

Positive Externalities and Government Involvement in Education

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In 1962, Milton Friedman published *Capitalism and Freedom*, a collection of essays on the proper role of government in a free society. In that book, Friedman discusses the role of government with regard to education. He argues that government intervention into education is justified on the grounds that there are positive externalities (what he calls “neighborhood effects”) to education. Although Friedman no longer subscribes to this view (Friedman and Friedman, 1987; Kane, 2002), his argument is still cited as evidence of widespread acceptance of a need for government involvement in education (Levin and Belfield, 2003). This paper re-examines the positive externality argument in light of subsequent research.

The Positive Externality Argument

Positive externalities occur when an external benefit is generated by the producer of a good but because there is no market for the externality the producer cannot get compensated for producing this extra benefit. In cases where the production of a good produces positive externalities, the market price of the good will not reflect its true value and an underproduction of the good will occur. The positive externality argument is perhaps the most commonly cited justification for government involvement in education (Poterba, 1996).

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What are these positive externalities from education? Although they take many forms, they can essentially be classified into two types of arguments. First, some argue that education increases civic engagement and thereby contributes to a stable and democratic society. The second argument is that an educated workforce is vital for the creation and adoption of new technologies. Before discussing the positive externality argument as a whole, the next two sections address these arguments.

Civic Engagement and Democracy

Many in favor of government involvement in education argue that ensuring that every child receives the minimum amount of education is necessary to promote a stable and democratic society. A corollary to this argument is the notion that a common education helps to assimilate large numbers of immigrants into a common culture. Friedman, for example, incorporates both of these points into his statement for the existence of positive externalities.

A stable and democratic society is impossible without a minimum degree of literacy and knowledge on the part of most citizens and without widespread acceptance of some common set of values. Education can contribute to both. In consequence, the gain from the education of a child accrues not only to the child but also to other members of the society (Friedman, 1962: 86).

The presumed existence of a positive relationship between an educated citizenry and a well-functioning democracy was a core justification for the common school movement of the early nineteenth century (Dee, 2004). Horace Mann, the “father of the American public school,” argued that free and universal education was “indispensable to the continuance of a republican government (Mann, 1846).” Today, the issue is of critical importance to the contemporary school choice debate

as many express doubt that private schools can indoctrinate students in as socially beneficial of a manner as public schools.

Theoretically, the relationship between education and measures of civic participation is unclear. For example, increased education can instill individuals with socially beneficial civic values such as a desire to help others. On the other hand, education raises the opportunity cost of an individual's time, raising the cost of volunteering (Dee, 2004).

While the theoretical literature discusses civic engagement as manifesting itself in a variety of ways, such as volunteering or membership in civic organizations, the empirical literature primarily focuses on the link between education and voting. The extensive political science literature almost uniformly shows a positive relationship between education and voting (Wolfinger and Rosestone, 1990; Nie et al., 1996). A frequent criticism of these studies is that they fail to sufficiently control for the likelihood that education and civic outcomes are determined simultaneously. It could be that families that impress upon their children the value of education might also do the same with respect to voting. However, recent studies correcting for this simultaneity bias have generally arrived at the same conclusion that education increases voter participation (Milligan et al., 2004; Dee, 2004).

The primary problem with this line of research is that it implicitly assumes that increased political activity is socially beneficial. Conflating political participation with socially beneficial civic engagement is problematic because it presumes that the values and abilities instilled in students through education are normatively desirable and are beneficial to democracy (Dee, 2004). Friedman (1997) notes that this assumes that voters all have the same interests and that educating one individual will make another individual better off. If educating students increases the propensity to vote for rents for oneself at the expense of others, it is hard to justify that public support of education is socially beneficial.

Lott (1987, 1999), on the other hand, provides theoretical and empirical support for the proposition that while education might

provide stability, it is not necessarily beneficial to democracy. The assumption that politicians wish to instill citizens with certain values is not at issue here. Rather, the contention is with the presumption that such indoctrination will be enhancing democracy.

The political entrepreneurs currently in power care about maximizing political support for the current regime at the expense of their political opponents. One way to do so is to indoctrinate citizens with beliefs that help support those currently in power. Indoctrination thus serves to lower the cost of maintaining the status quo, thereby increasing stability at the expense of regime change. This model predicts that totalitarian governments as well as those with a high percentage of wealth transfers will make the largest investments in education. Using international cross-sectional time-series data, Lott (1999) finds evidence that totalitarian countries and those with large amounts of rent seeking spend more on education, other things equal.

Economic Growth

Another positive externality frequently associated with education is economic growth. From this perspective, education increases not only the productivity of the person being educated but also the productivity of his co-workers. Hanushek (2002: 2065) summarizes this perspective thusly:

If a highly skilled workforce permits entirely different kinds of technologies to be introduced, or to be introduced earlier in a development cycle, expanded education of an individual may indeed affect other workers in the economy. Or, if improved abilities of the best students lead to more rapid invention and development of new technologies, spillovers of educational investments may result.

These spillover benefits create a justification for government intervention only when a person cannot be compensated for generating

these external benefits. Those arguing that increased human capital creates spillover benefits fail to address why market wages do not adequately compensate individuals for producing these spillovers. Even if high concentrations of human capital induce greater investment by firms and thus higher wages for all workers, as some models suggest, workers are still being compensated for the marginal product of their labor. Thus any external benefits to their education are internalized in their own demand curve for education (King, 2005).

