

PRIVATE ENTREPRENEURS IN PUBLIC SERVICES:
A LONGITUDINAL EXAMINATION OF OUTSOURCING AND
STATIZATION OF PRISONS

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ABSTRACT

Some fear that the profit-maximizing orientation of private entrepreneurs conflicts with societal goals expected in the provision of complex public services. Received contractual theories advocate that private involvement in public services will result in cost reductions at the expense of quality. Using prisons as our empirical context, we benefit from an event involving the outsourcing and subsequent statization of correctional facilities in Brazil. Triangulating between quantitative and qualitative information, we do not find evidence of quality deterioration in outsourced prisons and suggest that a key mechanism driving this result is the presence of public supervisors closely working on site with private entrepreneurs in a hybrid governance fashion. We then deliver a set of new propositions that move beyond hazard considerations to examine how the combination of heterogeneous public and private capabilities might yield learning and spillover effects unattainable through pure government management or full-fledged privatization.

KEY WORDS

Private entrepreneurs, public services, public supervision, prisons

INTRODUCTION

In an effort to either reduce costs or expand the reach of public services, governments throughout the world have engaged *private* entrepreneurs in diverse activities where the presence of the state was normally widespread. Private agents and specialized operators have been observed in the management of charter schools (Ouchi, 2008), water distribution (Shirley and Ménard, 2002), defense (Baum and McGahan, 2009) and prisons (Cabral, Lazzarini, and Azevedo, 2010), among several other activities deemed to yield significant social impact. In some cases, this process has been accompanied by the full privatization of formerly state-owned enterprises and state-controlled services, but in others, the government has retained control of the productive assets and outsourced the internal operation of the corresponding activities to specialized private operators.

This trend, however, has not been immune to criticism. Some fear that the profit-maximizing orientation of private entrepreneurs conflicts with societal goals and outcomes expected in the provision of complex public services. Consider the context of prisons, which is the empirical focus of our study. It is commonly argued that correctional services should be evaluated in terms of their capacity to avoid overcrowding, restrain violence, and reduce recidivism. They should also assure the provision of food, healthcare and a safe environment to preserve the safety and integrity of inmates, employees, visitors and members of the external community (Archambeault and Deis, 1996). All these aspects transcend simple profit maximization: some even argue that efforts by private operators to cut costs will actually come at the expense of reduced *quality* in the provision of correctional services (Aman Jr., 2009). For this reason, it is not uncommon to find voices vehemently contrary to private participation in prisons (Dilulio, 1988; Nathan, 2003; Wacquant, 2001).

Concerns regarding the involvement of private entrepreneurs in prisons, as well as other complex public services, have received strong theoretical underpinning. Hart, Shleifer,

and Vishny (1997) propose an incomplete contracting model whereby quality is difficult to measure and enforce (e.g. the extent to which inmates receive adequate medical or legal assistance and the use of “force” within the facility). Because qualitative aspects are hardly contractible and compensation for the activities of the prison is fixed, private managers will have high-powered incentives to engage in cost-reduction efforts, thereby neglecting service quality improvements. Based on this predicted quality-cost trade-off, Hart *et al.* (1997) forcefully contend that “in important dimensions, such as prison violence and the quality of personnel, prison contracts are seriously incomplete” (p. 1152), and hence “a plausible theoretical case can be made against prison privatization” (p. 1154). In a similar vein, Williamson (1999: 339) claims that quality concerns “signal precaution” when the operation of prisons is franchised out to private agents.

A significant shortcoming of this literature, however, is that in many circumstances involving private outsourcing the government also retains a supervision function and even acts in active partnership with private entrepreneurs engaged in public services. In other words, outsourcing may actually involve a *hybrid* arrangement involving an interdependent set of public and private actors (Baum and McGahan, 2009; Cabral *et al.*, 2010; Rangan, Samii, and Van Wassenhove, 2006). Thus, observing the emergence of a “general contracting industry” in prisons, McGahan (2007: 751) notes that “it signals a fundamental turning point in government-business relationships—with governments providing only the oversight to assure that the services conform to public specification.” The fundamental question is therefore not whether private entrepreneurs will be able to execute complex public services adequately, but what are the relevant public-private interactions that may help attenuate the aforementioned cost-quality tradeoff. Moreover, through their interdependent interaction, private entrepreneurs and public agents can develop and contribute with complementary *capabilities* that would be unavailable within polar modes of provision involving only public

or private management (Klein, Mahoney, McGahan, and Pitelis, 2010; Rangan *et al.*, 2006). Specifically, private and public actors can leverage their existing heterogeneous capabilities to create new solutions and configurations (Agarwal, Audretsch, and Sarkar, 2007). Being mostly based on static analysis and neglecting resource heterogeneity considerations, contractual approaches to the private outsourcing of public services ignore important learning dynamics that may lead to superior outcomes in such hybrid arrangements.

Our objective in this paper is to examine how the interplay between private entrepreneurs and public agents affects the performance of complex public services. Using prisons as our empirical context, we benefit from a unique database comprising the outsourcing and subsequent statization of correctional facilities in the State of Paraná (South of Brazil). We had access to longitudinal data on public and outsourced prisons observed between 2001 and 2009. Some of these prisons were initially managed in a hybrid fashion (private entrepreneurs specialized in correctional services in association with public supervisors) and later became publicly run after 2006. The change in governance was due to a newly elected governor who, for political reasons, decided to call off “privatization” initiatives identified with his predecessor. We observe certain indicators of performance (quality) such as the number of deaths and escapes and the number of medical and legal appointments given to the inmates within each prison in a given year. Given the panel structure of our data, we are able to control for unobservable fixed effects that might arguably cause a spurious relationship between organizational mode (public versus hybrid) and performance.

Our quantitative data allow us to test the baseline prediction from received contractual theories that private management will result in lower quality. We do not find general support for this prediction, quite the contrary: private operation appears to *improve* performance in various relevant performance dimensions. To illuminate our quantitative results, we then

resort to qualitative information obtained from interviews with key actors in our empirical setting. We were able to conduct longitudinal interviews in distinct periods when the prisons were outsourced and then when they became state-run. Given that we have information on prisons that were private and then later became state-run, we can examine not only how public and private actors combine distinct capabilities, but also whether learning spillovers occur from the hybrid to the public mode. In light of our qualitative findings, we then propose a set of new testable propositions focusing on conditions that will affect the feasibility and performance of public-private hybrid arrangements. In brief, our expanded theory seeks to combine insights from contractual and capability perspectives to better inform the discussion on how the dynamic interaction between private entrepreneurs and public actors affects the performance of complex public services. The combination of different theoretical and methodological lenses helped us better reflect the reality in our subsequent theorizing (Okhuysen and Bonardi, 2011).

Our paper proceeds as follows. In the next section, we briefly review the relevant literature examining the involvement of private entrepreneurs in public services. We then describe our research methodology. Next, we present our quantitative and qualitative results. Subsequently, we use the previous empirical findings in the context of prisons to articulate an expanded theory on public-private hybrids. Concluding remarks follow.

THEORETICAL BACKGROUND

There has been growing interest in discussing how organization and strategizing in the private sector can possibly accommodate broader societal goals (Barley, 2007; Mahoney, McGahan, and Pitelis, 2009; Rangan *et al.*, 2006). Economists have long examined how individual, decentralized profit maximization by private actors may fail to achieve welfare-enhancing outcomes when the market environment is plagued with sources of “failure” such as social externalities and common pool resources leading to suboptimal private investment

and free riding. The usual remedy prescribed by economists to solve these distortions is government intervention, in the form of taxes, quotas or direct involvement in the production process.

