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Public-Private Partnerships for the Provision of Public Goods : Theory and an Application to NGOs*

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Abstract

When will a public good or service be provided by the government, when will it be provided by a NGO, and when will we see a private-public partnership? This paper provides a model where a typical public good requires different inputs which raises the possibility of partnerships to exploit comparative advantages of different parties. But hold-up problems due to contractual incompleteness in specifying tasks discourage separation of ownership and management. The fact that public goods have the property of non-rivalry and non-excludability and that NGOs tend to be non-profits drives our key results. We apply the framework to NGOs in developing countries which, in the last few decades, have been increasingly involved in various capacities in the provision of a wide range of public goods and services.

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J.E.L. classification numbers : D23, H4, L3, O12.

1 Introduction

The last few decades have witnessed a major shift in the relationship between the state and the private sector in responsibility for delivering of goods and services all over the world.[1] The sharp expansion of the role of the state in the spheres of welfare and development from the fifties to the seventies was followed, perhaps inevitably, by increasing resource constraints and mounting evidence of government failure. For example, the World Development Report (2004) notes that while governments in developing countries spend, on average, about a one-third of their budget on health and education, very little reaches the poor because of leakage (due to administrative costs as well as corruption). On top of this, there is rampant absenteeism and poor quality service on the part of teachers and health workers.

There is now a decisive move away from the conventional view that equated provision of public services with direct government provision. Several organizational alternatives, such as public-private partnerships and contracting-out, have been considered. There is also a growing acknowledgement of the fact that there exists a large space between the market and the government that is occupied by voluntary non-profit organizations (often called NGOs in the context of developing countries) that play an important role in filling up the vacuum created by the twin problems of government and market failure. NGOs have been supplementing and sometimes replacing government agencies in the provision of relief and welfare, social services, and various development projects in developing countries.

The increasing importance of NGOs is reflected both in their number, the amount of development assistance that is channelled through them, and their participation in various activities, ranging from consultation to involvement in projects at the ground level, of major multilateral institutions like the United Nations and the World Bank.

The number of international NGOs rose from less than 200 in 1909 to nearly 1,000 in 1956 to over 20,000 in 2005 (Werker and Ahmed, 2008).

[1] See Besley and Ghatak (2007) and the World Develoment Report (2004).

There has been a large increase in the number of domestic NGOs worldwide as well. While definitive cross-country numbers are not easy to find, the following facts indicate their substantial presence and increasing importance in developing countries. According to the Department of Social Development of South Africa (2015), an average of 68 new NGOs get registered every day, with the total number of NGOs being 136,453 in 2015. The NGO sector in Kenya represents more than 290,000 full-time employees, 2.1% of Kenya's economically active population (Maracci 2013). The case of India is really striking, where over 3.1 million NGOs were registered in 2015.[2] That is more than double the number of schools in the country and amounts to one NGO per 400 people.

We have also seen an increasing trend in recent decades of the involvement of NGOs in the delivery of international development assistance. For example, major donor countries in the OECD have allocated an increasing fraction of their official development assistance to and through NGOs: this dramatically rose from 0.7% in 1975 to 15.4% in 2013 (OECD, 2015). Werker and Ahmed (2008) report that, excluding the substantial funds that are channeled through NGOs to implement specific projects on behalf of donor countries, the amount of discretionary funding that OECD countries give to NGOs to promote international development assistance rose from very low levels before 1980 to nearly $2 billion in 2004.

The growing influence of NGOs in the policy domain is also captured in the rising numbers of NGOs in Consultative Status with the United Nations Economic and Social Council - starting with none in 1945, by 2014 it had grown to more than four thousand (Willets, 2015). It is also reflected in the fact that the share of World Bank projects with some degree of "civil-society" involvement (that includes NGOs) increased from 6% in the late 1980s to over 70% in 2006 (Werker and Ahmed, 2008).

The growth of NGOs has been accompanied by the growth of an institutional form called public-private partnerships (PPPs) which refers to working arrangements between the state and any organization outside of the public sector based on a mutual commitment for the provision of assets and delivery of services that have been traditionally provided by the public sector over and above any explicit contractual arrangement such as contracting-out to a for-profit firm (see Bovaird, 2004, and De Bettignies and Ross, 2004). They key distinguishing feature is shared decision-making authority and a

[2] *The Indian Express,* August 1, 2015.

shared dedication to achieve some kind of joint outcome (see De Bettignies and Ross, 2004 and Brinkerhoff and Brinkerhoff, 2011). This contrasts with either pure in-house public sector provision or a supplier or contractor relationship in which the government dictates the terms of procuring or providing some particular service (e.g., related to infrastructure such as ports, highways, electricity generation, telecommunication, and sanitation).

Despite these major changes in the policy arena, the academic literature on public goods provision lags behind. There is relatively little attention to the institutional structure and organizational design issues in public goods delivery beyond the focus of standard public economics textbooks on variants of the Lindahl-Samuelson rule. How does one think of an NGO from the point of either public economics or organizational economics? How does one formalize the concept of a public-private partnership?

The World Bank (1995) defines NGOs as private organizations driven by humanitarian or cooperative rather than commercial objectives that pursue activities to relieve suffering, promote the interests of the poor, protect the environment, provide basic social services, or undertake community development in developing countries. According to a United Nations body, NGOs are characterized by six major characteristics: they are voluntary, non-profit, service and development oriented, autonomous, have a high degree of motivation and commitment, and some form of formal registration.[3]

They are therefore a subset of the nonprofit or voluntary sector. The nonprofit or voluntary or social sector comprises of all private organizations that provide some social service, usually in the fields of health, education, and charity. They are active in developed countries too. These are typically non-profits, which occupy a significant part of the private sector of modern economies. A study of 26 countries conducted in the mid-1990s (Salamon et al., 1999), for example, found that not-for-profits employed an average 6.8% of the non-agricultural workforce (12% in the case of the US). Another study of eight OECD countries about a decade later (Salamon et al., 2007) shows that not-for-profits contributed 8% to GDP on average (7.2% in the case of the US). More recent figures suggest that employment in nonprofit organizations accounted for 10.3% of total US private sector employment in 2012, up from 9.2% in 2007 (see Bureau of Labor Statistics, 2014). With the rise of social enterprise and other forms of hybrid organizational forms that

[3]The United Nations Interagency Committee on Integrated Rural Development for Asia and the Pacific (1992), pp. 34-35.

lie between for-profit organizations and pure non-profits, the share of what can be collectively called the private social sector is even larger.

A lot of the standard economic reasoning that underpins our understanding of the allocation of resources in the private sector does not quite apply in the social sector. To start with, quality and performance is typically non-contractible, ranging from experience goods to credence goods. Also, many of these goods and services have some externalities – that is, the benefits and costs are partly external to the organization. Our economic understanding of the social sector from the point of view of organizational economics and incentive theory is limited, with most of the work being concentrated on the non-profit sector in developed countries.[4]

At the same time, standard models of public goods provision, which has as its premise that these goods and services have a public good component, assumes that either the government or the charitable sector is able to provide them. It is recognized that the provision may not be at an efficient level – either due to political economy distortions in the case of government provision or due to standard problems of free-riding in the case of private provision, but until recently very little attention was paid to the microeconomic aspects of how organizations in the social sector operate, both in terms of the inner-workings of these organizations (incentives, organization design issues internal to the firm), as well as how these organizations interact and operate at an industry level.

