Principle-agent model of employment relationship

Outline the principal-agent model relating to the employment relationship, and describe how pay models can help overcome some of the problems of performance in developing country governments.

Introduction

Managing scarcity is a major concern both in the private and the public sector all around the world. As the cornerstone of the economic theory the efficient and effective use of the scarce resources has been, since the acknowledgment of this social science, a paramount responsibility for public officials. Whether it was on behalf of the absolutist ruler or about the people's interest, managing the state's resources is a craft that not only has evolved in its tools but also in the scope that it covers, as new necessities arise and evolve at the pace of civilization.

In the following sections, we aim to cover the Principal-Agent Model relating it to the employment relationship within the public sector, for which we will develop the main characteristics of the model with a political economy perspective. As Solow (1974) acknowledges, the world has been consuming its exhaustible resources since the beginning of time, and as the process will continue and new necessities will emerge, the state in all its forms needs to enhance its output and efficiency to address these situations.

As one of the main inputs for government delivery is human capital, the choice of a proper compensation scheme, with incentives effects considering performance and quality can provide significant effects on output (Lazear, 2000). From this perspective, we will cover different payment models and incentives as tools to achieve a better and wider output in the environment of developing economies where scarce resources are more acute and social needs are more demanding, focused in the provision of the basic elements and services to help people to develop.

Finally, and after going through the theoretical ground of the Principal-Agent Model and the mentioned compensation methods, we will relate them with developing country experiences and outcomes in the framework of new public management where, working altogether with other theories and components that includes a varied mix of characteristics (Gruening, 2001) such as, budget cuts, privatization, user charges, competition, separation of politics and administration, performance measurement and improved accounting, among others that we can relate to the neo-liberalist agenda, that emphasises management tools in order to achieve the goal of better public sector performance.

Principal-Agent Model

In theory of delegation, the core idea of the Principal-Agent Model is that the Principal needs to delegate a certain activity or job because it’s too busy to do it by himself. This is made by hiring a third party or Agent who will be responsible to perform the defined activities, but as the Principal is busy, it also means that he cannot observe the Agent actions perfectly. So, several ways are to be considered to motivate the actions of the Agent to favour with her actions the interests of the Principal (Gibbons, 2017).

To be defined as a Principal-Agent Model some necessary features or core assumptions are required. According to the settings explained by Miller (2005), first, the agent takes actions that establishes a payoff to the principal, along with a risk variable. Secondly, there exists information asymmetries as the principal can view the outcome provided by the agent but not the actions that the latter undertook. Moreover, in many cases, the associated costs of monitoring the agent actions can be prohibitively expensive.

Third, there also exists asymmetry in the preferences as those of the agent's, as are assumed to diverge from the principal's preferences. Also, the agent is taken to be more risk-averse than the principal. Fourth, the principal is expected to act rationally based upon coherent preferences and is able to take the initiative by offering a contract. Fifth, agent and principal have common knowledge about the game structure, the costs, probabilities of the different outcomes and other variables. Moreover, they are conscious of the agent's rationality and her preferences regarding an incentive package that its expected utility is above the agent's opportunity cost.

Finally, the principal is assumed to have the ability to impose the best possible solution regarding the agent's inferred best response equation. In other words, *" The principal is endowed with all of the bargaining power in this simple setting, and thus can make a ' take-it-or-leave-it' offer to the agent"* (Sappington, 1991, p. 47).

Furthermore, Miller (2005) defines, from the above-mentioned assumptions, two initial results. Outcome-based incentives, to partially overcome any moral hazard problems despite information asymmetries. And, Efficiency Trade-Offs, as moral hazard sets boundaries to both transaction efficiency and the principal's benefits. Efficiency in incentives endures a trade-off with risk-bearing efficiency, and the best trade-off or second best solution must involve risky outcome-based bonuses for the risk-averse agent (Shavell, 1979 in Miller, 2005).

Asymmetries and Costs

The relationship between the principal and the agent is not exempt of unbalances of power that operate in both ways. The former is threatened by moral hazard or informational asymmetries regarding the actions that are to be undertook by the agent. To balance this situation, the theory presumes that the principal will try to narrow these asymmetries by installing information systems and monitoring the agent. Also, they will offer incentives as a way to align the parties' interests. In this alignment, principals compensate the agents not only for the collaboration agreement but for the actual result of this enterprise, performing contracts that are output oriented (Shapiro, 2005).

Moreover, given the insurmountably costs of monitoring the agent, or public servant, the outcome based contract is a clear alternative against a retribution based on actions (Miller, 2005). In the public-sector sphere, if the official fails in his task, e. g. inclusive poverty alleviation programme, must be removed from office even if his actions were in the best interests of the public. This is not done out of vengeance, but as an incentive for future officials under the same information asymmetry and output-based contracts. Of course, if the programme succeeds, the official must be rewarded. This shows that there is inefficiency along the process, even though the output-based contract succeeds in reducing the moral hazard problem, it does it whilst recognizes the inefficiencies that come along with the solutions achieved, that in most cases are not Pareto-optimal in the relationship between the agent and the principal (Downs and Rocke, 1994).