Seminal work by Coase (1974) and Ostrom (1990), however, has shown that the participation of private entrepreneurs in activities with broader social impact is feasible even without direct government intervention. Analyzing actual cases involving the provision of natural resources (such as water and fishing), Ostrom (1990: 127) defines *public entrepreneurship* as a process in which private and state actors “transform the structure of incentives” by monitoring and self-enforcing collective production and consumption. More recently, Klein *et al.* (2010: 5) discuss how private and public actors can bring innovations and reconfigure resources so as to meet social objectives or address societal voids beyond what would normally be expected in markets—a process which they refer to as *entrepreneurship in the public interest*. Similarly, Santos (2009) defines *social entrepreneurship* as a process in which entrepreneurs address positive social externalities neglected by governments faced with resource constraints.

In this paper, we focus on the particular issue of whether and how private entrepreneurs can successfully participate in the execution of public services: activities that yield significant social externalities and that have traditionally been provided or heavily regulated by governments (such as health, education, law enforcement, and so on). Therefore, we examine private entrepreneurs as agents of social entrepreneurship or entrepreneurship in the public interest. Arguably, private firms, state-owned units managed by public bureaucrats, or a combination of the two, can provide public services. Both public and private agents can act as entrepreneurs in the public interest if they satisfactorily execute and improve services that yield significant social externalities (Klein *et al.*, 2010: 8). The question is therefore: in

which conditions can private entrepreneurs successfully engage in the provision of public services?

Organizational economists have attempted to answer this question through the lens of contract theory. Hart *et al.* (1997) introduce a formal model where public services have two performance dimensions, cost and quality. The latter has to do with the extent to which public services yield broader social benefits beyond operational (cost-based) efficiency: effective learning in schools, adequate treatment of inmates in prisons, reduced violence in police action, and so on. A key aspect of Hart's *et al.* (1997) model is that the quality-based performance dimension is *noncontractible*; in other words, any contract between the government and a private operator will be inherently *incomplete*. Thus, if profit-maximizing private entrepreneurs are paid a certain fee not related to quality, they would suboptimally pursue cost-reduction initiatives at the expense of quality-related improvements. A clear implication of their model is that the involvement of private entrepreneurs should be left to public services whose performance attributes are easier to measure and contract for.

Collecting data on municipal services in a sample of cities in the United States, Levin and Tadelis (Levin and Tadelis, 2010) confirm that private contracting is less frequent in activities with strong quality concerns and hence complex performance measurement.¹

Building on his transaction cost logic and Moe's (1984) early work on public bureaucracies, Williamson (1999) further elaborates on the comparative analysis of public versus private organization. He introduces the concept of *probity*: the need for "loyalty and rectitude" (p. 322) in complex transactions such as "foreign affairs, the military, foreign intelligence, managing the money supply, and, possibly, the judiciary" (p. 321). Although Williamson (1999: 339) suggests that probity concerns are related to the quality-related issues

¹ Bennett and Iossa (2006), in turn, evaluate a distinct setting where private operators have an opportunity to invest in the infrastructure necessary to conduct the service (e.g. they may not only operate, but also build the prison facility). In their model, innovations to be implemented by private entrepreneurs in the execution of the project are also noncontractible.

discussed in the model of Hart *et al.* (1997), he lays out the governance features that help distinguish between alternative organizational modes more explicitly. Public organization will typically involve low-powered incentives (flat wages), bureaucratic rules, and long-term labor contracts, while private organization will be associated with high-powered incentives (outsourcing fees), relative autonomy, and flexibility for the operators. The organizational features of the public mode will be particularly beneficial when probity concerns are acute: while long-term employment prompts the development of tailored skills in the public sector, the absence of high-powered incentives preserves “rectitude” by avoiding excessive “resource deployment from cost savings” (Williamson, 1999: 325). Interestingly, even departing from distinct theoretical frameworks, both Hart *et al.* (1997: 1154) and Williamson (1999: 339) recommend caution when outsourcing correctional services to private entrepreneurs.

Although contractual and governance perspectives have improved our understanding of the relative merits of private and state-run organization in public services, we see two important gaps that require further elaboration. First, in several cases the execution of complex public services involves the joint presence of state bureaucrats and private operators. Cabral *et al.* (2010) assess the performance of prisons operated by private entrepreneurs but closely monitored, on site, by public wardens (see also Morris, 2007). Baum and McGahan (2009), in turn, analyze the subcontracting of military services to private corporations. Although subject to extreme probity hazards, these transactions are enforced through reputational concerns: recurring interactions with governments discipline private entrepreneurs to seek objectives dictated by the state. In such *hybrid* arrangements, the incentive of private operators to cut costs or neglect other societal goals to maximize their profits can be curtailed by the presence of state actors who can veto certain decisions and even recommend severance of the outsourcing contract in case of poor performance.²

² Williamson (1999) describes *regulation* as an intermediate position between privatization and state ownership through the establishment of regulatory bureaus establishing rules and procedures for the public service. This

Second, the focus on contractual and governance features disregards how private and public agents may jointly contribute with heterogeneous, complementary *capabilities* to execute and improve the service (Mahoney *et al.*, 2009: 1037). By subcontracting certain tasks to private entrepreneurs, the state can bring external capabilities and allow these entrepreneurs to learn and innovate over time, with potential spillovers to the public sector (Klein *et al.*, 2010; Rangan, 2000). At the same time, public agents involved in hybrid arrangements can not only passively act as supervisors of certain tasks, but also effectively suggest areas of potential improvement in pursuit of broader societal goals. Thus, private and state agents can *interdependently* act as entrepreneurs for the public interest: agents whose joint work allow for improved learning and creation of novel solutions (Agarwal *et al.*, 2007).

Given the longitudinal nature of our empirical study and in particular our observed cases of organizational transition, namely prisons changing from hybrid to state-run mode, we bring new elements to understand the role of capabilities in the context of public-private interactions. We thus help expand the existing literature on the economic organization of public services beyond the usual focus on contractual and governance features. In the following section, we present our empirical setting and methodology, and then move to the quantitative and qualitative analyses of our observed correctional units.

EMPIRICAL CONTEXT AND APPROACH

Setting

We gather and analyze data from the Paraná State Corrections Department (DEPEN), in the State of Paraná (south of Brazil). Paraná had, at the end of 2009, 29,560 inmates held in provisory jails (run by the civil police) and state penitentiary facilities (run by DEPEN),

arrangement, however, is different from the hybrid governance mode discussed here, in which state agents closely work with private entrepreneurs and may even (as we discuss below) get involved in the design and improvement of operations. There is also a large literature on *public-private partnerships* involving a mix of public and private financing and operation especially in the context of building large infrastructure projects (e.g. Akintoye, Beck, and Hardcastle, 2003). Although these partnerships can be conceptualized as hybrid forms, our focus here is in cases where private entrepreneurs are involved in service execution jointly with supervising state agents.

representing roughly 6% of the total inmate population in Brazil. Paraná was the first Brazilian state to promote the outsourcing of prison operations to private entrepreneurs, circa 1999. From 1999 and 2002, six prisons were built—two in the main metropolitan area of the state. Operations were run by two distinct private companies, which had similar experience in private security for banks and retailers—namely, internal surveillance and transport of valuables. Given the poor conditions of Brazilian prisons (Human Rights Watch, 1998), both private entrepreneurs envisioned the creation of new value in the provision of correctional services, where they could further leverage their previous accumulated capabilities.

