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A NORMATIVE ANALYSIS OF PRIVATIZATION: WHICH PUBLIC GOODS SHOULD BE PUBLIC/PRIVATE?

Coşkun Can AKTAN (*)

ÖZET

Özelleştirme, geniş anlamda kamu kesiminin görev ve fonksiyonlarının özel kesime transfer edilmesini ifade etmektedir. Bu yazıda kamusal mal ve hizmetlerin özelleştirilmesi konusu incelenmektedir. Çalışmada kamusal mallar teorisi özetlendikten sonra, kamusal mal ve hizmetlerin kamu kesimi tarafından mı, yoksa özel kesim tarafından mı sunulması gerektiği konusu sadece teorik ve normatif bazda analiz edilmektedir.

I. INTRODUCTION

In this paper, a normative analysis of privatization will be explored. The main question to be answered is "which public goods should be public and which goods should be private ?' This paper is prepared as follows: The background of the theory of public goods is summed up in section II. Definition and classification of goods and services will also be searched in this section in the light of comprehensive, literature on public goods. The purpose of this paper is more than just exploring public goods. In section III, the appropriate criteria for the privatization of public goods will be analyzed. The paper ends with concluding remarks.

II. BACKGROUND FOR THE THEORY OF PUBLIC GOODS

The theory of public goods was first developed and debated by the continental public finance economists, notably Ugo Mâzzola, Knut Wicksell. Erik Lindahl, Emil Sax and others. (Musgrave and Peacock, 1958) However, the theory of public goods stayed in its infancy until the 1950's. Modern public goods theory can be attributed to Paul A. Samuelson, Who published three seminal pieces in the mid-1950's. (Samuelson, 1954, 1955, 1958)

Fallowing Samuelson, other important contributions to the public goods theory were by R.A.Musgrave (see, Musgrave, 1958) and J.M Buchanan (Buc-

(*) The author is Associate Professor of Public Finance, at the Dokuz Eylül University, He thanks Ronald R. Cochran for his kind editing assistance.

hanan, 1968). Their contributions were the cornerstones of the modern public goods theory. Samuelson in his paper published in 1954 explained the two polar case of goods and services mathematically. He wrote:

"I explicitly assume two categories of goods: ordinary private consumption goods ... Which can be parceled out among different individuals enjoy in common in the sense that good leads to subtraction from any other individual's consumption of that good." (Samuelson, 1954)

A year later, Samuelson published another paper and reexposed his theory in a geometrical model and noted that "[A] public consumption good differs from a private consumption good in that each man's consumption of it... is related to the total by a condition equality rather than of summation." (Samuelson, 1955)

Samuelson's definition gives two characteristics of public goods: **Indivisibility** ("...can not be parcelled out among different individuals") and **Joint Consumption** ("all enjoy in common."). The result of those two characteristics is that once a public good, in Samuelson's terminology "Collective consumption good" is produced, any given unit of the good can be made equally available to all. According to the definition of Samuelson, extention of the supply to one individual facilitates its extention to all. In other words, supply of a given unit to one individual, and supply of the same unit to other individuals are clearly joint products.

In line with the original Samuelson definition and classification as well as some other economist's contributions, the theory of public goods has been developed a great deal. In the following, I shall try to explore the types of goods and services and their characteristics in detail.

The goods can be classified mainly into two groups: **Pure goods** and **impure goods** (see: Table: 1) A **pure public good**, what Samuelson calls "collective consumption good" has mainly two characteristics: Indivisibility and non-exclusion. Indivisibility refers to the utility of a good which can not be parcelled out among different individuals. Mathematically, indivisibility can be formulated as: $X = X_1^u = X_2^u = ... X_n^u$

Where x isc the sum amount of the public good. The benefit of the individual 1 (that is, X_1^u) is equal to the individual 2 (X_2^u), individual 3 (X_3^u) and this goes on through individual n (X_n^u).

