tend to pay more in taxes, an example in which taxation is based largely on use.

In the United States, a common form of targeted tax is the real estate tax, which is collected by local governments. A large proportion of these taxes is dedicated to local spending on public education. As a result of the widely varying amounts of revenues that local communities can generate, public spending varies considerably from school district to school district (as well as from state to state). A growing trend in the United States has been for states to equalize spending based on complicated formulas. These formulas often use property taxes as a measure of local community wealth when determining how much funding to distribute to local school districts (Cohn & Geske, 1991). If one believes that everyone should pay the same amount for educational services, the best way to accomplish this would probably be through a targeted education tax in which all individuals paid a set amount. Otherwise, it would be very difficult to collect a given amount through a general tax or targeted tax that varied by individual.

Another type of targeted tax is the excise tax, which is imposed on different commodities at different rates. Excise taxes are often used to modify some type of behavior. For example, in the United States, people who smoke pay high excise taxes on the purchase of tobacco products. These higher taxes are meant to discourage people from smoking, and the revenues from these taxes are often used for public health purposes such as campaigns to discourage young people from smoking.

4.2 Tax equity: progressive, regressive, and proportional taxes

Another important consideration in taxation is the relationship of the tax rate to an individual's income or ability to pay. In the case of progressive taxes, the tax rate increases with the individual's ability to pay. For example, if I earn $100,000 a year in income, under a progressive tax system, I would pay a higher percentage of my income toward taxes than an individual who earned $50,000 a year. This means that I would not only pay a higher total amount in taxes, but I would also pay a greater proportion of my salary in taxes. Although progressive taxes appear to be the fairest way to tax income, the existence of numerous tax rates causes substantial complexity in the tax system.

The reverse of a progressive tax is a regressive tax, in which the tax rate decreases with an individual's ability to pay. One might consider a sales tax to be a regressive tax because poor people generally spend a greater proportion of their income on consumption than the wealthy. This is because wealthier people have more income and consequently have greater options regarding how to spend it—investing, for example—than do poor people. Since poor people spend a greater percentage of their income on consumption, they are likely to incur greater spending on sales taxes. For this reason, countries that use sales taxes often exempt basic subsistence items such as food and clothing from these taxes.

A proportional tax is paid equally by all individuals, regardless of their ability to pay. This does not mean that everyone pays the same amount in taxes. Instead, everyone pays the same *rate*. For example, in a country with a proportional income tax of 10 percent, those earning $50,000 would pay $5,000 a year in taxes, while those earning $100,000 a year would pay $10,000 a year. The flat tax, which has spread in popularity in eastern Europe, is an example of a proportional tax. In Estonia, for example, all individuals pay 26 percent of their income in taxes. Corporations pay the same rate on their yearly profits. Flat taxes are also used in the countries of Lithuania, Latvia, Russia, Serbia, Ukraine, Slovakia, Georgia, and Romania ("The Case for Flat Taxes," 2005).

4.3 Value-added taxes

Besides the potential for being regressive, sales taxes can also be difficult to enforce. Retailers do not always comply with the requirements of the tax, either hiding or misreporting their sales and the taxes due. One way to resolve this problem is through the value-added tax, which is common in Europe but not used in the United States. The idea of a value-added tax is to tax various stages of the production process of a good at which value is added to the good. Rosen (2002) gives the example of the production of bread. A farmer grows wheat and sells it to a miller for processing. The miller then sells the processed wheat to a baker, who then makes and sells the final product. At each stage of this process, the value of the product increases. For example, after being processed, the value of the wheat may increase by $100, and once the wheat becomes bread its value increases by another $200. The value-added tax would be levied on both the $100 and the $200, because each stage represents an increase in value on the original product.

Why are retailers more likely to comply with a value-added tax than with a retail sales tax? European countries rely on what is known as the "invoice method," in which each firm bases its payment on the invoices of its suppliers. Each firm (or individual) can reduce its total tax liability by the amount of tax that its supplier has paid. In other words, the baker gets a tax credit based on the taxes already paid by the farmer and the miller. This way, the baker has an incentive to make sure the farmer and miller pay their fair share of taxes. Otherwise, he will not get his full tax credit when paying his own tax on the value that he adds by turning processed wheat into bread. As a result, the baker is likely to demand and review the invoices of both the baker and the farmer (Rosen, 2002).

Although nearly all OECD countries have some type of value-added tax, the countries of the European Union rely most heavily on them. In these countries, consumption taxes (most of which are value-added taxes) generate 30 percent of total tax revenues. In the European Union, only social security taxes generate more revenue (32 percent) than consumption taxes. In the OECD as a whole, consumption taxes make up 24 percent of tax revenues; the percentage is even lower in Japan (19 percent) and the United States (16 percent). The United States relies more heavily on personal income taxes, which account for 41 percent of total revenues, while social security taxes make up the largest share of tax revenues (38 percent) in Japan.