Signing five-year franchise contracts, private operators had to provide several services to run the prisons such as food, internal security, health care, legal aid, leisure, education, psychological assistance, facilities management, provision of vehicles, and running such as water, electricity, and communications. In each prison, the state government appointed at least the warden, a vice-warden and a chief of security, all of them civil servants. These officers played the role of public supervisors and in fact were accountable for the overall performance of the outsourced prisons. Thus, in line with our previous discussions, prisons with private entrepreneurs were organized in a hybrid mode involving private operation and public supervision. The private service provider received a fixed fee for the operation, given a certain pre-specified number of inmates; the contract, however, did not incorporate quality standards of any sort (thus, it was truly “incomplete”).

In 2003, the newly elected state governor, Roberto Requião, announced his intention to cease the outsourcing of prisons, after the end date of the contract with the private companies. The decision taken did not rest on cost-benefit considerations; there is actually evidence that outsourced prisons exhibited not only lower costs (around 10% less per inmate) but also satisfactory performance on several dimensions such as security (escapes, deaths) and services to inmates (medical and legal appointments) (Cabral and Lazzarini, 2010). Rather,

the new governor's decision was founded on political grounds since outsourced prisons were identified with his predecessor and political opponent. Nevertheless, Requião complied with the contracts with the private operators; only after mid-2006, when contracts expired, did prisons return to be state-run. This is an interesting feature of our research setting because the change in governance (from hybrid to public) was due to exogenous factors, irrespective of the performance of the outsourcing arrangement.

At the beginning of the statization of the former hybrid prisons, there was almost no civil servant available to work in the new state-run mode. Therefore, the state government hired most of the former employees of the private companies on a temporary basis. From mid-2007 onwards, new servants hired through competitive public examinations began working in the former outsourced prisons. In the case of correctional officers responsible for the daily operations within the prisons, salaries increased 300% on average—, which indicates that, after reintegration, the costs of former outsourced prisons increased.

In order to investigate the performance of the prisons on a comparative and longitudinal basis, we collected both quantitative and qualitative information. Our quantitative data are used to test the baseline prediction from received contractual theories that qualitative indicators will be lower when private entrepreneurs are involved in the operation. Our qualitative information, in turn, is used as a way to “triangulate” between multiple methods. Through our interviews, we were able not only to better understand the specific context and mechanisms driving our results, but also move beyond received theory and propose new theoretical elements in the analysis of public and hybrid modes of provision (e.g. Eisenhardt, 1989; Jick, 1979; Myers, 2009).

Quantitative data

Our quantitative data come from managerial reports of the Paraná State Correctional Department (DEPEN-PR). The dataset contains 116 observations of 19 correctional facilities

from 2001 to 2009. As some prisons were established after 2001, our database has an unbalanced panel structure and cases of transition from hybrid to state-run mode. We measure the performance of correctional services by means of four proxies that express different dimensions of quality. Two of them are measures of *order and security* of the prison: number of escapes and the number of deaths within a year. The other two focus on two important custody *services* available to inmates: healthcare and legal assistance, both measured by the number of appointments given in the prison per inmate/year. These measures are taken as dependent variables in our quantitative analysis.

Our key independent variable is a dummy, *Private*, which assumes value 1 if a particular prison, in a given year, was outsourced to private operators, and 0 otherwise (i.e. in the case of state-run prisons). The coefficient of this variable allows us to test the prediction from received contractual theories that the participation of private actors should result in lower quality. Our database also includes several other variables that serve as controls: some that capture features of the inmate population, such as type of prisoner or their involvement in prison labor activities, and others that measure features of the correctional facility, such as its location or if it is “overcrowded.” We also control for relevant changes in prison management, i.e. whether there was a change in the appointed warden in the previous year. Table 1 presents the variables used in our study and how they were measured.

<<Insert Table 1 about here>>

Qualitative information

Our qualitative information comes from three different sources. First, we performed in depth interviews with public agents from DEPEN-PR (State Correctional Department) and with personnel from private operators in two distinct moments: during the outsourcing regime (April 2005 and June 2006) and after statization (September, November and December 2010). In total, we have 31 semi-structured interviews with wardens, state bureaucrats, and private

entrepreneurs. Interviews lasted between 45 and 120 minutes, totaling more than 45 hours of conversation. We took notes during the interviews and, after each interview, we wrote full reports that helped us both understand the context and consolidate our main findings. Table 2 describes the set of interviewed subjects in our longitudinal study. During the interviews, we exploited their perception of the institutional context in which outsourcing and statization took place, the incentives structures involved in each mode of governance, the role of private entrepreneurs and public supervisors in the outsourced prisons, and so on. We also tried to capture detailed facts of the transition between hybrid to state-run mode, the main differences between the public and hybrid modes, and the influence of the major stakeholders in the context of prison services (including external actors such as non-profit, non-governmental organizations that frequently monitor correctional activity).

Second, we also performed a document analysis, which included meeting notes, memos, internal reports, contracts between governments and private operators, financial documents, official records, articles in newspapers and in other media. Third, we complemented our gathered information with on-site observation and several informal conversations with people involved in correctional services. We had the opportunity to visit seven facilities (four state-run and three outsourced). During the visits, we could observe the characteristics of the prisons and their managerial processes, which helped us better understand the empirical context and formulate new questions.

<<Insert Table 2 about here>>

QUANTITATIVE ANALYSIS: IS THERE QUALITY DETERIORATION IN PRIVATELY OPERATED PRISONS?

Given the longitudinal, multiple-firm nature of our data, we statistically assess the impact of private operation on prisons using panel-data regression with both random and fixed effects. The advantage of the fixed effects approach is that it controls for constant

unobservable factors that may cause a spurious association between governance and performance, measuring changes *within* prisons subject to organizational transitions. A disadvantage of the model is that it fails to accommodate variables for which there is no temporal change. For this reason, we report results from estimates involving both random and fixed effects.

The specification of the econometric model varies according to the quality indicator used as a dependent variable. In the case of the performance indicators related to services for inmates—*Medical assistance* and *Legal assistance*—we compute within estimators as way to accommodate fixed effects and perform generalized least squares (GLS) estimation to model random effects (Wooldridge, 2002). Received contractual theories predict that the coefficient of *Private*, for these dependent variables, will be negative. However, the quality indicators related to security and order—number of escapes and deaths—express rare events and therefore present a large quantity of zeros. Thus, for these variables, we employ the Poisson generalized linear model (McCullagh and Nelder, 1989) adjusted for the panel structure of the data. In the random effects specification, the model is estimated via maximum likelihood, where error terms are assumed to follow a gamma distribution; in the fixed effects model, we use the conditional likelihood Poisson specification (e.g. Cameron and Trivedi, 1998). We also add a trend variable (year count) to accommodate general temporal changes in our performance indicators.

Results for all regressions are presented in Table 3. The data reveal no general support for the received proposition that the private provision of public services is associated with a lower quality service. Actually, the opposite is found for some quality dimensions. For instance, models (1)-(4) show that the participation of private entrepreneurs in the hybrid arrangement is associated to a significantly *lower* number of deaths and escapes, which

represents an increase in quality from the point of view of security and order.³ The coefficients of *Private* are highly significant ($p < 0.01$) and robust for both panel specifications (fixed and random effects).

