

Agliardi, Elettra; Zagonari, Fabio

**Working Paper**

## The Efficiency of Non-Profit Organisations: Moral and Social Norms

Quaderni - Working Paper DSE, No. 274

**Provided in Cooperation with:**

University of Bologna, Department of Economics

*Suggested Citation:* Agliardi, Elettra; Zagonari, Fabio (1997) : The Efficiency of Non-Profit Organisations: Moral and Social Norms, Quaderni - Working Paper DSE, No. 274, Alma Mater Studiorum - Università di Bologna, Dipartimento di Scienze Economiche (DSE), Bologna, <https://doi.org/10.6092/unibo/amsacta/5037>

This Version is available at:

<https://hdl.handle.net/10419/159117>

**Standard-Nutzungsbedingungen:**

Die Dokumente auf EconStor dürfen zu eigenen wissenschaftlichen Zwecken und zum Privatgebrauch gespeichert und kopiert werden.

Sie dürfen die Dokumente nicht für öffentliche oder kommerzielle Zwecke vervielfältigen, öffentlich ausstellen, öffentlich zugänglich machen, vertreiben oder anderweitig nutzen.

Sofern die Verfasser die Dokumente unter Open-Content-Lizenzen (insbesondere CC-Lizenzen) zur Verfügung gestellt haben sollten, gelten abweichend von diesen Nutzungsbedingungen die in der dort genannten Lizenz gewährten Nutzungsrechte.

**Terms of use:**

*Documents in EconStor may be saved and copied for your personal and scholarly purposes.*

*You are not to copy documents for public or commercial purposes, to exhibit the documents publicly, to make them publicly available on the internet, or to distribute or otherwise use the documents in public.*

*If the documents have been made available under an Open Content Licence (especially Creative Commons Licences), you may exercise further usage rights as specified in the indicated licence.*



<https://creativecommons.org/licenses/by-nc/3.0/>

# The Efficiency of Non-Profit Organisations: Moral and Social Norms

Elettra Agliardi  
Department of Economics  
University of Bologna  
Piazza Scaravilli 2, 40126 Bologna (ITALY)  
EMail: agliardi@economia.unibo.it

Fabio Zagonari  
Department of Economics  
University of Bologna  
Piazza Scaravilli 2, 40126 Bologna (ITALY)  
EMail: zagonari@ecosta.unibo.it

April 1997

## Abstract

This paper develops an evolutionary model to discuss the issue of efficiency in non-profit organisations. The ideological commitment that characterizes most of them is depicted through the introduction of a role for moral and social norms. It comes out that attracting motivated employees can be a sufficient condition for efficiency and to a greater extent in large and established non-profit organisations.

JEL: L310

Non-profit organizations (NPO) can be defined as legally and structurally private organizations providing socially useful services and deriving a portion of their revenues from (tax deductible) contributions (James and Rose-Ackerman, 1990). They perform meritorious activities devoted to social solidarity and create positive externalities in favour of people who are not directly involved in the organization.

In most service sectors NPO coexist with for-profit organisation (FPO) and public providers. The heterogenous tastes (Schlesinger et al., 1987) or the poor information of customers (James and Rose-Ackerman, 1986) can create a niche for non-profit provision.

Whenever the benefits from a given enterprise are external to its participants and the structures of control or the enforcements of contracts are inefficient or non-existent, however, there is a problem of poorly defined property rights.

A great deal of effort has been devoted to study the case of public bureaucracies. Strategies to induce politicians and bureaucrats to use their control rights to pursue public interest have been suggested (Laffont and Tirole, 1993). Strategies to remove the bureaucratic control rights through a political process have been advised (Shleifer and Vishny, 1994; DeSoto, 1989; Bardhan, 1993; Omstrom, 1990). All these suggestions, however, cannot be credibly enforced within a NPO.

It is yet to be explained how non-profit entrepreneurs can overcome the inefficient incentives created by the lack of owners in order to coexist with for-profit organisation (FPO) and public providers.

