

PRIVATISATION AND EFFICIENCY:
FROM PRINCIPALS AND AGENTS TO POLITICAL ECONOMY

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Privatisation and Efficiency: from Principals and Agents to Political Economy

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Abstract

We survey the theoretical literature about privatisation and efficiency showing its evolution from the applications of agency theory to recent contributions in the field of political economy. The first ones extend the theory of regulation with incomplete information to privatisation issues, in order to compare State Owned Enterprises (SOEs) with private regulated firms. Privatisation benefits may be due either to constraints on malevolent agents or to the impossibility of commitment by a benevolent government due to incomplete contracts. Contributions dealing with political economy issues separate privatisation from restructuring decisions and either explore bargaining between managers and politicians or analyse the efficiency effects of privatisation decisions shaped by political preferences. Theoretical results are not definitely conclusive about the relationship between privatisation and efficiency. Privatisation may increase productive efficiency when restructuring takes place while the effects on allocative efficiency still remain uncertain.

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1 Introduction

During the last decades privatisation policies have been implemented all over the world¹ and the economic literature devoted to privatisation issues has been growing continuously². According to a common wisdom, governments implement privatisation policies in order to reach the following goals: 1) to reduce national budget deficits and the stock of national debt 2) to foster financial markets development 3) to increase efficiency. Concerning the first aim, the privatisation of the State Owned Enterprises (SOEs hereafter) obviously implies a reduction of government expenditures due to subsidies. Moreover, if after privatisation former SOEs become and remain more profitable, they can also contribute to increase tax revenue. Further, the experience has shown that privatisation revenues do not contribute to an increase of government spending, to the extent that they are considered a once for all yield and are devoted to the reduction of the stock of national debt. As to the second aim, the experience up to date is actually consistent with a positive impact of privatisation policies on financial market development. Empirical analyses show that privatisation contributed to the growth of stock market capitalization and trading all over the world (Megginson and Netter, 2001). The third aim can be considered a bit more controversial. Conventional wisdom assumes that privatisation policies contribute to increase efficiency to the extent that a huge amount of resources is moved from government control to market allocation. However such a “popular” belief may be due to an ideological faith on the virtues of economic liberalism rather than to a proper assessment of the impact of firm’s ownership on productive and allocative efficiency.

Empirical studies show that changes of ownership increase efficiency in competitive markets, but they are less conclusive when considering the pure effect of privatisation alone (Vickers and Yarrow, 1989; Boardman and Vining 1989, Sheshinsky and Lopez Calva 2003). According to Megginson and Netter (2001), privately owned firms are generally more efficient than otherwise comparable SOEs. However improvements in productive efficiency do not necessarily imply an increase of allocative efficiency too. In Eastern countries privatisation has occurred during transition to market economies; in Western countries privatisation has been frequently accompanied by liberalisation and regulatory changes, as far as public utilities markets are concerned. In both cases it may not be easy to disentangle the pure effect of ownership changes from the

¹See Bortolotti and Siniscalco (2003) for an international analysis.

²This literature has been extensively reviewed in Megginson and Netter (2001). Other surveys can be found in Bortolotti and Siniscalco (2003), Sheshinsky and Lopez-Calva (2003), Shirley and Walsh (2000).

impact of market structure evolution.

Along with empirical studies, a theoretical literature dealing with the relationship between privatisation and efficiency has been growing in the last twenty years. Also theoretical results are not definitely conclusive about the impact of ownership changes on efficiency. Though such a literature is generally rapidly reviewed in most empirical studies devoted to privatisation policies, to the best of our knowledge there is no survey in the economic literature focusing exclusively on theoretical studies dealing with the impact of privatisation policies on efficiency. These studies may be useful to assess the pure effect of ownership changes and show a gradual shift from normative to positive analysis, as the attention goes from the theory of incentives with incomplete information to political economy issues. The latter are obviously at the core of privatisation decisions even if they have been only recently analysed by the theoretical literature.

In this survey section two reviews the seminal papers based on the agency theory. We show the evolution of the theoretical analysis from studies where privatisation benefits are linked to the assumption of a malevolent government to other contributions where such benefits depend on the impossibility of commitment of a benevolent government, due to incomplete contracts. Most studies reviewed in the second section compare SOEs with private regulated firms and are then based on the theory of regulation with imperfect information. In section three regulatory topics are neglected and the analysis is focused on political economy issues. Section four concludes.

2 Privatisation and Principal-Agent Theory

The first contributions to the theoretical literature on privatisation and efficiency can be considered as extensions of Principal-Agent theory to ownership issues. The seminal paper belongs to Sappington and Stiglitz (1987). By considering an auction system between potential producers for the right to provide a good they extend to privatisation issues the analysis already developed by Loeb and Magat (1979) to investigate optimal regulation with asymmetric information. According to Sappington and Stiglitz, private and public production are similar because they are characterised by a process of delegation of authority and responsibility to managers³. The authors compare SOEs and private firms on the basis of their “fundamental privatisation theorem”, providing conditions under which ownership does not matter, as public production cannot improve upon private production. The theorem is the first of the three

³One can think about a hierarchy of authority that concludes with managers.

“indifference results” characterising the literature about privatisation and efficiency. From the methodological point of view this result (and its implications) is similar to the fundamental theorems of welfare economics. It states the conditions under which private firms can perform as well as public firms in order to find “privatisation failures”, requiring government intervention in production.

According to the fundamental privatisation theorem any government aiming to reach efficiency and equity goals (including rent extraction) can always delegate the production decision to the private firm through an auction system⁴, provided that some ideal assumptions concerning information, risk-aversion and collusion are respected. Potential producers (agents) must be risk-neutral and characterised by symmetric beliefs about the least-cost production technology. Actual costs are only learned after the right to produce has been awarded. The government (principal) does not know the production technology but has a “social” valuation $V(z)$ about the amount of output z to be produced, including equity goals and externality effects. The government should auction off the right to receive a compensation scheme $P(z) = V(z)$ for production, thereby equalizing the optimisation problem of the firm, conditional on the costs’ realization, with social surplus maximisation. Therefore the first best optimality will be obtained. Moreover, due to the fact that the right to produce and get the compensation $P(z)$ is awarded to the firm with the highest bid, the auction will select the one with the lowest expected costs. No rents accrue then to the private firm through the bidding process, considering also that prior beliefs about the production technology are symmetric among potential producers.

However if one relaxes the assumptions characterising the “ideal setting” of Sappington and Stiglitz, privatisation failures appear, as efficiency and equity goals can no more be attained. For example rent extraction is limited by risk-aversion, scarce competition among potential bidders and by an informed principal. When potential producers are risk-neutral, the government need not to pay risk premia to them, although they may be poorly informed about the technology and then quite uncertain about their final compensation. If potential producers have better information but are risk-averse, the government faces a trade-off because awarding the right to produce to the most informed party would be efficient, but in the meantime a risk premium must be paid to the agent, so that rents accrue to him. The government could share the risk with the firm, in order to reduce compensation, but in this

⁴Assuming increasing returns to scale, it is optimal to select just one private producer, so that the framework developed by Sappington and Stiglitz can be suitable to represent public intervention in industries characterised by a natural monopoly.

case the incentive for efficient performance would be reduced. On the contrary with no risk sharing on the part of the government the winner of the auction could be the least risk-averse producer, but not necessarily the most efficient one.

