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Amanda Zadorian

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Practicing (State) Capitalism at Petrobras and Rosneft

Amanda Zadorian 

International Center for the Study of Institutions and Development, National Research University Higher School of Economics, Moscow, Russian Federation

ABSTRACT

Why do state capitalist regimes, while aiming to increase control over the economy, introduce partial privatization and liberalization at their national oil companies (NOCs)? The article presents a case study and discourse analysis of liberalizing reforms to the management of “Health, Safety, and Environment” at the Russian and Brazilian NOCs. Employing a constructivist political economy approach emphasizing the co-constitution of state power and market power, it argues that adopting the practices of effective oil multinationals allows NOCs to represent themselves as capitalist corporations – not state bureaucracies – and thereby better fulfill their coordinating function in state-permeated market economies.

KEYWORDS

State capitalism; national oil companies; varieties of capitalism; shareholder value; petroleum industry

Introduction

State capitalism, defined broadly as increasing state influence over the economy, has received renewed scholarly attention in the context of booming commodity prices and newly emerging global powers. State influence over the economy, and particularly the prevalence of state-owned enterprises (SOEs), is considered detrimental because it crowds out more efficient private investment and market-based forms of governance. The literature maintains a characterization of SOEs as bloated and inefficient extensions of the state bureaucracy. However, this conceptualization of state capitalism overlooks an important feature of its contemporary manifestation: state-owned firms increasingly practice capitalism like private firms. Today’s SOEs maintain “lean” portfolios and focus on maintaining the value of their stock, acknowledging their state owner as just another shareholder.

This trend is especially prevalent in the oil industry. A growing number of national oil companies (NOCs) have listed partial stakes on global stock exchanges based in New York or London. Listing subjects the NOCs to mandatory reporting about their finances and operations, as well as expectations to “maximize shareholder value.” Partial privatization therefore prompts a liberalization of management practices. The new standards to which NOCs must adhere are beyond the control of their state owners. While some of the reforms are mere window-dressing, others place real constraints on

the state corporation’s behavior. These listed NOCs therefore present a puzzle for our understanding of rising state intervention: why would a state that wants to increase its control over the economy introduce liberalizing corporate governance reforms at state companies?

The objective of this research is to offer a more convincing rationale for listed NOCs in state capitalist regimes. It employs a constructivist political economy framework focused on the formation of economic subjects (Abdelal et al., 2010). Partial privatization and liberalization of SOEs is rational only if one takes into account the importance of *identity* for participation in global capitalism. To partner on equal terms with multinational companies, a NOC must itself be perceived as a multinational company. The NOC achieves this identity by upholding the norms consistent with shareholder value maximization in the oil industry. Over the past thirty years, the management of Health, Safety and Environment (HSE) has been developed by multinational corporations like ExxonMobil to become a central feature of oil company operations. HSE is considered an important indicator of an oil company’s ability to generate value for shareholders. It is one of the main ways that listed NOCs represent themselves as capitalist firms instead of state bureaucracies.

This article analyzes the discourse and practices of HSE management that have been adopted at listed NOCs in Russia and Brazil. The second section elaborates how a constructivist approach focused on identity

contributes to our understanding of state capitalism. NOCs further state interests by being perceived as capitalist multinationals in their own right. The third section details the research methodology and data sources. The fourth and fifth sections present a case study and discourse analysis of HSE in the global oil industry and its adoption at Petrobras and Rosneft. The analysis shows how corporate representations about HSE management constitute the NOC as a particular kind of economic subject: a capitalist firm that is worthy of equal partnership with multinationals domestically and globally. The sixth section concludes by discussing the contributions of this research to a critical political economy of state capitalism, particularly efforts to replace conceptual frameworks that emphasize polarity between state intervention and market norms/actors (De Graaff, 2012; Van Apeldoorn et al., 2012). Where the state is the majority shareholder, management processes adopted to “maximize shareholder value” in line with industry norms present an expansion of market-oriented governance *in the service of* deepening state influence over the economy. A more robust theory of (state) capitalism must acknowledge the co-constitution of state power and market power.

State capitalism

The analysis here focuses on two listed NOCs from state capitalist regimes. Rosneft, majority state-owned by the Russian government, has been listed on the London Stock Exchange since 2006. Petrobras has been listed on the New York Stock Exchange since 2000 while the Brazilian government has maintained a majority of voting shares. Russia and Brazil are routinely identified as state capitalist by researchers. Within the Varieties of Capitalism (VOC) approach (Hall & Soskice, 2001), both countries fit the “state-permeated market economy” (SME) variety. Their economies are dominated by domestic capital and their domestic markets are large enough not to have to rely on export-led growth, which sets them apart from other emerging or developing economies that rely almost entirely on foreign investment (the dependent market economies – DMEs). Both countries have significant state involvement in the banking sector, most notably through the Brazilian development bank BNDES and Russian state-controlled Sberbank. Both economies achieve innovation through state sponsorship of high-tech sectors and technology transfer through partnership of domestic firms with multinationals. SMEs are unique in that they depend simultaneously on both inward and outward foreign direct investment (FDI). The defining feature of SMEs is the formal and informal mechanisms of

support that the state provides for individual firms to compete in international and domestic markets (Nölke et al., 2015). Many of these state-supported firms are listed SOEs.

