Does State Ownership Matter? Institutions’ Effect on Foreign Direct Investment Revisited

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Abstract

This paper investigates whether Foreign Direct Investment (FDI) decisions are influenced by state ownership. The literature has established that host country institutions affect FDI allocation, but there is no systematic evidence how state ownership affects such relationships. However, we expect that state ownership systematically affects the relation between host country institutions and FDI. Theoretical arguments indicate that state-owned enterprises (SOEs) should invest relatively more than privately owned enterprises (POEs) in countries with poor rule of law, poor property rights protection and a high degree of corruption. However, SOEs are expected to invest relatively less than POEs in dictatorships and countries with poor human rights protection. We test these hypotheses, using a new dataset on Norwegian firms’ FDI from 1998 to 2006. The empirical analysis suggests that SOEs invest relatively more than POEs in countries with high level of corruption and weak rule of law. Indeed, SOEs’ FDI appears not to be reduced by such institutional risk factors. However, there is no solid evidence indicating that SOEs invest more in democracies and countries with better human rights protection.

KEYWORDS: state ownership, foreign direct investment, institutions, rule of law, property rights, corruption, democracy, human rights

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1. Introduction

Foreign direct investment (FDI) allocation is affected by the institutional environment in host countries. However, state-owned enterprises (SOEs) may allocate their FDI differently than privately owned enterprises (POEs). The activities of transnational corporations (TNCs), FDI in particular, have increased dramatically over the last decades, and have been intensively studied. However, FDI strategies of state-owned enterprises (SOEs) are less well studied. This paper investigates whether state ownership affects how institutional structures, like those related to rule of law, corruption control, democracy and human rights protection, influence firms’ FDI allocation.

There are several reasons to expect differences in the FDI behavior of SOEs and POEs. SOEs often have non-economic goals that distinguish them from (presumably) profit-maximizing POEs. For FDI decisions, such goals could include foreign policy and development goals. The literature on state ownership also identifies inherent differences in the management of SOEs and POEs, for example due to opportunistic behavior by SOE managers, politicians and government bureaucrats. Such differences could matter for FDI allocation. However, previous contributions have not established a clear theoretical framework, nor carried out statistical analyses, on the differences in SOEs’ and POEs’ FDI behavior. This paper proposes different theoretical arguments, leading up to two hypotheses. The first, and more general, hypothesis (H1) indicates that economic institutions related to business risk environment, such as those controlling corruption and enforcing rule of law, are relatively more important for POEs’ than for SOEs’ FDI allocation. SOEs should be less deterred by risky business environments than POEs. The second hypothesis (H2), which is arguably mostly relevant for democratic countries, is that SOEs’ FDI allocation is particularly sensitive to democratic institutions and human rights protection.

Our hypotheses are tested empirically using a new dataset on outward Norwegian FDI stocks from 1998 to 2006. The state owns a large part of business in Norway, and SOEs account for much of Norwegian FDI; unlike for many other countries there is also significant sectoral variety in Norwegian SOE FDI. Norwegian government policy emphasizes good corporate governance of SOEs. Norway is also a relatively large development assistance donor, and emphasizes human rights and other “soft” foreign policy aspects. One might therefore assume that her SOEs are also pursuing “soft” FDI strategies. On the other hand she is a solid supporter of OECD and liberal market rules. For these and other reasons, expanded on below, Norway is both an interesting and a demanding test-case for H1. For H2, there are arguments pointing in different directions as to whether

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1 See e.g. Blonigen 2005
Norway is a demanding test-case. The paper indeed finds relatively strong evidence for H1: POEs are more sensitive to weak rule of law and corruption, investing less in such climates, than are SOEs. Regarding H2, the paper finds no robust differences between SOEs and POEs when it comes to how democracy and human rights protection affect FDI allocation.

This is the first econometric study of state ownership’s effects on FDI country allocation, thereby providing new insights to the literature on FDI and host country institutions, and to the literature on state ownership. Section 2 offers a literature review. Section 3 develops theoretical arguments on state ownership’s effects on FDI decisions. Section 4 discusses our case, Norway, and the data. Section 5 presents the empirical analysis. Section 6 concludes.