Table: 1 PUBLIC GOODS AND THEIR CHARACTERISTICS

Characteristics of Goods and Services

Type of public goods	Divisibility (Rivalry) Indivisibility (Non-rivalry)	Exclusion Non-exclusion	External Economies	Economies of Scale	Free Rider	Forced Rider
PURE GOODS						
1. Pure public Goods (Inclusive club goods) Examples: defense against nations,judiciary etc.	Indivisible	Joint consumption non-excludable	May occur.	May occur.	Free rider problem may occur Individuals without revealing their preferences benefit from services.	Individuals may be forced to demand some services. Conscription and elementary education are examples.
2. P[illegible] Private Goods, Examples: Shoes, bread, automobile, etc,	Divisible	Individual consumption. Excludable.	Do not occur. Or It hardly occurs.	May occur	There is no free lunch.	Individuals are free to demand for goods and services.
IMPURE GOODS						
3. Exclusive Club Goods						
3. A. Ouasi-Public Goods Examples": Education, Health etc.	Partially Indivisible	Individual or joint consumption. Exclusion mechanism could be installed in return for a fee.	Occurs. External economies are the basic feature of these types of goods.	May occur.	No free rider.	Individuals may be compelled to demand. Contagious disases are examples.
3. B.Toll Goods (Exclusive club goods) examples: Power, gas, water supply, turnpike highways, cableTV.etc.)	Partially Indivisible	Individual or joint consumption. Exclusion mechanism could be installed in return for a fee.	May occur.	Occurs. Economies of scale is a basic feature of these goods.	No free rider.	No forced rider.
4. Common-pool Goods, Examples: Fish in the sea, minarals in the ocean etc.)	Divisible	Individual or joint consumption Exclusion is difficult to implement.	May occur	May occur.	There may be free riders.	No forced rider.
5. Merit/Demerit Goods, Examples: Elementary education, help for poor, elderly etc. Examples for demerit goods: alcoholic beverages, Drug use etc.)	Divisible	Induvidual consumption. Excludable.	Merit goods sprad external economies. Demerit goods spread external dis-economies.	May occur.	There may be rent seeking efforts. Individuals also may fight to obtain a free lunch.	Forced rider. Elementary education may be compulsory.

Source: Aktan, 1992: 31-32.

Since a pure public good is consumed collectively, it is impossible to exclude some individuals to benefit them. For example, exclusion is infeasible for such goods as air pollution control, street lighting, national defense, broadcasting TV, law and order etc.

Professor james M. Buchanan, in his classic book on public goods gives the orthodox definition of a pure public good as follows: "By the orthodox definition of pure public good or service is equally available to all members of the relevant community. A single unit of the good, as produced, provides a multiplicity of consumption units, all of which are somehow identical. Once produced, it will not be efficient to exclude any person from the enjoyment (positive or negative) of its availability. This definition is highly restrictive, and it is not surprising that the modern theory of public goods has been criticized on the basis. Strictly speaking, no good or service fits the extreme or polar definition in any genuinely descriptive sense. In real word fiscal systems, these goods and services that are financed publicly always exhibit less than such pure publicness. The standart examples, such as national defense come reasonably close to descriptive purity, but even here careful cosideration normally dictates some relaxation of the strict polar assumption. "(Buchanan, 1968; 49-50)

According to the orthodox analysis of public goods, the polar case of a pure public good is pure private good which is defined as "divisable" and "excludable" Mathematically, a pure private good can be formulated:

$$Y = Y_1^u + Y_2^u + Y_3^u \; .....Y_n^u$$

Where y is the total amount of the pure private good available. By contrast to a pure public good, benefit of a pure private good is divisible among different individuals.

A pure public good has some other characteristics that a pure private good usually has not. These are:

- Externality,
- Free rider poblem
- Forced rider

External economies are defined as the consumption and/or production activities of an economic unit which affects, the benefit/and or cost functions of other economic units either positively or negatively. In general, external economies does not occur-or seldom occurs-for the consumption and production of pure private goods. However, pure public goods usually involves positive external economies, that is external benefits.

Another important characteristic of a pure public good is that a "**free rider**" problem occurs when it is supplied. Individuals do not need to reveal their preferences concerning which pure public good should be provided, since they know that even without revealing their preferences they benefit from services.

On the other hand, a pure public good may have a "**forced rider**" characteristic: The term of "forced rider" explains that the supply and the demand for some particular public goods may be obligatory. Examples are elementary education, conscription etc. Individuals may be forced to demand or consume a public good, whereas an individual is totaly free to demand for goods and services in marketplace.

Basides the polar cases of pure goods -that is pure public and pure private -there are also some other type of public goods. I shall explore the other type of goods under the rubric of "**impure goods**". "**Club goods**", "**common-pool goods**' and "**merit/demerit goods**" are the main types of impure public goods.