There is broad agreement about the classification of Russia and Brazil as state capitalist among researchers working outside the VOC framework as well (Bremmer, 2009; Musacchio & Lazzarini, 2014). An alternative approach (Wright et al., 2021) disaggregates state capitalism into three component parts: state ownership, state intervention through mechanisms like taxation and regulation, and the perceived extent to which the state presents a threat to private business. Both Russia and Brazil are classified in this framework as “interventionist entrepreneurial states,” meaning they have high state ownership and present a high level of threat to private business, while making sparse use of taxation and regulation mechanisms of intervention.

From the rationalist point of view that informs the state capitalism literature, NOCs are least likely cases for the adoption of liberal corporate governance norms. None of the mechanisms that usually encourage liberalization apply to NOCs. Majority state-owned, they are not subject to the market for corporate control (Goldstein, 2013): NOC managers need not fear being fired by activist shareholders or venture capitalists, as long as they please their state shareholder. And with informal network ties to management, their state shareholder does not need to rely on public disclosures to monitor the managers’ performance (Nölke & Perry, 2007, p. 11). The NOCs are located in SMEs where minority shareholder protections are relatively weak; and, like most firms in SMEs, their operations are financed from banks and state-subsidized credit sources, not capital markets (Nölke et al., 2015). Despite the apparent lack of incentives to do so, Petrobras and Rosneft have adopted liberalizing reforms, including industry best practices, in the name of shareholder value maximization. This article turns to a constructivist political economy approach to understand this phenomenon, answering the call for greater incorporation of ideational factors into the study of comparative capitalisms (Clift, 2012).

Like the first wave of state capitalism in Europe in the nineteenth century, the third wave or “state capitalism 3.0” emerged as a way for less developed countries to catch up in an already competitive global economy (Nölke, 2014). A study of changing practices at NOCs is particularly salient to understanding what is unique about “state capitalism 3.0” because of the historical prevalence of state ownership in the oil industry. Increasing state control over natural resources and the growth of sovereign wealth funds from oil-rich states are

also components of the state capitalist resurgence (Bremmer, 2009). Despite the central role oil plays, with a few exceptions (Abdelal, 2013; Hertog, 2010; Steinfeld, 2010) the literature has paid little attention to the internal management practices of NOCs in the twenty-first century, instead focusing on how NOCs serve state interests abroad (Grätz, 2014; Jones Luong & Sierra, 2015). Thus, where most of the literature emphasizes state-NOC relations, a novelty of the approach taken here is to elaborate how NOC identities are constituted in relation to *industry* practices. This matters because in order to do the things that make the current phase of state capitalism unique – partner with MNCs domestically on a more equal footing to enable technology transfer, and make foreign direct investments abroad – the NOC must be identified as a capitalist firm.

At the same time, VOC has been criticized for its emphasis on classifying whole economies into discrete types, rather than paying attention to the way different practices of capitalism can vary within and across these boundaries (Wright et al., 2021). The research presented here engages this critique by looking at a practice of capitalism – shareholder value maximization – that spans state- and non-state varieties. As a culture of management, shareholder value maximization goes beyond questions of cash flow to impact investment priorities and the distribution of power within the firm (Chong, 2018; Lazonick & O’Sullivan, 2000). A contribution of this article is to demonstrate how shareholder value-maximizing behavior can be industry-specific. While this clearly explains the convergence of practices among firms within a sector, it also introduces a new potential mechanism – domination of the economy by certain sectors – that could be driving convergence in capitalist types.

Research methodology

If the firms’ managers are not under threat of takeover or concerned for minority shareholder rights, why do they adhere to shareholder value-maximizing norms? This behavior makes sense only if one considers the identity of the SOE in relation to its industry and global capital. NOCs were long stigmatized as inefficient extensions of the state bureaucracy. This shut them out of the most lucrative opportunities in the global oil industry. In the 1990s and 2000s, oil exploration and production moved to more costly frontier regions in very deep or very cold water. It became common for oil multinationals to share costs and risks by partnering with each other on projects. NOCs that identify as multinationals make attractive partners in these ventures at home and

abroad, while those that do not can partner only at home as representatives of the landlord-state. Since the late 1990s, there has been a sharp increase in the number and depth of partnerships involving NOCs, especially those between NOCs and private multinationals (De Graaff, 2011). To fully participate in these ventures, however, NOCs must first overcome the ‘original sin’ of state ownership, which is associated by industry insiders, outside observers, and multinationals’ shareholders with inefficiency and political risk.

Being perceived as capitalist corporations allows NOCs to partner with multinationals on projects at home and abroad, facilitating the simultaneous inward and outward FDI flows that characterize state capitalism 3.0 (Nölke, 2014). In order to act in certain ways – e.g., to hold certain kinds of contracts – a corporation must not only have the necessary resources but also *be perceived as a certain kind of actor*. To partner with multinationals on an equal footing, a NOC must be perceived as an oil multinational in its own right. Adhering to the industry norms associated with shareholder value maximization, such as HSE management, constructs this identity for the NOC. Adopting market-based governance thus enables the SOE to serve the state’s goals more effectively.