4.4 Level of Taxation

Individuals can be taxed at the local, state, and national levels. While this may not seem important at first glance, the level of taxation is an important consideration in education finance. If the benefits of educational services accrue largely to individual states or regions—that is if individuals educated in one state remain in that state and contribute to economic growth and tax revenues there—then one can argue that state taxes should finance educational services. On the other hand, if there is a great deal of mobility of educated professionals within a country, then the educational investment made in one state may generate returns in another state or in the nation as a whole. In this case, it makes more sense for educational services to be financed by national taxes.

Some economists argue that the degree to which a state benefits from investments in education varies according to the degrees attained by individuals. For example, individuals receiving a secondary level degree may be more likely to remain in their home state and generate revenues for that state alone, while university-educated individuals are likely to be more mobile and switch states. Consequently, states should pay for secondary (and primary) educational services, while national taxes should go toward university education.

4.5 Different approaches to raising and distributing revenues for education

As we discussed in the introduction of this module, methods of raising and allocating money for education vary considerably across countries. For example, Sweden uses progressive income taxes collected by the central government to fund public education. In the United States, funds are generated more locally, either by local property taxes or via state income taxes. Other countries use direct, targeted national taxes to collect money for schools.

The economist Stephen Barro (1996) categorizes education finance systems into four general models: the North American Model, the British Model, the Continental European Centralized Model, and the Continental European Federal Model. According to Barro, countries following the North American model include the United States and Canada. Under this model, which is extremely decentralized, revenues for public education are generated largely by local taxes, usually property taxes. In contrast to the other systems, the central government plays a small role in generating and allocating resources for public education. States or provinces also contribute general or categorical grants to local education authorities.

The British Model, which is followed by the United Kingdom, combines centralization of revenue generation with decentralization of expenditures on education. Revenues for public education are collected by the central government through national taxes and are then distributed to local education authorities through general-purpose grants. Allocation and expenditure of resources occurs at the level of the local education authorities. In some cases, individual schools receive funds directly and make decisions about how to spend them. Local authorities also supplement central government funds with revenues from local property taxes.

The Continental European Centralized Model is based largely on the French system, but is also followed by Belgium, the Netherlands, and some Nordic countries. Under this system, the central government plays a dominant role in both generating and allocating funds for public education. This model relies largely on national taxes to generate revenues for education. The central government in the countries that follow this model generally pays for those functions related to instruction, such as teacher salaries and textbooks, while local authorities are responsible for constructing and maintaining school facilities.

Finally, the Continental European Federal Model is followed by Germany, Austria, and Spain. Under this model, regional governments are responsible for generating funds for education through regionally based taxes. Central governments also allocate general block grants to regional authorities, but these grants are generally not earmarked for education. Similar to the Continental European Centralized Model, regional authorities fund major instructional functions while local authorities are responsible for school facilities and other operations.

The education finance system in Spain has evolved considerably over the past several decades. To begin, with, tax revenues in general have represented an ever greater percentage of Gross Domestic Product, increasing from 14.7 percent of GDP in 1965 to 35.1 percent in 1999. Second, the educational system has moved from a centralized system to a decentralized system in which the provinces have greater responsibilities and control over educational finance and decision making. In fact, the Basque Country and the Navarra region have special arrangements in which they collect taxes themselves and remit revenues to the central government to pay for services it provides them (OECD, 2001).

4.6 Activities for Section 4

1. The state of California uses a state lottery to help pay for public education. A certain percentage of revenues from the sale of lottery tickets goes to pay for educational services. In your opinion, does the lottery represent a type of voluntary tax? If so, is it a progressive tax, regressive tax, or proportional tax?
2. Think about all the taxes that you or your parents pay during the course of a year, including income taxes, property taxes, sales or consumption taxes, and social security taxes. Do you know to which levels of government these taxes will go? What services will they provide? What percentages of these taxes will go toward public education?
3. What do you think are the advantages of raising taxes for education locally, as in the United States? Do you think such a system is likely to be more equitable than one in which tax revenues for education come from the central government? Why or why not?

5. How should education monies be spent?

Public expenditures on education in Spain amount to over $35 billion annually. For the 2000/2001 academic year, the largest share of these monies (43.7 percent) went to

secondary education. Roughly a quarter was spent on primary education and a fifth on tertiary education. Given the size of the education sector in Spain and most other countries, determining how to distribute the available education monies is not a trivial matter. Heterogeneity across and within levels increases the complexity of this task. How do governments arrive at a specific allocation? What issues must they consider in their decision-making process?