Moral hazard is a key component in the contract formulation. The principals are assumed to be risk neutral and the agents risk averse, as they have bet all in into the contract with the principal, the information asymmetry plays an important part as the agent will do things that might go against the principal's goals in order to preserve themselves from risk. Thus, the importance to design tools to minimize this hazards (Shapiro, 2005).

In addition, the principals are faced with situations that modify substantially the assumption that is the latter the one who is in control of creating incentives, specifying the preferences and making the contracts for the agents to follow. There exists many common situations in which principals need agents with expertise, or with experience that goes far beyond that of theirs, in this cases the asymmetry of information is reinforced by the shift in the asymmetry of power as it shifts from the principal to the agent (Shapiro, 2005) a common case observed with public officials and politicians. Therefore, by manipulating the incentives offered to the agent, the principal attempts to minimize agency costs or shirking, that is the losses assumed by the principal by her incapacity to align the self-interests of the agent with her own's (Miller, 2005).

When it comes to the public service, two observations must be made. First, as there exists knowledge and information asymmetries and they are characteristic in many agency relationships that are opaque and quite difficult to be subject of surveillance, agent’s self-regulation provides a very important monitoring role. Secondly, many regulatory provisions and self-regulatory arrangements established to control agency relationships are as well agency relationships. Whether they are compliance officers, auditors, internal affairs departments, insurance companies, investment advisors or government regulators, the monitors act on behalf of the principals. Therefore, they also comprise agency problems (Shapiro, 2005). Shirking, cooptation or corruption becomes part of the equation. So, the question of *“ Who monitors the monitors?”* (Shapiro, 1987) arises, creating a structure of agents controlling agents.

The later question demands more attention from the political science view as sanctions are required to induce agents to properly perform their duties. Budget cuts, firing officials, recontracting or voting them out of office are ways used in the public sector to align the agent’s objectives with those of the principals. As Mitnick (1998, in Shapiro, 2005) explains, these situations inevitably comes with associated agency costs, when they are too high, either in political or economic terms, principals might choose not to expend resources on them. Furthermore, as politicians might not bear the burden of the consequences of the agent’s self-interested, opportunistic actions, the costs most likely are passed through to the public. This creates the perfect environment for increased laxity of monitoring activities in the public sector (Meier and Waterman, 1998).

Contracts, Pay Models and Performance

It is clear now that the channel to implement the required balances of power and influence is through the correct design of the contracts where the principal's delegation to the agent will be embodied. Sadly, there is not a golden rule for contract design as every relationship is different and requires diverse considerations to achieve the best possible outcome considering most of the contingencies. Nevertheless, there is a caveat to consider as there are substantially different scenarios between the contracts and incentives options for the public sector than those of the private, more flexible, one.

We must remember that the beginnings of the new public management and the considerations of the principal-agent theory are rooted in the developments in management techniques provided by the private sector in its search for efficiency and productivity. For this particular reason, we cover the more standardized retributive models to, afterwards, be able to apply them to the public sector with the necessary considerations.

One of the entrepreneurs in compensation techniques was Henry Ford who addressed the high rotation of personnel and absenteeism that his motor company suffered by increasing the hourly wages high above the average threshold in the industry. This basic action provided immediate effects as productivity, commitment increased whilst personnel rotation decreased. This decision, though basic today provided a clear example of what incentives can produce in a given organization. But, Ford's times are over and the complexity of transactions, markets and people's needs have evolved into a more sophisticated retribution design.

A rather common output-based contract is the Piece-rate payment instead of the classic hourly payment. This kind of contract works for certain organizations, and has proven to be effective in the increase of productivity due to two components: the increased production per worker due to incentive effects and a natural shift towards more capable, results driven employees recruited to fill the posts of those that are unable to produce enough to maintain their previous level of income. This generates profits sharing between the company and the labour force as part of the productivity gains are split among them, whilst encouraging more ambitious workers to differentiate themselves, both characteristics are unable to be achieved with a basic salary retribution (Lazear, 2000). Is understood that covenants regarding quality and other issues must be addressed in the contract to avoid future backfires.

There exist different alternatives of contracts regarding the agent’s retributions. But they all aim to be the optimal solution to the information asymmetry problem. Authors also suggest the analysis of retribution in a time frame perspective, where initially the agent will be paid a wage lower than his alternative wage, with the promise of future, career attached, above the threshold wages as an alternative to avoid shirking when monitoring the agent’s activities is imperfect. Moreover, this method of delayed-payment or bonding contract is efficient as it doesn’t alter the present value of the best alternative compensation. Also, this system provides the principal with an additional tool which is the increasing cost of job loss to keep the agent focused on the principal’s objectives (Krueger, 1990). A tool that is also related with bonuses or options related compensations.