To understand how a NOC’s capitalist identity is constructed through HSE management, this article employs a “discourse approach” (Epstein, 2010). Discourse here refers to “a cohesive ensemble of ideas, concepts, and categorizations about a specific object that frame the object in a certain way, and therefore delimit the possibilities for acting in relation to it” (Epstein, 2010, p. 181). HSE is the object of a discourse that frames worker safety and environmental management as the responsibility of corporations (not states) and as an integral part of what it means to be a modern multinational oil company. Importantly, what constitutes identity in this approach is not behavior but *speech made in public*, because it shows that the speaker “recognizes themselves in that norm” (Epstein, 2010, p. 190). Thus, when the NOC professes to adhere to industry norms of HSE management, it is representing itself as a modern multinational oil company – regardless of whether it then follows through materially on its commitment to the norm. The discourse approach to identity therefore does not require discovering what actors’ “true” intentions are, avoiding difficult methodological issues.

To be clear: the purpose of this analysis is not to determine whether NOCs *are* capitalist corporations or state bureaucracies by some objective definition. Rather, this article looks at how NOCs *represents themselves* as capitalist corporations rather than state bureaucracies.

All corporations represent themselves to their shareholders, their employees, and the public. Some have argued that an agent called the corporation does not exist independently of these representations. Shever (2012, p. 199) calls this the “corporate effect.” Materially, corporations are just portfolios of assets, and yet corporations are perceived as cohesive agents and able to act in the world as such. Like branding and other representations of the company in annual reports to shareholders, company-wide HSE programs bond geographically dispersed and functionally diverse operations into a unified whole recognized as a multinational oil company. In the case of the listed NOCs, these representations first and foremost draw new discursive boundaries between the company and the state. This helps to overcome the reputation of SOEs as inefficient state bureaucracies. As the discourse analysis shows, because HSE practices were developed by private multinational oil companies to pre-empt state regulation, they are particularly effective at drawing a boundary between the state and the NOC.

Taking this constructivist point of view clarifies the mechanism by which the new SOEs serve state interests. According to the most prominent theorists of the subject, new SOEs are central to contemporary state capitalism because they participate in circuits of FDI both at home and abroad. May and Nölke (2018) suggest that partial privatization of SOEs is a “modernizing instrument”; it allows SMEs to access imported technology necessary to support their industrial policy. Whereas technology transfer in DMEs occurs via hierarchical transfers from the head office of a multinational to its DME-sited subsidiaries, technology transfer in SMEs occurs via strategic partnerships between foreign multinationals and their state-owned counterparts. However, May and Nölke stop short of identifying how SME firms are able to achieve partnership status with multinational firms, instead of becoming subordinated to them as in the DME model. Additionally, Nölke (2014) argues that SOEs benefit state capitalist regimes by making foreign investments abroad, as a form of diplomacy with allied countries or to obtain access to natural resources. This simultaneous reliance on both inward and outward FDI is a distinct feature of “state capitalism 3.0.” But the analysis does not explore how the reputation of the SOE *within its industry* impacts the attractiveness of such investments, particularly in industries where there is a desire to avoid crowding out investment from multinational private firms.

The first step of this research involved compiling information about HSE programs at Petrobras and Rosneft from the companies’ Annual and Sustainability Reports for the years 2005 to 2017. In all, 70 unique

programs and initiatives were identified (32 at Rosneft and 38 at Petrobras). The second step involved classifying these programs into four categories of industry “best practices” that are associated with generating shareholder value through HSE. HSE best practices have four main characteristics: (1) company-wide, data-driven reporting and measurement; (2) adherence to voluntary codes and standards set by independent international organizations; (3) regulation of contractors’ safety and environmental performance; (4) cultivation of a “safety culture” that emphasizes the leadership of top management and the responsibility of individual workers. This categorization of best practices was developed by the author based on a discourse analysis of hundreds of documents collected from online archives and at industry events. The objective of the discourse analysis was to understand how HSE became such an important component of oil company operations and identity, to the extent that costly investments in worker safety and environmental protection are considered to generate value for shareholders. This idea emerged from about two dozen semi-structured interviews conducted with oil industry professionals in Moscow, Houston, Rio de Janeiro and Prague over the years 2015–2019.

Most interview subjects were affiliated with the professional Society of Petroleum Engineers, one of the main industry organizations promoting HSE best practices globally. A potential methodological limitation of the research is that interview subjects were recruited through a snowball sampling technique. The sample is therefore not representative, and is concentrated mostly on mid-level employees. The researcher lacked access to high-ranking executives who could directly report the reasons behind corporate investment decisions. However, it is unlikely that these executives would reveal anything “off the record” to the researcher in an interview. As a substitute, the discourse analysis included public pronouncements and comments to journalists made by executives. These are sufficient because, as noted above, in the discourse approach (Epstein, 2010) identity is based not on an actor’s “true” intentions, but on speech made in public.

HSE at Petrobras and Rosneft

Among the liberalizing reforms that a listed NOC adopts, HSE is particularly salient to the construction of its identity as a capitalist firm. This is because HSE programs were developed by multinational oil companies to pre-empt and supersede state regulation of occupational and environmental safety. HSE therefore allows Petrobras and Rosneft to take responsibility for these

issues as corporations, not state bureaucracies. It produces a clear boundary between the state and the NOC.

