

The Economic Role of the State in Education

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Glossary

Actuarially fair insurance – An insurance policy is actuarially fair if the expected payout is equal to the premium.

Asymmetric information – When one party to a transaction has more or better information than another, there is asymmetric information. The field of information economics identifies various manifestations of asymmetric information, such as adverse selection, moral hazard, hidden action, screening, and signaling.

Division of labor – By breaking down industrial production into simple, repetitive tasks, each worker is able to specialize and become more productive. The division of labor increases economic efficiency.

Externalities – When the private actions of one individual or firm affect others, there exist either positive or negative externalities.

Government failure – When government action leads to an inefficient allocation of resources, there is a government failure. Government failure is a common focus of public-choice economists.

Market failure – There is a market failure when certain characteristics of the market lead to an inefficient allocation of resources. These characteristics may include the existence of a monopoly, asymmetric information, externalities, transactions costs, or poorly defined property rights.

Private – In economics, private refers to individual consumers and firms as opposed to government.

Public choice – Neoclassical economics is often criticized for giving short shrift to the role of government. Public choice is an area of economics that focuses on government by looking at the private motivations of bureaucrats and politicians in the public sector.

Public spending – Economists refer to government expenditure as public spending.

Rent-seeking – Rent-seeking occurs when economic actors manipulate the regulatory, economic, or political situation for their own benefit instead of earning a profit through production and trade.

Risk aversion – The unwillingness to accept an uncertain future payoff instead of a certain payoff with a lower value.

State monopoly – When a government agency is the sole provider of a good or service, economists call it a state monopoly.

The economic and political importance of education has increased dramatically over the course of the past century. Education is the largest item of public expenditure in countries around the world, and formal schooling consumes an ever-larger quantity of young people's time. The centrality of education in modern societies is mainly a consequence of state action. The state has built and expanded national education systems, encouraged and sometimes compelled young people to attend school, and fostered rewards systems that make adult success increasingly contingent on academic persistence and performance. In this article we question why this should be so, and discuss the economic factors that help to explain why the state finances and often provides schools.

Constructing Education Systems

Modern states constructed national education systems in the service of political, economic, and military goals (Archer, 1982). In France, for example, the state extended the public school system to all corners of the nation in order to foster a sense of national identity by encouraging fluency and literacy in French and familiarity with canonical knowledge and civic traditions (Weber, 1976). Following the opening of Japan in 1853, the state created a new education system, modeled on those in Prussia and the United States, in an effort to keep up economically and militarily with its Western rivals (Passin, 1965). In the US, state action supported the expansion, integration, and standardization of previously local educational systems (Tyack, 1974). More recently, the United Nations and the World Bank have encouraged and financed the construction and expansion of national education systems in countries around the world, in an effort to guarantee the right to education and to achieve the goal of education for all by 2015 (UNICEF, 2000).

National education systems grew inexorably in the nineteenth and twentieth centuries, in two distinct ways. On the one hand, the state worked systematically to extend educational opportunities both socially and geographically, to incorporate previously excluded groups

including rural children, girls, linguistic and ethnic minorities, and the disabled. On the other hand, the state sponsored and supported policies that required young people to spend an ever-increasing share of their time within the education system. These have evolved from the introduction and enforcement of child labor and compulsory education laws (which at first typically required 4 years of schooling, and now often require 12 or more) to current initiatives aimed at ensuring universal access to preschool and postsecondary education.

As in nineteenth-century Japan, state action to expand and improve national education systems has been and continues to be justified by reference to the imperatives of economic and military competitiveness. In the United States, for example, successive waves of state-sponsored educational reform have gained their impetus from public anxieties about keeping up with the Germans, the Russians, the Japanese, the Chinese, and the Finns (e.g., Reich, 1992; Marshall and Tucker, 1993). The competition among states for positional advantage in the global economy has spawned an educational arms race; the putative need for more and better education is called upon to justify increased state involvement in the education of its citizens.

Economics and the State's Role

Is Education a Public Good?

One generally acknowledged role for the state in the economy is the provision of public goods (Musgrave and Musgrave, 1980; Stiglitz, 2000). Consumption of these goods is nonrival: the amount consumed by one person has no effect on the amounts available for consumption by others. For example, adding more listeners to a radio broadcast does not diminish the value of the service to any of the existing listeners. Consumption of public goods is also nonexcludable: once a radio signal is broadcast there is no practical way to exclude additional listeners.

