Pro-Social Motivation and the Delivery of Social Services

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Abstract

This paper provides a selective overview highlighting some major themes of the recent literature on the role of pro-social motivation in the provision of social services. We focus on the insights obtained from two alternative ways of modelling pro-social motivation; action-oriented and output-oriented altruism. This literature has implications regarding the design of optimal incentives, the selection of motivated agents and its interaction with monetary rewards, and the optimal organizational form required to exploit such motivations. We also discuss the implications for government provision of social services from the perspective of a parallel literature that emphasizes the noncontractible nature of output, and contrast it with the implications derived from work emphasizing the role of pro-social motivation.

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1 Introduction

While the presence of nonpecuniary motivations is considered to be an important component of human behaviour in other social sciences, the use of models in which agents display some type of other-regarding preferences is only recently becoming common in the economics literature. This development is, at least in part, spurred by the mounting experimental evidence attesting to the usefulness of this approach in rationalizing many social and economic interactions such as donations of time and money, private provision of public goods, voting, intergenerational bequests and so on. To be sure, in their recent and comprehensive survey of the experimental evidence, Fehr and Schmidt (2006) conclude that:

> *'Given this evidence the real question is no longer whether many people have other-regarding preferences, but under which conditions these preferences have important economic and social effects and what the best way to describe and model these preferences is'.*

Here we will argue that one area they do have important economic effects is in the provision of social services, such as health care, education and research, child care, care for the elderly, community development, and international aid. Many of these have been seen as part of the traditional role of government, but this view has been increasingly challenged. Governments in many countries have moved from provider to purchaser, and have sought out greater involvement in direct provision from the private sector. The arguments underlying this involvement are generally sound. The power of incentives created by residual claimancy in private firms creates a better environment for timely, efficient and innovative service provision. However, it will be argued here that when pro-social motivation is taken into account, the recent literature looking at its effect on private provision will suggest that governments (or more generally institutions without residual claimants, like nonprofit firms) continue to have an important role in providing such services. In such environments, these may be the unique form of institution capable of eliciting donations of effort that are engendered by pro-social motivations.

To provide a bit of background on the motivations behind pro-social behaviour we draw on Benabou and Tirole (2006). They argue that pro-social behaviour reflects the mix of three underlying motivations: *extrinsic*, *intrinsic* and *reputational*. Extrinsic motivation stems from the standard pecuniary or other material rewards that an individual may receive from outside. Broadly speaking intrinsic motivation refers to the case where an individual pursues actions not because of external rewards but because the activity is valuable in its own right.[1] Different conceptualizations of intrinsic motivation are possible. In particular, a distinction can be made between (a) Impure or Action-Oriented Altruism: the individual receives a 'warm glow' from the actual act of contributing to a public good and (b) Pure or Output-Oriented Altruism: the individual cares about the overall value of the public good to which he contributes.[2] In reality, it is likely that a combination of these two sources of intrinsic motivation is at play. Finally, intrinsic motivation should be differentiated from an instrumental altruism that arises because of the concern about developing a valuable reputation in repeated interaction settings.

We focus on the manifestation of pro-social behaviour in workplace contexts that involve the provision of social services, like those above. Given the nature of these services, workers engaged in providing them often derive direct nonpecuniary benefits because they have a genuine concern, or care, about the recipients of the service – for example the welfare of the sick, the poor, or under-privileged children – and/or by virtue of the social recognition they might receive for contributing to an important mission.[3] Since such pro-social motivations seem relevant in organizations that provide social services, it is important to understand their interaction with monetary incentives and what the implications are for the provision of incentives and optimal organizational design.

The classic agency-theoretic approach to addressing questions in public sector contracting and procurement is primarily concerned with adverse selection and moral hazard problems that arise when the government wants to procure a public good or service from a private firm, or regulate a private firm that directly supplies a public service to consumers on behalf of the government (see for example Laffont and Tirole 1993). The basic problem is that the firm may have private information regarding the costs of production and\or its cost reducing efforts, and so the government in its attempt to elicit truthful revelation of private information is faced with a trade-off between provision of incentives and rent extraction.

From the perspective of traditional agency theory, providing incentives for a public agency or a privately regulated firm to deliver a service presents the government with generally similar challenges. More recently, attention has shifted from the distortions associated with asymmetric information towards the effects of alternative ownership and organizational structures. The core problem inhibiting private provision here is the non-contractibility of the output, in this case the

[1] According to Deci (1971), cited by Frey (1997), "one is said to be intrinsically motivated to perform an activity when one receives no apparent reward except the activity itself".

[2] See Rose-Ackerman (1996) for a more detailed discussion of this distinction.

[3] Note that besides this kind of pro-social behavior a worker may exhibit a whole class of other-regarding behavior, such as altruistic feelings towards his employers or co-workers. For an excellent survey of the literature concerned with such motivations, see Rotemberg (2006).

service provided by the public provider. In an environment where the quality of the service provided cannot be contracted upon, Hart et al. (1997) have offered insights into the specific trade-offs between government ownership and privatization. Our focus in the second part of this paper is on the lessons derived from this second wave of the literature on the institutional structure of public services delivery.

We will argue, in our very selective review of this literature, that this work suggests pro-sociality of employees has important implications for the delivery of public services. Pro-sociality amounts to a statement of what enters into agents' utility functions, and it will be seen that the implications for public service delivery hinge on a subtle difference in the way pro-sociality is modelled. Importantly, these implications will contrast markedly with those derived from the literature that has examined the effects of ownership in environments where the contractibility of output is the core problem.

The rest of this paper is organized as follows. The next section introduces and discusses the two alternative ways of modelling pro-social motivation: action-oriented and output-oriented altruism. Section 3 is concerned with the implications for government provision of social services from the perspective of the literature that emphasizes the noncontractible nature of output and contrasts it with the implications derived from the literature that emphasizes the role of pro-social motivation. The last section offers some concluding remarks.

2 Modelling Pro-sociality

At least implicitly, recent models emphasizing agent pro-sociality start from a production function which converts inputs of either time, effort, or other resources into the production of a good, service or activity about which some agents care. Something of the form:

$$g = k\left(e_i....e_{-i}, c\right)$$

where k is an increasing function of efforts, e_i is the effort of agent i, and also a function of c a vector of other potential inputs into this process. There are small differences in how this production process may work that have been the focus of some papers. Output may be multi-dimensional, i.e. depend on quality which can be adversely affected by poor input choice, $k_c < 0$, or multi-task $e_i\left(e_i^1, e_i^2\right)$ where e_i^2, for example, does not affect g. But these will not be the focus of this survey.

The following quasi-linear utility function for an agent i embeds what we will argue are the main contrasting ways in which pro-sociality has been modelled to affect service provision in the literature. Agent $i's$ utility, U_i, is increasing in his own consumption $c(y_i)$ and decreasing in the amount of effort he expends at work, e_i. Some variant of this is common to all papers in this literature. Authors, however, differ in their inclusion of a possible third and fourth term in this expression below. Papers that have emphasized impurely altruistic, or action-oriented, motivation include a term like the third one:

$$U_i = c\left(y_i\right) - \phi\left(e_i\right) + h_i\left(e_i\right) + \gamma_i\left(g\right) \tag{1}$$

If the firm is producing a good or service that the agent considers meritorious, then it is possible for the agent to obtain a benefit from effort expended at the task. This is represented by the term $h\left(e_i\right)$ with $h' > 0$, over some or all of the range. In effect, workers contributing effort at such firms may actually enjoy contributing some of that effort, or dislike it less than if the same efforts were expended elsewhere. A recent example of such an approach is Besley and Ghatak (2005), where the agent's identification with a firm or principal's "mission", lowers the cost of agent effort.

