

VOLUNTEER NONPROFITS' PROVISION OF COLLECTIVE GOODS AS A PUBLIC CHOICE DECISION

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**IUDEM
Documento de Trabajo 2001-2
Año 2001**

ABSTRACT

In this paper we hypothesize that voluntary nonprofits' provision is a collective choice. We present a model in which the members of a community vote, so choosing between a political program of governmental supply and a political program of non governmental supply. Afterward, they must also decide whether a program of fiscal deductions to donations and/or governmental grants to nonprofits is applied or not. Each, both those who fund the nonprofits and those who do not (free riders), votes for the option which provides him the largest utility. Our model shows that a minimum percentage of cooperative contributors is required for voluntary provision. The minimum rate of cooperative contributors required in each case for the success of a voluntary provision program depends on the price per unit of the output supplied, on the tax rate and witting contributions rate, and on the marginal substitution rate between governmental supplied goods and nonprofits' supplied goods.

Keywords: Collective goods, Collective choice, Nonprofit organizations, Altruism, Voluntary contributions.

JEL: D64 Altruism

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RESUMEN

En este artículo se considera la hipótesis de que la provisión voluntaria de bienes colectivos a través de entidades no lucrativas es el resultado de una decisión colectiva. Se presenta un modelo en el que los miembros de la comunidad votan para elegir entre un programa de provisión gubernamental y un programa de no provisión gubernamental del bien público. Seguidamente debe decidirse si se aplica o no un programa de deducciones fiscales a los donativos y de subvenciones públicas a las entidades no lucrativas. Según este modelo, la provisión voluntaria, esto es, el triunfo del programa de no provisión gubernamental, requiere un determinado porcentaje mínimo de individuos dispuestos a contribuir voluntariamente a la financiación de las entidades no lucrativas. El porcentaje mínimo de contribuyentes voluntarios necesario para que triunfe el programa de provisión voluntaria depende del precio unitario del bien suministrado, del tipo impositivo, de la tasa de contribuciones voluntarias y de la relación marginal de sustitución entre los bienes suministrados por el gobierno y los bienes suministrados por entidades no lucrativas.

Palabras clave: Bines colectivos, Eleccion Pública, Entidades no lucrativas, Altruismo, Contribuciones voluntarias.

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1. INTRODUCTION

Besides the public sector and the capitalist private sector, the social economy sector, within which the nonprofit institutions are one of its main components, is a lively reality and is strongly expanding one in the latest two decades both in Europe and in the United States. As an average, the social economy as a whole represents in Europe 7,9% of the total wage earnings full time employment, reaching in some countries such as Ireland and Holland 15,9% and 16,6% respectively (CIRIEC-International 2000).

Its nonprofit component¹, the nonprofits sector, basically integrated by associations and foundations, is especially relevant, as its employment amounts to 71% of the total employment of this third sector. The provision of goods done through these institutions is very significant in sectors of activity as diverse as religion, education, culture, healthcare, environment and social services.

Nevertheless, in spite of the importance of this provision of collective goods by non market mechanisms, the Public Choice literature shows that few scholars working in this field have shown any interest in analyzing the

¹ From the nonprofit approach, the most widely accepted definition of nonprofit institutions is the one put forward by Salamon and Anheier (1992) who set down five requisites these institutions should fulfill to be considered as such: a) they should keep the principle of not distributing profits among either their owners or their managers. Should they in fact make profits, such profits should exclusively be destined to the development of the goals of the institution, or be re-invested; b) they must be private institutions; c) they must be legally constituted entities, with a structure, organization and goals clearly defined; d) they must be self-managed, and autonomous both from the public sector and from the market entrepreneurial sector; and e) they must finance themselves through voluntary resources.

working of the nonprofit institutions. A large share of the literature in the field of Public Choice dealing with possible alternatives to the non government provision of collective goods has centered around the theory of clubs, particularly after Buchanan published his famous article (1965).

The analysis of clubs is oriented toward overcoming the gap between private goods and public goods. The club goods are located in an intermediate position between, on the one hand, private goods, for which consumption is completely rival and exclusion has no costs, and on the other, public goods, for which consumption is not rival and exclusion is not applicable.

Many of the goods supplied by nonprofit institutions embody the characteristics of the club goods. The club models allow us to determine the optimum output level and size of the group², regardless of who produces the output. Given the distribution of the population among clubs, the optimum output for each club can be produced by profit-seeking private organizations. However, although becoming a member of a club is a voluntary action, it is only possible to finance the costs of producing the goods when it is possible to exclude from the club those people who do not contribute to it by paying either an admission fee or a fee for utilizing the good. When either it is not possible or it is very difficult to expel from the club those members who do not contribute to finance the good, it will be necessary to establish a compulsory funds raising procedure (through a government) to make sure its financing.

