

**【 Education Policy Studies Series 】**

Rediscovering Public  
Purposes of Education  
in the United States:  
An Economic View

David Stern

Faculty of Education      Hong Kong Institute of Educational Research  
The Chinese University of Hong Kong

## **About the Author**

David Stern is Professor of Education at the University of California, Berkeley.

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## **Education Policy Studies Series**

Education embraces aspirations of individuals and society. It is a means of strengthening human resources, sustaining competitiveness of society, enhancing mobility of the underprivileged, and assimilating newcomers to the mainstream of society. It is also a means of creating a free, prosperous, and harmonious environment for the populace.

Education is an endeavor that has far-reaching influences, for it embodies development and justness. Its development needs enormous support from society as well as the guidance of policies that serve the imperatives of economic development and social justice. Policy-makers in education, as those in other public sectors, can neither rely on their own visions nor depend on the simple tabulation of financial cost and benefit to arrive at decisions that will affect the pursuit of the common good. Democratization warrants public discourse on vital matters that affect all of us. Democratization also dictates transparency in the policy-making process. Administrative orders disguised as policies have a very small audience indeed. The public expects well-informed policy decisions, which are based on in-depth analyses and careful deliberation. Like the policy-makers, the public and professionals in education require a wealth of easily accessible facts and views so that they can contribute constructively to the public discourse.

To facilitate rational discourse on important educational matters, the Hong Kong Institute of Educational Research of The Chinese University of Hong Kong organizes from time to time “Education Policy Seminars” to address critical issues in educational development of Hong Kong and other Chinese societies. These academic gatherings have been attended by

stakeholders, practitioners, researchers, and parents. The bulk of this series of occasional papers are the fruit of labor of some of the speakers at the seminars. Others are written specifically as contributions to the series.

The aim of this *Education Policy Studies Series* is to present the views of selected persons who have new ideas to share and to engage all stakeholders in education in an on-going discussion on educational matters that will shape the future of our society.

# Rediscovering Public Purposes of Education in the United States: An Economic View

## *Abstract*

*The relationship between public and private interests in education has been a recurrent topic of debate in the United States (U.S.) and elsewhere. The rise of home schooling, charter schools, vouchers, and other signs of increasing “privatization” in the U.S. over the past two decades has raised again the question of what the public purposes of education are. Why should taxpayers be compelled to pay for the education of other people’s children?*

*In this debate, economic theory is often invoked in favor of broadening family choice and creating market-like conditions in which schools compete for clients. Although economic theory certainly does emphasize the efficiency of competitive markets, it also recognizes that there are circumstances in which buyers and sellers interacting in markets will systematically fail to achieve an efficient outcome. From Adam Smith to Milton Friedman, classical and contemporary economists have recognized education as an activity that produces collective benefits. Therefore, if families had to rely entirely on their own resources to buy education, they would not buy enough of it. Government subsidy is called for.*

*This paper will review these traditional economic arguments for public schooling, which identify the primary*

*collective benefit from compulsory education as preparing students to participate in a stable and democratic society. The paper will explain the particular sense in which economists use the terms “public” or “collective.”<sup>1</sup> It will discuss collective benefits from higher education, and also examine whether increasing individual incomes or aggregate economic growth should be considered collective goods.*

*If preparing students to participate in civic life is the primary justification for public support of schools, how could schools make this a more explicit and important part of what they do? This paper will offer some examples from the U.S. and elsewhere.*

*This discussion is intended to dispel some current misconceptions about what economic theory says with regard to efficient provision of schooling. That done, refocusing on the civic purposes of education could promote more fruitful dialogue between those who admire free markets and those who value public education.*

## **Declining Commitment to Public Purposes of Education**

Supporters of public education in the United States (U.S.) have been voicing concern over the perceived loss of clarity and conviction in public discourse about the shared purposes of education. In a recent essay reviewing the purposes of education in the U.S. over the past 200 years, Harvard historian Julie Reuben reports that the 1970s witnessed “a new and disturbing ... cynicism about the public purposes of schooling” (Reuben, 2005). This cynicism manifested itself in several ways. Voters

“signaled a new unwillingness to provide financial support for public schools” by passing referenda such as Proposition 13 in California, which has led to reduced spending on primary and secondary education in California compared to other states. In addition, Reuben (2005) observed:

the rhetoric about the purposes of education shifted from citizenship to economics. Individuals were encouraged to pursue education in order to get better jobs and make more money. The nation’s interest in education became framed around economic growth and competitiveness.... At the same time, various educational policies sought to improve education by offering alternatives to public schools. Charter schools and vouchers, for example, assumed that individual choice and market mechanisms would produce better schools.... The explosive growth of homeschooling represented the most extreme example of the privatization of education, in which each family decides the educational aims of their own children, and the government’s interest in socializing children for the public good is negated. (pp. 20–21)

For anyone who is not familiar with developments in the U.S., here are brief explanations. A charter school is a new form of public school that originated in the early 1990s and has been spreading rapidly in the U.S. Charter schools are exempt from some rules and controls that govern other public schools.<sup>2</sup> Charters are analogous to the “grant maintained” schools in the United Kingdom that were free from control by local education authorities. The purpose of charter schools is to create more choices for families. This is also the purpose of vouchers, which are publicly funded scholarships or subsidies that parents can

use to enroll children at a school of their choice.<sup>3</sup> The third kind of choice mechanism mentioned by Reuben (2005) is homeschooling, which means that parents take responsibility for educating their own children at home, often now using curriculum available on the Internet.

About 55 million children attend primary and secondary schools in the U.S. The estimated number who are homeschooled is about 1.1 million. Roughly 300,000 attend charter schools. The number receiving tuition vouchers is less than 100,000. So the number of students using these “market mechanisms” is still a small percentage of the total, but it is growing fast.

Reuben is not the only observer of American education who sees these developments as a sign that private purposes are superceding public priorities.<sup>4</sup> Many of these critiques equate “private” with “economic,” as Reuben (2005) does when she says “the rhetoric about the purposes of education shifted from citizenship to economics.” Similarly, policies to expand charter schools and vouchers are premised on economic theories about the efficiency of “market mechanisms,” through which individuals and families pursue their own self-interest.

