6. Objecting to a Libertarian Attack on Governmental Functions in the Economy: The Concept of "Public Good"

Abstract

Some authors see the concept of public good as nothing but a social construct for two reasons. First, different economists seem to create different definitions of the concept. Second, different countries treat different services as public goods.

I collected and analyzed eighteen different terms used by economists in order to point to public good aspects. I reduced the eighteen terms to two crucial ones that allow me to affirm that the ideal concept of public good points to an opportunity for collective gain, but that the non-exclusion possibility makes optimal financing difficult. The lack of optimal financing introduces the problem of whether or not the use of coercion (forced payment by means of government-imposed taxes) is justified. Alternatively, it raises the question of whether or not injustices created by the private provision of public goods (discrimination in club goods) demand governmental supervision of private initiatives with public goods. These questions introduce value judgments captured by the concept of merit good. Therefore, the problem of realizing the potential for gain present in public goods has no unique solution and requires ethical and political judgments. However, the presence of socio-political considerations in the realization of public goods does not invalidate the concept of public good itself, which consists of pointing to opportunities for gains by collective action, whether that collective action is privately or governmentally organized.

This chapter supports Hegel's claims about the desirability and the possibility of fruitfully mobilizing the government in order to deal with public goods or externalities.

I. The Thesis in a Nutshell

I see the technical economic concept of "public good" as a mental construct that is epistemologically valid because it captures an idea derived from two different characteristics that are undeniably present in the objective world. This concept is an ideal concept in as much as its central idea is derived from several characteristics that are more or less present in real situations (Adams & McCormick 1993, 109). This will have, among others, the consequence that a concrete economic event can be both a public and a non-public good (i.e., a private and/or even a merit good) because, in real life, economic events are more or less public goods rather than strictly pure public goods.[121] The idea captured by the technical concept of public good is defined as an opportunity for gain for a collectivity because of non-rivalnessness in consumption, where the opportunity for gain is difficult to finance because of the non-exclusion possibility. Notice that the two characteristics of non-rivalness in consumption and non-exclusion possibility can be present in degrees. Exclusion might be practically impossible (breathing the clean air that is provided) or it might be technically possible at greater or lesser costs (toll booths for highways, scrambling-unscrambling of TV signals) and, thus, economically more or less desirable. Furthermore, the non-rivalness in consumption might extend to the whole of mankind (ozone depletion), to a nation (national defense), to a metropolitan area (pollution), or to one single family (the heating of a home). In other words, the public, for a particular public good, is the population "N," where "N" can vary from all human beings to only the members of a household. The non-rivalness in consumption, too, may be more or less present. Thus several people can use a bridge without one person diminishing the enjoyment of the bridge by the other as long as there are not too many users. When there is congestion then non-rivalness is not complete. There is partial rivalness. Thus, the more congestion the less non-rivalness applies. To make matters even more complicated, some

[121] Thus, inoculation is a private good. It also has externalities (prevention of an epidemic) and is thus also a public good. It can also be declared a merit good and be made obligatory. The theoretical position that the concept of public good is not an absolute and exclusive tag for an economic event is also taken by others when they point out that the nutritional value of bread is rival in consumption (only one person can consume the bread) and thus a private good, whereas the visibility of eating bread is non-rival in consumption (many people can enjoy simultaneously seeing a poor person eat bread) and is thus a public good. Bread is thus partially a private and partially a public good (Adams & McCormick 1993, 111). The concept of public good is, therefore, not like the concept of being pregnant, but rather like the concept of being just. One is either pregnant or not. However, one is always more or less just and also more or less greedy or shrewd.

authors have given special names to what I see to be only subcategories of the concept of public good. Thus, some authors call public goods that have feasible low-cost exclusion possibilities "toll goods" (theaters, toll roads, libraries). They call public goods where the sub-parts are rival goods "common-pool resources" (fish taken from an ocean) (Ostrom & Ostrom 1991, 168). Others defend the use of a new label for public goods that have congestion and technical possibilities for exclusion, i.e., "club goods" (Head 1974, 85–86; Cornes & Sandler 1994, 382–384; Adams & McCormick 1993, 110–111). I maintain that it is useful to introduce these subcategories when one discusses different methods of addressing the problem posed by the presence of public goods. According to my claim, it is not necessary to introduce these distinctions in order to demonstrate the validity of the concept of public good and the challenge connected with the concept. The validity of the concept consists in pointing to an opportunity for gain by a collectivity whereas the challenge consists in the fact that there is no general method of financing available to efficiently realize (i.e., workable and obeying the Pareto principle) the opportunity for gain.[122]

[122] Some authors succinctly describe the market's failure to provide public goods when they argue that the Nash non-cooperative equilibrium is not a Pareto optimal provision (Cornes & Sandler 1994, 372–3), whereas Samuelson describes the government's difficulty in providing public goods when he writes, "it is in the selfish interest of each person to give false signals" to the government about one's interest in a public good if that information will also be used to determine one's tax share (Samuelson 1954, 388). Different authors have reacted differently to the lack of a perfect solution for financing the opportunity for collective gain present in public goods. Samuelson reacts with despair when he writes, "If the experts remain nihilistic about algorithms to allocate public goods, and if all but a knife-edge of reality falls in that domain, nihilism about most of economics, rather than merely public finance, seems to be implied" (Samuelson 1969, 109). Others point out that in most, if not all, provisions of public good, the government interferes with some wishes of some consumers such as the confiscation of land for the provision of highways (Andel 1968, 213). Still others, such as Mackscheidt, argue that free rider possibility in the provision of public goods is sometimes very high where the public good is an externality attached to private consumption (avoidance of an epidemic if there is enough private inoculation). Mackscheidt argues that it might be useful to meritorize private goods with important externalities by lowering the threshold of free riding (by subsidizing the good). This, in turn, means that the provision of the public good (avoidance of an epidemic) is achieved by interfering with the level of freely chosen consumption of inoculation as is the practice with the provision of merit goods in general (education, seat belts in cars) (Mackscheidt 1997). Samuelson reacts with despair, to the absence of a perfect financing method for public goods; Andel, by noticing the regretful presence of interference; Mackscheidt, by advocating artful interference. Clearly, the above indicates that the provision of public goods might imply (or necessarily implies) that there is an overlapping of the concepts of public and merit goods. The presence of merit good aspects in the provision of public goods means that considerations other than economic efficiency unavoidably enter the picture. Such considerations include redistribution, in addition to the impact on freedom and on regional autonomy (Adams & McCormick 1993, 114).

Given the difficulty of finding a satisfactory solution, even at the ideal level, it would be surprising if an analysis of concrete instances of public goods were simple. I will show that at least eighteen ways are used in the economic literature to point to economic problems related to public goods. This number is more than the five given by radical opponents of the concept of "public good," Malkin and Wildavsky, which they accuse the economic profession of using.

I will reject the conclusion of Malkin and Wildavsky that the concept of a public good is purely a culturally relative concept. I will concede, nevertheless, that cultural, or social preferences and institutional arrangements play important roles in trying to realize some of the gains presented by goods, having public goods aspects. Economic analysis will unavoidably become socio-economics. My conclusion, which justifies the validity of the concept "public good," implies that there is potentially a legitimate role for collective action. Such collective action can be undertaken by the government or by non-governmental groups. Samuelson has analyzed the first approach and Olson the second. Each argues that his approach does not automatically guarantee an optimal outcome. Both agree, however, that abstaining from collective action is abandoning an opportunity to realize a potential gain. My paper will argue that the concept of public good is a necessary analytic tool for showing the presence of potential gains from collective action.[123]

II. Problems with the Concept

A. Objections from the Outside. Malkin and Wildavsky: The Concept "Public Good" Has No Epistemological Validity

One of the most radical objections against the concept of "public good" was undertaken in a joint article by Jesse Malkin and Aaron Wildavsky entitled "Why the Traditional Distinction Between Public and Private Goods Should be Abandoned." The article, which sympathetically quotes libertarian writers, was published in a political science journal (Malkin & Wildavsky 1991, 369). Since libertarians object to most governmental func-

[123] I will not analyze in what cases governmental collective action is more desirable than private group action. *A fortiori*, it will be clear that the validity of the concept of public good does not imply that the government must *produce* the public good.

tions, the concept of a public good, for them, must be placed under suspicion, because the concept's very existence presumes a legitimation of governmental activity. The fundamental objection of Malkin and Wildavsky seems to be that the concept of a public good itself gives rise to the possibility of justifying governmental functions, which they regard as undesirable, if not, illegitimate.

It is my view that Malkin and Wildavsky are right in pointing out that the concept of a public good is sometimes, maybe most of the time, abused in day-to-day political reality. However, they are mistaken when they try to locate this political abuse in the idea that the concept of "public good" itself has no true content and is actually nothing other than a social construct (Malkin & Wildavsky, 372).[124] For my part, I will use the arguments of Malkin and Wildavsky to articulate the strongest possible objection to the concept of "public good" but then, in opposition to their position, I will argue that the political abuse they observe results from a misapplication of that concept.