The possibility of exclusion from the consumption of many of the goods supplied by governments and nonprofit institutions would make possible their supply by private firms. However, the presence either of significant externalities or a redistribution goal suggest not to utilize prices as a rationing factor. When exclusion is possible, sometimes both governments and nonprofit institutions apply either prices or fees inferior to the production costs of the good they provide. By contrast to the profit-seeking firms, the legal restriction of not distributing profits reduces the incentive to set prices/fees which clear the market. The nonprofit institutions do not utilize prices as a basic criterion of exclusion/rationing, and a differential feature of the nonprofit institutions is that, at least partly, they finance themselves through voluntary donations.

² Recent contributions concern the study of sharing among clubs (Sterbenz and Sandler, 1992); exclusion cost (Helsley and Strange, 1991) multiproduct clubs (Brueckner and Lee, 1991; Sandler and Tschirhart, 1993), and asymmetric information (Lee, 1991; Silva and Kahn, 1993).

The theory of clubs can be applied to determine the latter optimum conditions (the size of the club and the amount of output), but it does not explain how the non-governmental institutions arise or how they are financed. In short, a nonprofit institution cannot be considered as a club. Although Buchanan (1965) regarded clubs as a non-government private alternative for the provision of collective goods, his model can be considered to be more appropriate for guiding the actions by local governments in this field than for explaining the workings and functioning of voluntary non governmental organizations.

The idea we try to develop in this paper is, on the one hand that the decision-making political process undertaken in the political sphere concerning the provision of some concrete goods is a determining factor in the explanation of the setting up of nonprofit institutions, and on the other, that such elements as the nature of the goods to be provided, the characteristics of the individuals in their status as voters, the ideological and moral overtones and constraints, and the fiscal incentives granted to donations are conditioning factors of the final result; that is, of the arising and the size of the third sector.

2. THEORIES ON THE ARISING OF NONPROFIT INSTITUTIONS

In order to explain the emergence and the large size of the nonprofits sector in the present economies, the core of the classic anglosaxon economic literature dealing with nonprofit organizations has placed individuals (as consumers within a context of interinstitutional choice) in the center of the theoretical constructs. Thus, both from the “private” side (with the theories of the market’s failures and of the consumer’s control), and from the “public” side (as unsatisfied consumer, with the theories of the public sector’s failures) the individual is the engine-mechanism who sets up the nonprofit institutions, and therefore it can be asserted that the individual is the cornerstone of what can be called the autonomous setting up of the nonprofits sector. More recently, this approach has been refined and made more complex with new theories grounded on elements of induced setting up of these institutions encouraged by the public sector. This is the case of the theory of the third party government and of the models of collaboration between the public sector and the nonprofits sector. In this paper we mean to go deeper into analyzing this second line of research, the induced setting up, introducing for this purpose the Public Choice approach.

From the side of demand, it can be observed that the nonprofits institution spring up as a consequence of the failure of the market to supply some collective goods in societies with demands by heterogeneous consumers (Weisbrod, 1975, 1988). If public provision satisfies the demand of the median voter (Downs 1957), all individuals with a higher demand than the one of the median voter receive a lower supply than the one they would like to have. The existence of this unsatisfied demand can induce or motivate individuals to voluntarily organize themselves in order to obtain a higher provision. The nonprofit institutions would, in this case, be a complement to public government supply.

This approach implies that nonprofit institutions are considered a residual element which are set up due to a demand for collective goods that is not satisfied by the government. However, in spite of being the nucleus of the theories of the autonomous setting up of nonprofit institutions in the third sector, the heterogeneity of the consumers' preferences is not enough to explain the arising of the nonprofit institutions for the additional provision of collective goods.

For Samuelsonian public goods, increasing their provision up to the level desired by individuals with the highest demand would require to increase the monetary contributions by all subjects (those with the lowest demand included, since they consider they contribute too much), something which cannot be achieved in a voluntary way. If we are considering local public goods, fiscal decentralization can improve the degree of satisfaction by the individuals by bringing the supply nearer to the real preferences of the citizens of each jurisdiction. The choice of the optimum size of jurisdiction will improve the welfare in a larger amount than leaving the provision of the unsatisfied demand to voluntary organizations. From this point of view, the springing up of the nonprofit institutions due to an unsatisfied demand simply shows a poor working of the government's decision-making mechanisms, and therefore of the political mechanism of collective decision-making.

Another alternative possibility is considering that the government delegates the production of some concrete goods in the hands of nonprofit institutions. That is, the government may finance production that is undertaken by nonprofit institutions.

One reason for delegating the production of collective goods to be carried out by nonprofit institutions might be that the latter could attain some

real or pecuniary advantage in this production. Government and nonprofit institutions may differ in the way they organize themselves and in the way they combine inputs. The nonprofit institutions may be more flexible in their operating than government agencies, as they are less subject to rigid bureaucratic constraints (James and Rose-Ackerman 1986; Smith and Lipsky 1993; Frank and Salkever 1994). The nonprofits may also obtain lower labor supply prices and they may have access to volunteer labor.