The adoption of HSE programs at NOCs involves both rhetorical commitments and investment of material resources. Rosneft declared a strategic goal of becoming “a recognized leader with regard to environmental safety” by 2030 (Rosneft, 2006–2016b, p. 5) and aims “to achieve the highest *industry* levels of health and safety” (Rosneft, 2005–2016a, p. 50, emphasis added). Petrobras’ 2017–2022 Strategic Plan rests on just two pillars, one of which is safety. With this plan it hopes to rescue its reputation following the Lava Jato corruption scandal (Parente Hopeful Petrobras Is Turning the Page, 2017). To achieve these goals, Petrobras and Rosneft have invested increasing amounts of money in HSE management since the mid-2000s. Spending on occupational health and safety at Petrobras rose from 44 million reais (0.04% of revenues) in 2004 to 233 million reais (0.07% of revenues) in 2015. Rosneft has reported a much larger absolute increase in occupational safety spending, from 689 million roubles in 2004 to 56 billion roubles in 2017 (author’s calculations based on Petrobras, 2005–2017; Rosneft, 2006–2016b). This is not simply a reflection of Rosneft’s rapid growth through acquisitions. While its average daily oil production more than tripled in this time period, and its number of employees more than quadrupled, its spending on safety increased by a factor of 81. These funds were invested in equipment, training, data management systems, and campaigns to raise workers’ awareness of safety issues.

Like most multinationals, Petrobras utilizes the narrative trope of “conversion” to safety culture following a traumatic accident. As narrated by its ombudsman, Petrobras’ “HSE journey” began in 2001, when the *P-36* platform sank in the Campos basin off the coast of Rio de Janeiro, killing eleven workers. The accident occurred at a time of significant change for Petrobras; Brazil’s Congress had recently amended the constitution to end the company’s monopoly on oil production. *P-36* and a series of smaller accidents that year amplified the voices calling for the company to be fully privatized as well. Petrobras responded by implementing its first Program of Excellence in Environmental Management and Operational Safety (Pegaso) (Otto von Sperling, 2013). In this telling, improvement to Petrobras’ safety management systems was undertaken explicitly to avoid privatization. Petrobras set itself the goal to “raise corporate performance to levels equal to the best international oil and gas majors by 2015” (Petrobras, 2005–2017, p. 91), reporting with pride that its HSE efforts were rewarded with its inclusion in the Dow Jones Sustainability Index. Corporate best practices were

explicitly adopted at Petrobras to maintain the legitimacy of its state ownership.

Rosneft does not claim a traumatic origin point for its safety culture; in Russia, HSE is perceived as a Western import (author interviews). The desirability of HSE programs there has grown slowly over the past fifteen years. While initially spoken of as something costly that Western partners demanded, HSE is now understood as something positive Western partners bring to the negotiating table. The first company to adopt Western-style HSE standards in Russia was Yukos, when it formed a strategic alliance with oil field services firm Schlumberger in 1998 (Poussenkova, 2004). But it was an exception; in the early 2000s, multinationals still identified weak environmental and safety performance at Russian oilfields as a barrier to investment, as evidenced by Total’s concern that Russian assets could bring “pollution liabilities into the company portfolio that would be unacceptable from a Western perspective” (Greener Pastures – Total To Focus On Greenfield Projects in Russia, 2003). Early improvements to HSE practice occurred only at foreign-operated production sites like ExxonMobil’s Sakhalin-1 and within Western-Russian joint ventures like TNK-BP (Barging In: TNK-BP Raises Safety Standards In Barges, 2004; Dittrick, 2008; TNK-BP Expands Aviation Business, 2011). Indicative of the attitude of Russian firms to HSE, pipeline monopoly Transneft blamed cost overruns on the Caspian pipeline project on “demands from foreign shareholders, which insist on the implementation of Western safety programs and security systems” (Caspian Pipeline Comes Under New Cost Pressure, 2011). After 2012, however, Russian policy explicitly called for foreign investors to bring more than just money to the oil sector, in line with the technology transfer expectations of a SME. “Putin said that foreign participants would be welcome but they must be ‘really serious strategic investors’ that will bring to Russia ‘modern technologies, production experience and big export orders,’” as well as opportunities for Russian companies to invest in overseas projects (Russia Outlines Model for Foreign Energy Investors, 2012). HSE quickly became part of the package of expertise that Western multinationals offered.

Occupational and environmental safety became more central to Rosneft’s strategy in 2011, as it formed partnerships with ExxonMobil, Statoil, and BP for development of the Russian Arctic (Rosneft, 2011c, 2011d). “Strict safety rules compliance and ensuring environmental safety are of particular importance for the [Arctic Research and Design] Center [for Offshore Development]” that the company founded jointly with ExxonMobil in 2011 (Rosneft, 2012c). As part of its own

risk management strategy, ExxonMobil requires the NOCs with which it partners to implement its own or a comparable system for management of HSE risks (author interview with Deputy Director of Moscow office of multinational oil consultancy, Moscow, 28 July 2015). Rosneft acknowledged in its 2011 Sustainability Report that its strategic partnership with ExxonMobil posed “new requirements” for operational and environmental safety, motivating it to create dedicated departments for each (Rosneft, 2006–2016b, p. 6). Safety experts from BP, the oil major with a nearly 20% ownership share in Rosneft, reviewed its HSE programs and suggested improvements (Rosneft, 2005–2016a, p. 155). Board members with experience of the oil industry outside Russia were also called upon to oversee HSE processes at Rosneft: Robert Dudley, CEO of BP, and Donald Humphreys, formerly of ExxonMobil, sit on the Board of Directors’ Strategic Planning Committee, which has responsibility for overseeing HSE (Rosneft, 2006–2016b, p. 26–27). The influence of multinationals was expected “to have a beneficial effect on the company, promoting the implementation of modern management methods, corporate culture, and real observance of the principles of HSE,” according to commentator Nina Poussenkova (Antisobytiya goda reitingovyi obzor “Neftegazovoi Vertikali” [*Oil and Gas Vertical’s* Anti-events of the year rating review], 2013). As with Petrobras, market-based management systems were intended to overcome the perceived insufficiency of performance under state ownership.