One way of parsing the complexity of the allocation task is to start at the macro-level and gradually work down to the more micro details. First up are issues of allocation across levels. How much funding should be allocated to the various levels (i.e., primary, primary, secondary, and tertiary) of the education system? Next would be how to distribute each pool of money among the schools within each level. Should some schools receive more money than others? Getting deeper into detail, education policy makers need to consider how monies within a school should be allocated across students. Should more money be spent on some students than on others within the same school? And finally, at the most micro-level, what specific educational programs and materials should be purchased for use in schools? Each of these broad allocation questions are discussed in the following subsections.

5.1 Allocation across levels

Table 5-2 displays how some countries allocated their public educational expenditures across levels in the 2000-2001 academic year. Countries vary with respect to the percent of their public expenditures targeted at each of the three levels. There are several key patterns to see in these data. First, none of these countries spent equal amounts on the three levels. Second, the majority of them spent the largest share of their education monies on secondary education with the others (Chile, Poland, and South Africa) targeting primary education with the bulk of their monies. Third, most of these countries allocate less than a quarter of their funds to tertiary education. What are some potential justifications for these various allocation decisions?

Table 5-2. Educational Expenditure by Level as Percent of Total Public Expenditure on Education 2000/2001, by Selected Countries (percent)

Country	Primary	Secondary	Tertiary
Australia	33.8	39.7	23.7
Brazil	30.9	38.4	22.1
Chile	43.0	34.3	14.5
China [a]	32.6	37.4	24.0
Finland	21.4	38.8	34.0
France	20.2	49.9	17.6
India	37.6	40.1	20.3
Iran	25.8	34.8	19.4
Japan	35.2	39.8	15.1
Poland	47.5	24.1	14.6
South Africa [a]	45.9	31.3	14.5
Spain	25.8	43.7	21.8

Sweden	27.9	37.7	27.2
Tunisia	33.3	45.0	21.7
United States	32.7	34.5	26.3

Source: UNESCO Institute for Statistics, http://stats.uis.unesco.org/ReportFolders/ReportFolders.aspx.
[a] These figures are from 1999/2000.
[b] These figures are from 2001/2002.

Differences in the participation rates are one obvious reason for countries not spending equal amounts on the three levels as the data in Table 5-3 suggest. These data represent the capacity of each country's educational system at each level. A value of 100 signifies that there is enough capacity within the schools of that level to accommodate all the students in the relevant age group. Numbers greater than one hundred indicate that there is excess capacity in the system while numbers below one hundred indicate that there are not enough slots for all students. It is important to note that capacity is not equal to participation rates, but rather an estimator for them. For example, Australia's tertiary system has capacity to offer slots to 63.2 percent of the college- and university-going aged population. The assumption is that the system grows and shrinks to meet demand. However as discussed in Module 4, barriers to entry and exit restrict the systems' ability to avoid excess demand and excess supply.

Table 5-3. Gross Enrollment Ratios by Level 2000/2001, by Selected Countries (percent)

Country	Primary	Secondary	Tertiary
Australia	102.0	160.7	63.2
Brazil	150.7	105.3	16.5
Chile	102.7	85.5	37.5
China	117.8	62.8 [a]	7.5 [a]
Finland	101.7	125.9	85.3
France	105.0	107.7	53.6
India	98.8	48.5	10.9
Iran	93.0	77.3	21.5
Japan	100.7	102.5	47.7
Poland	99.5	101.3	77.6
South Africa	113.2 [a]	88.4 [a]	15.0 [a]
Spain	107.1	114.2	56.8
Sweden	110.0	148.8	70.0
Tunisia	112.9	77.6	21.7
United States	100.3	94.1	70.7

Source: UNESCO Institute for Statistics, http://stats.uis.unesco.org/ReportFolders/ReportFolders.aspx.
[a] These figures are from 1999/2000.
[b] These figures are from 2001/2002.

Generally, within country spending allocations are aligned with within country capacity. For example, South Africa's capacity decreases from the primary to tertiary levels as does the amount it allocates to each level. Australia's secondary schools have the largest capacity and receive the largest amount of monies. Of course, capacity isn't

the only determinant of a country's allocation. For example, China's tertiary schools have less than 8 percent capacity yet are the recipients of almost a quarter of public expenditures on education. Something else is at play here.

Economists are keenly interested in the rates of return to educational expenditures when examining allocation decisions. As discussed in Module 2, economists use rates of return to measure the value of investments in education. An investment's rate of return is essentially a measure of its profitability and provides valuable insight into investment behavior. Higher rates of return attract investment while low rates of return discourage investment.