We can find a clear example of government delegation in the case of education in Spain. The State guarantees free primary and secondary education for all children (in fact, the two levels of education are compulsory). However, a significant share of primary and secondary education is carried out by private so called “concerted centers” that are mainly run by religious orders. We can also find another example in the UK when the third Thatcher administration began to turn its attention from not only reducing the levels of public expenditure for funding alternatives to statutorily supplied welfare services (Deakin 1994). Thereafter, the nonprofits sector experienced a real income growth of 20% in the period 1990-95, coming it particularly from government sources (NCVO, 1996). Half of such income growth can be attributed to what has been called the “contract culture”³, through which the voluntary organizations compete to get the contracts to provide services funded by the government and previously supplied by statutory authorities (Harrow et al, 1999).

Looking at it from this perspective, the provision of collective goods made by nonprofit organizations no longer is something residual. The provision of collective goods made by nonprofit organizations is not the result of an unsatisfied demand. If the government funds their whole costs, it would in fact be a government provision made through nonprofit organizations⁴.

In any case, the decision of delegating the supply of some concrete services is a political decision, something which brings these phenomena within the field of Public Choice.

³ The growth of service contracts allotted to voluntary organizations is particularly important because public authorities determine them with an emphasis on economy, effectiveness and year-on-year efficiency gains (Mellett et al, 1993; Wise, 1995; and Jones 1996).

⁴ As it happens in the cases of privatization of production by profit seeking firms.

Let us add another consideration. The nonprofit institutions do not only supplement the quantity supplied by government, but they also offer different quality, or different features, or they cater to different consumers, or simply different goods as compared with what government supplies⁵.

To the extent that the nonprofit institutions and the government pursue different goals, they can have a differentiated behavior which implies different characteristics of the goods according to who supplies them. If the government must make an offer which is accessible to all citizens, it has to behave as a “supplier of last resort” (Kapur and Weisbrod 2000); this can produce a reduction in the quality, e.g. in the shape of congestion costs. Meanwhile, the nonprofit institutions are less concerned about providing full access compared to higher quality of services.

Another question which cannot be put aside is the ideological component that always shows up in the voluntary nonprofit organizations. The ideological element existing in the supply undertaken by nonprofit institutions introduces certain differential characteristics vis a vis the government supply⁶.

On the other hand, the nonprofit organizations also supply goods that the government does not supply at all. A clear example of it may be religion (let us keep in mind that the organizations with a religious character or tendency amount to a very significant share of the nonprofits sector). Religious assistance embodies some of the features of a public good and, as such, the government, in order to comply with the preferences of the voters, could supply it⁷. However, this option is rejected by our cultural milieu, although in some European countries, religious confessions are mainly financed through government’s contributions.

⁵ Government and nonprofit organizations occupy distinct but complementary market niches: (Kapur and Weisbrod, 2000).

⁶ Thus, for example, education in religious schools is not exactly the same good as the one supplied in a public school. Religious schools include in their supply conveying to the students some beliefs and some moral principles, something which the public schools do not do, and this satisfies the demand by parents who seek those elements in the education of their children. In the same way in health care hospitals belonging to religious organizations as well as medical treatment also they supply moral solace.

⁷ Priests and pastors would then be civil servants, and churches would become goods of public use.

Thus, the choice of the type of organization (either government or nonprofits) is not simply a choice among alternative ways for supplying the same output to the same consumers. Rather, it is a choice among different outputs, different consumers or both (Okten and Weisbrod, 2000).

In the last analysis, it is in the political sphere that citizens must decide which goods the government is to supply and which are to be supplied by the nonprofit institutions. Consequently, the provision of some goods by the nonprofit organizations becomes a public choice.

Thus, for example, it is a political decision that religion be not supplied by the government, but by other independent institutions. In the same way, it is a political decision whether religious confessions and churches must be exclusively financed by voluntary contributions forbidding any direct funding by the government (such as it is the case in the USA)⁸ or whether it must be financed to a large extent by government contributions (such as it happens in some European countries), and through which mechanisms⁹.

In the same sense, concerning education, it is in the political sphere that it must be decided whether the government is going to undertake offering a sufficient supply to provide free and compulsory education to all, or if the government is going to let nonprofit institutions supply education, and which share of its financing will be provided by the government. The same can be said about medicare, museums, libraries, social services, etc.

The best way to satisfy the demand preferences of the citizens is to keep for the nonprofits sector to provide those goods whose provision by nonprofits present some type of advantage as compared to their provision by the government, be it because the goods supplied by the nonprofits sector show some characteristics which are not embodied in the goods provided by the government, or because the nonprofit institutions can produce them at a lower cost than the government. At the same time, the conditions for the nonprofit organizations to be able to supply the level of output adequate to the preferences of the voters should be favored by making financial contributions to the nonprofit institutions (whenever it is considered to be convenient) though government subsidies.

⁸ The first constitutional amendment says, "Congress shall make no law respecting an establishment of religion, or prohibiting the free exercise thereof".