2. Literature review

2.1 Foreign direct investment

Dunning’s influential OLI-framework identifies three factors that separately or in combination promote FDI. Ownership advantages (O) include firm-specific assets such as technology or brands, which enable firms to successfully compete abroad. Recent evidence shows that the least productive firms tend to have only domestic activities, more productive firms export, while only the most productive firms also carry out FDI. Internalization advantages (I) refer to factors such as proprietary technology which may make arm’s length trade and licensing non-viable, leading to investment with an intention to exercise direct control over the investment object. Finally, location-specific advantages (L) relate to factors that make some locations more attractive FDI destinations than others, like a large home market or natural resources. As multiple recent studies have established, such locational advantages also include well-functioning host country institutions. Profit-maximizing investors prefer institutional environments that protect property rights and enforce rule of law. The worst scenario for a foreign investor is uncompensated expropriation, but theft or looting of property also reduces profits. Violations of property and contract rights may deter FDI even more than they deter domestic investment. Furthermore, institutions that protect property rights and enforce rule of law affect economic growth positively, and

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2 Dunning 1980
3 See e.g. Helpman 2006; Bernard et al. 2007
4 See e.g. Helpman 2006 for a discussion of the integration strategies of firms. Our discussion here does not directly concern this issue.
5 See e.g. Blonigen, 2005
6 Asiedu et al. 2009

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thus have an additional positive indirect effect on FDI.\textsuperscript{7} Similarly, corruption is usually assumed to have a negative impact on FDI through increasing costs.\textsuperscript{8} Corruption also involves additional uncertainty as to whether services paid for will be provided, since these “contracts” cannot be enforced in courts.\textsuperscript{9} Although several foreign investors have demonstrated an ability to adjust to changing political and legal contexts,\textsuperscript{10} empirical studies mostly find that factors reducing politically induced risk, like rule of law, government stability, policy commitment and control of corruption, affect FDI positively.\textsuperscript{11}

Democracy, human rights and labor rights may also impact on inward FDI. One line of arguments suggests that authoritarian regimes reduce labor costs by suppressing freedom of organisation and other rights, thus lowering costs for foreign investors. However, democracy and labor rights may have important positive indirect effects on FDI. For example, reduced child labor may increase education levels, and labor unions improve social stability.\textsuperscript{12} Democracy also increases human capital accumulation.\textsuperscript{13} Firms may also avoid investing in undemocratic countries or countries with lax labor rights, as this could hurt their reputation and thus lead to reduced demand at home or in other large Western markets.\textsuperscript{14} Empirical studies indeed find that democracy, labor rights and human rights more generally attract FDI.\textsuperscript{15}

\textbf{2.2 State ownership}

There is a vast literature on the theoretical justifications of state ownership (including market failures, industrial policy, and social objectives) and on the particularities of state ownership compared to private ownership.\textsuperscript{16} Much of the

\textsuperscript{7} E.g. Acemoglu et al. 2001
\textsuperscript{8} But, see Egger and Winner 2006
\textsuperscript{9} Lambsdorff 2003
\textsuperscript{10} Lipson 1985
\textsuperscript{11} See e.g. Wei 2000; Blonigen 2005; Egger and Winner 2006; Busse and Hefeker 2007; Bénassy-Quéré et al. 2007; Daude and Stein 2007; Coan and Kugler 2008. Some studies have looked beyond aggregate outcomes, e.g. by considering how effects vary with the FDI’s source country (Doremus et al. 1998). For example, Wu 2006 demonstrates that investors from countries with high corruption find host-country corruption less of an impediment to FDI.
\textsuperscript{12} Kucera 2002
\textsuperscript{13} E.g. Baum and Lake 2003
\textsuperscript{14} Vogel 2005
\textsuperscript{15} On democracy, see e.g. Busse 2004; Busse and Hefeker 2007. On labor rights, see e.g. Kucera 2002; Mosley and Uno 2007; but see Bénassy-Quéré et al. 2007. On human rights, see Blanton and Blanton 2006.
\textsuperscript{16} For a discussion on justifications of state ownership, see OECD 2005. The theoretical literature has also discussed whether state ownership is necessary to achieve public goals, or whether production could be contracted to the private sector and regulated. Generally, ownership matters only in cases of \textit{contractual incompleteness} (Martimort 2006).
literature has studied the relative economic efficiency of having state and private ownership respectively.\(^{17}\) Agency theory emphasizes conflicts of goals between firm owners and managers. Managers are motivated (also) by other goals than value maximization for the owners. For example, the empire building hypothesis proposes that managers maximize firms’ size because of prestige.\(^{18}\) Several mechanisms that reduce such agency problems in POEs are absent in SOEs.\(^{19}\) In a POE, owners can sell shares if the firm performs poorly; voters cannot sell their SOE “shares”. Lack of trading in SOE shares also leads to less information on firm performance. Moreover, while POEs face the threat of bankruptcy, SOEs often face soft budget constraints, as politicians may be unwilling to let SOEs go bankrupt because of political costs.\(^{20}\) Finally, reputation in the managerial labor market may help discipline POE managers. While this mechanism is not absent for SOE managers, there may be some segmentation between the managerial labor markets for SOEs and POEs.\(^{21}\)