However, these critiques appear to misunderstand or ignore what economists actually say about public and private purposes of education. Economists do NOT see schooling as a purely private matter, which can be handled efficiently by market mechanisms. In fact, classical and contemporary economists have articulated a clear rationale for public support of education, as I will explain.



The private benefits of education are obvious. People often talk about education as an investment: one spends time and money on schooling in order to obtain higher income and other benefits in the future.

There is some evidence that in recent decades the concept of education as a private investment has become more important to students in the U.S. The Higher Education Research Institute at the University of California, Los Angeles administers an annual survey of first-year students in tertiary education. Among other things, the survey includes a list of a dozen possible reasons for entering higher education, and asks students which of those reasons were very important. One of the reasons is “To be able to make more money.” In 1971, making more money was identified as a very important reason by 45% of the new students. In 1982, that percentage rose to 68% — consistent with Reuben’s (2005) observation that monetary motives became more important in the 1970s. The percentage who said making more money was very important has remained at around 70% since then.

The last decades of the twentieth century witnessed a great expansion of two-year colleges in the U.S., along with an increase in the proportion of their students enrolled in vocational programs. Vocational enrollments in secondary schools saw some decline during this period, though they seem to have stabilized in the past few years. Meanwhile, as we have seen, preparation for employment has become a more dominant goal

in four-year undergraduate programs. More than 60% of the bachelor's degrees awarded in the U.S. in recent years have been in explicitly occupational majors such as business, engineering, computer science, education, or nursing.

Vocational purposes have become increasingly important even in the parts of the educational system that are seemingly dedicated to general education, academic subjects, or liberal arts. This phenomenon of “vocationalism” has been well described by Grubb and Lazerson (2004). Given that university graduates in the U.S. continue to earn substantially higher average salaries, the economic incentive to acquire at least a bachelor's degree has become obvious to everyone. Surveys consistently show that 80–90% of students in secondary schools aspire or expect to obtain bachelor's or more advanced degrees, and that access to better jobs is their major motivation. For many students — and their parents — the main goal of high school is to satisfy prerequisites for higher education, which will enable students eventually to find higher-paying jobs. And increasingly, as Grubb and Lazerson (2004) point out, even bachelor's degree programs are seen as mere prerequisites for advanced training in medicine, law, business management, and other highly paid occupations.

In addition to wanting to make more money, individuals also may desire the experience of education for its own sake. Many teachers strive to inspire students with such pure love of knowledge. In the sometimes crass language of economics, enjoyment of the process of learning for its own sake can be understood as a form of consumption. Students consume new

knowledge in literature or mathematics much as they would consume entertainment or travel. Students also may enjoy the social life of higher education. It has often been said that being in school “sure beats working”!

As consumption or investment, the benefits produced by education are mainly private. Whatever joy, pleasure, or satisfaction students may receive from the process of education is clearly a benefit to themselves — a private benefit. Likewise, most of the future rewards from investing in education also are captured by the educated individuals themselves in the form of higher income, more prestigious work, enhanced social status, improved understanding of how to stay healthy, along with the continuing benefit that comes from a more refined capacity to appreciate the arts, science, and culture. These are all private benefits.

### **So Why Is Education Publicly Funded?**

Now here is a puzzle. Even though the consumption and investment benefits of education are mainly private, most of the cost of schooling in the U.S. is paid by the public. A total of 88% of primary and secondary students in the U.S. attend public schools, where no tuition is charged. The costs of public schools are almost entirely paid by state and local taxes. Subsidies from the federal government, which amount to about 7% of the cost of primary and secondary schools, also are paid by taxes on the public. Even in postsecondary education, about 70% of the total enrollment in two-year and four-year colleges and universities is in public institutions, which are mainly tax-supported — and

the 30% of students who are enrolled in private tertiary institutions also receive some public funds.

The education sector in the U.S. is much more dependent on public support than other sectors that provide vital consumption and investment benefits to individuals. Consider housing. Almost all housing is privately owned: of the 106 million households in the U.S., only 1.3 million live in public housing. Some low-income households do receive rent subsidies from the government, but most people are responsible for paying the cost of renting their own apartments or financing and maintaining their own homes. Likewise, 54% of expenditure on health care in the U.S. is from private sources (Levit et al., 2004, Exhibit 4). Provision of health services in the U.S. is supported mainly by private insurance, paid by individuals themselves or by employers as part of the compensation package for employees. In the American economy, education is exceptional in the large proportion of its cost that is paid by the public.

Why is education such a public affair? There is a clear economic justification for relying so heavily on taxes to support education, and not housing or health care. The economic rationale for public support of schools can be traced back to the time of the American Revolution. Political and economic theorists at that time saw compelling reasons to support schools at public expense.

Adam Smith is widely regarded as the father of contemporary economics. His famous *Inquiry into the Nature and Causes of the Wealth of Nations* was published in 1776,

the same year as the American Declaration of Independence. In Book Five, Smith discussed “the expenses of the institutions for the education of youth.” If you have not seen this passage before, it will probably surprise you, and I will therefore quote it at some length.<sup>5</sup> Smith (1776) wrote:

In some cases the state of the society necessarily places the greater part of individuals in such situations as naturally form in them, without any attention of government, almost all the abilities and virtues which that state requires.... In other cases ... some attention of government is necessary in order to prevent the almost entire corruption and degeneracy of the great body of the people.

At this point Smith (1776) described in very blunt language how the kind of repetitive work most people do tends to degrade or destroy workers’ abilities, rendering them “as stupid and ignorant as it is possible for a human creature to become.” Children who will enter this kind of work therefore will not develop their abilities on the job, and their families cannot afford to educate them. Fortunately, “the most essential parts of education” can be taught early enough that all children can learn to “read, write, and account” before they have to go to work.