⁹ Be it a religious tax as in Germany or through an assignment from the tax revenue as in Spain and Italy, or other subsidies.

Obviously, the nonprofit organizations cater for a demand which is not satisfied by the government. The hypothesis we introduce is that such a demand is not a residual one, as the difference between the preferences of some individuals and the quantity supplied as a result of the collective decision rules. Rather, we hypothesize that the demand for the goods supplied by the nonprofit institutions shows up because it is politically decided that the goods which satisfy this demand be not produced by the government.

From the demand side, we can assume that the choosing of their provision by the nonprofit organizations is a collective decision; it is the result of the individual preferences revealed through the political process. The citizens prefer that the government does not supply some goods and supplies some quantities of some other goods. Politicians must put forward their proposals before they are elected, and, within those proposals, they must say which goods and what quantities they want to supply. But they must also say under what conditions and what role they want the nonprofits sector to play in that supply.

3. COOPERATIVE BEHAVIOR AND VOLUNTARY FUNDING

The most often used models in nonprofit organizations literature are the public goods model and the private consumption model. In the private consumption model, the act of giving itself motivates contributors to give, while in the public goods model the contributions are meaningful if they increase the supply of a public good.

The private consumption model considers that the act of giving provides utility, so those voluntary gifts are considered as a private good consumed by the donor¹⁰. Prestige can be also considered as a motivation for donations (Rose-Akerman 1986, Harbaugh 1998)

Strictly speaking, the private consumption model implies that the donors obtain some utility even though their gifts do not contribute to financing the production of any goods, as their motivation is the act of giving itself. In this model, the gifts are not conceived as an exchange for the goods supplied, but as goods that themselves have a value. The donors are indifferent about the kind of good that finally their gifts finance, as long as they fulfill an increase of their psychological welfare. As the donations are not related to the

¹⁰ The benchmark model is the impure altruist model developed by Andreoni (1990).

output, we do not consider this kind of voluntary contributions as a serious alternative to the governmental supply of public goods. On the contrary, the public good model starts from the idea that there is an unsatisfied demand of governmental public goods provision. The motivation to give is a desire to increase the public good supply. In this model, the voluntary contributions are considered as a quasi-price paid in exchange for a collective good. Each individual decides his contribution according to the utility provided by the increase of the collective good supply that his contribution produces.

Let the utility function of an individual i be

$$U_i(X_i, G) \tag{1}$$

where X_i is the quantity of the private good that i consumes and G is the quantity of the collective good supplied.

In the absence of an institution for coordinating the quantities of the collective good to be supplied, each individual must decide how much to contribute to the collective good supply. If each individual takes the contributions of the rest of the members of the community as given, each individual chooses his own contribution so that his marginal substitution rate (*MSR*) equals the prices rate (as the collective good is a private good).

$$\frac{\partial U_i / \partial G}{\partial U_i / \partial X_i} = \frac{P_g}{P_x} \tag{2}$$

This individual behavior leads to an under-provision of the collective good, inasmuch as, according to the familiar Samuelsonian equation, the optimum provision is obtained when:

$$\sum_i \frac{\partial U_i / \partial G}{\partial U_i / \partial X_i} = \frac{P_g}{P_x} \tag{3}$$

The extent of such underprovision depends on the nature of the utility functions and it increases with the size of the community (Cornes and Sandler, 1986).

However, a greater collective good supply is possible if we introduce an assumption of cooperative behavior. Each individual can benefit from the contributions of the others, cooperation has an externality which benefits each individual of the community and which induces cooperation itself. All the participants improve their lot if the others increase their voluntary contributions, but there is no requirement that if the others increase their witting contributions, the individual of reference must make it at the same time.

The acknowledgment of the economic interdependence involves for each participant an incentive to modify (should it be possible) the behavior of the others. However, the barriers of the transaction costs exclude such a complex mutual contract in spite of the potential earnings. If the contractual processes of political or economic exchange are excluded, the natural way for that incentive to operate is the investment in some institutions that incorporate no contractual attempts to modify the behavior of individuals. Almost by exclusion, it only remains to us ethics as the only possible way of appropriation of the potential economic value that exist above and beyond the provided by the performance of the ordinary policy (Buchanan 1991, 1996).

We can start from the assumption that individual behavior is constrained by ethical and moral rules (Buchanan 1996). Ethical and religious principles can induce a cooperative behavior. An important aspect of the nonprofit entities is that contributors are directly involved in the supply of the goods they produce. Moreover, we cannot leave out the ideological and religious dimension of many nonprofit institutions. At least, being a member of a group committed to a nonprofit institution, an individual can trust that his cooperative behavior will influence the behavior of the other members. In this way, the individual perceives a greater benefit from his contribution than the marginal value of his own contribution. Within a group of v individuals with a cooperative commitment, if an individual decides to give a witting contribution (H_i) to fund the supply of a collective good, and the other members behave in the same way, each one will experience an increase in the collective good supply equal to

$$G = \sum_{i \in v} \frac{H_i}{P_g} \quad [4]$$

P_g being the price of the collective good.