The empirical studies that attempt to estimate the size of human capital spillovers find mixed results. Rauch (1993) finds that positive externalities of between three and five percent although his methodology does not consider the endogenous nature of schooling. Acemoglu and Angrist (2000) take the endogeneity of education into account and find, "...little evidence for sizeable external returns to education..." Summarizing the literature, Hanusek (2002) concludes that there is scant evidence that what some people call large human capital externalities contributing to economic growth is not just increased productivity from higher levels of human capital.

Inframarginal Externalities

Even if it is determined that there exist external benefits from education, this does not imply that government intervention is warranted. If the external benefits from education are *inframarginal*, then no justification for government subsidy exists. *Inframarginal* externalities occur where externalities exist in total but not on the margin. Hence, if all the externalities from the production of a good are *inframarginal*, externalities associated with additional production are not Pareto-relevant (Buchanan and Stubblebine, 1962).

West (1965) and Holcombe (1996) suggest that the majority of positive externalities from education occur primarily from the acquisition of basic literacy. This implies that if individuals voluntarily obtain basic literacy, government investment in additional education will not provide any social benefit (High, 1985). While Becker (1975) shows

that individuals have incentives to invest in human capital, the historical research of E.G. West (1965) demonstrates the willingness of families to purchase education prior to the enactment of compulsory schooling laws and “free” schools. It is therefore likely that any positive external benefits to education are inframarginal and, thus are irrelevant to arguments about government intervention into education markets.

To my knowledge, there is only one empirical test of the hypothesis that there are external benefits to education. King (2005) employs a median voter demand curve model to test for the existence of Pareto-relevant external benefits from education. Her findings imply that K-12 education is almost entirely a private good, with no Pareto-relevant external benefits.

Government Efficiency vs. Market Failure

Even if one could conclude that there were positive externalities from education and that those externalities were Pareto-relevant, the magnitude of the market failure must be weighed against the ability of government to provide a remedy (High, 1985). In theory, government would solve a market failure by determining the solution that maximizes social welfare and then implementing that solution. In practice, however, government frequently lacks the ability to even determine the solution that maximizes social welfare, let alone implement it.

The relevant question then is not whether government fails, but rather whether the costs of government intervention in the marketplace exceed the benefits (Poterba, 1996)? There are three reasons why the costs of government intervention into education markets are likely to be greater than the benefits. The first reason is that the government does not possess the necessary information to determine the best, or even a close approximation, to the solution to the social welfare maximization problem. In the context of education, even if it were true that the amount of education obtained absent government intervention, it would be below the socially optimal level; government does not possess the requisite knowledge necessary to reach that socially optimal level.

The government does not know which individuals to subsidize and how much of a subsidy to provide in order to maximize social welfare. The data necessary to determine who to subsidize do not even exist and would be extremely costly, if not impossible, for government to obtain due to incentives for preference falsification among potential subsidy recipients.

The second reason why government intervention into the education marketplace is likely to be more costly than the private solution, even assuming market failure, is that the solution implemented by government is determined not by social welfare but by political considerations (Young and Block, 1999). In practice, education policy is not determined by a benevolent educational planner but rather by the self-interest of the political class and their supporters. West (1967), for example, demonstrated how the expansion of publicly-provided education in the U.S. experience came about as a result of rent-seeking by teachers. If the level of education provision determined through the political process is higher than the socially optimal level, then on net the value of the additional education may be negative.

The third reason to distrust the ability of governments to be able to provide a more efficient solution than private exchange is because allocating additional resources to education means that resources have to be redirected from other uses. Assuming that government would be able to determine the solution that maximizes social welfare and would be able to implement that solution, it is not at all clear that the costs of implementing that solution would not exceed the benefits obtained from that solution. For example, the taxation necessary to finance a Pigouvian subsidy for education generates excess burden. Given that the deadweight costs of taxation can be quite substantial (Vedder and Gallaway, 1999), the market failure would have to be significantly large to have the government solution be more efficient than the private solution.

Perhaps more importantly, if an individual values alternative uses of their income more than the positive externalities generated by

additional education, then the positive externalities are not Pareto-relevant (Buchanan and Stubblebine, 1962). It is generally not efficient for an individual to consume education until the marginal benefit is zero. A rational individual will acquire education until the marginal benefit of the extra unit of education is equal to the marginal cost of that education. Just because the social benefit to an additional unit of education is positive does not mean that it is efficient to require that individual to acquire more education. If that individual would value doing something else more than spending that time in class, it is not efficient to subsidize additional education.

Combined, these three reasons suggest that the cost of a government solution to an alleged market failure with respect to education is likely to exceed the benefit associated with the implementation of the government response. Many researchers fail to consider the ability of government to determine and implement a solution that maximizes social welfare and thus overestimate the ability of government intervention into education markets to improve welfare. A more realistic understanding of the nature and limitations of government show that government intervention into education markets is unlikely to provide benefits sufficient to overcome the costs of any market failure.

Conclusion

The positive externality argument is the most frequently cited justification for government involvement in education. The notion that education generates sufficient external benefits, either through higher levels of civic engagement or through economic growth spillovers is examined and found lacking. Even under conditions of market failure, government failure is omnipresent and sufficiently large that the privately-arrived solution—even under market failure—is likely to be the most efficient outcome.

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