In addition, the relationship between owners and managers is more complex in SOEs as there is (at least) one additional intervening layer:\(^{22}\) there is a voter-politician-manager relationship.\(^{23}\) Bureaucrats or politicians who govern SOEs on behalf of voters may not act in voters’ interests, and monitoring may be less efficient since it is performed by bureaucrats with weak financial incentives to devote effort.\(^{24}\) Politicians may even use SOEs in their own interest, for example to reward political supporters.\(^{25}\) However, the idea that SOEs generally are “in the pocket” of politicians must be qualified, as many SOEs enjoy a high degree of autonomy.\(^{26}\) Furthermore, the scope for political intervention depends on the institutional relationship between government and SOE. Political interventions are easier if the SOE is run as a section of a ministry, with managers

\(^{17}\) The theoretical literature has not concluded in favour of either state or private ownership (e.g. Martimort 2006). In contrast, the empirical literature has generally found higher efficiency in POEs. For a review, see Megginson and Netter 2001. Goldeng et al. 2008 studied Norwegian firms and found higher efficiency in POEs.

\(^{18}\) Sheshinski and López-Calva 2003

\(^{19}\) However, many of these problems are reduced in the case of partial state ownership (e.g. Gupta 2005).

\(^{20}\) As the recent financial crisis has illustrated, this problem is not confined to SOEs, but is probably relevant for large firms in general.

\(^{21}\) Villalonga 2000

\(^{22}\) In practice, there may be even more links in the chain, and different ministries that want to influence the SOE’s operations (Anastassopoulos et al. 1987; see also Martimort 2006).

\(^{23}\) In addition, there may be conflicts of goals between the state and private owners in partially state-owned firms (Boardman and Vining 1989).

\(^{24}\) Villalonga 2000; Goldeng et al. 2008

\(^{25}\) Shleifer 1998

\(^{26}\) See Vernon 1984; Anastassopoulos et al. 1987. In Norway, this seems to have been the case for Statoil (Claes 2003) and Norsk Hydro (Lie 2005).
directly appointed by a minister, than if the government is dealing with the SOE through the board of directors.\textsuperscript{27} There have been numerous attempts at reforming corporate governance of SOEs.\textsuperscript{28} However, providing the right incentives and monitoring are more difficult in SOEs; their owners expect them to achieve multiple goals besides profit maximization, and successive political administrations may have different goals for SOEs.\textsuperscript{29}

\textbf{2.3 Foreign investment by state-owned enterprises}

A handful of studies on SOEs’ international operations were conducted before 1990.\textsuperscript{30} The worldwide wave of privatization in the 1980s and 1990s spurred academic interest in the effects of privatisation and in effective corporate governance of SOEs.\textsuperscript{31} In contrast, interest in SOEs’ international operations remained limited.\textsuperscript{32} Recently, however, transnational SOEs have attracted more interest. Many transnationals from developing and emerging economies are wholly or partly state-owned, and state-owned oil companies have assumed increasing importance.\textsuperscript{33} The rise of sovereign wealth funds, which often have close links with SOEs, has also sparked interest in state-owned entities.\textsuperscript{34} These developments have important political aspects. For example, several attempts by state-owned entities from emerging economies to purchase firms and ports in industrialized countries have been blocked politically.\textsuperscript{35}

The early studies on SOEs’ foreign operations often employed a management-oriented perspective, mainly considering the decision of whether to invest abroad or not, and not location of FDI. Mazzolini argues that, on balance, state ownership is an impediment to FDI, among others because governments may pressure SOEs to use domestic inputs even when this is inefficient. SOEs may also be used as “milking cows” for governments, leaving them with few resources to invest abroad.\textsuperscript{36} Furthermore, to the extent that state ownership reduces productivity, SOEs may also for this reason invest less abroad. Some studies find lower productivity in SOEs.\textsuperscript{37} Productivity differences could also lead to differences in FDI allocation: The most productive firms, perhaps POEs, may for

\begin{footnotesize}
\textsuperscript{27} Shirley and Walsh 2001  
\textsuperscript{28} OECD 2005  
\textsuperscript{29} Goldeng et al. 2008; Vernon 1979, 1984  
\textsuperscript{30} E.g. Mazzolini 1979, 1980; Vernon 1979; Anastassopoulos et al. 1987; Negandhi et al. 1986  
\textsuperscript{31} See e.g. Megginson and Netter 2001; OECD 2005  
\textsuperscript{32} But, see Wettenhall 1993  
\textsuperscript{33} UNCTAD 2006, 2007; Wolf 2009  
\textsuperscript{34} Gugler and Chaisse 2009  
\textsuperscript{35} Dunning and Lundan 2008  
\textsuperscript{36} UNCTAD 2007  
\textsuperscript{37} E.g. Boardman and Vining 1989
\end{footnotesize}
instance tend to invest in more competitive markets. However, governments may actively encourage SOEs to invest abroad and provide support for it. For example Chinese and Indian SOEs derive ownership advantages from access to subsidized finance and investment insurance when investing abroad, and thus compete quite successfully.\textsuperscript{38} Many developing country SOEs are involved in the oil and gas sector, driven not least by a wish to secure strategic energy resources or minerals for the home country.

