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When NGOs Go Global: Competition on International Markets for Development Donations*

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Abstract

Why many large non-governmental organizations (NGOs) are becoming multinational entities? What are the welfare implications of this integration of markets for development donations? To answer these questions, we build a simple two-country model with horizontally differentiated NGOs competing through fundraising effort. We find that NGOs become multinational if the economies of scale in fundraising are sufficiently large. In that case, national NGOs in the smaller country disappear, while some national NGOs remain in the larger country only if the difference in the countries' size is large enough. Social welfare is higher in the regime with multinationals than under autarky.

Keywords: non-governmental organizations, charitable giving, globalization, multinational firms.

JEL Classification: F23, L22, L31.

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1 Introduction

"Unlike smaller organizations, the transnational NGO can demonstrate quickly and effectively to several constituencies at once that its people are 'on the ground', responding to an emergency. CARE, for example, demonstrated simultaneously to television audiences in Britain, the United States, Canada and Australia that it was operational only days after the 1992 disaster 'broke' in Somalia - simply by changing the face and the accent in front of the camera" (Smillie 1995: 202).

Along with increased international trade and investment flows, another key market integration phenomenon has been happening for about half century: the globalization of the market for donations to charitable causes. While until relatively recently development-oriented non-governmental organizations (NGOs) raised funds in the countries where they had been founded, nowadays they heavily rely on raising funds through their foreign affiliates. Table 1 shows statistics for some of the main global NGOs: the number of distinct country offices that conduct national fundraising campaigns goes from 10 (for CARE) to 65 (for World Vision). These organizations are development heavyweights: their annual budgets are in the range of 600 to 2100 mln U.S. dollars.

[Table 1 about here]

Concerning the timing of this phenomenon, Figure 1 presents the historical timeline of the globalization for three well-known NGOs: Plan International, Oxfam, and MSF. We see that the main surge in globalization (i.e., the opening of foreign affiliates) happened mainly during the 1980s and 1990s.

[Figure 1 about here]

Geographical patterns behind this globalization phenomenon are also quite interesting. Table 2 lists the MSF's affiliates and their years of foundation. The first foreign affiliates are in Belgium, Switzerland, and the Netherlands, with other European affiliates following in the same decade. The first affiliate outside Europe is in the US, and in mid-1990s, the MSF expands its donor base into such exotic destinations as the United Arab Emirates.

[Table 2 about here]

Why did these global NGOs emerge? Why did this phenomenon develop mainly starting in the 1980s? What can explain the geographical pattern of NGO globalization? And is this aid market globalization good for beneficiaries and donors? This paper presents an economic analysis of this phenomenon that has not been studied by economists so far.

As Smillie (1995) points out in his poignant account of the development NGO sector, most big NGOs started out as a response from some Western country's activists to a particular disaster in a developing country. Initially such an NGO raised funds only in its country of origin; however, soon it established affiliates in other developed countries, becoming an international entity, similar to a multinational firm.

One well-known example is Oxfam. Oxfam UK was established in Great Britain in 1943 to provide relief after the Greek famine of the same year. In 1960, it opened its Canadian affiliate, Oxfam Canada. Shortly, two more foreign affiliates, Community Aid Abroad (the Australian branch) and Oxfam New Zealand, were opened. Then followed the branches in continental Europe and Japan. The total number of affiliates now has reached 13. The return on these investments was impressive. For instance, the initial investment to open the Canadian branch cost 60 000 pounds, and by 1970, this branch raised and sent 1.2 million pounds overseas (Black 1992).

The NGO practitioners suggests that a key reason behind this internationalization is domestic competition for donations. As Dichter (1999) points out, "New markets are aggressively tackled... NGOs have come up against donor saturation in their home countries... By going to [foreign] countries, the costs of recruiting new donors [are] lowered." Moreover, as the opening quote suggests, there might be increasing returns to scale in running fundraising campaigns internationally.

The competition for funds has its downsides, as it may lead to the "excessive fundraising" problem (Rose-Ackerman 1982). She shows that tougher competition between NGOs can be welfare-reducing because this induces NGOs to spend excessive portion of their budgets for fundraising activities. Moreover, the equilibrium number of NGOs is too big compared to social optimum.

Thus, from an economist's point of view, the globalization of the NGO sector driven by the competition for donations raises several important questions. First, where does this globalization come from? Second, what is the effect of the NGO globalization on the fundraising and production behavior of NGOs? Third, what are the welfare consequences of the NGO

globalization?

The answers to these questions can run counter to the standard economic intuition. Although the models of international trade with monopolistic competition suggest that the welfare in a fully integrated market is higher than under autarky (Krugman 1979), when it comes to non-profit organizations such as NGOs the result is less clear. Gnaerig and MacCormack (1998) note that "the major national fundraising markets have developed into international bazaars where one can find competitors from a range of countries offering everything fund-raisers all over the world could think of. This looks like the beginning of a very tough selection process - at the end of which there will probably be left only a handful of highly professional, global NGOs..." This reduction in the number of NGOs and restructuring of the sector can imply a certain loss of welfare, in particular that of donors, who may find that the globalization reduces the number of NGO varieties present on the market.

The market for development donations with NGOs has the following key characteristics:

- **NGOs are differentiated.** NGOs are mission-driven organizations and their missions differ substantially among themselves. Werker and Ahmed (2008), for example, give the following typology of the U.S. international-development NGOs, based on the NGOs' missions: general development and assistance (21% of the total 4125 organizations); agriculture (2%); economic development (5%); international relief (29%); education (12%); health (18%); science and technology (1%); democracy and civil society (2%); environment, population, and sustainability (5%); human rights, migration, and refugee issues (5%). There is also evidence of strategic differentiation of NGOs operating in the same country: Fruttero and Gauri (2005) find, based on data from Bangladesh, that NGOs operating there try to differentiate themselves strategically by avoiding to duplicate efforts of other NGOs.
- **Donors give in reaction to fundraising campaigns.** The importance of fundraising is very well-known in the NGO industry. Smillie (1995, Chapter 7) argues that given the importance of fundraising as the source of revenue, at its extreme form the appeals become 'the pornography of poverty', i.e. shocking images of starving children that far outweighs reality. According to Andreoni and Payne (2003), there exists the Iron Law of Fundraising: "[Donors] seem to have latent demands to donate. Until they are asked, this demand goes unexpressed... Individuals who may have 'always

wanted to donate' but 'didn't know the address' will be able to donate when solicited by the charity." The authors also provide the empirical evidence for this mechanism: based on the U.S. data, they find that when a charitable organization receives a government grant, it strategically reduces its fundraising activities which leads to a partial crowding-out of the grant (i.e. the total funds of the charity increase but by the amount less than the entire grant).

- **NGOs compete with each other for donations.** The competition for donors is a long-standing and well-known problem for NGOs. For example, Hancock (1989) discusses the case of an American NGO, World Vision, aggressively competing for donors in the Australian market with local religious organizations: "On 21 December 1984, unable to resist the allure of Ethiopian famine pictures, World Vision ran an Australia-wide Christmas Special television show calling on the public in that country to give it funds. In so doing it broke an explicit understanding with the Australian Council of Churches that it would not run such television spectacles in competition with the ACC's traditional Christmas Bowl appeal. Such ruthless treatment of 'rivals' pays, however: the American charity is, today, the largest voluntary agency in Australia" (Hancock 1989: 21).

In this paper, we build a simple economic model, based on these key characteristics of the donations market, that addresses the questions posed above. We consider donors and NGOs in two (developed) countries. NGOs have to raise funds to invest into development projects in the less developed part of the world. The crucial modelling choice regards the structure of the NGO industry. Given the evidence on NGO differentiation, we naturally choose the location model of horizontally differentiated firms (Salop 1979). Given that donors react to fundraising, we use the a model of donor motivation of Andreoni and Payne (2003), i.e. the "power of the ask" model. Finally, given that NGOs compete with each other for donors, we assume that the main strategic variable of NGOs is informative fundraising and thus adopt the advertising model of Grossman and Shapiro (1984).

We characterize the free-entry equilibria under autarky and market integration via multinational NGOs. More precisely, we define as autarky the regime in which national NGOs in either country can raise funds only in their countries of origin. The regime of multinational NGOs depicts the situation in which there exist international networks of NGOs which are attached to one specific mission (project). The network can raise funds in either country, but

it has to establish local affiliates (i.e., incur the additional fixed cost and hire a local NGO entrepreneur). In such a regime, each international NGO network (composed of these local affiliates) invests all the funds collected into one project and exploits the potential economies of scale in fundraising.