This kind of privatisation failures could be invoked to explain widespread State intervention when production is risky because the technology is a new one and the related capital investments are huge: early electrification or the development of railroads can be well known examples, but also government involvement in the European aircraft industry can be quoted in this respect. Moreover in very risky business the fear of defaults raises the cost of capital for private producers, while SOEs could carry out such investments with lower financial costs. Sappington and Stiglitz show that privatisation failures can also arise due to contracting costs, liability limits and problems related to contract implementation. However the remedy not necessarily must be SOEs. The transaction costs associated with government intervention can be considered a priori smaller in a public firm than in a private firm. However in order to identify the costs and benefits of direct public intervention a theory of Government behaviour was recognized to be necessary. But such a theory was far from being developed before recent contributions in the field of political economy appeared. According to Sappington and Stiglitz, one should overcome the dichotomy between privatisation and nationalisation. The following alternative solutions had to be considered: a) outsourcing⁵ if the production is such to avoid privatisation failures (an “ideal setting” prevails) b) regulation of private producers even when they are selected through an auction mechanism, if privatisation failures are more likely, but market failures like natural monopoly are at stake. Regulation is associated to “intermediate” transaction costs, allowing a remedy to privatisation failures while avoiding at the same time the costs associated to nationalisation⁶.

After the seminal work of Sappington and Stiglitz the literature focuses on the comparison between SOEs and private regulated firms, implicitly considering direct ownership as an alternative to external regulation by State authorities. These contributions examine more sophisticated regulatory mechanisms to deal with asymmetric information between the firm and the regulator. In particular, they exploit the previous result of Baron and Myerson (1982) that we summarise in Appendix 1,

⁵Outsourcing of some services by SOEs or by public departments frequently concerns very simple production technologies and very competitive activities that can reflect the “ideal setting” of Sappington and Stiglitz.

⁶Sappington and Stiglitz are thinking about a public, but politically independent regulatory agency.

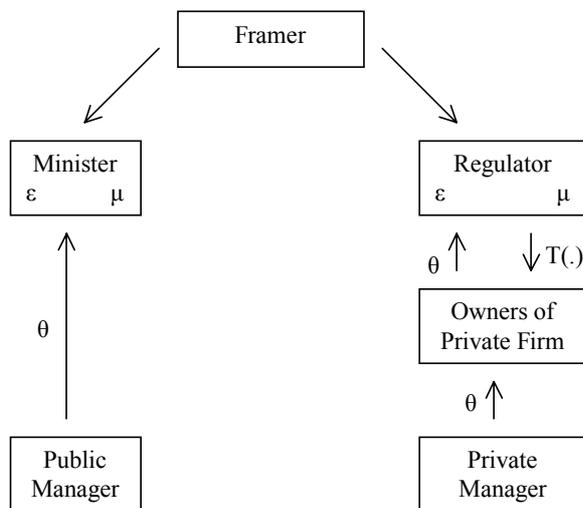


Figure 1: Relationships between principals and agents in public and private enterprise

as reference to it is essential to appreciate the different models surveyed in the next subsection⁷. However among all contributions based on the theory of regulation with asymmetric information we can further distinguish the studies that are based on the assumption of a “malevolent” government (subsection 2.1) from those which do not need this hypothesis to find privatisation benefits, by studying commitment issues when contracts are incomplete (subsection 2.2).

2.1 Privatisation with “malevolent” agents

According to Shapiro and Willig (1990), the main difference between SOEs and regulated private firms concerns information flows in the framework of hierarchical relationships among public officials (i.e. minister or regulator), private owners and managers, due to the strategic use of private information. The vertical relationships between principals and agents considered in their analysis are represented in Figure 1. We shall refer to this framework as a useful benchmark to discuss also further contributions to the literature.

At the head of the hierarchical relationships there is a *framer*, a public spirited agent that originally chooses to operate production with

⁷For a recent and unified analysis of economic models dealing with regulation in the framework of imperfect information the interested reader can see Armstrong and Sappington (2004).

SOEs or with private regulated firms with the aim of maximising social welfare:

$$W = S(z, \mu) + \lambda \Pi(z, \theta) \quad (1)$$

where z is the output level and μ and θ are two different kinds of private information related to the external social benefit of the firm's activity and to the firm's profitability respectively. The contribution of firm profits $\Pi(z, \theta)$ to the overall social welfare is amplified by $\lambda > 1$, that may alternatively represent the unit benefits of avoided taxes to the Treasury - if net profits are positive - or the unit cost of raising public funds if there are losses to be covered by government subsidies. Despite the fact that Shapiro and Willig do not characterize it further, we suggest that the framer could well represent a benevolent parliamentary majority that delegates administrative power either to a minister - if a SOE has been chosen - or to a regulator controlling the owners of the private firm. θ is unknown at the time when the framer must choose between public and private firm. The framer only knows that θ is distributed on the interval $[\theta_1, \theta_2]$ with probability function $f(\theta)$ and cumulative distribution function $F(\theta)$. On the contrary, managers at the end of the chain have private information θ about firm profitability. They either report this information directly to the minister - if they run a SOE - or to the owners of the private firm in the opposite case. Finally, by virtue of their position, the minister and the regulator observe the public interest impact variable μ .

Shapiro and Willig are not interested in the analysis of the agency relationship between managers and their principals (minister or private owners). The main assumption that drives the results of the model is that public officials, i.e. minister or regulator, have the following objective function:

$$V = W + \gamma J(z, \varepsilon) \quad (2)$$

including not only the overall social welfare but also the function $J(z, \varepsilon)$, representing their private agenda that can be satisfied on the basis of the firm output, the private information ε about the divergence between social and private aims, and the extent to which the political system let public officials pursue their private goals, measured by the parameter γ ⁸. The benefit of SOEs is the absence of agency costs for the minister, as by assumption the manager completely reports θ to him. On the contrary with private regulated firms θ is reported by the manager to the private

⁸Shapiro and Willig do not explore regulation issues further. The fact that regulator has a private agenda could suggests the idea of regulatory capture.

owners and then regulator faces an information revelation problem. He must choose an appropriate regulation scheme based on transfers $T(z)$ to motivate the private firm. Finding the optimal regulatory contract implies solving a second best problem analogous to that of Baron and Myerson (1982), reported in Appendix 1. Therefore, due to the cost of public funds, transfers are information rents to be minimised, at the cost of output reductions for the less profitable firm.

The agency cost of regulating a private firm with asymmetric information implies not only a reduction of payoffs concerning both the public-spirited framer and the regulator - corresponding to the public transfers $T(z)$ - but also output distortions with respect to the public enterprise's solution. However agency costs can also imply privatisation benefits to the extent that output distortions also affect the private agenda of the public official that, as malevolent regulator, finds now more difficult to reach his private goals. Given that the public-spirited framer may want to put constraints on malevolent public officials that pursue their private agenda, privatisation represents a useful information barrier to the extent that a completely informed minister is transformed into a less informed regulator⁹.