<<Insert Table 3 about here>>

Regarding the number of doctor and lawyer's appointments given to the inmates, the results are distinct. In the case of healthcare, models (5) and (6), there is no significant effect of *Private* on the number of appointments per inmate/year. As the coefficient is statistically insignificant, this result fails to lend support to the cost-quality tradeoff hypothesis. Private entrepreneurs do not provide inmates with less medical appointments than public agents in state-run prisons.

Some support for the tradeoff hypothesis is found when we observe the number of legal appointments—please refer to models (7) and (8) in Table 3. In this case, results confirm the expected negative effect of private participation on the provision of services: the coefficient of *Private* is negative and highly significant ($p < 0.01$) in both random and fixed effects specifications.

The negative effect of *Private* on legal assistance may be due to the measurement of this particular quality dimension, based on the overall *number* of legal appointments. This is a proxy for the *amount spent* in legal assistance, i.e., an *input* for the provision of this type of service. It is plausible that private entrepreneurship has an effect not only on the effort to provide quality (measured by the number of appointments to assist inmates) but also on the *efficiency* with which lawyers turn their appointment hours into effective prisoner release orders (e.g., parole, remission, and *habeas corpus*). Release orders are one of the most valued

³ When modeling escapes, we omit one observation from a particular outlier, related to a massive prison escape in 2005, orchestrated by a nationwide criminal organization. Context evidence indicates that this event was independent of prison management. Furthermore, outliers can distort the analysis of the data and the fit of the Poisson model (Xiang and Lee, 2005).

outcomes of legal assistance from the point of view of inmates; thus, underperforming this dimension may lead to inmate complaints and internal disorder (Human Rights Watch, 1998). Although only external judges have the authority to sanction release orders, prison lawyers (private or public) can vary in the effort they put into either collecting all the necessary information to prepare the appeals or visiting the local courthouses to check how the cases are progressing, and requesting swifter judgment.

We thus run additional regressions with *Legal efficiency* as a dependent variable, measured as the ratio of the number of release orders to the number of legal appointments. The results are presented in Table 3, models (9) and (10). The major finding is that there is a strong and significant positive effect of *Private* on efficiency: hybrid prisons with private operators have a lower number of legal appointments but, in the end, are better able to generate release orders for the inmates. In the end, the net performance effect (total number of release orders per inmate) is statistically equivalent between hybrid and state-run prisons.⁴ Although state-run governance improves the quality dimension measured as the number of legal appointments, this is apparently achieved at the expense of lower efficiency. Therefore, our results again suggest that the outsourced prisons do not performed worse than the state-run facilities when we consider a broad range of quality indicators.

Some brief comments about control variables are in order. The only quality dimension that is affected by warden replacement is the number of escapes. This suggests that the new administration focuses on reducing escapes, probably because this salient indicator heavily influences the decision to maintain or otherwise an incumbent warden. As expected, prisons with easy inmates also exhibit fewer escapes. The extent of overcrowding, in turn, has a high and significant effect on medical and legal assistance. A likely explanation is that prison

⁴ This can be observed through additional regressions (not reported here, but available upon request) where the number of release permits (instead of efficiency) is used as a dependent variable.

managers, both public and private, increase the level of services to inmates when tension, due to overcrowding, escalates.

QUALITATIVE ANALYSIS: UNDERSTANDING THE DYNAMICS OF PUBLIC-PRIVATE INTERACTIONS

Our evidence thus far indicates that private entrepreneurship in the context of prison services is not associated with quality deterioration. For some quality dimensions, such as security and order and the efficiency of legal assistance, hybrid governance actually outperforms state-run prisons. Naturally, one might pose the following questions: What factors explain the superiority of hybrid provision in some performance dimensions but not in others? Which particular public-private interactions are in place when hybrids are used? After statization, did public managers learn from the experience brought by private entrepreneurs and vice-versa? Qualitative evidence from our longitudinal interviews helps address all these issues.

Fewer escapes and deaths in hybrid governance

Our quantitative analysis shows that the prisons under hybrid management present a lower number of escapes and deaths as compared to state-run prisons. Some reasons may explain these differences. With private operators, wardens and other civil servants of outsourced prisons concentrated less on operational tasks, such as maintenance and procurement. In the public mode of provision, solving ordinary problems normally requires the intervention of professionals with higher rank, as illustrated by one warden who has managed prisons under the two modes of governance:

“In the outsourcing mode, we used to have more agility. In the regular public prisons, we have all those red tape problems....we are required to have prices from three different suppliers, which takes too long. Under outsourcing if something is out of

order, you ask [the private operator] to fix it today and tomorrow it is done” (Warden of Prison 5, 2005).

Increased flexibility to solve recurring problems and acquire security-enhancing assets (such as X-ray scanners, communication equipment or surveillance cameras), in turn, allows for improved control of the prison. Moreover, respondents also indicated that reducing the bureaucracy in the hybrid mode results in more time and effort dedicated to learning and planning for the long-term. Under these circumstances, wardens can improve their knowledge of the individual characteristics of the prisoners, which can be useful for inmate management. The time saved with the operational delegation to private actors allows civil servants—who are ultimately accountable for prison outcomes—to create and to implement new norms and new standards that may result in improved order and security indicators:

“Private companies are more oriented to operational tasks. With outsourcing, wardens had more time to think strategically, to formulate new rules and procedures... Before outsourcing they [the wardens] did not have time to think of the details that could underpin order and security” (Administrative Director of the State Correctional Department, 2010).

Despite the private operators having more flexibility to implement security-enhancing practices, will they have the correct incentives to do so? Contractual theories suggest otherwise: private entrepreneurs will economize, under certain limits, on costs and investments that could negatively affect their profits. This concern, however, did not consistently show up in our interviews. Wardens, for instance, expressed that they could easily monitor the private operators and aggressively request actions and investment to guarantee order and security. They could freeze monthly payments and even recommend severance of the contract if operators refused to undertake the necessary investment. In some cases, investing in security and order was also advantageous from the point of view of private

entrepreneurs themselves: through these investments, they could also economize on other internal costs that would escalate in the event of frequent riots, prison breaks or escape attempts.⁵

The accumulated capabilities of the private companies apparently also influence this result. As stated before, both the private entrepreneurs engaged in prison operation in Paraná have a background in private security and transferred to the outsourcing prisons their expertise and discipline routines, which were largely derived from their military previous experience: a meaningful proportion of correctional employees were former officers from the military police and the army. As stated by one interviewee:

“Private companies are military-biased... Their personnel were trained to keep the prisoner inside the prison and to prevent escapes... I do insist: private companies are good in discipline. They will be demanding with respect to cell cleaning, with the proper way of making the bed... There is an excessive focus on security control....”

(Vice-warden of Prison 11, 2010)

After statization, the number of correctional officers in the former outsourced prisons decreased, in part because, as we noted before, new civil servants were recruited with higher salaries. Taking the example of Prison 3, the contract between the government and the private operator foresaw 284 correctional officers to run the correctional facility. In September 2010 we had the opportunity to visit this prison. At that time, the warden had only 185 officers available to operate the prison. A shrunken operational staff reduces not only the ability of the unit to move inmates around (to labor activities, medical treatment, recreation, and so on), but also collective effort towards security procedures such as those devoted to search for weapons

⁵ One might argue that the lower number of escapes and deaths has to do with the monetary incentives that private firms have as their compensation is proportional to the size of the prison in terms of inmates. However, in our cases contracts were signed with a pre-specified number of inmates; in essence, the revenues of private entrepreneurs were fixed. Furthermore, in Brazil the number of convicted criminals greatly exceeds the number of available prison places; if one inmate dies or escapes, another one will very soon be allocated to the prison. Thus, monetary incentives cannot explain, at least in our setting, the performance of hybrid prisons in terms of order and security.

and other unauthorized objects (such as cell phones). With more flexibility to recruit and compensate correctional staff, private entrepreneurs were apparently more capable of enforcing order and security within the prisons.