The part of Malkin and Wildavsky's thesis, relevant for our study here, is their claim that the concept of a public good is a social construct that can have many meanings.

The first observation made by Malkin and Wildavsky is that the specific signifier "public good" is used for expressing the particular idea under discussion. The choice of this signifier has consequences, they argue, because our language has automatic associations connected with the signifier "public" (as demonstrated, for example, by the definition of this word in Webster's *Third New International Dictionary* (Malkin & Wildavsky, 357)). Malkin and Wildavsky then quote two economists (D. Suits and G. L. Bach) who explicitly espouse what is but a connotation of the signifier "public"; they take for granted that use of this word must indicate that the good or the service has to be provided by the collective or the government if it is to be provided at all. Malkin and Wildavsky then make the further claim that "many economists...are saying that goods they deem to be public ought to be supported by the government" (Ibid.).

I agree that the choice of signifier is important for correctly conveying the meaning of a word. This observation, however, is more relevant for words in everyday language than for technical terms in the sciences, because the meaning of technical terms is specified by their definition. On

[124] Philosophically, one describes such an attitude as one which denies the concept epistemological validity but locates its power in voluntarism (i.e., the will; in this case, the political will to decide one way or the other). Other authors, too, distinguish, as I do, between political abuse and epistemological validity of the concept and refuse, also, the claim of Malkin and Wildavsky that political abuse makes the concept epistemologically invalid (Adams & McCormick 1993, 114).

the other hand, alternative signifiers for the idea under consideration, such as collective good (used by Olson) or social wants (used by Musgrave), are at first sight no improvement. For these reasons, I would prefer to concentrate on the task of looking at the scientific definition of the idea (i.e., the signified) behind the term "public good."[125]

Malkin and Wildavsky claim, speaking descriptively, that economists use different definitions for the concept "public good"(358). A first candidate for a definition of public goods is the following: those goods that have the characteristic of *non-rivalness in consumption* (358). Such goods can be enjoyed by many people (e.g., clean air), in contrast to private goods, which are marked by rivalness in consumption (e.g., bread). A second definition labels as public goods those goods that have non-exclusion possibility (Ibid.). This term means that we are confronted with goods that anyone, whether he pays or not, can enjoy (clean air), in contrast to private goods, where property right enforcements prevent consumption if one does not pay (bread). A third strategy for defining public goods uses the two previous characteristics simultaneously (358–59). Economists who use this strategy differ as to which of the two characteristics they consider the more crucial one. Thus, some take non-rivalness in consumption as crucial and non-exclusion possibility as secondary. If one takes this view, television and radio signals would be public goods, even though technology exists that can exclude non-paying citizens. Other economists opt for non-excludability as the crucial characteristic. Thus, clean air, which is non-exclusive but is rival in that a firm cannot pollute while, at the same time, allowing others to have clean air, would be a public good for these economists. Still, other economists argue that both characteristics are essential. These economists give lighthouses and national defense as examples of public goods.

Malkin and Wildavsky next point to a fourth definition of public goods. That definition uses three essential characteristics; in addition to non-rivalness and non-excludability it includes impossibility of rejection (360). This term points to the fact that whether consumers like it or not, they must consume the good – for instance, breathe the air, be it polluted or clean.

Malkin and Wildavsky find a fifth definition in Samuelson's strong polar case of a public good, sometimes called the concept of a pure public good. Besides non-rivalness and non-excludability, Samuelson seems to add equal consumption for all consumers (360).

At this point Malkin and Wildavsky shift their argument. They ask which goods would be classified as public goods under the different defini-

[125] Other authors, too, notice the possible misleading nature of the label "public" in the term "public good." They, too, separate the superficial problem of misleading associations from the heart of the matter which is the technical definition (Cornes & Sandler 1994, 370, 375).

tions. Clearly, what concrete goods count as public goods will differ from definition to definition. Malkin and Wildavsky make their strongest theoretical claim by building on a mistake made by Samuelson (361). Samuelson had concluded that his concept of a pure public good made it imperative to say that in concrete cases, we have many goods which more or less embody the idea of a pure public good with a "knife-edge pole of private-good case, and with all the rest in the public-good domain" (Samuelson 1969, 108).[126] Malkin and Wildavsky now point out that bread certainly is a candidate for the knife-edge pole of the private good case. But, they argue, if we assume that some people enjoy seeing others consume private goods, then these private goods automatically become public goods. Thus, under Samuelson's definition of public goods, the distinction between private and public good cannot be maintained. For Malkin and Wildavsky, maintaining the distinction requires drawing a line at some point, a line arbitrarily specified by economists or by the voting public to be at 90 percent, 80 percent or 70 percent "publicness" (Malkin & Wildavsky 1991, 364).

Malkin and Wildavsky conclude that a good is not definable as a public good by any objective criteria, or further, by any criteria inherent in the goods themselves. On the contrary, they argue, a good becomes public because society decides to treat it that way.

B. Mistakes Made by Insiders: The Concept of Public Good Is an Ideal Concept as Are the Concepts of Private and Merit Good

a. Samuelson: Are the Concepts of Private and of Public Goods Equally Polar or Ideal Concepts?

Samuelson wrote three very influential articles on public goods (Samuelson 1954; 1955; 1958). In those articles, he introduces the idea of a *pure* public good, i.e., a good that, if provided to one person, needs to be made available in *equal* amounts to *all* (Samuelson 1955, 350). By introducing the idea of a pure concept, he is able to develop two logically necessary conclusions: that there is an opportunity for collective gain and that individuals are motivated neither to pay for nor to truthfully reveal their interest in the public good to an agency (the government) if that agency intends to use taxation power to force people to pay according to their bene-

[126] This is a wrong conclusion, because both the concept of private and of public good are ideal or polar concepts. For a concrete illustration see the first footnote of this chapter.

fits (Samuelson 1955, 350; 1954, 388–89). By reflecting on the applicability of his theory for real policy matters, Samuelson correctly understood the nature of his theoretical effort and thus maintained the ideal at the core of the concept "public good." However, he did not give the concept "private good" the same ideal status. He was therefore forced into maintaining counter-intuitive conclusions.

Let me quote the passage where Samuelson makes the above reflections.

> In my papers I often spoke of 'polar' cases: e.g., the polar case of a 'pure private good'....At the other pole was what I called a 'pure public good'.... I did not demur when critics claimed that most of reality fell between these extreme poles or stools, but instead suggested that these realistic cases could probably be analyzed fruitfully as a 'blend' of the two polar cases.
> I now wonder whether this was optimal semantics....
>
> Thus, consider what I have given in this paper as the definition of a public good...: 'A public good is one that enters two or more persons' utility'. What are we left with? Two poles and a continuum in between? No. With a knife-edge pole of the private-good case, and with *all* the rest of the world in the public-good domain by virtue of involving some 'consumption externality'...
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> So I now think the useful terminology in this field should be: pure private goods in which the market mechanism works optimally, and possibly close approximations to them, versus the whole field of consumption-externalities or public goods.
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> This does, however, lead to an uncomfortable situation. If the experts remain nihilistic about algorithms to allocate public goods, and if all but a knife-edge of reality falls in that domain, nihilism about most of economics, rather than merely public finance, seems to be implied. (Samuelson 1969, 108-9)

As Samuelson himself connects the free market with the concept of private good, it seems legitimate to clarify the ideal concept of private good by quoting Adam Smith's understanding of the free market.

> All systems either of preference or of restraint, therefore, being thus completely taken away, the obvious and simple system of natural liberty establishes itself of its own accord. Every man, as long as he does not violate the laws of justice, is left perfectly free to pursue his own interest his own way, and to bring both his industry and capital into competition with those of any other man, or order of man. The sovereign is completely discharged from a duty, in the attempting to perform which he must always be exposed to innumerable delusions, and for the proper performance of which no human

> wisdom or knowledge could ever be sufficient; the duty of superintending the industry of private people, and of directing it towards the employments most suitable to the interest of the society. (Smith, 687)

If one accepts the notion that the ideal concept of "private good" requires allowing the market to work completely, then the application of that ideal concept to the real world requires allowing the market to work as much as possible. Thus, even though national defense is considered a public good, there is no a priori demand that the government produce that good. Cannons and rifles can very well be produced by the free market and bought by the government through a bidding system. The government restricts itself to providing national defense; it does not have to take control of the production of arms. Cannons and rifles remain goods that are rival in consumption and subject to exclusion and thus remain private goods. As instruments for providing national defense these arms potentially become public goods.[127] Similarly, if permissible pollution units are specified, then nothing prevents society from letting the free market find the most effective way of preventing pollution. In my view, it follows that if one accepts the thought of ideal concepts then it is wrong to argue that one ideal concept can be applied to a greater or lesser extent (Samuelson's pure public good) and another not (Samuelson's private good).