Smith (1776) then explained how the public can finance this basic education, and why there is a public interest in doing so:

The public can facilitate this acquisition by establishing in every parish or district a little school, where children may be taught for a reward so moderate that even a common labourer may afford it; the master being partly, but not wholly, paid by the public....

... The state ... derives no inconsiderable advantage from their instruction. The more they are instructed the less liable they are to the delusions of enthusiasm and superstition, which, among ignorant nations, frequently occasion the most dreadful disorders. An instructed and intelligent people, besides, are always more decent and orderly than an ignorant and stupid one. They feel themselves, each individually, more respectable and more likely to obtain the respect of their lawful superiors, and they are therefore more disposed to respect those superiors. They are more disposed to examine, and more capable of seeing through, the interested complaints of faction and sedition, and they are, upon that account, less apt to be misled into any wanton or unnecessary opposition to the measures of government. In free countries, where the safety of government depends very much upon the favourable judgment which the people may form of its conduct, it must surely be of the highest importance that they should not be disposed to judge rashly or capriciously concerning it.

For anyone who thinks of Adam Smith as a forceful advocate for *laissez-faire* capitalism — which he certainly was! — these words may come as a shock. First he described with brutal honesty what he saw as the devastating effects of repetitive and mindless work on the workers. Then he proposed, as a prime remedy, public schools. Public support for schools, Smith argued, is warranted and necessary to avoid the “dreadful disorders” that arise among ignorant people. “Instructed and intelligent people,” by contrast, are less susceptible to “the delusions of enthusiasm and superstition” or the claims of “faction and sedition.” For Adam Smith, public order was the

public benefit that justified provision of schooling at public expense.

For more than two centuries, economists have continued to endorse and elaborate Adam Smith's analysis of the public benefits from education. An important contemporary example is Milton Friedman, winner of the Nobel Prize in economics, a leader of the so-called Chicago school of economic thought, and, like Adam Smith, a staunch advocate for free-market capitalism. Friedman's (1955) essay on "The Role of Government in Education" begins by observing:

Education is today largely paid for and almost entirely administered by governmental bodies or non-profit institutions. This situation has developed gradually and is now taken so much for granted that little explicit attention is any longer directed to the reasons for the special treatment of education even in countries that are predominantly free enterprise in organization and philosophy. The result has been an indiscriminate extension of governmental responsibility.

Friedman (1955) distinguishes between "general education for citizenship," which does produce public benefits, and "specialized vocational education," which does not. He explains the public benefits of general education for citizenship as follows:

A stable and democratic society is impossible without widespread acceptance of some common set of values and without a minimum degree of literacy and knowledge on the part of most citizens. Education contributes to both. In

consequence, the gain from the education of a child accrues not only to the child or to his parents but to other members of the society; the education of my child contributes to other people's welfare by promoting a stable and democratic society. Yet it is not feasible to identify the particular individuals (or families) benefited or the money value of the benefit and so to charge for the services rendered. There is therefore a significant "neighborhood effect."

Friedman (1955) defines a "neighborhood effect" as a situation in which "the action of one individual imposes significant costs on other individuals for which it is not feasible to make him compensate them or yields significant gains to them for which it is not feasible to make them compensate him." This is one of the circumstances in which voluntary exchange through markets produces an inefficient outcome, so collective action through government becomes necessary.

### **Economic Definition of a Public or Collective Good**

The idea of a "neighborhood effect" is closely related to the economic concept of a public or collective good. I will use the terms "public good" and "collective good" interchangeably. As used by economists, these terms have a precise meaning, different from what they may mean in ordinary speech. In ordinary speech, "public good" may denote some general conception of societal well-being, or it could refer to any service provided by government. However, the term "public good" for economists means that if one person receives the benefit there is no less of it for other people,<sup>6</sup> and excluding anyone from these benefits would be infeasible or impossible.<sup>7</sup> The term



“neighborhood effect” calls attention to the fact that the group sharing the collective benefit may be limited to a particular geographic area, but Friedman (1955) uses the concept in the same way economists generally use the terms public or collective good.

The textbook example of a public good is a lighthouse, which benefits all ships that can see it. If the service of the lighthouse were bought and sold in an ordinary market, a commercial business would not be able to make enough money to provide it, because shipping companies and other users would tend to “free ride”: they would try to avoid paying for the light in the hope that other users would pay instead. That is why lighthouses are financed by shipping associations or public authorities, not by profit-seeking enterprises. Global positioning systems are a more recent example of the same idea: if the satellite signal is available for anyone, it is available for everyone, so these systems are built at public expense.

Failure to provide public goods can have horrible consequences. Approximately 250,000 people died as a result of the Indian Ocean tsunami on December 26, 2004. If an alarm system had been in place, many of those people might have been able to reach higher ground in time to save their lives. Tsunami warning systems are collective goods.

Similarly, the devastation of New Orleans by Hurricane Katrina on August 29, 2005 would have been much less extensive if the floodwalls had not broken. Walls and levees to protect against floods are also public goods.

It does not require much thought to realize that collective goods are all around us. Some general categories are:

- Infrastructure — roads, bridges, dams, sanitation systems, law courts and other such physical and institutional infrastructures are all collective goods. As long as they are not congested, one person's use of these facilities does not reduce their availability to others.
- National defense, for residents of a particular nation.
- Public health measures like suppression of communicable diseases.
- Culture — preservation and advancement of science, art, technology, and other cultural achievements. Although one person's use or appreciation may not reduce the possibility for others to do the same, the owners of cultural properties may restrict their use in order to derive revenues.
- Environment — protection or improvement of air, water, soil, natural landscapes, and other aspects of the environment.
- Social justice and charity also have the quality of public goods. The altruistic benefits from helping needy people can be shared by everyone else. In that sense, Mother Theresa worked for all of us. This purely altruistic benefit is separate from the fact that alleviating poverty may produce other collective benefits through reduction of crime, disease, and social unrest.