We find that the existence of national and multinational NGOs depends on two characteristics of the home and foreign markets: the relative sizes of two markets (in terms of the number of donors) and the returns to scale in fundraising. As multinational NGOs exert higher fundraising effort and therefore the competition between NGOs becomes more intense, the multinational NGOs cannot coexist in the long run with the national NGOs in both markets. If the returns to scale in fundraising are sufficiently large, the national NGOs in the smaller market disappear under the pressure of the higher competition. The national NGOs in the larger market can coexist with multinational NGOs, but only if the larger market is large enough (so that the more intense competition does not become too intense on the larger market). On the other hand, if the returns to scale in fundraising technology are not sufficiently strong, there are no multinationals in equilibrium, as no national NGO has an incentive to become multinational. We thus explain the birth of multinational NGOs by the changes in the returns to scale in the fundraising technology.

We then compare the social welfare under the two regimes. We find that although there are fewer NGOs in the regime with multinationals (compared to autarky), each NGO exerts higher fundraising effort and this intensive-margin effect dominates the extensive-margin effect of exit. In other words, the total fundraising effort increases, thus improving the matching between donors and their preferred NGO varieties. Therefore, the social welfare is higher in the regime with multinationals, as compared to autarky.

The rest of the paper is organized as follows. Section 2 builds the simple model of the donations market for a single country. Section 3 presents the two-country model, derives the equilibria with and without multinational NGOs, and evaluates the welfare under different regimes. Section 4 links the facts concerning the internationalization of the donations market to the theoretical model. Section 5 concludes.

2 Basic model

2.1 Setup

Consider a country populated by a community of atomistic donors. The mass of donors in the community is L . Each donor has one unit of resource that can be converted into private consumption with utility normalized to zero.

In the country, there is a given number of NGOs, $i = 1, \dots, N$. Each NGO can run only one project (distinct from any other project). This captures the idea that NGOs are founded around missions: a field of development into which the founder of the NGO wants to invest her efforts.

NGOs produce their services (i.e. actions directed towards their missions) using a simple linear technology: 1 unit of resource put into the project of the NGO creates 1 unit of output (in terms of service). The NGO finances its projects from the funds collected through fundraising activities. Here, we adapt the advertising model of Grossman and Shapiro (1984) and assume that the fundraising activity has the following technology. Donors are located on the circle of perimeter 1. Thus, the density at each point on the circle is L . The distance on the circle is defined in the following sense: each donor has her perception of which dimension of development is the most important one (e.g., promoting women's rights, banning child labor, providing education, fighting infectious diseases, etc.), and the less the project of an NGO corresponds to this perception, the "further" the NGO is located on the circle. The NGOs send solicitation messages trying to convince donors to donate to their projects. Let NGO i decide to reach ϕ_i fraction of the circle of donors with the solicitation messages. The financial cost of this solicitation (which will have to be covered using a part of the funds eventually collected) is $A(\phi_i)$, with the following properties:

$$A(0) = 0, \quad A'(0) = 0, \quad A'(\phi) > 0, \quad A''(\phi) > 0, \quad A'(1) = \infty. \quad (1)$$

We assume that NGOs have a non-profit status. Thus, they face the so-called non-distribution constraint in that they cannot distribute profits and have to invest all the residual funds into their projects (Weisbrod 1988):

$$D_i = cD_i + A(\phi_i) + Q_i, \quad (2)$$

where D_i is the quantity of funds that the NGO collects, c is the cost of administering a unit of donations, and Q_i the funds that it invests into its project.

NGOs maximize the impact of their respective projects (or the quantity of services they produce towards their missions). From the non-distribution constraint, we get:

$$Q_i = D_i(1 - c) - A(\phi_i). \quad (3)$$

We assume that all donors enjoy the utility from participating in development (in the warm-glow sense of Andreoni (1989)). Thus, a donor giving to an NGO located from her at distance $x \in [0, 1]$ on the 'circle', enjoys utility

$$U = \bar{u} - tx, \quad (4)$$

where \bar{u} is the participatory utility of giving and t is the unit 'transport' cost, which measures the degree of conservativeness of donors with respect to their preferred dimensions of development.

As in Salop (1979) and Grossman and Shapiro (1984), we will be looking for the symmetric Nash equilibrium, assuming that NGO 'brands' are equally spaced on the circle. Suppose there are N NGOs on the circle. Then, the circle will be divided into N segments. We assume that NGOs do not know the location of individual donors on the circle and thus cannot target their solicitation messages. Let an NGO i try to reach a fraction ϕ_i of the circle, while all other NGOs are trying to reach a fraction $\bar{\phi}$. Since NGOs cannot target their messages, the probability that any donor located in the segment of the circle located closest to NGO i is $\frac{\phi_i}{N}$. Then, in this segment, the donations that NGO i collects are equal to

$$D_{1i} = L \frac{\phi_i}{N}.$$

In the next two neighboring segments, with probability $1 - \bar{\phi}$ a donor does not receive the message of her closest-located NGO, while with probability $\frac{\phi_i}{N}$ she gets contacted by the NGO i (and therefore donates to i). Then, the donations that the NGO i collects in those two segments are

$$D_{2i} = L \frac{\phi_i(1 - \bar{\phi})}{N}.$$

Continuing in this manner, we get the general formula:

$$D_{ki} = L \frac{\phi_i(1 - \bar{\phi})^{k-1}}{N}, \quad k = 1, \dots, \frac{N}{2}. \quad (5)$$

This allows us to compute the total donations that NGO i collects on the entire circle:

$$D_i = L \frac{1}{N} \frac{\phi_i}{\bar{\phi}} [1 - (1 - \bar{\phi})^{N/2}] \simeq \frac{L}{N} \frac{\phi_i}{\bar{\phi}}, \quad (6)$$

where the second equality is the approximation for a large N . If N is large enough, this expression is also the 'covered market' condition, i.e. that any donor has received at least one solicitation.

2.2 Equilibrium

The problem of NGO i is to maximize the services it provides, by choosing its fundraising effort ϕ_i :

$$\max_{\phi_i} \frac{L}{N} \frac{\phi_i}{\bar{\phi}} (1 - c) - A(\phi_i). \quad (7)$$

The first-order condition of this problem is

$$\frac{L}{N} \frac{(1 - c)}{\bar{\phi}} = A'(\phi_i). \quad (8)$$

The left-hand side of (8) is the marginal benefit of trying to reach more donors: higher fundraising effort brings in more donations, because it increases both the probability that the closest-located donors see a solicitation by i and the probability that the further-located donors 'untouched' by their preferred NGOs see a solicitation by i . The right-hand side is the marginal cost: fundraising eats up resources that could otherwise be devoted to the project. The NGO chooses the fundraising effort that equates marginal benefit with marginal cost.

In the symmetric Nash equilibrium, all NGOs choose the same level of fundraising effort, which we denote with ϕ_n . The first-order condition (8) then becomes

$$\frac{L}{N} (1 - c) = \phi_n A'(\phi_n). \quad (9)$$

It is easy to see that a larger market size (higher L), fewer competitors (lower N), and a lower administration cost (lower c) lead to a higher fundraising effort by NGOs. Note also that, since $\phi_i = \bar{\phi} = \phi_n$, $\phi_n A'(\phi_n)$ now stands for the net donations that any NGO collects in the symmetric Nash equilibrium.

Next, let us pin down the long-run number of NGOs on the market by imposing a free-entry condition. We assume that NGOs are founded by NGO entrepreneurs, whose alternative option is to work in the for-profit private sector. The relevant free-entry condition requires that the equilibrium payoff to an NGO entrepreneur equals her wage in the for-profit sector. Let the latter be F , and let her get an altruistic payoff from working towards the mission of her NGO. For simplicity, we assume that this payoff is linear in the services produced by the NGO.

Then, the equilibrium number of NGOs satisfies

$$\frac{L}{N}(1 - c) - A(\phi_n) = F. \quad (10)$$

Using the first-order condition (9), we get

$$\phi_n A'(\phi_n) - A(\phi_n) \equiv \psi(\phi_n) = F. \quad (11)$$

Note that at the equilibrium, the output of an NGO, $\psi(\phi)$, is increasing in ϕ :

$$\psi'(\phi) = A' + \phi A'' - A' = \phi A'' > 0.$$

In other words, inducing a small upward deviation from the equilibrium fundraising effort would increase the individual output of all NGOs.

Note also that using the properties of the fundraising technology (1), we have

$$\psi(0) = 0, \quad \psi(1) = \infty.$$

Then, from (11), we find that the symmetric free-entry Nash equilibrium fundraising effort is an increasing function of the fixed cost of entry:

$$\phi_n = \tilde{\phi}(F). \quad (12)$$

The intuition is as follows: higher cost of entry means higher outside option for an NGO entrepreneur. Thus, to induce her to enter the NGO sector, her payoff from entering, i.e. the individual output in the NGO sector, has to be higher. This can only be achieved by marginally increasing the fundraising effort.