The interaction between public entrepreneurs and private also creates opportunities for joint learning. On the one hand, private operators usually hired retired civil servants—including some former wardens—with knowledge on prison routines. In addition, in the daily operation public supervisors often advised private entrepreneurs on how to deploy the required prison-specific tasks. As illustrated in the quote below:

“Of course we learned with government officials. There are several details in the prison operation, and you know, they have several years of experience... some wardens have a deep knowledge of the inmates’ informal dealings... For sure when we initiated our operations here in State Y [other Brazilian state, which also promoted outsourcing in 2006]; we employed several practices we had learned in Paraná” (CEO of Private Operator 1, 2010).

On the other hand, wardens of the outsourced facilities profited from the previous experience of private entrepreneurs to jointly promote managerial innovations. Flexible contractual practices, changes in work shifts, smoking bans, food quality control, provision of uniforms and hygiene kits for inmates were some managerial innovations promoted by (and through) private entrepreneurs. Ongoing learning is also expressed in the following quote:

“We learned with private companies to move around the perimeter of the correctional facility with vehicles... the uniform design also represents an innovation, for instance the uniform has no pockets [which facilitate hiding unauthorized objects]... We definitely learned with their approach...” (Head of State Correctional Department, 2010)

Furthermore, the practices implemented in the outsourced prisons represented “experiments” that had never been tried before in state-run prisons. If successful, these practices could also be applied to other correctional units within the state:

“In the newly outsourced prisons, smoking was prohibited. This measure was later adopted in all other state correctional facilities run by DEPEN. It is easier to promote innovations when you are at the beginning of a new venture” (Former Warden of Prison 11, 2010).

Legal assistance: more appointments but lower efficiency in state-run prisons

Public prisons traditionally provide legal assistance through the work of lawyers from the Penitentiary State Department, referred here as “Type 1” attorneys. These lawyers have tenure and their salaries are five to eight times higher than the lawyers hired by private operators in temporary, recurring private contracts (i.e. without tenure). Nevertheless, the larger number of legal appointments in state prisons does not appear to be related to these salary differences. “Type 1” attorneys belong to an old and costly career track that the state government has tried to deemphasize. To avoid hiring new, costly “Type 1” attorneys, after the statization of former hybrid units (circa 2006) the correctional department hired more attorneys on temporary job contracts, without tenure. Indeed, public officials adopted contractual practices introduced by private entrepreneurs, thus creating another category of lawyers with lower salaries and without tenure—referred here as “Type 2” attorneys. These lawyers are normally young professionals who need to accumulate practical experience in order to apply for other more prestigious positions within the civil service.⁶ Essentially, the state could expand the number of inputs (legal appointments) by adopting less costly and more flexible labor contracts, which resemble the practice of previous private entrepreneurs. The following quote supports this interpretation:

⁶ In Brazil, professionals with a degree in law prefer judicial careers (i.e. to be judges, prosecutors, district attorneys). The choice is due to job security and higher salaries compared to the private job market.

“When we interrupted outsourcing, we hired more lawyers. However, we promoted a new organizational practice inspired in the private operators: we hired lawyers on a market-basis. Now we have lawyers in all state penitentiary facilities. We have no plan to hire lawyers with tenure in our department” (Head of the State Correctional Department, 2010)

The increased allocation of non-tenured lawyers explains the improved number of legal appointments in both reintegrated and publicly operated prisons. However, how can we explain their lower efficiency in converting legal appointments into effective release orders, as detected by our previous quantitative analysis? Although the number of legal appointments is an important proxy for assessing services for inmates, the ultimate decision to release a prisoner or not lies with the courts. The speed of a judgment depends not only on appeals presented by prison attorneys, but also on their effort towards providing all necessary documents, visiting courthouses, and following up the case. For instance, some interviewees indicated that close, oftentimes intense follow-up is even more important than the quality of appeals written by the prison attorneys. The constant presence of the lawyer in the courthouses helps speed up the analysis of the cases thus increasing the odds that inmates will be released. Consider the following quotes:

“It makes a lot of difference how often you go to the courts because you remind them about the cases of our inmates” (“Type 1” Attorney, 2005).

“Follow-up is really important... I have contacts with the courts’ clerical staff... You should make sure they remember your cases... Of course, if you are physically present at the courts, things move faster...” (“Type 1” Attorney, 2010).

Furthermore, “Type 2” attorneys have stronger incentives compared to “Type 1” attorneys because their temporary job contracts can be severed in response to poor

performance. There is a large contingent of lawyers in Brazil,⁷ which increases the odds of job contract termination in case of poor performance. Young attorneys with less than five years of experience also have incentives to learn about the practical details of criminal law and to develop ties with court personnel:

“Younger attorneys are more interested in knowing about the judges, clerks and other staff at criminal courts. Compared to civil servant lawyers, they visit the courts more often, at least twice a week” (Warden of Prison 6, 2010).

When recruiting lawyers through temporary contracts, however, private firms were more demanding and could sever the contract in case of poor delivery more easily. Within the state mode, wardens apparently had less time to monitor the work of attorneys and less leeway to adjust and sever contracts. Although temporary positions within the state are more flexible than conventional tenured contracts, they are still rife with bureaucratic procedures to hire and fire agents. In other words, although the state implemented innovative contractual practices, it could not perfectly mimic the flexibility of private execution:

“Private entrepreneurs were more demanding... They had production targets...They had no constraints on firing people who were not performing. We have constraints even on firing civil servants on temporary contracts” (Administrative Director of the State Correctional Department, 2010).

Medical care: absence of quality differences

We saw in our quantitative analysis that there is no difference between public and hybrid prisons in terms of the number of medical appointments. Why does this differ from legal services? In fact, there are fundamental differences in the careers of lawyers and physicians. Compared to lawyers, doctors are in short supply. For instance, in 2010 there were 139 medical schools, compared to 1038 law schools in Brazil. Because doctors have relatively

⁷ According to the Brazilian Bar Association (OAB), there were 713,000 lawyers in the country in 2010. In the United States, this number is 1,150,000.

more options available in outside jobs, they face high opportunity costs by working within the prison service. Both hybrid and public prisons cannot easily attract and retain good doctors especially in certain key specializations such as psychiatry:

“Normally medical doctors in the civil service want to see the inmates quickly and leave. They look for money... they normally have several jobs in private clinics, hospitals, and so on... They think: ‘I’ve studied a lot and now I want to get some money’” (Former Warden of Prison 2, 2010).

Arguably, flexible contracting adopted by private entrepreneurs could have helped “clear the market” and discipline doctors through the threat of contract termination. After statization, unlike legal services, the state could not emulate the practice of temporary contracting. As the following quotes suggest, this feature might have created an *a priori* advantage for the hybrid (outsourced) mode:

“Correctional officers could be civil servants, but physicians and psychiatrists must remain outsourced given the existing flexibilities in the private sector and the difficulties of keeping these professionals in the civil service” (Warden of Prison 3, 2006).

“It is hard to hire them today. They do not obey the contracted time... Some doctors work two hours per day instead of four hours.... In the outsourcing period we used to have more doctors available” (Head of State Correctional Department, 2010).