## Private Market Transactions

### Fail to Provide Efficient Amounts of Public Goods

The problem with public or collective goods is that individual buyers and sellers interacting through markets will fail to provide enough of them. As in the case of a lighthouse, economists recognize that voluntary exchange through markets predictably results in under-provision of collective goods because individual users have an incentive to try to get a “free ride.”

How, then, should society determine how much of these goods to buy? In theory, the ideal solution is to provide the amount of each collective good or service that would be paid for if all beneficiaries contributed what they are honestly willing to give for that purpose. In practice, this has not been possible, because everyone has an incentive to take a “free ride” by understating their own true willingness to pay, in the hope that others will provide the necessary contributions. Economists have devised iterative bidding procedures to get around the free-rider problem, and some of these have been successful in laboratory settings.

But such solutions have not yet been implemented on a large scale. Therefore, payment for collective goods is usually compelled through taxes. These only approximate the ideal solution, because a person’s tax bill for a given service may be much more or less than his or her maximum willingness to pay.

Using taxes to finance collective goods does not imply that those goods must be produced by a government agency. For

example, the actual construction of roads and bridges in the U.S. is mainly done by private businesses under contract to government agencies. One of the main points of Friedman's (1955) essay was just this: while public benefits from education warrant its public financing, the actual operation of schools could be conducted by private agencies. This is where Friedman introduced the idea of education vouchers.

In addition to taxes, provision of some collective goods is financed by voluntary contributions to non-profit, non-governmental organizations. In the U.S., many such organizations are organized under section 501(c)(3) of the federal tax code. Their distinguishing feature is that the board of directors may not derive any personal enrichment from the organization. Some non-profit organizations, such as the ones that promote environmental protection, are concerned mainly with collective goods. Others, such as nursing homes for the elderly, provide services that are private, not collective, but which require a high level of trust on the part of clients. Still others are purely proprietary and not very different from profit-seeking businesses (see Weisbrod, 1988). In any event, provision of collective goods through voluntary donations to non-profit organizations does not solve the free-rider problem.

### **Civic Competence as a Public Good**

I have discussed the concept of collective or public goods at some length, because I believe it provides the basis for a clear and compelling definition of the public purposes of education. Smith (1776) and Friedman (1955) have articulated the classical

view of the public benefit: education leads to a more stable and democratic society. Smith did not use the word “democratic,” but Friedman did. Of course when Friedman wrote about “general education for citizenship,” he was thinking about an American conception of citizenship, which includes not only obedience to the laws but also participation in making them through some kind of democratic process.

Education for citizenship is an important part of the American political tradition. Among the founders of the United States, Thomas Jefferson was the most articulate about the role of education in enabling citizens to exercise control over government power. For instance, in 1787 he wrote to James Madison:

Above all things I hope the education of the common people will be attended to, convinced that on their good sense we may rely with the most security for the preservation of a due degree of liberty. (Thomas Jefferson on Politics & Government, n.d.)

Like his contemporary, Adam Smith, Jefferson believed education was a public responsibility because an educated citizenry was a collective good. Jefferson wrote to George Washington in 1786:

It is an axiom in my mind that our liberty can never be safe but in the hands of the people themselves, and that, too, of the people with a certain degree of instruction. This is the business of the state to effect, and on a general plan. (Thomas Jefferson on Politics & Government, n.d.)

The idea of education for citizenship still has a real effect on public policy in the U.S. For instance, the U.S. Supreme Court has relied on this idea in making decisions about education. A recent example was the 2003 decision in *Grutter v. Bollinger*, in which the Court ruled that it is permissible for universities to consider race in selecting students for admission. In the majority opinion, the 2003 Court quoted the 1954 decision in *Brown v. Board of Education* — the landmark case that declared racial discrimination in public schools violated the U.S. Constitution — in which the Court asserted that “education ... is the very foundation of good citizenship.”

Concrete examples of why education is important for the exercise of citizenship are the ballot propositions placed before voters in the State of California. At least every two years, California voters go to the polls to choose among local, state, and national candidates for public office. In addition, the ballot usually contains several “propositions” on which citizens are asked to vote yes or no. Between 2000 and 2004, there were 37 statewide propositions on the ballot, and hundreds more that pertained to individual localities. The statewide propositions dealt with issues such as:

- whether and how to change the limits on the amounts of money private individuals may contribute to political campaigns;
- whether Indian tribes should be allowed to open more gambling casinos;
- changes in laws regarding unprofessional conduct by chiropractors;

- whether to prohibit public agencies from collecting data on individuals' race, ethnicity, or national origin;
- whether to require treatment, rather than incarceration, of individuals convicted for the first time of using illegal drugs;
- dedication of certain state tax revenues for construction and rebuilding of state and local infrastructure.

Since California first started putting propositions before the voters in 1901, many of these propositions have had powerful and lasting effects on California government and society. At the beginning I mentioned Proposition 13, which passed in 1978, limiting the amount of money that could be raised from local property taxes. This curtailed the growth of spending for schools and other public services in California.

To help voters make informed choices, the State sends each registered voter a booklet that gives the full text of each proposition, provides an analysis by a state agency that is intended to be impartial, and also presents arguments by proponents and opponents, along with rebuttals. The voter information guide may be 200 pages long! An uneducated voter would simply be incapable of reading this text, weighing the arguments, and making a reasoned decision.

In sum, part of the reason why taxpayers are compelled to support the education of other people's children is that everyone benefits if these children become more capable of making reasoned judgments about ballot propositions. Of course, this is only one concrete example of participation in civic life. Serving on juries is another. More generally, promoting a sense

of civic duty, as well as the capacity to contribute to civic life, are the fundamental collective goods that justify public support of schooling.

### **Public Benefits From Higher Education**

Preparation for responsible citizenship justifies public financing of education at the primary level, and to some degree also at the secondary level. What about higher education? Here economists have suggested that the discovery of new knowledge or, more broadly, contributions to the general culture, are what warrant public funding. The *locus classicus* of this idea seems to be the 1890 *Principles of Economics* by Alfred Marshall, whose stature among economists in the late nineteenth and early twentieth century was comparable to Adam Smith's in the eighteenth. In a chapter on "Industrial Training," Marshall (1890/1936) observed:

... a good education confers great indirect benefits even on the ordinary workman. It stimulates his mental activity; it fosters in him a habit of wise inquisitiveness; it makes him more intelligent, more ready, more trustworthy in his ordinary work ...