Shapiro e Willig can then reach their "indifference result" concerning SOEs and regulated private firms, stating that ownership is neutral from the point of view of social welfare if private information about profitability is irrelevant or there are no costs of raising public funds¹⁰. On the contrary if the latter are positive and there is private information on firm profitability, privatisation can increase efficiency if agency benefits outweigh agency costs. The economic rationale of privatisation then depends on the weight of private information about firm profitability and on the performance of the political system concerning its ability to constrain the behaviour of public officials. Therefore greater privatisation benefits will accrue to countries with more corruption because of flawed political system.

The case of nondiscretionary governance systems is also considered. If public officials (i.e. minister or regulator) have no information about the social value of production, as this kind of information is completely controlled by the framer, then the framer himself will find it convenient

⁹In the case of regulated firm, it is like if the government commits himself to respect private property rights to information (see subsection 2.2).

¹⁰With private information on firm profitability and no cost of raising public funds the regulatory solution suggested by Loeb and Magat can be implemented eventually through franchise auctions as suggested by Sappington and Stiglitz. No output distortions will arise, eliminating then both agency costs and agency benefits. In order to justify public production privatisation failures listed by Sappington and Stiglitz should be invoked.

to give no discretion to them in order to maximise social welfare. However such a conclusion obviously depend on the assumption of a public-spirited framer. For example, a malevolent framer may want to reduce the discretion of an independent (benevolent) regulator that prevents him from using the control of the firm to pursue his private agenda. In this case the social benefit of reducing regulatory discretion may be questioned¹¹.

As noted above, agency relationships between firm owners and managers are neglected by Shapiro and Willig. This kind of relationships are at the core of Principal-Agent theory (Rees, 1984) and are very important to study when the aims of the owners diverge from those of the manager. At the simplest level, it can be assumed that managerial utility is a function of income and effort. There will be a monitoring problem and an optimal contract to constrain manager behaviour and avoid slack should be designed. This kind of problem raises the issue of productive efficiency that should be considered together with allocative efficiency when evaluating privatisation policies. The analysis of Pint (1991) integrates the model of Shapiro and Willig by exploring managers behaviour in the framework of alternative regulation mechanisms affecting a natural monopoly that could be either privatised or nationalised. The payoff function of the manager (independent from the ownership structure) is separable on his salary $w(\cdot)$ and slack δ :

$$U = \vartheta\delta + g(w(\cdot)) \quad (3)$$

being ϑ the constant marginal utility of slack. When expressing the production function as a labour requirement function $L(z, K, \theta)$, one can see that the manager can exploit his private information on the technological parameter θ and his hidden action about the combination between capital and labour (K/L), to report excessive labour requirements in order to finance his slack with an information rent¹². Therefore one

¹¹Attempts by political majorities to reduce the regulatory discretion of independent regulators may be explained by the persistence of Treasury stakes in partially privatised firms whose value can be affected by parliamentary decisions aiming to allow greater rate of returns on firms assets. Empirical evidence consistent with this phenomenon is shown by Bortolotti and Faccio (2004) and discussed in section 3.

¹²Without any incentive compatible contract the manager would find it convenient to report a value $\hat{\theta} > \theta$, such that the amount of labour required to produce $z(\hat{\theta})$ with $K(\hat{\theta})$ would be lower with respect to $L(z(\hat{\theta}), K(\hat{\theta}), \hat{\theta})$ assuming that $\frac{\partial L}{\partial \theta} > 0$. Therefore the manager would be able to finance his slack δ by saving labour with respect his declared requirement $\bar{w} [L(z(\hat{\theta}), K(\hat{\theta}), \hat{\theta}) - L(z(\hat{\theta}), K(\hat{\theta}), \theta)]$ and make a profit $\Pi(\hat{\theta})$.

should design an optimal incentive contract such that the manager gets the level of salary and information rent allowing him to report the true θ . However private and public owners differ with respect to their payoff functions. Privatised firm maximises expected profits, given the price of labour \bar{w} and the price of capital i :

$$\max_{K(\theta), z(\theta), \delta(\theta), w(\theta)} E_{\theta} \{p(z(\theta)) z(\theta) - iK(\theta) - \bar{w}L(z, K, \theta) - \delta(\theta) - w(\theta)\} \quad (4)$$

On the contrary, the government, being a vote seeker, operates the public firm with the aim to maximise the expected sum of the net benefits of its constituency:

$$\max_{K(\theta), z(\theta), \delta(\theta), w(\theta)} E_{\theta} \{\alpha_1 S(\cdot) + \alpha_2 \Pi(\cdot) + \alpha_3 \bar{w}L(\cdot)\} \quad (5)$$

where $\alpha_i \geq 0$ ($i = 1, 2, 3$) is the weight given to each component of his payoff function, i.e. the consumers surplus, the SOE profit and the total amount of workers salaries (by assumption all workers belong to the government constituency)¹³.

Due to the incentive issues arising from the agency problems between owners and managers, only second best efficiency can be reached by both kinds of firms. As the government is biased towards labour and consumer surplus, the manager of the nationalised firm is expected to receive higher information rents in order to respect his incentive compatibility constraint at larger level of output. Therefore he receives a higher salary and enjoys more slack. Then, the distortion of the nationalised firm towards the use of excessive labour reduces its productive efficiency. On the contrary SOEs may be relatively more efficient from the allocative point of view as they care more about consumer surplus. However when the weight given to consumer surplus in the payoff function of the government is excessive, the output level will exceed the second best benchmark. Privatised firms may also be inefficient from the productive point of view because of Rate of Return regulation. Due to the Averch-Johnson effect (1962), their productive choice is biased towards capital. On the contrary when incentive mechanisms like price-caps are adopted,

¹³In his model, Pint neglects the distinction between the framer and the public official and he does not study the choice between public and private firm. He only compares these two kinds of natural monopoly. However, following Shapiro and Willig, in the nationalised firm we can think about a (malevolent) vote seeker framer coinciding with the (malevolent) public owner, here also regulator given the agency problem with the manager. In this way Pint identifies the private agenda with the electoral support. As concerns the private firm, the public but politically independent regulatory agency can adopt either ROR or price-cap mechanisms.

privatised firms are more efficient from the productive point of view, as they select the efficient K/L ratio.

One of the result of privatisation policies is that managerial incentives could also be positively affected by the market for corporate control. Vickers and Yarrow (1988) highlight that disperse share ownership can reduce the effectiveness of shareholder monitoring over managers, but takeover bids can concentrate ownership and eliminate externalities associated with multiple holdings. Takeover threats can work as an incentive mechanism for managers towards internal efficiency, but could also badly affect manager performance by raising the rate at which managers discount future utility as the likelihood of a takeover increases. Furthermore takeover activity may be motivated by different factors other than capital gains - like market power or the reduction of tax liabilities - so that even an efficient management can be vulnerable to it. Then the incentives to pursue efficiency based on takeover threats result to be weakened. We shall not developed this argument further as there is a wide and interesting literature on corporate governance that can offer additional insights, but it is beyond the scope of this review¹⁴. Not only takeovers, but also bankruptcy threats may be an incentive for managers of private firms, while SOEs risk to be less efficient because of soft budget constraints. This new issue will be analysed in the next subsection.

