

The economics of ‘public sector motivation’

A review of selected literature

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Issues related to public sector motivation (PSM) and donated labour have been receiving increasing attention in the economic literature over the last few decades. Several attempts have been made to develop a theoretical framework to analyse these issues. However, as with other aspects of incentives in organisations, there is a paucity of empirical research in this field, and empirical findings tend to be either weak or contradictory. It is the purpose of this review to summarise important theoretical work in the field, and to try to establish a terminology which can be used.

Traditionally, the issue of incentives in organisations has been studied in the framework of principal-agent models. In a principal-agent setting, efficiencies arise whenever there is an informational asymmetry concerning either the outcome of the project, or the inherent efficiency of the agent; if the principal is constrained in their ability to punish or reward outcomes (Laffont and Martimort, 2003). Two main reasons for such constraints have been considered. Firstly, it might be the case that the agent exhibits stronger risk aversion than the principal – possibly due to the principal contracting with many agents at the same time – so that the contract between the two needs to provide some degree of ‘insurance’ against bad outcomes. However, even though this assumption has received a lot of attention in the theoretical literature, its practical importance has been contested (Prendergast, 1999). As an alternative, it is often useful to assume limited liability so that the principal can only punish bad outcomes down to a certain minimum.

The standard model of moral hazard has been extended in various dimensions to allow for multiple tasks (Holmström and Milgrom, 1991), team work and long-term relationships with repeated interaction between principal and agent (Burgess and Ratto, 2003). There is also an emerging empirical literature which analyses the effects of incentive schemes in practice (Lazear, 1998; Kahn et al, 2001; Courty and Marschke 1997, 2004). However, simple models of performance related pay might actually be less useful in the context of the public sector. Firstly, there might be multiple principals (Dixit 1996, 1997) and consequent externalities between incentive schemes. Secondly, measurement problems typically arise: public sector workers are often decision makers and their organisations do often not have a clear single goal. Also, performance data are typically available at the aggregate level only. Furthermore, public sector workers seem to be motivated by other things than financial rewards alone. This spirit of public sector motivation might arise either due to selection or as a result of the

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organisational design in the public sector (Dixit, 2004). In any case, there is some empirical evidence that public sector workers actually do exhibit such preferences (Heckman et al, 1996).

Concerning terminology, Grout and Yong (2003) argue that the difference between PSM and donated labour should be kept clear. Even though the two often appear together, labour donations do not necessarily need to be motivated by PSM. Conversely, PSM does not always lead to labour donations, since there are typically free-riding problems which might deter workers from engaging in this activity. The possibility of free-riding leads us to another important distinction: namely in the form the PSM takes. As argued by Rose-Ackerman (1996), altruism might manifest itself either as a general preference for certain outcomes (e.g. poverty reduction) or rather as a satisfaction over the own contribution to a better world (“warm glow”). Apparently, free-rider problems are likely to arise only if the PSM preferences are outcome oriented. However, also in this case, institutional design might alleviate free-riding problems: the crucial issue is whether the workers believe that someone else will step in if they decide to shirk.

The main focus of the theoretical literature has been to analyse how PSM interacts with certain aspects of the institutional environment – such as the ownership of the firm or the incentive structure in the workplace. The most important divide is arguably between public/non-profit and private/for-profit provision. However, the relative merits of these two organisational forms depend on a host of other parameters, such as the duration of the employment relationship, the degree of heterogeneity with regards to PSM in the workforce, the costs of measuring output or monitoring effort, and so forth.

According to Wilson (1989), there are three main aspects which distinguish public sector employment conditions from private sector conditions:

1. Government officials are more likely to face incentives related to career prospects, than direct financial incentives.
2. The objectives of the government agency are often unclear.
3. Government agencies operate with limited autonomy in comparison with private firms.