A **club good** is an impure public good whose benefits are excludable, but partially nonrival (Cornes and Sandler, 1968; 7). Another definition is that a club is a voluntary group deriving mutual benefit from sharing one or more of the following: Production costs, the members characteristics or a good characterized by excludable benefits. "(Sandler and Tscirhart, 1980; 1980)

It should be pointed out that the theory of clubs was first developed by James M. Buchanan. In his paper published in 1963. Buchanan noted; "..[I] n the fundamental papers by Paul A. Samuelson, a sharp conceptual distinction is made between these goods and services that are "purely private" and those that are "purely public". No general theory has been developed which covers the whole spectrum of ownership -consumption possibilities, ranging from the purely private or individualized activity on the one hand, to purely public or collectivized activity on the other. One of the missing link here is "a theory of clubs", a theory of cooperative membership, a theory that will include as a variable to be determined the extention of ownership -consumption rights over differing numbers of persons. (Buchanan, 1987; 207) Following Buchanan, literature on the club theory has been expanded a great deal. The main characteristic of a club good within the framework of developments are two:

1. Excludable benefits: "An exclusion mechanism could be installed at a reasonable cost. Costs of an exclusion mechanism are reasonable whenever the gains in allocative efficiency, achieved through the use of the mechanism, are greater than the associated cost. Exclusion costs include the value of the-resources expended to erect and to main barriers that force preference revealation. The exclusion mechanism might consist of a toll booth, a guard, a fence or a ticket office; only those individuals who pay a user fee or toll pass through the exclusion device and use the good. "(Comer and Sandler, 1986; 4)

2. Partially non -rivalness: Benefits are shared by club members. In other words, there is no rivalness among club members. Club goods can be classified into two groups; quasi-public goods and toll goods. A quasi -public good is akin to the pure private good in the sense that it has both divisibility and exclusion features. However, a quasi -public good generates either positive or negative external economies. As a matter of fact, externalities are the distinguished feature of a quasi -public good. Education and health are two main examples of quasi -public goods. Education does not only provide benefits to the individual himself/herself, but also the entire society can benefit a great deal. Illiteracy, for example may cause some social problems in a society. For instance, the type and rate of crimes (such as murder, robbery, fraud, rape, shop lifting etc.) increase. These are external costs for society. Therefore, government is usually expected to provide education due to external economies and diseconomies. Education can be delivered in the marketplace, however in this case government usually controls and regulates private schools.

Another example would be health services for quasi-public goods. This public good, likewise education has divisibility and exclusion characteristics together with externality. For example, contagious diseases require government to provide free health services. Because, intensity of the external economies for a contagious disease is very high. It is worth to point out that the type of education and health is also an important factor for its provision. For example, an elementary education has much external economies than higher education. On the other hand, "forced rider" would be valid for quasi -public goods. For example, government may force its citizens to demand elementary education.

Another type of impure public good is "**toll goods**" or it can be called "**exclusive club goods**". **Toll goods** are partially indivisible (non-rival) goods whose benefit are shared by club members. Exclusion mechanism could be installed in return for a fee or a user charge, that is "toll". These type of goods are mostly said to be natural monopolies, which is to say that as the number of users increases, the cost per user decreases. The result is that it is most economical to have a single supplier. This is true of cable television, communication networks, and utilities such as electric power, gas distribution, water supply and sewer service. Collective action is often taken to create an award these monopolies in the first place, and then to regulate them so that the owners do not explote their monopoly privileges unfairly."(Savas, 1987;47)

Common-pool goods, on the other hand are divisible, however exclusion is difficult or som'etimes expensive to implement. There is no need of payment to obtain or to use this type of goods. Fishing in the sea or ocean, extracting minerals from nature, hunting in wild mountains or jungles etc, are some examples for common pool goods. These goods can be consumed to the point of exhaustion, as long as the cost of collecting, harvesting, extracting, appropriating, or otherwise taking direct possession of the free goods does not exceed the value of the goods to the consumer. No rational supplier produce such goods, and they would exist only through the beneficience of nature." (Savaş, 1987; 45) These type of goods cannot be supplied in the marketplace.