Furthermore, truth in the deductive method of science is established first of all at the level of the ideal concept. The problem of correctly seeing how ideal concepts apply to reality is a totally different matter from evaluating an ideal theory or an ideal concept. Samuelson saw correctly the consequences of calling his definition of public goods an ideal concept. Unfortunately, he either did not see that the concept of the free market (or the concept of a private good) is also an ideal concept or he did not correctly see the consequences of calling it an ideal concept.[128]

b. Musgrave: The Concept Merit Good Is an Ideal Concept Just as the Concepts of Private and Public Good

Musgrave introduces in his work the concept of "merit good" as a label for a number of economic activities of the government that he did not consider to be proper public goods. His definition of the concept of "merit good" is

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[127] This conclusion is similar to conclusion from the argument that bread is both a private good (nutritional value) and a public good (the visibility of eating bread, particularly by the poor, is pleasing to many). See also footnote 118.

[128] An illustration of the ideal and thus unreal dimension of the definition of private goods is the requirement that they be infinitely divisible (Arrow & Hahn 1971, 61). This requirement is necessary for another often-used assumption in micro-economics: smooth indifference curves.

as follows: goods or wants "considered so meritorious that their satisfaction is provided for through the public budget, over and above what is provided for through the market and paid for by private consumers" (Musgrave 1959 b, 13). He also writes that a merit good "by its very nature, involves interference with consumer preferences" (Musgrave 1959 b, 13). He gives as examples "free hospitals for the poor or public subsidies to low cost housing" (Musgrave 1956, 341). Musgrave also allows for demerit goods. He writes, "[T]heir satisfaction may be discouraged through penalty taxation, as in the case of liquor" (Musgrave 1959 b, 13).

Difficulties develop when Musgrave clarifies the relationship between the three theoretical concepts of private, public, and merit good and concrete economic events. In his first writings Musgrave classifies merit goods as public goods ("social wants" in his terminology), because he says, "the benefits derived from such services extend beyond the specific beneficiary" (Musgrave 1957, 111). In later writings he concedes that merit goods could also be private goods. With reference to merit goods he writes, "Wants are satisfied that could be serviced through the market," and "Separate amounts of individual consumption are possible" (Musgrave 1959 b, 9). Nevertheless, Musgrave continues to write that some merit goods have many public good aspects. In the German translation of *The Theory of Public Finance* and in the English original from the third edition on, Musgrave hesitantly introduces the idea that there could be *polar cases of private and public goods*.[129] In order to relate the concepts of private, public, and merit goods, he proposes two vectors, each with three possibilities. The first vector is the degree of externality or percent of benefit that is social. This first vector allows for three possibilities: all, part, or none of the benefits of the good might be social. The second vector addresses the degree to which consumer sovereignty applies. This vector also allows for three possibilities: consumer sovereignty applies either fully, partially, or not at all. The case of a good for which vector one indicates that all benefits are social or are externalities, and for which vector two indicates that there is full consumer sovereignty, Musgrave calls the case of a 100 percent public good (his category, "social want"). The case of full consumer sovereignty in vector two and no degree of externality in vector one is then the case of a 100 percent private want. The case of full consumer sovereignty in vector two and a partial degree of externality in vector one Musgrave calls a mixed situation with both public (social) and private benefits. All the other cases are merit wants. Musgrave adds without explanation

[129] (Musgrave 1959 b, 89), [Musgrave at Harvard]. See also (Andel 1984, 634). What Andel refers to as the "third edition" is actually the edition in which the title page refers to Musgrave as being at Harvard. The earlier edition identifies him as a professor at the University of Michigan.

that "the case [merit want situation] at closer inspection *frequently proves to be one of social [i.e. public] want*" (Musgrave 1959 b, 89 [Harvard] my emphasis). It looks to me as if Musgrave understands the concepts of private, public, and merit good as tags that can be attached to concrete cases. The polar nature of the case is introduced only as a surprising result. It is not a permanent feature of Musgrave's thinking on these three concepts. In his publication *Fiscal Systems*, he often, if not exclusively, considers merit goods to be *private goods*. He writes, "they are quite capable of being subjected to the exclusion principle" (Musgrave 1969 a, 12).

Clearly, Musgrave shifts his opinion in considering whether merit goods are private or public goods. It is not that Musgrave does not know the definitions of the concepts of private, public, and merit good, but rather I propose that the weakness of Musgrave's view lies in his conception of the nature of the concepts of private, public and merit good. Musgrave seems to work with the idea that these three concepts are taxonomic and are thus like tags which are able to identify concrete economic goods. The concepts are supposed to separate economic activities which have mutually exclusive characteristics. The difficulty of such a conception of the three economic concepts starts when Musgrave notices that economic activities that must be tagged as public goods (because they are provided for by the government) have a secondary characteristic that does not agree with the definition of public goods (the violation of consumer wishes). A new difficulty arises for Musgrave when he sees that goods provided by the government on meritorious grounds can also be provided efficiently through the market (medical services and housing). Musgrave ends up accepting the position that merit goods are not a subcategory of either the tag public good or the tag private good, because a merit good can be both a private and a public good.

Musgrave has no difficulty in maintaining that the three concepts have different definitions, yet he seems puzzled that several concepts can apply to one and the same economic event. I propose that the three concepts of private, public, and merit good are unambiguously different, but that they can apply to the same economic activities. For this to hold, the concepts must be considered tags, not for real events, but for mental constructs using characteristics of real events. The three concepts are not like tags that answer the question of whether or not an object is made from wood, iron or aluminum. These usually are all or nothing questions and the answers are therefore also mutually exclusive (A table is normally either made from wood, or from iron, or from aluminum.) The three economic concepts under discussion are more accurately tags for answering questions like: is this person just, or friendly, or generous? These concepts all apply

in degrees[130] and are also not mutually exclusive. If the three concepts of private, public, and merit good are similar to the concepts of just, friendly, or generous, then a concrete economic activity can be said to possess all three characteristics and to possess them in varying degrees.

Let us take the example of milk. Milk is a prime example of a private good since it is excludable and is marked by rivalness in consumption. However, one could also rightly argue that, in some countries, milk is a merit good because the state subsidizes it in order to *increase its consumption by the poor*. Finally, one could argue further that milk is a public good because many people enjoy the idea that children in their country have milk available to them. In this sense, consumption of milk represents a psychic externality and to this extent is a public good. These three characteristics can be truthfully ascribed simultaneously to milk only if the three concepts of private, public, and merit good point to *aspects* of goods rather than being tags for concrete goods.[131]

The importance of conceptually seeing that one service can be simultaneously a private, a public, and a merit good is demonstrated in Kenneth Godwin's article "Charges for Merit Goods: Third World Family Planning" (Godwin 1991) where the author analyzes the effectiveness of family planning in developing countries by means of the distribution of contraceptives. As family planning is considered desirable by the elites, Godwin claims that they can be considered a merit good (416). However, contraceptives are also "a private good, rival and exclusive" (416). Finally, Godwin argues that "many women would use effective, reliable contraception if it were available and affordable" (416). But, as contraceptive services are neither affordable for many women nor readily available, the market by itself is of little help in reaching the goals of the merit good policy. Looking at the delivery of contraceptives in a third way, some countries consider it a public good, where the elite realizes that different women are willing to pay different prices and where the government can provide help both by making the provision easier and by charging a different price to different people according to the public good's principles.

Godwin now makes the following observations: on the basis of it being a merit good, some want the government to "offer these services at little or no cost" (417). This is the case with Ecuador. However, in an alternative example "the Columbian public health-care system charges for its services" (423). It applies a user fee, the amount of which differs according

[130] This has also been observed about the concepts of private and public good by others (Adams & McCormick 1993, 109).

[131] I differ from others who call a public good a category and call excludability and rivalness in consumption characteristics (Ostrom & Ostrom 1991, 165 ff.). I see no difficulty in calling the concept "public good" a characteristic or an aspect of concrete economic events.

to income, which is one method used to deliver and pay for public goods. The first approach leads to a centralized delivery of the contraceptive services. The second approach leads to a decentralized approach. Interestingly, the difference in efficiency between the two countries is dramatic. Columbia has a greater decline in fertility rate and pays four dollars per acceptor, whereas Ecuador spends fifteen dollars (425). I now want to present my own conclusion with reference to this evidence. According to Godwin, Ecuador considers contraceptive services to be solely merit goods and delivers them free of charge. Columbia considers the contraceptive services to be at the same time private, public, and merit goods. Godwin's article demonstrates that Columbia, and other countries following similar policies, is more effective than countries that act as if contraceptive services are only merit goods and not also private or public goods. The merit good aspect is present in the willingness by the government to subsidize the level of provision of contraceptive services beyond the level justified by the public good argument (i.e., the level determined by the willingness to pay by all potential consumers). One advantage of introducing the public good argument is that it allows for a policy that can rely on user fees when there are not enough health dollars in the country's budget to fully finance the delivery of contraceptive services. At the same time, labeling contraceptives a public good does not prevent a governing elite from also declaring it a merit good that justifies looking for means to increase its consumption beyond the level guaranteed by the willingness to pay. In order to avoid the inefficiency of the Ecuador model and to obtain the benefits of the efficiency of the Columbia model one needs to conceptualize contraceptives as merit, public, and private goods *at the same time*.