We must however look in another direction for a part, perhaps the greater part, of the immediate economic gain which the nation may derive from an improvement in the general and technical education of the mass of the people. We must look not so much at those who stay in the rank and file of the working classes, as at those who rise from a humble birth to join the higher ranks of skilled artisans, to become foremen or employers, to advance the boundaries



of science, or possibly to add to the national wealth in art and literature. (chap. 6, point 5)

We may then conclude that the wisdom of expending public and private funds on education is not to be measured by its direct fruits alone. It will be profitable as a mere investment, to give the masses of the people much greater opportunities than they can generally avail themselves of. For by this means many, who would have died unknown, are enabled to get the start needed for bringing out their latent abilities. And the economic value of one great industrial genius is sufficient to cover the expenses of the education of a whole town; for one new idea, such as Bessemer's chief invention, adds as much to England's productive power as the labour of a hundred thousand men. Less direct, but not less in importance, is the aid given to production by medical discoveries such as those of Jenner or Pasteur, which increase our health and working power; and again by scientific work such as that of mathematics or biology, even though many generations may pass away before it bears visible fruit in greater material wellbeing. All that is spent during many years in opening the means of higher education to the masses would be well paid for if it called out one more Newton or Darwin, Shakespeare or Beethoven. (chap. 6, point 7)

A new idea or contribution to the general culture is a pure public or collective good in the sense used by Samuelson (1954) and other economists. Once the new idea, knowledge, or other cultural contribution is produced and published, it is available for everyone, and one person's use of it does not reduce its availability to anyone else. Patents on new inventions do enable

the inventors to appropriate some of the value of the invention in the form of royalties or licensing fees, but even when patents are filed and enforced, the economic benefits from the invention may far exceed the revenues to the inventor. More important, the ideas embodied in the patent become generally available, and other inventors can build upon them.

Universities have emerged as the major institutions specializing in production and publication of new knowledge. From an economic viewpoint, that is their main claim for public funding. In the U.S., this has been recognized since at least 1862, when the Morrill Act provided public land for the building of colleges that would benefit “agriculture and the mechanic arts.” The stated intent was “to teach such branches of learning as are related to agriculture and the mechanic arts, ... in order to promote the liberal and practical education of the industrial classes ...” (section 4). This is consistent with Marshall’s rationale — “opening the means of higher education to the masses” enables society to tap the full potential of the population to produce new ideas.

Contemporary economists have added to Marshall’s insights about the value of higher education in producing and disseminating new knowledge and contributions to general culture.<sup>8</sup> They have theorized that education generally improves a person’s ability to discover and use new information, and speeds the uptake of new ideas. In other words, education plays a role not only in pushing the boundaries of science and adding to society’s wealth in art and literature, but also adds value to these cultural contributions by expanding the numbers of people

who can appreciate and utilize them. Studies of farmers in low-income countries have found that even primary education contributes to faster adoption of new technologies for improving crop production. While creation of new knowledge may occur mainly in higher education, all levels of education contribute to its faster utilization.

### **Is Economic Growth a Public Good?**

One common argument why taxpayers should be required to pay for the schooling of other people's children is that more and better education contributes to economic growth of the nation as a whole. We have all heard the claim that education improves national economic competitiveness and spurs growth. In the U.S., Horace Mann articulated this claim more than 150 years ago; public officials, business leaders, and advocates for education have been repeating it ever since. Indeed, common sense, along with a fair amount of empirical evidence, supports the idea that increasing the productive capacities of a set of individuals should add up to greater total productive capacity, and therefore greater material well-being, for those individuals as a group.

But this does not imply that increasing total national income or GDP (gross domestic product), per se, is a public or collective good in the economic sense. GDP is just the total monetary value of goods and services bought and sold in the course of a year. In the U.S., most of GDP consists of ordinary private goods that are used or owned by individuals, households, or firms. If Mr. Jones gets a pay raise and spends it on a new car, there is no benefit to his neighbors — they may even resent it.

In short, adding up private benefits does not amount to a public benefit.<sup>9</sup>

Someone might ask, what about educating a neurosurgeon — isn't there some collective benefit to society from having those life-saving skills available? The answer, perhaps surprisingly, is that this is mainly not a collective benefit. The neurosurgeon gets paid well for her work, and spends her earnings mainly on private consumption or investment. Her patients (or their insurance companies) pay a lot because the services are very valuable to them, but that is also a private benefit. If the surgeon spends three hours operating on one patient, those three hours are used up and are not available for other patients. This is not a public good. Market signals — high prices for the surgeon's time, resulting in high incomes for surgeons — provide incentives for people to go through the years of training necessary. There may be other reasons for market failure, such as artificial restriction of training opportunities, but any such problems would not be due to the collective nature of the benefit.

Some part of GDP does represent spending on truly public or collective goods such as infrastructure, public health, culture, or protecting the natural environment. Normally, these expenditures would be undertaken by government, financed by taxes. Increasing GDP may mean that more resources are potentially available for public or collective goods, but there is no guarantee that the available resources will be used for those purposes. Actual spending on collective goods could go down even during a period when total GDP goes up. This is exactly the outcome that opponents of public spending would like to see!

The classical economic arguments for public support of education are founded on the recognition that education produces public or collective benefits. Increasing individual earnings is not a public benefit. Arguing for public support of education on the basis of increased earnings is mainly fallacious.<sup>10</sup> It also may be counterproductive, because it may lead to the kind of education that produces individuals who care only about their own individual careers, have no conception of the public interest, and vote for reduced public support of collective goods, including education!

### **How Can Schools Emphasize Civic Purposes?**

Recognizing that some benefits of education are inherently collective provides a clear justification for public financing. Schools might win stronger public support if they gave more serious attention to those collective benefits. This means making education for civic life a more explicit part of schooling.