Finally, **merit goods** and **demerit goods** are another type of public goods. The concept of merit goods or "merit wants" was first introduced by R.A. Musgrave (Musgrave, 1958) and has been developed and interpreted by John G. Head, a great deal. (Head, 1974; 214-253) Head defines the merit and demerit goods as follows: "...Merit goods may be defined as those of which, due to imperfect knowledge, individuals would choose to consume too little. In such cases, the government should intervene to encourage consumption. as possible examples of corrective interference to satisfy merit wants, Musgrave mentions publicly provided school luncheons, subsidized low-cost housing and free education. Symmetrically, "demerit" goods may be defined as those of which, due to imperfect knowledge, individuals would choose to consume too much. Here the government should intervene to discourage consumption. Musgrave suggests liquor taxation as a possible example of such intervention." (Head, 1974: 216)

However, Elisha Pozner extends Head's definition and saying that besides "imperfect knowledge", "unaccounted-for externalities" is also another feature of a merit/demerit goods. He wrote: "The main rationales of merit and demerit goods are two: First, merit wants could arise because some individuals have imperfect knowledge and information of the consequences of his actions on his welfare. The welfare implication of such information is that the individual cannot be left sole judge of what is "good" or "bad" for him. Government is expected to intervene to the market and correct this situation. Secondly, merit wants could arise because some individuals may have imperfect knowledge and information of the consequences of actions taken by other individuals on his own welfare. The second category involves merit wants in the form of unaccounted-for-externalities." (Pozner, 1972: 461)

Merit goods are beneficial for the entire society, therefore are expected to encourage production and/or consumption whereas, demerit goods are harmful, thereby are expected their production and/or consumption to be penalized. (see: Table: 2) For example, the construction of low cost housing for poor, building up rehabilitation and sanitation center for elderly and mentally deficient people may be encouraged by government via several methods.

- Government itself can build those institutions,

- Government may award a grant to a private firm or a not-for-profit institution.

- Some expenditures of private firms can be allowed for deduction from taxable income, or some other tax incentives could be awarded.

By contrast, government can penalize the production as well as consumption of demerit goods such as alcoholic beverages, tobacco products, drug use, management of whore house etc. (see Table: 2)

Table:2 Merit / Demerit Goods and Externalities

Type of good	Emerging Externalities	Government Intervention
Merit Goods	Positive Externalities	1. Encouraging production by grants 2. Encouraging consumption by voucher system 3. Tax incentives
Demerit Goods	Negative Externalities	1. Discouraging production by Pigovian taxes 2. Regulation on both production and consumption.

III.ALTERNATIVE DELIVERY METHODS OF PUBLIC GOODS

Public goods, that we explored in the previous section, can be provided via many arrangements. First, govenment itself can provide all type of goods and services. However, markets fail to provide pure public and common pool goods. Markets are unable to supply a pure public good-say, national defense or judiciary-due to their characteristics of indivisibility and non-exclusion. For example, national defense can not be provided only for those who benefits. It is a good that must be supplied for all. National unity and territorial integrity can be preserved by providing defense services nationwide. A judiciary is also a pure public good in the sense that its benefits can hardly be parcelled out among individuals and all individuals benefit jointly. It is almost impossible or undesirable to charge a fee for these kind of public goods. Here, we reach a point that pure public goods must be provided free of charge and financed by general fund revenues. Market also fails to supply comman pool goods now that their consumption is free as long as individuals can spend effort to obtain them. Fishing in the ocean, as noted earlier is an example of common-pool goods. The reason why this type of goods can not be provided by marketplace is that exclusion mechanism can be hardly implemented or sometimes it is too expensive to implement. As a result of this, free rider usually occurs for this type of goods and therefore market is not interested in production.

Although a pure public good can only be provided by public, a pure private good can be delivered via numerous arrangements. (see: Table: 3) First, government itself can produce this type of goods by establishing public economic enterprises. Secondly, government can make a contract agreement with a private firm to supply some private goods and services. Third, government can transfer the management of a specific public service to a private firm (management contract) or transfer both management and operation (leasing). For instance, a public hospital's management can be carried out by a private firm under a management contract agreement or its management as well as operations can be transferred to a private firm under a leasing agreement.

A joint venture is also feasible to supply these goods. Government can also subsidize some private firms in order to encourage the production of some goods and services (grant method) or can give money to some individuals in order to encourage their consumption (voucher method).