However, the explanation that liberalizing reforms are adopted to improve the economic efficiency of SOEs is unconvincing when one considers how expensive and complex HSE practices are. Appel (2012) describes the “bureaucracies of risk avoidance and safety” that she observed in her ethnographic study of a drilling rig offshore Equatorial Guinea. The 12-hour workday begins with a meeting to discuss potential safety issues. Then, workers are given permission slips for each task from managers who have analyzed the risks involved. The work is further governed by rules (always hold handrails; always wear protective gear) and protocols (complicated tasks required a supervisor to sign off at each step). If they encounter an unsafe situation, workers must stop what they are doing and consult a supervisor. Workers file reports at the end of each workday documenting tasks completed and the condition of equipment. Appel interprets these elaborate rituals of safety as an enactment of the industry’s “modularity”: practices that “frame the industry’s work as self-contained” (Appel, 2012, p. 692) to reduce geographical variation in corporate practices. Emphasizing the autonomy of (global) corporate safety performance from

(local) state regulation disentangles capitalist profit from the local political economies of extractive sites.

HSE is such an important component of oil company operations and identity that costly investments in worker safety and environmental protection are considered to generate value for shareholders. HSE best practices were developed by private multinational corporations to supersede or pre-empt state regulation; in adopting them, Petrobras and Rosneft mark themselves as the responsible kind of corporation that oil multinationals are expected to be, while emphasizing their autonomy from state owners. The next section describes the significance of these best practices within the oil industry’s discourse of HSE.

Best practices in HSE

Compiled from the companies’ annual reports, Table 1 documents 70 distinct HSE programs and initiatives that Petrobras and Rosneft have implemented. They conform to four categories of global best practice for HSE: (1) company-wide, data-driven reporting and measurement; (2) adherence to voluntary codes and standards set by independent international organizations; (3) regulation of their contractors’ safety and environmental performance; and (4) cultivation of a “safety culture” that emphasizes the leadership of top management and the responsibility of individual workers.

Company-wide, data-driven systems for reporting and measuring HSE performance

The core of global HSE best practice is the “integrated management system” for recording and analyzing “incidents” in which harm to humans or the environment occurs. Incidents range in severity from large-scale environmental disasters to small-scale industrial accidents like a tool being dropped from an elevated work area. ExxonMobil developed the first such system, its Operations Integrity Management System (OIMS), in the early 1990s after the *Exxon Valdez* tanker ran aground and spilled a historic volume of oil into Prince William Sound. Similarly, as described above, Petrobras introduced Pegaso after the *P-36* platform sank in 2001. It reported in 2010 that “the integrated management process has ensured significant improvements in Petrobras’ HSE performance, which currently approaches – and in some cases exceeds – global oil and gas industry benchmarks of excellence” (Petrobras, 2005–2017, p. 81). Rosneft introduced its Integrated Management System for Health, Safety and Environment when it listed shares on the London Stock Exchange in 2006 (Rosneft, 2005–2016a). With

Table 1. Global HSE best practices adopted at Petrobras and Rosneft, 2001–2017.