The three concepts are, in a second way, similar to tags like just, friendly, or generous in that they point to less tangible aspects of economic activities or economic goods. For less tangible characteristics we can expect many different descriptions. And indeed, economists have used many words to describe the characteristics of economic events possessing public good aspects. They have also used many words to describe the special relations human beings have with such economic events. I will assemble both the words pointing to characteristics of economic events and the words describing human relations with such economic events. In the following sections I will argue that all the characteristics of economic events with public good aspects can be reduced to two characteristics that together form the ideal concept “public good.”

III. In Search of a Definition

A. An Enumeration of the Characteristics Used to Classify an Economic Activity or an Economic Good as a Public Good

Malkin and Wildavsky claim that, according to their reading, economists do not point to multiple characteristics of economic events that are public goods, but rather, present five different definitions of the concept. If this were the case, then Malkin and Wildavsky would be right in objecting to the economic profession.

I am convinced that a better approach requires looking at the many characteristics that economists have observed in goods with public good aspects and then seeing if a single definition can be developed.

In his *Public Goods and Public Welfare* Head enumerates the following characteristics as features used to define public goods: (1) decreasing costs in production, (Head 1974, 176) (2) externalities, (85) (3) Samuelsonian joint supply, (77 ff.) (4) non-exclusion, (80) (5) non-rejectability, (82) (6) benefit spillovers, (271) (7) unenforceability of compensation, (185) (8) indivisibility, (161) (9) non-appropriability, (28) (10) non-rivalness in consumption, (78) (11) economies of scale, (179) (12) multiple user good, (79) and (13) lumpiness, (168). Head wrongly rejects (14) Marshallian joint supply (78–9). Other authors add: (15) free rider possibility, (Buchanan 1975 b, 207) (16) non-subtractability, (Ostrom & Ostrom 1991, 165–7), (17) the fact of not being packageable, (Ostrom, et al. 1991, 140) and finally (18) the strategy of holding out (Ostrom & Ostrom 1991, 170). There are, therefore, at least eighteen terms referring to characteristics of economic events with public good aspects. However, some of the eighteen characteristics are obviously related to each other in as much as they point to the same aspect, albeit from somewhat different angles. I will therefore group the above-enumerated characteristics with the purpose of arriving at a single definition of the concept "public good," a result that, if achieved, would undermine one of Malkin and Wildavsky's attacks on the concept.

Group I. Not Internalizing the Price of an Aspect into the Price of the Total Good

(2) *Externalities* are costs and/or benefits from consumption or production that are not reflected in market prices (Penguin 1972, 158–59).[132]

(6) *Benefit spillovers*, according to Head, refer to positive externalities resulting from the provision of services by one jurisdiction that are enjoyed by residents of another jurisdiction (Head 1974, 270–78). Clearly, this concept is a subcategory of the concept "externalities." It restricts the beneficiaries to lower level governmental jurisdictions.

(7) *Unenforceability of compensation* is understood by Head as the central characteristic of externalities (Head 1974, 185–86).

(5) *Impossibility of rejection* is defined by Head as an extreme form of external diseconomy (Head 1974, 83).

(14) The term *Marshallian joint supply* refers to a situation where two or more products are necessarily produced by one process, such as meat and wool from sheep (Penguin 1972, 239; Head 1974, 78–79A). Head provides an argument for treating this case as consisting of private goods that can be handled in a Pareto-optimal way by the market and therefore does not belong to the problematic of public goods (Ibid.). If we take another example, that of the bee-keeper, then we have the case of one product or service that is paid for (honey) and another service (pollination of the apple trees leading to increased apple production) that is jointly supplied but where compensation is unenforceable. Marshallian joint supply can therefore present a public goods problem if one jointly supplied service is such that compensation is unenforceable.

[132] Some authors warn that externalities cannot be identified with public goods even though there are similarities. Thus, Bohm points out that public policy addressing externalities often aims at curtailing "mainly private activities with negative effects on other[s]...whereas public policy concerning public foods is about increasing – or even creating – something that is suboptimally provided by the private sector" (Bohm 1997, XVII). This difference is conceptually irrelevant, if the purpose is to see possibilities for collective gain. The same author points out that Marshall connected the concept of external economies with some forms of economies of scale (45). The connection between these concepts is taken up when I discuss the concept of "economies of scale".

Group II. Violation of Infinite Divisibility Theoretically Required by the Concept "Private Good"

(8) *Indivisibility*: This concept means that certain goods are not available in all desirable quantities, but only in specific sizes.[133]

(15) *Lumpiness* is a synonym for indivisibility (Head 1974, 168).

Group III. One Good, Many Users; Decreasing Cost Possibilities

(3) *Samuelsonian Joint supply*: In order to avoid confusion, one should distinguish between Samuelsonian and Marshallian joint supply. The term 'Marshallian joint supply' refers to a situation where two or more products are necessarily *produced* by one process, such as meat and wool from sheep (Penguin 1972, 239; Head 1974, 78–79). This concept belongs in the discussion of public goods only if there is unenforceability of compensation of one of the jointly produced services. The term 'Samuelsonian joint supply' refers to a situation where, because one product can be enjoyed by many, it becomes efficient for consumers to join together in the production process. Samuelsonian joint supply is, thus, a production reaction to a characteristic of the consumption condition (Head 1974, 77).

(12) *Multiple user good*: Sharp introduced this term to avoid the confusion that is possible with the term "Samuelsonian joint supply."[134]

(10) The term *non-rivalness in consumption* conveys the same characteristic as Samuelson's concept "joint supply." The only difference is that this term describes the characteristic from the *point of view of consumption* and *not of the solution in production*. This concept also means to convey the same characteristic as the one referred to by Sharp's term "multiple user good." The difference is that Sharp describes the characteristic from the point of view of the economic good under consideration and not from the point of view of consumption of that good.

(1) *Decreasing production costs* simply refers to the fact that there are economies of scale (Penguin 1972, 135–37). Head, however, looks at the possible effects on consumers of decreasing production costs. He points out that a major consequence of economies of scale for consumers is that each additional consumer buys not only a rival good (a car or a PC), but

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[133] (Penguin 1972, 135). Head accuses Buchanan of using "indivisibility" confusingly as a portmanteau term for two characteristics: joint supply and impossibility of exclusion (Head 1974, 78-79).

[134] (Head 1974, 168; Bird & 1972, 4). Head also draws attention to some unfortunate terms used upon occasion for this characteristic, such as: jointness of demand, joint consumption, consumption externality, non-rivalness in consumption (Head 1974, 78 n. 15).

also provides, at the same time, a positive externality for all other consumers of this good: i.e., a lower unit price for the car or the PC (Head 1974, 28, 176–79). Economists can thus look upon the case of decreasing production costs or economies of scale as a case in which consumers are confronted with a rival good that has also an externality that is non-rival in consumption (i.e., the price at which the rival good can be offered given the quantity of the rival good demanded, which is strongly correlated with the quantity of consumers demanding the rival good). According to Head the cheaper price of a PC resulting from an increase in demand for PC's is similar to the cheaper cost imposed on consumers resulting from an increase in consumers for goods generally recognized as public goods, such as bridges and lights in back alleys. For the study of the concept of public good, the relevant aspect of decreasing cost in production is therefore the positive externality of lowering the price for all consumers by the mere fact of buying an additional unit of the rival good or, in other words, the non-rival consumption gift of a lower price for a rival good resulting from any increase in demand of the rival good.

(11) *Economies of scale* are the cause of decreasing production costs per unit with increase in demand. Economies of scale are relevant for these results in that they produce something for the consumer. I analyze the different aspects of this phenomenon under the term 'decreasing costs in production' in the previous paragraph.

(16) *Non-subtractability* which is defined as the the fact that "consumption by one person precludes its use or consumption by another person" (Ostrom & Ostrom 1991, 165–7). Such a good is thus completely rival in consumption. A completely non-subtractable good is a good where joint consumption takes place without the crowding out effect. It is thus completely non-rival in consumption. If the good is partially subtractable we face partial non-rivalness in consumption where there is partial loss in enjoyment from additional consumers.

Group IV. Payment Problems: The Inability to Prevent Enjoyment without Pay

(7) *Non-exclusion* is a term used to describe the enviable position of a consumer who can enjoy a product without having to pay for it. This situation arises when a producer or a consumer has no economically sensible method of excluding another consumer from enjoying the good or service without the latter paying his/her share in the good or service that s/he co-consumes.

(17) The fact of *not being packageable* is defined as the impossibility "of being differentiated as a commodity or a service" so that "it can be

readily purchased and sold in the private market" and where "those who do not pay for a private good can then be excluded from enjoying its benefits." Political scientists using the term "packageable" identify the idea with the exclusion principle of economists (Ostrom, et al. 1991, 140–1). In my view, the word "packageable" points to a possible strategy to make the exclusion principle work.