Private goods are both rival and excludable. The gallon of gas that a driver puts in his/her car is not available to other drivers, and the owner of the service station is readily able to exclude prospective consumers by demanding payment in advance. Private goods are efficiently provided through the familiar institutions of the market. Buyers and sellers have powerful incentives to reveal their true preferences, and their interactions determine how much of the good will be produced and sold.

Pure public goods must be financed by the state, as the price mechanism on which markets rely fails when goods are nonrival and nonexcludable. When consumption of a good is nonrival, it is not scarce to consumers; allocation of the good no longer depends on who has a stronger preference for it. When consumption of a good is nonexcludable, it is impossible to prevent consumers from

making use of the good, whether they have paid for it or not. Under these circumstances, consumers will not reveal their true preferences. The incentives they face instead push them to become free riders, consuming as much as they like of the good while paying little or nothing to support its provision (Olson, 1971). As a result, reliance on markets to produce public goods will result in too little (or no) production of these goods.

Stiglitz (2000) classifies education as a publicly provided private good because there is a large marginal cost associated with educating each additional child, which makes education rival. Education is also excludable, as can be readily observed in private schools or in tuition-funded colleges and universities. Since education does not satisfy the economist's definition of a public good, it could in principle be bought and sold in a market much the same as other private goods. The argument for public provision must therefore be sought elsewhere, in the failure of markets to produce an optimal level of educational output or an equitable distribution of educational opportunities and outcomes.

Market Failure in the Market for Education

Competitive markets may fail to deliver the optimal level of a good or service for a variety of reasons, including the presence of positive or negative externalities, information asymmetries between buyers and sellers, economies of scale, and risk aversion. Defenders of a strong state role in funding and providing schools argue that significant market failures in the market for education justify the state's involvement in the education system.

Externalities

Externalities exist when the private actions of one individual or firm affect others, either positively or negatively. For example, a farmer at the headwaters of a river decides how much water and fertilizer to use based on a private calculation of costs and benefits, without regard to the costs his/her decisions impose on fishermen and municipal water systems downstream. These external costs may be substantial, and state action may be the best way to ensure that they are taken into account (Coase, 1960).

Private decisions about education produce a number of mostly positive externalities for the broader society, above and beyond the benefits that the individual student receives. In considering how much education to consume, however, individuals base their decisions on their own private calculation of costs and benefits, taking no account of external benefits that may accrue to others. In consequence, leaving choices about education to individuals in a private market may result in a suboptimal level of educational investment for the society as a whole.

Economists have long recognized a number of positive externalities associated with an educated citizenry. In the

Wealth of Nations, for example, [Smith \(1937\)](#) described two external benefits of education. First, he argued that education is a necessary antidote to the mind-numbing repetition that results from the division of labor into the narrowly specialized tasks performed by each worker. Workers lacking in education would eventually become unable to converse, formulate emotional sentiments, or perform the normal duties of private life, rendering them unable to defend the country in a time of war. In addition, Smith argued that modern education, including science and mathematics, would provide a constant source of innovation in the production process.

More recent work has identified a wide variety of additional external benefits to educational investment. In general, a literate society functions more smoothly, with reduced communications costs, stronger democratic institutions, and a higher degree of social cohesion ([Belfield, 2000](#); [Stiglitz, 2000](#)). Education also has a strong positive impact on health and fertility, both within and across generations. Educated mothers have fewer, healthier children, and the children of educated mothers are more likely to enrol and remain in school ([Becker, 1991](#); [Colclough, 1993](#); [Schultz, 1988](#)). [Barnett \(1985, 1996\)](#) has documented the effect of education on reducing crime and welfare payments.

There is a vast macroeconomic literature that suggests that education is a key input that drives technological change and economic growth ([Barro, 1997](#); [Hall and Jones, 1999](#); [Krueger and Lindahl, 2001](#); [Mankiw *et al.*, 1992](#); [Romer, 1990](#)). To the extent that this is so, state action to expand and improve the education that citizens receive and thereby raise the rate of economic growth may be fully justified (and even financed) by the increased productivity and gross domestic product (GDP) growth produced by educational investments ([Hanushek and Kimko, 2000](#)).

Realizing the external benefits of education may require state action; the economic and social gains produced by an educated citizenry and workforce may justify the state in encouraging individuals to acquire more education than they might otherwise prefer. In a contrasting view, however, increasingly powerful private incentives to invest in education may be sufficiently strong to produce high levels of external benefit even in the absence of state action. The fundamental question with regard to externalities is therefore the extent to which they are extramarginal: Does state subsidy or state provision produce external benefits in addition to those that would be produced through private action alone?