Quasi-public, toll and common pool goods can be delivered via many arrangements. (see, Table; 3) Orthodox economic theory argues that quasi-public goods should be provided by government because of external economies and diseconomies. Education and health are usually given examples for this type of goods. Theoretical welfare economists also defend that toll goods ought to be supplied by government because of economies of scale. However, some economists criticize those views and asserts that this type of goods can be privatized. E.S.Savas points out that "many toll goods that were once natural monopolies, no longer are. Railroads face competition from airplanes, buses, and boats. Telephone communication is challanged by microwave and facsimile transmission and cable TV by satellites and videotypes." (Savas, 1987; 47)

On the other hand, empirical evidences strongly suggest that quasi-public goods and toll goods can be delivered in marketplace efficiently and effectively, The problems of positive/negative external economies can be solved through implementation of grant or voucher methods. education vouchers and medicare/medicaid vouchers are two examples for the privatization of quasi-public goods. Some economists claim that a competitive franchising bidding can be implemented for the privatization of natural monopolies and other type of toll goods.

Merit goods can be provided by both government and private sectors.

Now that private firms do not spend much money for this kind of goods because no profit emerges, government intervention is usually expected. Not-for-profit institutions, that is voluntary organizations are usually successful for providing merit goods. However, it is alleged that government should provide some incentives for voluntary organizations such as tax incentives.

In light of the analysis that is made in this paper, w would say, private sector, that is market is the most efficient and effective producer of the pure private, quasi-public and toll goods. However, due to free rider problem market fails to provide pure public and common pool goods. On the other hand, market also fails to supply merit goods sufficiently.

Government is the only producer of pure public goods. It is hard to say government is efficient and effective for the provision of this kind of services. However, there is no other alternative to supply this kind of public goods. such as defense, law production and enforcement. traditionlly, government is expected to provide quasi-public goods due to external economics and toll goods due to internal economics (economics of scale). Moreover, government is not efficient al all for providing these services as the empirical studies suggest. Besides the private and public economy, the third sector, that is non-profit economy is especially, successful for providing merit good. Grant and voucher methods can be employed to provide merit goods as well as quasi-public goods.

Table: 3 Delivery Methods of Public Goods

	Pure Private Goods	Pure Public Goods	Toll Goods	Common Pool Goods		Merit/ Demerit Goods
1. Market	(+)	(-)	(+-)	(+-)		(+-)
2. Government	(-)	(G)	(+-)	(+-)		(+-)
3. Contracting Out	(+-)		(+-)	(+-)		(+-)
4. Franchising	(+-)		(+-)	(+)		(+-)
5. Leasing	(+-)		(+-)	(+-)	(+-)	
6. Management			(+)	(+-)		(+-)
Contract	(j)		(+-)	(+-)		
7. Joint venture			(+)			
8. User Charges						(+)
9. Grant			(+-)			(+)
10. Voucher			(+)			(+)
11. Voluntary Organizations			(+)			
12. Build-Operate-Transfer Sys-			(+-)			
tem			(+-)	(+-)		

Notes: (+) The most successful arrangement.

(+-) Market arrangement is considered more Succesful than government. However, limited government regulation and control may be required.

(-) The arrangement is not successful.

(G) Government is the only producer, although the government arrangement is not successful.

(J) Arrangement is successful, but government interference should be minimal and management and operation should be Performed by the private firm.

CONCLUDING REMARKS

This paper has explored the general characteristics of public goods and the methods that can be delivered most efficiently and most effectively. However, the important question is, as James M. Buchanan, the Nobel Laureate in Economic Science asked in his classic **The Demand and Supply of Public Goods** (1968), "What goods and services should a community supply publicly through political-governmental processes?" Buchanan also asks "under what circumstances will collective governmental supply be more efficient than private or noncollective supply ?" (Buchanan, 1968; 172)

This paper reaches a conclusion that except for pure public goods, other types of public goods (pure private, quasipublic, toll, common pool, merit/

demerit) can be delivered by private sector efficiently and effectively. However, very limited government regulation and control may be necessary to supply some goods and services.

SUMMARY

Privatization, in broad meaning, refers to the transfer of functions of the public sector to the private sector. This paper explores the privatization of public goods and services. The study gives a background for the theory of public goods and reaches a conclustion that except for pure public goods, other type of public goods can be delivered by private sector more efficiently and effectively than public sector.

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