This paper provides a framework for understanding the spectrum of institutional forms with varying degrees of involvement of the government and private non-profit actors in the provision of public goods. We draw on and extend our earlier work on this topic (Besley and Ghatak, 2001).[5] In that paper we derived optimal ownership structure in the presence of public goods properties in project returns. Here our focus is more applied and aimed at understanding the rise of NGOs in developing countries in the provision of various public goods as well as developing a framework to understand which sectors they are more likely to be active in, and what variations we can expect in their organizational form, in particular, in the degree to which they form partnerships with various tiers of the government in developing countries. We develop a simple and tractable version of the model presented in Besley and

[4]See Ghatak and Mueller (2007), Glaeser and Shleifer (2001), and Hansmann (1980).

[5]That paper in turn was a substantially revised version of an earlier unpublished working paper Besley and Ghatak (1999), that also appeared with minor changes as.Ghatak (2005).

Ghatak (2001) and discuss the implications of the theoretical framework to understand the various forms of collaboration they have with the government in these countries in a whole spectrum of relationships described broadly as public-private partnerships.

There is a large literature on private procurement (see, for example, Laffont and Tirole (1996)) as well as a literature on contracting-out and public-private partnerships (see, for example, Hart, Shleifer and Vishny (1997), Hart (2003), Iossa and Martimort (2015), and Martimort and Pouyet (2008)). However, the usual assumption in this literature is that private sector providers are profit seeking. Also, the main trade-off they focus on is a variant of the multi-tasking problem, namely the cost-quality trade-off. Iossa and Martimort (2015) provide a nice overview of the literature on public-private partnerships. Once again, they focus on a multi-task environment and the key trade-off they focus on is a cost-quality trade-off.

Our work is related to the literature on non-profits as reviewed, for example, by Hansmann (1980) and Rose-Ackerman (1996). This has focused on two main issues (i) how private provision by non-profit institutions can supplement the provision of public goods by the government and (ii) how the non-profit status of these institutions serves as a commitment device to overcome informational and contractual problems. By considering a production technology with multiple inputs, we add to this literature by providing a framework which can explore the possible role of partnerships between non-profits/government where the value that the respective parties put on the service plays a key role.

The paper is also related to wider debates about how to generate state capacity to deliver for citizens. This is now considered a central topic in development (see, for example, Andrews, 2013 and Besley and Persson, 2011). The question of what investments and what institutional structures are needed to deliver is now central to understanding why some countries have been able to deliver basic services to their citizens effectively while others have not. We contribute in a modest way to this by developing a specific framework for thinking about one aspect of this.

The distinguishing feature of our framework is the assumption that much private sector activity in public goods provision is value-driven and mission-oriented. For example, non-profit organizations are typically motivated by the desire to help the beneficiaries of public goods, who are often from the poorest sections of society. We argue that this feature itself provides a direct rationale for including non-profits in the analysis of the provision of public

goods. By the logic of classical public economics, the valuation of any party that values a public good should be taken into account in its allocation, and by the logic of organizational economics, if organizations are mission-driven and attract motivated agents, this should reduce agency problems. Indeed, this paper relates to a recent literature that studies the role of intrinsic motivation in solving agency and organization design problems (see, for example, Besley and Ghatak (2005, 2017). In our model, there is no cost-quality trade-off. Rather, we take a classic Grossman-Hart-Moore framework and our main point of departure is emphasizing the public goods nature of some of these projects, and the fact that the providers may well be driven by pro-social motives. These two features drive the main results of this paper regarding the division of ownership and management in the undertaking of public projects.

Essentially what ownership provides is a commitment device for a caring party not to free ride on the provision of the public good. This angle finds support in the policy literature - for example, Brinkerhoff and Brinkerhoff (2011) argue that public-private partnerships are a way to overcome collective action problems among stakeholders for certain types of public services and development projects.

Our analysis starts with a benchmark model of the property rights literature pioneered by Grossman and Hart (1986) and Hart and Moore (1990) to understand the ownership of an asset whose returns are private and appropriable. We retain two key elements from this literature. First, the value from the service requires different kinds of investments, and different parties may have comparative advantages that can be harnessed through a partnership. Second, incomplete contracting leads to hold-up problems and ownership affects incentives to undertake project-specific investments. What we then proceed to add is the case where the returns from the project are non-rival and non-excludable which is appropriate in the context of public goods and services. We show that how much a party values the service plays an important role in determining the optimal institutional arrangement, at par with the relative importance of the respective inputs as well as the extent of the hold-up problem depending on who is owner.

We then apply the insights from the theoretical analysis to understanding the increasing importance of NGOs in developing countries in the provision of various social welfare and development schemes. We attempt to relate the implications of our theoretical framework to provide some structure to a rich literature of case studies on NGOs and public-private partnerships

highlighted by various field studies.

The remainder of the paper is organized as follows. In the next section, we lay out the model and analyze the main institutional alternatives that we consider for provision of the public project. Section 3 applies the framework to NGOs in developing countries. We discuss how well the model casts light on the trend towards greater NGO involvement in that context. Section 4 concludes.

2 The Model

2.1 Private Project

Based on the property-rights approach of Grossman-Hart-Moore, we propose a simple model of ownership of an asset. There is a facility that generates some service, say a school or a health care center. It can be run by the government or a private NGO on their own, or the two can form a partnership. To clarify our terminology, any form of collaboration between the government and the NGO will be referred to as a partnership, but the specific form of the partnership can vary in terms of who has control rights over the project. We will allow for a partnership with the government being the owner, the NGO being the owner, or the two having joint-ownership. All these forms will fall under the broad spectrum called public-private partnerships. The formal version of these specific forms is presented below. We will also allow for autarchy, later in this subsection, where the government or the NGO provide the service independently.

As a benchmark, we start with the case where the asset is used to provide services whose returns are privately appropriable, that is, it has no externalities. Following the GHM framework, an organizational form is characterized by who owns the project (in the sense of ownership of all non-human assets specific to the project), allowing for ownership by the government, the NGO, or joint-ownership, to be precisely characterized below. We use a contracting framework where at the beginning, the NGO and the government choose the most efficient mode of contracting, in the sense of maximizing their ex ante joint surplus. We allow side payments or transfers between the two parties to facilitate this process.

As in the property rights approach, ownership of assets is important over and above who manages the project or supplies other inputs because it give

residual control rights to the owner. At the *ex post* stage where due to incompleteness of contracts the parties may renegotiate any agreement that they may have had earlier and ownership gives greater bargaining power at this stage, which in turn improves the investment incentives of the owner, while reducing them for the non-owner. We study alternative organizational forms where the government can own the project and allows the NGO to manage it, the NGO can own the project and allows the government to provide some critical inputs, or they jointly own the project. As mentioned earlier, later we compare these organizational forms (to be referred to as partnerships) with pure government provision and pure NGO provision.

Suppose the value of the project depends on ex ante investments x and y. We can think of x relating to inputs that are needed in time to run a school or a health service well and y as relating to management and service delivery. In particular, the value generated by the project is:

$$V(x, y) = A + ax + by$$

Even without any investments, the project generates some value (A). Investments enhance the value from the project. Let the costs of investment be, respectively, $c(x) = \frac{1}{2}x^2$ and $c(y) = \frac{1}{2}y^2$. Let the two parties be indicated by G and N, standing for the government and a NGO. We can think of the investments corresponding to two tasks. For example, the government could be providing assistance with infrastructure and the NGO could be providing the delivery of the service.