In jobs that are capital intensive and highly routinized, there is also room for shirking, absenteeism, theft, high turnover, waste, misuse of equipment or poor service that have a significant effect on output and performance (Krueger, 1990). These situations observed in certain industries can be also seen in some public offices, with the condiment that in many cases there also exists the limitation of law and regulation regarding the protection of the public employment that creates a further layer of asymmetry in the principal-agent relationship.

The relationship can be turned-over as the principal becomes the employees that are unionized and the agent, the organization for whom they work. In cases where it has full negotiation power for determining the labour contract, the unions will demand higher salaries and in-kind payments that goes straight against the goal of maximizing the output as the cost increases (Laffont and Martimore, 2001). Moreover, there exists the risks of overemployment due to the mentioned legislation coverage, that prevents the organization to restructure its personnel and achieve a maximization of output through increased productivity. As Shapiro (2005) acknowledges, over time the agents acquire influence over other groups than their principals that increases their protection against any sanction that might be cast upon them. And as in many cases agents -government officials or corporate directors- outlive their principals (politicians, shareholders), the balance of power may shift.

Performance and Development

From all the above covered, we clearly observe that performance enhancing measures are activities that aren’t free of charge. In fact, even in private companies the application of any structural change regarding increasing output or efficiency comes with stressful situations that might be so disruptive that can stop the process. This situation, when taken to the public sector, where the motors of change are elected official with a fixed term in office, provides situations that require strong commitment and enough negotiations skills to prove the workforce and the ultimate principals, the voters, of the necessity of change. In this section, we will cover the approach that developing countries have taken to address and minimize situations that reduce performance or hold back efficiency.

Improving Health Service Delivery

Performance enhancement is a key factor to achieve the health-associated Millennium Development Goals. Hence, looking for improved ways for service delivery is significantly important. A way to achieve this goals has been the application of government contracting with third parties such as non-governmental organizations (NGOs) practitioners, universities or companies. As Loevinsohn and Harding (2005) expose, contracts for health service delivery provides some interesting characteristics. First, they ensure a more precise focus on measurable results, especially when the contracts are defined objectively with measurable outputs. Secondly, they overcome some constraints that can prevent governments to efficiently use the available resources, such as the ones mentioned in the previous section. Third, the use of the private sector’s flexibility can improve service delivery. Fourth, increased autonomy and decentralization in the decision-making process allows a faster response to people's needs. Fifth, as contracting is through public offers, it will increase the efficiency because of price competition or, if its recruiting for staff, will attract better qualified agents. Finally, as these activities are outsourced in its execution allows governments to focus more on its other roles, such as planning, financing, regulation and more varied public health functions.

Of course, in addition to the caveats covered in this paper, the thought of contracting non-state institutions to perform public activities comes with other difficulties as contracting should cover a sufficiently large scale to make a difference in aggregate service output. Which in turn, leads to both more expensive contracts and a shift in the balance of power due to principals (government) limited capacity to manage this contracts in the most efficient way once the service is instituted. Hence, there will be unsustainability risks in the contracting (Loevinsohn and Harding, 2005).

However, governments have different types of contracts to provide a principal-agent relationship with positive results for society. In a service delivery contract, the state decides the services to be provided, where, and the integration scale in the infrastructure and supply management, where, personnel, equipment or consumables will be, or provided. There are intermediate options such as a management contract, where the agent will take over on the government health workers and take care of the increase in the salary, which will be linked to outcome based indicators (Loevinsohn and Harding, 2005). In this case, there is a limited effect in the principals shift of power as the agent remains in a rather weak position as it can be dismissed if does not accomplish the performance levels pre-contracted.

When contrasted with some average scenarios in many developing countries, where the public sector underperforms or barely function at all, due to factors such as poverty, corruption, chronical economic crisis and political instability. Public officials' morale is undermined and in some situations absenteeism increases or there are a lack of tasks or resources to work with, pervasive corruption and rent seeking characterises the public sector in many places in the world (Grindle, 1997). Reforms to increase performance and effectiveness are demanded both by the public and by the politicians, who's agency contract with society depends on their performance.

Nevertheless, Loevinsohn and Harding (2005) research provides evidence of the impressive improvements achieved by government contracting with third parties in the performance of the service delivery. Whether primary health care in Guatemala or nutrition programmes in Africa, contracting yielded positive results. In some case studies the contractors were proven to be more effective than the state agencies, regarding several measures on quality of service and coverage. As an example, in India a NGO was able to deliver an increase of 14% in tuberculosis treatment completion rates at a lower cost than the public services in a nearby area (Murthy et al. 2001).