However, these impressions apparently suffer from spurious causal inference: after 2006 (statization), the market for doctors apparently worsened as a whole. Thus, the number of openings in medicine programs remained practically fixed in the past decade, while the number of inmates Paraná state increased from 18,100 in 2006 to 29,560 in 2010.

Interestingly, this change is captured by our *Trend* variable in Table 3, models (5) and (6): although moderately significant, the coefficient indicates a general, prison-wide reduction in

the number of doctor's appointments. Even with more flexible contracts, private entrepreneurs did not differ from public agents in the provision of medical services, possibly because prison managers were constrained by the scarce supply of physicians willing to work in correctional units.

Why is there no collusion between public supervisors and private entrepreneurs?

We saw that state-appointed wardens work closely with private entrepreneurs to pursue quality-enhancing practices and that wardens can influence the severance of existing contracts in case of poor performance. However, private operators may *collude* with the public supervisor by sharing the gains resulting from certain cost savings. Specifically, private entrepreneurs could possibly bribe their supervisors (wardens) to accept certain substandard services and refrain from severing their ongoing contract. Our interviewed wardens do admit that collusion may be a possibility in the context of hybrids. However, they raise several countervailing factors that help attenuate the risk of misconduct:

“Ethical behavior avoids corruption. Sometimes private companies may offer a small gift or something, and then you refuse it and set the limits between you and them.”

(Former Vice-Warden of Prison 4, 2005).

“My personal image is much more important. I could never agree with any type of irregularity” (Vice-Warden of Prison 11, 2010).

Indeed, wardens seem to value their position as public supervisors highly. As of 2010, a regular civil servant (e.g. a correctional officer), when appointed warden of a prison, could have his/her salary increased up to 80% plus fringe benefits (e.g. a vehicle with driver). An important aspect is that this extra payment only holds when the civil servant is working as a warden. In other words, in case of observed misconduct the state government can replace a particular warden, therefore interrupting his/her extra salary payment (even though the officer will probably keep his job in another part of the state bureaucracy). Besides the extra

compensation, a warden position also represents a sign of prestige. Furthermore, the Corrections Department tends to pick up officers with a strong, reputable record in the state bureaucracy. For instance, the interviewed Warden of Prison 3 is a former head of the state correctional department, the former Warden of Prison 11 is an important lawyer and a well-known local journalist, and the Warden of Prison 6 is a correctional officer with more than 25 years of experience in prisons.

Moreover, several actors regard privately operated prisons with skepticism; the Brazilian public press reports the heated debates on the pro and cons of prison “privatization.”⁸ Given previous events of violence against inmates in Brazilian prisons, several public or non-profit organizations such as International Commission for Catholic Prison Pastoral Care (*Pastoral Carcerária*) and the District Attorney’s Office (*Ministério Público*) have also traditionally monitored the activity of prisons in Brazil with particular attention to outsourced facilities. Therefore, external constituencies provide an intense external oversight of privately operated facilities. Consequently, any collusion between wardens and private operators, although unobservable by external parties, could lead to quality deterioration with observable signals such as riots and complaints. Consequently, external pressure on the Corrections Department and the state government would escalate, thereby precipitating a change in prison management. This point can be clearly seen in the following quotes:

“If there were any instance of corruption, for sure we would be aware... The reputation of both the private operator and the warden would be stained” (Head of the Correctional Department, 2005)

⁸ See e.g. “Agentes penitenciários são contra terceirização em prisões” Agência Câmara de Notícias, September 27, 2007 <<http://www2.camara.gov.br/agencia/noticias/110953.html>> (accessed December 12, 2010) and “Estados investem em presídios com parceria privada; modelo desperta polêmica,” *UOL Notícias*, July 13, 2009 <<http://noticias.uol.com.br/cotidiano/2009/07/13/ult5772u4585.jhtm>> (accessed February 7, 2011).

“You can’t hide anything. Everything, sooner or later, will pop up. If you fail at something, it will be extremely salient. How many people would you need to buy to keep their mouth shut? There are many people paying attention: media, district attorneys, judges, private lawyers, religious organizations, and so on. The complaints will be immediate.” (Former Vice-Warden Prison 11, 2010)

DISCUSSION AND NEW PROPOSITIONS

Our empirical results helps refine and expand received contractual and governance theories emphasizing the hazards of quality and probity when private entrepreneurs are associated with complex public services. Key to our results is the existence of a hybrid arrangement between public agents and private entrepreneurs, which not only helps address these hazards, but also combine complementary capabilities during service execution. In light of our findings, in this section we derive new propositions on the functioning and performance implications of such hybrids.

From a governance perspective, several authors have outlined the advantages of hybrid forms related to their synergistic combination of both market-like and hierarchy-like strengths (Makadok and Coff, 2009; Ménard, 2004). We saw in the previous section that private entrepreneurs can more flexibly allocate resources (apart from state bureaucratic red tape), while public wardens provide on-site control to avoid quality deterioration in a context where relevant performance dimensions are not completely specified in *ex ante* contracts. The latter impose constraints on cost-reduction efforts by private entrepreneurs and stimulate joint action between all parties involved in the execution of the public service. Physical proximity also helps reduce information asymmetries between governments and private operators. Here the presence of the state is not merely in terms of external “regulation”; rather, public officials work on site, with discretionary power to request ongoing adjustments and even veto certain decisions that could depart from state objectives. In other words, compared to “hands-off”

privatization schemes, “hands-on” public supervisors can more effectively address probity concerns (Williamson, 1999). This leads to our first proposition:

Proposition 1: In the context of hybrids, the presence of internal public supervisors (vis-à-vis external regulation) will address quality and probity concerns in the provision of public services.

However, also from a governance perspective, wardens and private entrepreneurs may collude (Tirole, 1986). Private entrepreneurs can possibly provide substandard quality levels in order to reduce costs and share the resulting gains with public supervisors through bribes. If such collusion happens, there is no reason to believe that hybrid modes will help mitigate quality and probity hazards.

Nevertheless, our empirical findings indicate that collusion will be less likely if certain critical conditions are met. First, public supervisors should have *career concerns* that will reduce the incidence of bribes. In our context, wardens appointed to hybrid prisons receive an extra compensation on top of their regular salary in the public sector; and this extra compensation ceases if wardens leave their position. This creates an implicit contract within the public administration akin to an *efficiency wage* (Milgrom and Roberts, 1992: 363): over the long-term, wardens may prefer to refuse illicit schemes and preserve their job. For this mechanism to work, however, the state must impose a credible termination threat in case of bad performance (Baker, Gibbons, and Murphy, 2002). Our study shows that correctional services, especially in the event of private outsourcing, are subject to pressure from several external constituencies (e.g. religious organizations, civil servants unions, district attorneys, and so on): riots are closely followed by the media and complaints of mistreatment are frequently disseminated. In this environment, governments will have incentives to replace previously appointed wardens if the quality of the prison deteriorates and becomes a source of public embarrassment. Thus:

Proposition 2: In the context of hybrids, collusion between private entrepreneurs and public supervisors will be avoided when (i) public supervisors have career concerns (e.g. they receive an extra, long-term compensation for their supervising position) and (ii) public supervisors and private operations are subject to intense monitoring by external constituencies.