In primary and secondary schools, preparation for civic life can and does occur in a number of ways. Beyond the basic academic skills necessary to analyze and communicate information, some instruction about the institutions of government is usually included as part of the curriculum. Student government and other extracurricular activities also teach forms of citizenship.<sup>11</sup>

Beyond that, many primary and secondary schools, as well as colleges and universities, provide opportunities for students to learn citizenship by practicing it directly. It is common for students to work as volunteers in charitable organizations,

tutoring younger children, or participating in environmental cleanups. Many secondary and tertiary schools require students to donate a certain number of hours to such “community service.” When conducted as part of a class, these activities are called “service-learning.”<sup>12</sup> If there is a political aspect to the activity, it may be called “civic engagement.” All of these involve students in some kind of altruistic or public service. To the extent that taxpayers are aware of such activities and appreciate them, they build public support.

Such direct involvement of students in civic life does not happen in all schools, however, and where these activities do exist they tend to be marginal. The increasing pressure on public primary and secondary schools to raise students’ test scores is likely to reduce even further the amount of time and energy devoted to service-learning and similar activities. The drive to raise academic achievement as measured by test scores has intensified in the past two decades, with all states passing laws holding schools more accountable for such results. “No Child Left Behind” requires all states to conduct standardized testing every year, and schools that do not meet certain targets are now subject to a sequence of increasingly serious sanctions. This is not a favorable environment in which to expand opportunities for students to engage in civic life.

Another problem is that the conceptual basis for such citizenship-development activities is unclear, even among teachers who involve their students in service-learning. These teachers actually avoid using the word “citizenship” (Chi, 2002). When asked to explain why they sponsor service-learning, they

tend to offer rather vague answers like teaching students to be responsible, or to be good people. Of course there is nothing wrong with encouraging students to be responsible or good — but teachers evidently do not share a clear idea of what good citizenship means, or how service-learning may promote it.

Despite these problems, making preparation for citizenship a more central part of schooling is not impossible! An example with which I am personally familiar is a high school called the Bay Area School of Enterprise (BASE).<sup>13</sup> Social enterprises are an integral feature of the BASE curriculum. Every student has an individual learning plan, and participation in social action of some kind is expected to be part of it. Among the social enterprises in which BASE students participate are:

- A community garden.
- A fully licensed preschool.
- Land use planning. BASE is located on a former military base (so the name has a double meaning), a large land area for which the local city council now has the responsibility of finding new uses. BASE students are engaged in collecting information and formulating options to inform the redevelopment planning.
- A sustainable landscaping project, demonstrating methods to save water and energy.
- Education laboratory. BASE is a charter school. Students played a substantial role in planning the school, writing the charter application, and mobilizing community support to persuade the local public school board to approve the

charter. The school's mission states that BASE "will be a model of what is possible in education when youth are empowered to take charge of their own learning." When visitors come to learn about BASE, students conduct the visits. This was true even when the visitors were the official team from the regional accreditation agency!

BASE does not shy away from the concept of citizenship. The statement of purpose printed on many of their documents says clearly that this is what BASE is about: "We create innovative experiences and environments for diverse populations of children, youth, and adults that challenge them to become effective citizens who will have a meaningful and powerful impact on the world."

Although the definition of "effective citizen" is still not fully explicit at BASE, it is becoming more so. Some of the social enterprises they conduct do provide collective or public benefits in the strict economic sense. Specifically, the community garden, sustainable landscaping, education lab, and land-use planning studies all produce or disseminate new knowledge or information, which is available to everyone who is interested. It is possible that BASE students are actually beginning to learn that concept through designing and participating in social enterprises that produce collective benefits to the community.

I would go so far as to say that understanding the concept of public or collective benefits should be an explicit purpose of education in secondary schools. Students who learn this idea



will be better equipped to make intelligent judgments about the role of government in general, and about many specific policy issues of the kind presented in California ballot propositions. Citizens would be better equipped to understand and make decisions about the division of responsibility among these sectors if they grasped the basic economic concept of collective benefit, and why ordinary markets do not provide such benefits efficiently.

A school like BASE, where engaging students in social enterprise is a main priority, is what my colleague Deborah McKoy and I have termed a “social enterprise for learning,” or SEfL.<sup>14</sup> McKoy has started a Center for Cities and Schools at the University of California, Berkeley.<sup>15</sup> One of the Center’s current projects is helping several high schools in San Francisco develop SEfLs. By providing services that benefit the community at large, SEfLs directly demonstrate the public purposes of education. In the process, students can learn the key concept of collective goods.

SEfLs are an example of active pedagogy that gives students immediate proof of the usefulness of what they are learning. My favorite statement about this kind of pedagogy comes from the renowned philosopher and mathematician Alfred North Whitehead. In *The Aims of Education*, Whitehead (1929) offered the following advice to educators:

Whatever interest attaches to your subject-matter must be evoked here and now; whatever powers you are strengthening in the pupil, must be exercised here and now; whatever possibilities of mental life your teaching should

impart, must be exhibited here and now. That is the golden rule of education, and a very difficult rule to follow. (p. 18)

SEfL may be a new term, but it is not a new concept. In many countries, schools and non-profit or non-governmental organizations have been conducting such activities for many years. A few of the examples I have recently seen include:

- CIDA, a fully accredited business school in Johannesburg, South Africa, offers a four-year bachelor's degree for students who come from rural areas and townships. Benefits of a collective nature are provided by students returning to their villages and township communities during school vacations and offering well-prepared workshops on AIDS prevention, public health, and personal finance.
- Chantiers Ecoles (workshop schools) are located in Siem Reap, near the Angkor Wat ruins in Cambodia. This SEfL trains hundreds of Cambodians in craft industries to support themselves while preserving the country's cultural heritage. One set of training enterprises engage in all phases of the silk industry, from raising silkworms to producing silk and weaving complex fabrics in traditional designs. The workshop schools also train builders and sculptors, some of whom are engaged in the preservation of the precious sandstone structures and sculptures of Angkor Wat.
- UFBA em Campo is a service learning program at the Universidade Federal da Bahia (UFBA) in Brazil. The program is intended to engage university students in community service activities. For example, medical students provide education about sanitation, parasitic

disease, and drug addiction. Pharmacology students work with communities using medicinal plants, to improve sanitation and packaging, helping them start micro enterprises, and creating a medicinal plant garden at UFBA.