Public education expenditures ought to be guided, at least in part, by the rates of return, both social and private. Societal benefits feature prominently in the allocation decision-making process. Maximizing the societal returns from education (e.g., greater economic growth, healthier citizens, lower crime rates, etc.) is frequently cited as a justification for publicly-funded education. Given that monies are raised through public taxation, there is the expectation that public monies will be spent in ways that maximize societal benefits.

As shown in Table 5-4, societal returns vary across the levels within the education system. Returns to receiving a secondary education exceed those to tertiary education. Are countries targeting their monies to the levels with the highest rates of return? In Spain, social rates of return from a secondary education are 10.4 percent for males and 12.6 percent for females. The returns from a tertiary education are 6.7 percent from females earning a degree and 8.1 percent for males. This information could be used to support greater funding for Spanish secondary education relative to tertiary education. This is in fact what the data show.

Table 5-4: Private and Social Rates of Return for Obtaining a Secondary- or Tertiary-level Degree When Individual Immediately Acquires the Next Higher Level of Education, 2001 by Selected Countries

Country	Gender	Private		Social	
		Secondary	Tertiary	Secondary	Tertiary
Australia	Males	40.0	6.6	20.8	8.3
	Females	40.0	6.5	17.4	7.6
Finland	Males	(1)	14.2	22.9	10.5
	Females	(1)	15.2	16.1	8.7
Spain	Males	11.5	9.2	10.4	8.1
	Females	20.6	8.5	12.6	6.7
Sweden	Males	(1)	8.8	40.4	8.2
	Females	(1)	7.3	33.3	6.5
United States	Males	92.7	11.0	22.3	11.1
	Females	98.1	7.9	21.9	7.9

(1) Negligible or zero costs cause excessively high estimates.
Source: OECD. http://www.oecd.org/edu/eag2004.

Spain spends more at the secondary level per student than at the tertiary level as shown in Table 5-5. To facilitate comparisons across countries, the numbers are educational expenditures per student as a percent of the country's per capita gross domestic product. At the secondary level Spain spends 24.8 percent of per capita GDP per student versus 21.5 percent of per capita GDP at the tertiary level. This appears to be aligned with the social returns at these levels.

Table 5-5. Education Expenditure Per Student by Level as Percent of Gross Domestic Product Per Capita 2000/2001, by Selected Countries (percent)

Country	Primary	Secondary	Tertiary
Australia	16.0	13.9	25.0
Brazil	10.8	8.8	48.8
Chile	14.3	14.7	19.2
China [a]	6.6	12.6	89.1
Finland	16.8	24.2	37.4
France	18.0	29.0	29.6
India	13.7	23.0	85.8
Iran	9.4	10.2	36.0
Japan	21.4	21.0	17.2
Poland	28.8	11.8	16.1
South Africa [b]	14.3	18.2	56.8
Spain	18.6	24.8	21.5
Sweden	24.3	27.8	52.0
Tunisia	15.8	25.7	68.0
United States	18.0	22.5	23.0

Source: UNESCO Institute for Statistics, http://stats.uis.unesco.org/ReportFolders/ReportFolders.aspx.
[a] These figures are from 1998/1999.
[a] These figures are from 1999/2000.

However, the pattern of spending more per student at the level with the highest social returns does not hold for most of these countries. Per student spending at the tertiary level is almost twice that at the secondary level in Australia and Sweden. Yet the social returns at the tertiary level are less than half those at the secondary level in Australia and less than a fourth in Sweden. Again, something else is factoring into the allocation decision-making process.

Many governments are concerned with the distribution of the returns (both social and private) from their educational investments. They seek some sort of balance between the total return and how those are returns are distributed among individuals and groups. Individuals from disadvantaged backgrounds such as those living in poverty and those from minority ethnic and/or racial groups have lower educational attainment levels and consequently receive lower private returns to their education. The data in Table 5-4 illustrate that private returns typically exceed social returns. Inequality within a society will grow as the difference in the educational attainment between segments of society increases.

The participation rate data in Table 5-3 suggest very high percentages of students complete secondary education; however, the participation rates drop precipitously for tertiary education. Consequently, whereas most individuals receive the private returns from secondary education, a much smaller proportion of society receive the returns from the tertiary level. Given participation rates vary across groups within these countries, there will be income and wealth inequalities among societal groups.

Educational expenditures are often used by governments to combat such inequality. For example, many governments operate loan and grant programs to help students from disadvantaged backgrounds pay for tertiary education. By reducing the costs education, it is hoped that these programs will increase enrollment levels among these groups, enabling these individuals to realize the private returns. A desire to reduce inequality may be contributing to the higher per student expenditures at the tertiary level in countries such as Sweden, a country known for its commitment to equality. Efforts to reduce inequality however may not explain the higher per student spending at the tertiary level in all countries.