In other words, suppose the outside option of NGO entrepreneurs increases. At the current level of fundraising the payoff that an entrepreneur gets in the NGO sector becomes temporarily lower than the outside option. This induces some entrepreneurs to quit the NGO sector. In turn, this implies that the marginal benefit of fundraising increases and therefore remaining NGOs increase their fundraising effort.

This theoretical result is in line with the empirical finding by Thornton (2006), who shows that non-profits spend more for fundraising in more concentrated markets (i.e. the ones with the higher cost of entry).

The free-entry condition (10), together with (12), pins down the equilibrium number of NGOs on the market, which we denote with N_n :

$$N_n = \frac{L(1 - c)}{\tilde{\phi}(F)A'(\tilde{\phi}(F))}.$$

Given that both $A'(\cdot)$ and $\tilde{\phi}(\cdot)$ are increasing functions, we can now state

Proposition 1 *The free-entry equilibrium number of NGOs increases in the market size and decreases with the fixed and administrative costs:*

$$N_n(\bar{L}, \bar{c}, \bar{F}).$$

As we have explained above, higher fixed of entry induces exit of some NGO entrepreneurs. Similarly, a larger mass of donors (bigger L) or a lower cost of administering donations (smaller c) implies higher net donations and thus a higher marginal benefit of fundraising. Then, NGOs put more fundraising effort, which increases the output of each individual NGO. In turn, this would increase the relative attractiveness of the NGO sector and induce higher entry.

The free-entry equilibrium output of each NGO is then:

$$Q_n = \frac{L(1-c)}{N_n} - A(\phi_n) = F. \quad (13)$$

2.3 Welfare

We can now compare the social welfare in the long-run equilibrium with the social optimum. Given that we try to evaluate how much welfare is generated by this market, the social welfare function is the sum of the welfare of donors and of beneficiaries minus the total outside option of NGO entrepreneurs. The welfare of donors equals the total participatory utility minus the total 'transport' (misalignment-of-preferences) cost. For beneficiaries, we assume for simplicity that their utility (as a group) is linear in the total impact of NGO projects.

Let's first calculate the total 'transport' cost for donors (we are omitting the subscripts from the equilibrium values - for reading ease). Denote with \bar{z}_k the average 'transport' cost related to matching with the k -th closest NGO. The donors matched to their closest NGO have the transport cost that varies from 0 to $\frac{t}{2N}$; then, for these donors, $\bar{z}_1 = \frac{t}{4N}$. Similarly, for those that are matched to their 2nd-closest NGO, $\bar{z}_2 = \frac{3t}{4N}$. Grossman and Shapiro (1984) show that, in general,

$$\bar{z}_k = t \frac{2k-1}{4N}, \quad k = 1, 2, \dots, N,$$

and that the average 'transport' cost (calculated over all donors) is then

$$T(\phi) = \sum_{k=1}^{N/2} \phi_k \bar{z}_k = t \frac{2-\phi}{4N\phi}.$$

The social welfare can then be written as

$$W = \bar{u}L - \frac{2 - \phi}{4N\phi}tL + QN - FN.$$

Using (13), the social welfare in the long-run equilibrium becomes

$$W = L[\bar{u} + 1 - c] - NA(\phi) - NF - \frac{2 - \phi}{4N\phi}tL.$$

Suppose that the social planner has no control over the number of NGOs on the market, but can impose restrictions on the amount of fundraising done by the existing NGOs. We thus have to compare the equilibrium fundraising effort with the socially optimal one for a *given* number of NGOs.

Maximizing the social welfare with respect to the fundraising effort, we get

$$\frac{\partial W}{\partial \phi} = -NA'(\phi) + \frac{2}{\phi^2} \frac{tL}{4N} = 0, \quad (14)$$

which can be rewritten as

$$\phi A'(\phi) = \frac{tL}{2N^2\phi}. \quad (15)$$

Remember that the Nash equilibrium fundraising is given by (9). Comparing it to (15), we get the following

Proposition 2 *For a given number of NGOs on the market, the equilibrium fundraising is above the optimal amount if*

$$L(1 - c) > \frac{tL}{2\phi N}. \quad (16)$$

The intuition for this results is the following. Higher fundraising effort exerted by NGOs has two effects on social welfare. On the one hand, it reduces the 'transport' cost for donors (i.e. improves the matching between donors and their preferred NGOs). On the other hand, it imposes a stronger negative externality, as higher fundraising by one NGO attracts donors away from other NGOs (the "business-stealing" effect). The condition (16) states that, given the number of NGOs on the market, there is too much fundraising in equilibrium (with respect to the social optimum) if the "business-stealing" effect (given by the left-hand side) is bigger than the social gain from the lower 'transport' cost (described by the right-hand side).

Now suppose that the social planner can control both the number of NGOs on the market and their fundraising effort. Maximizing the social welfare with respect to the number of NGOs and the fundraising effort, we get

$$\frac{\partial W}{\partial N} = -A(\phi) - F + \frac{2 - \phi}{4N^2\phi} tL = 0, \quad (17)$$

$$\frac{\partial W}{\partial \phi} = -NA'(\phi) + \frac{2}{\phi^2} \frac{tL}{4N} = 0. \quad (18)$$

We can rewrite this system as

$$\begin{aligned} A(\phi) &= \frac{2 - \phi}{4N^2\phi} tL - F, \\ A'(\phi) &= \frac{tL}{2\phi^2 N^2}, \end{aligned}$$

which jointly give

$$\phi A'(\phi) - A(\phi) - F = \frac{\phi^2 A'(\phi)}{2}. \quad (19)$$

Expression (19) implicitly pins down the socially optimal fundraising, ϕ^W .

Note that the left hand side of (19) equals zero in the free-entry equilibrium (see (11)), while the right-hand side is strictly positive. Therefore, we get

Proposition 3 *The free-entry equilibrium fundraising is less than optimal:*

$$\phi_n < \phi^W.$$

The intuition becomes clear if we look at the expression (19). On the left hand side, $\phi A'(\phi) - A(\phi)$ stands for an individual NGO's output, which is also the private return of the NGO entrepreneur. In equilibrium, she chooses the fundraising effort ϕ such that under free entry, this private return is just equal to her outside option. As we have discussed above, fundraising plays two roles for social welfare. It has a positive social externality: higher fundraising by an NGO increases the probability that donors within the NGO's 'segment' of the market will be contacted by this NGO and thus reduces the probability that they will give to an NGO located further away from them (remember that the market is covered, thus all donors are contacted by at least one NGO; however, not all donors are contacted by their *nearest* NGO). But it also has a negative externality (the "business-stealing" effect), which reduces the output of all other NGOs and thus, under free entry, creates excessive exit. Suppose that the equilibrium number of NGOs is equal to one that the social planner would

have picked. Proposition 3 says that then, in equilibrium, NGOs would fail to internalize only the positive externality, which means that they try to reach too few donors.

This intuition also helps to reconcile Propositions 2 and 3. In fact, Proposition 2 says that *for a given number of NGOs* on the market, the equilibrium fundraising would be too low if the positive externality is internalized less than the negative "business-stealing" externality. Proposition 3 says that if the "business-stealing" externality is correctly internalized by the social planner, the equilibrium fundraising would be too low, since only the positive externality remains.

3 Multinational NGOs

3.1 Setup

Now suppose there exist two countries, domestic and foreign, with the mass of donors L and L^* , respectively. NGOs now can become 'multinationals'. We assume that a multinational NGO is characterized by two essential features. First, multinational NGOs by definition tap their resources internationally, conducting fundraising in several countries at the same time. Second, their reputation and public image is highly attached to a specific dimension of development on which they tend to consolidate all their actions. Indeed, most international NGOs concentrate, by their statute (at least officially), their projects and actions in one particular domain. In other words, a multinational NGO is an international mission-driven organization. We have presented some examples in Table 1. This attachment to a particular mission, together with the internationalization of activities, allows multinational NGOs to exploit the gains of specialization and economies of scale in terms of fundraising campaigns. Moreover, the multinational status often gives an additional advantage to pursue the NGO's mission during negotiations with governments and supra-national organizations. For instance, UN's ECOSOC explicitly favors multinational NGOs by giving them more opportunities to attend ECOSOC meetings and to submit written advice (Simmons 1998).

In our simple framework with two countries, we capture these features in the following way. First, we assume that multinational NGOs can raise funds in both markets; however, they need to establish local affiliates. In other words, an NGO that wants to enter the foreign market has to incur an additional fixed cost, $f < F$. Second, all the funds are invested in one development project which corresponds to the specific mission of the NGO.

This, however, implies that the fundraising levels of the national and multinational NGOs

would not, in general, be equal. Therefore, we cannot employ the usual procedure to solve for a symmetric Nash equilibrium. Instead, we adopt the solution technique proposed by Aghion and Schankerman (2004) and assume that an NGO does not know, when deciding its fundraising effort, which NGOs on the circle are national NGOs or multinationals. It only knows which fraction of NGOs is multinational and operating in its market.