2.2 Privatisation with incomplete contracts

One weakness of the contributions just reviewed is the dependence of privatisation benefits on the crucial assumption of a malevolent government. In order to strengthen privatisation gains, subsequent contributions assume a completely benevolent government, but emphasize that agency relationships are characterised by incomplete contracts. In such a framework the government faces unavoidable commitment issues that can explain the advantages of privatisation policies. Due to the limited rationality and the excessive cost of listing each specific right on firms assets, contracts are frequently incomplete and property rights matter because they give to the owner the authority to dispose of firm assets in any event. Grossman and Hart (1986) have shown that when unforeseen contingencies arise within contractual relationships, the residual decision rights are implicit in ownership.

Laffont and Tirole (1991) compare private and public firms in the framework of incomplete contracts extending their previous model of regulation with incomplete information (Laffont and Tirole, 1986). They consider the following cost function $c = \theta - e$, being e the managerial

¹⁴The literature concerning the relationship between corporate governance and privatization issues is surveyed in Megginson and Netter (2001).

effort concerning cost reduction activities. According to the information structure, the regulator knows c and thus disposes of a further signal to infer the value of θ , that remains uncertain. However cost reducing activities represent a hidden action from the regulator point of view (as already seen in Pint moral hazard issues add to adverse selection problems). Therefore regulated firms can increase their information rents *vis à vis* regulator by reducing productive efficiency, as actually occurs in the second best solution of the model. If we consider Shapiro and Willig (1990) as the usual benchmark (see Figure 1), we can state that, as well as Pint, Laffont and Tirole (1991) analyse the agency relationships between owners and manager who bears the effort cost $\psi(e)$ and is informed about the cost parameter θ . However the authors point out that private regulated firms are characterised by multiple agency problems to the extent that their managers are controlled by two principals: shareholders and regulator. The objectives of the two principals may differ and when offering incentive compatible contracts to the agent, neither the shareholders nor the regulator internalize the aims of the other principal in their own agency problem.

The inefficiency resulting from the multiple agency problem represents the cost of private ownership, when the latter is separated from managerial control and firms are regulated. On the contrary, the cost of public ownership depends on the reduced incentive to invest faced by SOEs managers. According to Laffont and Tirole, SOEs managers fear that their noncontractible investments may be expropriated ex post by the government in order to achieve social goals. In fact, due to contract incompleteness, the government cannot commit ex ante not to expropriate investment ex post because in SOEs he disposes of residual property rights on firm assets. The investment quoted by Laffont and Tirole may range from cost reducing activities to firm facilities (club goods reserved to firm managers). After building a new plant, the government may decide ex post to force the firm to hire excess labour, thus reducing the rate of return on this investment (or grant access to firm facilities -once reserved to firm managers - to the entire population). What is important to point out is that the decision of the government to redeploy firm investments to social goals may even be ex post socially optimal, but managers' fears about investment expropriation may lead them to decide not to invest at all ex ante¹⁵. This is the cost of public ownership.

As said above, comparing ownership structures in their model, Laffont and Tirole find that managerial effort is lower in regulated private

¹⁵Laffont and Tirole assume that shareholders will not expropriate the investment of the manager, because they have no incentive to reallocate its related benefits to outsiders.

firms. However their insights about privatisation and efficiency may lead to ambiguous results, as they suggest in their conclusions. According to the authors, neglecting regulatory capture and considering the government as a single principal may limit the analysis. One can remind that both issues were dealt with in Shapiro-Willig contribution where the regulator had a private agenda and the government was distinguished from the framer.

With respect to Shapiro and Willig, Schmidt (1996a) considers a model where the framer and the government coincide, to the extent that the latter has to decide between nationalisation and privatisation. If the firm is nationalised then the government becomes the owner while in the privatisation case the firm is auctioned, the government keeps the revenues, and becomes a less informed regulator. As in Laffont and Tirole, there is a benevolent government and the agency relationship between owners and manager is explored in order to derive conclusions as to productive and allocative efficiency. According to Schmidt, the manager has a preference for higher output levels, enabling him to obtain higher budgets, and dislikes efforts to minimise costs. By assumption $\psi(e) = e$ and $\theta \in [\theta_1, \theta_2]$ represents the cost parameter ($\theta_2 > \theta_1$). Manager's effort affects costs stochastically: with probability $pr(e)$, $\theta = \theta_1$ and with probability $1 - pr(e)$, $\theta = \theta_2$. As well as in Shapiro and Willig, inside SOEs not only the manager but also the government knows θ . In fact the access to cost information is a residual right pertaining to ownership. When the firms is privatised the government loses the access to cost information together with ownership and just knows the distribution of θ , according to the probabilities shown above.

In his model, Schmidt is concerned with the issue of the soft budget constraint¹⁶. Inside SOEs managers have weaker incentives to minimise costs, because ex ante government threats to reduce output and shut down the firm in case of high costs ($\theta = \theta_2$) are not credible. Due to the fact that the (benevolent) government maximises social welfare, even if he observes a higher cost level (implying a lower e) his incentives will not lead him to reduce output ex post. In other words, given contract incompleteness, the government cannot commit ex ante to reduce output in order to punish the manager even when he observes a higher cost. As a consequence, the likelihood of slack is higher in SOEs. In practice governments will continue to bail out inefficient SOEs.

If the firm is privatised, the government no more observes θ , and faces the usual problem of regulation with incomplete information. Assuming that a regulatory scheme *à la* Baron-Myerson is implemented, inefficient manager will automatically be punished because if $\theta = \theta_2$ the regulatory

¹⁶The concept of soft budget constraint was introduced by Kornai (1986).

contract implies output reductions with respect to the first best. Therefore the *empire builder* manager operating in the private firm regulated *à la* Baron-Myerson is led to put all his efforts to minimise cost in order to increase the likelihood that $\theta = \theta_1$.

By comparing nationalisation and privatisation Schmidt finds then a higher level of productive efficiency in private firms while allocative efficiency is greater in SOEs¹⁷. With privatisation policies a benevolent government commits himself not to have access to cost information in order to harden budget constraints. Therefore privatisation works as an informational barrier as well as in Shapiro and Willig, but without the need to introduce the assumption of a malevolent government. However, as Schmidt points out, if there are welfare gains from privatisation policies even in the case of a benevolent government, one can expect further benefits from privatising SOEs if the government is a malevolent one. In order to strengthen his previous results, in a subsequent paper Schmidt (1996b) introduces the assumption that the private owner and the manager coincide, thus eliminating the preference of the latter for higher outputs. His conclusions are nevertheless confirmed also in this new framework.