Alternative approaches have started from the assumption that a term like the fourth one in (1) plays a role. According to these papers, a recent example of which is Francois (2007), agents derive a benefit directly when what they consider a socially worthwhile good or service, g, is provided. Their utility is thus increasing in the level of that good, $\gamma_i' > 0$. Note that this benefit is independent of whether agent i has a hand in producing the good or service or not; something which does not occur with action oriented motivations.

Some of the implications of the two alternative conceptual views of pro-social motivation are not hard to see. Firstly, free-riding. When altruism is impure, no free-riding problem ensues as the individual worker's intrinsic reward hinges exclusively on his own contribution to a project that has a social impact. This can be conveniently used as a shortcut to study the structure of optimal incentive contracts. On the other hand, when a worker is purely altruistic she derives an intrinsic benefit from the project being successful regardless of whether she has been actively involved in delivering it, and therefore the setting has an endemic free-riding problem.

Secondly, an additional moral-hazard problem may arise in purely altruistic settings. When workers care about the level of service provided, they will want to ensure that their efforts are contributing to that service. The provider of the service, their principal, boss, owner, manager, or employer will thus be able to elicit this effort that is based on care, only when they can ensure that such efforts will contribute to the service of concern. Moral hazard problems can arise when the agent is unsure about how much extra effort contributed goes towards provision of their socially desired good. No such problem arises in the case of impure altruism. The worker knows the effort she provides, and is directly, intrinsically, rewarded for it.

2.1 Impure or Action-Oriented Altruism

We first consider impure altruism. In this case, the agent derives direct benefit from performing what he or she considers to be the meritorious task. Though it is presumably the effects of such actions that the agent ultimately cares about, in this type of modelling, this is assumed to affect the agent directly by lowering the cost of performing the task. The agent does not deliberate regarding the impact of his actions, nor does he wonder what would happen if he were to act differently. According to this approach, the utility function is of the following form:

$$U_i = c\left(y_i\right) - \phi\left(e_i\right) + h_i\left(e_i\right)$$

Besley and Ghatak (2005) are concerned with the implications of impure altruism on the optimal incentive contract in a moral hazard setting. This paper studies the provision of optimal incentives in a principal-agent model when some agents are driven by pro-social motivations while others have conventional pecuniary motivations. In particular, the two key implications of this framework are that (1) An altruistic worker will provide more effort and (2) An altruistic worker requires less monetary compensation. Thus, pro-social motivation in this case has an effect which is akin to a compensating differential. This framework also emphasizes the role of endogenous matching of principals and agents with similar altruistic preferences as this can raise productivity and affect the structure of compensation.

Another paper in this strand is the one by Dixit (2005). This paper features a multiple-task environment in which production entails two outcomes – a primary and a by-product – both of which generate nonpecuniary rewards to the worker. The principal can only reward the agent for the primary output since the secondary product might even be undesirable to her (for instance, the by-product might be promotion of a particular faith). The paper provides the properties of the optimal incentive scheme. In addition to finding that the agent's pro-social motivation substitutes for pecuniary compensation that would have to be offered in order to induce participation, it is shown that when the principal exhibits aversion to the by-product she offers weaker marginal incentives. That is, while worker's pro-social motivation may relax his participation decision it does not affect the power of incentives.

Corneo and Rob (2003) consider a setting where workers engage in two tasks: an individual task and a cooperative task which furnishes personal benefits but which is difficult for the principal to reward because of the collective nature of the output workers contribute to. This formulation is used to compare optimal incentives in a public firm that maximizes social welfare (including workers' utility) and a profit-maximizing private firm. The analysis suggests that incentives in the private firms are stronger, but workers in the public firm provide more cooperative effort.

Canton (2005) presents a two-task two-output principal agent model in which one output is observable while the other is not. Some agents are intrinsically motivated and some are not and the type is not observable by the principal, so the model features an element of adverse selection. In common with the two other papers above, pro-social motivation reduces the fixed cost of meeting the agent's participation constraint. In addition, this paper finds that in order for the intrinsically motivated workers to be induced to provide effort along the unobserved dimension, the power of incentives has to be moderate, a result which he interprets as high-powered incentives crowding-out pro-social motivation.

A related paper that focuses on issues of worker selection and screening is Delfgaauw and Dur (2007). This paper addresses the question of how should a firm facing a pool of workers that are heterogeneous in terms of their pro-social motivation optimally set its compensation policy. In common with the papers mentioned above, in their formulation pro-social motivation is also of the impurely altruistic form as the way it enters is by affecting the cost of a worker's effort. This allows them to abstract from the free-riding problem that would arise if workers were purely altruistic. When the level of pro-social motivation is private information of the worker, then the employer faces the following trade-off in designing the optimal wage scheme: by increasing the wage she raises the probability of filling the position but attracts workers with lower pro-social motivation. This trade-off appears to be similar to the one in Francois (2007) but in the latter there is also moral hazard in production and this serves as an additional inducement for motivated types to apply for the job in order to deter a shirker from filling the position. In Francois (2007) a marginal increase in the wage induces more applications from both shirkers and non-shirkers and whether output increases or declines depends on the relative density of the two types of workers.[4]

Murdock (2002) studies the role of the agent's pro-social motivation for the investment decisions made by the firm. In this paper, the agent's effort contributes to a project that generates a financial return valuable to the firm, and a nonpecuniary return valuable to the agent. Starting from a position where the expected intrinsic return that the agent receives is zero, the author shows that

[4]This paper is covered in the next section.

the pro-social motivation affects incentive contracts only by inducing firms to undertake investment projects with higher intrinsic payoffs. In particular, the firm may implicitly agree to implement projects that have negative financial return but generate positive intrinsic value to the worker, and in exchange the worker provides higher ex-ante effort, thus increasing the firm's expected profits. Moreover, the firm's gains from implementing such an implicit contract are increasing in the intensity of the agent's pro-social motivation.

The common implication of all of these treatments of impure altruism is to lower the need for "power" in incentives. This is akin to a compensating differential, and though it does suggest that such services may be cheaper to deliver when people have pro-social motivations, this has relatively little impact for the delivery of social services.

2.1.1 Crowding Out

The other implication that arises occurs when service delivery happens in multitask environments. The usual modelling here treats one good as socially meritorious, and another not, with the socially meritorious one more difficult to contract over. The main insight of these is that paying too much for the good that can be directly rewarded may crowd out efforts devoted to the socially meritorious good.

This crowding out of altruism can also occur when the use of external incentives reduces or eliminates the effects of intrinsic motivations. There is a large recent experimental literature documenting this phenomenon in different contexts. This literature is thoroughly surveyed by Frey (1997), and Frey and Jegen (2001). Since these surveys there has been some interesting work by Benabou and Tirole on providing an information-based framework to formally think about the interplay between extrinsic and intrinsic motivations and the mechanism behind the notions of 'crowding out' and 'crowding in'.[5]

[5] Makris (2006) analyzes a principal-agent set-up that departs from the canonical adverse selection model in that the agent, besides the monetary payoff, derives direct utility from higher output and he is subject to an administrative constraint which gives rise to a limited liability condition. He finds that the agent's intrinsic motivation reduces the power of incentives, and that under certain conditions the principal may decide to distort the output of both the high and low-cost types, unlike the canonical model where only the high-cost's output is reduced from the efficient level.