Characteristic	Programs at Petrobras (year adopted/first reported)	Programs at Rosneft (year adopted/first reported)
(1a) Integrated program for managing HSE	<ul style="list-style-type: none"> – Program of Excellence in Environmental Management and Operational Safety (Pegaso) (2001) – HSE Excellence Strategic Project (2004) – HSE Management Assessment Program (PAG-HSE) (2006) – Quality in HSE and Climate Change strategic projects (2007) – Safety, Environment, Energy Efficiency and Health (2010) 	<ul style="list-style-type: none"> – “integrated system for HSE management” (IMS) (2006) – Integrated Health, Safety and Environment Management System” (IHSEMS) (2012)
(1b) Data-driven management	<ul style="list-style-type: none"> – electronic system for the creation of a database of Social Responsibility Indicators at all subsidiaries and units (2005) – HSE compliance of contractors managed through the registration system of the Supplier Channel on Petrobras’ website (2005) – Computerized System to help the Emergency Action Plan (InfoPAE) (2005) 	<ul style="list-style-type: none"> – identified August to October as high-incident months and designated this a company-wide Period of Special Attention Towards Occupational Health and Safety (2012) – New Environmental Technologies System (2013) – SAP software system for monitoring HSE incidents (2016)
(2a) International voluntary standards	<ul style="list-style-type: none"> – UN Global Compact (2003) – Health and Safety Management BS 8800/OHSAS 18001 (2005) – Environmental Management ISO 14001:2004 (2005) – Occupational Health and Safety OHSAS 18001:1 (2006) – American Petroleum Institute standards for recording and reporting Process Safety Events (2012) – International Association of Drilling Contractors certified all teams working on offshore platforms (2012) – Maritime Security Operation Program to implement International Association of Oil and Gas Producers guidelines (2013) 	<ul style="list-style-type: none"> – Reporting based on IPECA/API Oil and Gas Industry Guidance on Voluntary Sustainability Reporting (2007) – Environmental Management ISO 14001:2004 (2008) – Occupational Health and Safety OHSAS 18001:1 (2008) – Quality Management System ISO9001:2008 (2013) – UN Global Compact’s Sustainability Principles (2014) – Energy efficiency ISO 50001 (2015)
(2b) “Beyond Compliance” – Leadership of regulatory processes	<ul style="list-style-type: none"> – participated in the Brazilian delegation leading development of the ISO 26000 standard on Social and Environmental Responsibility (2005) – Extractive Industries Transparency Initiative advisory board member (2005) – voluntary limits on carbon dioxide emissions from pre-salt operations (2010) – voluntarily extended Local Content requirements to E&P operations (2011) 	<ul style="list-style-type: none"> – providing expertise to improve legislation (2007) – maintains its own registry of environmentally sensitive areas (2012) – Rosneft Fire Safety LLC, a dedicated subsidiary for providing emergency firefighting services (2012) – Situation Center for Crisis Management with “much more stringent criteria for emergencies compared to the respective federal legislation” (2013) – formal cooperation agreement with regulator Rostekhnadzor to improve Russian regulations to meet international standards (2015) – employees contributed to 116 draft regulations for occupational health and safety (2016)
(3) Ensuring contractor compliance	<ul style="list-style-type: none"> – HSE requirements introduced into the Supplier Management Program (Progefe), with requirement of an external audit for “high-risk” services (2005) 	<ul style="list-style-type: none"> – New standards requiring seatbelts in contractor vehicles (2012) – Collection of contractor safety and incident data (2013)
(4a) Top management responsibility	<ul style="list-style-type: none"> – HSE measures included in Balanced Scorecard (2005) – CEO or board members attend HSE audits (2006) – “senior management commitment” one of three key principles of its HSE Policy (2007) – HSE Management Committee supporting the Board of Directors (2007) – HSE Department at corporate HQ (2007) – HSE Committee at Board of Directors level (previously the Environment Committee) (2013) – CEO and Directors lead the event <i>Seguindo em frente com segurança</i> (Moving Forward Safely) (2015) – Safety Moments at meetings of Board of Directors and the Executive Board (2016) 	<ul style="list-style-type: none"> – HSE performance measures included among KPIs for executive bonuses (2009) – CEOs of individual production units responsible for occupational safety outcomes (2011) – individual KPIs for energy efficiency for top managers (2015) – Vice President for HSE position created at corporate level (2015) – coordinating HSE Board created (2016)
(4b) “Safety Culture” and the individualization of worker responsibility	<ul style="list-style-type: none"> – “zero fatalities” goal (2006) – Internal Accident Prevention Weeks (2010) – “zero accidents” goal (2012) – Safety Week campaign (2012) – Zero [Road] Accidents Pact in transport subsidiary (2015) – Golden Rules introduced (2015) – Commitment to Life program (2016) – Safety Daily Dialogues (2016) – Work Safety and Health World Day (2017) – Campaign to reduce accidents with hands and fingers (2017) 	<ul style="list-style-type: none"> – Year of Health, Safety and Environment initiative (2012) – a competition for drawings about occupational safety by the children of oil workers (2012) – HSE Performance competition among subsidiaries (2012) – Golden Rules of Workplace Safety introduced (2013) – “zero incidents” goal (2014) – Informed Leadership workshops (2015) – certifying individual employees for compliance with the Golden Rules (2016) – World Day of Safety and Health at Work held (2016)

Source: Compiled by the author from Petrobras, 2005–2017; Rosneft, 2005–2016a; Rosneft, 2006–2016b.

these systems, data collected about accidents is continually analyzed to develop procedures that will prevent similar accidents in the future, enabled by software systems whose implementation is reported to shareholders as a deepening of their commitment to a “culture of safety” (e.g., Rosneft, 2005–2016a, p. 51).

Accidents are of material concern to shareholders because of the significant costs associated with cleanup, and because the industry depends on government-issued licenses to extract oil, which are difficult to obtain if the public believes oil production to be unsafe. HSE programs developed in an industry on the defensive following a series of high-profile disasters in the U.S. and Europe in the late 1980s. They initially focused on compliance with government regulations to avoid fines and damage to reputation that could dampen public enthusiasm for oil and gas development (Hinton, 2016). Over time, this became even more important, as corporate risk portfolios came to favor frontier oil fields offshore in deep water (Watts, 2015, p. 219). A major incident jeopardizes access to these environmentally sensitive areas, as evidenced by the closure of U.S. offshore licensing for six months after the *Deepwater Horizon* rig explosion and subsequent oil spill in the Gulf of Mexico in 2010. BP’s management culture of “cutting corners” and excessive focus on cost reductions was found to be a major factor in causing the disaster (National Commission, 2011, Chapter 4). Coinciding with the increasing viability of alternative sources of energy, the *Deepwater Horizon* incident prompted a legitimacy crisis for the industry (Garland, 2015). It responded with a second moment of elevated attention to HSE: a shift towards developing a proactive “safety culture” that goes “beyond compliance,” encouraging individual workers to identify and respond to unsafe situations (“Nobody Gets Hurt”: A Safety Journey, 2013 Green Cross Medal Presented to ExxonMobil Corporation, 2013). The promulgation of safety rules that exceed the requirements of government regulation is mobilized after crises to prevent a more stringent regulatory response.