Formally, let's denote with ϕ_i and ϕ_m the fundraising levels of national and multinational NGOs, respectively, and let p be the fraction of national NGOs. Then we get the following result:

Lemma 4 *If N is large enough, the donations that an NGO collects are approximately*

$$D_i \simeq \frac{\phi_i}{\widehat{\phi}} \frac{L}{N}, \quad (20)$$

where $\widehat{\phi}$ is the expected fundraising effort by any other NGO:

$$\widehat{\phi} = p\phi_i + (1 - p)\phi_m.$$

Proof. See Appendix. ■

Compare (20) to (6): two expressions are very similar. This technique thus allows us to break the usual symmetry of the Salop (1979) model without getting into the complication of conditioning an NGO's strategy on the type of its neighbors.

3.2 Equilibrium

The problem of a generic NGO i is now

$$\max_{\phi_i} \frac{\phi_i}{\widehat{\phi}} \frac{L}{N} (1 - c) - A(\phi_i).$$

Note that now the number of segments on the donation circles will not, in general, be equal to the number of NGOs, given that some of them may become multinationals. Let's denote with N and N^* the number of segments respectively on the home and foreign markets, with n and n^* the number of national NGOs in home and foreign countries, and with m the number of multinational NGOs.

Then, a national NGO in the home country solves the following problem:

$$\max_{\phi_i} \frac{\phi_i}{\widehat{\phi}_N} \frac{L}{N} (1 - c) - A(\phi_i),$$

while the problem of a national NGO in the foreign country is

$$\max_{\phi_i^*} \frac{\phi_i^*}{\widehat{\phi}_{N^*}} \frac{L}{N^*} (1 - c) - A(\phi_i^*).$$

The problem of a multinational NGO is to choose the fundraising effort ϕ_m to maximize its output, taking into account that it has to pay an additional cost of establishing the foreign affiliate, f :

$$\max_{\phi_m} \phi_m \left[\frac{L}{N\widehat{\phi}} + \frac{L^*}{N^*\widehat{\phi}^*} \right] (1 - c) - A(\phi_m) - f.$$

Note that each of the three groups - national NGOs in the home country, national NGOs in the foreign country, and multinational NGOs - is symmetric *within*, i.e. all organizations within a group put the same fundraising effort. Then, the number of competing NGOs in the home and foreign markets has to satisfy the following equalities:

$$N\widehat{\phi} = n\phi_i + m\phi_m, \quad (21)$$

$$N^*\widehat{\phi}^* = n^*\phi_i^* + m\phi_m. \quad (22)$$

For further notational convenience, let's denote the marginal benefit of fundraising in home and foreign countries as:

$$B = \frac{L(1 - c)}{N\widehat{\phi}} \text{ and } B^* = \frac{L^*(1 - c)}{N^*\widehat{\phi}^*}. \quad (23)$$

We start by looking for an equilibrium in which home and foreign national NGOs coexist with multinationals, i.e. in which $n > 0$, $n^* > 0$, and $m > 0$.

We can prove the following

Proposition 5 *National NGOs in home and foreign countries cannot coexist with multinational NGOs in a free-entry equilibrium.*

Proof. *See Appendix.* ■

The economic intuition is as follows. For a multinational NGO, given that the same fundraising effort reaches donors in both countries, the marginal benefit of fundraising is $B + B^*$. Given that the cost of fundraising is increasing, this implies that a multinational NGO puts higher fundraising effort than a national NGO. The free-entry equilibrium output of a multinational NGO (that comes from investing funds collected in both countries into

her project) has to be equal to the total fixed cost of founding the headquarter NGO and the affiliate in the other country, i.e. $f + F$. Thus, the advantage of being a multinational is to be able to collect funds in both countries using the same fundraising activity; however, this comes at the cost of having to establish the affiliate. Given the scale advantage in fundraising that the multinational NGO enjoys compared to its national counterpart, whenever it is beneficial for a new NGO entrepreneur to enter as a national NGO in one of the markets, there is an even stronger incentive for an existing national NGO to become multinational. In the long run, this implies that at least in one of the countries, all national NGOs will become multinationals. In other words, in the long-run equilibrium, at least in one of the countries, the national NGOs will disappear.

Does this imply that in the long run, *all* national NGOs become multinationals? To answer this question, let's assume, without loss of generality, that $L > L^*$, and start looking for the equilibrium in which national NGOs coexist with multinationals only in the larger market, i.e. $n > 0$, $n^* = 0$, $m > 0$.

It is useful to separate the analysis into two cases.

3.2.1 Case 1: Large economies of scale

Suppose that economies of scale from becoming a multinational NGO are relatively large, i.e. the marginal cost of fundraising for a multinational is smaller than double of the marginal cost for a national NGO:

$$A'(\tilde{\phi}(F)) > \frac{1}{2}A'(\tilde{\phi}(f + F)).$$

Moreover, suppose that the sizes of the two countries are sufficiently different. Then we can show the following result.

Proposition 6 *If the economies of scale are sufficiently large and the sizes of the two countries are sufficiently different, i.e.*

$$\frac{L}{L^*} > \frac{A'(\tilde{\phi}(F))}{A'(\tilde{\phi}(f + F)) - A'(\tilde{\phi}(F))} > 1, \quad (24)$$

then in equilibrium the national NGOs in the larger country coexist with multinational NGOs and there are no national NGOs in the smaller country:

$$n > 0, \quad n^* = 0, \quad m > 0.$$

Proof. See Appendix. ■

The economic intuition for this result is as follows. Since for a multinational NGO the marginal benefit of fundraising is higher than for a national NGO (because it collects funds in both markets contemporaneously), the multinational chooses higher fundraising effort than a national NGO. Note that the marginal benefit also equals the average benefit of fundraising, which, in turn, determines the equilibrium payoff of the NGO. If, at the equilibrium, the average return on fundraising from becoming a multinational (for an already existing national NGO) is higher than that for a new national entrant (in other words, if the returns to scale in fundraising are sufficiently high), the multinational firms exist in equilibrium.

On the other hand, suppose that the home country is sufficiently large compared to the foreign. Then, in equilibrium, given that a part of national NGOs in the home country have become multinationals and thus have increased their fundraising effort, the competition on both markets becomes tougher. This higher competition drives out all national NGOs in the smaller (foreign) market. Contrarily, in the home market, if the home market is sufficiently big, even under the higher competition there is enough space for the national NGOs.

Suppose now that the sizes of the two markets are not too different, i.e.

$$1 < \frac{L}{L^*} < \frac{A'(\tilde{\phi}(F))}{A'(\tilde{\phi}(f+F)) - A'(\tilde{\phi}(F))}.$$

Then we can show the following result:

Proposition 7 *If the economies of scale are sufficiently large and the sizes of the two countries are not too different, i.e.*

$$1 < \frac{L}{L^*} < \frac{A'(\tilde{\phi}(F))}{A'(\tilde{\phi}(f+F)) - A'(\tilde{\phi}(F))},$$

then in equilibrium there are only multinational NGOs:

$$n = n^* = 0, \quad m > 0.$$

Proof. *See Appendix.* ■

The intuition is simple: if home country is not sufficiently large compared to the foreign, stiffer competition in the home market caused by the globalization of NGOs is drives out national NGOs even in the larger market. Then, only the multinationals can exist in the long-run equilibrium, and two countries essentially become one single donations market.

Figure 2 summarizes the above results.

[Figure 2 about here]

3.2.2 Case 2: Small economies of scale

Consider now the case with relatively small economies of scale in fundraising. The following result is true:

Proposition 8 *If the economies of scale from becoming a multinational are relatively small, i.e.*

$$A'(\tilde{\phi}(F)) < \frac{1}{2}A'(\tilde{\phi}(f + F)),$$

then there are no equilibria with multinational NGOs.

Proof. *See Appendix.* ■

The intuition is straightforward. If the economies of scale in fundraising are relatively small, there is no incentive for a new multinational to enter, because the payoff it would get in equilibrium is lower than its outside option (Note that the free entry condition for *national* NGOs imply that we do not need to check that a national NGO does not have an incentive to become multinational). Contrarily, if the economies of scale were relatively high, the payoff for a new multinational entrant would be bigger than its outside option and thus in equilibrium some multinational NGOs would appear.

Figure 3 summarizes the findings for the case of small economies of scale.

[Figure 3 about here]

3.3 Welfare

We can now compare the social welfare under the different regimes.