We assume that G and N have comparative advantage in the investment of x and y, respectively. As partnership between G and N enables both parties to exploit their comparative advantages. We initially assume that only G is able to invest in x, and likewise, only N invests in y. We will explore the possibility of autarchy later in this subsection. In our formulation, the payoff is additively separable in the investments. However, the tasks involved in providing the service are likely to be complementary. We could add a term ϕxy (with $\phi > 0$) to the benefits generated from the investments. We omit the details of this case to keep the analysis simple but qualitatively, the conclusions are very similar.

2.1.1 First Best

As a benchmark, we note that the first-best level of investments are given by:

$$\begin{aligned} x^* &= a \\ y^* &= b. \end{aligned}$$

The expected surplus is:

$$S^* = A + \frac{1}{2}(a^2 + b^2).$$

2.1.2 Second-Best

Now assume that x and y are non-contractible, but $V(x, y)$ is observable ex post and the parties bargain over *ex post* surplus, as in the Grossman-Hart-Moore framework. Suppose G is the owner and so can fire N at the bargaining stage. Let $1 - \lambda$ be the fraction of the investment of N that is embodied in his human capital and cannot be realized in the event of a bargaining breakdown.

All through we use the notational convention that the organizational form is indicated by the superscript and the individual party whose payoff is being referred to is indicated by the subscript. Therefore, under government ownership, the outside options of G and N are

$$\begin{aligned} \overline{u}_G^G &= ax + \lambda by + A \\ \overline{u}_N^G &= 0. \end{aligned}$$

With the standard assumption of Nash bargaining, and assuming equal bargaining weights for the two parties, the *ex post* payoff of G from the project is:

$$\frac{A + ax + by}{2} + \frac{\overline{u}_G^G - \overline{u}_N^G}{2} = ax + \frac{1}{2}(1 + \lambda)by + A.$$

The corresponding *ex post* payoff of N is:

$$\frac{A + ax + by}{2} + \frac{\overline{u}_N^G - \overline{u}_G^G}{2} = \frac{1}{2}(1 - \lambda)by.$$

Each party will choose the level of *ex ante* investments by maximizing their *ex ante* payoffs which equals the above expressions and subtracting the costs of x and y from the relevant payoff. This yields the following values of the investment levels:

$$\begin{aligned} x^G &= a \\ y^G &= \frac{1}{2}b(1-\lambda). \end{aligned}$$

The total expected *ex ante* surplus is:

$$S^G = A + \frac{1}{2}\{a^2 + b^2\delta(\lambda)\}$$

where

$$\delta(\lambda) \equiv (1-\lambda)\{1 - \frac{1}{4}(1-\lambda)\}.$$

Notice that $\delta(\lambda)$ is monotonically decreasing in λ, taking the highest value $\frac{3}{4}$ when $\lambda = 0$ and the lowest value 0, when $\lambda = 1$. It captures the extra degree of loss of investment incentives of N from hold-up due to having a bargaining disadvantage, which in turn depends on the extent to which the fruits of the investment is embodied in his human capital.

As we would expect, $S^G < S^*$. The reason is, the investment incentives of N are undermined by the hold-up problem even though under our formulation the investment incentives of G are not affected and remains at the first-best level. It can be verified that S^G is decreasing in λ since the higher is λ, the more is N at a bargaining disadvantage *ex post* as G can fire him and retain most of the benefits of his investment.

Suppose N is owner and can fire G at the bargaining stage. Parallel to λ, let μ be the fraction of the benefits of G's investment that stays with the project in the event of a bargaining breakdown and so the outside options under N-ownership are:

$$\begin{aligned} \overline{u}_G^N &= 0 \\ \overline{u}_N^N &= \mu ax + by + A. \end{aligned}$$

We can repeat a similar exercise as above, with Nash bargaining giving the following *ex post* payoffs from the value generated by the project to G and

N are:

$$\begin{aligned}\frac{A+ax+by}{2}+\frac{\overline{u}_G^N-\overline{u}_N^N}{2} &= \frac{1}{2}(1-\mu)ax\\ \frac{A+ax+by}{2}+\frac{\overline{u}_N^N-\overline{u}_G^N}{2} &= \frac{1}{2}(1+\mu)ax+by+A.\end{aligned}$$

Analogous to previous case, the investment levels will be determined by maximizing these anticipated *ex post* payoffs, taking into account the costs of the investments:

$$\begin{aligned}x^N &= \frac{1}{2}a(1-\mu)\\ y^N &= b\end{aligned}$$

The total *ex ante* expected surplus will be

$$S^N = A+\frac{1}{2}\{a^2\delta(\mu)+b^2\}$$

where $\delta(.)$ has been defined above.

As before, S^N is always less than S^* and it is decreasing in μ. Now, the investment incentives of G are undermined by the hold-up problem but the investment incentives of N are not affected and remains at the first-best level.

What this framework provides us is a set of parameters which determines which form of ownership is better. By comparing S^G and S^N we get

Result 1 *In the case of a project with no externalities, party i ($i = G, N$) will more likely to be the owner: (i) the more important is the marginal value of his investment in generating project value (determined by the relative values of a and b), and in the extreme case where there is only one party whose investment matters ($a = 0$ or $b = 0$), then that party should be owner; (ii) the greater is the loss of surplus due to the hold-up problem when he is not the owner (determined by the relative values of λ and μ).*

This result is the same as that comes out of the standard GHM model (see Hart, 1995 for a simple exposition) and the intuition is straightforward. If a party's investment is more important for generating value from the project then to the extent the hold-up problem is symmetric, this party should be owner. A simple corollary of this is, if one party's investment is not important for the project then that party should not be owner, since he will

not contribute anything of value and yet distort the investment incentives of the other party. Similarly, if the investments are equally important, but the hold-up problem is more severe when one party is owner, then the other party should be owner. The extent of the hold-up problem depends on the fraction of benefits of one party's investment that is embodied in his human capital and will be lost if he is not the owner and is no longer involved with the project in case of a bargaining breakdown.

Finally, suppose the parties jointly own the project. What this means is both parties have veto power and both need to agree if the project is to go ahead. Referring this case to be that of joint-ownership (and using the superscript J to indicate this organizational form), the outside options of G and N are:

$$\overline{u}_G^J = \overline{u}_N^J = 0.$$

As a result, the investment levels will be:

$$\begin{aligned} x^J &= \frac{1}{2}a \\ y^J &= \frac{1}{2}b \end{aligned}$$

The total expected surplus will be

$$S^J = A + \frac{1}{2}\left(\frac{3}{4}a^2 + \frac{3}{4}b^2\right).$$

Notice that $\delta(0) = \frac{3}{4}$ and so this can also be written as

$$S^J = A + \frac{1}{2}\delta(0)\left(a^2 + b^2\right).$$

This is intuitive, since with join-ownership, in the event of a disagreement, the results of the investments of either party is completely lost, so it is similar to $\lambda = 0$ or $\mu = 0$ in the case of single-ownership.

Comparing this with the expected surplus under G-ownership and N-ownership, for joint ownership to dominate a partnership with one party being the owner, the following condition needs to hold

$$\delta(0)\left(a^2 + b^2\right) > \max\left\{a^2 + b^2\delta(\lambda), a^2\delta(\mu) + b^2\right\}.$$

As we can see, if the hold-up problem is not severe under any form of single ownership, then joint-ownership can never dominate single-ownership. For example, if $\lambda = 0$ so that $\delta(\lambda) = \frac{3}{4}$, we can see that G-ownership will dominate joint ownership. However, if the hold-up problem is severe under *both* forms of single-ownership (high values of λ and μ) then the investment incentives of the non-owner is badly affected in both cases, and joint-ownership can emerge as a better alternative, assuming both investments are important (i.e., the gap between a and b is not too large).

