

Do State-Owned Enterprises Always Underperform Private Firms?

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Introduction

After decades of privatizations and state-owned enterprise (SOE) reform, governments all over the world keep on playing a key role as owners of large business enterprises. Yet the nature of ownership and corporate governance arrangements of the surviving state-owned firms has changed in important ways and deserves scrutiny as a way to avoid judging these firms with the same lens we viewed the SOEs of Soviet times. In this paper we explain the most important transformations that governments undertook in terms of ownership and corporate governance of their largest SOEs and discuss the implications such transformations have had for the behavior and performance of the surviving public firms.

The puzzle we are trying to address is very simple: according to the privatization literature state-ownership should lead to inefficiencies and wide performance gaps between SOEs and similar private firms. Yet the recent resilience of large SOEs is clear from both academic and journalistic reports. Large SOEs are dominant global players in many industries and show no consistent signs that they are underperforming similar private firms. In 2013, among the top-100 *Fortune Global 500* companies, 25 were state-owned multinational firms, directly owned by the state or indirectly through several state-related investment vehicles. The top 25 SOEs had better gross margins and return on assets than all of the remaining 75 private firms. Furthermore, nine out of the 15 largest IPOs in the world between 2005 and 2012 involved SOEs selling minority positions to private investors (Musacchio & Lazzarini, 2014). And this phenomenon is not simply due to the rise of interventionist emerging economies such as China or Russia; there is vast evidence that SOEs remain important even in developed countries. A recent survey of OECD countries, for instance, found that SOEs represented a total equity value of US\$ 1.4 trillion in 2011, of which 61% involved firms with *minority* stakes—that is, firms with private management and partial state ownership (Christiansen, 2011). In this new scenario, there is also evidence that investors have not shied away from SOEs. A report by Morgan Stanley in May 2012 claimed that several SOEs have outperformed their industry peers in emerging markets, despite the fact that they may be “targeting development objectives rather than shareholder returns” (Morgan Stanley, 2012: 1).

The puzzle arises because based on agency logic, scholars have pointed out that managers of SOEs are poorly monitored and lack the high-powered incentives normally found in private firms (Dharwadkar, George, & Brandes, 2000; La Porta & López-de-Silanes, 1999). SOEs also tend to pursue objectives other than efficiency

and profitability (Bai & Xu, 2005; Shirley & Nellis, 1991). For instance, governments may require SOEs to keep prices low or avoid layoffs even in moments of economic downturn. In addition, SOEs can be used as vehicles of patronage and corruption: politicians and their allies may be tempted to divert resources from SOEs to support their pet projects or directly benefit their constituencies (Shleifer & Vishny, 1998; Vickers & Yarrow, 1988). Consistent with these predictions, empirical studies of privatization have, in general, detected performance gains in the transition from state to private ownership (see for a review Megginson, 2005).

Given these potential liabilities of state ownership (something we have called the “liability of stateness” in other papers), the facts raise an important question: given their flagrant resilience as top global corporations and potential investment targets, is it possible that SOEs’ intrinsic sources of performance disadvantage have disappeared? Are these firms better managed and governed than the old SOEs of the past?

STATE OWNERSHIP: BACKGROUND AND THEORY

The evolution of state ownership

Throughout the nineteenth and twentieth centuries, state ownership was adopted on a wide scale. The initial thrust for the expansion of state ownership followed the desire of governments to spur investment in public services such as mail, water, sewage, electricity, telephone, and railways (Toninelli, 2000). With the disruptions caused by the Great Depression and the First World War, governments also ended up venturing into a variety new business industries beyond public services. The expansion of state ownership, however, also came with substantial cost. Many SOEs were poorly managed and had to cope with a variety of social or political objectives, while trying to avoid losses or even generate profits (Shirley & Nellis, 1991). With subsequent global macroeconomic crises, notably the two oil shocks of the 1970s, the situation became unsustainable. Higher oil prices fueled inflation and led to a major credit rationing caused by escalating interest rates. At the same time, the progressive collapse of command and mixed economies exposed the limits of running various industries with ubiquitous presence of state-controlled firms.

Facing increased debt and realizing the high opportunity cost of allocating state capital to unprofitable SOEs, many governments in the 1980s and 1990s eventually undertook large-scale privatization programs and experimented with varied reforms in the public sector (Megginson, 2005). Governments, however, had political reasons to not fully privatize SOEs and keep some assets under their control. A number of studies showed that governments all around the world kept equity stakes in large SOEs, even after the privatization wave (Bortolotti & Faccio, 2009; Christiansen, 2011; OECD, 2005). In France, the government held an 18% stake in carmaker Renault and in 2014 acquired another stake in Peugeot, jointly with China’s Dongfeng (also an SOE).