4. VOTING VOLUNTARY PROVISION

The existence of a group of individuals who are willing to behave cooperatively makes possible some voluntary provision of collective goods. However, the individuals of a community must decide whether the collective good will be supplied through government or through non-governmental nonprofit institutions. This is a collective decision that individuals will express through the political process. This means that voluntary provision require a public choice decision.

Let us consider a community of n individuals in which v individuals are willing to behave cooperatively while r individuals are free riders. ($n=v+r$). The individuals consume a private good X and a collective good G . The prices of X and G are P_x and P_g . Individuals must vote to choose between a program that includes governmental supply and a program with no governmental supply relying on voluntary provision through nonprofit institutions. The political decisions are adopted by majority rule.

If the governmental supply program succeeds, the government supplies an optimum quantity of the collective good G that is financed setting in a personal income tax, being t the tax rate.

On the contrary, if the non-governmental supply program succeeds, some nonprofit institutions will supply the collective good. The quantity supplied by nonprofits will depend on the voluntary contributions of the cooperative members (v) of the community, while free riders (r) do not finance the provision of any goods¹¹. Furthermore, we assume that individuals know the proportion of cooperative individuals and free riders in their community. This knowledge can be obtained from their previous experience.

If all individuals in the community would behave cooperatively, the performance in the provision of the collective good would be the same by nonprofits supply than by governmental supply. Each individual will accomplish a witting contribution equivalent to the tax he pays under governmental provision. This means each individual contributes a proportion g of his personal income, such that $g=t$.

¹¹ We assume that the voluntary contributors act under an ethical commitment. The free riders take the contributions of the others as given, so they will contribute in the amount defined by equation [2]. For simplicity reasons, we assume that free riders contributions are zero.

However, as free riders exist, the cooperative individuals will modify their contribution. The cooperative contributors do not increase their contributions in order to compensate the lack of contributions by the free riders, but they adjust their contributions to maximize their utility as if the community includes v individuals. That is, they will adjust their contribution to the level in which

$$\frac{\sum_{i \in v} \partial U_i / \partial G}{\partial U_i / \partial X_i} = \frac{P_g}{P_x} \quad [5]$$

Political voting decides governmental or non-governmental supply. The result of voting will depend on the utility functions, on the rate of cooperative contributors and also on the characteristics of the collective good G . Next, we are going to consider some possible cases, which can arise.

- a) The government and the nonprofits supply the same good in the same conditions.

Let us consider a public good (joint consumption and non-excludable) which can be supplied both by government and by nonprofit institutions in the same conditions of costs and characteristics of the good.

When the collective good G is supplied by the government and a personal income tax finances its provision, the individual consumption of the private and the public good is

$$X_i = \frac{R_i(1-t)}{P_x} \quad G = \sum_i \frac{tR_i}{P_g} \quad [6]$$

But under voluntary nonprofits supply, the consumption of the private good will be different for cooperative contributors and for free riders. Their individual consumption of the private good is

$$X_{i/i \in r} = \frac{R_i}{P_x} \quad X_{i/i \in v} = \frac{R_i(1-g)}{P_x} \quad [7]$$

while all members of the community consume the same quantity of the collective good

$$G = \sum_{i \in v} \frac{gR_i}{P_g} \quad [8]$$

Facing public or voluntary provision, the cooperative contributors will choose governmental provision, since in this way they will be better off as long as $r > 0$. If contributors are a majority ($v/n > 0,5$) the governmental provision program will succeed in the political election.

On the other hand, the free riders will prefer non-governmental provision as long as the number of contributors would be sufficiently high. The advantage of the free rider would be higher the larger the number of contributors is. They will enjoy a higher quantity of the collective good without contributing to its financing. But if the free riders are a majority, it is possible that the collective good supply is so much reduced that their loss of utility exceed their gain from not paying taxes.

In the particular case of a Cobb-Douglas function and equal preferences and income for each individual, the quantity (optimum) of the collective good supplied by the government would be¹²

$$G^* = \frac{ntR}{P_g} = \frac{n^2 \mathbf{b}}{\mathbf{a} + n\mathbf{b}} \frac{R}{P_g} \quad [9]$$

while the supply of nonprofits voluntarily founded would be¹³

$$G = \frac{vgR}{P_g} = \frac{v^2 \mathbf{b}}{\mathbf{a} + v\mathbf{b}} \frac{R}{P_g} \quad [10]$$

¹² The tax rate is $t = \frac{n\mathbf{b}}{\mathbf{a} + n\mathbf{b}}$.

¹³ Cooperative contributors adjust their contributions to a rate $g = \frac{v\mathbf{b}}{\mathbf{a} + v\mathbf{b}}$.