The following result summarizes our key conclusion as to when joint-ownership is likely to emerge

Result 2 *Public-private partnership can emerge as a preferred organizational form if the hold-up problem is severe under both G-ownership and N-ownership (high values of λ and μ) and the gap between a and b is relatively small.*

Whenever λ is high, the hold-up problem is severe when G is the owner, since a good fraction of the value generated by N's investment will stay with the asset even if N leaves, putting N at a bargaining disadvantage. This in turn reduces his incentives to invest. Analogously, when μ is high, the hold up problem is severe when N is the owner. If both λ and μ are high, ownership by any single party will completely undermine the incentives of the other party to invest. In contrast, joint ownership distorts incentives for both types of investments but in a symmetric way. If the gap between a and b is large, say a is relatively high, then G-ownership may dominate joint-ownership even if the hold-up problem discouraging N's investment incentives is severe, since joint-ownership hurts investment incentives of both parties. Joint-ownership therefore emerges as a credible alternative when the gap between a and b is relatively small and the hold-up problem is non-trivial under both pure forms of ownership.

2.1.3 Autarchy

It is possible for either G or N to undertake both investments by themselves. However, there would typically be a loss due the fact that the potential benefits of comparative advantage are not utilized. But there is an advantage in terms of not having to incur any inefficiencies due to hold-up problems. In this section, we compare pure government provision and pure NGO provision

with the three forms of collaboration between G and N that we looked at in the previous section, namely, G-ownership (or partnerships with G having authority), N-ownership (or partnerships with N having authority), and joint ownership.

Suppose G undertakes both investments. Now the value of the project is boosted by:

$$ax + \gamma_G by$$

where $\gamma_G < 1$ which reflects the fact that there is some loss due to lack of specialization if the government undertakes both types of investments.. The costs of undertaking both investments are as before, namely, $\frac{1}{2}x^2$ and $\frac{1}{2}y^2$. Even though we modeled the potential comparative advantage of NGOs as being able to generate more value from their investment than the government at the same cost as far as y is concerned, we could equivalently modelled it as a cost advantage of the NGO or a cost disadvantage of the government. For example, we could have assumed that under both form of autarchic organizational forms, the value of the project is boosted by:

$$ax + by$$

but the costs of undertaking both investments by the government are $\frac{1}{2}x^2$ and $\frac{1}{2}\frac{1}{\gamma_G}y^2$.

Now G will solve:

$$\max_{\{x,y\}} ax + \gamma_G by - \frac{1}{2}x^2 - \frac{1}{2}y^2$$

which yields the first-order conditions

$$\begin{aligned} x &= a \\ y &= \gamma_G b. \end{aligned}$$

The expected social surplus is

$$\hat{S}^G = A + \frac{1}{2}\left(a^2 + \gamma_G^2 b^2\right).$$

We use the notation $\hat{S}^G$ to indicate it is pure government provision as opposed to the expected surplus under an organizational form with G-ownership, which we denoted by S^G.

Alternatively, suppose N undertakes both investments. Now the value of the project is boosted by:

$$\gamma_N ax + by$$

where $\gamma_N < 1$ captures the loss of efficiency due to lack of specialization similar to γ_G. There is no reason for the loss of efficiency due to lack of specialization being symmetric across the two investments and the two parties, but we choose this formulation for notational simplicity. As in the previous case, the costs of undertaking both investments are as before. Also, as in the case of the government undertaking both investments, we could model the potential comparative advantage of governments in investing in x relative to the NGO as a cost advantage.

Now N will solve:

$$\max_{\{x,y\}} \gamma_N ax + by - \frac{1}{2}x^2 - \frac{1}{2}y^2$$

which yields the first-order conditions

$$\begin{aligned} x &= \gamma_N a \\ y &= b. \end{aligned}$$

The expected social surplus is

$$\hat{S}^N = A + \frac{1}{2}\left(\gamma_N^2 a^2 + b^2\right).$$

Once again, we use the notation $\hat{S}^N$ to indicate it is pure NGO provision as opposed to NGO-ownership with involvement by the government.

A first-best partnership will obviously dominate both these autarchic organizational forms. The main conclusion from comparing the expected surplus under autarchic organizational forms to ones where G and N are both involved but there is loss of surplus due to hold-up is:

Result 3 *If γ_G and γ_N are small, then a second-best partnership, irrespective of the form of ownership (G-ownership, N-ownership, and joint-ownership) dominates pure provision by G or N. If either γ_G or γ_N is high, then pure provision by G or N dominates a partnership.*

This is a classic case of trade-off between the loss of efficiency from not exploiting comparative advantage in the case of autarchy versus the negative investment incentives due to the possibility of hold-up in the second-best under G-ownership, N-ownership, and joint ownership.

2.2 Public Project

Now we take the benchmark model of the previous section and modify it to study the case where the benefits generated by the project are non-excludable and non-rival as far as the two parties, G and N, are concerned. For simplicity we assume that other than the fixed part of the project returns that are not affected by investment (A), the remaining part of the project benefits ($ax + by$) are now completely non-pecuniary, with G and N putting different welfare weights on them. To give an example, if the relevant service being provided is health care, in the case of privately appropriable returns, the providers get more revenue if the quality of the service is improved due to more patients visiting and there being some fees associated with the services which are paid by the patients or their insurance provider. Now we view the quality enhancements not translating into revenue, but still giving some satisfaction to the parties involved in the provision because of their commitment to the welfare of the patients, or to the mission of providing better health care. Of course, in practice both elements are present and would call for an analysis that allows for this. However, in this paper we will restrict ourselves to these two polar cases of where the good or service is a purely private and when it is purely public as far as the two parties, G and N, are concerned.

We assume that the government's payoff includes the benefit to the direct beneficiaries as well as the indirect payoff to other citizens who may care about the public good or service in question. However, it does not include the payoff of the NGO. Therefore, if we add the two up, we get total social benefits from the project. The project benefits are non-rival as far as the two parties are concerned, and in particular (this turns out to be a consequential implication), they benefit from it whether or not they are directly involved in the project or not.

Suppose G values the variable part of the project benefits by a multiplicative factor θ_G and N by θ_N. Therefore, the value generated by the project now is:

$$V(x, y) = A + (\theta_G + \theta_N)(ax + by).$$

To make the comparison with the private returns case analyzed in the previous section easy, we will assume

$$\theta_G + \theta_N = 1.$$

This is not at all important to the results, and is somewhat restrictive, but has the feature that the first-best outcomes under both these scenarios turn

out to be identical as we will see below, and that makes comparisons under the second-best very transparent.

First best levels of x and y are

$$\begin{aligned} x^* &= (\theta_G + \theta_N)\, a = a \\ y^* &= (\theta_G + \theta_N)\, b = b. \end{aligned}$$

The first-best level of *ex ante* social surplus is

$$S^* = A + \frac{1}{2}\left(\theta_G + \theta_N\right)^2 (a^2 + b^2) = A + \frac{1}{2}(a^2 + b^2).$$

Now consider the second-best. The key difference with the previous case is that now a party can receive some payoff from the project even if he/she is no longer directly involved (if bargaining breaks down). Consider G-ownership. Now at the *ex post* bargaining stage G can fire N. The outside options are:

$$\begin{aligned} \overline{u}_G^G &= \theta_G\,(ax + \lambda by) + A \\ \overline{u}_N^G &= \theta_N\,(ax + \lambda by) \end{aligned}$$

where λ is introduced in the same way as in the previous section.