Historically, governments have often used the international operations of their SOEs to promote various foreign policy goals.\textsuperscript{39} There is also some evidence suggesting that SOEs to a larger extent than POEs “export” their social policies to host countries, but there is also evidence indicating that SOEs have used FDI to increase their autonomy from home governments.\textsuperscript{40} British Petroleum’s disregard of the boycott of Rhodesia exemplifies that governments cannot always control their SOEs’ foreign operations.\textsuperscript{41} However, the previous literature has not investigated whether SOEs’ and POEs’ allocation of FDI react differently to various host country institutions.

3. Theory: Why state-owned enterprises behave differently

Our starting point is the agency relationship between owners (voters), politicians and managers. Each type of actor in this chain may have different kinds of motivations (e.g. monetary benefits, altruism, prestige). Outcomes, for example in terms of FDI allocation, will thus depend on the motivations of actors and on governance institutions regulating the relationship (e.g. the political system, degree of insulation of SOEs from political interference, efficacy of monitoring).

Three points are particularly noteworthy and important for the arguments below. First, SOE owners more likely have non-economic goals, and SOE FDI could for example be linked to foreign policy, or even foreign aid. This could lead to different investment patterns for SOEs, when compared to POEs. Non-economic SOE goals may stem partially from politicians’ private preferences and partially from the preferences of a majority of voters. Second, SOEs’ link with the state may in various ways constitute either an ownership advantage (e.g. through diplomatic support or privileged access to state capital) or a disadvantage (e.g. excessive bureaucratic processes before investment projects are approved).\textsuperscript{42} Third, even when SOEs are supposed to be run as ordinary business enterprises,
weaker owner control of SOEs could lead to opportunistic behavior both on the part of politicians and SOE managers. For instance, moral hazard problems may lead SOE managers to choose more risky FDI projects, if they believe the state will help them out should they get into trouble.

We develop two sets of arguments on the interaction between state ownership and host-country institutional structure on FDI allocation. These arguments lead to two hypotheses: First, institutional structures that worsen the business environment by introducing additional risk to investors reduce POE FDI more than SOE FDI. Second, SOE FDI is affected more negatively than POE FDI by autocratic regimes and human rights abuses in a potential host country, particularly when considering firms from democratic home countries.

3.1 SOEs, business environment and FDI

First, consider how SOEs and POEs may respond differently to risky business environments, for example generated by weak rule of law, high expropriation risk or pervasive corruption. Both POEs and SOEs reap benefits from investing in such environments, if everything goes well (no expropriation or large bribe paid after the investment has been realized). However, in case of a bad outcome in the risky environment, SOEs are more likely to be bailed out by their home state than is a POE, because of various political mechanisms leading to softer budget constraints for SOEs. SOEs are thus less likely deterred by investing in risky business environments than are POEs.

Let us elaborate on this argument by assuming, stylistically, that SOE managers maximize expected profits (the argument holds also if managers are motivated by prestige, visibility or “empire building”), and that politicians in addition to profits care about the company’s survival and wider financial situation, because of motivations related to political gains and losses. The politicians, or the state, are the capital guarantor of the SOE. FDI decisions are made under uncertainty. An investment project abroad can turn out profitable, but it can also turn out more costly than the generated (discounted) revenues. If politicians do not control the SOE’s FDI decisions directly, but determine the resources that will be transferred to the SOE after FDI payoffs are revealed, we can analyze the situation with a simple model. The model considers the most extreme situation of politically induced business risk, uncompensated expropriation. However, generalizing the model to other forms of risk, such as partially compensated expropriation, forced sales or unknown demands for bribes,43 does not alter our main prediction; SOEs are more likely to invest in risky business climates.

43 See e.g. Kobrin 1980; Lipson 1985
Assume there are two possible investment locations, countries A and B, with different expropriation risks. To simplify, we consider a potential greenfield investment project, where the parent company in period t=0 pays a fixed cost, F, for example covering the plant and machinery. Thereafter, the project generates a stream of country-specific (where \(i \in \{A,B\}\)) revenues, \(r_i\), and variable costs, \(c_i\), in each period from t=1 and onwards. Investors discount future earnings with a discount-factor \(0<\beta<1\). For simplicity, in A, there is, with certainty, no expropriation of foreign capital. In B, uncompensated expropriation occurs with a fixed probability \(1-p\) in each period from t=1. If expropriation occurs, all future revenues and variable costs stop. The discounted expected profits in country A and B are thus given by:

\[
\begin{align*}
A) & \quad -F + \beta(r_A-c_A) + \beta^2(r_A-c_A) + \ldots + \beta^n(r_A-c_A) + \ldots = \beta(r_A-c_A)/(1-\beta) - F \\
B) & \quad -F + p\beta(r_B-c_B) + p^2\beta^2(r_B-c_B) + \ldots + p^n\beta^n(r_B-c_B) + \ldots = \beta p(r_B-c_B)/(1-\beta p) - F
\end{align*}
\]