Information asymmetry

One of the conditions for the efficient operation of markets is complete information. In a perfectly competitive market, buyers and sellers are on equal footing; both have full information on the quality and price of the product.

In some markets, however, including for instance the market for used cars, sellers have more and better information about the product than prospective buyers. Markets in which the distribution of information is asymmetric may produce inefficient outcomes ([Akerlof, 1970](#); [Stiglitz, 1996](#)).

The education system is clearly characterized by asymmetric information between the consumers of education services (parents) and the producers (schools). Education is a complex bundle of services that involves a large commitment of time, a cumulative instructional process, and uncertain future payoffs. The production process is poorly understood and output measures are ambiguous, which makes interschool comparisons difficult. As a result, parents face great difficulties in accurately assessing the quality of the education services provided by the various schools available to their children.

There are two main ways to address the problem of asymmetric information in the education system. On the one hand, the state may provide schools itself, seeking to standardize educational services and guarantee minimum quality standards across schools. For example, the state may regulate curricula, require certification for teachers, or equalize funding across schools or school districts ([Brown, 1992](#)). On the other hand, the state may seek to increase the information available to parents by publishing data on the character and performance of different schools. Recent advances in assessment and information technology make the latter choice increasingly feasible ([Gintis, 1995](#)).

Uncertainty and risk aversion

[Brown \(1992\)](#) applies the economics of uncertainty and information to education to show why the public provision of education is so widespread and why schools are so similar. Parents face uncertainty about their children's abilities and the future payoffs to investments in their education. Schools are better able to shoulder risk than their more risk-averse students, enabling them to offer actuarially fair insurance ([Mas-Colell *et al.*, 1995](#); [Kreps, 1990](#)). There are two components to this insurance. First, the vast majority of schools offer a comprehensive and broadly similar curriculum, giving all students access to a wide array of courses and programs. In addition, schools generally allow their students to accumulate a diversified portfolio of educational experiences, rather than requiring them to specialize in a specific course of study. Private and charter schools must compete with public schools in providing this form of insurance, which results in the observed similarity between curricula in state and other schools.

More fundamentally, parents and students may not fully know their own preferences for education due to the complex and cumulative process of schooling. Students' consumption of education services often relies critically on the goodwill and competence of the parents, which cannot be assumed ([Gintis, 1995](#); [Stiglitz, 2000](#)).

As it is difficult to collateralize loans for primary and secondary schooling, parents may face credit constraints as well. In light of these circumstances, public provision may be warranted as a protection against the long-term private and social costs of bad choices or constrained resources.

Economies of scale

Economies of scale arise when producers' average total cost falls as output increases (Mankiw, 1998). In education, this suggests that larger schools and districts may face a lower per-pupil cost. For example, larger schools have a greater ability to provide science laboratories and libraries by spreading the cost over more tax-paying households. There are also potential scale economies in information gathering, organization, and in the development of a curriculum (Belfield, 2000). To the extent that there are economies of scale in the delivery of education services, market forces may result in a monopoly, as smaller schools are driven out of business by established state schools. Faced with this tendency for the market to drive out small schools, the state has two options: either run large schools as state monopolies, or actively encourage competition by leveling the playing field for smaller schools.

Equity and Equal Opportunity

The state may also have an interest in making the distribution of educational opportunities and attainments more equitable. State actions to advance equity goals may take either of two forms. On the one hand, the state may seek to ensure that all young people are provided with an education of sufficient duration and quality to equip them for productive citizenship and protect them from poverty (e.g., Colclough, 1993). On the other hand, the state may seek to alter the distribution of wealth and status in favor of previously disadvantaged groups through the provision of targeted subsidies or other forms of affirmative action (e.g., Fiske and Ladd, 2004).

The state can in principle pursue equity objectives through public financing rather than public provision, by targeting subsidies to specific groups. As Davis (1998) points out, however, the government may be more effective than private markets at ensuring the fair allocation and distribution of resources, equal access to services, nonprofit decision making in the best interest of consumers, appropriate personnel policies, and cooperative labor relations (Belfield, 2000).

In the US, education is primarily a local responsibility, which has led to large differences in the resources devoted to education. Where these differences solely related to consumer preferences for education, there would be very little need for government intervention. In fact, however, a number of state supreme courts have ruled that reliance on local property taxes to finance education violates the

provisions of state constitutions that guarantee equal access to public education (Odden and Picus, 2004; Stiglitz, 2000).