(15) A *free rider* is a person who makes use of the advantages of the non-exclusion situation (Buchanan 1975 b, 37, 148). Malkin and Wildavsky claim that individuals "indicate a more honest revelation of preferences than that predicted by free rider theory" (Malkin & 1991, 336). However, they overstate their claim when they conclude that it is a fictitious problem. Other authors counter this claim by pointing to experiments that "offer persuasive evidence that free riding is a real phenomenon" (Adams & McCormick 1993, 113). These other authors also point out that "less-than-total free-riding do[es] not demonstrate that the free-rider problem is not prohibitive" (Ibid.)).

(18) *Holding out* is one strategy that a free rider may use (Ostrom & Ostrom 1991, 170). Holding out can be justified by claiming that one has no interest in the public good, less interest than is actually the case, or by disputing the fairness of one's assigned payment. The crucial factor is that the arguments are used in order to refuse participation in financing the public good. When holding out is possible, one is in the presence of a public good.

(7) *Non-appropriability* is a term used to describe the problem from the point of view of an economic good. Head defines it as "that property of a good which makes it impossible for private economic units, through ordinary private pricing, to appropriate the full social benefits (or be charged the full social costs) arising from their production or consumption of that good."[135]

B. Reduction of the Many Characteristics to a Few Crucial Ones

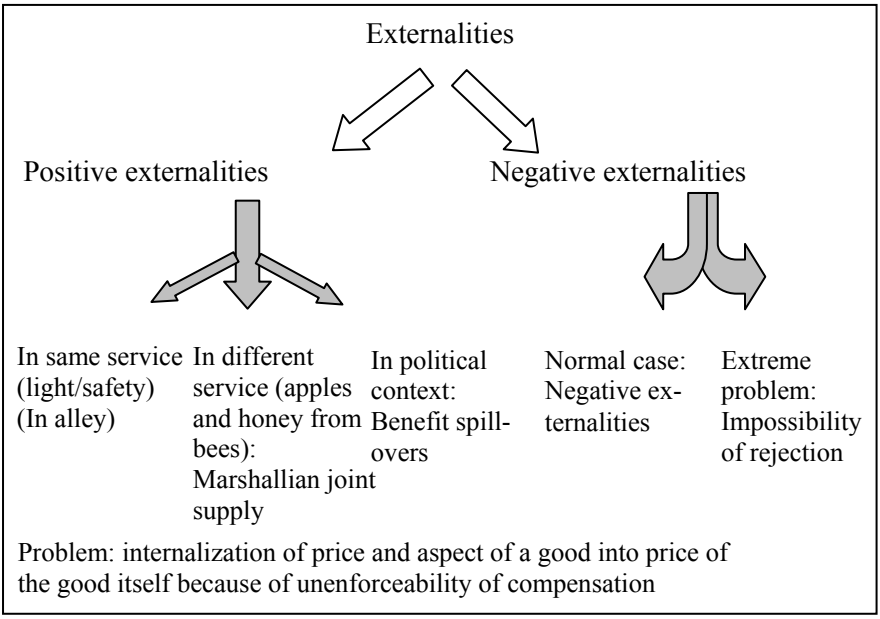
Let us now reflect more formally on each of the four groups of characteristics of public goods.

Group I includes externalities, benefit spillovers, unenforceability of compensation, impossibility of rejection, and Marshallian joint supply. The relationships among these characteristics can be presented as follows. Externalities can be either positive or negative. In the former case, they

[135] (Head 1974, 28) He also explicitly mentions that it is meant to convey the same problem as Musgrave's "impossibility of exclusion." (Head 1974, 28 n. 55, 180)

are often referred to as "external economies" while in the latter they are often called "external diseconomies." An extreme form of external diseconomy is the impossibility of rejection. A particular form of external economy is the benefit spillover of local government actions onto non-residents or people outside of the political locality. Another particular form of external economy is a Marshallian joint supply in which the producer of one service has no way of charging a fee for a second jointly supplied service. Externalities are a problem because the price of an aspect of a good cannot be included in the price of the good itself. Thus, there is a price internalization problem. Until the price internalization problem is solved, there is the problem of unenforceability of compensation. These complex relations are represented in Table I.

Table 1: Group I: Externalities



Group II includes indivisibility and lumpiness. These two terms are essentially synonymous

Group III includes Samuelsonian joint supply, multiple user good, non-rivalness in consumption, non-subtractability, decreasing production costs, and economies of scale. The first four concepts are essentially synonymous, describing a single characteristic seen from four points of view. The term "multiple user good" describes the characteristic under consideration from the point of view of a good which has special features in its consumption possibilities: it can be used by many consumers and, thus, possesses

the characteristic of non-rivalness in consumption. This is the case, because enjoyment of the good by one consumer does not subtract from the usefulness of that good for another consumer. The good is therefore said to be non-subtractable. In consuming such a good, consumers are not rivals. Samuelsonian joint supply is an efficient production strategy for goods with the special consumption feature of non-rivalness in consumption.[136] Head proposes the fifth term "decreasing production costs" as the most general term. Decreasing costs can be obtained from the production side and from the consumption side. The former is, in economic literature, called "economies of scale." The latter is labeled with one of the four essentially synonymous terms mentioned above (i.e., Samuelsonian joint supply, multiple user good, non-rivalness in consumption or non-subtractability). I have interpreted decreasing costs in production and economies of scale as creating a possibility of a non-rival gift of cheaper pro unit costs for a good with each increase in demand of the good. The relationships among the items in Group III are represented in Table II.

Table II: Group III: Opportunities given decreasing costs

Opportunities given decreasing costs

(On production side)	(On consumption side)
Economies of scale or decreasing production costs lead to non-rival gift of cheaper pro unit costs in consumption by increased demand.	Can be labeled by four synonyms by emphasizing: 1. Reason for problem seen in consumption: non-rivalness in consumption, 2. Reason for problem seen in consumed good: its consumption by one person does not subtract (non-subtractability) from usefulness for another person. 3. Characteristic of the good: multiple user good. 4. Name of author who proposed a production strategy to deal with the problem; Samuelsonian joint supply.

[136] It is very important to see the difference in point of view taken when using these synonyms. Failing to do so easily leads to confusion. See Olson's attempt to relate his concept of exclusive collective good to jointness of supply. (Olson 1968, 38 n. 58)

Group IV includes non-exclusion, free rider possibility, non-appropriability, non-packeagability, and the possibility of holding out. These terms too emphasize a same characteristic from different angles. Non-exclusion possibility focuses on the fact that non-paying consumers cannot be excluded from the enjoyment of a good or service. Non-packageability focuses on a characteristic of goods that make exclusion difficult or impossible (i.e., the good is not neatly packageable so that it can be sold in separable units). Lack of packageability of a good or impossibility of exclusion means that consumers can enjoy a good without paying, in other words, they can be free riders. "Free rider" is, thus, a term for non-paying consumers of goods that are not packageable or that are non-exclusive. A strategy to become a free rider of such goods utilizes holding out voluntary payment by exploiting the fact that one cannot be excluded from enjoying the good anyway.

These four groups can now be further combined. Combination A relates Groups II and III. Combination B relates Groups I and IV.

These four groups can now be further combined. Combination A relates Groups II and III. Combination B relates Groups I and IV.

Combination A: Group II and Group III are related as a cause is related to an effect. Indivisibility or lumpiness is one of the reasons for economies of scale or for the *availability of decreasing costs*, i.e., of an opportunity for gain.

Combination B: Group I and Group IV are related to each other because the problem with externalities is at bottom the *unenforceability of compensation*. This concept is closely related to the concept of non-exclusion or *non-appropriability*.

Head, however, points to two differences between these two seemingly similar concepts. First, unenforceability of compensation in the case of externalities takes place concerning services which are often of a different nature than the ones that are paid for, as when production of apples co-produces flowers, providing free nectar to the honey industry (Head 1974, 185-86). Non-appropriability because of non-exclusion possibilities in the enjoyment of pure public goods, on the other hand, refers by definition, to the same service. Second, externalities may extend to only one or to a few persons; pure public goods extend by definition, to all members of the relevant group (Head 1974, 186).

In my view, the second difference discussed by Head concerns a feature of public goods that does not touch its essence. Indeed, nothing prevents us from extending the use of the concept of the relevant group, used by Head exclusively for the concept of a pure public good, to the phenomenon of externalities. The number of persons who enjoy the externalities could

then be called the relevant group or the relevant public for the externalities.[137]

In my view, the first distinction is also unessential from the point of view of economic optimalization. I see a pure public good as a good that is nothing but externality. Thus, the theorem regarding the difficulties that occur in the search for a social optimum with pure public goods has dramatic generality precisely because these same difficulties arise with all goods having externalities.