A profit-maximizing POE is indifferent between investing in A and B if \(\beta(r_A-c_A)/(1-\beta) - F = \beta p(r_B-c_B)/(1-\beta p) - F\), implying that \((p-\beta p)/(1-\beta p)\geq(r_A-c_A)/(r_B-c_B)\) must hold for the investor to invest in B. As \(0 \leq p \leq 1\), this means that a private investor must expect quite large potential per period profits in the case of no expropriation in B, relative to in A, for example because of higher prices in product markets or lower wages. When \(p\to1\), implying a very low expropriation probability, \((r_A-c_A)/(r_B-c_B)\to1\). However, when the expropriation probability \((1-p)\) is high, \((r_B-c_B)\) must be much higher than \((r_A-c_A)\), particularly for patient investors (with a high \(\beta\)). When \(p\to0\), \((r_A-c_A)/(r_B-c_B)\to0\), which implies that either \((r_A-c_A)=0\) or \((r_B-c_B)\to\infty\) must be true for the firm to invest in B.

Consider now an SOE deciding whether to invest in A or B. The SOE will (like the POE) receive \(\beta(r_A-c_A)/(1-\beta) - F\) if it invests in A. However, the expected profit from investing in B is different for the SOE than for the POE, given our assumptions about the politicians’ willingness and ability to rescue SOEs. The state may be willing to partially or fully bail out the SOE in case it is expropriated. To illustrate this, let us simply assume that the SOE is reimbursed with an (expected, discounted) amount \(Q\) if expropriated. If the expropriation probability is strictly positive, the SOE will be expropriated at some point in the future, as \(p^n\to0\). Thus, the SOE’s expected discounted value from investing in B is \(\beta p(r_B-c_B)/(1-\beta p) - F + Q\). This implies that the SOE will invest in B if:

\[
(p-\beta p)/(1-\beta p) + (Q(1-\beta))/\beta(r_B-c_B) \geq (r_A-c_A)/(r_B-c_B)
\]

If the per period revenues and costs, and the discount factor, are identical for the SOE and POE, the SOE will invest in B in some instances when the POE...
chooses A: Since \((Q(1-\beta))/(\beta(r_B-c_B))>0\), the inequality for SOEs holds for higher values of \((r_A-c_A)/(r_B-c_B)\) than the inequality for POEs does. In words: the per period profits in B do not have to be as large relative to those in A, for an SOE to choose the risky country B, when compared to a POE.\(^{44}\) This is simply because the SOE expects to be reimbursed if it is expropriated in the risky environment. The SOE’s expected profit from investing in the risky country is higher than the POE’s, whereas expected profits are the same in the safe country. SOEs will thus likely allocate more of their FDI to countries with weak rule of law and poor property rights protection when compared to POEs. SOEs will likely also allocate relatively more FDI to corrupt countries, as corruption increases business risk.

The above argument is a moral hazard argument, as SOE managers take advantage of politicians’ attention to political gains and costs. However, governments may also actually prefer SOEs to take higher risks, with associated higher expected profits (if other investors are risk-averse), particularly if the government possesses a large portfolio of diverse investments. There are examples from Norway of the government actively backing SOE investment in poor countries with weak rule of law, a prominent example being the government’s support of Statoil in its investments abroad.\(^{45}\) In 2008, the government also signaled willingness to increase the capital in telecommunications company Telenor to support the company’s large scale investments in India, while the company’s private owners were critical.\(^{46}\)

Moreover, expropriation risk and other business risks may be endogenous to ownership. Indeed, Kobrin finds that various aspects of ownership structure matters for expropriation risk.\(^{47}\) Having state ownership may also matter. In terms of the model above, SOEs may face a lower expropriation risk than POEs \((1-p_{SOE})<(1-p_{POE})\), which reinforces the expected tendency for SOEs to invest relatively more in institutionally risky environments. If the home country government has diplomatic leverage over the host country, it can threaten with reprisals if the host country expropriates its national companies’ FDI. It appears likely that threats are more credible when the home country is a big power, but small states may also be able to utilize political tools to protect their FDI. As Keohane and Nye noted, there are linkages between issue areas in international

\(^{44}\) Notice however, that if the SOE and POE have different discount factors, the argument may not hold. If the SOE is more patient than the POE, it may be relatively more sensitive to investing in a risky business climate, particularly if the compensation in expected, discounted value is much smaller than the fixed costs. The reason is that the impatient POE will value the expected negative effect of expropriation as less problematic than the patient SOE. However, we have no direct evidence indicating that SOEs are much more patient than POEs.