We first need to calculate the total expected 'transport' cost of donors. We have the following result:

Lemma 9 *Donors' total expected 'transport' cost is approximately equal to*

$$T(\hat{\phi}) \simeq \frac{2 - \hat{\phi}}{4N\hat{\phi}}tL.$$

Proof. *See Appendix.* ■

Thus, the generic social welfare function can be written as:

$$\begin{aligned} W &= \bar{u}L + L(1 - c) - NE(A(\phi)) - NF - \frac{2 - \hat{\phi}}{4N\hat{\phi}}tL = \\ &= \bar{u}L + L(1 - c) - N[pA(\phi_L) + (1 - p)A(\phi_H)] - NF - \frac{2 - \hat{\phi}}{4N\hat{\phi}}tL. \end{aligned}$$

Let's start with the welfare in the free-entry equilibrium under autarky. For home and foreign country, it is:

$$W|_A = \bar{u}L - \frac{2 - \tilde{\phi}(F)}{4n\tilde{\phi}(F)}tL + \underbrace{Qn - Fn}_{=0 \text{ in equilibrium}} = \bar{u}L - \frac{[2 - \tilde{\phi}(F)] A'(\tilde{\phi}(F))}{4(1-c)}t, \quad (25)$$

$$W^*|_A = \bar{u}L^* - \frac{[2 - \tilde{\phi}(F)] A'(\tilde{\phi}(F))}{4(1-c)}t + \underbrace{Qn^* - Fn^*}_{=0 \text{ in equilibrium}}. \quad (26)$$

How does the 'transport' cost of donors evolve with higher fundraising effort of NGOs? From (25), one can see that the 'transport' cost is increasing/decreasing in $\tilde{\phi}$ if

$$\varpi(\tilde{\phi}) \equiv [2 - \tilde{\phi}(F)] A'(\tilde{\phi}(F))$$

is increasing/decreasing in $\tilde{\phi}$.

Let's now turn to the regime with only multinational NGOs (i.e., $n = n^* = 0$ and $m > 0$). We can then consider the two markets as just one larger integrated market, with $L + L^*$ donors. The equilibrium welfare on this market is:

$$W|_m + W^*|_m = \bar{u}(L + L^*) - \frac{2 - \tilde{\phi}(f + F)}{4m\tilde{\phi}(f + F)}t(L + L^*) = \bar{u}(L + L^*) - \frac{[2 - \tilde{\phi}(f + F)] A'(\tilde{\phi}(f + F))}{4(1-c)}t \quad (27)$$

Compare (27) to (25)-(26). The total welfare under autarky is

$$W|_A + W^*|_A = \bar{u}(L + L^*) - \frac{2A'(\tilde{\phi}(F)) [2 - \tilde{\phi}(F)]}{4(1-c)}t.$$

Note that since the equilibrium fundraising effort put by multinational NGOs is higher than the one put by national NGOs, $\tilde{\phi}(f + F) > \tilde{\phi}(F)$, and therefore $[2 - \tilde{\phi}(F)] > [2 - \tilde{\phi}(f + F)]$. Moreover, given that in the regime with only multinational NGOs the returns to scale are large enough, we know that $2A'(\tilde{\phi}(F)) > A'(\tilde{\phi}(f + F))$. Then, the total 'transport' cost is smaller in the regime with only multinational NGOs than under autarky. In other words,

$$W|_m + W^*|_m > W|_A + W^*|_A.$$

Proposition 10 *The total welfare in the multinational-only integrated equilibrium is higher than the total welfare under autarky.*

The economic intuition is as follows. Given that the marginal benefit of fundraising is higher for multinationals than for national NGOs, in equilibrium the former put more effort than the latter. On the other hand, the tougher competition in the presence of multinationals drives out some NGOs. Thus, there are two mutually opposed effects on donors' 'transport' cost: higher fundraising effort reduces the 'transport' cost, while fewer NGOs imply increased 'transport' costs. However, the first - intensive-margin - effect always dominates the second - extensive-margin - effect. Then, if there are only multinational NGOs, the resulting total 'transport' cost for donors is lower in the integrated equilibrium than under autarky. In other words, as higher *total* fundraising effort implies lower probability of mismatch for donors (i.e. that they give to an NGO different from the closest-located one), the increase in welfare comes from the better matching of donors to their preferred projects.

What about the regime in which multinationals coexist with national NGOs? Consider the home country (in which $n > 0$). The welfare on this market is

$$W|_{mn} = \bar{u}L + n \left[\frac{L(1-c)}{N\hat{\phi}} \phi_i - A(\phi_i) - F \right] + \\ + m \left[\left(\frac{L(1-c)}{N\hat{\phi}} + \frac{L^*(1-c)}{m\phi_m} \right) \phi_m - A(\phi_m) - f - F \right] - \frac{2-\hat{\phi}}{4N\hat{\phi}} tL,$$

where $\hat{\phi}$ is the average fundraising effort (given that the home market has both national and multinational NGOs):

$$\hat{\phi} = p\phi_i + (1-p)\phi_m.$$

Then, using the free-entry conditions, we get

$$W|_{mn} = \bar{u}L - \frac{2-\hat{\phi}}{4N\hat{\phi}} tL = \bar{u}L - \frac{[2-\hat{\phi}] A'(\tilde{\phi}(F))}{4(1-c)} t,$$

while for the foreign market, we have

$$W^*|_{mn} = \bar{u}L^* - \frac{2-\phi_m}{4m\phi_m} tL^* = \bar{u}L^* - \frac{[2-\tilde{\phi}(f+F)] [A'(\tilde{\phi}(f+F)) - A'(\tilde{\phi}(F))]}{4(1-c)} t.$$

Note that since $\hat{\phi} \in [\tilde{\phi}(F), \tilde{\phi}(f+F)]$, we have

$$[2-\hat{\phi}] A'(\tilde{\phi}(F)) < [2-\tilde{\phi}(F)] A'(\tilde{\phi}(F)).$$

Therefore, the welfare in the larger country is higher in the 'mixed' regime than under autarky:

$$W|_{mn} > W|_A.$$

Similarly, for the smaller country, we have

$$\left[2 - \tilde{\phi}(f + F)\right] \left[A'(\tilde{\phi}(f + F)) - A'(\tilde{\phi}(F))\right] < \left[2 - \tilde{\phi}(F)\right] A'(\tilde{\phi}(F)).$$

Therefore, the welfare in the smaller country is also higher in the 'mixed' regime than under autarky:

$$W^*|_{mn} > W^*|_A.$$

Thus, both countries gain under the mixed regime, as compared to autarky.

Proposition 11 *The total welfare in the regime with both multinationals and national NGOs is higher than the total welfare under autarky, for both countries.*

Our results imply that the globalization of NGOs increases social welfare. The main factor behind this increase is the fact that despite the tougher competition and the reduction in NGO variety, this variety reduction is always small enough as to imply higher total fundraising effort and as to decrease the mismatch between donors and their preferred varieties. Thus, although NGO globalization kills NGO variety, the globalization still is welfare-increasing.

Smillie (1995, Chapter 11) describes the likely future of the world donations market with multinational NGOs as follows:

"Will the transnationals crowd out other Northern NGOs? It is already happening in the case of emergencies, and there can be little doubt that they are eating into the 'development' income of smaller one-country NGOs. There is so much fundraising competition, and so few ways to learn about which NGO is effective, that individuals considering a donation simply go with the household names: those seen every night on the news from the latest famine, cyclone, or war zone. *In the end, neither the market nor the need can justify or support the proliferation of tiny Northern NGOs, each trying to be special, different, more effective, more efficient, more unique than the rest...* New lookalike agencies appear every year. Some of the hardier ones will undoubtedly survive, either because they adopt some of the techniques of the transnationals, or because they develop special expertise and carve out new niches in development education or fundraising. But some will surely vanish, ... victims of the increasingly sophisticated fundraising techniques of the transnationals" (Smillie 1995: 210-211).

4 Discussion

Thus, how can we explain the facts concerning the globalization of NGOs described in the introduction? Our model suggests that the trend of NGOs becoming multinational organizations is driven by the economies of scale in fundraising technology. We must be assisting to a move from the equilibria described in Figure 3 (when returns to scale in fundraising were relatively low) to those in Figure 2 (with relatively large returns to scale).

Where did this change in the scale economies come from? Looking more closely into the history of NGOs in the 1970s - 1990s suggests several potential answers.