In reality, state ownership was not fully replaced by private capital but instead transformed in two important ways. SOEs with majority state control that

survived the process of privatization remained relevant players in their sectors and in many cases were listed in stock exchanges, attracting private investors as minority shareholders (Gupta, 2005). In other cases, state ownership was morphed from majority to *minority* state ownership, though myriad investment vehicles such as state-owned holding companies, development banks, sovereign wealth funds, pension funds, life insurance companies and many others (Musacchio & Lazzarini, 2014). For instance, Temasek, Singapore's state-owned fund, invests 32% of its portfolio in companies such as Singapore Technologies Telemedia, Singapore Communications, Singapore Power, and Singapore Airlines (Goldstein & Pananond, 2008).

The firm-level performance implications of state ownership

Given these changes, which differences in performance can we expect between SOEs and private firms? We begin with baseline hypotheses based on most of the extant literature predicting an inherent "liability of stateness," that is, a *performance gap* between SOEs and private firms. All else constant, several features of SOEs will create intrinsic sources of disadvantage compared to private firms with similar traits.

Critical channels of performance disadvantage immediately follow from agency theory. Given that society essentially delegates the monitoring function to governmental representatives (Dixit, 2002), governments, as owners, tend to appoint politicians and political allies to run and influence SOEs. In China, for instance, SOE managers tend to be closely tied to the government and to the Communist Party (Li & Xia, 2007; Lin & Milhaupt, 2013). By controlling SOEs, governments can also misallocate resources to support projects that will yield political dividends, such as unprofitable investments in remote areas to benefit particular constituencies (Shleifer & Vishny, 1998; Vickers & Yarrow, 1988). Furthermore, managers of SOEs tend to have low-powered incentives—that is, salaries that are poorly responsive to performance (Dharwadkar *et al.*, 2000; La Porta & López-de-Silanes, 1999). In reality, the pursuit of multiple objectives beyond profitability complicates the creation of efficient incentive contracts in SOEs (Bai & Xu, 2005; Firth, Fung, & Rui, 2006). SOE managers may not be fully incentivized to pursue profitability if they anticipate that governments will divert resources to support political objectives or veto certain actions that would otherwise cause political damage (e.g. layoffs after economic crises).

Despite these costs, some authors do recognize potential benefits emanating from state ownership. For instance, governments can provide firms with more "patient" capital (Beuselinck, Cao, Deloof, & Xia, 2013; Borisova, Brockman, Salas, & Zagorchev, 2012) and stimulate economy-wide new investment in areas where the private entrepreneurship is lacking (Gerschenkron, 1962; Rodrik, 2004). Yet, at the firm level, these benefits may not outweigh the costs of state ownership especially in the case of firms where governments have direct control rights, which magnify agency problems associated with diffuse monitoring, low-powered incentives and political meddling. In other words, majority SOEs may receive distinct support, but at the cost of reduced firm-level profitability and efficiency.

In firms with minority state ownership, in contrast, management will be in the control of private shareholders who will more likely follow profit-maximization goals. This feature will not only facilitate the creation of managerial incentive contracts, but also enhance the monitoring pressure on SOE managers. At the same time, partial state equity can help minority SOEs pursue profitable projects especially when faced with scarce availability of capital and other institutional constraints (Inoue, Lazzarini, & Musacchio, 2013; Vaaler & Schrage, 2009). Thus, minority SOEs should have lower costs of state ownership and, at the same time, benefit from their superior access to governmental resources. We, however, cannot predict that minority SOEs will generally have superior performance when compared to private firms. SOEs may not be completely insulated from governmental interference: governments may collude with other shareholders and even use their distinct regulatory power to influence decisions (Musacchio & Lazzarini, 2014). For instance, Renault, minority-owned by the French government, decided to back off on its intentions to shift production overseas in 2010 after President Nicolas Sarkozy publicly objected to this decision. Therefore, we expect that majority SOEs will underperform minority SOEs, although the latter will not necessarily fare better than private firms {Majumdar, 1998 #1485; Wu, 2011 #2667}. Thus, we would expect that there would be significant performance gaps between SOEs with majority state ownership and comparable private firms (that is, majority SOEs will underperform private firms with similar traits). While there should not be systematic, significant performance gaps between SOEs with minority state ownership and comparable private firms.