With Nash bargaining, G gets the share:

$$\begin{aligned} &\frac{A}{2} + (\theta_G + \theta_N)\,\frac{ax + by}{2} + \frac{\overline{u}_G^G - \overline{u}_N^G}{2} \\ =\ &\theta_G ax + \frac{1}{2}\left\{(1+\lambda)\theta_G + (1-\lambda)\theta_N\right\} by + A \end{aligned}$$

The share of N is:

$$\begin{aligned} &\frac{A}{2} + (\theta_G + \theta_N)\,\frac{ax + by}{2} + \frac{\overline{u}_N^G - \overline{u}_G^G}{2} \\ =\ &\theta_N ax + \frac{1}{2}\left\{(1-\lambda)\theta_G + (1+\lambda)\theta_N\right\} by. \end{aligned}$$

Let

$$\triangle \equiv \theta_G - \theta_N$$

which can be positive, negative, or zero. Then the shares of G and N can be written as

$$\theta_G ax + \frac{1}{2}\left(\theta_G + \theta_N + \lambda\triangle\right) by$$

and

$$\theta_N ax + \frac{1}{2}\left(\theta_G + \theta_N - \lambda\triangle\right) by.$$

Ex ante investments by each party will maximize their payoff subject to the costs of the investment, which are as before. It is straightforward to derive the optimal investments:

$$\begin{aligned} \tilde{x}^G &= \theta_G a \\ \tilde{y}^G &= \frac{1}{2}\left(\theta_G + \theta_N - \lambda\triangle\right) b = \frac{1}{2}\left(1 - \lambda\triangle\right) b. \end{aligned}$$

The expected total surplus is

$$\begin{aligned} \tilde{S}^G &= A + \left(\theta_G + \theta_N\right)\left(a\tilde{x}^G + b\tilde{y}^G\right) - \frac{1}{2}\left(\tilde{x}^G\right)^2 - \frac{1}{2}\left(\tilde{y}^G\right)^2 \\ &= A + a^2\theta_G\left(1 - \frac{\theta_G}{2}\right) + \frac{1}{2}b^2\delta\left(\lambda\triangle\right). \end{aligned}$$

where $\delta(.)$ is as it was defined in the earlier section, namely, $\delta\left(\lambda\triangle\right) = (1 - \lambda\triangle)\{1 - \frac{1}{4}(1 - \lambda\triangle)\}$. Notice that if we set $\theta_G = 1$ and $\theta_N = 0$ then the formula for $\tilde{S}^G$ collapses to the formula for S^G, namely expected surplus under G-ownership in the case of appropriable returns.

Under N-ownership, by a similar logic, the outside options are

$$\begin{aligned} \overline{u}_G^N &= \theta_G\left(\mu ax + by\right) \\ \overline{u}_N^N &= \theta_N\left(\mu ax + by\right) + A \end{aligned}$$

where μ is defined as in the previous section.

The *ex post* share of G of the surplus is:

$$\begin{aligned} & \frac{A}{2} + \left(\theta_G + \theta_N\right)\frac{ax + by}{2} + \frac{\overline{u}_G^N - \overline{u}_N^N}{2} \\ = \; & \frac{1}{2}\left(\theta_G + \theta_N + \mu\triangle\right) ax + \theta_G by \end{aligned}$$

The share of N is:

$$\begin{aligned} & \frac{A}{2} + \left(\theta_G + \theta_N\right)\frac{ax + by}{2} + \frac{\overline{u}_N^N - \overline{u}_G^N}{2} \\ = \; & \frac{1}{2}\left(\theta_G + \theta_N - \mu\triangle\right) ax + \theta_N by + A \end{aligned}$$

Once again, *ex ante* investments by each party will maximize the above expression subject to the costs of the investments:

$$\begin{aligned}\tilde{x}^N &= \frac{1}{2}\left(\theta_G + \theta_N + \mu\triangle\right)a = \frac{1}{2}\left(1 + \mu\triangle\right)a \\ \tilde{y}^N &= \theta_N b.\end{aligned}$$

The expected total surplus is

$$\tilde{S}^N = A + \frac{1}{2}a^2\delta\left(-\mu\triangle\right) + b^2\theta_N\left(1 - \frac{\theta_N}{2}\right)$$

where $\delta\left(-\mu\triangle\right) = \left(1 + \mu\triangle\right)\left(1 - \frac{1}{4}\left(1 + \mu\triangle\right)\right)$. Given the property of $\delta\left(.\right)$ we have described above, $\delta\left(-\mu\triangle\right)$ is increasing in $\mu\triangle$ and ranges between $\frac{3}{4}$ (when $\mu\triangle$ is the smallest at 0) and 1 (when $\mu\triangle = 1$).

Suppose $\triangle > 0$, i.e., $\theta_G > \theta_N$. Then it is straightforward to show that $\theta_G > \frac{1}{2}\left(1 + \mu\triangle\right)$ *and* $\frac{1}{2}\left(1 - \lambda\triangle\right) > \theta_N$. That is, ownership by G gives better investment to both parties, irrespective of the relative importance of the investments of the two parties or the extent of the hold-up problem under the two different forms of single-ownership. The result is symmetric in the case of $\triangle < 0$; now one can show that $\theta_N > \frac{1}{2}\left(1 - \lambda\triangle\right)$ and $\frac{1}{2}\left(1 + \mu\triangle\right)a > \theta_G$. When $\triangle = 0$, both forms of ownership yields the same expected surplus. This gives us one of our key results:

Result 4 *If a party values the project more, he should own it irrespective of the relative importance of his investment or the degree of the hold-up problem depending on who is the owner.*

This is one of the key surprising result in Besley-Ghatak (2001): you should make the person with the highest valuation the owner, even in the extreme case where he does not invest. The key difference from the case where the benefits from the project are private and appropriable is that now, how much a party values the non-pecuniary benefits (which happen to be non-excludable and non-rival as well) becomes an important factor in determining who should own the project.

What is striking is, even if one party does not have any useful to investments to make (say, $a = 0$) that party may be optimally the owner which can never happen in the standard GHM framework with private appropriable returns. For example, when $a = 0$, $x = 0$ but $\tilde{y}_N < \tilde{y}_G$ whenever $\theta_G > \theta_N$.

The intuition is that being the owner means a party commits to completing the project (as opposed to walking away) and given that the owner cares a lot about the project return, the investing party can extract enough surplus from him at the bargaining stage.