\(^{45}\) Austvik 2007


\(^{47}\) Kobrin 1980
relations, creating a relationship of complex interdependence. A state may thus bargain (threaten) to generate benefits for (impose costs on) other states in different areas, depending on the other state’s treatment of its national companies’ FDI.

Stopford and Strange proposed an analytical model to capture the bargaining between host country state, home country state and a TNC doing FDI – what they termed ‘trilateral diplomacy’. Such tri- or plurilateral bargaining could involve security of property rights related to the TNC’s FDI. One effective bargaining chip might be threatening to turn off foreign aid in case of FDI expropriation. In general, large firms carrying out FDI may benefit from diplomatic support from their home countries. However, if home countries are more likely to use reprisals, like annulment of treaties, economic sanctions or withdrawal of foreign aid, if its SOEs are expropriated, expropriation risk should be lower for SOEs’ FDI than for POEs’. The home state may be particularly tied to SOEs and thus more willing to risk “political capital” in their defense. Conflicts of interest may also arise between private investors and state agents in cases of FDI expropriation, which leads to less effective actions against expropriating host states. Reimbursing POEs or politically fighting on behalf of their POEs’ property rights in foreign countries may be politically unpopular, as “they are highly visible public policies to assist private capital accumulation”. Such conflicts of interests are likely less prevalent when the investing firm is an SOE. Home state business actors, bureaucrats and politicians may then more effectively fight against expropriation. Moreover, even if POEs could have drawn on diplomatic support from their home country, they may not always do so, as they do not want to be perceived as “satellites of their home governments”. Moreover, the home state has strong financial incentives to build reputation as a retaliatory agent in cases of SOE expropriation, in order to avoid expensive future SOE bailouts. If companies know this, SOEs will be more likely than POEs to invest in risky business environments.

These arguments lead to our first hypothesis:

H1: SOEs are more likely than POEs to invest in countries with high political-institutional risk, for example induced by weak property rights protection, weak rule of law and high corruption.

48 Keohane and Nye 1989
49 See Stopford and Strange 1991. However, they applied the model mostly on the TNC-host country state relationship, assuming that the home state was retreating from playing a role in transnational economic affairs (Strange 1996).
50 Asiedu et al. 2009
51 Lambsdorff 2003
52 Lipson 1985, 28
53 Lipson 1985, 28
This hypothesis has not previously been tested statistically, but some in-depth case studies and anecdotal evidence support it. First, Chinese FDI, almost 80 percent of which is SOE FDI, is heavily allocated to countries with weak rule of law and high corruption levels. The Chinese state’s desire to ensure sufficient supply of raw materials for its economy is one motivation behind investing in countries like Sudan. However, one likely reason why Chinese SOEs dare invest in such risky climates, and not only in safer resource-rich countries like Australia and Canada, is the Chinese government’s backing. Prospective withdrawal of aid or loans or diplomatic disputes with China may induce host governments to think twice before expropriating Chinese SOEs’ FDI-projects. Second, POEs may also attain some form of home government insurance or diplomatic backing for their FDI. However, even powerful countries like the US have historically often been reluctant to throw in their support behind or reimburse POEs that have had foreign assets depleted by host-country actions. Third, in their thorough case study of FDI in the Indonesian telecommunications- and electricity sectors, Wells and Ahmed find that private investors were often eager to get government or international organizations’ funds tied to their projects. Such a “semi-private” arrangement would “provide a seal of legitimacy and some protection of property rights, as a wise sovereign would hesitate to squeeze a project if that would mean squeezing major lenders to the country”. Moreover, also ensuring home government insurance guarantees motivated private companies to secure government collaboration in Indonesian electricity projects. Wells and Ahmed explicitly identify the type of moral hazard problems depicted above, both in the Indonesian context but also for example in Pakistan. However, POEs were not always successful in ensuring sufficient home government involvement in their Indonesian FDI projects. An SOE would arguably have a strong advantage in this regard due to the state being a direct stakeholder. Finally, Wells and Ahmed notice a peculiar “reverse twist” from 1990 onwards with Singaporean SOE Tematek investing in Indonesia and Spanish SOE Compania Telefonica de Espana buying up previously nationalized telephone companies in Latin America. Although the investment climate changed in these countries, one may wonder whether systematic factors influenced the fact that foreign SOEs were particularly interested in acquiring infrastructure projects that had some decades earlier been taken over by host governments from foreign POEs.