As a consequence, we are left with the idea that the eighteen characteristics can be reduced to two combinations: Combination A and Combination B. Combination A stresses the opportunity for gain resulting from the existence of goods that can be used by many. This characteristic can then be elevated to an ideal level. Instead of stressing that a good can be used by many, we now can say that for that good there is *non-rivalness in consumption*. Combination B stresses the *problem related to the realization of the opportunity for gain*: unenforceability of compensation because of non-exclusion possibility. This non-exclusion possibility can be treated as a technical problem; namely, the problem of finding barriers for non-paid consumption (such barriers include toll-booths, TV signals that are usable only with a descrambler, and taxation schemes). The non-exclusion possibility can, however, also be elevated into an absolute problem. This is the case when barriers can not be found or when implementing barriers is too expensive. Thinking of non-exclusion possibility as being without a perfect solution is equivalent to elevating it into an absolute and, thus, an ideal level.

Thus, the eighteen characteristics by which public goods aspects or problems are described can be reduced to a related pair:

1) Decreasing costs from multiple users, thereby offering an opportunity for gain.

2) Unenforceability of compensation because of non-exclusion possibility. This makes financing the opportunity for gain difficult, if not impossible.[138]

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[137] This move is, in fact, made by Samuelson when he changes his verbal definition of public goods without changing his mathematical model. Thus, in the Biarritz conference, he writes, "A public good is one that enters two or more persons' utility" (Samuelson 1969, 108). Other authors, too, make this move when they recommend that the public affected by a public good should ideally be equal to the political community that makes the decision (Ostrom, et al. 1991, 147).

[138] This conclusion is different from those of some other authors who are satisfied to notice that different approaches stress one or the other feature as important for the breakdown of the basic theorems of welfare economics (Cornes & Sandler 1994, 375). These authors look for empirical cases where the theory of public goods makes a contribution. My ap-

IV. Implementation Problems

The concept "public good" is a multidimensional concept because it captures two characteristics. Authors looking for solutions for the potential, but unrealized, gain present in public goods can address either one of the two characteristics. Samuelson addressed the non-rivalness in consumption. Olson addressed the non-exclusion possibility. Both concluded that a general optimal economic solution does not exist. In my view, this conclusion also gives non-economic factors a role in the choice of solution and makes the solution of the public goods problem a socio-economic problem. I will therefore conclude that valid economic reasoning about the concept of public good both establishes that there is a pure economic challenge and that all kinds of payoffs (social, political, legal) are at work in finding a solution. That solutions will have to be artful does not mean that the problems for which they are solutions are not valid problems. The latitude that might exist with solutions does not mean that the problem is a fiction as Malkin and Wildavsky's article suggests.

A. Samuelson: The Non-Rivalness in Consumption

As the primary characteristic for his analysis, Samuelson selects decreasing cost resulting from the fact that there are multiple users.[139] From this he is able to derive, with the assumption of self-interested behavior,[140] an

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proach intends to theoretically capture the *necessary* features for the breakdown of private goods analysis or market performance.

[139] "Collective consumption of goods…which all enjoy in common in the sense that each individual's contribution of such a good leads to no subtraction from any other individual's consumption of that good" (Samuelson 1954, 387). Even more explicit is the following: "The possibility or impossibility to apply an exclusion principle is less crucial than consumption externality, since often exclusion would be wrong where possible" (Samuelson 1969, 105). Other authors have observed the above-mentioned choice made by Samuelson (Cornes & Sandler 1994, 371). They do not point out, as I do, that Olson chooses non-exclusion as the crucial characteristic for his reflections.

[140] Stretton and Orchard strongly attack this assumption. They point to a multiplicity of motives at work in the provision of public goods and then claim that the economist's model is unrealistic and, thus, useless (Stretton & Orchard 1994, 78–9, 277). In my view, economic analysis of public goods can be used to demonstrate the presence of a challenge: an opportunity for collective gain and the difficulty of financing that opportunity. In my paper I do not choose between advocating for the creation of private incentives (merit increases in salaries; increase in insurance premium after an accident) or advocating societal support for responsible behavior (medals for heroic behavior in war or outstanding achievements; public praise for altruistic efforts).

optimal level of provision.[141] In the case of a positive economic good, the optimal level of provision is bigger than the sum of quantities that the consumers would individually buy. Left to the free market, public goods will, in that model, be under-provided.[142] There thus exists an opportunity for economic gain. According to Head – and I agree with him – Samuelson's statement provides a benchmark for the assessment of market performance.

Samuelson includes the second characteristic (unenforceability of compensation) in his analysis when he looks for a method to realize the opportunity for gain. Samuelson's proposal consists of two steps (Samuelson 1954, 387–8 "Optimal Conditions"). First, he asks that the government inquire about how much each citizen is willing to pay for a particular public good (e.g., a bridge). If an entrepreneur is willing to provide the public good at a price that is less than what the citizens are willing to pay, then there is an opportunity for gain for all in the provision of that good.

Second, the government must use its tax power to force people to pay what they declared they were willing to pay. Samuelson uses the government to overcome the unenforceability of compensation.[143] He then points out that citizens will realize that their declared willingness to pay for a public good will be used twice by the government: once to decide whether or not to provide the good and once to decide how much to tax citizens for a particular good. Thus, claims Samuelson, citizens will have a selfish incentive not to reveal their true preferences. Consequently, he concludes, an ideal solution exists, but it cannot be realized by the government.[144]

Samuelson thus argues that the government is technically capable of dealing with the unenforceability of compensation for public goods by using its power of taxation. However, says Samuelson, one can not hope,

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[141] The mathematical proof is given in Samuelson 1969. The geometric proof is given in Samuelson 1955.

[142] This is the conclusion popularized in Galbraith, 1958. Conversely, others point out that there are theoretical cases (empirically extremely rare) where the Nash non-cooperative equilibrium is identical with the Pareto-optimal solution (Cornes & Sandler 1994, 374).

[143] Up to this point Samuelson's ideas were already captured by Adam Smith when he writes that the government has three duties to perform in the economy, the third being "the duty of erecting and maintaining certain public works and certain public institutions, which it can never be for the interest of any individual or small number of individuals, to erect and maintain; because the profit could never repay the expence to any individual or small number of individuals, though it may frequently do much more than repay it to a great society" (651).

[144] Thus Samuelson writes that there is an "Impossibility of decentralized spontaneous solution" (Samuelson 1954, 388–9) and "Although the optimum is definable, rational people will not, if left to themselves, be led by an invisible hand to the bliss point. On the contrary, it will pay for each rational man to dissemble, trying to mask his preference for the public goods and to engage in other game strategy maneuvers which, when all do them, will necessarily involve deadweight loss to society" (Samuelson 1958, 334).

even at the level of the ideal concept, that the government will succeed in using its tax power in such a way that the opportunity for gain is *fully and optimally realized*.[145]

Even at the ideal level, the concept of public good represents a difficult-to-realize opportunity for gain. It is difficult to get the information about the desirability of the public good. Or, in economic jargon, there is a problem of true preference revelation.

Nevertheless, even without perfect knowledge, the government must decide whether or not to provide the public good. It also must decide how much of the public good it should provide. Finally, the government must decide, all without guaranteed information, on a tax schema. Under such circumstances, it is not possible for the government to reach an optimal solution and a Pareto distribution of taxes for the public good.

Some authors have introduced sophisticated demand-revealing processes consisting of a two-step taxation system. First, there is a tax levied on each citizen which, added together, covers the total cost of the public good. In order to guarantee Pareto optimality, the tax on each individual is not to exceed the declared willingness to pay of each citizen. Second, an additional tax, the Clarke tax, is imposed in order to guarantee that the citizens are economically motivated to reveal their true preferences.[146] If the Clarke tax succeeds in eliciting true preferences, then the first tax satisfies the Samuelsonian conditions for Pareto optimal provision of the public good.

Several problems emerge with the use of Clarke taxes. First, Clarke taxes are taxes beyond the cost of the public good. They can be substantial for small groups. Happily, they decrease as a proportion of the total tax when the group of citizens increases. Still, charging more than the cost is not an optimal solution (Mueller 1979, 74 ff.).

The second problem with the Clarke taxes is that the outcome can be manipulated if individuals come together and coordinate their responses (Stevens 1993, 162).

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[145] "[My theory] is in fact an attempt to demonstrate how right Wicksell was to worry about the inherent political difficulty of ever getting men to reveal their tastes so as to attain the definable optimum." (Samuelson 1955, 355)

[146] A Clarke tax is a tax used to encourage true preference revelation for public good projects. A Clarke tax is imposed on person A if A's preferred option wins because of A's declared monetary interest in one particular approach to a public good. The amount of Clarke tax is equal to the amount that A's preferred option would loose without A's declared monetary interest. Take the case of Dutch elm disease, which can be approached by experts' removal of sick elms or by doing nothing. If A declare that it is worth $40 to him to have nothing done and that option wins by $30 then the Clarke tax for A is $10 ($40-$30=$10) (Stevens 1993, 160–161).