Huck et al (2006) is concerned with the interaction between economic incentives and social norms and show that the choice of incentive structure can affect the impact that social norms have on team production. In this framework, social norms may be beneficial or detrimental to output depending on whether the type of compensation implemented induces positive externalities among workers (team-based incentives) or negative externalities (relative performance-based compensation), and it is possible that higher monetary incentives may reduce workers' effort.

Vyrastekova et al (2006) investigate the effect of power of incentives experimentally. In their experimental design, subjects repeatedly perform two tasks: one which improves their own output and another which increases the output of a teammate. Subjects are compensated based on both individual and team performance, and the power of incentives reflects the weight that the payment scheme puts on individual output. Subjects choose to join either a 'private' firm, In Benabou and Tirole (2003) they consider an informed principal setting where the principal has private information over the characteristics of a task and/or the agent's ability to perform it, whereas the agent cares about the outcome of the task but has imperfect self-knowledge. The principal strategically chooses actions, rewards and punishments, in order to incentivize the agent and to enhance his self-confidence. The agent on his part, tries to extract information from the principal's actions about himself and about the task. They show that in situations where the asymmetry of information is important, and under certain conditions,[6] extrinsic rewards may be detrimental to the agent's intrinsic motivation, in that they convey bad news to the agent about the attractiveness of the task or about his own type. In a companion paper, Benabou and Tirole (2006) describe a different mechanism through which crowding out may occur. They argue that the presence of extrinsic incentives crowds out reputational motivation by creating doubt about the extent to which a person is undertaking an action for the monetary rewards rather than for themselves. An argument in the same vein can be found in Seabright (2005); he develops a two-period model where agents undertake an altruistic action in the first period and are in a second period assortatively matched in a matching market. It is shown that the signalling aspect that ensures an individual a more desirable match may induce a higher proportion of individuals participating when rewards are zero than when rewards are positive but small.

In workplace settings, the informed principal mechanism of intrinsic motivation crowding out may be the most relevant. That framework has a natural manager-worker interpretation: the manager may be in a better position to judge the worker's ability to perform well in a certain task, or may be a better informed about how difficult a certain task will turn out to be. The reputational crowding out, seems to apply to activities such as donating blood and volunteering where the social aspect is more pronounced, but may be also suitable here, since it is plausible that workers may undertake activities in the workplace to gain social approval. In reality of course both considerations may be relevant.

One of the defining characteristics of agencies producing public services is the multiplicity of both the tasks agents have to perform and the principals to which agents have to answer to (Burgess and Ratto 2003, Dixit 2002, Wilson 1989). An interesting, if challenging, extension would be to see whether the information-related crowding-out mechanisms work in multiple-task and multiple-

which has a payment scheme with high weight on individual performance, or a 'public' firm which has a more low-powered incentive scheme. The experimental findings suggest that increasing the power of incentives has a negative effect on effort if the interdependency between workers is high.

[6] The key condition is a 'sorting condition', which suggests that a principal must be more willing to offer an agent rewards when he is less able or the task is more costly.

principle settings.

The insights offered by the literature on crowding out of pro-social motivation have important implications for the on-going debate regarding public service reform, as they indicate that the uncritical introduction of high-powered incentives, which have been proven to be effective in the private sector, may backfire when workers are altruistic.

2.1.2 Motivated Bureaucracies and the Delivery of Social Services

A recent paper by Prendergast (2007) argues that the fact of members of bureaucracies and government agencies being public-spirited has to be taken into account when considering the various agency problems that arise in such organizations.. That paper takes the view that bureaucrats act as intermediaries between their principals and their clients. The issue that then arises is how to select bureaucrats such that an efficient outcome is generated. In particular, when the objectives of the principal and the client are aligned, as is the case for example in healthcare, then efficiency requires that an altruistic bureaucrat is chosen, that is, one who cares about the welfare of the client. On the other hand, in bureaucratic settings where the principal's interests are in conflict with the client's, for instance in tax authorities, then the optimal policy is to hire a bureaucrat who is biased against the client. This explains why workers with different attitudes are attracted to hospitals (client-friendly) than tax agencies (client-hostile). The next question that is addressed is whether, when a bureaucrat's pro-social motivation is not observable, self-selection will lead to the efficient outcome. The analysis then suggests that this is not necessarily true, as both the most preferred and the least preferred types self-select, the latter attracted by the possibility to undermine the principal's goals. Finally, another interesting implication in this model is a crowding out effect that emerges due to selection: higher wages induce more workers without pro-social motivation to apply, which adversely affects efficiency. (this is reminiscent of the result in Francois 2007)

Leaver (2004) is also concerned with bureaucratic motivation and behaviour. The paper draws attention to the fact that strong reputational concerns in the presence of informed interest groups may distort bureaucratic behaviour. Another paper that is concerned with the issue of worker selection in the public sector is Delfgaauw and Dur (2006). This paper assumes that the presence of workers instilled with a public service motivation gives monopsony power to public sector employers. When workers' effort is unverifiable the paper shows that unmotivated workers may be attracted and crowd-out the dedicated ones.[7]

[7] Another paper on public organizations is Dewatripont et al. (1999). Motivated by a number of observations regarding government agencies made in Wilson (1989), they introduce multiple tasks in a standard career concerns

This type of treatment of pro-social motivation has profound implications for the design of optimal contracts, but says relatively little about what sort of organization should be providing the social service – a feature that will be the focus of the next type of altruism that we consider.

2.2 Output-Oriented Altruism

Output oriented (or pure) altruism has profound implications for organizational design. Papers that take a purely altruistic starting point are set up something like:

$$U_i = c\left(y_i\right) - \phi\left(e_i\right) + \gamma_i\left(g\right)$$

$$g = k\left(e_i....e_{-i}, c\right) \tag{2}$$

The implications for organization design were analyzed by Francois (2000). Suppose that a worker is motivated by a desire to advance a cause about which he is concerned, g, the function γ_i capturing the impact of that. However, the individual is not the only contributor to production of the good. The key element here is that the firm manager also controls other inputs that contribute to production of the social good, as per equation (2). These could be the hiring of other workers, the e_{-i}, or some other inputs like equipment or facilities. The manager observes the worker's effort before having to decide on the final level of these other inputs.

That paper compares the behaviour of managers who are residual claimants in the neo-classical firm a la Alchian and Demsetz (1972), and those managers working for a government. In the private firm, the manager owns any accumulated surplus (negative or positive) from production. In the government, the manager has to respect a zero budget condition in planning his inputs, but has no claims on accumulated surpluses. The question it asks is which type of organization has an advantage in eliciting the worker's altruistically motivated contributions to the organization's output.

The answer is that there exist conditions under which the worker is motivated to contribute effort because of its effect on the social good only when working for the government. That is,

model. This extension generates a set of interesting implications that are consistent with the motivating facts in Wilson: increasing the number of tasks reduces effort because it hinders the market's ability to draw inferences about the agent's ability, while effort is also reduced when the market is uncertain about the nature of tasks undertaken. These results suggest that hiring specialists, and setting a well defined mission enhance the productivity of the organization.

the worker paid as a government employee can be paid less than would have been required to compensate him for the disutility of effort. Or, in other words, the worker contributes more effort than he would contribute if he did not care about the good at all, i.e., if $\gamma_i(\cdot) = 0$. The reason is that he knows that by contributing this effort he is advancing the cause which he cares about, raising g, and he takes account of this when deciding on his effort level. Why does this not happen when the same worker works for a private firm?