International and voluntary standards

The standards that govern HSE derive from sources beyond the control of oil-producing states: international certifiers like the ISO and OHSAS, industry groups like the American Petroleum Institute, and stock market regulations for the protection of shareholders. Many of the best-practice indicators for reporting on safety performance, like the number of lost-time incidents or volume of oil spilled, are standardized according to requirements of the U.S. Securities and Exchange Commission following the

passage of the Sarbanes-Oxley Act in 2002 (Appel, 2012). This regulation governs the corporate disclosures of companies listed on the New York Stock Exchange. Because many major multinational oil companies are listed on this exchange, and these companies set the standard for the industry, the Sarbanes-Oxley regulation’s effects are felt even in companies listed elsewhere.

Like multinationals, Petrobras and Rosneft emphasize that their adherence to these standards exceeds local regulation. Rosneft’s Situation Center for Crisis Management “developed much more stringent criteria for emergencies compared to the respective federal legislation, with reflects the Company’s commitment to the international best practices in the field of safety” (Rosneft, 2006–2016b, p. 68). Unlike occupational safety, which is legally coded in Russia as a business issue (Fedorets, 2015), environmental requirements are included in government licenses for subsoil use. Rosneft nevertheless seeks to go beyond legal requirements. For example, in 2014, the company set a medium-term goal of exceeding the nationally-mandated 95% recovery rate for associated petroleum gas (Rosneft, 2006–2016b, p. 68). It also maintains its own registry of environmentally sensitive areas (Rosneft, 2006–2016b, p. 36). Petrobras likewise commits to limiting carbon dioxide emissions from Pre-Salt developments even though there is no Brazilian legislation on this matter (Petrobras, 2005–2017, p. 68), and the company’s Local Content Policy voluntarily extended requirements to buy Brazilian-made products to its Exploration and Production operations (Petrobras, 2005–2017, p. 124).

The companies’ expertise is called on to improve national regulation, further demonstrating that the international best practices adopted by these companies exceed regulatory requirements of the state. Rosneft reports such “stakeholder engagement” as early as 2007. In 2015, Rosneft signed a cooperation agreement with the Federal Service for Environmental, Technical and Nuclear Oversight to improve regulation so that it aligns with international standards (Rosneft, 2006–2016b, p. 54). Rosneft reported in 2016 that its employees contributed to the formulation of 116 draft regulations for occupational health and safety in Russia (Rosneft, 2006–2016b, p. 52). Petrobras has participated in independent international regulatory processes, including the Extractive Industries Transparency Initiative and the ISO (Petrobras, 2005–2017).

Ensuring contractor compliance

HSE best practice increasingly calls on oil companies to monitor the HSE performance of other companies that provide services to them, especially local contractors where the laws governing environmental and occupational safety are below industry standards. This practice

arose in response to the criticism that HSE programs at major oil companies paradoxically made workers *less* safe by encouraging outsourcing. Because HSE programs are costly and procedures like permission slips and “stop-work” orders slow down the pace of work, HSE can conflict with the goal of reducing costs to maximize shareholder returns. Operators can improve their own safety performance by shifting the riskiest work onto contractors who bear responsibility for their own safety.

In addition, actuarial risk assessments accept that some number of people will die or be injured. Measuring HSE performance with targeted improvements to “the incidence rate ... does not eliminate individual injuries and fatalities but ensures that their occurrence at the level of the mass of workers conforms to statistical ratios considered optimal for a given functioning, moving within a bandwidth of acceptable costs of damages and preventative measures that must not be exceeded” (Labban, 2014, p. 492). In response to criticism that its safety programs emphasized numerical performance expressed in accident rates over actual safety outcomes, the industry adopted “zero incidents” as its goal. Petrobras reported adopting this goal in 2012 and Rosneft in 2014. Also in response to this criticism, there is a trend towards reporting contractor injuries and deaths alongside incidents involving the company’s own employees. This incentivizes operators to regulate their suppliers with internal processes rather than relying on local laws to protect contract workers. Petrobras required its contractors to certify their HSE compliance when registering with its Supplier Management Program starting in 2005; for high-risk activities, compliance must be certified by an external audit (Petrobras, 2005). Rosneft also monitors the safety performance of contractors, for example, by requiring that contractor vehicles be equipped with seatbelts (Rosneft, 2006–2016b, p. 46). Unable to find a reliable supplier of helicopter transportation following a fatal crash in 2015, Rosneft purchased aircraft and a stake in a helicopter company of its own (Despite Cuts, Russian Producers Keep Safety Issues Foremost, 2015).

Safety culture

As a key part of corporate culture, rituals of safety are enacted even beyond dangerous workplaces like refineries or oil rigs. ExxonMobil’s employees in the Czech Republic, where the company produces no oil, must engage with HSE while they perform support tasks like HR management, sales, and customer service. Their workplace is also regulated by rules governing individual behavior – no alcohol is allowed to enter the workplace,

sharp knives are not allowed in the office kitchens – and the reporting of incidents like spilled water left on the floor. Carpal tunnel resulting in time off work is counted as a “lost-time incident” just as an industrial accident would be. In their office building in the center of Prague, safety reminders are affixed to the mirrors in the employee washroom. They are also provided in the form of the “Safety Minute,” when a manager might show a safety-related video from YouTube, or an employee might describe how they reacted to an unsafe situation at home. “Sometimes it was interesting, mostly it was just some banalities,” in the words of one former back-office employee. At the start of every meeting, “somebody has to say something about safety to remind everyone that safety is the number one concern” for the company (author interview with former employee of Prague office of ExxonMobil, Prague, 23 July 2019). In a similar vein, Rosneft “promote[s] employees’ personal responsibility for their own safety and the safety of their coworkers” with the Golden Rules of Workplace Safety it introduced in 2013 (Rosneft, 2006–2016b, p. 68). Petrobras introduced its own Golden Rules in 2015 (Petrobras, 2005–2017, p. 38).