Critique of State Provision

The claim that the state should finance the education of its citizens is rarely subject to argument. Controversy arises over whether the state should provide schools itself, or underwrite the provision of schools by other actors including for-profit firms. The argument turns on questions of the relative efficiency and equity effects of state and private provision.

Friedman (1962) revived the libertarian argument against government provision of education, which dates back to Thomas Paine (West, 1964) and Smith (1937). Friedman acknowledged two justifications for government involvement in education. First, he described the positive externalities produced by schools, which include the basic skills and core values required for social stability. Second, he noted the state's paternalistic concern for the welfare of children, whose parents may not always act in their best interest. Friedman argued that these concerns warrant state funding and minimal regulation in the education system, but not a government monopoly in the provision of schooling.

Public Choice and Government Failure

In the decades since the publication of Friedman's seminal essay, economists and others have developed a comprehensive critique of state provision, closely associated with a call for greater reliance on markets in the education system (e.g., Chubb and Moe, 1990). Just as the case for state provision relies on claims of market failure, the case against state provision relies on claims of government failure (Tullock *et al.*, 2002), including inefficiency in production, inequity in provision, the institutionalization of low expectations, and rent-seeking by educators who exploit positions of authority and trust to increase their own utility at the expense of their students.

Inefficiency in production

State provision of schools may be less efficient than market provision for two main reasons. First, the absence of competition in the state education system undermines incentives for innovation and improvement. In a market where schools are obliged to compete with one another for the patronage of parents, in contrast, schools receive meaningful market signals about quality from consumers. The attendant challenge to compete for students should drive schools to lower costs, improve quality, and innovate (West, 1997). In the short run, competition might be expected to induce educators to work harder, to allocate

resources more efficiently, and to make better staffing decisions. In the long run, a competitive market for education could make schools more receptive to parental involvement, give them incentives to provide better student achievement information, reward more productive teachers with higher wages, lead schools to abandon unproductive pedagogical techniques, and ultimately affect the size and number of schools (Hoxby, 2003).

To the extent that state action in the provision of education replaces private production, consumers of education must rely on political institutions to voice their preferences. With the specification of the educational production function uncertain, the use of resources is determined through political interaction, according to criteria that bear no necessary connection to valued outcomes including student learning (Downs, 1957; Hanushek, 1986). The interplay of interests in the political system can easily lead to allocations of resources that are suboptimal from the standpoint of economic efficiency. For example, the free-rider problem may become a tax avoidance problem, as taxpayers seek to minimize the cost of educating other people's children (Tullock *et al.*, 2002). At the same time, the state's obligation to exercise strict control over the use of public resources may result in excessive regulation and high administrative costs, without commensurate gains in productivity (Hanushek, 1986; Stiglitz, 2000).

Inequity in opportunities and outcomes

Advocates of market-based policies in education argue that greater reliance on markets could also improve the overall equity of the education system (Coons *et al.*, 1970; Howell and Peterson, 2002). Wealthy parents are able to choose the schools that their children attend, either by moving to a desirable school district or by sending their children to private schools. It is only the children of the poor who are deprived of choice under the current system of state provision, and these children are often obliged to attend the least-salubrious and lowest-performing schools (Ladd, 2002; McEwan, 2000). Opening up the system to additional providers would serve to increase the number and variety of schools available to poor households (e.g., Tooley and Dixon, 2005), giving parents more and better choices about the schools their children attend and increasing the chances of educational and subsequent economic success for poor children (West, 1997).

Standardization and enforced mediocrity

State efforts to standardize educational services and guarantee minimum educational standards for all students may reduce the quality of instruction for young people attending state schools (Finn, 1993; Ravitch, 1985). The state's obligation to protect parents from risk and to ensure at least minimally equitable opportunities for students may prevent schools from accomplishing or even

seeking ambitious goals, preferring instead to institutionalize low expectations and low standards in an effort to ensure success for all of the children under their care. For example, the performance of American students on international assessments of reading and mathematics is often adduced as evidence of the disadvantages of state provision, to be remedied by the introduction of more choices and increased competition in the education system (e.g., Chubb and Moe, 1990; Walberg, 2007).