Although SEfLs may be quite common, they do not share a common conception of what they are doing. To clarify purposes and encourage the expansion of this kind of activity, it would be useful to have more exchange of information, within and among different countries.

There is enormous potential for schools to provide collective benefits through SEfLs. Just think about natural disasters like the tsunami, hurricanes, and earthquakes that have caused such tragic devastation in recent years. We do not know how to prevent such natural disasters. We do know something about how to prepare for them — but such information has the character of a public good, and voluntary transactions through the market economy by themselves do not provide enough of it. In the San Francisco Bay Area, where I live, seismologists keep warning us that a big earthquake is very likely to happen within the next 20 years. Just one of the predictable consequences of such an event will be that water pipes will break, and many people will be without water. If every household had a barrel containing an emergency supply of water, the demand for emergency relief services would be much less urgent. But most households have not stored water or other emergency supplies, so when the big earthquake comes they will be dependent on overburdened relief services. Water itself

is a private good — if one person drinks it, there is less available for others — so it is not a collective benefit in the economic sense. But information about the likelihood of an earthquake and how to prepare for it is a collective good. Spreading such information in their local neighborhoods would be a vitally useful social enterprise for schools.

### **Can Vocational Education Produce Collective Benefits?**

The benefits of vocational education may not be entirely private. In the U.S. and elsewhere, I have seen many enterprises operated by vocational schools or programs. For example, students in construction trades build houses or other structures. Students in marketing run little shops. Students in horticulture grow gardens. And so on. In addition to teaching work-related knowledge and skills, some of these enterprises also provide some kind of public benefit for the community at large. For example, some of the student-built houses demonstrate new techniques for saving energy. Some gardens cultivated by students demonstrate how to use less water or pesticide. The information provided by such demonstrations is a public good. We would therefore classify these vocational enterprises as SEfLs.

Vocational or professional education may provide other kinds of public benefits as well. At the secondary level, there is evidence that vocational education in the U.S. motivates some students to stay in school, because they are more interested in the vocational subjects than in their other classes. One reason why some students find vocational classes more interesting

is that these classes more often follow Whitehead's golden rule: they engage students in activities that have tangible consequences here and now. If, by staying in school, these students also improve their skills in reading and reasoning, and improve their knowledge of subjects such as history and science, then they will be better able to participate in civic life. Vocational education would then be providing a public benefit in an indirect way.

Another kind of public benefit from vocational or professional education at both the secondary and tertiary level might be to develop a sense of ethical responsibility about work. An ethically responsible worker would be less liable to cheat. Beyond that, ethical workers might be more positively inclined to give customers and clients their best effort, rather than just doing the minimum. This kind of work ethic would yield public benefits by giving buyers services that are worth more than their price. Whether vocational and professional programs generally emphasize ethical responsibility I do not know, but if they are supported at public expense, they should!

### **Higher Education: Who Benefits From New Discoveries?**

At the tertiary level, as I have mentioned, the economic justification for public support — in addition to further enhancing good citizenship — has to do with the production and dissemination of new knowledge and cultural contributions. The University of California, founded as a land-grant institution, is very mindful of these public purposes. Most of the research

and development activity at the university is made available to the world at large through academic publications. Some R&D does result in inventions or discoveries that can be patented; the university owns those patents, and does receive royalties or fees when it licenses businesses to use them. But the main priority is to make new knowledge public for society at large. The President of the university, Robert Dynes, was asked in a recent newspaper interview why the university did not try to extract more commercial profit from the intellectual property it owns. His reply was that:

the driver should be to serve our society, not to take the last dollar off the table. Of course we go after money. We have just written a set of blanket agreements with large pharmaceutical companies for clinical trials in such a way that we don't have to negotiate each one each time. Is that so that we can make money? We'll make money, but it's also to get our inventions out to clinical trials. Which is more important? I have a view: It's not at the exclusion of generating revenue, but I don't believe in taking the last dollar off the table. (University of California on the Record, 2005)

In terms of undergraduate education, one example of the awareness of the university's public purpose is a statement of goals and objectives drafted in 2003 by the council of undergraduate deans at the University of California, Berkeley. One of four goals was that a student should learn "to be an engaged citizen in a diverse democracy and an active participant in a complex global community." Of nine specific objectives, several related to the production of new knowledge, for instance

“to understand the research process and how to create new knowledge.” Increasing opportunities for undergraduates to participate in research is a high priority for Berkeley’s academic administration. We hope that California taxpayers appreciate that we take our public purposes seriously!

### **Contrasting Possible Futures**

In closing, let me summarize by asking you to imagine two scenarios for the future of education in the U.S. In one scenario, education becomes an increasingly private matter. Families naturally seek schools that will maximize their own children’s chances of material success. Vouchers funded by taxes are made more widely available to pay for schools that are not operated by government agencies. Within the government-operated school system, charter schools and other schools of choice increasingly separate students by income and race. Outcomes of schooling become more highly correlated with family income and parents’ education. Tertiary and postgraduate education are pursued mainly to make more money. Those who go to the best schools and enter the most lucrative professions will reside in houses or apartments protected by locked gates, security cameras, and armed guards. Taxpayers become more immune to the claim that they should support education for economic growth, because they can see that the benefits of schooling are mainly private. As a result, government schools deteriorate, further accelerating the movement to non-government schools.