Contracting under specific, results driven conditions has proven to deliver impressive and rapid results. The studies made on programmes that are ongoing suggest that there is a link between the high performing programmes with increased autonomy given to contractors, cases such as Cambodia, where Rural Primary Health Provision and District Hospitals, where output-based service delivery contracts provided better results than traditional management contracts. A result consistent with the characteristics of hospital services where autonomy in the workforce management is significantly important to improve performance (Harding and Preker, 2003).

It is to be expected to generate controversy by contracting with non-governmental institutions to provide services. Critics often relate this movements as pro neo-liberal desires of privatization, while financing them with public resources with the objective to limit the government involvement in services such as health care or education. However, some programmes are designed and implemented due to internal analysis of the lack of expertise or proper resources to cover and deliver a defined set of services, a process that can lead to more efficient expenditures without reducing the public expenditure for that item (Loevinsohn and Harding, 2005). Hence, increasing performance and output.

The above-mentioned examples are among many others where new public management techniques or concepts apply. The Principal-Agent model expressed in the relationship between the state and a third party specialized in service delivery shows that such a complex relationship should be followed in those activities that allow to be critically measurable, without being put through subjectivities in the performance analysis.

When the Principal-Agent relationship is put under the scope of political science there are interesting considerations to be made. When we analyse the delegation process or the objective we might observe that maybe the goal is to provide an enhanced credibility in the commitments made, or to avoid the cost of unpopular policies. Instead of aligning the interests of the agents with theirs, principals who seek credibility from their agents choose other agents with different preferences regarding policies and provide them with considerable autonomy and discretion as a way to provide contracts with independence whilst seeking accountability for their actions (Majone, 2001 in Shapiro, 2005).

As we can see, contracting under the principal-agent model is not a simple activity. There are so many variables that can affect the efficiency of the objective rather than its effectiveness, that it proves complicated to perform corrective measures. Therefore, the monitor eye is so important. The threat of future sanctions provides the agents, and in the public arena, some principals, with the incentives to perform their activities properly. Moreover, in democracies, where congressional oversight is available, and where effective incentives systems are applied, less often sanctions should be observed in the form of hearings and investigations. Direct and continuous monitoring of inputs rather than results proves to be an inefficient tool for controlling the agent (Miller, 2005). This provides a further incentive for the proper implementation and design of outcome-based contracts.

Conclusion

In the present paper, we have gone through the standard framework of the Principal-Agent model, where we have covered the technical requirements to be met in order to perform this kind of contracts. Always from the basis that is the Principal's need of delegation of a certain activity, the trigger for entering in this contract based relationship in which there exists characteristics such as information asymmetries, efficiency trade-offs and relatively high monitoring costs associated.

Furthermore, we have gone into a deeper analysis of the causes and costs related to the different asymmetries that can be observed in the principal-agent relationship and the particular impact that this can cause in contracts performed with the public sector. For which we have also covered the mainstream contract typology, the intrinsic objectives of the correct formulation of the agreement in order to avoid shirking and goal's divergences. To finally, approach performance issues with developing country experiences related to the health sector as it is one of the public services that can have its output clearly and objectively measured without further complications or subjectivities.

From all the above covered, we clearly can see that Principal-Agent contracts applied to governments is possible and yields positive results. But, it is also clear that is not an easy or systematic task. As it requires many considerations and attention to the caveats mentioned and many others that can apply due to the intrinsic characteristics of the tasks and the outcomes negotiated. We must also bear in mind that this kind of contracts also bear internal difficulties within the government agencies as not all of them are fit to be part of this kind of arrangements.

In addition, we cannot think of implementing an effective principal-agent relationship without pursuing other structural changes in the governmental structures. As Robert McNamara, former president of the World Bank, claimed *" in most countries, the centralized administration of scarce* *resources – both money and skills – has usually resulted in most of them being allocated to a small group of the rich and powerful. This is not surprising since economic rationalizing, political pressure and selfish interest often conspire to the detriment of the poor. […] experience shows that there is a greater chance of success if institutions provide for popular participation, local leadership and decentralization of authority"* (World Bank, 1975, p. 93).

Moreover, Rondinelli (1981) focuses on the efficient delivery of services depending upon the effective organization at community levels to have a strong interaction with the agencies in charge of service delivery to establish priorities and set objectives. This paper aimed to observe the impact of the Principal-Agent Model as a tool to gain in efficiency and increase performance levels in the public sector. From all the above covered, we can see that, if properly implemented and with the necessary systemic view, this incentive-based tool is strong enough to help government agencies to increase their output and provide better services for the community. Again, is not the easy path, but it can payoff.

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