The free riders only obtain advantage from the nonprofits provision as compared to the governmental provision if the proportion of contributors is sufficiently high. The free riders will vote in favor of non-governmental supply program when the rate of contributors fulfills the following condition

$$\frac{v}{n} > (1-t)^{\frac{a}{b}} \frac{t}{g} \quad [11]$$

otherwise the free riders would prefer governmental supply.

The condition which allows for the non governmental provision program to succeed in the political voting then is:

$$0,5 > \frac{v}{n} > (1-t)^{\frac{a}{b}} \frac{t}{g} \quad [12]$$

In such a case, a majority of free riders exploits a minority of cooperative contributors. Consequently, as contributors experience a large loss of utility, they have a strong incentive to abandon the cooperative group and to join the free riders. This incentive increases as the rate of free riders rises. As a consequence, we expect a moving of contributors to join the free riders group, the subsequent underprovision of the collective good making that finally the free riders will vote in favor of governmental provision.

- b) The government and the nonprofits supply the same good at a different cost

In some instances, it is possible that nonprofit institutions enjoy some advantages in costs, as they are not subject to the same bureaucratic constraints or they can hire labor at a lower price, or other costs economies.

If the nonprofit institutions are able to supply the collective good G at a cost P_v , lower than the governmental provision cost P_g , the non-governmental provision becomes an interesting alternative. The advantages for the free riders remain as long as a lower price allows for a higher output of the collective good to be produced. The free riders will vote the non-governmental provision program with a lower rate of contributors than in the previous case.

On the other hand, it is possible that the cooperative contributors become better off with a voluntary provision. The contributors will vote in favor of a voluntary provision if the earnings derived from the costs reduction are greater than the loss that they perceive from the non-solidary behavior of the free riders.

In the particular case of equal preferences and revenue and a Cobb-Douglas function, the free riders will vote in favor of non governmental provision if

$$\frac{v}{n} \frac{P_g}{P_v} > (1-t)^{\frac{a}{b}} \frac{t}{g} \quad [13]$$

and the contributors will also vote in favor of non governmental provision when

$$\frac{v}{n} \frac{P_g}{P_v} > \left(\frac{1-t}{1-g} \right)^{\frac{a}{b}} \frac{t}{g} \quad [14]$$

The success of the non-governmental supply program requires a percentage of cooperative contributors sufficiently high and a meaningful difference of costs.

However, we can find an alternative program which always is more advantageous for the contributors and in some cases for the free riders as well. A third program can be submitted to the vote. This program would propose that nonprofit organizations to carry out the production of the output and the government to subsidize the total cost of production. This program allows capturing the advantages in costs, and at the same time avoiding free rider behavior. If the cooperative contributors are a majority, this third program will succeed in the political voting.

Nevertheless, this option can also succeed when free riders are a majority. The free riders do not take advantage from non-governmental (non-granted) supply when

$$\frac{v}{n} < (1-t)^{\frac{a}{b}} \frac{t}{g} \quad [15]$$

If the percentage of contributors is so low, they are not willing to vote in favor of voluntary provision, but the free riders also get better off if the output is produced at lower costs. That means that the free riders will also vote in favor of setting governmental taxes and delegating production in the hands of nonprofits.

c) The government and the nonprofits produce different output

Let us now consider the case in which the nonprofit institutions produce an output with different characteristics from those of the output supplied by the government. The nonprofits can supply a collective good G_v at a cost P_v while government supplies good G_g at a cost P_g . G_g and G_v are imperfect substitutes.

Now, the individuals must choose between governmental provision of G_g and voluntary provision G_v .

Assuming an equal income for all individuals¹⁴, the free riders will vote in favor of voluntary provision of G_g if

$$U_{i \in r} \left(\frac{R}{P_x}, \frac{vgR}{P_v} \right) > U_{i \in r} \left(\frac{R(1-t)}{P_x}, \frac{ntR}{P_g} \right) \quad [16]$$

while the conditions for the cooperative contributors is

¹⁴ With governmental provision, the consumption by all members in the community will be: $X_{i \in n} = \frac{R(1-t)}{P_x}$ $G_g = \frac{ntR}{P_g}$, while, with voluntary provision, the consumption

by free riders will be: $X_{i \in r} = \frac{R}{P_x}$ $G_v = \frac{vgR}{P_v}$, and the consumption by cooperative

contributors will be $X_{i \in v} = \frac{R(1-g)}{P_x}$ $G_v = \frac{vgR}{P_v}$.

$$U_{i \in v} \left(\frac{R(1-g)}{P_x}, \frac{vgR}{P_v} \right) > U_{i \in v} \left(\frac{R(1-t)}{P_x}, \frac{ntR}{P_g} \right) \quad [17]$$

The proportion of contributors so that they will vote in favor of voluntary provision of G_v instead of governmental provision of G_g , can be expressed as a function of the *MSR*

$$\frac{v}{n} > MSR \frac{t}{g} \frac{P_v}{P_g} \quad [18]$$

When individuals value more highly the goods supplied by nonprofits, the incentives for non-governmental provision increases proportionally to the *MSR*.