While it is reasonable to believe that the soft budget constraint negatively affects productive efficiency one could also argue that such effects are not limited to SOEs. Actually governments may also decide to bail out inefficient private firms in order to preserve employment or protect national production *vis à vis* foreign imports. Considering this issue, Segal (1998) goes a step further with respect to Schmidt by assuming that firms may even behave strategically by choosing actions that lead to unprofitable production in order to receive State subsidies, if the latter exceed the amount of profits they can get from pursuing efficient production decisions. Segal considers the case of a monopolist, structurally receiving State subsidies because of market failures that drive down industry output. Such a case could be consistent with the experience of many vertically integrated public utilities considered as natural monopolies and owned by the State in the last century Europe in order to finance network expansion and widespread diffusion of services beyond profitable decisions. But social concerns may also be related to full employment and thus be extended to industries not necessarily characterised by market failures like natural monopoly. Even if investments devoted to increase productive efficiency are not costly, the firm that potentially receives State subsidies may prefer not to carry out

¹⁷This result is similar to that of Pint and at the same time is not in contrast with the one of Laffont and Tirole. If one considers the nazionalised firm then the manager invests less in cost reduction or in redeployable assets respectively.

such investments and deliberately make its product costly or unwanted by consumers, anticipating a bailout when the threat of shut down becomes credible. In that case welfare is reduced by two effects: productive inefficiency and the social cost of public subsidies. Moreover, welfare reductions may even overcome the deadweight loss related to monopolistic production.

Only if the State was able to write long term contracts with the monopolist, conditioning the subsidy on firm decisions about production and investments, welfare costs could be avoided. However contract incompleteness generally prevents the full description of production and future technology thereby preventing also intertemporal commitments on these issues.

Segal suggests that the government can harden the budget constraint by credibly limiting the amount of the State budget. He gives the equivalent example of an infinite social cost of public funds, but recent constraints imposed to budget deficits in the European Union (together with limits imposed to state aids to national firms) are even better examples of credible commitments that could avoid the social surplus dissipation by subsidised monopolies. Another way to harden budget constraints would be to introduce competition into the industry. In the case of public utilities this implies the idea to break the vertical integrated utility by liberalisation, unbundling the monopolistic network from service provision where competition may be sustainable. But then one could wonder if in this case privatisation is really necessary in addition.

Also Lülfsmann (2002) points out that the government is *ex post* led to bail out inefficient private firms as well. In particular he drives the attention on regulated private firms, assuming that government remains concerned with allocative efficiency even after privatisation, pursuing then the aim of first best efficiency as he does with SOEs (in this way neglecting the sophisticated regulatory schemes presented in the last section). Therefore commitment issues could not explain greater productive efficiency in private firms. Lülfsmann shows instead that both private and public owners may be lead to renegotiate the initial wage contract with managers when technological conditions change and there is a credible threat to quit or shut down the firm. Given the hypothesis of a pure benevolent government, the author concentrates on this kind of renegotiation issues assuming that owners and manager will equally split the related surplus during the renegotiation phase (Nash bargaining solution). However, as nationalised firms evaluate production more than private firms (taking into account consumer surplus), their managers can obtain higher salaries. Such a larger compensation represents a soft budget constraint but, due to renegotiation opportunities, does not

prevent the attainment of a first best level of effort. When the production can be carried on only if an innovative production technology that drastically reduces fixed cost has been developed, productive efficiency may be greater in public firms. Managers are led to put greater efforts to innovate because if they succeed they will get larger compensations during the renegotiation phase while if they do not succeed the firm will be shut down. Such an explanation may be consistent with the great involvement of national government in the aerospace industry, biotechnologies or other risky and innovative business. On the contrary, when basic technologies are highly viable, productive efficiency can be greater in private firms, but the result is independent of commitment issues. Rather one could state that the budget constraint hardens as manager compensation just depends on profits and they do not overinvest in effort.

As Sappington and Stiglitz, Schleifer (1998) conceives privatisation as outsourcing by the government facing the “make or buy” decision. Differences between private or public provision of goods and services mainly depend on contract incompleteness, as far as the government “cannot fully anticipate, describe, stipulate, regulate and enforce exactly what it wants” (p. 137). According to the author, it may be easier to write contingent contracts in the case of public utilities than in the case of firms supplying education or social services. Due to the fact that quality is often non contractible, ownership of assets is relevant as it implies residual rights of decision. Government employees may be characterised by weaker incentives to reduce costs and innovate, but high-powered incentives of private firms in this respect may in turn have a potentially negative effect on service quality as far as hospitals and schools are concerned. However even in this case public ownership not necessarily is the optimal solution to the extent that the opportunity of consumers’ switching coupled with a sufficient competition in the market may preserve the incentives to supply high quality even in private firms. When asymmetric information about quality prevents the competitive mechanism to work, reputational concerns may avoid deleterious effects on quality provision. Finally Schleifer finds that, in the case of health, education and social services, public ownership may be substituted by non-profit firms that, according to Weisbrod and Karpoff (1968) can avoid quality reduction in order to minimise costs, as the constraints on profit distribution keep the incentive to supply high quality services.

3 Privatisation and Political Economy

The original contribution of Shapiro and Willig suggested that malevolent public officials are hierarchically linked to a public-spirited framer

who has to decide between privatisation and nationalisation. Pint talked about a labour intensive public firm given that he identifies the private agenda of the (vote seeker) government with the electoral support. However at the same time he considered a public, but politically independent regulatory agency. Vickers and Yarrow (1988) pointed out that even if privatisation decisions may be Pareto efficient from the point of view of the society as a whole, they do not necessarily maximise political consensus because privatisation benefits may be widespread while privatisation costs may just concern a small part of the constituency, i.e. workers of the former SOE. To the extent that only workers that fear unemployment care about privatisation and get informed about its weight in political platforms, then politicians may not pursue privatisation policies in order not to lose votes and be re-elected. The issue of political benefits connected to excess employment comes back again in more recent analyses due to Shleifer and Vishny (1994) and to Boycko, Shleifer and Vishny (1996). According to such analyses, the inefficiency of SOEs still depends on their distortions towards excess employment, but a new methodological approach to study this problem is applied, starting from the fact that the reduction of employment through privatisation cannot be trivially assumed¹⁸. Agency theory and regulatory mechanisms are left aside while bargaining issues become more relevant. Manager and the politicians bargain over the decisions of the firm and the latter may try to keep excess employment even in private firms. Therefore one cannot automatically assume that privatisation leads to an increase of efficiency by reducing labour costs.

Shleifer and Vishny further analyse the distinction between ownership and control of the enterprise. A continuum of firm structures can then be considered according to the portion of shares respectively owned by the manager (private entrepreneur serving the interests of shareholders) and by the Treasury. Therefore, beyond pure SOEs and private firms, one can consider the corporatised firm where the transfer of control rights from the politician to the manager occurs independently from pure privatisation, implying a change of ownership rights too, and the regulated private firm. In this last case the politician can continue to exercise control rights in order to keep excess employment even if the manager and private shareholders own the firm.

Reducing excess employment to reap efficiency gains only depends on a restructuring process, but privatisation not necessarily leads to such a process. Thanks to public transfers, the politician may in fact

¹⁸In fact the empirical evidence is not definitely conclusive in this respect (Megginson and Netter, 2001).

try to corrupt the private manager to keep excess employment even in private firms. Thus privatisation not necessarily eliminates soft budget constraints, as Segal also shows. But according to Shleifer and Vishny corruption can also work the other way round to the extent that managers can corrupt politicians with control rights in order to be free to restructure, reduce labour costs and make greater profits. Corruption mechanisms are then represented as a Nash bargaining process enabling parties to reach their jointly efficient solution (which differ of course from the first best) and split the related surplus. Shleifer and Vishny are then able to show a new “indifference result”, the third in the literature, concerning privatisation: “with bribes, the allocation of resources is independent of either the allocation of cash flow rights or the allocation of control rights over excess employment”¹⁹.