Purely altruistic people care about the output of the good they produce. They are not interested in contributing effort to such tasks only to see that their efforts imply that someone else who should, or could, be contributing takes the opportunity to do less. This is the essence of the moral hazard problem that arises when the firm is run by a residual claimant. The residual claimant may care as strongly about the output of the organization as does the worker, but he also gains financially if resources can be saved. Consequently, if he knows he has a worker working for him who is willing to contribute extra effort out of a direct concern for the organization's mission, he can reduce the level of some other inputs that he controls. His incentive to do this will be greater the higher the degree of substitutability between the inputs he controls and the efforts of the worker. In terms of the production function above, facing a higher level of e_i reflecting the donation of a motivated worker, the marginal contribution of the inputs that he controls, for example the c, will be lower and the residual claimant will optimally choose to lower these and pocket the savings provided that $k_{e_i c} < 0$. Knowing this, the intrinsically motivated and purely altruistic worker will rationally choose not to contribute extra effort in pursuit of the organization's mission. He knows that doing this merely crowds out the principal's contribution and therefore does not affect (or affects only weakly) the organization's output.

The manager in a government bureaucracy, in contrast, has much weaker incentive to reduce his inputs when faced with extra contributions from a motivated worker. He does not claim any of the outstanding residual from the department's operations. Consequently, when faced with the labour donation of a motivated worker, even though the marginal contribution of the inputs he controls is reduced, he still has incentive to use these in production of the good about which he cares. Importantly, his level of direct concern for the firm's output need be no different than that of a for-profit owner. It is simply that, due to the nature of government provision through bureaucracies, he is directly divorced from a claim on the operating profits of the production unit. He thus can credibly commit to having much weaker incentives to reduce his own inputs ex post.

So, the upshot of this story is that a government bureaucracy, which, in contrast to the high powered incentives built in by residual claimancy in a private firm, has lower powered incentives for operating managers, can obtain labour donations due to the service motivation of their employees in some situations where a private firm could not.

However, this simple story becomes more complicated when we consider its details more deeply. Specifically, we have assumed in the discussion above that only the relationship between the agent (worker in the organization) and his boss, who is either the manager in a government bureaucracy, or the residual claimant in a private firm, is what matters. It has been implicitly assumed that the organization is rewarded for changes in output by some sort of price for the service. But overseeing this whole process is a government, who chooses whether to contract this process of service provision out to the private firm, or to produce it in house with a bureaucracy. It is not clear whether a government purchasing the service could alter the price schedule faced by the private firm so as to help it overcome the credibility problem that it faces with its employees. Francois (2000) shows that even if the government can use any unrestricted non-linear pricing schedule it chooses, it will not generally be able to undo the problem of credibility faced by the residual claimant in the private firm. The optimal pricing schedule for the service will always allow greater potential for labour donations by the motivated bureaucratic worker than it does by the worker in a private for-profit enterprise providing the same service.

Another potential way for private firms to overcome this problem is for them to develop a reputation for allowing their own workers' extra contributions to have an impact. If the problem that private firm owners face is one of distorting downwards their input contributions in light of extra effort from their motivated workers, then a firm would have a financial incentive to develop a reputation for not doing this. This is explored in Francois (2001). Such a reputation would work as follows. The firm is known to not reduce inputs when workers contribute extra to the firm's tasks. Consequently, workers know that when doing so, they will not be expropriated ex post by the firm reducing other inputs and thus keeping the service unadjusted. If the firm were to deviate from doing this, its reputation would be tarnished, and future workers would not donate effort to its service. Consequently, the quality of its output would fall, and it would suffer a loss in value. With such a reputation of non-interference in place, the private firm would be able to elicit labour donations from workers, as the workers would not fear being expropriated ex post. This should imply that any worker who was willing to contribute extra effort to the government bureaucracy should also be able to do the same to the private firm.

Though the reasoning here is sound, this means of solving the credibility problem requires some operating profit to accrue to the private firm. In a repeated game context, it is the operating profit that provides the private firm with the incentive to not deviate and expropriate the workers' labour donations ex post. These profits must be positive for it to remain worthwhile for the firm to maintain their reputation of non-expropriation. In contrast, the government bureaucracy can obtain labour donations even when its operating surplus is zero, as operating surpluses play no role in disciplining the government bureaucrat. Consequently, in this repeated game setting where reputations can be developed to mitigate moral hazard problems, though both a government bureaucracy and a private firm can operate in a way that allows both to equally obtain labour donations due to purely altruistic workers, the private firm has to also obtain positive profit from per period operations. The bureaucracy does not require this, and consequently, should be able to produce at a cost which is lower than the private firm. Again, the bureaucracy, or equivalently a nonprofit entity will perform better than an organization with a residual claimant, i.e., the private firm.

Finally, there is a free-riding problem implicit in this discussion that has been skirted so far. If workers are concerned about the actual output of an organization – irrespective of their own efforts – then the labour donation game resembles a standard private provision of public good problem, with free-riding a key characteristic.[8] The worker benefits by donating labour to a task about which she cares, however she would benefit still more if someone else were to undertake the donation for her.

A first possibility of solving this problem, identified by Francois (2000, 2003), is when rents accrue to workers so that participation constraints are not binding. Such a situation occurs in the standard agency problem with private information. It also occurs when firms use relational contracts to solve moral hazard problems. In that case, the firm implements an efficiency wage type of incentive structure that is able to both overcome moral hazard in production as well as elicit labour donations. By offering the worker a payment above opportunity costs in order to induce incentive compatible effort provision, workers' participation is ensured and hence the free-riding problem does not arise. This way of overcoming the free-riding problem applies whenever informational rents imply non-binding participation constraints; as often arise in more standard agency problems with heterogeneous types.

A second way to overcome the free-riding problem in the labour donations game is explored in Francois (2007). That paper is concerned with the participation decision – not the incentive problem – and so heterogeneity in workers' evaluation of the public good is introduced. In particular, it is demonstrated that when firms do not use performance-contingent compensation, and the possibility

[8] Labour donations in this context refer to the circumstance where the worker contributes effort that is not fully compensated by the wage payments he receives.

of workers' shirking looms, those workers with high valuation of the good may be motivated to donate labour effort to obviate the outcome where a low valuation type takes the job and shirks thereby adversely affecting output. Moreover, the elasticity of output with respect to wages may be negative. This result may be given a crowding out of intrinsic motivation interpretation: the use of monetary rewards contingent on performance accompanied by the use of direct supervision at the workplace may lead to crowding out of labour donations.

The logic of this argument is similar to the one made in Engers and Gans (1998), who also examine a purely altruistic setting where there are incentives to provide effort when care for output is a central consideration. The outcome of interest in their context is the quality of academic journals and their paper provides an explanation for why not paying referees may be editors' optimal response. When deciding whether to agree to review a paper a referee compares the private cost that he would incur if he decided to referee the paper to the expected delay imposed on the journal if he refused. While adding a monetary payoff would increase a referee's private gain from refereeing a paper it also reduces the cost of refusing, because the monetary payoff would increase the acceptance rate. Note, however, that in this setting the free-riding problem is partly overcome by the editor sequentially soliciting referees' services whereas in the context of labour markets workers usually apply for positions voluntarily, so there is an additional layer to the free-riding problem. In other words, in labour markets the pool of applicants is endogenous, whereas in the context of the refereeing process the pool of referees is fixed and the editor chooses sequentially among them.