Thirdly, and theoretically extremely interesting, Clarke taxes aim at a voting mechanism that allows the expression of the intensity of one's vote. Take the following case. Citizen A prefers outcome Y over X with $30.00 and citizens B and C each prefer outcome X over Y with $10.00. Democratically, the vote is 2 to 1 in favor of outcome X. Using a democratic procedure X should be realized. If efficiency is to prevail, then the money value of outcome Y is $30.00 and of outcome X $20.00. Thus Y prevails. Clarke taxes that aim at efficiency can easily require that majority vote be overruled (Stevens 1993, 160–2). Efficiency, democratic procedure and fair taxation cannot always be jointly achieved.

Where does the Samuelson's impossibility theorem and the critical evaluation of the Clarke tax proposal leave us with regard to governmental provision of public goods? Three remarks need to be made, to address this question.

First, even if Clarke taxes encourage true preference revelation, citizens are charged more than the cost of the public good. The governmental provision of public goods using Clarke taxes is therefore not economically optimal. If Clarke taxes are not used to encourage true preference revelation, then the government decides in partial ignorance of true preferences and its decision can easily be inefficient. Thus, it is important to analyze the lack of efficiency involved in governmental delivery of public goods.

Second, the governmental provision of public goods almost always involves the use of coercion in one of its many forms (compulsory payment by means of assessed taxes; confiscation of property (e.g., land); majority rule imposing the interests of the majorty on the minority) (Priddat 1992, 246). The pure economic justification of governmental provision of public goods is that nobody needs to be made worse off and some can be made better off.[147] Coercion allows for some people to be made worse off. It also permits violation of freedom and of property rights. The use of coercion in the governmental provision of public goods points to a dimension that is not pure economics. It requires reflecting on whether the use of coercion that violates the freedom and the property rights of some is a price one wants to pay for the provision of the public good. Such a reflection requires comparing the merits of the provision of a public good with the demerits of the use of coercion.[148] If the provision of the public good has

[147] Technically this can be achieved when there is a benefit-based tax system. For a discussion of the difficulties to implement such a tax principle see Kiesling (1992, 201 ff.). In the case in which all taxes would be Pareto-efficient payments for public goods one could argue that we have a voluntary exchange theory of taxation (Head 1974, 152 ff.).

[148] On the other hand, if the public good is very meritorious, as with inoculations to prevent an epidemic, then, argues Mackscheidt, the government should use techniques appropriate for merit good provision in order to diminish the attractiveness of free-riding. Thus, the government should provide inoculation so much below cost that enough previous free-

little or no merit, then the use of coercion might not be justifiable. Samuelson's approach to the provision of public goods requires us to not only consider the public good's aspect of public goods but the merit good aspect as well, given that coercion is involved.[149]

Third, it is possible that unavoidable governmental ignorance in providing public goods, combined with the use of coercion, can lead to very undesirable results. This is because special interest groups could be able to make use of the government's power of coercion for their own benefit without the government having the necessary knowledge to understand what is happening. A case in point is the 1911 compulsory national insurance in Great Britain. The public good of affordable health was coercively provided by the government but with some important negative consequences. Based on the research of David Green (1993), Schmidtz and Goodin write:

> medical associations...joined forces with for-profit insurance companies (which also viewed friendly societies as an obstacle to higher profits)...they played a major role in amending early drafts of the 1911 National Insurance Act so that the final legislation would do maximum harm to friendly societies.
>
> Two features of the Act are crucial. First, the Act established price floors that made it illegal for friendly societies to offer health care at lower prices. Second, the Act compelled male workers earning less than a certain income to purchase government medical insurance, thereby making it more difficult if not pointless to pay friendly societies dues. (Schmidtz and Goodin 1998, 68)

The case of the 1911 compulsory national health insurance in Great Britain can be seen as an example of interest groups (ab)using the government's power of coercion in the provision of a public good in order to im-

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riders consider it in their own self-interest to buy inoculation at the reduced cost in order to prevent an epidemic (Mackscheidt 1997). Mackscheidt explicitly recognizes the connection between the concept of public and merit good for dealing with the free rider problem inherent in the provision of public goods. He also recognizes that "meritorisation" of a public good can only be done for sufficiently meritorious public goods.

[149] David Schmidtz does not use the concept merit good, but he develops a similar argument when he writes that the use of governmental coercion requires additional arguments beyond the public good's argument of efficiency (Schmidtz 1991, XVI). For Schmidtz, the fact that coercive production of public goods would involve the survival of society would be an acceptable argument (159). He mentions that others might use the argument of equality (XVI). He also demands that the government use "sufficiently delicate way[s]" to provide public goods (ibid.). See also footnote 112.

prove their gains at the expense of another group.[150] It is a serious warning, but potential abuses in the implementation of public goods should not blind us to the real presence of potential gains for a collectivity captured in the concept of public good. In short, the demerits of coercion must be compared with the merits of the public good. This is truly a matter of socio-economics or political economy.[151]

From the Samuelson theorem and the analysis of the Clarke tax proposal, one could draw the conclusion that government involvement in the provision of public goods should be abandoned. This might be too pessimistic a conclusion. Rather, based on my conclusion one must accept the idea that the provision of public goods will not always be Pareto optimal and that there sometimes will be regrettable interference with the preferences of some consumers. A farmer's land might be expropriated for building a highway. An airport might be built notwithstanding objections to the noise by nearby home owners. It might be possible to recompense the farmer at estimated market value, and it might be possible to impose limits on the noise of airplanes. The first solution tries to approximate Pareto optimality. The second solution tries to balance the nuisance in a way that many, if not all, parties involved can accept, even if they all protest. The realization of the gains promised by the public good concept also involves an analysis of the social and political aspects of society. Samuelson's public good's theorem is pure economics. The realization of

[150] Sandler, expanding the ideas of Olson, gives an argument on why such abuses might be unavoidable or might even be pursued consciously. He writes, "To foster collective action...institutional design may have to engineer a sufficient skewness of benefits to promote participation among agents who are best positioned to make a difference" (Sandler 1992, 197). Thus, if the medical associations and insurance companies were best positioned to make a difference in creating a national health insurance, then the argument demands that these agents be given exaggerated benefits in order to ensure their participation. However politically effective this advice might be, it is a frightening argument in as much as it advices the state to be unjust in the name of effectiveness!

[151] If the government finances public goods by means of general revenue and not by user fees, then a new argument emerges demonstrating the socio-political dimension in the implementation of public goods. Indeed, any time that the government has limited revenues, it encounters an additional constraint when trying to realize public goods. Besides the economic constraint of selecting only those projects where the willingness to pay is greater than the cost, the government faces the additional constraint that it lacks revenue to pay for the realization of all economically justifiable public goods. The question arises as to which of those economically justified public goods will be realized. It will be those that the socio-political process considers most meritorious. As merit criterion one could choose a purely economic criterion (greatest percentage surplus of willingness to pay over cost of the project), a political criterion (which projects will provide most votes?), or a moral criterion (which project will help the least well of the most?). The choice between these different criteria is not a purely economic matter (Stretton & Orchard 1994).

the gains connected with public goods requires a broader form of reflection: it requires socio-economics.

B. Olson: Impossibility of Exclusion

Olson is an author who does not look for the government to realize the opportunity for gain present in public goods. He studies the conditions under which individuals acting out of self-interest will provide a public good. The crucial characteristic of public goods that will act as a disincentive for paying voluntarily is the non-exclusion possibility (i.e., even if one does not pay one cannot be excluded from enjoying the public good once it is provided). Notwithstanding this disincentive, public goods are sometimes provided voluntarily by collective action financed by dues or fees. The solutions for overcoming the disincentive of non-exclusion possibility are different in small, medium and large groups.

Olson mentions three methods to overcome the problem of providing a public good in a small group. One person might have enough interest in the public good to alone finance the good, as in the case of a family with teen-age daughters wanting the safety of a light in the back alley. If the most interested person is not willing to pay alone, he might create social pressure by organizing a social gathering and proposing a burden-sharing where the holdout's are socially embarrassed. Finally, the person most interested in the public good might demonstrate to all the participants that a minimum contribution of each is required to collect enough for the provision of the public good. The most interested person, the leader, makes the members of the small group aware of the undeniable connection between their contribution and the provision of the good. The non-exclusion possibility is dealt with in this last case by demonstrating that the non-exclusion possibility will not apply since the good itself will not be provided if everybody does not contribute or does not contribute enough. Bargaining is still a possibility, but it is diminished by the logically demonstrated possibility of non-provision in case of lack of payment.

For medium groups, it is unlikely that the first strategy, that of one person paying the total cost of the public good, will occur often. The other two strategies can still be used: social pressure (a list of contributors to the church organ is published) and demonstration of connection between payment and provision (a publication of total cost, payments received and assigned payments to reach the goal of, say, building a new parish center). Holding out and underpayment remain possible strategies, but the potential gains created by the non-exlusion possibility are made less attractive by the creation of social pressure and individual guilt.