The above propositions explain why, under certain conditions, quality in the context of hybrids will not deteriorate. However, how can we account for our findings that, for some dimensions, hybrids *outperform* state-run operations? We argue that this outcome is best explained when we invoke *capability* considerations which transcend contractual and governance arguments on the performance of hybrids. In particular, we exploit the possibility that hybrids not only attenuate transactional hazards but also bring together *heterogeneous* resources and capabilities held by both public and private actors. Although the assumption of heterogeneity in resources and capabilities is a cornerstone of modern strategic management (Barney, 1991) and the role of resource complementarity has long been emphasized by the literature on alliances (e.g. Eisenhardt and Schoonhoven, 1996; Hamel, 1991), only recently scholars started extending this idea to public-private hybrids (Klein *et al.*, 2010; Rangan *et al.*, 2006).

Along these lines, our qualitative analysis revealed that private entrepreneurs already had *ex ante* capabilities in the provision of private security activities, which allowed them to contribute with more disciplined rules and procedures, and over time develop various security-enhancing innovations. However, the previous experience of public agents in other state-run prisons was equally important to facilitate private entrepreneurs' learning and specialization in prison-specific activities—a process that went in tandem with wardens' main duty as public supervisors.

However, this joint learning and adaptation does not occur across all relevant dimensions of the public service. Improved performance is more commonly observed in activities where private entrepreneurs have previous capability. In our context, the entrepreneurs' previous experience with private security possibly created an *absorptive capacity* (Cohen and Levinthal, 1990) to understand the idiosyncratic security requirements of correctional services and infuse new routines to further improve security and order. Furthermore, although private entrepreneurs adopt more flexible procedures (compared to the cumbersome bureaucratic procedures of the public sector) they will only be able to improve their processes and routines if they have effective control of the resources ("inputs") necessary to meet desired goals. The private operators in our sample were generally able to hire personnel (e.g. correctional officers, physicians, lawyers, dentists, and so on) and invest in security-enhancing equipment. Nevertheless, they could not easily recruit and replace doctors, who were short in supply; and they lacked expertise in this particular service dimension. In sum, the performance-enhancing effect of hybrids varies according to particular features of the task:

Proposition 3: Hybrids will outperform public modes of governance in a given task when private entrepreneurs (i) have ex ante capabilities related to the relevant task, and (ii) are better able to control resources necessary to meet desired outcomes ex post.

Our findings attest that the interaction between public agencies and private entrepreneurs generate learning opportunities to improve the service. We saw that private entrepreneurs with public supervisors implemented important managerial innovations such as flexible contracting practices and new security-enhancing routines. Did these innovations spill over to other activities in the public sector? Were public and private actors able to capture benefits from this ongoing learning (e.g. Mahoney *et al.*, 2009: 1037)? After statization, the

government not only kept practices implemented during the outsourcing period but also introduced some of them into the traditional state-run facilities—such as temporary (non-tenured) attorneys. In fact, the government appropriated the learning acquired from the private entrepreneurs' experience, providing a source of managerial innovation that was later implemented in all other correctional facilities. On the other hand, private entrepreneurs who went to work in hybrid correctional units in other Brazilian states used part of their developed capabilities to execute their new outsourcing contracts. This suggests that *both* private and public actors are able to appropriate spillovers generated from their joint interaction:

Proposition 4: Some routines and organizational procedures developed in the hybrid mode will spill over (i) to other similar activities in the public sector and (ii) to other similar activities in which private entrepreneurs are involved.

However, given that public and private provision will differ in their governance attributes (Williamson, 1999); we can also expect the effect of spillovers to differ across modes of provision. For instance, in our empirical setting we found that although the government managed to increase the number of legal appointments through (private-like) temporary contracts, private operators could deliver more release orders for a given number of legal appointments. Thus, spillovers emanating from the hybrid mode were captured by the state but with only limited results. In our case, temporary contracts implemented by private actors were, in practical terms, more flexible than temporary contracts within the state. Private entrepreneurs had superior capacity to hire and fire lawyers in case of poor outcomes (i.e. a small number of effective release orders given an existing allocation of hours to meet with inmates). Thus, there is an important interplay between capability and governance features of public-private interactions: learning spillovers will yield superior performance only when governance features allow for an effective operationalization of the newly absorbed practices.

Hence:

Proposition 5: Even when routines and managerial innovations developed in hybrids spill over to the public sector, the latter will be more constrained in the pursuit of efficiency (i.e. the extent to which inputs are converted into desired outcomes).

CONCLUSIONS

The emergence of new industries and new private entrepreneurs engaged in complex public services has been a recurring phenomenon in several contexts (McGahan, 2007: 751). Our empirical setting involving actual organizational transitions in prisons sheds light on the mechanisms and performance implications of public-private interactions. In our sample of privately operated and state-run prisons, we do not find support for concerns that the involvement of private entrepreneurs in complex public services will be plagued with hazards of quality deterioration (Hart *et al.*, 1997) and lack of probity (Williamson, 1999). Prisons with operations franchised out to private agents exhibited similar levels of performance in some service dimensions such as doctor's appointments, and actually outperformed state-run prisons in terms of security, order, and legal efficiency (i.e. release permits issued by external judges)—despite the fact that all these dimensions were not specified in formal outsourcing contracts.

Triangulating between quantitative and qualitative information, we suggest that a key mechanism driving our results is the presence of public supervisors closely working on site with private entrepreneurs in a *hybrid* governance fashion. We then deliver a set of new propositions that expand received contractual theories and articulate new theoretical elements on the organization of public services. We move beyond hazard considerations to examine how the combination of heterogeneous public and private capabilities might yield learning and spillover effects unattainable through pure government management or full-fledged privatization.

An important limitation of our study is that it focuses on a very particular industry setting: prisons. We believe, however, that our findings and propositions are applicable to other contexts. In the case of schools, some propose that private (charter) operators evaluated according to the performance of students in external examinations will have incentives to “teach to the test” instead of promoting broader learning efforts (e.g. Acemoglu, Kremer, and Mian, 2008). Hybrid arrangements involving experienced public principals working on site may not only alleviate this problem but also promote cross-fertilization between capabilities developed in the public and private sectors. Likewise, Baum and McGahan (2009) analyze how governments have closely worked with private firms to deploy defense services—an area where probity concerns are particularly acute. Because we propose factors that will affect the feasibility and performance of hybrids, our new propositions can be tested and applied to other complex public services.

We also believe that our study informs public policy. We frequently observe polarized debates on whether profit-maximizing private firms will have the “correct” incentives to deploy complex services with significant social externalities. The relevant question, however, is *in which conditions* private firms help solve pressing issues in the public sector. In reality, private entrepreneurship has the potential to create not only whole new industries yielding significant public externalities, but also innovative ways to expand and deliver complex public services. Our study shows that this is likely to occur when private entrepreneurs work on site with public supervisors with strong career concerns; when entrepreneurs have related previous experience to learn from public supervisors and have control of the necessary resources to propose new solutions and innovations; and when external constituencies monitor the outcomes of the arrangement. We sincerely hope that our work will help inspire new directions in this ongoing debate and stimulate novel ways to study and design public-private organizational forms.