Many other papers have considered purely altruistic agents in this context. Grout and Schnedler (2006) extend the analysis in Francois (2000) by introducing a third party – besides the worker and the manager – who has an interest in the service being produced and who is willing to contribute something (money or some other input) toward its provision. They show that the worker's labour donation is sensitive to the other contributor's negotiating power and that this effect may be discontinuous - a slight increase in power may crowd-out donated labour dramatically. This suggests that if the purchaser of the final service is, for example, a monopsonist, this may adversely affect the workers' willingness to donate labour as they recognize that were they to donate labour the monopsonist would adjust downward its own contribution, in a similar way as a for-profit employer adjusts in Francois (2000).

Other papers that are concerned with the role of firm commitment in inducing donations are Bilodeau and Slivinski (1998) and Glazer (1998) – monetary donations in the first case and labour donations in the second. The first paper presents a multistage game in which an entrepreneur first decides whether to set up a for-profit or nonprofit firm in order to produce a public good and subsequently solicits voluntary contributions by others. It is shown that by committing not to appropriate the funds donated by the community, the nonprofit entrepreneur attracts more contributions, and so the value of the public good is enhanced. Glazer (2004) analyzes a setting in which a good is produced using a technology that combines capital provided by an employer and a worker's labour effort. Importantly, the good being produced is of intrinsic value for the worker. It is shown that if the employer can commit to a level of capital and not adjust after observing worker's effort she can induce the worker to increase effort. This result is given the interpretation that government provision of certain goods may be socially preferable because the public sector is slower to react than the private sector.

The paper by Rowat and Seabright (2006) is concerned with aid agencies and addresses the question of whether intrinsically motivated workers, willing to take wage discounts in order to contribute to a cause they care about, act as a signal to donors that their funds will be devoted to the cause and not be appropriated. In particular, the employment of altruistic workers is viewed as a commitment device against opportunistic behaviour by the managers of development agencies, because a motivated aid worker would only accept a wage cut if the organization were indeed undertaking the promised aid projects.

Vlassopoulos (2006b) provides an explanation for the observation that nonprofit employers are uniquely able to attract volunteer workers who are both intrinsically motivated and have career aspirations, and also accounts for the fact that nonprofits are concentrated in mission-oriented sectors. That paper shows that the choice of organizational form (for-profit or nonprofit) and sector (mission sector or non-mission sector) jointly impinge on the credibility of the promises that managers make when implicitly contracting with workers\volunteers. To gain some intuition for this, consider the form that the relational contract between employers and volunteers takes: a volunteer agrees to donate labour in return for a promise of future compensation that comes in the form of paid employment – not necessarily at the employer where volunteering took place. So a firm that wants to participate in the volunteer-hiring structure has to credibly commit to having both paid work and unpaid work positions and to fill paid work vacancies drawing from the pool of workers with volunteer experience – much like actual volunteering occurs in the real world. Notice, that this structure induces a moral hazard problem on the part of employers, as they have an incentive to recruit unpaid workers, promising them promotion to paid positions, and then renege on the promise. The analysis suggests that whether nonprofit employers are at an advantage in terms of being able to sustain volunteer hiring hinges on the type of activity (mission-oriented or not) that is undertaken. In particular, if volunteering enhances the quality of the service provided and managers care about quality – which will in general only be true in care-related activities, then nonprofit status is helpful in solving the employer's moral hazard problem. The intuition is that a nonprofit manager will put relatively more weight on the fact that if she cheats on volunteers quality will suffer and hence a smaller profit (reputational rent) is needed to maintain incentive compatibility. This is true even though the nonpecuniary payoff a manager receives is the same regardless of firm type.

Delfgaauw (2007) is a fascinating exploration of the implications of pure altruism on the delivery of medical services. He starts from the assumption that some physicians care to deliver medical quality provision to patients. They can choose between working in the public health providing service, or private practice. In private practice, quality can be contracted over and paid for. Patients differ in their demand for quality, with the rich, having higher demand for quality, but due to quasi-concavity of preferences, they have lower valuation of marginal increases in quality. In public health provision, there is a lower level of quality which must be provided, and for which physicians will be paid. Any extra provision of quality above that is unpaid. There are two sorts of physicians – the pure altruists, who care about patient quality of service as well as their own income and effort, and purely selfish doctors who only care about income and effort. Since purely altruistic, the physicians care not just about delivering services, but about what their efforts do to raise the level of provision above what a patient would otherwise obtain. In general they would voluntarily provide more than the non-altruistic physicians. He assumes that the number of places available in the public service exceeds the number of altruistic physicians. Consequently, in equilibrium, altruistic physicians correctly conjecture that if they turn away a public patient, or if they work in the private sector, then one less patient will receive the extra treatment that an altruist provides. Consequently, the altruist's actions have impact, and this leads them to want to work in the public sector. This ends up leading to selection of the altruistic physicians into the public sector as well as the poor patients there. The richer ones select into the private sector and are treated by the doctors who only care about money. Interestingly the mixed equilibrium with some public and private provision Pareto dominates either a fully privatized or fully public provision.

3 Implications for Government Provision

Many papers have explored implications for the optimal institutional arrangement for the provision of public goods and services, without any reference to pro-social motivation. We briefly survey that work highlighting its main conclusions, and then contrast it with the implications derived from the recent work emphasizing pro-social motivation. Much of this recent work covers topics such as in-house government provision versus privatization or outsourcing, public versus private ownership of public goods, and comparative institutional analysis (for-profit vs. nonprofit, public-private partnerships, corporate social responsibility).

3.1 Insights from Standard Agency Models

A natural point to start an overview of this growing literature on these issues is the seminal paper by Hart, Shleifer and Vishny (1997) (henceforth, HSV), which has spawned a lot of the recent research into this area. This paper analyzes the relative merits of providing a public service in-house versus contracting out to the private sector, adopting an incomplete contracts approach, following the earlier work by Grossman and Hart (1986) and Hart and Moore (1990) on the property rights theory of the firm. The incomplete contracts framework seems appropriate in the context of public goods and services that the government either produces or procures, since not all aspects of such services that a benevolent government may care about seem to be codifiable into a contract. In such an environment, the residual rights of control are crucial in determining agents' investment incentives, in particular, their decisions to improve quality and reduce costs. The upshot of the analysis is that private ownership leads to excessive investment in cost reduction and insufficient investment in quality improvement, whereas, government provision leads to less than efficient cost reduction and quality improvement. The intuition for this is that a private manager with residuals rights has stronger incentives to reduce costs and improve quality, while a government employee faces weaker incentives as he benefits less from these improvements.

Thus, private provision is preferable the more important cost reduction is and the less important are the adverse effects on quality. On the other hand, public provision dominates when quality is a more important aspect than cost considerations. This insight is then used to guide a discussion of the wisdom of the privatization of various activities such as prisons, garbage collection, education and health. In some cases, the authors are unequivocal about the superiority of the private sector (garbage collection, weapons procurement), or the government (foreign policy), whereas for a whole range of other activities (education, healthcare) things are less clear-cut so they admit that a more detailed cost-benefit analysis is required.