Educational expenditures can also, either intentionally or unintentionally, contribute to societal inequalities. For example, if only individuals from privileged backgrounds attend university, all the private benefits from spending at this level will be accumulated by them. In such a case, educational expenditures are maintaining inequality rather than reducing it. Consider Brazil, China, and South Africa. Per student spending at the tertiary level compared to the secondary level is more than 5 times higher in Brazil, more than 7 times higher in China and more than 3 times higher in South Africa. Yet the participation rates are approximately 17, 8, and 15 percent, respectively; all much lower than at the secondary level.

Inequality in the distribution of social returns can also be exacerbated by how education monies are distributed. Assume that educational attainment varies across segments of a society and that these segments of society are segregated in their residential and employment patterns. The social returns will accrue to the same individuals who received the private returns. Communities with high educational attainment will have higher incomes, fewer health problems, and lower crime than the communities with lower educational attainment.

5.2 Allocation across schools

A country's allocation of educational monies across schools within a level is influenced by at least two goals—expanding access and improving quality. Expanding access helps increase the proportion of society to whom the returns to education accrue. The participation rate data provided above indicates that there is room for expansion at the tertiary level in all countries and at the secondary level in developing countries. Improving the quality of education can increase the returns themselves. How do these goals influence the allocation decision-making process?

Expanding access to education is driven by two factors—the desire to meet the existing demand or the preference to increase the current demand. In some instances, a

country's capacity prevents all students wishing to enroll in school from doing so. There simply isn't enough room. Governments could target certain schools for expansion in order to meet the existing demand. New schools could also be built in communities with particularly high unmet demand.

Growing the demand for education is achieved by targeting those individuals previously uninterested in obtaining education. Allocating monies for this purpose is closely related to the desire of many governments to reduce societal inequalities. Schools serving communities with low demand could receive additional monies for student outreach activities. New schools could also be built in these underserved communities.

Improving the quality of the education produced by schools dominates the education finance debate in most countries. Due to differences across schools in the inputs used in the education production process, the quality of the educational output produced varies from school to school. Schools in certain neighborhoods have access to higher quality inputs simply as a result of the characteristics of the community it serves. (Recall from Module 3 the three types of inputs—student and family, social context, and school and teacher.) Schools in communities serving students with higher socio-economic backgrounds and those located in communities with high employment rates, low crime rates and high levels of community support for education, for example, are better equipped to produce a high quality education. In addition to the monies received from the government, many of these schools receive additional financial resources from their community, further exacerbating the quality differences across schools.

Given the heterogeneity across communities and the fact these inputs are outside the decision-making authority of educational leaders, many argue government educational expenditures should be targeted at schools serving underprivileged populations. If these schools get more money, how should it be spent? Higher teacher salaries are frequently cited as a means through which the quality of education can be improved. As discussed in Module 4, economic theory predicts that higher teacher salaries will attract higher quality prospective teachers. According to UNESCO, 62.2 percent of all educational expenditures in 2000/2001 were spent on teacher salaries and those of other school staff.[2] Should salaries be increased across the board or should they be targeted at underperforming schools? Should a merit pay system be implemented such that teachers who perform better get paid more than others?

Arguments for varying allocations across schools based on the characteristics of the communities they serve and in which they are located acknowledge that all schools do not face the same per-student costs. For example, schools in poor neighborhoods may need to offer more social services (e.g., health care, free meals, etc.) to their students than schools in richer neighborhoods. Schools with large non-Spanish speaking student populations will need to provide extra services to these students. In the United States, over the last several decades, these arguments have shifted the education finance debate away from a focus on financial equity and toward educational adequacy.

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[2] UNESCO Institute for Statistics, http://stats.uis.unesco.org/ReportFolders/ReportFolders.aspx.

In the mid-20th Century, the education financing systems of most states sought to provide all schools with the same amount of funding per pupil. Such systems have been invalidated by numerous court rulings which held that these systems failed to provide an adequate education for all students. States have consequently worked to identify a minimum level of educational quality that all students are legally entitled to and to design a funding system that provides each school with enough funding to meet that minimum quality standard for all its students.

5.3 Allocation across students

All students within a school do not receive the exact same education and thus, the school does not spend the same amount on each student. For example, schools hire educational aides to work with those students with special educational needs. Other schools have a guidance counselor who only works with those students planning to earn a tertiary degree. Also, a school must pay more to equip laboratories for the teaching of science than classrooms for the teaching of history. Acknowledging inherent differences in cost, how should schools allocate their educational monies among their students? What criteria should schools use?