Safety culture permeates the oil company from the top to the bottom of corporate hierarchies. ExxonMobil’s CEO elaborates this principle in a typical statement: “For a culture of safety to grow and flourish, it must be embedded throughout the workforce. Safety leadership at ExxonMobil comes not just from supervisors and managers, but from the entire workforce” (“Nobody Gets Hurt”: A Safety Journey, 2013 Green Cross Medal Presented to ExxonMobil Corporation, 2013). Both Petrobras and Rosneft include the commitment of senior management as a key principle in their HSE policies. Ultimate responsibility for HSE outcomes is situated at the top of the corporate hierarchy, with an HSE committee at the Board of Directors level at Petrobras since 2013 and a Vice President for HSE at Rosneft since 2015. Petrobras’ CEO described the company’s orientation by referencing “stop-work” orders: “the decision making process must be on the safety side and not on the risk side in the preparations. Always. We have a saying – ‘if in doubt, stop’” (Hard Lessons Shape Petrobras Safety Culture, 2011). Petrobras has instituted “Safety Moments” even at the start of its Board of Directors’ meetings (Petrobras, 2005–2017). Far from dangerous worksites, corporate executives engage in elaborate performances of their commitment to safety. This demonstrates that HSE is as much oriented towards subjectivity as it is towards safety.

HSE is a powerful norm in the oil industry, from the rig to the boardroom. While the analysis has emphasized the discursive aspects of HSE, in line with Epstein’s “discourse approach” that sees such speech acts as

constitutive of identity, it has also demonstrated that their adoption by NOCs is not merely window-dressing. It entails real changes in behavior throughout the organization and the investment of significant material resources. The payoff to these costly investments is normative. When NOCs adopt HSE best practices, it helps to consolidate their identity as capitalist corporations governed by market norms, enabling their participation in lucrative circuits of investment and technology transfer.

Conclusion

According to market norms, the NOC generates value for its shareholders by managing HSE in line with global industry best practices. This is paradoxical, in that HSE best practices were designed to supersede or even undermine state regulation, and the state is the NOC's majority shareholder. This article has reconciled that paradox by explaining how market norms empower the state in SMEs. The NOCs' relationship to HSE discourse constitutes a capitalist identity for the firm despite its majority state ownership. Being perceived as an effective capitalist firm positions the NOC to act as a "mechanism of coordination" in the state capitalist regime. Moreover, this identity allows the NOC to make investments abroad as a capitalist corporation: a more legitimate position than that of a state agent, and therefore less likely to crowd out or frighten off private multinational co-investment. Attention to identity construction of NOCs in relation to their industrial sector and overall trends in global capitalism thus deepens our understanding of the key mechanism that makes the SME model effective in generating economic growth. Besides bringing the insights of ideational and constructivist research to the comparative capitalisms literature, the novelty of the article lies in considering SOEs in relation to the industries in which they operate, rather than only focusing on the SOEs' relationship to the state.

A potential limitation of this research relates to its generalizability to other economic sectors. The tendency for firms in the oil industry to enter into strategic partnerships and joint ventures to tackle risky projects might make NOC identity more salient to investment opportunities and technology transfer than identity in other industries. However, if this turns out to be the case, this may also explain why state capitalism so often occurs in countries with strong natural resources sectors – either exporting (Russia and Brazil) or importing (China).

An important implication of this research is that the rise of state capitalism is not a threat to global capitalism as such. This contradicts commentators who have suggested that the rise of state capitalism presents

a challenge to the West and its model of the liberal market economy (e.g., Bremmer, 2009), but is in line with the findings of Nölke et al that "large emerging economies ... support global capitalism *in general*" (2015, p. 557; see also McNally, 2012; Steinfeld, 2010). If we relax our assumption of polarity between state and market, it becomes clear that privatization and liberalization can further empower the state, as this case study of capitalist practices at NOCs has demonstrated.

The argument of this article is also consistent with critics of globalization in the field of public administration, who have long argued that "[c]apitalism needs the state, and the state is not independent from capital; the elites of both work together in the globalization process because it serves both" (Farazmand, 1999, p. 510). Contemporary state capitalism is not a reassertion of state sovereignty against global capitalism. Nor is liberalization of SOEs a retreat of the state, even when it involves the privatization of responsibility for certain kinds of public services. Rather, contemporary state capitalism sees states and global capital working together to their mutual benefit in new ways. The increase of state power that we observe under state capitalism relies on a simultaneous increase in the governing power of market norms and institutions. The analysis here thus undermines the view that state capitalism presents a challenge to the liberal global economic order. Instead, it lends support to a theory of the ongoing co-constitution of state power and market power in a "state-capital nexus" (Van Apeldoorn et al., 2012) that permeates capitalism in all its varieties.

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ORCID

Amanda Zadorian  <http://orcid.org/0000-0002-2573-0080>

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