When we consider a set of collective goods which can be supplied either by government or by nonprofit institutions, in this case, a governmental and voluntary supply coexist. The government and the nonprofit institutions would have to supply those goods in which each one has an advantage on quality and/or costs.

An optimum distribution between government supply and nonprofits supply would be obtained by achieving

$$\frac{\sum_i \partial U_i / \partial G_g}{\sum_i \partial U_i / \partial G_v} = \frac{P_g}{P_v} \quad [19]$$

This optimum would be reached if all of n individuals of the community behave cooperatively. In the presence of free riders, the nonprofits supply will be lower than the optimum one. The output level of collective goods will be such that

$$\frac{\sum_i \partial U_i / \partial G_g}{\sum_i \partial U_i / \partial G_v} = \frac{P_g v}{P_v n} \quad [20]$$

Voluntary provision depends on the percentage of cooperative contributors. A minimum is required for voluntary provision. The rate of contributors at which the free riders would vote in favor of the voluntary provision is lower than the one for the cooperative contributors. Free riders and contributors vote, and therefore governmental or voluntary provision are chosen by political voting.

5. VOTING FISCAL INCENTIVES

As free riders behavior produces an underprovision of the collective goods supplied by non-governmental organizations, fiscal incentives to the voluntary provision improve the social welfare.

The deduction of gifts in the personal net revenue subject to taxation reduces the price of the collective goods G_v supplied by nonprofit entities from P_v to $P_v(1-t)$. This reduction in price incentivates individuals to make gifts and leads to an increase of the output. In the same way, a conditional grant per unit of output supplied s increases the funds to finance the output of the nonprofits and reduce the price of G_v for the donor to a $P_v(1-s)$.

A program of fiscal incentives to voluntary provision must be submitted to a political voting. The utility of the cooperative contributors increases from a tax deduction and so they will be willing to vote in favor of the program¹⁵.

On the other hand, the tax deduction of gifts implies, to some extent, to involve the free riders in the financing of the voluntary provision. The cost of the tax deduction program is

¹⁵ The joint welfare of the community increases as long as $\frac{v}{n} < (1-t)$. Otherwise, we would obtain a voluntary provision grater than the optimum one.

$$C_F = (vgR)t \quad [21]$$

and such fiscal cost is distributed among all members of the community, including the free riders. Then, the free riders will pay a price per unit of the output supplied by nonprofits equal to

$$\frac{P_v}{n} t(1-t) \quad [22]$$

Nevertheless, the tax deduction for gifts can bring advantages to the free riders, since it allows increasing their consumption of the collective good G_v , at a very low cost. The free riders will be willing to vote in favor of the tax deduction program as long as

$$\frac{n \frac{\partial U_{i \in F}}{\partial G_v}}{P_v t(1-t)} > \frac{\partial U_{i \in F}}{\partial X_i} \frac{1}{P_x} \quad [23]$$

6. CONCLUSIONS

The existence of an unsatisfied demand of collective goods is in the nucleus of the theories of the autonomous setting up of nonprofit institutions. Nonprofits approach do not analyze the supply of collective goods made by nonprofit institutions as a public choice decision, although individuals, as consumers, are in the center of their theoretical constructs.

Therefore, unsatisfied demand is considered as a consequence of the public sector's failures. Then, the question we pose is: why does the government neglect a part of the collective goods demand? We introduce the hypothesis that voluntary nonprofits' provision is a collective choice. The nonprofit institutions do not only supplement the quantity supplied by the government, but they also offer either a different quality, or different features of the goods, or to different consumers or simply they supply different goods as compared to what government supplies.

In some ways, citizens must decide which goods the government supplies and which ones are to be supplied by nonprofit institutions. Consequently, nonprofits' supply becomes a public choice.

The nonprofit institutions are financed, at least in part, through witting contributions. The voluntary supply of collective goods requires a cooperative behavior of at least a fraction of the members of the community. We derive the cooperative behavior from the assumption that individuals' behavior is constrained by ethical and moral rules. The existence of a group of individuals who are willing to behave cooperatively makes possible the voluntary provision of collective goods.

In this paper, we present a model in which the members of a community, both those who are willing to behave cooperatively and those who are not (free riders) vote for choosing between a political program of governmental supply and a political program of non governmental supply. Afterward, the citizens must also decide if a program of fiscal deductions to donations and/or governmental grants to nonprofits is applied or not. Each individual votes for the option which provides him with the largest utility. Therefore, the community as a whole decides on the public and/or voluntary supply of collective goods through a political process.

Our model shows that a minimum percentage of cooperative contributors is required for voluntary provision to take place. The minimum rate of cooperative contributors required in each case for the success of a voluntary provision program depends on the relation between the price per unit of output supplied by government and the price per unit of output supplied by nonprofits, on the relationship between the tax rate and the witting contributions, and on the marginal substitution rate between governmental supplied goods and nonprofits' supplied goods.