One possible criterion is to spend more on students whose families have paid more in taxes. Such a funding system would deemphasize the redistributive nature of many education finance systems which use the tax system to transfer resources from better-off families and communities to underprivileged families and communities. Without some redistribution of resources, specific segments of society would be systematically favored over other segments. A rigid social class system would be sustained where the returns to education are only realized by individuals from more privileged families and communities.

Another possible criterion is the concept of providing an "adequate" education to all students as mentioned above. From an egalitarian point of view, this is the appropriate criterion. However, there are numerous challenges to designing and implementing an education financing system with this purpose. What is an adequate education? Does the production process for an adequate education require the same inputs for all students?

Module 3 detailed how education production functions are useful in identifying the optimal production plan that specifies the input set required to produce an educational output. Results from EPFs have shown that educational programs and policies do not necessarily yield the same level of benefits for all students. In fact, many programs and policies are designed to target specific groups of students. Differences in input sets will lead to differences in costs of an adequate education across students.

5.4 Allocation across programs

When deciding which education programs to implement in schools, decision-makers are faced with a daunting array of choices. How do they choose which programs to use? Recall from Module 3 the usefulness of cost-benefit and cost-effectiveness analytic techniques in these decisions.

A school's production goal is shaped in large part by the education financing system. For example, if monies are allocated across schools with the intention that each student will be provided with an adequate education, schools must implement programs that enable the school to meet that goal. Assume that an adequate education is defined by a minimum score on a standardized test. Cost-benefit and cost-effectiveness analysis enable a decision-maker to determine which program provides the greatest return.

5.5 Activities for Section 5

1. Assume the social returns to a tertiary education are only half the social returns to a secondary education. Explain why a country might choose to spend twice as much per student on tertiary education than secondary education?
2. What are two goals that influence a country's allocation across schools within a level?
3. Assume a school offers a gifted and talented program for its advanced students. The program provides students with an enriched curriculum including additional instructional materials and field trips as well as teachers with additional training. Provide a justification the school might make for why it spends more money on its advanced students relative to student performing at grade level.

6. Decentralized or Centralized Control of Spending?

Control of school finances usually depends on the kinds of taxes used to finance education. For example, if income taxes or national sales taxes (or value added taxes) are used to finance schooling, the central ministry generally controls teacher payroll and may control textbook purchases, administrative payrolls, building maintenance, and even school transportation, if transportation is part of ministry responsibility. This leaves few or no financial decisions to local schools or local officials. If property taxes or local income and sales taxes form the main base of school finance, or if much of school fnding is provided by private tuition, there would be much greater local control over school finances. Local financial control might be in the hands of a local school board, local government officials, a school director, or a parent council at the school. Even if taxes for education are collected at the national level, the central government may choose to distribution "block grants" to local municipalities to pay for education and other services. In such a case, the central government passes responsibility for how to spend resources on education to local governments.

For example, in the 1990s, the Swedish government decided to give black grants for social services to municipal governments, and those governments then decided how much to spend on education, negotiated their own contracts with the teachers' union, and decided how much to allocate to different types of spending within the education sector. Many municipalities passed these decisions down to school directors. Similarly, Mexico, Argentina, and Spain give block grants to states/provinces/regions for education, passing financial responsibility to those sub-national areas for allocating resources to education.

Thus, either by choosing a taxation scheme that places local responsibility for financing education directly in the hands of local government or by the central

government's "devolving" responsibility to local governments by giving them block grants, nations can decentralize financial decision-making in education to local political entities. Decentralization of the control over educational resource and technical decisions can therefore be decentralized by:

- The way governments organize the public finance of social services; or
- Through decentralizing the management of public spending on social services.

We can characterize these two kinds of decentralization in a four-way table.

Table 5-5. *Types of Educational Systems Characterized by Concentration of Educational Finance and Management*

	Educational Management	
Educational Finance	Local (district school board, school parent council, school director)	Central (Ministry of Education)
Local (property taxes, local sales taxes, tuition)	*Decentralized*	*Regulated*
Centralized (income taxes, wealth taxes, national sales taxes, excise taxes)	*Devolved*	*Centralized*

6.1 The benefits of decentralization

The main argument for educational decentralization is that the closer educational spending and management of school decision-making is to local communities, the more those decisions would reflect parents' and children's educational needs. Schools would operate more efficiently, and parents would feel greater ownership and loyalty to the school or the local school system. Parents would therefore be more likely to invest time, effort, and money in their children's achievement, and children would do better in school.

If parents are more involved with their children's education and feel that they can have some influence over it, teachers may feel more accountable to parents and therefore exert more effort. Student and teacher regular attendance may increase.