Hart (2003) uses the HSV framework to understand the benefits and costs of public-private partnerships (PPPs), that have been widely used for public service provision. The key characteristic of PPPs that this paper focuses on is the bundling of the building and the running of the facility, as opposed to conventional procurement where the builder and the party who operates the facility are two separate entities. Two kinds of investment can be undertaken both of which reduce operating costs but only one of which generates social benefits. The trade-off between unbundling and bundling is the following: under unbundling, the builder does not undertake either type of investment, since he does not benefit from improvements that take effect at the operation stage. In contrast, under bundling or PPP, the builder does some of the productive investment, although still less than the efficient level, but also more of the unproductive investment. The implication of this is that bundling of building and management is preferable when investment in the productive component is a serious issue, or in different terms, when it is easier to write contracts on service provision than on building provision. The same question is also addressed by Bennett and Iossa (2006) who extend the analysis in Hart (2003) assuming that there is renegotiation after investment decisions are sunk, so that ownership matters because it affects the disagreement payoffs of the parties and hence their shares of the surplus and investment incentives, and that there may be externalities, positive or negative, between the cost reducing activities undertaken at the building stage and those at the administration stage. Naturally, when there is a positive externality bundling of the two activities is preferred since it allows for the internalization of the externality. With respect to ownership, Bennett and Iossa (2006) find that private ownership by a consortium may or may not be optimal, for reasons similar to those identified in HSV. In a related paper, Bennett and Iossa (2005) study the desirability of for-profit versus nonprofit firms as contractors of public services both under PPPs and standard procurement.[9]

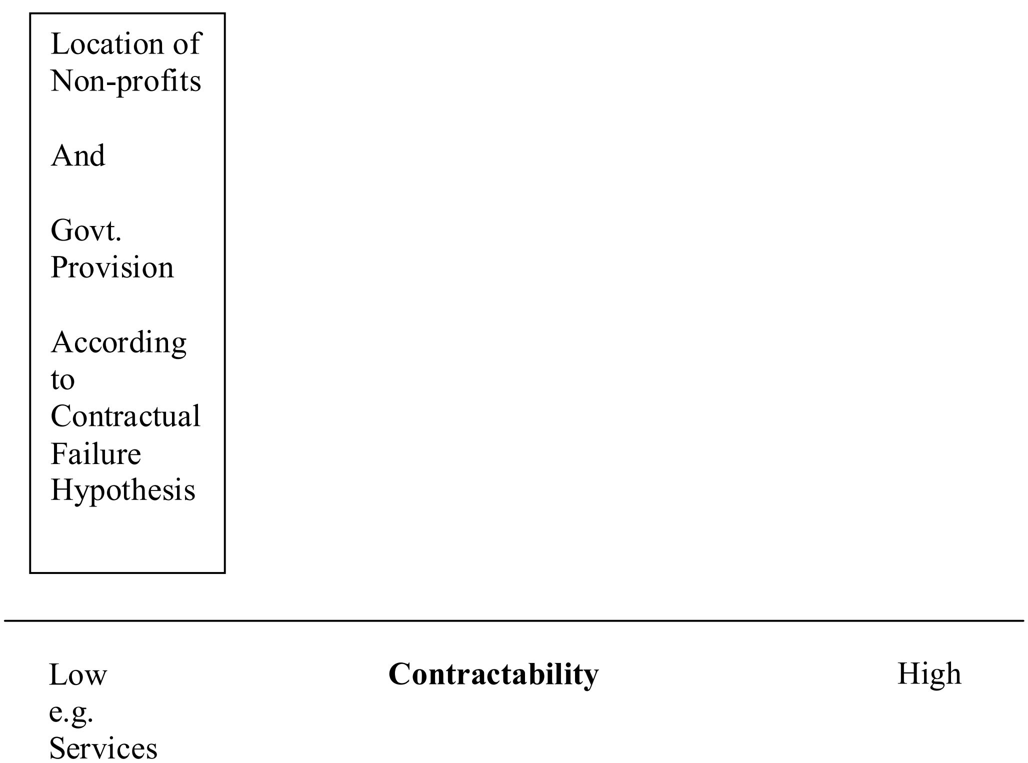
Besley and Ghatak (2001) extend HSV into a setting where the service being produced has the features of a public good. Their analysis applies to the question of who should be the owner of joint public projects that require investment contributions from both the government and private organizations, such as NGOs. They show that ownership should reside with the party that cares the most about the public good, which is in contrast with the result in HSV where the optimal ownership is driven by technological factors.

Glaeser and Shleifer (2001) apply the HSV framework to understand the entrepreneurial choice between setting up a proprietary firm or a nonprofit organization. The approach is motivated by the contractual failures theory of Hansmann (1980), who had earlier suggested that nonprofit organizations emerge as a remedy to informational problems that pervade markets where quality is hard to measure, so that consumers are subject to producers' morally hazardous behaviour, as the

[9] Related issues to those arising here have also arisen in the literature on public private partnerships. See Sadka (2007) for further discussion of these in that context.

commitment not to pursue profits signals greater concern over quality. In Glaeser and Shleifer's formalization of this idea, an entrepreneur chooses organizational form (for-profit or nonprofit) to deliver a unit of a good whose quality is not contractible. By choosing to incorporate as a nonprofit the entrepreneur's incentives are blunted – because the nondistribution constraint permits only in-kind consumption of residual earnings, making those earnings less valuable to the entrepreneur than they would be under for-profit status – and hence he commands a higher price in the marketplace. Thus, the trade-off associated with the choice of organizational form is that choosing to organize as nonprofit implies that the entrepreneur can charge a higher price but on the other hand it gives him only restricted access to the firm's profits. The model thus predicts that nonprofits will dominate markets where the costs of monitoring quality are high, which seems consistent, as nonprofits and governments are heavily involved in the provision of services – and services are difficult to contract over. These models also predict government and nonprofit provision where consumers' taste for noncontractible quality is high, so that the first effect will dominate.

Thus, along the "Contractibility" dimension the predictions of contracting-based explanations do quite well as the figure below illustrates.



But having a firm without residual claimant is not the only way to solve such problems. Reputation is an alternative mechanism that can deter opportunistic behaviour that arises because quality is not-contractible. Vlassopoulos (2006a) asks the question of whether the predictions of the contractual failures hypothesis are robust in a setting where firms and consumers interact repeatedly, in order to study the effect of reputational concerns. The analysis suggests that when the manager can establish a credible reputation for high quality then for-profit status is preferable for all levels of consumer sensitivity to quality, which may explain why so many fields that are subject to contractual difficulties (e.g. business consulting, insurance, professional services etc.) are dominated by for-profit firms which have created and maintained valuable reputations for high quality services. Thus, this paper points to a potential shortcoming of a rationalization of nonprofit organizations based on contractual failures in the output market – it does not take into account the interaction between organizational form and reputations.

Of independent interest is the paper by Acemoglu et al. (2006), which provides a different, incentive-based perspective on the optimal allocation of economic activity between markets, firms and governments. They present a multitask career concerns model where a worker can choose two types of effort: one which is socially productive and one which is not. Thus, in this setting high-powered incentives have both benefits and costs, and the relative importance of the two types of effort determines what is the optimal power of incentives and whether markets, firms or the government are the best way to organize the production of a given activity. In particular, the analysis suggests that activities where productive effort is important should be left for market environments which breed high-powered incentives, whereas as the negative impact of the unproductive action becomes more severe, the activity should gradually shift toward firms, and the government, which progressively dull the power of incentives provided to workers.