Some people (Hansmann, 1996) argue that the continuing viability of the private nonprofit sector is simply an artifact of its favourable status under tax and other laws. Some others (Siebel, 1990) suggest that NPO are supported by governments in order to alleviate societal and political demands so that they survive because of, not in spite of, their inefficiency.

The purpose of this paper is to show under what conditions the ideological commitment that characterizes most NPOs is sufficient for them to be efficient. We shall propose a theory of the non-profit sector based on the assumption that each member of a NPO follow a morality.

NPOs usually provide kinds of goods and services or appeal to types of customers which are different from those of the FPOs so that efficiency measures for the former must be different from the latter. For the sake of simplicity, in our model efficiency is reached if all the NPO's members cooperate to pursue its overall objective.

We consider a finite number of members of a NPO who choose to behave cooperatively or not cooperatively by anticipating the feeling arising from a repeated and random match with other agents in the NPO. Actions are taken in discrete time and are fixed within a period. Better strategies at a time are better represented within the NPO's members at later time. In each period some members are substituted by others with a given probability.

We show the conditions under which a NPO can achieve the efficiency arising from all its members behaving cooperatively by attracting employees which are committed to the NPOs' ideology, motivated by team spirit or driven by moral obligation. We find that this is more likely to occur for large and established NPOs.

The paper is organized as follows. In section 1 we discuss the role of moral norms in maintaining cooperative behaviour among the members of a NPO. The structure of the model and the conditions for efficiency are discussed in Section 2 and Section 3, respectively. Section 4 contains some concluding remarks.

## 1. The role of moral and social norms

If we are interested in examining the motivation of the NPOs we need to consider the possibility that individuals act according to some moral principle instead of referring to theories that are based on utility maximisation and individual self-interest.

Several alternative approaches have been proposed in the literature.

One approach is due to the *theory of altruism*: to the extent that individuals act non-selfishly, they are motivated by a concern about other people welfare (see, for example, Margolis, 1982; Bernheim and Stark, 1988).

Within this approach Margolis (1982) distinguishes between the individual's self-interest and the individuals' conception of the welfare of the group to which they belong. Since the value of the available resources increasing the perceived welfare of the group is relatively small, this theory predicts that each individual participates in a single activity, that is the one they believe will generate the largest increment of the welfare of the group from a marginal contribution. Therefore in this approach there is no rationale for those NPOs whose impact on social welfare is limited.

Bernheim and Stark (1988) show that when altruism is sufficiently strong and symmetric, there is almost always an equilibrium in which payoffs are arbitrarily close to the optimum for both players. However, the prevalence of a little altruism could result in Pareto inferior outcomes in comparison with a situation where altruism is absent. Indeed, two forces are at stake. On the one hand, altruism improves the static noncooperative outcome so that it reduces the severity of credible punishments; on the other hand, it makes deviations less desirable. In order to justify the success of some NPOs and the failure of others this theory must spell out a reason for the amount of altruism being adequate only in the former.

A different approach is to assume that people follow a morality not of altruism but of cooperation. In particular the *principle of rational commitment* or *Kantian rule* (Laffont, 1975; Collard, 1983;

Harsanyi, 1980) claims that a member of a group is obliged to make at least the effort that he would most prefer that every member should make (the same effort for each member).

According to this principle an individual contributes towards the production of every good from which he derives some benefits irrespective of whether the others actually give their contribution. This prediction is inconsistent with many NPOs creating positive externalities in favour of people not directly involved in it. Moreover, not any meritorious activity are performed by a NPO. Finally, if some members do not participate in the NPO, the others must be driven by some external obligations to feel that is fair that they alone bear the costs of the activity.

A further approach is based on the *principle of reciprocity* (Sugden, 1984). This states that if every member of a group of individuals except  $i$  is making an effort of at least  $\xi$  and  $i$  chooses a level of effort that he would most prefer that every member should make not less than  $\xi$ , then  $i$  is under an obligation to make an effort of at least  $\xi$ . By assuming that everyone accepts the principle of reciprocity and that everyone contributes towards the production of goods from which he derives some benefits, this theory predicts that the voluntary activity sometimes succeeds and sometimes fail in supplying these goods.