Many economists argue for an extreme form of decentralization in which each school gets to manage its spending and how it delivers education. The public sector can finance individual public schools with a certain amount per student enrolled, or the government can go farther and provide the same amount per pupil whether the school is public or private. This is usually called a voucher plan. Each school is given a fixed amount of public subsidy per pupil enrolled. If a school is well run and produces a high quality of education, it will attract more pupils and get more money. If the school is not very effective, it will lose pupils and get less money.

The reason some economists want so much decentralization is that they believe this will create more competition and therefore higher quality education. If there is only one large school system, managed by a centralized bureaucracy, schools would tend to operate similarly and act as a monopoly. A monopoly does not have to deliver the highest quality product at the lowest price because it faces no competition. If all students living in a neighborhood must go to the same public school, then the school is guaranteed to have students and does not have to deliver very high quality education to continue to survive as a school. This is especially true if the families who live in that neighborhood are poor, because they do not have enough money to move to a "better" neighborhood with a "better" school. However, if two or more schools can compete for students in the same neighborhood, the argument goes, all the schools have to work harder to provide the good education that would attract students to their schools. This competition among schools can only happen if there is no public monopoly on "free" schooling and each school can make its own decisions about how to improve to attract more students.

So the main promised benefits of educational decentralization are greater local control over schools, therefore a better fit between pupils'/parents' educational needs, hence greater parent participation, greater teacher accountability, and more competition among schools for pupils. All of these benefits should lead to greater effort on the part of parents and teachers, hence to greater pupil learning.

6.2 Possible negative effects of decentralization

The promised benefits of decentralization assume that all regions, municipalities, school districts, and schools have a reasonably high capacity to allocate resources efficiently. Thus, capable school and district administrators are available in all the states and provinces and even schools to work with knowledgeable parents to develop school plans and implement innovative reforms.

In practice, this assumption is likely not to be valid. Administrative capacity varies among local communities, particularly in less developed countries. Neither is there any guarantee that local communities are so democratic and participative that decentralizing education produces more equal and equitable treatment of all groups in the community. The majority of citizens in local communities often discriminate against a minority, denying them equal education and other social services. The American South is a famous case of extreme segregation and unequal education for whites and blacks. A decentralized education system meant in the American South a segregated education system.

Thus, one possible negative effect of decentralizing educational management (devolution) or decentralizing both management and financing (decentralization) is that education becomes much more unequal without necessarily becoming more effective even for the better off students.

Another possible negative effect is that parents and teachers may make educational decisions that are not in the best interest of the children affected by these decisions. Information access, especially about a difficult to assess product such as teaching and

learning, may be very unequal across social class groups. Parents with limited educational experience themselves are least likely to make informed decisions about their children's schooling even if these parents are highly motivated.

6.3 Some examples

We have collected a considerable amount of information on the relative impact of decentralization and privatization on overall student performance in countries such as Chile, Mexico, and Argentina.

The evidence suggests that decentralization has had relatively little impact on overall educational "effort" in terms of investment in education or on student performance. Argentina transferred control of primary schools entirely to provincial governments in the late 1970s and of secondary schools in 1993. Increased control of educational resources in the Argentine provinces put educational decision making into the individual political contexts of each province, with very varied results. If we rank provinces by educational "necessity," as defined by their retention, drop out, educational attainment, and gross product per capita, we find that more educationally wanting provinces increased spending per student about the same percentage as more advantaged provinces after the 1993 transfer. Neither did more educationally wanting provinces increase secondary enrollment significantly more or less than the better off provinces. Secondary enrollment gains in the 1980s, before the 1993 transfer, were about the same as in the 1990s. So educational effort, enrollment growth, and enrollment growth equity among provinces in Argentina did not seem to be affected by decentralization. Average student performance in secondary education between 1993 and 1999 is more difficult to assess because the tests are not comparable, but there is no sense in Argentina that student performance is rising (for all the above, see Carnoy, Carnoy, Cosse, Cox, and Martinez, 2005). Much the same can be said about educational effort and enrollment growth in Mexico after the decentralization of the early 1990s. The states are not increasing their educational investment as a result of gaining control of their schools (Paulin, 2001).

In Chile, which has had a voucher plan and competition among similarly publicly financed public and private subsidized school, available evidence suggests that the hoped for increases in efficiency from increased competition among schools and from an increased role for privately managed schools did not make schooling more effective than before the voucher reform (McEwan and Carnoy, 2000; Hsieh and Urquiola, 2001). The one major positive effect that the reform may have had is to bring more private resources into education, but that came mainly from making families pay a high fraction (70 percent) of the costs of sending their children to university (Gonzalez, 2001). With new legislation in 1993, it became legal for subsidized private schools to charge tuition. Private contributions for primary and secondary schooling increased over the next eight years, but that contribution is small compared to family investments in higher education. We should remember that even before the 1981 reform, 20 percent of students attended private primary schools, and 6 percent of those were in private paid schools that received no government subsidies.