54 E.g. Nolan 2010
55 Lipson 1985; Wells and Ahmed 2007
56 Wells and Ahmed 2007, 131
57 Wells and Ahmed 2007, 202
58 Wells and Ahmed 2007, 82-3
3.2 SOEs, democracy, human rights and FDI

Although SOEs are less concerned than POEs about risky business environments, SOEs may invest relatively less in dictatorships and countries that grossly violate human rights. SOEs may more strongly be subject to various forms of external pressure than POEs, for example direct pressure from politicians or, in democracies, indirectly from voters via politicians on SOE management. Politicians governing SOEs may have normative motivations, in democracies likely including pro-democracy and human rights norms, which may or may not conflict with SOEs’ profit maximization and influence SOE FDI allocation accordingly. Moreover, purely self-interested, power-motivated politicians may realize that SOE operations of which the electorate disapproves could hurt them in the next election. This may in turn lead politicians to pressure SOEs to allocate FDI differently than a POE would have done. In principle, voters in democratic countries could be concerned about all types of host country political institutions, including rule of law. However, human rights and democracy likely carry particular normative weight, and this may lead to pressure on SOE management not to invest in dictatorships that blatantly violate human rights. Voters are the ultimate owners of SOEs in democracies, and voters’ moral sensitivity may therefore be particularly strong for the operations of SOEs. This is illustrated by the reactions in Norway to dangerous working conditions, deaths and child labor in operations of Norwegian SOEs in developing countries. These conditions and events also led to extensive criticism of lack of control from the Norwegian state as an owner. Moreover, reputation effects on demand may be stronger for SOEs if consumers expect SOEs to conform to stricter norms of social responsibility. Thus, FDI projects in dictatorships and countries violating human rights may hurt profits more for SOEs than for POEs.

Furthermore, politicians consider ownership policy in relation to other areas of politics. For example, Norwegian policy documents emphasize that the legitimacy of the Norwegian state as a legislator and in carrying out foreign policy may be compromised if the state does not have high standards also in the

59 Negandhi et al. 1986
60 There could for example be reputation effects linked to host country corruption. Norwegian State oil company Statoil has for example been criticized for involvement in corruption practices in Iran and Libya (Hveem 2009).
61 However, it is uncertain how strong this effect is, even if voters have decent information and clear political alternatives; voters care for a range of subjects and only have one vote each.
62 MFA 2009
64 A countervailing effect could be that SOEs often have some monopoly power, and it may therefore be more difficult for consumers to punish them in the marketplace.
area of ownership policy. This could lead the government to put extra pressure on or constrain SOEs in their foreign operations. According to government policy documents, Norwegian SOEs are expected to be leaders in CSR and to develop ethical guidelines in line with the UN Global Compact and the OECD Guidelines on Multinational Enterprises. It is also proposed that SOEs with substantial international activity consider using the Global Reporting Initiative (GRI) guidelines on reporting social and environmental issues. In Sweden, SOEs are required to implement the GRI guidelines. If there is such an additional “spotlight” effect on the operations of SOEs, this could lead them to be more reluctant than POEs to invest in “problematic” countries.

The above arguments lead to the following hypothesis (for democratic home countries):

H2: SOEs are less likely than POEs to invest in undemocratic countries and countries with poor human rights protection.

4. Data

4.1 The case of Norway

Unlike in China, where most FDI is SOE FDI, or in the US, where most FDI is POE FDI, there is decent variation in Norwegian FDI. The Norwegian state has substantial ownership in business compared to most OECD countries. At the end of 2009, government and municipalities owned 37.5 percent of the market value of the shares on the Oslo stock exchange. The fact that Norwegian POEs and SOEs from a wide range of sectors carry out FDI makes Norwegian data suitable for studying our hypotheses; Norwegian SOE FDI is less plagued by selection effects that may arise from certain specific sectors dominating, although oil and gas, fertilizer and telecoms are heavily represented. Thus, the “pure” effect from ownership should be easier to identify than is the case in countries where SOEs are confined to one or two specific sectors.

Ideally, we would like to test our hypotheses using cross-country comparative data; generalizations from Norwegian data may be problematic. Unfortunately, such data are not readily available. However, we believe that the

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65 See MFA 2009. The Norwegian Minister of Development and Environment emphasized in a TV interview (NRK Dagsreven 11 November 2008) that any threat to the reputation of a Norwegian firm doing FDI is also a threat to the reputation of Norway at large.
66 MTI 2008
67 Shapiro and Globerman 2007
68 OECD 2005; Jellum 2002
Norwegian case offers important insight. In particular, several features of the Norwegian institutional environment for SOEs indicate that Norway is a demanding test case for our hypotheses. However, certain particularities of the Norwegian context call for some caution when interpreting the findings. Taking these together, we argue below that if H1 finds empirical support from Norwegian data, there are strong reasons to expect it will hold in other countries. However, the same is not necessarily true for H2.