Apart from the objectionable assumptions that the same principle is shared by each member in a NPO and that some NPOs' activities are performed in favour of people who are external to it, the main discontent for this theory comes from the poor reasons for NPOs sometimes succeeding and sometimes failing in the provision of meritorious goods. Indeed, Pareto efficiency is possible in a community of identical individuals; but if individuals are allowed to differ, efficiency is possible only as a result of the most unlikely coincidence.

A further approach is given by *the principle of fairness* (Rabin, 1993) based on the following three stylized facts: i) people are willing to sacrifice their own material well-being to help those who are being kind; ii) people are willing to sacrifice their own material well-being to punish those who are being unkind; iii) both motivations i) and ii) have a greater effect on behaviour as the material cost of sacrificing becomes smaller. It turns out that the achievement of a Pareto superior outcome as a fairness equilibrium - defined as a Nash equilibrium for psychological games with the additional condition that all higher-order beliefs match actual behaviour - depends on the well-being they obtain in equilibrium, players' beliefs and the well-being they sacrifice to hurt those who are being unfair. The first two predictions are inconsistent with the existence of small NPOs and the phenomenon of different beliefs within NPOs' members. The third one is problematic in NPOs offering meritorious goods since the player must choose either to cooperate and, consequentially, to help everybody, or not to cooperate and therefore to hurt everybody.

To fill some of the gaps of the above mentioned theories in this model, we introduce a role for moral norms. Following Elster (1989) we define moral norms not outcome-oriented norms sustained by the

feeling of embarrassment, anxiety, guilt or shame that a person suffers at the prospect of violating it. In our model individuals are assumed to differ in moral norms.

Moreover, we consider a social norm, that is an *internalized norm* that is sustained by the approval or disapproval of other people (Elster, 1989). In our model individuals are assumed to obey to the same social norm.

As an example of moral norms think of the subjective norm concerning the lower effort that each member of a NPO may perceive as a proper effort at the workplace. As regards as social norms think of informal norms among workers that may regulate their work effort by setting lower as well as upper limits on what is commonly perceived as a proper effort.

Finally, we introduce a role for the team spirit, that is a common ideal that is shared between the members of the NPOs (Rose-Ackerman, 1996). One can think of the awareness of participating in the achievement of an altruistic goal without enriching anybody else.

In summary, our analysis above boils down to the following conclusions: none of the above mentioned theories seems to be appropriate for NPOs and each of them has its own drawbacks.

## 2. The model

We consider a population of a finite number  $N$  of members of a NPO who choose to behave cooperatively or not cooperatively by anticipating the feeling arising from a repeated and random match with other agents in the population. This dynamics can be depicted by an evolutionary game whose stage game has following payoff structure:

	$C$	$NC$
$C$	$W, W$	$X_i, -X_j - Y$
$NC$	$-X_i - Y, X_j$	$0, 0$

with  $X_i, X_j, Y \in R$ . The interpretation of the payoffs is the following.

Each agent may be moved by solidarity and behave according to norms that promote common interests (say  $C$ , cooperate) or, alternatively, may be driven by selfishness and act as a free-rider to pursue their self-interest (say  $NC$ , non cooperate).

We depict the team spirit by assuming  $W > 0$ . Moreover, we represent the moral norm that can lead individuals to feel satisfaction or regret whenever faced with the others' selfish as opposed to their altruistic attitude by assuming that  $X_i$  can be both positive and negative and different for each agent  $i$ : indeed, a member of a NPO can feel foolish ( $X_i < 0$ ) or good-natured ( $X_i > 0$ ) when faced with another agent who did not cooperate. Finally, we catch the social norm that drives individuals to have feelings of guilty, anxiety or shame whenever faced with the others' altruistic as opposed to their selfish attitude by assuming  $Y > 0$  and the same for each member of the NPO. Therefore, this payoff

structure allows us to include the *internalized norms* (Elster 1989), that is norms that are followed even when violation would not be observed and not exposed to sanction.

