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Economics of Public Goods and Its Significance for Education

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Abstract

This essay explores whether education can be classified as a public good and examines the implications of such a classification. It begins by discussing the concept of public goods from the standpoint of economic theory, specifically analyzing the approaches of P. Samuelson and R. Musgrave. Their perspectives are critiqued for lacking a value-neutral approach and for their incoherent reasoning regarding governmental solutions to so-called market failures. The essay further enquires into the economic nature of education incorporating F. A. Hayek's key reflections on its significance. It also outlines the conventional approach to education as a valuable investment in human capital, contrasting this with B. Caplan's 'case against education', which argues that the current educational system misallocates scarce resources. Finally, the essay emphasizes that education is of value primarily to the individuals who receive it and challenges the notion of a 'value to society'.

1. Economics of Public Goods

Economics distinguishes a variety of goods based on different criteria, one of which includes the excludability of consumption and rivalry in use. This basis divides goods into private and public categories.

The standard definition of public goods in economics textbooks[1] is based on an article by Paul Samuelson (1954; p. 387), in which he argues that public goods (or 'collective consumption goods') are such goods *'which all enjoy in common in the sense that each individual's consumption of such a good leads to no subtractions from any other individual's consumption of that good'*. Inman (1987; p. 653) expresses the nature of such goods similarly by saying *'more for you means no less for me'*.

[1] See, for example, Mankiw (2015)

For a good to be classified as a pure public good, it must also be non-excludable, meaning that a producer cannot prevent certain consumers from using it. Samuelson (1954) initially considered only consumption rivalry when examining public goods; the second criterion was not introduced until a few years later (Musgrave and Musgrave 1989). Today, public goods are defined as those that *'can be enjoyed by everyone and from which no one can be excluded'*. (Samuelson and Nordhaus, 2009; p. 37).

Conversely, pure private goods are rivalrous and excludable, meaning their consumption by one individual limits availability to others, and producers or providers can prevent consumers from using such goods. Examples include food, fuel, and restaurant services.[2]

Various schools of economic thought agree that the free market can ensure the efficient allocation of resources while providing pure private goods.[3] Adam Smith argued that individuals seeking personal benefit inadvertently contribute to the welfare of all, as voluntary trade benefits all parties involved. Moreover, David Hume, Smith's mentor, noted that the market allows *'to do a service to another without bearing him a real kindness'*, with the result that it is in the *'interest, even of bad men to act for the public good'*.[4]

The market's mechanism involves price signals guiding producers of goods on what to make, in what quantity, quality, and for whom. These abstract signals compact the specific preferences of buying consumers. Competition also plays a vital role in aligning production with consumer preferences as precisely as possible.[5]

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[2] Following the two criteria presented above, we can divide the goods into four different categories. For the purposes of this text, we shall focus only on the two notional extremes - pure public and pure private goods. However, between these extremes we find a number of important goods, see Mankiw (2011; pp. 218-219).

[3] Such a view is found, for example, in Musgrave and Musgrave (1989; p. 42). This thesis was then particularly emphasized by Austrian School economists (who, however, for the most part did not accept the above presented criteria of distancing between goods as legitimate).

[4] Quoted from Hayek (1988; p. 47).

[5] Ludwig von Mises (1966; pp. 269-271) concludes that, although in a market society the management of all economic affairs is the task of entrepreneurs, and although they are the imaginary helmsman of the ship, the captain of the ship is the consumer, who is ultimately the one who decides the course of production.

According to mainstream economics, however, the same does not hold for public goods, which generate positive externalities and therefore - allegedly - necessarily lead to market failures.[6] Indeed, it is difficult or virtually impossible to exclude from their consumption those individuals who have not paid for them. For the rational consumer, such an incentive leads to perverse behavior, whereby he uses the services of such goods without paying for them or compensating the producers in any way for the production costs. Economists call such a situation the *free-rider problem*. If consumers do not pay, producers have no incentive to supply these goods. Thus, a situation arises where maximizing the personal benefit of both parties no longer leads to a mutually advantageous outcome, thereby breaking the chain of productive relations.