One important phenomenon is emergencies. Smillie (1995) writes: "With the exception of Plan International, most transnationals devote a significant part of their fundraising effort and their programme expenditure to emergencies. In recent years, this has proved to be the most important way for the very biggest fundraising NGOs, for example SCF UK and Oxfam UK, to maintain and expand their market share" (Smillie 1995: 200). Clearly, in the case of emergencies and humanitarian crises, when donors in all Northern countries are willing to give, the same solicitation message can be relatively easily adapted for the donor public in different countries. This is what the opening quote of this paper calls 'changing the face and the accent in front of the camera'. It is very likely that the relatively low-cost high-return fundraising opportunities triggered by humanitarian crises must be a key factor behind increasing returns to scale and the multinationalization of NGOs. In fact, main global NGOs (for example, those listed in Table 1) all have an important emergency component in their missions. Another highly notable fact is that while the budgets of emergency-oriented organizations such as those in Table 1 are between 600 and 2100 mln dollars, the biggest multinational NGOs in other domains (environment, human rights) are much smaller: 94 mln dollars in the case of WWF and 39 mln dollars in the case of Amnesty International (Werker and Ahmed 2008).

However, this alone cannot explain the internationalization phenomenon. Emergencies, unfortunately, have been happening also in other decades; however, we do not observe the surge in multinational NGOs before 1970s. It is another important development in the NGO sector - the massive use of modern media technologies in fundraising appeals - that can perhaps provide a better explanation. For example, concerning Oxfam, Smillie (1995) writes: "Oxfams in Canada, the United States and elsewhere have benefited repeatedly from the international media publicity earned by Oxfam UK workers in Bangladesh, Ethiopia and

Rwanda... This, plus economies of scale and access to increasingly sophisticated communications technology give such organizations considerable advantage over the lone German or French NGO operating on its own, regardless of quality of the work" (Smillie 1995: 202). Similarly, in their account of the globalization of NGOs, Lindenberg and Bryant (2001) write: "One of the major innovations, and a part of the process of 'becoming global' in the last several years, has been the establishment of international network offices (for example, the International Save the Children Alliance, Oxfam International, or CARE International) charged with increasing the collaboration among the national offices and providing, in some cases, some services common to all... Much of the focus of the international unit has been on helping individual members increase their local fundraising capacity - often by sponsoring major fundraising events that the international office helps make happen, such as the British Telecom-sponsored Around the World Sailing Race" (Lindenberg and Bryant 2001: 52). Bernard Kouchner, the founder of the MSF, uses the words "Law of the Hype" (*La loi du tapage*), to describe the importance of media in case of emergencies. The more an NGO talks about a certain emergency, the more individual donors are likely to give to this cause: "an un-televised misery is an unknown misery" (Kouchner 1991). Thus, it is not just emergencies per se, but the joint effect of emergencies and of the use of mass media technologies by NGOs, that can better explain the origin of these higher economies of scale.

Finally, a third important driving factor has been the changes in government policies towards NGOs, in particular in Europe. For instance, concerning the use of matching grants, we read: "Most Northern governments provide matching grants based partially on an NGO's domestic fundraising. The terms and conditions of the matching formulae vary greatly, from less than 50 per cent to more than 90 per cent. In Sweden where ratios are generous and competition is low, an American NGO, say, need only open an office in Stockholm, invest (perhaps heavily) in fundraising, and then apply for a matching grant. This practice is becoming especially fashionable in Europe with the advent of the European Community and increasingly blurred national borders" (Smillie 1995: 202). A more generous matching grant increases the returns on the same fundraising effort, thus providing an additional incentive for existing national NGOs to enter into other donor markets.

The pattern of expansion of particular NGOs is also revealing. For instance, the first three foreign affiliates of MSF - a French NGO - were in Belgium and Switzerland, while the UK-born Oxfam's first affiliate was in Canada. Similarly, Plan International, founded

by the British war correspondent John Langdon-Davies, conducted its first international fundraising campaigns jointly in the UK, the US, and Australia. Quite naturally, the scale economies are highest for the countries that share the same language: this basically means accessing a foreign donation market at even lower cost.

5 Conclusion

As Lindenberg and Bryant (2001) argue, "One important way NGOs are changing to cope with the demands of a globalizing world is to become more global themselves" (Lindenberg and Bryant 2001: 15). This paper has analyzed this interesting market integration phenomenon: the globalization of the donations market. We have shown that the key factors behind this globalization are those that have increased the economies of scale in the NGOs' fundraising campaigns. We have also found that despite the reduced variety of NGOs, the globalization in the long run increases social welfare.

Of course, there might be other reasons why multinational NGOs are more productive than their national counterparts. There might be economies of scale not only in fundraising, but also in production. Or, multinational NGOs can better absorb falls in donations by cross-subsidizing their affiliates in case of a bad shock in one of the affiliate countries. We leave these extensions for the future work.

Another dimension which we have not explored in this paper is the misalignment of interest between affiliates in the same NGO 'family'. Recent episodes (e.g. disagreements between MSF France and MSF Belgium) indicate that the missions of different affiliates might not always be perfectly aligned, which creates tensions and probably affects both the collection and spending of funds for different projects. One element that plays an important role in these tensions is the degree of independence of the affiliates from the headquarter organization. Lindenberg and Bryant (2001, Chapter 5) discuss several associational structures: from unitary-corporate to federations to coalitions of independent affiliate bodies, and show that different NGO 'families' stand at very different positions on this spectrum. Why some multinational NGOs (such as World Vision) prefer a more centralized structure, while others (such as Oxfam and MSF) opt for a more independent one? And, given that the misalignment of interest between affiliates probably reduces the productivity of a multinational NGO, how should the welfare evaluation derived above be adjusted? These are very interesting questions that lie beyond the scope of this paper, but are certainly worth exploring,

analytically and empirically.

The donation markets worldwide are going through profound changes and multinational NGOs are key actors in this change. This paper shows that we can fruitfully apply the tools from international trade models to understanding these phenomena.

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6 Appendix

6.1 Proof of Lemma 4

The procedure is similar to that in Section 2.1, but we have to take into account that from the point of view of NGO i , any rival NGO can be either national (with prob. p) or multinational (with prob. $1 - p$). The calculation for the segment in which NGO i is located is identical to that in Section 2.1, because the types of the rivals do not matter. For the next-neighboring segments, the expected probability that the rivals located in those segments do not contact a

donor located there is $p(1 - \phi_i) + (1 - p)(1 - \phi_m)$, and thus the expected donations collected in those segments are equal to $\frac{\phi_i}{N} [p(1 - \phi_i) + (1 - p)(1 - \phi_m)]$. Proceeding in the similar manner, we get the total donations that NGO i collects:

$$D_i = \frac{\phi_i}{N} \sum_{k=0}^{N/2} [p(1 - \phi_i) + (1 - p)(1 - \phi_m)]^k = \frac{\phi_i}{N} \sum_{k=0}^{N/2} [1 - \widehat{\phi}]^k = \frac{\phi_i}{\widehat{\phi}} \left(1 - [1 - \widehat{\phi}]^{N/2}\right), \quad (28)$$

where $\widehat{\phi}$ denotes the expected fundraising by an NGO whose type (national or multinational) is unknown:

$$\widehat{\phi} = p\phi_i + (1 - p)\phi_m.$$

For N large enough, (28) is well-approximated as

$$D_i \simeq \frac{\phi_i}{\widehat{\phi}} \frac{L}{N}.$$

QED.

6.2 Proof of Proposition 5

The first-order conditions for the problems of the three types of NGOs equate the marginal benefits with marginal costs:

$$B = A'(\phi_i), \quad B^* = A'(\phi_i^*), \quad B + B^* = A'(\phi_m).$$

The free-entry condition for national NGOs is the same as in the basic model:

$$\phi_i A'(\phi_i) - A(\phi_i) = F. \quad (29)$$

Using the first-order condition, we get $\phi_i = A'^{-1}(B)$. Then, we can write the equilibrium output as

$$B A'^{-1}(B) - A(A'^{-1}(B)) = \psi(B).$$

Given this, the free-entry conditions imply that

$$\psi(B) = F, \quad \psi(B^*) = F, \quad \psi(B + B^*) = f + F. \quad (30)$$

Note that the equilibrium output is increasing in B :

$$\psi'(B) = A'^{-1}(B) + \frac{B}{A''(A'^{-1}(B))} - \frac{B}{A''(A'^{-1}(B))} = A'^{-1}(B) > 0.$$

Moreover, $\psi(0) = 0$ and $\psi(\infty) = \infty$. Therefore, from (30) we get that the marginal benefits of fundraising (and thus equilibrium fundraising efforts) are the same for national NGOs in two countries: $B = B^*$ and $\phi_i = \phi_i^*$.

For a multinational NGO, instead, using the relevant first-order condition and the fact that $B = B^*$, the equilibrium fundraising effort becomes:

$$\phi_m = A'^{-1}(2B),$$

and the relevant free-entry condition is now:

$$\psi(2B) = f + F. \quad (31)$$

We can write the free-entry equilibrium fundraising efforts as functions of fixed costs, for national and multinational NGOs:

$$\phi_i = \phi_i^* = \tilde{\phi}(F), \quad \phi_m = \tilde{\phi}(f + F).$$

Then, from (21), (22), and (23), we get

$$\frac{L(1-c)}{A'(\tilde{\phi}(F))} = n\tilde{\phi}(F) + m\tilde{\phi}(f + F), \quad \frac{L^*(1-c)}{A'(\tilde{\phi}(F))} = n^*\tilde{\phi}(F) + m\tilde{\phi}(f + F).$$

The number of national and multinational NGOs is fully described by the parameters of the model (L, L^*, c, f, F) and the functional form $A(\cdot)$.