Actions are taken in discrete time  $t = 1, 2, \dots$ . At the beginning of period  $t$  each agent chooses his pure strategy for the period. Let  $z_t$  the number of agents adopting strategy  $C$  at time  $t$ . This defines the state of the dynamical system and the state space  $Z = [0, N]$ .

Let  $X_i \in [\underline{X}, \bar{X}]$  where  $\underline{X} < 0 < \bar{X}$  and  $X \sim F(X)$ , where  $F(\cdot)$  is continuously differentiable. The average payoff  $\Pi_t^k(z_t)$  at time  $t$  for an agent playing strategy  $k = C, NC$  is defined as follows:

$$\Pi_t^C(z_t) = \frac{z_t - 1}{N - 1}W + \frac{N - z_t}{N - 1}X_i$$

$$\Pi_t^{NC}(z_t) = -\frac{z_t}{N - 1}(X_i + Y)$$

Agents' actions are assumed to be fixed within a period and better strategies at time  $t$  are better represented in the population at time  $t + 1$ . Thus, the underlying deterministic dynamics is given by:

$$z_{t+1} = P(z_t) \equiv N\{1 - F[X_i^*(z_t)]\} \quad \text{with} \quad X_i^*(z_t) = -\frac{(z_t - 1)W + z_t Y}{N}$$

This implies that agents that cooperated at time  $t$  because of their  $X_i$  sufficiently large will still cooperate at time  $t + 1$ .

Each agent's strategy "flips" with an exogenously fixed probability  $\varepsilon$  in each period. For the sake of simplicity we will assume that in each period a single individual is replaced by an other.

This yields the non-linear stochastic difference equation:

$$z_{t+1} = N\{1 - F[X_i^*(z_t)]\} + \alpha_t - \beta_t \tag{1}$$

where

$$\alpha_t \sim \text{Bin}\{N - P(z_t), \varepsilon\} \equiv \binom{F(\cdot)N}{1} \varepsilon (1 - \varepsilon)^{F(\cdot)N - 1}$$

and

$$\beta_t \sim \text{Bin}\{P(z_t), \varepsilon\} \equiv \binom{[1 - F(\cdot)]N}{1} \varepsilon (1 - \varepsilon)^{[1 - F(\cdot)]N - 1}$$

### 3. Conditions for efficiency

The dynamical system (1) defines a Markov chain on the finite space  $Z = [0, N]$ . The transition probabilities are given by:

$$p_{i,i} = \text{prob}(z_{t+1} = i \mid z_t = i) = a\varepsilon(1 - \varepsilon)^{a-1}b\varepsilon(1 - \varepsilon)^{b-1} + [1 - a\varepsilon(1 - \varepsilon)^{a-1}][1 - b\varepsilon(1 - \varepsilon)^{b-1}]$$

$$p_{i,i+1} = \text{prob}(z_{t+1} = i + 1 \mid z_t = i) = a\varepsilon(1 - \varepsilon)^{a-1}[1 - b\varepsilon(1 - \varepsilon)^{b-1}]$$

$$p_{i+1,i} = \text{prob}(z_{t+1} = i \mid z_t = i + 1) = b\varepsilon(1 - \varepsilon)^{b-1}[1 - a\varepsilon(1 - \varepsilon)^{a-1}]$$

with  $a = F(.)N$  and  $b = [1 - F(.)]N$ .