Such a result represents an application of the Coase theorem: it shows that with full corruption politicians and managers can reach an efficient allocation of (their) resources independently from the distribution of control and ownership rights. However being corruption illegal it cannot be easily implemented, due to strategic behaviour as economic agents take their decisions in a non cooperative framework where only reputation issues could eventually bind them. Therefore there are good reasons to move away from the indifference result and try to show if privatisation potentially matters when corruption cannot be fully implemented. The level of excess employment (a benefit for politicians and a cost for managers) and the level of public transfer (a benefit for managers and eventually a cost for politicians) differ in the equilibrium with no bribes with respect to the equilibrium with full corruption and are affected by the distribution of ownership and control rights. Actually Shleifer and Vishny find that corporatisation matters to the extent that when a manager gets control of the firm he partially restructures and reduces excess employment. At the same time he can extract surplus from politicians in the form of public transfer from the Treasury, so that the budget constraint softens with corporatisation. However privatisation after corporatisation does not matter to the extent that “with manager control, the allocation in the no-bribes equilibrium is independent of management ownership”²⁰. To see how privatisation matters in such a framework one should introduce some further assumptions concerning both the crucial relationship between politicians and the Treasury and the cost of public transfers.

Boycko, Shleifer and Vishny (1996) explain why privatisation can lead to restructuring, trying to give an answer to the following ques-

¹⁹See proposition 1 in Shleifer and Vishny (1994), p.1006.

²⁰See proposition 6 in Shleifer and Vishny (1994), p. 1010.

tion: why would a politician fail to buy his way to high labour spending through subsidies to private firms? The answer lies in the cost of subsidies. Let us denote by T the subsidy from the Treasury to the firm and by α the share of cash flow owned by the manager (private shareholders). Since the Treasury owns $(1 - \alpha)$ of the cash flow, it gets the fraction $(1 - \alpha)$ of this subsidy back. So the effective subsidy is αT . If the politician could ask the Treasury to subsidise the privatised firm at no cost for himself, he would pay infinite subsidies to get excess employment and no restructuring could ever take place. But if the Treasury has to finance subsidies raising taxes or inflation - taking then unpopular decisions - the cost to politicians of making a net subsidy αT becomes $k\alpha T$ ²¹. Such a cost adds to the cost to the politicians of foregone Treasury revenue due to excess employment, measured by m . In the model the objective function of the politician is then given by:

$$U_p = -m(1 - \alpha)E + qE - k\alpha t \quad (6)$$

where E denotes the level of labour spending and q the marginal political benefit of a money unit of such a spending ($q < 1$). The assumption that the politician uses his control rights to choose a higher level of employment implies $m(1 - \alpha) < q$. The utility function of the manager is given by:

$$U_m = -\alpha E + \alpha T \quad (7)$$

The authors assume that $m < k$ because it is reasonable to suppose that it is easier for politicians to squander firms profits on inefficiencies than to get additional subsidies for them. Actually a minister must compete with other politicians for the resources of the Treasury while it is easier for him just spending the profits of a firm he directly controls. It is interesting to notice that competition among politicians for the resources of the Treasury becomes fiercer in case of a tight macroeconomic policy or for countries overwhelmed by very high public debts (like Italy for example). Therefore privatisation will lead to restructuring only when the following condition holds:

$$k\alpha + m(1 - \alpha) > q \quad (8)$$

In fact when the inequality holds the political cost of subsidies and the financial cost of foregone profits are greater than the political benefits of spending in excess employment. It is interesting to underline that such a condition may not hold for some firms whose excess employment

²¹ $k < 1$, since subsidies are less costly for the politician than bribes out of his own pocket.

is crucial for political consensus²². On the basis of such conclusions Boycko, Shleifer and Vishny distinguish privatised firms controlled by large outside investors, by their employees or by managers. The first ones are more likely to restructure as they are harder to convince through subsidies to increase employment spending.

Issues related to the separation between ownership and control and to the difference between privatisation and restructuring may be crucial when considering empirical evidence about partial privatisations. Megginson and Netter (2001) show in their survey that firms with mixed ownership (where the Treasury still holds a part of the stakes) are more efficient than SOEs but less efficient with respect to completely privatised firms. Bortolotti and Faccio (2004) find that at the end of 2000, through ownership or “golden shares”, governments controlled 62.4 % of privatised firms. Surprisingly they also find that large government stakes have no negative effects on either adjusted market value or stock price performance. Therefore government reluctance to complete privatization matters but - contrary to what is expected - large State holdings could even positively affect the market value of privatised firms. Actually the government “can shield privatised companies from competition, afford them a favorable regulatory environment, subsidize loans or guarantee contracts”²³. Following such a strategy the Treasury, as a shareholder, could get financial benefits and use them to relax public finance constraints or competition among politicians for its resources or even avoid increasing fiscal pressure. One cannot exclude that partially privatised firms protected by the government could also avoid more restructuring in order to preserve at least a part of the overmanning that continues to yield political benefits. Then further efficiency gains could then require the total release of shares by the Treasury.

Previous contributions introduce a separation between privatisation and restructuring decisions that can be fruitful when discussing the impact of privatisation on efficiency. However these results do not depend on the analysis of political competition even if they are based on explicit assumptions about the preferences of politicians. Therefore they cannot represent a pure contribution to the political economy of privatisation yet. On the other hand, the few contributions to the political economy of privatisation are more interested on the feasibility, credibility and the distributive implications of privatisation decisions whose contribution to efficiency is just assumed as given. Bortolotti and Pinotti (2003) show

²²An example could be the Italian National Air company, Alitalia, continuing to receive State subsidies without significant restructuring - even after a partial privatisation - and risking bankruptcy in 2004.

²³See Bortolotti and Faccio (2004), pp. 2-3.

how some classical contributions of the political economy literature could be adapted to privatisation issues. They establish that, *ceteris paribus*, “majoritarian” political systems, as opposed to “consensual-corporatist” democracies should be more likely to privatise, because they are more competitive and able to drive down political rents, so that the opposition to privatisation decision is reduced. The partisan dimension of privatisation is explicitly analysed by Biais and Perotti (2002), showing that right wing politicians privatise in order to gain future support from the constituency of shareholders of newly privatised firms²⁴. However they show that also left wing parties can strategically take privatisation decisions in order to win future elections, but their aim is to maximise privatisation revenues and use them to realize redistributive policies. Therefore also the implementation of privatisation decisions could be shaped by political preferences with conservative governments which tend to privatize by public offers and left wing governments that will more frequently choose private placements to strategic investors or share issues in international exchanges, in order to generate higher revenues.