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Table 1. Descriptive statistics

Type of variable	Variable	N	Mean	Mean public (N=89)	Mean private (N=27)	Description
<i>Dependent variables (quality indicators)</i>						
Security and order	<i>Escapes</i>	115	0.704	0.888	0.077	Number of escaped prisoners from the correctional facility in each year.
		116	0.836	0.888	0.667	
Security and order	<i>Deaths</i>	116	0.879	1.000	0.481	Number of deceased prisoners in the correctional facility in each year.
Services to inmates	<i>Medical appointments</i>	116	4.043	3.731	5.074	Number of medical appointments in the prison per inmate-year
Services to inmates	<i>Legal appointments</i>	116	9.725	10.475	7.251	Number of legal appointments in the prison per inmate-year
Services to inmates	<i>Legal efficiency</i>	116	0.074	0.070	0.085	Ratio of the number of release orders to the number of legal appointments
<i>Hypothesized independent variable</i>						
Governance mode	<i>Private</i>	116	0.233			Dummy variable related to mode of governance: 1, if prison is privately operated with public supervision (hybrid); 0, if state-run.
<i>Control variables</i>						
Related to inmate population	<i>Easy inmates</i>	116	0.494	0.459	0.607	Rate of “easy” prisoners according to psychological evaluations by correction department officials.
Related to inmate population	<i>Working Inmates</i>	116	0.375	0.346	0.473	Rate of prisoners involved in labor activities in the prison.
Related to correctional facility	<i>Number of inmates</i>	116	578.3	636.4	386.9	Number of inmates held in the correctional facility (annual average)
Related to correctional facility	<i>Location</i>	116	0.603	0.573	0.704	Dummy variable related to facility location: 1, if in non-metropolitan areas; 0, if located in expressive urban center.
Related to correctional facility	<i>Overcrowding</i>	116	1.020	1.022	1.016	Overcrowding rate in the prison (number of inmates over number of initially planned capacity)
Related to correctional facility	<i>Convicted inmates</i>	116	0.310	0.315	0.296	Dummy variable: 1, if prison holds individuals awaiting trials; 0, if prison holds convicted inmates
Related to correctional facility	<i>Warden replacement</i>	116	0.276	0.270	0.296	Dummy variable equal to 1 if the warden was replaced the year before.

Table 2. Description of interviews

	Period	
	With hybrid and state-run prisons (1999-2006)	Only with state-run prisons (2006-)
Years when interviews were carried out	2005 and 2006	2010
Number of interviews	15	16
Wardens	<ul style="list-style-type: none"> • Warden of Prison 3 • Vice-Warden of Prison 3 • Former Vice-Warden of Prison 4 • Warden of Prison 5 • Former Warden of Prison 6 	<ul style="list-style-type: none"> • Former Warden of Prison 1 • Former Warden of Prison 2 • Warden of Prison 3 • Warden of Prison 6 • Former Warden of Prison 11 • Vice-warden of Prison 11
State bureaucrats	<ul style="list-style-type: none"> • Head of DEPEN (State Correctional Department) • Vice-Director of DEPEN • Administrative Director of State Correctional Department • Planning Manager of State Correctional Department • Former Vice Warden – Prison 9 • “Type 1” attorney (civil servant) working at Prison 10 • Physician working at Prison 5 	<ul style="list-style-type: none"> • Director of DEPEN • Administrative Director of State Correctional Department • “Type 1” attorney (civil servant) working at Prison 9 • “Type 2” attorney (non-tenured) working at Prison 6 • Physician (Director of Penitentiary Health Services) • Penitentiary Intelligence Agent
Private entrepreneurs	<ul style="list-style-type: none"> • VP of Private Operator 1 • VP of Private Operator 2 • Prison Manager of Prison 3 	<ul style="list-style-type: none"> • CEO of Private Operator 1 • Former Prison Manager of Prison 1 • Former Prison Manager of Prison 2 • Former Prison Manager of Prison 4

Note. Prisons and private operators are identified as numbers to preserve confidentiality.

Table 3. Determinants of the performance of prisons, according to various quality indicators

	Security and order indicators				Services to inmates					
	Escapes		Deaths		Medical appointments		Legal appointments		Legal efficiency	
	(1) R.E.	(2) F.E.	(3) R.E.	(4) F.E.	(5) R.E.	(6) F.E.	(7) R.E.	(8) F.E.	(9) R.E.	(10) F.E.
<i>Private</i>	-2.169*** (0.8021)	-2.934*** (0.9516)	-0.900*** (0.3477)	-1.325*** (0.5024)	-0.365 (1.0487)	-0.643 (1.1850)	-4.999*** (1.6495)	-6.476*** (1.9443)	0.052*** (0.0180)	0.061*** (0.0201)
<i>Working inmates</i>	0.960 (0.8736)	1.408 (0.9550)	-0.942* (0.5666)	-0.115 (0.8986)	1.989 (1.9639)	-0.362 (2.3315)	3.224 (3.0713)	1.847 (3.8256)	-0.035 (0.0339)	0.005 (0.0396)
<i>Easy inmates</i>	-3.467*** (1.2616)	-7.595*** (1.7468)	-1.281 (0.4685)	-1.622* (0.9067)	-2.123 (1.6109)	-1.747 (2.0910)	1.168 (2.5060)	-0.635 (3.4310)	0.066** (0.0279)	0.110*** (0.0356)
<i>Number of inmates</i>	-0.001 (0.0013)	-0.005 (0.0034)	0.001 (0.0004)	0.0067** (0.0027)	-0.003 (0.0021)	-0.013* (0.0072)	-0.009*** (0.0032)	-0.006 (0.0119)	0.000 (0.0000)	0.000 (0.0001)
<i>Overcrowding</i>	0.234 (1.6725)	0.664 (2.0028)	0.811 (1.0196)	1.808 (1.6019)	11.526*** (3.2389)	15.121*** (3.9776)	17.093*** (5.0878)	16.988** (6.5267)	-0.148*** (0.0557)	-0.203*** (0.0676)
<i>Location</i>	-0.647 (0.9122)		0.0402 (0.3369)		0.279 (1.4441)		-3.299 (2.1859)		0.034 (0.0256)	
<i>Convicted inmates</i>	-0.876 (0.8149)		-0.315 (0.3182)		-0.211 (1.3920)		-1.336 (2.1082)		0.043* (0.0247)	
<i>Warden replacement</i>	-1.130*** (0.3502)	-1.438*** (0.3857)	0.360 (0.2556)	0.444 (0.2877)	-1.292 (0.8035)	-1.114 (0.8237)	0.523 (1.2775)	-0.123 (1.3515)	0.002 (0.0137)	0.005 (0.0140)
<i>Trend (year count)</i>	0.1562** (0.0748)	0.189** (0.0818)	-0.250*** (0.0434)	-0.409*** (0.0704)	-0.329* (0.1699)	-0.369* (0.2033)	0.597** (0.2672)	0.428 (0.3336)	-0.003 (0.0029)	-0.001 (0.0035)
<i>Intercept</i>	1.780 (2.2770)		0.920 (1.1874)		-3.485 (4.0634)	-0.366 (4.8076)	-4.359 (6.3482)	-5.604 (7.8886)	0.140** (0.0702)	0.182** (0.0817)
<i>N</i>	115	87	116	116	116	116	116	116	116	116
<i>Wald χ^2 test</i>	22.24***	29.95***	99.66***	40.57***	30.56***		44.07***		31.67***	
<i>F test</i>						3.73***		5.61***		5.52***

Note: * $p < 0.10$ ** $p < 0.05$ *** $p < 0.01$. Models (1)-(4) present Poisson estimates with random (R.E.) and fixed effects (F.E.) centered on each prison. In model (1), we omitted one outlier (a massive escape attempt engendered by a Brazilian criminal organization); in model (2), to fit the F.E. specification, some other observations involving constant zero outcomes associated with the dependent variable also had to be omitted. Models (5)-(10) present estimates with conventional R.E. (GLS) and F.E. (within estimators). In the F.E. specifications, *Location* and *Convicted inmates* are dropped because they are time invariant. Standard errors are in parenthesis