Some observations are worthy here. First, since all elements of the Markov matrix are strictly positive, there is a unique stationary distribution. Second, since all non-zero elements of the matrix are on the main diagonal or on the line directly adjacent to it, the stationary distributions can be obtained recursively as follows:

$$u_0 = p_{00}u_0 + p_{10}u_1$$

$$u_1 = p_{01}u_0 + p_{11}u_1 + p_{12}u_2$$

and so on. Third, remembering that the row sums of the matrix add to unity we get:

$$u_z = \frac{p_{01}p_{12}\dots p_{z-1z}}{p_{10}p_{21}\dots p_{zz-1}}$$

By rearranging  $u_z/u_{z-1}$  one gets:

$$\frac{F(z-1)(1-\varepsilon)^{N[F(z)+F(z-1)-1]}\{1 - [1 - F(z-1)]N\varepsilon(1-\varepsilon)^{N[1-F(z-1)]-1}\}}{[1 - F(z)][1 - F(z)N\varepsilon(1-\varepsilon)^{NF(z)-1}]}$$

The following proposition holds:

**Proposition 1** *For any  $N, \varepsilon$  and  $F(.)$  there exists  $\underline{z} \geq 0$  such that the limit distribution puts probability one on  $N$  if  $N > z > \underline{z}$ .*

*Proof.* Since  $\lim_{F \rightarrow 1}(u_z/u_{z-1}) = \infty$ ,  $\exists \bar{F} \mid (u_z/u_{z-1}) = 1$  and  $\partial(u_z/u_{z-1})/\partial F > 0 \forall F > \bar{F}$ . Let  $\bar{F} = F(\bar{z}, Y, W) = F(X_i^*)$ . Notice that  $X_i^*(\bar{z}) < 0$  since  $W > 0$  and  $Y > 0$ . Moreover, the more convex is  $F(.)$ , the smaller is  $|X_i^*|$ , since  $F(.)$  is strictly increasing and continuous in  $X_i^*$ . Since  $\partial X_i^*/\partial z = -(W + Y)/N < 0$ ,  $\exists \underline{z}$  with  $0 \leq \underline{z} < \bar{z}$  such that the limit distribution puts probability one on  $\bar{z}$  if  $z > \underline{z}$ . Moreover, for any  $X_i^*$ ,  $\bar{z} = N$  if  $W \geq -((N - 1)/N)(X_i^* + Y)$ . Notice that the smaller is  $|X_i^*|$ , the smaller are  $W$  and  $Y$ .

Therefore, provided that a sufficiently large portion of its members are cooperating when it is established, a NPO can achieve the efficiency arising from all its members behaving cooperatively by attracting employees which are committed to the NPOs' ideology ( $X_i$ ), motivated by team spirits ( $W$ ) or driven by moral obligation ( $Y$ ). This seems to be supported by the evidence (James 1989, Young 1983) that most NPOs are ideological in character.

The number of members cooperating when the NPO is set up could be not sufficiently large. However, the following proposition holds:

**Proposition 2** *For any  $N > 1$ ,  $\exists \varepsilon, \varepsilon^*$  with  $0 < \varepsilon < \varepsilon^*$  such that  $\underline{z} = 0$ .*

*Proof.* Let  $F(z-1)(1-\varepsilon)^{N[F(z)+F(z-1)-1]}\{1 - [1 - F(z-1)]N\varepsilon(1-\varepsilon)^{N[1-F(z)]-1}\} = A$  and  $[1 - F(z)][1 - F(z)N\varepsilon(1-\varepsilon)^{NF(z)-1}] = B$ . Since  $A(0) = 0$  and  $B(0) = 1$  and  $A(1) > 0$  and  $B(1) = 0$ ,  $A$  and  $B$  intercept at least once. However,  $\forall N > 1, \exists \varepsilon, \varepsilon^*$  with  $0 < \varepsilon < \varepsilon^*$  such that  $A = B$  only once. This implies that the basin of attraction of  $\bar{z} = N$  is the whole  $[0, N]$ .



Therefore, a NPO is more likely to achieve the efficiency arising from all its members behaving cooperatively when it is large ( $N$ ) or characterized by a moderate turn over of its members ( $\varepsilon$ ). This seems to be supported by the evidence (Bowen et Al., 1994; Selle and Oymyr 1992) that age and size of NPOs are positively associated with their survival probability.

#### **4. Concluding remarks**

The purpose of this paper has been to discuss under which conditions NPOs can overcome the inefficient incentives due to their poorly defined property rights.