The political economy of privatisation has been explicitly analysed more recently by Börner (2004). Also Börner introduces a separation between privatisation and restructuring decisions: the government may either privatise or restructure a SOE characterised by low productive efficiency. But furthermore the author compares the effects of privatisation and restructuring decisions according to different government preferences. Actually when privatising, the government does not necessarily pursue efficiency aims and therefore privatisation incentives may even prove to be excessive if privatisation decisions are due to votes or revenue maximisation. In these cases the government may be led to carry out politically motivated reforms in the short run, even if such decisions are not the best ones in the long run according to the maximisation of social welfare. Börner’s model builds on Schmidt (1996): both in case of privatisation and in case of restructuring a manager is hired (by the private owners and by the government respectively) to invest in cost reduction activities in an incomplete contracts setting. Manager’s rewards can only be conditioned on profits. Manager’s effort e affects costs stochastically, to the extent that with probability $pr(e)$ reforms will be successful in increasing productive efficiency and with probability $1 - pr(e)$ reforms will fail and the firm will be shut down. If reforms prove to be

²⁴Biais and Perotti assume that the conservative party maximizes the utility of the rich while the left party maximizes the utility of the poor. By allocating shares of newly privatized companies to the middle class, the right makes the median voter averse to the redistribution policies of the left and gains support for the future elections.

successful the owner of the firm decides on the employment level and the output is then produced²⁵.

If the government was a welfare maximizer he would trade-off privatisation benefits due to the enhancement of productive efficiency with restructuring benefits due to the opportunity of choosing the socially optimal employment level. In case of privatisation, the owners choose the profit maximising employment level and this leads to a higher effort by the manager which means in turn a higher probability that reforms will be successful. In case of restructuring social benefits are not only due to a lower level of unemployment but also to less redistribution losses as the total cost of public funds decreases with unemployment subsidies. Moreover the welfare oriented government does not care about privatisation prices as he is not interested in the distributive effects of reforms. On the contrary the strategies of the voter oriented government would be consistent with underpricing (or voucher privatisation²⁶). In fact, the voter oriented government aims to maximise his chance of re-election and is attracted by the opportunity to transfer the profits of privatised firms directly to the citizens. Therefore it is rational for him to choose the lowest possible privatisation price. On the contrary restructuring policies may be attractive not because of the social cost of unemployment implied by privatisation policies, but in order to maximise transfers to citizens through an increase of total wage payments implied by a higher employment level. Finally Börner considers the case of the “egoistic government” maximising his own expected revenues (be they devoted to political projects or to the private pockets of politicians). This kind of government is led to choose the highest privatisation price. In case of restructuring he chooses instead a lower employment level with respect to the welfare oriented government in this way trying to reduce labour costs.

The analysis carried out by Börner captures the short sightness of reforms implemented because of political preferences. Voter oriented governments may have inefficiently high incentives to privatise as privatisation may be the cheapest way to increase voters revenues. Alternatively, by restructuring SOEs this kind of government would choose a higher than socially optimal employment level, just for distributive reasons. If this last effect prevails, incentives to privatise would result

²⁵In case of privatisation the government covers the costs of unemployment and credibly commits not to interfere with the private employment choice. In case of restructuring the government chooses the employment level and internalizes the unemployment costs.

²⁶Voucher privatisation, implemented in Russia and in the Czech Republic, implies the distribution of assets for free to the citizens. Therefore in this case the privatisation price is zero.

to be inefficiently low. Also egoistic governments may have inefficiently high incentive to privatise, as they undervalue the social cost of unemployment. From their point of view total wage payments are just a cost as well as unemployment subsidies. To the extent that the latter are lower than the labour costs the egoistic government always prefers privatisation policies in order to pursue revenue maximisation. Only with better institutional arrangements the inefficient incentives to privatise are reduced: the government may be led to choose privatisation more frequently than restructuring, but such a choice results in an increase of social welfare.

4 Conclusions

The theoretical literature about privatisation and efficiency relies on “indifference theorems”, stating the neutrality of ownership structure in order to justify privatisation policies on efficiency grounds when observing neutrality failures. In their seminal contribution Sappington and Stiglitz state that public production cannot improve upon private production, because the government could always delegate the provision of the good to a private firm through an auction’s mechanism and reach both productive and allocative efficiency if an “ideal setting” prevails. To the extent that in the real world the assumptions related to this “ideal setting” are not respected, government intervention may be required to restore efficiency. However nationalisation is neither desirable nor necessary, as the government can use a politically independent regulatory agency. Therefore the subsequent literature is led to compare SOEs to regulated private firms and is built on the theory of regulation with imperfect information.

Even with incomplete information about production costs, regulation could achieve first best optimality if a transfer equivalent to the information rent is awarded to low cost firms to prevent them from exploiting their private information. However if public funds are costly this regulatory mechanism is not optimal. In the “ideal setting” of Sappington and Stiglitz rents could be completely dissipated within franchise auctions. The optimal regulatory mechanism found by Baron and Myerson (1982) reduces information rents, but implies output distortions for the inefficient firm. However, when assuming a malevolent government (public officials have a private agenda), incomplete information about costs may also be the source of benefits if SOEs are privatised and public intervention is put in the hands of a malevolent regulator. To the extent that the latter needs to make resort to a regulatory mechanism *à la* Baron and Myerson in order to obtain cost revelation by the private manager, he will find it more difficult to pursue his private agenda which is neg-

actively affected by output distortions. Therefore privatisation may be equivalent to an information barrier. Due to the interposition of this barrier, social welfare can increase with privatisation if malevolent ministers are transformed into regulators. That is why the “indifference theorem” of Shapiro and Willig states that ownership is neutral for social welfare if private information on profitability is irrelevant or there are no costs of raising public funds. Actually if private information is irrelevant there will be no benefits from privatisation conceived as an information barrier: SOEs and private regulated firms will be equivalent in this respect. On the contrary when the conditions for neutrality do not hold, ownership matters and greater privatisation benefits are expected to accrue especially to countries with flawed political systems, as malevolent governments can pursue their private agenda more easily.

If in addition one considers the incentive issues arising from the agency problems between owners and managers, only second best efficiency can be reached both by SOEs and privatised firms. Governments that maximise the welfare of their constituencies may be (excessively) biased towards labour and consumer surplus. Then managers of nationalised firms are expected to receive higher information rents in order to respect their incentive compatibility constraints at larger level of output. Private regulated firms may be more efficient from the productive point of view (provided that they are regulated with price-cap mechanisms).

To the extent that previous results strongly depend on initial assumptions about government behaviour, privatisation benefits may not appear a robust result within this literature. Further efforts are thus devoted to show that privatising and regulating formerly SOEs may increase efficiency even when the government behaves as a benevolent maximiser of social surplus. This part of the literature does not rely anymore on “indifference theorems”, as ownership always matters because of incomplete contracts. When unforeseen contingencies arise, making resort to residual control rights is usual in contractual relationships. Such rights are connected to ownership, but this raises commitment issues concerning governments.

Actually benevolent governments cannot commit themselves to reduce output or even shut down inefficient SOEs. As these kind of governments maximise social welfare, they will always bail out SOEs in spite of their (non credible) threats. On the contrary, managers of private firms regulated *à la* Baron-Myerson are adversely affected by output distortions and increase their efforts to reduce costs. Therefore allocative efficiency results to be greater in SOEs while productive efficiency is higher in regulated private firms. Contract incompleteness can further prevent the attainment of productive efficiency in subsidised firms. Due

to the impossibility of granting state contingent subsidies, SOEs may even find it worthwhile to keep an inefficient behavior in order to continuously receive financial support by the government. However there is no reason to exclude that even private firms follow this same behavior to the extent that the government sometimes provides financial aids even to them in order to avoid the rise of unemployment or protect national production *vis à vis* foreign imports.