We now consider the case where the parties jointly own the project. In the case of joint-ownership, the outside options are as before:

$$\overline{u}_G^J = \overline{u}_N^J = 0.$$

As a result, the investment levels will be:

$$\begin{aligned} \tilde{x}^J &= \frac{1}{2}(\theta_G + \theta_N)\, a = \frac{1}{2}a \\ \tilde{y}^J &= \frac{1}{2}(\theta_G + \theta_N)\, b = \frac{1}{2}b \end{aligned}$$

The total expected surplus will be

$$\tilde{S}^J = A + \frac{1}{2}\left(\frac{3}{4}a^2 + \frac{3}{4}b^2\right).$$

As in the previous section, as $\delta(0) = \frac{3}{4}$, this expression can also be written as:

$$\tilde{S}^J = A + \frac{1}{2}\delta(0)\left(a^2 + b^2\right).$$

As with the first-best, given our normalization of $\theta_G + \theta_N = 1$, the investment levels and the expected social surplus is the same here as in the private appropriable returns case. Now the relevant condition for comparing joint-ownership with the two pure forms of single-ownership is:

$$\delta(0)\left(a^2 + b^2\right) > \max\left\{a^2\theta_G(2 - \theta_G) + b^2\delta(\lambda\triangle), a^2\delta(-\mu\triangle) + b^2\theta_N(2 - \theta_N)\right\}.$$

Comparing this with the expected surplus under G-ownership and N-ownership, the following result follows directly:

Result 5 *Public-private partnership can emerge as a preferred organizational form if the gap between θ_G and θ_N is relatively small and the hold-up problem is significant under both forms of single ownership (λ and μ are high).*

Consider the case where $\triangle > 0$ so that G-ownership dominates N-ownership. Then the investment in x is higher under G-ownership than joint-ownership, as $\theta_G(2-\theta_G) > \frac{3}{4}$ given that θ_G lies between $\frac{1}{2}$ and 1. Clearly, if $\lambda = 0$ then joint-ownership cannot dominate as the level of y is the same under both forms of ownership. For higher values of λ the level of investment in y is lower under G-ownership, going to 0 when $\lambda\triangle = 1$. For low values of $\triangle$ and high values of λ, joint-ownership can dominate G-ownership. An analogous argument holds when $\triangle < 0$ and μ ranges from low to high values. The intuition is, joint-ownership equates the bargaining power of both parties *ex post.* So if there is not that much of a difference between G and N in terms of how much they value the results of the investment (or the importance of their investment in generating value) and the hold-up problem is non-trivial, it can dominate pure forms of ownership.

2.3 Extensions

Our core framework can be extended in a number of ways to relate to some of facts and anecdotes about NGOs in developing countries. Here we briefly discuss two extensions, both related to the value that the private actor we refer to as N attaches to the services generated from the project. In the framework above, we assumed that the benefit from the project is valued by both parties, and that these benefits are non-rival and non-excludable. In this subsection, we consider two extensions that relax this assumption. First, we consider the case where the private provider is commercially motivated and derives no non-pecuniary value from the service. Next, we consider the case where both parties do derive non-pecuniary payoffs from the project but because they have divergent preferences over the mission of the project (e.g., the syllabus in the case of a school).

In a lot of discussion of public-private partnerships, the private party is assumed to be a for-profit firm (see, for example, Hart (2003) and Iossa and Martimort (2015)) and the main focus is on the non-contractible dimensions of the service, which often takes the form of a cost-quality trade-off. It is reasonable to ask how our conclusions are affected when the private party is a for-profit firm that is commercially motivated and derives no direct non-pecuniary benefit from the service. In that case, $\theta_N = 0$. However, to the extent the government continues to value the service, its valuation is still captured by $\theta_G > 0$. In fact, given our assumption that $\theta_G + \theta_N = 1$, let us assume $\theta_G = 1$ in this case, to make the analysis comparable to the case where

$\theta_N > 0$. Notice that this case does not collapse to the case the project benefits being a private good that we analyzed earlier, since we restrict ourselves to the benefits being fully non-pecuniary. In this extension, the private party simply does not put any value on the non-pecuniary benefit.

Suppose G is the owner and chooses the mission. We can simply replace θ_N with 0 and $\theta_G = 1$ in the expressions for $\tilde{x}^G$ and $\tilde{y}^G$, and $\tilde{S}^G$ in the previous subsection to obtain:

$$\begin{aligned} \tilde{x}^G &= a \\ \tilde{y}^G &= \frac{1}{2}(1-\lambda)\, b. \end{aligned}$$

For the case of N-ownership, the corresponding expressions are:

$$\begin{aligned} \tilde{x}^N &= \frac{1}{2}(1+\mu)\, a \\ \tilde{y}^N &= 0. \end{aligned}$$

Similarly, setting $\theta_N = 0$, the expressions for the investment levels in the case of joint-ownership becomes:

$$\begin{aligned} \tilde{x}^J &= \frac{1}{2}a \\ \tilde{y}^J &= \frac{1}{2}b. \end{aligned}$$

We can see immediately that N-ownership can never be preferred to G-ownership since investment levels of both x and y are higher under G-ownership. There is a trade-off between G-ownership and joint-ownership, and in particular, if b is high (so investment incentives for y are important) and λ is high (the scope for opportunism by G is high), joint-ownership can become the most-preferred option. Using the same logic, we can also see what happens in the case where G is non-caring (e.g., a non-democratic government) while N puts a lot of value on the project. By setting $\theta_G = 0$ and $\theta_N = 1$, we can see that in this case N-ownership dominates G-ownership, while the choice between N-ownership and joint-ownership depends on parameter values (in particular, high values a and/or.μ would tend to favour joint-ownership).

Next we turn to the case of divergent mission-preferences, stemming possibly from different ideologies or putting different welfare weights on different

social groups (see Besley and Ghatak, 2001, 2005, and 2017 for further discussion on mission preferences and how it affects organization design). A simple way to introduce it would be to let the owner being able to dictate the mission of the project. If G is the owner, and gets to pick the mission, its payoff from the benefit of the project is θ_G while that of N is $\sigma\theta_N$ with $\sigma \in [0,1]$. Similarly, and symmetrically, when N is the owner, and gets to pick the mission, its payoff from the benefit of the project is θ_N while that of G is $\sigma\theta_G$. When $\sigma = 1$ there is full alignment of mission-preferences, while when $\sigma = 0$, the mission-preferences are completely divergent. Under joint-ownership, we can think of G and N agreeing on a compromise mission, so that G and N receive a payoff $\hat{\sigma}\theta_G$ and $\hat{\sigma}\theta_N$ with $\hat{\sigma} \geq \sigma$ reflecting the fact that a compromise mission is generally likely to be preferred by each party to the other party having full control over choice of mission.

Suppose G is the owner and chooses the mission. We can simply replace θ_N with $\sigma\theta_N$ in the expressions for $\tilde{x}^G$ and $\tilde{y}^G$, and $\tilde{S}^G$ in the previous subsection to obtain:

$$\begin{aligned} \tilde{x}^G &= \theta_G a \\ \tilde{y}^G &= \frac{1}{2}\left\{1 - \lambda\left(\theta_G - \sigma\theta_N\right)\right\} b. \end{aligned}$$

For the case of N-ownership, the corresponding expressions are:

$$\begin{aligned} \tilde{x}^N &= \frac{1}{2}\left\{1 + \mu\left(\sigma\theta_G - \theta_N\right)\right\} a \\ \tilde{y}^N &= \theta_N b. \end{aligned}$$

Similarly, replacing θ_G and θ_N with $\hat{\sigma}\theta_G$ and $\hat{\sigma}\theta_N$, the expressions for the investment levels in the case of join-ownership becomes:

$$\begin{aligned} \tilde{x}^J &= \frac{1}{2}\hat{\sigma}\left(\theta_G + \theta_N\right) a = \frac{1}{2}\hat{\sigma} a \\ \tilde{y}^J &= \frac{1}{2}\hat{\sigma}\left(\theta_G + \sigma\theta_N\right) b = \frac{1}{2}\hat{\sigma} b. \end{aligned}$$

If mission-preferences are very strong and there is little congruence, then σ as well as $\hat{\sigma}$ will be close to zero. In that case, the public good nature of the project effectively goes away. Now, it is no longer possible for a party to be the owner even when the importance of its investment is minimal, so long as it values the project benefit more. Not just that, the case for joint-ownership disappears since the value derived by both parties are effectively

taxed away by incompatibility in mission-preferences. The choice between G and N ownership will now be determined by the relative importance of a and b, as well as that of λ and μ, as in the private good case. Also, as with the private good case, the comparative advantage of the two parties in providing the respective investments may still leave the scope for partnership open relative to autarchy.