On the one hand, it turns out that if the ideological commitment that characterizes most NPOs attracts employees which are either committed to the NPOs' ideology, or motivated by team spirit or driven by moral obligation, NPOs will achieve efficiency arising from all its members participating cooperatively.

Moreover, a reason for participation irrespective of others' contribution is provided and the provision of meritorious goods which benefit people other than NPO's members is accounted for.

Finally, NPOs with committed founders, managers and employees are more likely to succeed and, consequentially, goods reflecting specific values are more likely to be offered by NPOs.

On the other hand, it comes out that NPOs are more likely to achieve efficiency arising from all its members participating cooperatively when they are large and established.

Therefore, our theory generates two further predictions that are consistent with the evidence that age and size are positively associated with the NPO's survival probability.

#### **References**

- BARDHAN, P (1993) Symposium on Management of Local Commons, *Journal of Economic Perspectives*, 7, pp.123-37
- BERNHEIM, B.D. and O.STARK (1988) Altruism within the family reconsidered: do nice guys finish last ? *American Economic Review*, 78, pp.1034-45
- BOWEN, W. et Al. (1994) *The charitable non-profits*, Jossey-Bass, San Francisco
- COLLARD, D.A. (1983) Economics of Philanthropy: a Comment, *The Economic Journal*, 93, pp.637-8
- DESOTO, H (1989) *The Other Path*, New York, Harper and Row
- ELSTER, J (1989) Social Norms and Economic Theory, *Journal of Economic Perspectives*, 3, pp.99-117
- HANSMANN, H. (1996) The changing roles of public, private, and non-profit enterprises in education, health care, and other human services, in *Individual and social responsibility: child care, education, medical care, and long-term care in America*, Ed. V.Fuchs, University of Chicago Press, Chicago
- HARSANYI, J.C. (1980) Rule Utilitarianism, Rights, Obligations and the theory of rational behaviour, *Theory and Decision*, 12, pp.115-33

- JAMES, E. (1989) *The non-profit sector in international perspective*, Oxford University Press, New York
- JAMES, E. and S.ROSE-ACKERMAN (1990) *Non-profit enterprises in market economies*, Harwood Academic Press, Chur
- LAFFONT, J.-J. (1975) Macroeconomic Constraints, Economic Efficiency and Ethics: Introduction to Kantian Economics, *Economica*, 42, pp.430-7
- LAFFONT, J. and J.TIROLE (1993) *A Theory of Incentives in Procurement and Regulation*, The MIT Press, Cambridge MA
- MARGOLIS, H. (1982) *Selfishness, altruism and rationality*, Cambridge University Press, Cambridge
- OSTROM, E. (1990) *Governing the Commons*, Cambridge University Press, Cambridge
- RABIN, M. (1993) Incorporating fairness into game theory and economics, *American Economic Review*, 83, pp.1281-302
- ROSE-ACKERMAN, S. (1996) Altruism, Nonprofits and economic Theory, *Journal of Economic Literature*, 34, pp.701-728
- SCHLESINGER et Al. (1987) The privatisation of health care and physicians' perception of access to hospital services, *The Milbank Quartely*, 65 (1), pp.25-58
- SIEBEL, W. (1990) Organisational behaviour and organisational function: toward a micro-macro theory of the third sector, in H.K.ANHEIER and W.SEIBEL (Eds.), *The third sector: comparative studies of non-profit organisations*, Berlin, W.D. Gruyter, pp.107-121
- SELLE, P. and B.OYMYR (1992) Explaining changes in the population of the voluntary organisations: the roles of individual and aggregate level data, *Non-profit and Voluntary Sector Quarterly*, 21 (2), pp.147-179
- SHLEIFER, A. and R.W.VISHNY (1994) Politicians and Firms, *Quarterly Journal of Economics*, 109
- SUGDEN, R. (1984) Reciprocity: the Supply of Public Goods through Voluntary Contributions, *The Economic Journal*, 94, pp.772-787
- YOUNG, D. (1983) *If not for profit for what?* D.C.Health, Lexington, MA