A *pareto-efficient* allocation of resource requires that the total marginal utility of consumers equals to the marginal cost of an additional public good unit. For public goods, however, the sum of the marginal utilities of consumers - free-riders included - exceeds the marginal costs to providers, supposedly causing market failure and inefficient allocation of resources.[7]

This 'textbook approach' to public goods, as defined by Samuelson and Musgrave, holds a significant place in economic theory. Up to this point, their interpretation can be seen as a legitimate positive analysis of some of the properties of goods and the consequences that follow from their nature. However, problems arise when their interpretations shift from a positive analysis to a normative one, suggesting strong state intervention in free markets based on these characteristics.[8]

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[6] See, for instance, Samuelson & Nordhaus (2009; p. 36).

[7] At this point it would be appropriate to state that externalities are quite common even in pure private goods, and yet they do not constitute insurmountable barriers to their provision. As an example, the construction of a successful business in a particular locality leads to an increase in demand for the services provided in that area. This boosts the revenues of these businesses, even though their owners may not have had to 'lift a finger' to do so, thus benefiting from the award of a deal in which they did not participate. Hampl (2001; p. 117) therefore argues that the existence of positive externalities *per se* cannot justify state intervention. Externalities, as we know from the works of Ronald Coase, arise not because of some mythical market failure, but simply because there are high transaction costs associated with private bargaining for such goods. The extent to which private property is protected is crucial to the level of transaction costs. If the state neglects its role by not consistently enforcing laws and regulations to protect private property, it is no wonder that there is no room for the market to emerge; the claim that the market has failed is completely false here.

[8] For the distinction between positive and normative economics, see Friedman (1966).

Samuelson (1954; p. 388) explicitly argued that a decentralized price system cannot provide the optimal quantity of public goods.[9] In his view, 'the visible hand of government' should therefore come into play to bring the discrepancy between the quantity demanded and the quantity supplied of public goods into a socially efficient equilibrium.[10] This should be brought about by imposing a tax burden on all its citizens (including free-riders) to fund public goods services.[11]

One of the central problems with Samuelson's approach is its reliance on *welfare economics*, which is based on the assumption of the omniscience of an external observer. Proponents of this school of thought assume - albeit mostly implicitly - that the economist can 'see inside the heads' of individual economic actors and read their preference functions. As a result, he is then also able to decide unambiguously how other individuals should act to maximize their utility.

James Buchanan criticized this view declaring that utility *'is a **subjectively** quantifiable magnitude'* (Buchanan, 1959; p. 126). He further argued that no 'social' scale of values can be constructed from the preferences of individuals because their preferences are only manifested in the act itself and thus cannot be known *a priori*. Finally, he concluded that public goods, from an economic perspective, are simply goods like any others. The question of whether there are 'too few' of such goods is not a subject of scientific inquiry within the framework of positive economics.

Buchanan (1959) argued that the concept of market failure in general is contentless. Indeed, market outcomes may not correspond to the wishes and intentions of particular people. It does

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[9] A similar conclusion was reached by Musgrave & Musgrave (1989; p. 6): *'(...) the production or consumption characteristics of certain goods are such that they cannot be provided for through the market.'*

[10] However, Samuelson and Musgrave were far from being the only economists who invoked the government to solve problems of public goods. In fact, even by Adam Smith [1776; Bk 5 Chpt 01 (Part III)], one of the three functions of government is *'erecting and maintaining those public institutions [...], which, though they may be in the highest degree advantageous to a great society, are, however, of such a nature that the profit could never repay the expense to any individual [...]'* and David Hume (1978; p. 538 [1739-1740]) argued similarly when he wrote about the example of the draining of the meadow, from which he subsequently concluded that it is only thanks to the state that bridges are built, ports opened, fortifications constructed, and armies function.

[11] Worth noting is the observation of Mises (1966; p. 719): *'It is important to remember that government interference always means either violent action or the threat of such action. The funds that a government spends for whatever purposes are levied by taxation. And taxes are paid because the taxpayers are afraid of offering resistance to the tax gatherers.'*

not follow, however, that the market - that is, a group of voluntarily interacting individuals - produces consequences that must be purposely 'corrected' by coercion from a central authority.