3 Application to NGOs in Developing Countries

The theoretical framework developed above has a number of implications regarding the choice of the mode of provision. Our goal in this section is to try to relate the theoretical framework to a large number of descriptive case studies and anecdotes in a structured way, even though we do not have the data needed for formal testing.[6]

Implication 1 *Partnerships are more likely when the government and the NGO have comparative advantages in the respective tasks.*

There is general agreement that NGO involvement in public projects in developing countries has grown in response to budgetary stringency and fiscal austerity measures to achieve macroeconomic stabilization (Hulme and Edwards, 1997). Since public sector employees enjoy higher wages and security of employment compared to NGO workers, NGOs have a cost advantage. This is reinforced by the possibility that NGOs attract workers and activists who are dedicated to the cause and therefore willing to work for lower wages and benefits (Robinson, 1997).

An additional factor is that decentralization initiatives have been associated with greater involvement of NGOs. For example, Fiszbein and Lowden (1999) suggest that a large majority of public-private partnerships in Latin America involve *local* governments that have tighter budget constraints and are more limited in the scope of activities they are efficient at, are more open to partnerships with NGOs. The expertise of NGOs in specific areas such as targeting and ability to access the poorest groups, and experience and technical knowledge in the fields of education, health, environment, and

[6]This section draws on some of the discussion reported in Besley and Ghatak (1999, 2001) as well as Ghatak (2005) but has been substantially revised and updated.

more recently IT technology have been the main factors driving some of these partnerships (Sansom 2011).[7]

Implication 2 *Pure NGO provision will be more prevalent in projects where : (i) the public sector is relatively less efficient in input provision (i.e. $a < b$) and/or (ii) the NGO's ability to provide the complementary inputs is better than that of the government, namely, $\gamma_G > \gamma_N$.*

In developing countries, NGOs typically work in environments where the reach of the government is either weak or non-existent. After the Second Intifada in the West Bank and the Gaza Strip in September of 2000, NGOs have been seen as invaluable in assuring the provision of emergency and relief services to the Palestinian population living under the strict controls imposed by Israel. The share of the NGO sector in service provision in Palestine covered more than 60% of all health-care services, 80% of all rehabilitation services, and almost 100% of all preschool education (Jarrar 2005). The same is true of primary health and education in many African countries in remote rural areas where non-profits run by Christian missionaries are often the only service agencies operating (Bratton, 1989). Also in the field of micro-credit, NGOs in Bangladesh have gained a large number of beneficiaries thanks to their wider coverage encompassing remote areas where government agencies are absent (Chowdhury 2013).

The scope of public-private partnership is circumscribed when the ability of the government to be an effective partner is doubtful. According to an interviewee with *Medicines Sans Frontiers* working in conflict-affected North Darfur State of Sudan, most NGOs prefer to work in isolation. The reason is that they feel that the government does not have the capacity and capability in terms of qualified health staff and communication facilities to collaborate effectively with them (Yagub 2014). Likewise, El Salvador and Jamaica's moves towards decentralization brought about local governments with critically restricted fiscal and service delivery capabilities. This resulted in the growth of pure NGO provision. Moreover, Fiszbein and Lowden (1999) cite

[7] In the city of Itagui in Colombia the local government took care of construction of school buildings and an NGO with a distinguished track record in providing education undertook the responsibility of managing the curriculum and staff. In a pilot project in El Salvador the Ministry of Health successfully delegated the management of health care to an NGO while retaining the financing responsibility, mainly owing to the NGOs dedicated and well trained volunteers and doctors travel to parts of the rural countryside that public health services never was able to reach.

various instances in Argentina where NGOs moved away from partnerships with the central government due to the layers of bureaucracy which made potential transactions costs a lot higher.

When NGOs focus on a small geographic area of action, they are likely to be accomplished in tackling many different tasks of the project on their own, even those where the government might naturally be thought to enjoy a comparative advantage.[8] For example, the local government may have a comparative advantage in the provision of a health facility to a village where an NGO is attempting to promote modern birth practices because it already owns the local health clinic. Nonetheless, the NGO may be able to construct the one facility on its own fairly efficiently. The high γ_N, therefore, renders partnership with the government unnecessary and we see NGO provision of public goods commonly. However, when it comes to expanding an effective rural development program beyond a small area, NGOs often need collaborations with the government as projects require investments which NGOs can no longer do competently by themselves. In similar vein, the efficiency of an NGO in creating health facilities in all villages is likely to lack the capacity of government which can make use of existing clinics. Hence, full-scale provision by NGOs will tend to be rare. A good example to illustrate this is the partnership between Catholic Relief Services (CRS) and the Ghana Health Service (GHS) in the Upper East region of Ghana from 2009 to 2011 (see Hushie, 2016). GHS supported the project with health facilities and personnel, while CRS trained traditional birth attendants and provided the logistics and incentives to attract pregnant women to deliver in health centers.

Implication 3 *NGO provision will be more prevalent in projects where the NGO cares more about the beneficiaries.*

Discussions about the role of NGOs frequently make reference to the fact that their objectives are more in tune with the interests of the poor than those of government. A case in point is Subbarao et al (1997) who argue that "NGO delivery proved better than government delivery ... due to charismatic leadership and dedicated workers.." in the context of programs aimed at poverty relief. A similar line of argument is taken by the United Nations

[8]The tremendous success in Paskistani NGOs in the arena of health care is attributed to the fact that they can execute ideal projects serving one limited population in a specified geographic area. NGOs can promptly hire more staff (especially female health care providers) at acceptable salaries and acquire specialized equipment (Ejaz et al 2011).

Interagency Committee on Integrated Rural Development for Asia and the Pacific (1992) which claims that "the rural poor are given higher priority by NGOs" (page 20). That said, Implication 1 above is also acknowledged in recognizing that governments tend to have a comparative advantage on account of their "much greater resource and broader institutional framework".

The importance of NGO motivation is also a theme in Bratton (1989) and Clark (1995) who argue that successful government-NGO partnerships reply on governments and NGOs having a commitment towards helping the beneficiaries. In cases where the government lacks a commitment to poverty alleviation, they argue that NGOs have preferred to stay free from direct involvement with governments. On the flip side, countries where the government has a clear commitment to a social agenda, has led to a flowering of partnerships with NGOs as has occurred in countries like India, Sri Lanka, as well as some countries in Latin American.[9]

This contrasts with the experience of some autocratic African governments which have lacked commitment to the poor where this has fostered a climate in which (mostly church-based) NGOs unilaterally engaging in relief and welfare work and providing health and education services. World Development Report (1997) noted that those governments that out-source to private organizations such as NGOs tend to do so for the provision of social services. However, they tend to prefer for-profit providers when it comes to infrastructure provision. This is because it is hard to measure quality of social service provision and the commitment to the interests of the poor displayed by NGOs enhances the quality and outreach of provision.

But in contrast to this line of thought, there is a range of arguments that NGOs are not as altruistic as is often claimed. For example, Fafchamps and Owens (2009) use an instrumental variable approach with fixed effects on a nationally representative sample of 300 NGOs in Uganda to conclude that many local NGOs seem to be created simply to obtain grant funding. They corroborate this argument with the observation that numerous Ugandan NGOs have a shadowy existence - some three quarters of 1,700 NGOs registered in Kampala could not be located - when they do not receive an external grant. Grants do not appear to go to NGOs that would raise funds on their own but rather to a few well-educated, well-connected organizations and individuals skilled at writing grant applications. Consistent with this

[9]One could also argue that increased decentralization would lead to more partnerships because local governments are more responsive to local needs.

idea, Chowdhury (2013) find that female Bangladeshi beneficiaries of micro-credit rate NGOs slightly *lower* than government organizations in terms of 'Attention of the service provider towards your welfare'. They believe that NGOs' prime intention is in gaining their own financial sustainability, with little concern over maximizing the welfare benefits of the beneficiaries.