Privatization in the 1980s may not have lowered or raised overall student performance, but evidence suggests that it may have had a negative effect on low-income students. Indeed, research shows that low-income student performance in non-religious subsidized private schools in Chile, which enroll 21 percent of all basic education students in the country, is significantly lower than in public municipal schools (McEwan and Carnoy, 2000). So decentralization seems to have made little overall improvement in student performance, and probably had relatively little impact on enrollment expansion in primary and secondary education, even though privatization may have made it possible to expand university at lower public expense.

6.4 The impact of decentralization on educational finance

If decentralization does make it possible to raise more resources for education by inducing families to contribute private contributions to publicly funded schools, is not that an important positive effect? How should we look at this issue? If we could get wealthier families to contribute more funds to education voluntarily, in theory this would release more public resources to improve and give more access to education for pupils from lower-income families. To some extent, this is what happened in Chile. By making higher education largely self-financing, the government could expand and try to improve primary and secondary education. Now the government has permitted primary and secondary subsidized schools to charge tuition fees on top of their government funding. If these funds would be used to shift public resources to schools serving lower income families, it would be possible to justify allowing families with more resources to enhance their children's public education. But this has not happened yet in Chile, although there is discussion of giving a bigger subsidy to low-income schools, or paying teachers much more to teach in such schools.

On the other had, decentralization may offset any increase in funds to low-income schools by allowing much more management control in local hands. If management capacity is unequally distributed, the effect of decentralization may be to create more inefficiency in the local areas which serve low-income students, precisely the group that needs more efficient use of resources to improve the quality of their education.

6.5 Are centralized educational systems really more inefficient?

Centralized educational systems are those that are financed nationally or regionally and heavily regulated by a centralized administration. In centralized systems, school directors have as their main task to implement the rules and regulations of the central administration. Curriculum and teacher hiring and supervision are also controlled from the center, usually by a certification/testing system and an inspectorate that visits schools periodically to insure that the centrally mandated curriculum is being properly taught. Centralized systems do not always control the classroom or the school through an inspectorate. In communist countries, such as Cuba, teacher supervision is the responsibility of the school director, but the director, in turn, is responsible to the school council, especially the Communist Party representative who sits on the council.

A truly centralized system must exert control over educational delivery in order to be deemed centralized. It does not make sense to argue that a system is centralized if teachers have so much autonomy in the classroom that they can apply the centralized curriculum in haphazard fashion or teach in a style that is not considered appropriate for delivering the curriculum. Yet, that is exactly what teachers in most so-called centralized educational systems do. Many teachers have almost complete autonomy in the classroom and routinely do not complete the prescribed curriculum. In developing countries most systems, whether centralized or not, cannot even guarantee that rural teachers show up for school.

Centralized educational systems are therefore not inherently inefficient, as many claim. They tend to be inefficient if the bureaucracy that runs them is inefficient (or corrupt). However, if the central bureaucracy is inefficient, it is very likely that local bureaucracies would be inefficient. Decentralization would only transfer inefficiency to the provinces or municipalities.

To the contrary, more efficient centralized systems have the advantage of providing more equal conditions of education for different groups and even compensatory education for the poor. It is no accident that in the United States, the federal government (centralized) provides the bulk of the funding for compensatory education. The federal government has also been responsible for enacting and enforcing legislation to desegregate schools in the South and requiring public schools to provide equal funding for boys' and girls' sports.

Efficient centralized systems are also much more likely to be able to control the quality of education across various social class groups, both by providing equal (or compensatory) funding per student and by developing programs targeted at low-income or otherwise disadvantaged groups. Efficient centralized systems can also assure that teachers of equal quality serve in schools with different student populations.

6.6 Activities for Section 6:

1. Research the process of educational decentralization in Spain. What kind of taxes are used to pay for education (income, VAT, property taxes)? Which entity collects the taxes? Which entity distributes tax revenues to the Regions? What is the formula for distributing tax revenues to the Regions? Does the central Ministry of Education in Madrid have any regulatory powers over the way the Regions spend their money on education?
2. Does Cataluña, for example, collect additional taxes to spend on education? What kind of taxes does it collect? How does Cataluña allocate its total revenues for education? How would you characterize this type of decentralization (according to Table 5-5)?

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Glossary

externality: example of market failure in which the activity of one entity affects another entity in a way that is external, or not accounted for by the market

free rider problem: problem that occurs when individuals enjoy the benefits of a public good without contributing to its costs