Moreover, Hampl (2001; p. 114) pointed out that Samuelson's approach to public goods has also a semantic problem. In fact, it seems that the term 'public goods' was not chosen at random for the kind of goods characterized by the properties defined by Samuelson and Musgrave, but quite deliberately so as to give readers the impression that the nature of some goods directly predisposes them to be provided publicly by the state. However, the implication that since these goods are public, they must *ipso facto* be publicly provided and financed by public budgets is logically flawed.

2. The Economic Nature of Education

Given the definition of public goods explained above, it must seem surprising that education is often cited as a typical example. On the *Stanford Encyclopedia of Philosophy*, education is even mentioned as the second example of public goods right after national defense. Education, however, is rather one of the goods that lie between the two counterpoints of pure public and pure private goods. Indeed, it is characterized by the fact that certain individuals can be excluded from consumption (universities and other types of schools quite routinely reject many students), but at the same time its consumption is not fully rivalrous (one student attending a lecture doesn’t prevent another from doing so).[12]

Even if education were to meet the characteristics of a public rather than a private good (which is at least a questionable assumption), this does not mean that it can only be provided by the state. Such a position can be refuted simply by the fact that originally schools were private

[12] It would be appropriate here to explain in more detail why education was not classified as a private good. A pure private good is considered in this thesis to be a somewhat extreme case, which must perfectly satisfy both properties of consumption-excludability and rivalry. This cannot be said of education, since its consumption is not entirely rivalrous (although it is true that education is a private rather than a public good). It is worth noting, however, that these characteristics are not some kind of objective and clearly given features, but rather subject to our own judgment of the extent to which the good in question possesses them.

It would be correct, nevertheless, to distinguish levels of education. Indeed, it could be argued that the more basic the level of education, the more likely it is to constitute a positive externality for other participants in society. For example, the dissemination of literacy or numeracy (or perhaps also a kind of common culture or morality) in primary schools can make cooperation in society easier, which can have positive - though not necessarily direct - consequences. However, a similar argument cannot be made for higher education, since - as Caplan (2018) has shown - it represents a rather negative externality.

and their attendance was entirely voluntary.[13] It was only later and through a gradual process that governments acquired an increasing role in education.[14] From an economic perspective, there is no basis for the assumption that education services must be state-provided.[15]

Notably, prominent economists have frequently examined education. There are, however, differences among eminent economists as to the aspects of education that they see as of primary importance. F. A. Hayek believed that education profoundly benefits individuals.[16] Surprisingly - given that Hayek is generally regarded as a liberal thinker - he clearly declared that education is not only in the interest of individuals themselves, but of society as a whole: *'[...] there are various reasons why it may be in the interest of the whole community that knowledge be brought to people who have little incentive to seek it or to make some sacrifice to acquire it.'* (Hayek, 2011; p. 499 [1960]). According to Hayek, every member of society should have an interest in ensuring that his fellows receive the best possible education.

It is noteworthy, though, that Hayek did not see the significance of education only in its potential economic utility. For according to Hayek (1991; p. 142 [1944]), the greatest benefit that the university can give to man is *'the discovery that to learn, to come to understand things, can be the greatest of human pleasures, and the only one that will never be exhausted.'*

Mainstream economic literature views education as an investment in human capital, enabling individuals to gain knowledge and skills that increase productivity, enhance job prospects, and,

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[13] This conclusion is found, for example, in Friedman & Friedman (1980). West (1994) similarly shows that there were no state subsidies for schools in the UK until 1883, with the first law laying the foundations for public schools being signed in 1870. It can thus be argued that, just as law is an older institution than legislation (see, for instance, Hayek (1998)), the institution of education precedes the emergence of public schools in time.