The incentives to invest may be greater in private regulated firms even because within SOEs the government cannot commit not to expropriate investments' benefits in order to reach social goals. The investment decisions of the public manager are then negatively affected to the extent that he anticipates expropriation. According to Laffont and Tirole, the reduced incentives to invest represent the cost of public ownership. But there is also a cost related to private ownership. In fact, if firms are privatised and then regulated, the manager is now controlled by two principals: shareholders and the regulatory agency. As each principal fails to internalise in his objective function the aims of the other one, the related inefficiencies represent the cost of private ownership. No clear cut conclusions can then be drawn about the superiority of private ownership with respect to the public one from the efficiency point of view.

Assuming a completely benevolent government is probably both the merit and the limit of the contributions based on the incomplete contracts theory. These contributions do not care about the active role that the government can play in shaping privatisation policies. On the contrary, more recent papers analyse the institutional characteristics of privatisation decisions assuming that privatisation policies may be driven by politicians' preferences. In that case efficiency is affected even if political decisions pursue different goals. The relationships between politicians and firms are discussed in a more general framework that includes decisions to subsidise also private firms. A fact that was incidentally noticed also by previous contributions but that leads to consider the political control of the firms that have been corporatised or partially privatised.

In this framework not only politicians can bribe managers to keep excess employment within the firm, but also managers can bribe politicians in order to be free to maximise productive efficiency by reducing labour costs. Then a new "indifference theorem" arises to the extent that if corruption were fully allowed in political systems then the resulting allocation of resources would be completely independent from the ownership and control of the firm. Due to obvious problems in implementing corruption activities, privatisation may become crucial as the

ownership and control matter concerning both the employment decisions inside the firm and the distributions of subsidies by the Treasury. While not necessarily privatisations lead to restructuring as politicians can obtain benefits from excess employment, if government subsidies become extremely costly due to the tight monetary policies or the unsustainable fiscal pressure then politicians may actually prefer restructuring as the political burden of financial losses may be too high. Then productive efficiency will be positively affected. This seems consistent with the recent experience of Western Europe. Taking care of the financial needs of the government leads to consider different political preferences. The government may privatise in order to maximise the revenue of voters holding the share of newly privatised companies or may be “egoistic” and just privatise in order to maximise his own revenues. Then excessive incentives to privatise can arise, while the government would have better to restructure SOEs in the short term and consider privatisation only in the long term. This in turns appears to be consistent with privatisation failures occurring in some Eastern European countries.

The theoretical literature we surveyed is not definitely conclusive about the impact of privatisation policies on firm’s efficiency. In our opinion one issue which has not been sufficiently taken into account is the behaviour of bureaucrats inside SOEs. In most contributions managers of SOEs appear not to be so different from managers operating inside private firms as far as their objective function is concerned. Differences in performance seem to be mostly related to differences in the objective functions of their principals. Classical contributions related to the analysis of bureaucracy (due to Niskanen and other scholars) should probably be considered in order to shed more light on bureaucratic activities inside SOEs and perform comparisons with private regulated firms. Moreover even the issues related to regulatory capture may be important for this comparison. The interplay between regulation and privatisation and between liberalisation and privatisation needs also to be considered to disentangle the effects due to ownership changes from the ones due to regulatory activities and market structure evolution. Finally the consequences of privatisation’s programs should also be investigated in a general equilibrium framework. Recent empirical works show that governments still holding some stakes in partially privatised firms can contribute to the financial success of these firms. When the Treasury just behaves as a shareholder for the sake of the public finance he may contribute to an excessive valuation of ex-SOEs, like for example public utilities in the telecom or in the energy sector, and drive away capital resources from other industrial sectors with non negligible effects on allocative efficiency.

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A Appendix 1

Let us start by considering a regulatory agency that has to implement a cost-reflective price regulation with imperfect information about the cost parameter θ of a monopolist. For the sake of simplicity let $\theta \in [\theta_1, \theta_2]$ represents the distribution of the cost parameter ($\theta_2 > \theta_1$). With complete information about the cost parameter the regulator could implement a first best regulation scheme by setting $p_k = \theta_k$, $k = 1, 2$. If this same regulation scheme was implemented with imperfect information the firm with type θ_1 could strategically declare a cost parameter θ_2 in order to obtain an information rent equivalent to the area $A + B$ in Figure 2. In that case the output produced would be just z_2 , with a social cost corresponding to the efficiency loss represented by the area C . In order to eliminate this loss the regulator could implement the regulation scheme of Loeb and Magat (1979) and promise to the regulated firm of type θ_1 to pay a transfer $T_1 = A + B$ equivalent to his information rent, when declaring $\theta = \theta_1$. Actually such a regulatory scheme is incentive compatible for the firm of type θ_1 as it should produce output z_1 in order to cash the transfer T_1 , so that a first best allocation can be obtained. However such a scheme is not optimal either when the social welfare function includes a cost of raising public funds or when it gives more weight to the consumers surplus than to the producer surplus. In that case transfers paid to regulated firms should be minimised in order to reach optimality²⁷. The regulatory scheme of Baron and Myerson actually attains this result. According to it, the firm of type θ_2 subscribes a regulatory contract whereby it can set $p'_2 > \theta_2$ to produce output z'_2 with a transfer $T_2 < 0$, so that the profit margin related to pricing above marginal costs is exactly compensated by the negative transfer (equivalent to a lump-sum tax) as $T_2 = D$. Such a regulatory contract implements a second best allocation, as output is distorted for the high cost firm, and a social cost equivalent to the area E persists. But in the meantime it reduces the transfer that should be paid to the low cost firm in order to avoid its strategic behaviour *vis à vis* the regulator. The optimal contract for the firm of type θ_1 includes $p_1 = \theta_1$ (to produce the first best output z_1) and a transfer $T_1 = A < A + B$. Therefore the information rent left to the low cost firm is reduced with respect to the solution of Loeb and Magat (1979): even if this firm would strategically declare a cost parameter θ_2 it could collect just a surplus equivalent to the area A , given that the optimal contract for the high cost firm allows pricing above marginal cost, but compensates the profit margin with an

²⁷Alternatively this rent could be extracted through franchise auctions as suggested by Sappington and Stiglitz (1989).

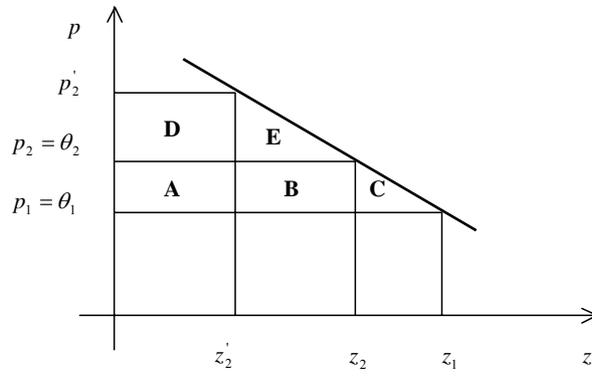


Figure 2: Baron and Myerson's regulation

equivalent transfer $T_2 = D < 0$.