Finally, Besley and Ghatak (2006) study the feasibility of corporate social responsibility (CSR) as a mechanism to deliver public goods that are bundled with production of private goods – for example, fairtrade, i.e. goods that meet certain environmental or ethical standards. The economy consists of two sets of consumers: those who care about the public good and those who do not. In the equilibrium characterized, consumers sort according to their preferences: the caring ones choose to patronize firms that promise to deliver a certain level of public good alongside the private good – and pay a price premium, while the non-caring ones purchase the private good from firms producing at marginal cost. In this framework, firms serving the caring consumers are interpreted as exercising CSR. The analysis then suggests that CSR can sustain a level of public good provision that is equivalent to the private contributions game. Moreover, comparing public good provision delivered through this mechanism with that provided by nonprofit organizations reveals that CSR may be superior in activities where the public good is technologically bundled with the production of a private good, but not more generally.

3.2 Contrasting Implications from Pro-social Motivation Approaches

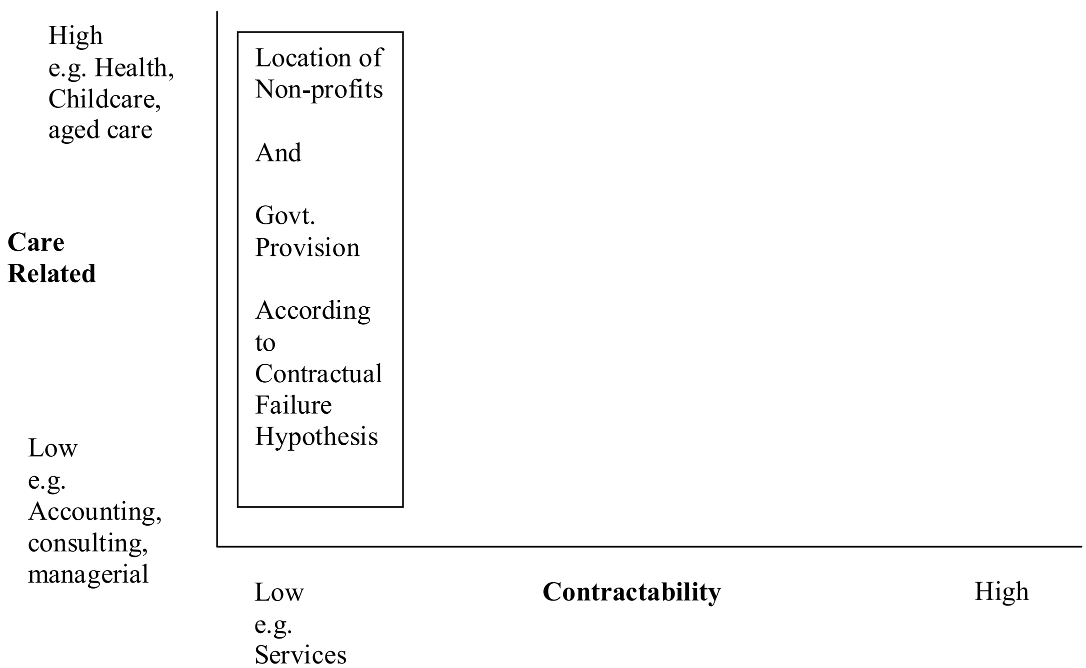
The contractibility of output, which, we argued above, plays a key role in the more standard agency based approaches to the issue of government provision, is not of direct importance in the literature that has emphasized pro-social motivations. To be sure, non-contractibility does play some role, but it is not over output as much as it is over agents' actions. Specifically, if it is the case that a worker will only contribute effort to a service when they are sure that their efforts directly impact that service, then the worker effectively wants a guarantee that some other actions which the principle controls will not be adjusted downwards in the light of her extra contributions. This sort of guarantee will be impossible for the principle to provide whenever it is not possible to contract over inputs directly.

But difficulty in contracting over inputs is likely to be ubiquitous in most production processes, and so does not suggest where nonprofit or government provision should dominate. In understanding the distinction between explanations based on pro-social motivation and those based on traditional agency theory, it is useful to consider the differences suggested by the theories.

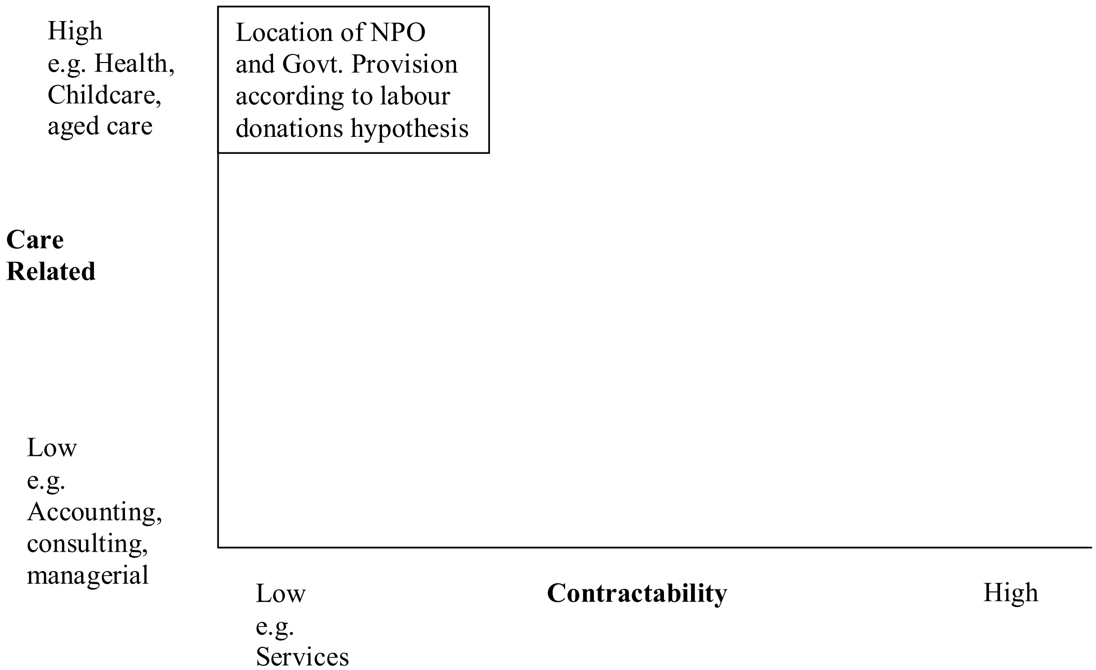
As explained above, traditional agency theory suggests that nonprofits and governments should have an advantage in areas where output is difficult to contract over. It is the case that these organizations typically provide services, which are difficult to contract over. However, there are many services where provision is entirely by private firms: for example, management consultancy, cleaning, accounting, marketing. Private firms and markets are somehow able to adequately provide these. And, as Vlassopoulos (2006a) has argued, there is no reason that standard reputation based solutions cannot allow for-profit firms to dominate these sectors. So, standard agency based explanations hinged on the non-contractibility of output, have trouble explaining why non-contractibility can be overcome for some services but not for those provided by governments and nonprofits.

Secondly, when one considers the types of services that nonprofits do provide, a definite pattern emerges. Nonprofit firms are heavily over-represented in sectors where third parties are likely to have some interest or concern over the quality of service provided. Childcare, for example, is typically a transaction between childcare provider and parent, but even disinterested third parties who do not have direct acquaintance with the child, may have a civic minded interest in seeing that the care is properly provided. It is unlikely that third parties will take a similar interest in the provision of services that are typically transacted between firms and private providers – like, for example, management consultancy.