Wilson concludes that successful government agencies are those which have a clear focus on a specific mission. These conjectures are formally investigated by Dewatripont, Jewitt and Tirole (1999a, b), who find that expanding the set of tasks pursued by the worker typically reduces effort. Also, uncertainty over the nature of tasks pursued by the worker or the effort allocation between them also reduces total effort. Hence, there is scope for improving the performance in the public sector by means of organisational design.

Burgess and Metcalfe (1999) argue that it seems unlikely that public sector workers have completely different utility functions from other workers.

However, it might still be the case that public-spirited people are self-selected into the public sector. This would have implications for the appropriate incentive design. The authors emphasise that we still do not have good models to understand the trade-off between incentive schemes and the need for proper behaviour by public servants. We do not have a fully worked out view of the link between incentive schemes and the lack of competition for the output of many public sector workers.

However, the most important finding in the literature is probably the importance of ownership. Whenever PSM manifests itself through a general concern for outcomes, the issue of residual claimancy becomes very important. The problem is that the owner of a private firm cannot credibly commit to not expropriating any donated labour and thereby nullifying acts of PSM. Grout and Yong (2003) use the illuminating example of a nurse who is committed to never leave a shift if there is nobody else to take over. A private employer would feel tempted to exploit this commitment by hiring fewer nurses – which the nurses anticipate and hence reduce their degree of PSM. A public sector manager, on the other hand, can have no direct incentive to expropriate these voluntary efforts, and hence their commitment to abstain from such behaviour is credible.

However, it might not be sufficient to safeguard that the internal incentives are commensurate with PSM. Also the market structure needs to be taken into consideration. If the firm faces one dominant purchaser of their services, this purchaser might be able to extract the entire surplus from production – including the surplus arising from donated labour. Whenever this happens, the non-profit firm will be no better off than the for-profit firm – provided, of course, that the workers do not feel that the purchaser has a rightful claim to the fruits of their labours (which might be the case if the purchaser represents the government).

Besley and Ghatak (2004) analyse not only how incentives are designed in the private and public sectors, but also how workers with varying degrees and types of PSM are matched with employers. In a standard moral hazard model with no search frictions, they find that there is always perfect matching between workers and firms; that is, the workers in the non-profit sector exhibit higher degrees of PSM, and they are also matched with their preferred project. One clear implication of this is that comparative studies need to address selection issues. Another main insight of the model, which has already been mentioned above, is that the relative advantage of non-profit firms arises due to imperfect contracting possibilities: if effort were perfectly contractible, workers with PSM would not earn informational rents, and the two types of firms would be entirely identical. Another interesting aspect of the paper is that there are spillovers between the private and the public sectors: whenever the penetration of for-profit firms increases in a sector, the financial incentives in non-profit firms need to be

strengthened due to a change in the participation constraint of workers in those firms. Finally, the paper suggests that reforming public bureaucracies might be easier in the long term than in the short term: in the long term, re-matching of workers is possible, and thus their preferences might eventually be better aligned with those of the organisation.

Corneo and Rob (2003) instead analyse PSM in a multi-task setting. In their model, there are two tasks, one of which is easily measurable and the other one which is not. The public firm values both activities, whereas the private firm only values the measurable task. Furthermore, workers are assumed to be heterogeneous with respect to their preference for the 'social' task.

However, the matching between workers and firms is not considered. The authors find that the private firm will make more use of incentives. Also, total worker effort is higher in the private firm, whereas the social effort is higher in the public firm. These results require a) heterogeneity of worker types (otherwise the two firms choose the same incentive structure: no informational rents are earned), b) that private information is relevant at the margin: with an additive utility function, all types exert the same amount of effort and there would be no difference between the firms, c) that private information concerns the workers' preferences, not their productivity: If instead the informational asymmetry concerns productivities, the public firm would actually choose to rely on stronger incentives than the private firm. The authors claim that their model gives a rationale for why the public sector tends to be more lenient with its workers than the private sector.