Environmental changes and the performance of SOEs

We advance the existing literature by proposing that SOEs' intrinsic sources of disadvantage will be especially relevant when they need to respond to negative pressure from their external environment. In our view, economic crises tend to sharply decrease environmental munificence (Wan & Yiu, 2009) and require organizational response in the form of capacity readjustment, downsizing and resource reallocation more generally (Garcia-Sanchez, Mesquita, & Vassolo, 2014). In this environment, the liabilities of stateness, discussed before, create formidable challenges for the organizational adjustment of SOEs in periods of economic downturn. Although in conditions of extreme distress governments may be required to bail out SOE, in most cases the pressure will occur the other way around: SOEs will be seen as tools to help governments. For instance, regulatory impediments may constrain SOEs to fire unproductive workers and sell assets to restore profitability and efficiency (Gallagher, 2004). In other words, SOE managers may simply lack the required autonomy to respond to crises (Aghion, Bloom, Sadun, & van Reenen, 2014). The low-powered incentives of SOE managers may further reduce their effort to adjust (Kato & Long, 2006), even when they are not formally constrained. Complicating matters, governments may directly request SOEs to preserve employment and even pursue unprofitable investment projects (Musacchio & Lazzarini, 2014; Shirley & Nellis, 1991). Given their restricted ability to adjust and the expected escalation in governmental intervention during economic

crises, we expect that such events will increase the performance gap between SOEs and similar private firms.

As before, we also expect that such gaps will be smaller in the case of SOEs with minority state equity. Although residual interference is still a possibility in those firms, minority SOEs are controlled by private owners who not only have high incentives to adjust but are also less directly influenced by governments. Because they are not fully controlled by the state, minority SOEs should also be less constrained in their ability to downsize and rearrange their investments. In other words, we hypothesize that the performance gap of minority SOEs will be lower than the gap of majority SOEs as a function of environmental changes that require adjustment or increase the likelihood of governmental intervention.

Empirical evidence of SOE performance vs. that of private firms

To shed light on these questions, we examine firm-level performance differences between SOEs and private firms based on a cross-industry sample of 477 large listed SOEs observed between 1997 and 2012 in developed and emerging countries. Of the SOEs in the sample, 280 have minority state ownership. Thus, in our database we have large, global SOEs such as Norway's Telenor (majority), Russia's Rosneft (majority), France's Renault (minority) and Brazil's Vale (minority). These SOEs are compared to a group of 431 listed private firms with no state ownership. We adopt matching techniques (Abadie, Drukker, Herr, & Imbens, 2004; Abadie & Imbens, 2011) to guarantee comparability between the observed SOEs and private firms based on key observable traits such as firm-level "fundamentals" (such as size and capital intensity), industry-level characteristics, and country-level conditions (chiefly, the extent of economic and institutional development). That is, what we show below is mostly an exercise comparing the average difference in performance between SOEs and matched private firms. We refer to those averages as "average treatment effects" or ATTs—where the "treatment" is state ownership.

In order to explore the effect of economic crises, we devise a differences-in-differences estimation. This methodology also allows us to remove the effect of firm-level unobservables (Heckman, Ichimura, & Todd, 1997). We focus on the effect of ownership (equity) and abstract from other potential conduits of governmental influence such as loans from state-owned banks (Lazzarini, Musacchio, Bandeira-de-Mello, & Marcon, 2015) or discretionary regulation (Lin & Milhaupt, 2013), which are more difficult to observe and quantify in large, cross-country databases like ours.

We compare SOEs and similar private firms (matching industry, size, capital intensity, and country, when possible) and find minimal differences between SOEs and private firms. Majority SOEs significantly underperform private firms only in terms of *Labor productivity*. Yet we fail to uncover any significant difference with respect to the financial performance variables and even find that majority SOEs have *superior* Tobin's q than private firms. As for minority SOEs, we observe that

they also underperform private firms in terms of *Labor productivity* (and also in terms of *EBITDA/Assets*. Figure 1 shows our yearly estimates with 95% confidence intervals. In general, we do not see consistent, systematic performance gaps (that is, an average treatment effect or ATT significantly below zero) for all performance variables except for *Labor productivity* and mostly only for more recent years.