Combining the two equations above, we find that the multinational NGOs in equilibrium would have to choose the fundraising effort such that its marginal cost is exactly double of the marginal cost of fundraising for the national NGOs:

$$A'(\tilde{\phi}(F)) = \frac{A'(\tilde{\phi}(f + F))}{2}.$$

Clearly, for an arbitrary f , this is a zero-measure case.

Note, moreover, that the equilibrium impact is a convex function:

$$\psi''(B) = \frac{1}{A''(A'^{-1}(B))} > 0.$$

Let's denote the scale advantage of the multinational (in terms of output) with $h(\lambda) = \psi(\lambda B) - \lambda\psi(B)$, for arbitrary λ . The scale advantage function $h'(\lambda)$ is increasing in λ :

$$h'(\lambda) = B\psi'(\lambda B) - \psi(B).$$

Moreover,

$$h'(1) = B\psi'(B) - \psi(B) > 0.$$

Thus, $h(\lambda)$ is increasing in $\lambda \geq 1$. Then, in equilibrium, the multinational NGO gets higher output than the two national NGOs:

$$\psi(2B) - 2\psi(B) > 0 \text{ for all } B \geq 0.$$

But then, from (30) and (31), we obtain $f - F > 0$, which contradicts our assumption $f < F$. Then, there cannot be an equilibrium such that $n > 0$, $n^* > 0$, and $m > 0$. **QED.**

6.3 Proof of Proposition 6

For the national NGOs in the home country, under the free-entry condition (29), we get the equilibrium fundraising effort, as before:

$$B = A'(\phi_i) \implies \phi_i = \tilde{\phi}(F),$$

while using the free-entry condition for multinational NGOs,

$$\phi_m A'(\phi_m) - A(\phi_m) = f + F, \quad (32)$$

we find the equilibrium multinational fundraising effort:

$$B + B^* = A'(\phi_m) \implies \phi_m = \tilde{\phi}(f + F).$$

Using the expressions for marginal benefits of fundraising (23), we also get

$$\frac{L(1-c)}{A'(\tilde{\phi}(F))} = n\tilde{\phi}(F) + m\tilde{\phi}(f + F), \quad (33)$$

$$A'(\tilde{\phi}(F)) + \frac{L^*(1-c)}{m\tilde{\phi}(f + F)} = A'(\tilde{\phi}(f + F)). \quad (34)$$

(33) and (34) pin down the free-entry equilibrium number of multinational and national NGOs:

$$m = \frac{L^*(1-c)}{A'(\tilde{\phi}(f + F)) - A'(\tilde{\phi}(F))} \frac{1}{\tilde{\phi}(f + F)} > 0, \quad (35)$$

$$n = \left[\frac{L(1-c)}{A'(\tilde{\phi}(F))} - \frac{L^*(1-c)}{A'(\tilde{\phi}(f + F)) - A'(\tilde{\phi}(F))} \right] \frac{1}{\tilde{\phi}(F)}. \quad (36)$$

Note that the national NGOs exist in the long run in the home country (i.e. $n \geq 0$) iff

$$\frac{L}{L^*} > \frac{A'(\tilde{\phi}(F))}{A'(\tilde{\phi}(f+F)) - A'(\tilde{\phi}(F))}.$$

Analogously, suppose now $L^* > L$. We can then immediately characterize the equilibrium with $n = 0$, $n^* > 0$, $m > 0$. From (36), it is clear that this equilibrium is possible in the long run iff

$$\frac{L^*}{L} > \frac{A'(\tilde{\phi}(F))}{A'(\tilde{\phi}(f+F)) - A'(\tilde{\phi}(F))}.$$

The national entrants in the foreign market would choose the fundraising effort ϕ_i^s so as to satisfy the relevant first-order condition:

$$B^* = A'(\phi_i^s).$$

Given that

$$B + B^* = A'(\tilde{\phi}(f+F)) \implies B^* = A'(\tilde{\phi}(f+F)) - A'(\tilde{\phi}(F)),$$

the marginal cost of fundraising for the foreign national NGO has to satisfy

$$A'(\phi_i^s) = A'(\tilde{\phi}(f+F)) - A'(\tilde{\phi}(F)) < A'(\tilde{\phi}(F)),$$

and therefore

$$\phi_i^s < \tilde{\phi}(F).$$

However, at this fundraising effort level, the output of the national NGO in the foreign country would fall below the outside option of an NGO entrepreneur. This confirms that foreign national NGOs have no incentives to enter in the long-run equilibrium. **QED.**

6.4 Proof of Proposition 7

Using the free-entry condition for multinationals (32) and given that the marginal benefits of fundraising are written as

$$B = \frac{L(1-c)}{m\phi_m} \text{ and } B^* = \frac{L^*(1-c)}{m\phi_m},$$

we get

$$\frac{(L+L^*)(1-c)}{m\phi_m} = \phi_m A'(\phi_m).$$

Consider now a fully integrated market (i.e., one single market of size $L + L^*$). The number of NGOs in this market should satisfy

$$m = \left[\tilde{\phi}(f + F) A'(\tilde{\phi}(f + F)) \right]^{-1} (L + L^*)(1 - c).$$

This means that the marginal cost of fundraising effort at equilibrium is

$$A'(\phi_i^s) = \frac{L}{L + L^*} A'(\tilde{\phi}(f + F)) < A'(\tilde{\phi}(F)),$$

and therefore $\phi_i^s < \tilde{\phi}(F)$, which implies that the payoffs for a national NGO entrant are lower than the outside option, F ; i.e., $n = 0$. **QED.**

6.5 Proof of Proposition 8

Analogously to the analysis above, we can easily show that $\phi_i^s > \tilde{\phi}(F)$. In other words, the new national entrants would get a sufficiently high payoff to justify their entry. Then, $n > 0$ and $n^* > 0$. If there are no multinationals, the number of home and foreign national NGOs is equal to

$$n = \frac{L(1 - c)}{\tilde{\phi}(F) A'(\tilde{\phi}(F))} \text{ and } n^* = \frac{L^*(1 - c)}{\tilde{\phi}(F) A'(\tilde{\phi}(F))}.$$

Let's show that there is no incentives for the entry of a new multinational. The entering multinational would choose the fundraising effort level ϕ_m^s such that its marginal cost, $A'(\phi_m^s)$, equals the marginal benefit, $B + B^*$, which, in turn, equals $A'(\tilde{\phi}(F)) + A'(\tilde{\phi}(F))$. Given that the returns to scale in fundraising are not sufficiently big, we have

$$A'(\phi_m^s) = 2A'(\tilde{\phi}(F)) < A'(\tilde{\phi}(f + F)),$$

which implies $\phi_m^s < \tilde{\phi}(f + F)$, i.e. that the payoff from being a multinational is lower than the outside option ($f + F$), and thus there is no incentive for an entry of a new multinational. Note that given the free-entry condition for a *national* NGO, we do not need to check that there is no incentive for an existing national NGO to become multinational. **QED.**

6.6 Proof of Lemma 9

The total expected 'transport' cost for donors is given by

$$\begin{aligned}
& LE \left[\phi_i \bar{z}_1 + \phi_i (1 - \phi_{i+1}) \bar{z}_2 + \dots + \phi_i (1 - \phi_{i+1}) \dots (1 - \phi_{i+\frac{N}{2}}) \bar{z}_{N/2} \right] + \\
& + LE \left[\phi_i \bar{z}_1 + \phi_i (1 - \phi_{i-1}) \bar{z}_2 + \dots + \phi_i (1 - \phi_{i-1}) \dots (1 - \phi_{i-\frac{N}{2}}) \bar{z}_{N/2} \right] = \\
& = L \widehat{\phi} \bar{z}_1 + L \sum_{k=1}^{N/2} \bar{z}_k \left[\sum_{j=0}^k C_k^j (1 - \phi_H)^j (1 - \phi_L)^{k-j} p^{k-j} (1 - p)^j \right] = \\
& = L \widehat{\phi} \sum_{k=1}^{N/2} (1 - \widehat{\phi})^{k-1} \bar{z}_k,
\end{aligned}$$

where

$$\bar{z}_k = t \frac{2k-1}{4N}.$$

Then, it becomes

$$T(\widehat{\phi}) = tL\widehat{\phi} \sum_{k=1}^{N/2} (1 - \widehat{\phi})^{k-1} \frac{2k-1}{4N},$$

which, for N large enough, is approximately

$$T(\widehat{\phi}) \simeq \frac{2 - \widehat{\phi}}{4N\widehat{\phi}} t.$$

QED.