The contrasting scenario envisions a reaffirmation of education’s public or collective purposes. Ideas of citizenship,

common interests, and public benefits become more prominent in political discourse, policy analysis, and the school curriculum. SEfLs flourish. All primary and secondary schools have sufficient resources to ensure that at least some graduates are prepared to succeed in higher education. Families still seek the best schools for their own children, vouchers funded by taxes may become more widely available to pay for schools that are not operated by government agencies, and government-operated schools offer a wide array of choices — but any school that has more applicants than spaces is required to use a random lottery to select at least some of its students, so that schools do not become more segregated by race and class. Tertiary and postgraduate education are pursued for a combination of self-serving and altruistic reasons. Those who attain the highest levels of education live in neighborhoods that are not strictly segregated by race or class, and many spend some of their time performing public service or civic work. Taxpayers willingly support public funding of schools because they recognize that education provides public as well as private benefits.

At this point in our history, I would guess that the first scenario is more probable. But I would prefer the second one. My hope is that this second scenario will be more likely to happen if more people gain a better understanding of what economic theory says about education. I believe the classical economic idea of public or collective goods offers common ground for dialogue between those who admire free markets and those who value public education.



1. Some economists have reasoned that government intervention in schooling is warranted because “human capital” is embodied in people and, unlike physical assets, cannot be used as collateral for loans. Commercial lenders therefore will tend to charge a premium on loans to finance education, resulting in underinvestment. For instance, see Taylor (1999). I do not emphasize this rationale here because, if the benefits of education were entirely private, this reasoning would not justify compelling taxpayers to support the education of other people’s children.
2. For an analysis of how charter schools express the interests of particular communities that may conflict with some interests of the larger polity, see Fuller (2000).
3. The concept of vouchers has stimulated much debate about the advantages and disadvantages of school choice in the U.S. For example, see Hoxby (2003), Levin (2001), and Wolfe (2003).
4. One insightful and widely cited paper is Labaree’s (1997) “Public Goods, Private Goods: The American Struggle Over Educational Goals.” However, Labaree’s use of the term “public goods” is broader than the strict economic definition. Another thoughtful set of papers on this topic is in *Rediscovering the Democratic Purposes of Education* (McDonnell, Timpane, & Benjamin, 2000).
5. The actual text is:

In the progress of the division of labour, the employment of the far greater part of those who live by labour, that is, of the great body of the people, comes to be confined to a few very simple operations, frequently to one or two. But

the understandings of the greater part of men are necessarily formed by their ordinary employments. The man whose whole life is spent in performing a few simple operations, of which the effects are perhaps always the same, or very nearly the same, has no occasion to exert his understanding or to exercise his invention in finding out expedients for removing difficulties which never occur. He naturally loses, therefore, the habit of such exertion, and generally becomes as stupid and ignorant as it is possible for a human creature to become. The torpor of his mind renders him not only incapable of relishing or bearing a part in any rational conversation, but of conceiving any generous, noble, or tender sentiment, and consequently of forming any just judgment concerning many even of the ordinary duties of private life. Of the great and extensive interests of his country he is altogether incapable of judging, and ... he is equally incapable of defending his country in war.... His dexterity at his own particular trade seems, in this manner, to be acquired at the expense of his intellectual, social, and martial virtues. But in every improved and civilised society this is the state into which the labouring poor, that is, the great body of the people, must necessarily fall, unless government takes some pains to prevent it.

.....

The education of the common people requires, perhaps, in a civilised and commercial society the attention of the public more than that of people of some rank and fortune.... Their parents or guardians ... are, in most cases, willing to lay out the expense which is necessary for that purpose....

It is otherwise with the common people. They have little time to spare for education. Their parents can scarce afford to maintain them even in infancy. As soon as they are able to work they must apply to some trade by which they can earn their subsistence....

But though the common people cannot, in any civilised society, be so well instructed as people of some rank and fortune, the most essential parts of education, however, to read, write, and account, can be acquired at so early a period of life that the greater part even of those who are to be bred to the lowest occupations have time to acquire them before they can be employed in those occupations. For a very small expense the public can facilitate, can encourage, and can even impose upon almost the whole body of the people the necessity of acquiring those most essential parts of education.

6. The prevailing definition of collective goods in economics was first formulated by Samuelson (1954). For a more recent exposition, see Stiglitz (2000). Samuelson was the first non-Scandinavian to win a Nobel Prize in economics. Stiglitz shared the Nobel in 2001.

Perhaps the purest kind of public goods are those that reduce common threats. For instance, the benefit one person receives from the eradication of smallpox does not reduce the benefit to other people. However, in reality many goods are only partly public. The benefits may not be distributed equally, depending on geographic proximity among other things. Samuelson (1954) was careful to point out that a “pure” collective good was a polar case, and that many actual goods are public or collective only in some limited way.

7. Sometimes exclusion is impossible or infeasible, but one person's use of a collective resource does diminish what is available for other people. Over-fishing is an example. This kind of situation has been called the "tragedy of the commons."
8. One important paper on this topic was Schultz's (1975) "The Value of the Ability to Deal With Disequilibria." Schultz won a Nobel prize for his contributions to economic analysis of education. Another influential paper on this theme is Romer's (1990) "Endogenous technological change."
9. Economists often have used gross earnings as an estimate of contribution to GDP, to calculate a "social" rate of return to investment in schooling. However, the analysis here implies that this "social" return is not a "collective" benefit in the Samuelsonian sense.
10. Arguing for public support of education on the basis of increased individual earning may sometimes be valid. If educating some people makes other people more productive, there is a collective benefit. Evidence of such an effect has been found by Moretti (2002). This may result from the technology-diffusion effect mentioned above.

Another possibility is that education promotes social justice — which is a collective good for those who value it — by enabling children from low-income families to get good jobs. In most actual societies, however, children from low-income families on average get less education than children from high-income families.

11. For a recent set of papers describing various practices related to education for citizenship, see Fuhrman and Lazerson (2005).
12. For additional information, refer to the U.C. Berkeley Service-Learning Research and Development Center (<http://gse.berkeley.edu/research/slc/index.html>).

13. For more details, see the Website of BASE (<http://www.homeproject.org/BASE.htm>).
14. For a fuller explanation of this concept, see Stern (2002).
15. For more details, see the Website of the Center (<http://citiesandschools.org/>).

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