When we look at whether those performance gaps change during times of crisis the results are different (see Figure 2). We find that recessions are usually associated with large performance gaps for majority SOEs (we define crisis as two years of recession following two years of growth). These estimated performance gaps are also economically relevant. For instance, after an event of economic downturn, the estimated change in *ROA* for the majority SOEs is 3.1 percentage points inferior to the observed change in private firms—a difference in magnitude of 75.6% considering the average *ROA* in the sample (4.1%). For minority SOEs, in contrast, the only detected effects are on *Labor productivity*. For all other indicators, there is no significant performance gap between firms with minority state ownership and similar private firms. Thus, except for labor productivity, minority SOEs appear to be less affected by exogenous changes that tend to increase the temptation of governments to intervene. A possible explanation is that keeping employment high is generally a relevant political objective for governments and therefore they may try to influence minority SOEs specifically for that purpose (e.g. recall the Renault example discussed earlier). To further explore this finding, we computed changes in the logarithm of the number of employees of minority SOEs versus matched private firms. In events of economic downturn, minority SOEs significantly change employment by 7.9 percentage points *above* private firms, thus widening the gap versus private firms when measured as output per worker.

FIGURES

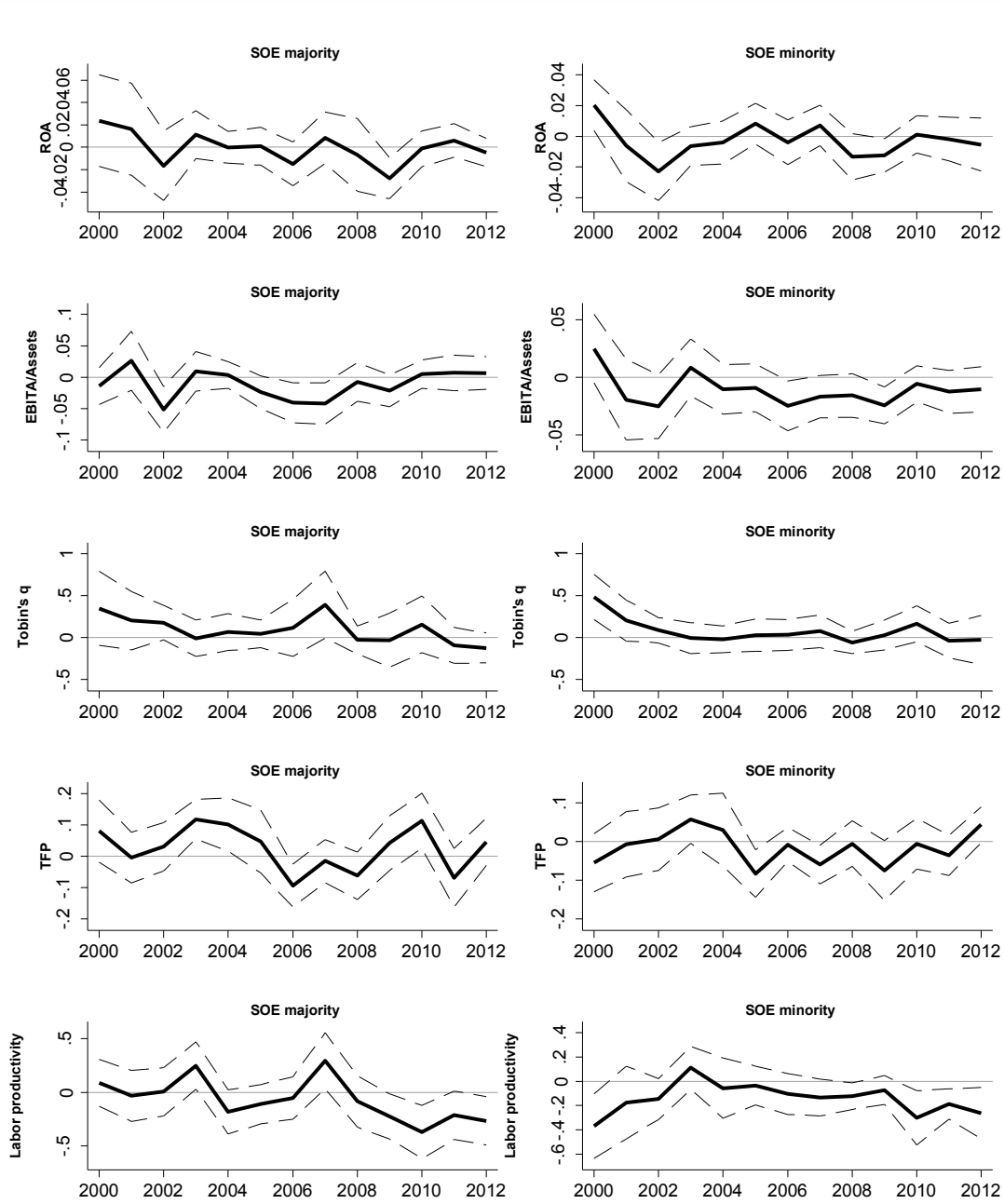


Figure 1. Performance differences between SOEs and matched private firms, by year (dashed lines represent 95% confidence intervals)