Implication 4 *Partnerships will be more likely when NGO and government mission preferences are more congruent.*

There is evidence that governments tend to avoid partnerships with some kinds of NGOs with overt ideological preferences. This is argued, for example, in Farrington and Lewis (1993) who suggests that partnerships are more likely to form in areas where the activity does not lend itself to ideological stances such as in the case of relief and welfare services, and core areas of development such as the delivery of inputs, the provision/adoption of technology and adapting technology to suit local conditions. The main conflicts appear to arise for NGOs which are engaged predominantly in some forms of advocacy such as promoting land reform, encouraging protection of the environment, bargaining for increased wages, recognition of legal rights, particularly civil and political rights.

The case of the Hindu nationalist BJP government in the Indian state of Gujarat also illustrates Implication 4. The government has been in constant conflict with Christian missionaries who operate schools and hospitals with frequent accusations that they are used as a tool for converting tribal and low caste Hindus to Christianity. This view is reinforced by Sen (1998) who conducted a survey of NGOs in India and noted that both parties with strong ideological dispositions (left and right) are less willing to collaborate with NGOs. However, there appears to be an exception charitable or relief work where, arguably, there is less room for divergent views. This contrasts with the case of governments dominated by more centrist parties which have a much broader range of collaborations with NGOs.

These anecdotes and findings resonate with a more recent interview of an official from the Sudanese Ministry of Health by Yagub (2014). The interviewee stated that governments are wary of collaboration with NGOs because they believe the NGOs have hidden political agendas that serve their countries of origin, especially most international NGOs from Western countries with which the government differs politically and ideologically. This mistrust has triggered an expulsion of 13 NGOs by the government from conflict-ridden Darfur in early March 2009 (Wakabi 2009). Further reinforcing the

importance of congruent objectives, is the observation that NGO involvement in projects is prevalent in famine or disaster relief where governments and NGOs share similar goals. Pritchett and Variengo (2015) discuss where private schooling has become acceptable around the world and, in line with the argument developed here, that this in places where NGOs do not get involved in providing education is where the lack of verifiability of socialization and instruction of beliefs, which makes third party contracting for socialization problematic.

Case studies of collaborative efforts between NGOs and government reinforce the view that comparative advantage of NGOs in reaching beneficiaries is an important reason for such partnerships to emerge. That said, serving only as the delivery agent of government or being dependent on public funding necessitates some NGOs moderating their ideological or religious dispositions. (Clark, 1995 and Farrington and Lewis, 1993). This observation is consistent with our theoretical finding that NGOs will tend to supply higher levels of y only if they also control the design of the project.

Implication 5 *The NGO will own assets related to the project if : (i) it is the more efficient provider (i.e. $a < b$) and/or (ii) its assets are not highly specific (λ is high).*

This implication is illustrated by the provision of agricultural extension services in Bolivia where the government retained responsibility for R&D while NGOs built an extension system to serve farmers. Farrington and Bebbington (1993) note in this context that

> "careful planning of responsibilities (between NGOs and governments) is particularly important in fully collaborative efforts – such as joint on-farm trials — in which a successful outcome requires on carefully scheduled inputs from both sides" (pp.153).

The kind of partnership that emerged in Bolivia is predicted by our model if the provision of an extension service involves assets that highly specific so that the hold-up problem is potentially very severe.

Another Bolivian example is where, in the 1990s, the state contracted out the management of public schools to a local church organization along with the right to appoint principals and teachers. This program proved so successful was so successful that it was proposed as a potential model for

national reform (see World Development Report, 1997). In terms of our framework, this example could be interpreted this as a partnership with G-ownership since the NGO does actually not own schools. This arrangement would follow from our model if the teachers who where hired by NGOs were not a very specific asset to NGO management and/or if the NGO would not fulfill many of the other functions undertaken by governments efficiently.

Another example from India is where governments have increasingly recognized the expertise of NGOs in the health area alongside the failure of its own agencies. This has led to government asking NGOs to run its primary health centers overturning an earlier policy which involved giving subsidies and tax advantages to NGOs (see Duggal, 1988). These changes can be interpreted in terms of our theoretical framework as a move from pure government provision to an N-ownership mode of provision in response to an appreciation of the higher commitment of NGOs (high θ_N) and a recognition that the large number of NGOs improves their replaceability (λ high).

To summarize, this section has suggested that the model put forward here can be useful in interpreting some of the policy experience and understanding developments that have occurred in building partnerships between government and NGOs. Although each application is specific, it is useful to have a guiding conceptual apparatus when exploring specific studies even when the model is quite simple. A range of factors suggested by the model do seem to have surfaced in practical discussions.

4 Concluding Remarks

This paper provides a theoretical framework, building on Besley and Ghatak (2001), that is useful for considering how the state and the voluntary sector interact in delivering public projects. A core assumption is that contracts between the state and providers are incomplete. This results in a hold-up problem, with ownership determining bargaining power in the event of any dispute *ex post* and thereby affecting *ex ante* investment incentives. This in turn generates a theory of who should own and provide inputs, as in the now extensive property rights literature originating from Grossman and Hart (1986). We show that in the context of public goods and services, this depends not only on the comparative advantage in providing inputs but also the way that each party values the output as in Besley and Ghatak (2001), departing from the cost-quality trade-off that the literature on public-private

partnerships has largely focused on.

The well-known Lindahl-Samuelson principle of public goods provision suggests that if citizens find some way to overcome the free-rider problem, we should observe partnerships almost everywhere as citizens use voluntaryism to express their willingness to pay. However, the analysis shows why this is not sufficient for partnerships to emerge with concerned voluntary organizations when there are limits to contracting possibilities. While the model does deliver the presumption that "caring matters" in the assignment of responsibility for provision, there are significant caveats to this. Examples include cases where hold up problems are severe and when the private sector and/or government have ideological differences germane to project design.

The analysis in this paper opens up the possibility of a wider research program integrating our understanding of contracting frictions with the study of state capacity. Besley and Persson (2011, 2014) emphasize that state capacities require investments which underpin state effectiveness in taxation, provision of legal services and public spending. The model developed above suggests that understanding such investments should sit alongside an understanding of the effectiveness of private action in delivering services and/or in supporting government provision. It also underlines the role of government objectives in affecting the form that such investments will take which links back to the institutional environment affecting government objectives. Opening this black box should therefore be useful in pushing forward debates about how to build effective public service delivery in a range of contexts and how the role of the state and private action sit together.

The framework put forward here is useful in interpreting some case study evidence reflecting the role of NGOs, an area in which practical progress has proceeded apace in the real world with limited discussion of the underlying first principles. Our discussion reveals of the utility of the framework in understanding the kinds of issues that have arisen in practice. It is clear, for example, that problems of hold-up and asset ownership, comparative advantage and ideological compatibility, as argued by the theoretical framework, are indeed important factors in shaping partnerships. This provides some encouragement to a research agenda which matches theoretical models to practical experience in this area, and for empirical work to assess the relative importance of the various trade-offs and how they depend on some key parameters of the environment as identified by the theory.

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