This reasoning suggests that there is another important dimension along which there seems to be a marked separation between for-profit firms on one hand and government and nonprofit providers on the other: the "care" dimension, that is, the degree to which the provision of the service is associated with external benefits to non-purchasers (workers, managers, donors, community). At the low-care end we find services such as business consultancy, which do not generate external rewards to non-recipients of the service. At the high-care end we find social and personal services such as child care, which do. With respect to the "care" dimension then, the contractual failure approach does less well. Nonprofit firms and the goverment seem to be concentrated at the high-care end while for-profit firms dominate the low-care end, a fact which this theory cannot explain.



On the contrary, the predictions of pro-social motivation approaches seem to do better along this dimension, since they emphasize the care of a not directly concerned participant, i.e., the provider, who will most generally be a nonprofit or government employee, and therefore predict that governments and nonprofits should be over-represented in care-based sectors, as the figure below illustrates.



3.3 Empirical Evidence

There is a relatively large body of literature on Public Service Motivation – its prevalence and effect – in the public sector. The first study emphasizing this seems to be Perry and Wise (1990), and a number of authors have tested the implications of such a motivation for performance in the public sector, see for example Alonso and Lewis (2001) and the references therein. Murnighan and Kim (1993) for a specific focus on non-economic factors motivating people to volunteer, and Menchik and Weisbrod (1987) for an early economic analysis of voluntarism. Segal and Weisbrod (2002) provide a recent investigation of volunteer contributions and their variation with observable individual characteristics.

Some suggestive evidence of the higher civic-mindness of nonprofit employees can be found in Rotolo and Wilson (2004). Using data from the Current Population Survey, they report significant differences in workers' propensity to undertake volunteer work across sectors, with workers in the private sector being less likely to volunteer, and those who do volunteer contribute less hours than workers in the nonprofit sector and the government. Mirvis and Hackett (1983), analyzing the US

Quality of Employment Survey find that nonprofit workers report higher levels of intrinsic motivation, feelings of accomplishment, and importance of work relative to money in their occupations. Also, a Brookings Institution Survey of over 1200 childcare, child welfare, youth services, juvenile justice, and employment and training workers found that the surveyed workers report that they took the work because they are driven by the desire to help the people in need and serve the community, though they are not satisfied with the monetary rewards.[10]

There is also some empirical evidence in support of the idea that workers in nonprofit firms should be willing to donate effort while their for-profit counterparts should not. Mocan and Tekin (2000) provide a direct test of the labour donations hypothesis. Using an unusually detailed worker/firm matched data set for the US childcare sector and controlling for the endogenous selection into sectors, found a significant nonprofit wage premium. Workers were asked what the main reason to choose employment in child care was. One of the options was "this is an important job that someone needs to do", which is an indicator of the intrinsic value the worker derives from working in the sector. To be consistent with labour donations workers who chose this option should receive lower wages. The authors report that this variable had a significant downward effect on wages if working for a nonprofit firm. In contrast, workers in for-profit firms who chose this option had either no, or a positive wage premium, suggesting no labour donations.

There is also some evidence that incentives in nonprofit organizations and the government are weak relative to those in the private sector and that in sectors where for-profit and nonprofit establishments co-exist the former tend to use more performance related compensation. Burgess and Metcalfe (1999) using British cross-sectional establishment data from 1990 find that establishments in the public sector are less likely to operate an incentive scheme than comparable ones in the private sector, and that this difference arises only amongst non-manual workers (workers more likely to be involved in discretionary practices). Roomkin and Weisbrod (1999) find greater use of performance related compensation in for-profit than nonprofit hospitals amongst top managerial positions.

DeVaro and Samuelson (2003) using a US cross-sectional employer telephone survey (1992-1995) find evidence that, relative to for-profit employers, nonprofit employers are less likely to use promotion as incentive device, that promotions are less likely to be based on merit and job performance, and that nonprofits are less likely to use incentive contracting - output contingent payment or bonuses. These differences are most pronounced amongst the high skilled workers who are most likely to have significant effects on firms' missions.

[10] See Table 4, pg 17 in Light (2003).

A recent study by Grout et. al. (2007) is perhaps the closest that empirical work has come to disentangling the relative roles of pure and impure altruism in motivating care sector workers. They compare donated labour (measured by unpaid overtime) in caring industries using a detailed UK dataset and find that, in a cross-section of firms, donated labour is far higher in non-profits and the public sector than it is in equivalent private sector providers. This is with detailed controls for career concerncs and the usual human capital variables and seems consistent with purely altruistic behavior. However, by adding individual fixed effects, they then estimate the effects on labour donations of particular individuals switching across providers. Here the results are intriguing and seem consistent with elements of both purely and impurely altruistic descriptions. Firstly, they find that people with high public service motivation in caring industries are more likely to move to public sector or non profit firms (as consistent with a pure altruistic approach) but that individuals do not significantly change their behaviour as they move (which seems more consistent with impure altruism).

4 Conclusions

This survey has argued that pro-social motivation has effects on the delivery of public services. A slight difference in the way the motivation is modelled, whether as impurely, or purely altruistic, has large implications for service delivery. Most of the literature has modelled a type of impure altruism which is action, not output, oriented. When this is present, workers will work for less than otherwise, and when workers have multiple tasks, the presence of such motivations can favour the use of low powered incentives. There are no implications for the type of organization that should be delivering the service.

When workers are motivated by pure altruism, or direct output considerations, things are very different. The main implication is that it may be better to have the actual service delivery undertaken by an organization that does not have a residual claimant. A government bureaucracy or a nonprofit firm can have a distinct advantage in delivering the service. Such an organization may be uniquely placed to obtain donations of labour effort from output oriented employees because these employees will not fear that their effort donations are expropriated by a residual claimant.

This literature would seem particularly important in informing governments as to presently poorly understood benefits of service provision by governments in-house. In many countries, governments have moved away from their traditionally direct role of providers of public and socially meritorious services, to purchasing them. Some have suggested handing over, en masse, bureaucratic service provision to contractors from the private sector in a wide variety of sectors. This is for the well known incentive reasons that such contractors have as residual claimants. The present survey argues that the government as a provider may still have an important role. This will be especially the case where the choice is between government bureaucratic provision and for-profit firms, i.e., where nonprofit firms are not able to play a part.

But we are far from a good understanding of the quantitative significance of these considerations. As this survey has argued, subtle differences in the way that pro-social motivation arises can have profound implications for who should be providing social services. Data are needed to directly test these implications. The start made by Grout et. al (2007) is encouraging, but further work needs to pin down the impacts, if any, of such effects.

At a theoretical level, the difference between government and nonprofits as providers of services is also not well understood. The present survey has treated them much the same, as both do not have residual claimants but there are clearly other differences which need to be better understood. One difference has to do with preference heterogeneity. Government bureaucrats answer to elected politicians so they might take actions that appeal to voters, whereas the managers of nonprofit firms are appointed by the community so they might have more flexibility in choosing the "mission" and providing services tailored to the needs of the local community. If workers are also horizontally heterogeneous in terms of their pro-social motivation then there may also be productivity gains from better matching in nonprofits (a la Besley and Ghatak 2005) rather than through a monolithic public service. There may also be differences that are due to political economy and accountability. For instance, nonprofit managers may have more opportunity to evade the nondistribution constraint than do government bureaucrats. These and other questions await further analysis.

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