Note: The graphs plot the average gap in performance for all the matched firms for every year. The gap is defined as the difference between private minus SOE performance using different indicators. A negative difference is consistent with the idea that there is a liability of stateness (SOEs underperform private firms)

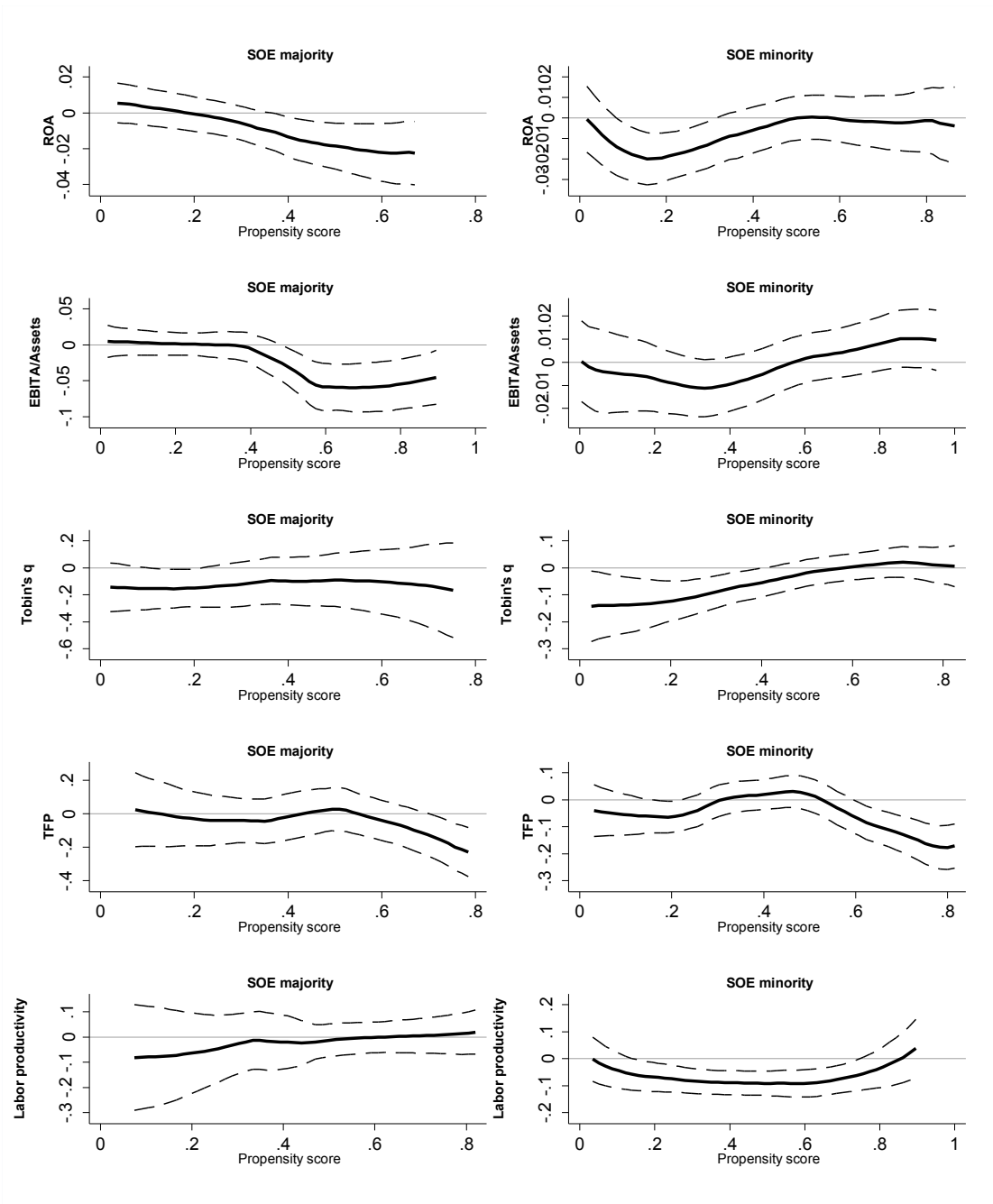


Figure 2. Heterogeneous treatment effects using economic crises as an exogenous source of variation (dashed lines represent 95% confidence intervals)

Note: The graphs plot the gap in performance for all the matched firms during recessions according to the likelihood of having a good match (the higher the propensity the more similar is the match between private firms and SOEs). The gap is defined as the difference between private minus SOE performance using different indicators. A negative difference is consistent with the idea that there is a liability of stateness (SOEs underperform private firms).