With large groups (workers interested in safety in the workplace or citizens interested in preserving the ozone level) the two remaining strategies that could be used in groups of medium size lose much of their importance. Indeed, the connection between the payment of one individual and the provision of the public good is almost non-existent (the payment or non-payment of union dues by one worker will not change the prospect of better safety laws; similarly, the contribution of one citizen will not measurably change the ozone level). The paradox with public goods for large groups is that the payment of dues or fees for the public good by any one person is both personally significant (union dues are substantial) while it is insignificant with reference to the total cost of the public good and, thus, to the level of additional provision and additional enjoyment. It is, therefore, not economically rational for members of large groups to pay for their public good. But, if all members of the group follow their private economic rationality, then the public good for the group will not be provided. Paradoxically, private rationality leads to collective irrationality. Adam Smith said it well when he wrote:

> ...it can never be for the interest of any individual, or small number of individuals, to erect and maintain [certain public works and certain public institutions]; because the profit could never repay the expence to any individual or small number of individuals, though it may frequently do much more than repay it to a great society. (Smith, 651)

Olson observes that some groups are able to provide their public good notwithstanding the logical difficulties just described. Olson then asks the question: How do they do it? Olson argues that the successful provision of a public good for large groups consists of a two-step process. First, the potential beneficiaries of the public good must be mobilized. The latent group must become an active group. Second, the active group can then pursue its public goods (unions may seek legislation promoting work safety). In order for a latent group to become mobilized into an active group, there needs to be a leadership that articulates the goals of the group. Articulating the goals of the group is not sufficient for overcoming the disincentive created by the non-exclusion possibility for public goods benefiting large groups. Individuals simply do not have the personal incentive to voluntarily contribute to public goods that benefit large groups (Olson 1968, 44). The leadership, thus, needs to create private incentives associated with the membership in the large group (Olson 1968, 132). The leadership of some groups have natural incentives available (decrease in malpractice insurance for physicians becoming members of the AMA) while leaders of other groups must rely on more artificial incentives (Christmas parties, picnics, credit unions). In both cases, the mobilization of the latent

group into an active group requires that the selective incentives for joining the group are large enough to motivate the individual members to pay their dues or fees to the group. The dues or fees can then be used to provide the public good for the group.

Several critical remarks can be made about the voluntary provision of public goods by the mobilization of latent groups using private incentives. First, the solution is not optimal because the provision of the public good is not determined by its usefulness but, instead, by the success or failure to mobilize the latent group. If the mobilization fails, then the good will not be provided.[152] If the mobilization succeeds, then the public good will tend to be overprovided because the willingness to pay dues is not limited by the usefulness of the public good, but also, if not mainly, by the attractiveness of the selective incentives which are often unrelated to the primary public good targeted. If the mobilization of the latent group succeeds, there is overabundance. If it fails, there is famine.

A second critical remark concerns a suggestion of Olson about large groups that fail to mobilize themselves. Olson suggests that it might be the case that the mobilization of a group is the easiest, if not the only, way to realize the provision of a public good (work safety laws promulgated under the pressure of unions). Might it not be justified for the government, so Olson asks, to create artificial incentives for the relevant latent group so that they can mobilize themselves, and thus, become the engine for the provision of a desirable public good? Through legislation – authorizing union shops or closed shops – the government can create a legal situation that provides workers who want work, with private incentive to join unions. Olson understands that his suggestion involves the use of the government's coercive power as part of the strategy to promote the provision of certain public goods. Accepting coercive power for the provision of a public good rests on the meritorious judgment that the public good is worth the loss of some degree of freedom. This is not a purely economic analysis whose recommendation is justified because it is Pareto optimal. Instead, it is a recommendation based upon the declaration that a good—in this case a public good—is also a merit good. Declaring that a good is a merit good means that economic opportunities may be evaluated against the loss of some freedom. Certain societies are more willing than others to declare goods merit goods (e.g., railroads, banking, clean rivers). Furthermore, different states and countries have different political methods for validly declaring that some goods are merit goods (voting along party lines might or might not be possible to impose; two third majorities might be required

[152] "The existence of larger unorganized groups with common interests is therefore quite consistent with the basic argument of this study...they also suffer if it is true" (Olson 1968, 167).

for some laws; courts might be able to routinely overrule legislative votes on constitutional grounds or they might almost never have that opportunity). Introducing a judgment based on merit about methods for providing public goods radically transforms pure economic analysis into questions of socio-economics.

Conclusions

1. Conceiving the idea of a public good as an ideal concept allows us to show that there is an opportunity for gain.[153] Samuelson's analysis shows us that the government is not capable of fully realizing that opportunity.[154] Olson's study demonstrates that voluntary provision through group formation also does not guarantee an ideal provision of the good. In short, the ideal concept "public good" points to the presence of an opportunity for collective gain, but at this level of analysis, the realization of that opportunity remains a problem.[155]

2. Samuelson's approach can be used to partially justify the claim of Malkin and Wildavsky that the government cannot be counted on to optimally provide a public good. Olson's approach can be used to justify further the claim of Malkin and Wildavsky that private initiatives can provide some public goods.[156]

3. It is wrong, however, to hope that private initiatives will provide public goods at *optimal levels*. That is the insight provided by Olson. It is, again, wrong to suggest that demonstrated difficulties in realizing the op-

[153] Because of the development of technology, the growth in population, and increased resource needs, Sandler, among others, argues that the relevance of the problem of collective action connected with public goods will increase (Sandler 1992, 200).

[154] The first of these two ideas–opportunity for gain–is proven mathematically within a general equilibrium model for m public goods, k private goods and n consumers by D.K. Foley (1967, 1970) and is labeled "a generalization of Lindahl's equilibrium solution" (1967, 66). The second idea is verbally conceded when the author writes: "There is ...no reason to think that Lindahl equilibrium can be embodied by any working political process because it requires that individuals reveal information about their preferences under circumstances in which such a revelation would be to their disadvantage" (72).

[155] Other authors ask themselves what kind of institutional arrangement (or incentive structure) would provide the equilibrium that best approaches the optimal allocation (Cornes & Sandler, 1994, 377 ff.) But such an approach presupposes the validity of the concept of public good, which is what I tried to establish in this paper.

[156] This conclusion is similar to the position of others who also separate the two questions of, on the one hand, the potential gain from collective action and, on the other hand, the question of who needs to organize the collective action: the government or the private sector?(Adams & McCormick 1993, 113)

portunities present in public goods justify saying that the very concept "public good" is nothing but a social construct. Sometimes, there are opportunities for gain beyond atomistic economic activities.

4. It is a legitimate question whether private or governmental initiatives are better at realizing those opportunities. Most likely, private initiatives will be better in some cases, while government initiatives will be better in other cases.[157] But to accept that conclusion is to agree that the concept "public good" is a valid, even though problematic, concept for analyzing certain economic problems. If the solutions for realizing the opportunities demonstrated by the concept "public good" have culturally and socially determined components, it is wrong to claim that the concept of "public good" itself is merely a cultural construct, whose sole validity consists of an act of political will. In my view, the concept of public good has a clearly defined ideal content, where – unfortunately – that ideal content is empirically present only in varying degrees and has no agreed upon implementation strategy .

5. The successful defense of the validity of the technical economic concept of public goods provides us with a more precise way to articulate one of the governmental functions vaguely pointed to by Hegel when he writes:

> ...factors which are a common interest, and when one man occupies himself with these his work is at the same time done for all. The situation is productive too of contrivances and organizations which may be of use to the community as a whole. These universal activities and organizations of general utility call for the oversight and care of the public authority. (*PR*, # 235)

[157] It might also be the case that a delicate cooperation between private and governmental initiatives takes place as when clubs are allowed to privately provide public goods to their members but where the government stipulates that discrimination on the basis of sex or race is not acceptable. Another example, borrowed from Hegel, is the provision of great public works by means of monetary taxation instead of forced participation as in the building of Egyptian pyramids. Monetary taxation allows each individual to chose by what work one will earn the money to contribute to the cost of the public good instead of being forced to help directly in the provision of the public good (Hegel 1967 a, # 236 remark; Priddat 1990, 95–107; also Chapter 3, Section III of this book) . The substitution of taxes for direct participation has only recently been extended to military service and seems reversed in cases where prisoners are forced to work on public works as a means to pay for the cost of the public good of imprisoning them. Clearly, these last examples remind us that values are involved in the choice of method of payment of a public good. Indeed, changing to a volunteer army where combatants are paid leads to an increase, percentage-wise, in the poor who serve in the army. This raises value judgments which cannot be handled solely by the economic arguments of the concept of public good. It raises (de)meritorious questions of an ethical and political nature and brings us again into socio-economics.

In more precise language we can now say that the government may have a role to play whenever there are important public goods.[158] In some cases, the government may be called to provide the public goods by itself (bridges, highways), in other cases, the government may be called to an oversight role when private groups try to realize the public good (clubs with discriminating membership rules). It was these potential governmental roles that Malkin and Wildavsky hoped to deprive of legitimacy by questioning the validity of the concept of public good.

[158] I therefore agree with the main thesis of a book by Levine that the correct starting point of economic science must be "political economy" (Levine 1977, IX). My defense for the concept of merit good in the previous chapter was a contribution in the same direction.