Rent-seeking and corruption

In the education system, as elsewhere in the public sector, individuals and groups may have opportunities to divert public resources to their own private benefit. Examples of rent-seeking may include widespread absenteeism among educators, who regard their jobs as sinecures and frequently fail to show up to teach their students or run their schools (Banerjee and Duflo, 2006; Castro and Fletcher, 1986). Transfer programs can be used to solicit political patronage rather than to improve the access to education of those in need (Plank, 1995). In similar fashion, unions may be more concerned with protecting the interests of their adult members than with the education of the children in their charge (Hess, 2004; Moe, 2001). Under some circumstances rent-seeking may give way to corruption, as educators employed by the state offer private instruction, passing grades, and diplomas for sale to students and households that are able to pay (Hallak and Poisson, 2007).

A Role for the State?

Under some circumstances, the state may supply education more efficiently than private markets (Belfield, 2000). First, it can bundle other services with education, such as health screening for vision and hearing. As the government offers unemployment insurance and welfare benefits, public provision of education that reduces these fiscal obligations could also be seen as bundling education and social services. Second, if people perceive the state as having a long-term commitment to the education of its citizens, then the state may be trusted more than private firms that come and go in a competitive market. As Shleifer (1998) has argued, if consumers have a difficult time identifying quality then producers will struggle to build their reputations and be unable to increase demand for their services. Third, economies of scale could lead to an education monopoly, which might be better run by the state than by a profit-seeking firm. Fourth, government providers can mediate the asymmetry of information and bargaining power between schools and individuals.

Gintis (1995) acknowledges that markets may be more efficient and more responsive to parents' preferences. He simultaneously argues that extensive state action may be required to ensure that markets work efficiently and fairly.

He proposes some regulatory interventions aimed at expanding school choice while mitigating market failures caused by violations of five fundamental assumptions:

Many producers. First, the state could subsidize student transportation costs. Second, it could either offer low-interest loans to new schools or construct the buildings and rent them to providers. Third, the state could force schools to share classrooms, athletic facilities, or other resources in order to decrease the minimum feasible school size.

Product quality is known. In order to be accredited to accept public tuition, schools could be required to provide standardized measures of school performance such as test scores, retention rates, and graduation rates. Schools could also be required to provide data on teacher accreditation, building safety and instructional techniques.

Consumers know their preferences. A guardian should be appointed when parents are found legally incapable of making sound decisions for their children. Unscrupulous schools that mislead parents should be sanctioned and schools should be prohibited from pandering to selfish parents who place their personal interests before the best interests of their children (e.g., by accepting kickbacks).

The price is set so that supply equals demand. The price of schooling is the tuition fee, which is set and paid by the government. Economists worry that because parents do not pay for education, they may consume more than they would in the absence of a government subsidy. In the presence of positive externalities, however, it is widely assumed that parents consume too little education on behalf of their children, rather than too much.

Education is a private good. As education confers both private and social benefits, some worry that parents will focus exclusively on the private benefits when making schooling decisions. Regulation can increase the social benefits to education by requiring schools to develop a curriculum that reflects social values and providing incentives to schools that encourage a diverse student body.

Education and the Shrinking State

After more than a century of steady growth, there are signs that the state's role in national education systems may have begun to shrink. As ever, there is little dissent from the idea that the state should finance the educational opportunities available to its citizens, but the benefits traditionally ascribed to state provision have been subjected to increasingly overt challenge. This is especially visible in higher education, where reduced public support for universities and their students has been matched by dramatic increases in the number and variety of private and for-profit higher education institutions (e.g., [Altbach and Levy, 2005](#)). Strong political pressures bolstered by arguments and evidence from economists

(e.g., [Heckman and Masterov, 2007](#); [Barnett, 1985](#)) to expand the state's role in early childhood and preschool education have run into significant opposition, based in part on resistance to increased taxes and public spending, and in part on aversion to the idea that very young children should be placed under the care of the state rather than their families and communities ([Fuller, 2007](#)). In Europe and elsewhere, groups defined by communal, religious, and linguistic affinities have begun to demand increased control over the education of their own children, including the right to establish their own schools ([Plank, 2006](#)). Whether this marks a genuine turning point in the history of education or a brief pause in the steady expansion of the state's role in the education system remains to be seen.

See also: Competition and Student Performance; Educational Privatization; Human Capital; The Economics of Catholic Schools; The Economics of Charter Schools; The Economics of Parental Choice; The Economics of School Accountability; The Efficacy of Educational Vouchers; The External Benefits of Education; Tiebout Sorting and Competition.

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