Related papers by Francois (2000, 2003) analyse public sector motivation with particular focus on the residual claimancy problem. In the first paper, several different input factors can be used in production. The government can either contract a private entrepreneur or a public bureaucrat – who has no financial stake in the project's success – to carry out the project. Free-riding is potentially a problem, and since effort is observable albeit not contractible, the principal (bureaucrat/entrepreneur) has the possibility of compensating for shirking at a certain cost. It turns out that the bureaucrat can credibly commit not to cover up for shirking, whereas the private entrepreneur cannot. Hence, within certain ranges of the adjustment cost, the bureaucrat has a cost advantage over the private entrepreneur. In Francois (2003), the focus is on long-term relationships between principal and agent and hence incentives can be provided in the form of career prospects and not only direct performance-based pay. Also in this paper, the main result is that a non-profit manager provides less remedial effort for shirking workers. Also, it is found that the non-profit principal actually has to pay higher wages since the agent has private information concerning their degree of PSM. The private firm, on the other hand, relies on direct monitoring of effort and hence does not need to pay informational rents. One main implication of both these papers is that it might be

counterproductive to provide top level managers within the public sector with high powered incentives, since these might peril the PSM of workers further down the hierarchy.

In a similar setting, Francois (2004) analyses selection into production of a public good. It is assumed that a single firm has a large pool of potential applicants to choose from. The workers differ in their valuation of the public good, and their PSM motivation is purely outcome related – and hence does not contain an element of ‘warm glow’. The main purpose of the paper is to compare performance-based pay with a flat-rate salary. If payment is made conditional on delivery, only individuals with PSM above a certain cutoff value will apply for the position, and these individuals will also deliver. When a salary is used, the situation is more complex. A contract offered will typically attract two types of applicants: shirkers, who have a very low valuation of the public good, and those who have a particularly high valuation of the good, who also deliver. One interesting point is that it is not straightforward to derive the comparative statics for how these two cut-off points change when the salary is increased: it depends on the distribution of worker types. Due to this ambiguity, it is not possible to determine whether performance-related pay or salaries are preferred without putting further restrictions on the distribution of types. However, due to the two groups present in the non-PRC setting, total output will not be very sensitive to salaries: an increase in wages causes an influx of committed workers, but also more shirkers find it worthwhile to work for the higher salary. For this reason, wages will be lower in the public sector – a finding which seems to be in agreement with what is observed in the real world.

In conclusion, the economic literature on public sector motivation suggests that it might not always be wise to try to replicate the private sector in providing incentives to workers. There are at least three important reasons why this might not be a good idea: firstly, workers in the public sector might be inherently different from those in the private sector. This might be either due to self-selection into the public sector, or even due to the particular type of activities in the public sector fostering a sense of social responsibility. Secondly, there is the residual claimancy problem, which has been highlighted in several papers mentioned above. This problem goes beyond what is captured by the for-profit/non-profit dichotomy since also the internal incentives, or the behaviour of purchasers, might give rise to a residual claimancy problem. Thirdly, the activities typically taking place within the public sector tend to be less focused in their goals, to produce less measurable outputs, and tend to have workers acting as decision-makers. These differences from private sector production suggest that high-powered incentives might lead to results very different from those desired (cf. Courty and Maschke, 1997).

Clearly, all these insights are very important for the study of how donated labour reacts to changes in external incentives. The importance of the selection issue is obvious. Also, a change in formal incentives might trigger different reactions in the short and in the long term. In the short term, workers with a high degree of PSM might feel discouraged to donate labour since the performance-based pay suggests that the employment relationship is a purely monetary one. In the long term, the matching between workers and employers might change; however, the effects on donated labour from such a change are ambiguous. Furthermore, it is clear that the incentive schemes within an organisation cannot be considered in isolation. Researchers studying this issue also need to take the role of the purchaser, as well as the outside option of the workers into account: these might also change simultaneously with internal incentive schemes – or they might even in some cases have triggered such changes.

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