Table 1. Data on some of the main global NGOs

<i>Organization name</i>	<i>Year of foundation</i>	<i>Number of distinct country offices</i>	<i>Total revenues, 2006, US\$ mln</i>	<i>Main field of operation</i>
PLAN International	1937	17	595 ^a	Children's rights
Save the Children	1919	26	863	Children's rights
Oxfam International	1942	13	528	Poverty relief
CARE	1945	10	624	Poverty relief
World Vision	1950	65	2100	Religious charity
Medecins Sans Frontieres (MSF)	1971	19	568	Medical intervention in distress

^a 2007.

Source : Lindenberg and Bryant (2001), Karajkov (2007), www.plan-international.org.

Table 2. The MSF's affiliates and their years of foundation

<i>Year</i>	<i>Affiliate</i>
1971	France (headquarter)
1980	Belgium
1981	Switzerland
1984	Netherlands
1986	Luxemburg
	Spain
1990	Greece
	United States
1991	Canada
1992	Japan
1993	Denmark
	Germany
	Italy
	Sweden
	Hong Kong
	UK
1994	Australia
	Austria
1995	United Arab Emirates
1996	Norway

Source : Simeant (2005)

Figure 1. The Globalization Timeline of Some Major NGOs

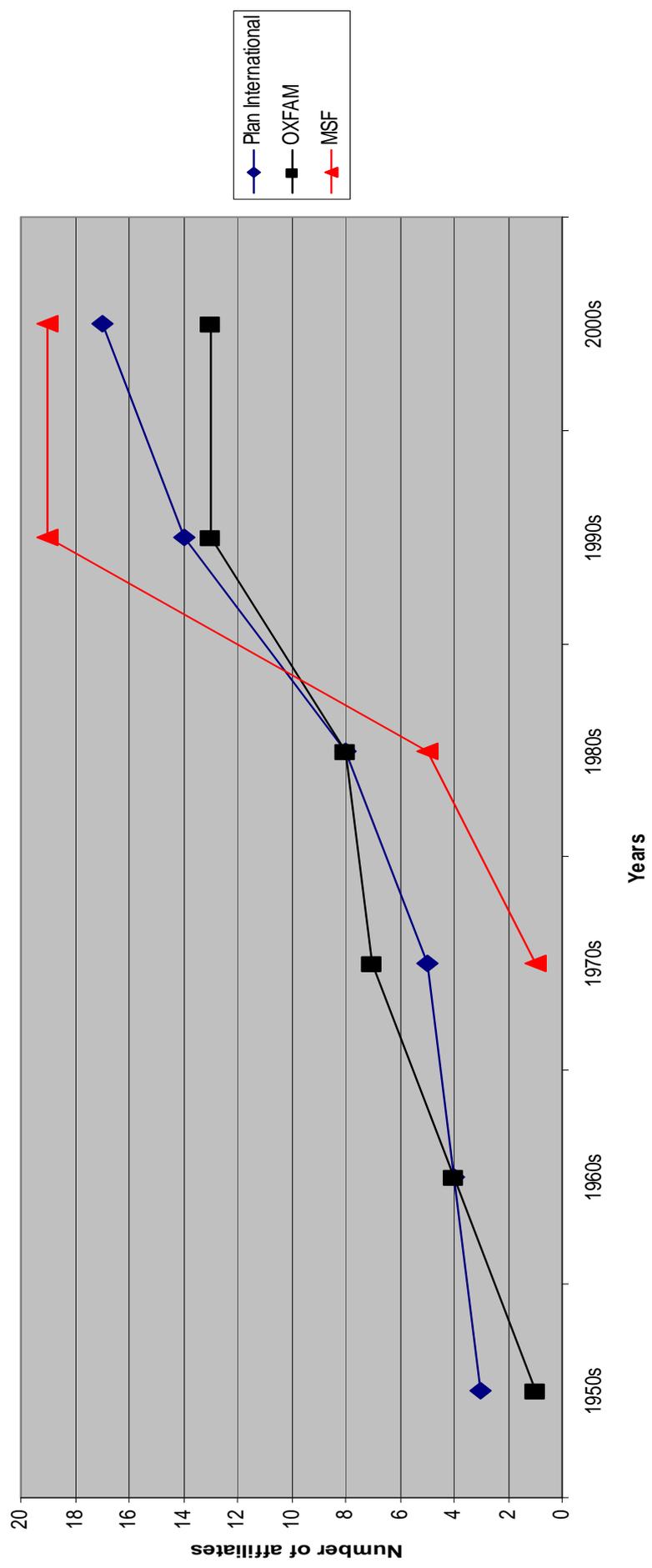


Figure 2. Country sizes and equilibria under large economies of scale

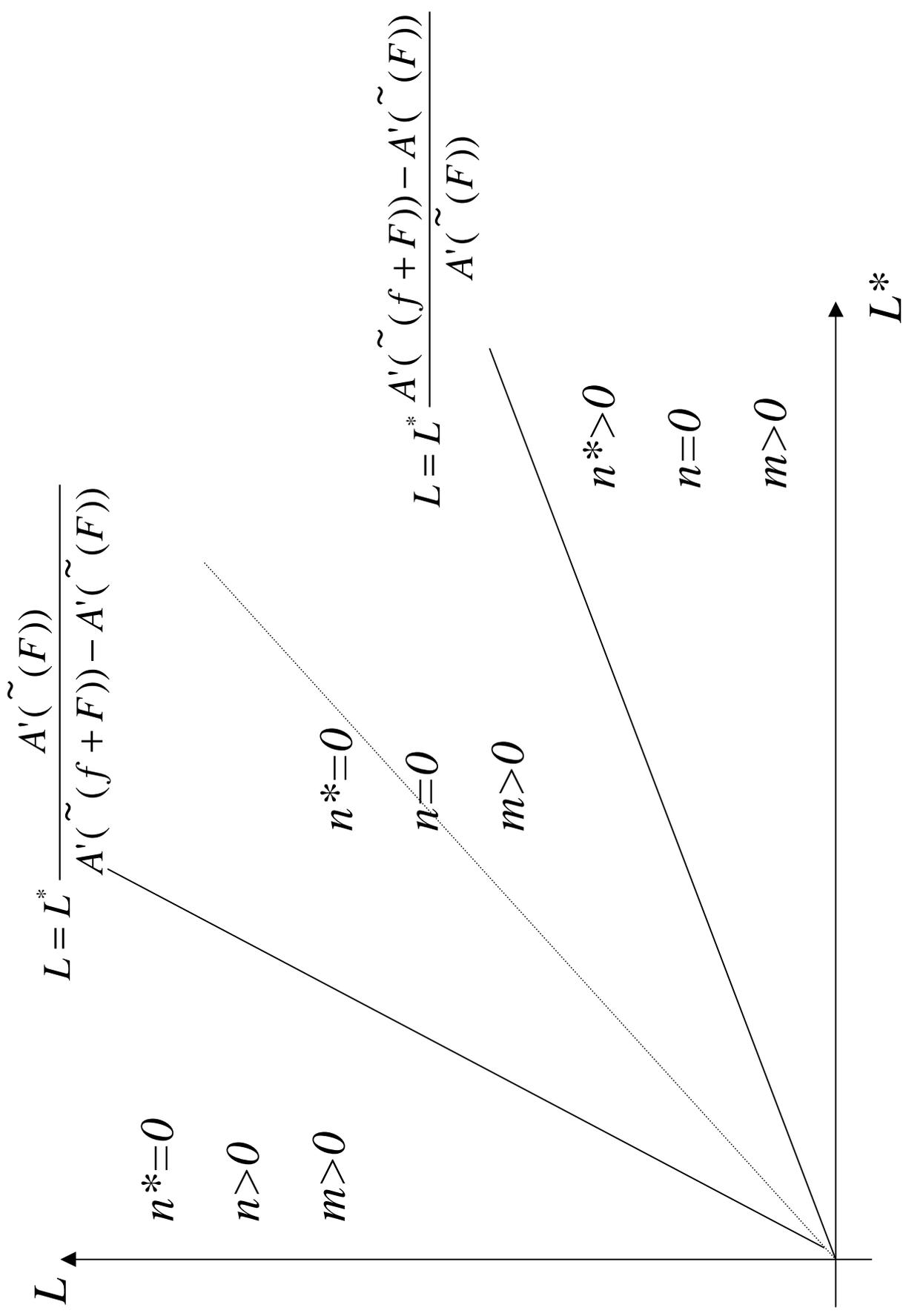


Figure 3. Country sizes and equilibria under small economies of scale