[14] Friedman & Friedman (1980; p. 150), using the US as an example, state that *'government control was primarily local until well into the twentieth century.'*

[15] For example, Milton Friedman (1980) introduced his famous 'voucher plan', demonstrating that it is possible to pay for all children's education through taxes without having public schools. The system, in a nutshell, would work by giving each parent a voucher from the government that entitles them to pay a certain amount of tuition for their child, and it would be the school of their choice. This would add a key element to the education system in the form of competition and pressure to improve the services of individual schools. Murray Rothbard (2006, ch. 7) is even more radical in his approach when he proposes a complete separation of education from the state and a total abandonment of this sector to the free market. Bryan Caplan (2018; p. 7) similarly states: *'I believe the best education policy is no education policy at all: the separation of school and state.'*

[16] See, for example, Hayek (2011; p. 498 [1960]): *'Knowledge is perhaps the chief good that can be had at a price, but those who do not already possess it often cannot recognize its usefulness.'* See also Hayek (1988; p. 21): *'Man is not born wise, rational and good, but has to be taught to become so.'*

supposedly, improve political and social institutions. This perspective has led to demands for greater government 'investment' in public education.

Such an argument, however, equates - perhaps unconsciously - education with schooling. It implicitly assumes that better education can be achieved - either solely or most effectively - through the services of public schools, without further consideration of the hypothesis of whether the current public education system can contribute most to the improvement of the education of citizens.

Bryan Caplan argued in ‘The Case Against Education’ that *'education is grossly overrated'* (Caplan, 2018; p. 285), suggesting that typical students burn thousands of hours studying material that neither raises their productivity nor enriches their lives.

Caplan (2018) argued that a significant portion of the value of education - especially within the current publicly provided system - lies in its role as a signaling mechanism. College degrees and completed training programs serve as signals from job applicants to potential employers, indicating qualities such as productivity, patience, and a willingness to take on tasks, even those outside their comfort zones. Notably, such 'signals' do not necessarily convey whether the knowledge or skills acquired in school are directly relevant to the job being pursued. Thus, even if what a student has learned in school is irrelevant or unnecessary for the work, employers may still be willing to hire them and even offer higher wages, if their academic performance demonstrates evidence of their productivity.

Caplan (2018; p. 4) suggested that *'if education merely certifies labor quality, society would be better off if we all got less.'* For if education performs primarily a signaling function, then reducing its overall level would not diminish individual skills or harm society’s wealth. On the contrary, less time spent in public schooling could increase societal wealth by freeing up students’ time and other scarce resources, allowing these to be redirected toward more productive activities. From this perspective, public policy that allocates government budgets to support a public education system, instead of building human capital, is fundamentally defective.

Whether we take the approach of 'the economics of human capital' or the reasoning formulated primarily by Caplan, it is essential to recognize that education should primarily be regarded as a good that fulfills the subjective needs of individuals who derive personal satisfaction from it. Austrian economists have long emphasized that value is a purely subjectively perceived property of goods and is only relevant in relation to specific individuals who are the only ones capable of knowing what they are willing to give up to obtain value in the form of those goods. However, this principle seems insufficiently integrated into mainstream economic theory, which continues to rely on terms like 'social value' or other contradictory expressions that fail to align with the subjectivity of value.[17]

3. Concluding Remarks

This essay does not deny the challenges posed by goods that meet the criteria of ‘pure public goods‘. These issues are real and deserve consideration. However, it is inappropriate to conclude that these challenges require government intervention without exploring market-based alternatives.[18] This issue reflects a general deficiency in mainstream economics, which has often underestimated private initiative while overestimating the state’s capacity to address 'market failures' and overlooking the state’s own potential for failure.

Education is just one example of a much broader phenomenon. The prevailing doctrine holds that the best education serves 'the interest of society as a whole' and thus requires government provision and greater investment for accessibility. Consequently, the public and economists alike often conclude that education is a public good. However, when viewed through the lens of economic theory based on methodological individualism and value-neutrality, there is no valid basis for this conclusion.[19]

[17] It bears mentioning that Hayek (1998; p. 75) explicitly wrote in the title of one of the chapters of the second volume of his *opus magnum* Law, Legislation and Liberty that *'there is no 'value to society'.'*

[18] For numerous examples of private provision of public goods, see Chovanculiak (2024).

[19] For a description of these enumerated principles, see especially Mises (2003 [1933]).

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