The government and the nonprofit institutions would have to supply those goods in which each organization has an advantage on quality and/or on costs. An optimum distribution between government supply and nonprofits' supply would require that all individuals within a community behave cooperatively. In the presence of free riders, the nonprofit institutions' supply depends on the voluntary contributors' rate, and the voluntary provision will be lower than the optimum one.

Fiscal incentives to donations and governmental grants to nonprofit institutions will increase voluntary supply and, in this sense, they allow it to move toward the optimum level of nonprofits' supply. The cooperative contributors always will be willing to vote for fiscal incentives to nonprofits and the vote of free riders depends on the tax rate and on the marginal substitution rate.

References:

- ANDREONI, J. (1990), Impure Altruism and Donations to Public Goods: A Theory of Warm Glow Giving. *Economic Journal* 100, 464-477.
- BRUECKNER, J. K., LEE, K. (1991), Economics of scope and multiproduct clubs. *Public Finance Quarterly* 19, 193-208.
- BUCHANAN, J. M. (1965), An economic theory of clubs. *Economica*, 3, 1-14.
- BUCHANAN, J. M.,(1991), Economic Origins of the Ethical Constraints. In *The Economics and The Ethics of Constitutional Order*. Ann Arbor, University of Michigan Press. 179-193.
- BUCHANAN, J. M. (1996), *Ethics and Economic Progress*. University of Oklahoma Press.
- CIRIEC-International (2000), *Third system enterprises and organizations in Europe*, Ciriec-International, Bruxelles.
- CORNES, R., SANDLER, T. (1986), *The theory of externalities, public goods and club goods*. Cambridge University Press, New York..
- DEAKIN, N. (1994), *The Politics of Welfare*. Harvester Wheatsheaf, London.
- DOWNS, A. (1957), *An Economic Theory of Democracy*. Harper and Row, New York.
- FRANK, R., SALKEVER, D. (1994), Nonprofit organizations in the health sector. *Journal of Economic Perspectives* 8, 129-144.
- HARBAUGH, W. T. (1998), What do donations buy? A model of philanthropy based on prestige and warm glow. *Journal of Public Economics* 67, 269-284.
- HARROW, J., PALMER, P., VINCENT, J. (1999), Management information needs and perceptions in smaller charities: An exploratory study. *Financial Accountability & Management* 15, 155-172
- HELSLEY, R. W., STRANGE, W. C. (1991), Exclusion and the theory of clubs. *Canadian Journal of Economics* 24, 888-899.
- JONES, B. (1996), *Financial Management in the Public Sector*. McGraw Hill, London.
- KAPUR, K., WEISBROD, B. A. (2000), The roles of government and non-profit suppliers in mixed industries. *Public Finance Review* 28, 275-308.

- LEE, K. (1991), Transaction costs and equilibrium pricing of congested public goods with imperfect information. *Journal of Public Economics* 45, 337-362.
- MELLETT, H., MARRIOTT, N., HARRIES, S. (1993), *Financial Management in the NHS*. Chapman & Hall, London.
- NCVO (1992), *On Trust: Increasing the Effectiveness of Charity Trustees and Management Committees*. National Council for Voluntary Organisations, London.
- NCVO (1996), *UK Statistical Almanac*. National Council for Voluntary Organisations, London.
- OKTEN, C., WEISBROD, B. A. (2000), Determinants of donations in private nonprofit markets. *Journal of Public Economics* 75, 255-272.
- ROSE-ACKERMAN, S., (Ed) (1986), *The economics of nonprofit institutions*, Oxford University Press, 114-132.
- SALAMON, L., ANHEIER, H. (1992), A comparative study of the Non-profit Sector: purpose methodology, definition and clasification. In Saxon-Harrold, S., Kendall, J. (Eds.), *Researching the Voluntary Sector*. CAF-RSU, England. 179-196.
- SANDLER, T., TSCHIRHART, J. (1993), Multiproduct clubs: Membership and sustainability. *Public Finance* 482, 153-170.
- SILVA, E. C. D., KAHN, C. M. (1993), Exclusion and moral hazard: The case of identical demand. *Journal of Public Economics* 52, 217-235.
- SMITH, S. R., LIPSKY, M. (1993), *Nonprofits for hire*. Harvard University Press, Cambridge.
- STERBENZ, F. P., SANDLER, T. (1992), Sharing among clubs: A club of clubs theory. *Oxford Economic Papers* 44, 1-19.
- WEISBROD, B. A. (1975), Towards a theory of the voluntary nonprofit sector in a three sector economy. In Phelps, E. (Ed.), *Altruism, morality and economic theory*. Rusell Sage Foundation. New York.
- WEISBROD, B. A. (1988), *The nonprofit economy*. Harvard University Press, Cambridge.
- WISE, D. (1995), *Performance Measurement for Charities*. ICSA Publishing, Hertfordshire.

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