The Norwegian government publicly stresses the need for an active ownership policy. However, Norwegian ownership policy clearly distinguishes between the state’s roles as policy maker, supervisory authority and owner. Beyond stipulating the company’s object and other articles of association, and participating in the nomination and election of governing bodies, the state is confined to furthering its interest through the general (enterprise) assembly; unlike many other OECD countries, Norway does not even have a state representative on SOE boards. Indeed, Norway has been cited as an example of successful SOE governance because of its separating management and regulation of SOEs. Statoil, the largest SOE, is mainly commercially oriented, differentiating it from state oil companies in many OPEC and emerging economies. Earlier studies have also concluded that Norwegian state ownership is not widely used to achieve sector political goals; the scope for formal political interference in Norwegian SOEs is therefore limited, at least when compared to many other countries.

These considerations indicate that Norway is a demanding test-case for H2, as politicians’ and voters’ normative concerns have little direct impact on SOE FDI decisions. Nevertheless, political pressures may affect Norwegian SOEs’ investment decisions through more informal channels. Norway is also a strong advocate of human rights and democratic values. One could therefore perhaps expect Norwegian SOEs to be in the forefront in emphasizing democracy and human rights in host countries. Moreover, if Norwegian citizens value ethical standards in SOE foreign operations, there may also be political pressures from citizens, via politicians, on SOEs to apply such standards for Norwegian SOEs

70 MTI 2006b; OECD 2005
71 Radon and Thaler 2009
72 Claes and Hveem 2009
73 See MGAR 2003, 23. In a highly publicized case involving SOE manager compensation, there were public demands for the politicians to intervene. But even here, the state respected the “rules of the game” by addressing future manager compensation packages through changes in the Public Limited Liability Companies Act (Reiten 2009; Kiær and Jakobsen 2007).
74 For example, politicians might signal their preferences to SOE managers through private contact or through the media. Former Norsk Hydro CEO, Eivind Reiten, pointed out that such statements may sometimes mainly be directed at public opinion, although they may provide important signals that firms must take into account in the longer run (Reiten 2009).
FDI; the fact that Norway is a rich country would likely increase voters’ willingness to tolerate lower economic efficiency in SOEs, and put more focus on normative, political concerns.\textsuperscript{75} Thus, even if the links between voters, politicians and SOE management are weak in Norway, the voters and politicians may be relatively devoted to using the means at their disposal. Because of this, the rationale behind Norway as a demanding test-case for H2 is weakened, as there are different arguments pointing in different directions.

Regarding H1, Norway is one of very few countries that have allowed an SOE to go bankrupt, indicating that the soft budget constraint argument in section 3.1 is less relevant for Norway than for other countries.\textsuperscript{76} This should mitigate the moral hazard problems described by the model above. Moreover, the Norwegian state emphasizes good corporate governance, for example illustrated by the strict rules it imposes on its Sovereign Wealth Fund. These considerations suggest that Norway is a quite demanding test case for H1.

To sum up, if H1 is corroborated when tested on our data, there are good reasons to believe that SOEs even more generally are less deterred by risky business climates. However, if Norwegian SOEs are more attracted than are Norwegian POEs by democratic, human rights protecting host countries, the generality of this result may be in doubt. This goes particularly for the result’s transferability to authoritarian home countries, like China, where SOEs are likely not politically induced to steer FDI towards democratic countries.

4.2 Norwegian FDI data

We utilize firm-level data on Norwegian FDI stocks from 1998 to 2006, compiled by Statistics Norway through annual surveys.\textsuperscript{77} The firm-level data enables us to identify SOEs and POEs.\textsuperscript{78} The FDI stocks for all SOEs and all POEs are then aggregated to (host) country-year level. There are several advantages in using FDI stocks rather than flows.\textsuperscript{79} For example, stocks are much less volatile than flows. Stocks can be seen as reflecting medium to long term equilibrium levels of FDI.

\textsuperscript{75} Shleifer 1998
\textsuperscript{76} OECD 2005
\textsuperscript{77} Recently, Statistics Norway made changes to their FDI methodology, following new OECD guidelines. The new figures exclude indirectly owned capital. These changes make the data less suited for our purpose, and we therefore use the original data. Future revisions will also include a different treatment of loans between sister companies. For French FDI data, similar revisions led to a substantial reduction in inward and outward FDI, and a reduction in the importance of typical transshipment countries like Luxembourg (Terrien 2009).
\textsuperscript{78} In the original dataset, firms where the state or municipalities have majority ownership are identified. Besides this, our classification of SOEs is based on State ownership reports and other publications: MTI 2002, 2003, 2004a, 2004b, 2005, 2006 and 2007; Jellum 2002; Byrkjeland and Langeland 2000.
\textsuperscript{79} Bénassy-Quéré et al. 2007; Coan and Kugler 2008
and may therefore be more closely related to the slow and gradual changes in host country institutional structures. We use two different operationalizations for state ownership to check our results’ robustness: 1) More than 50 percent ownership (0.50-rule) and 2) more than 33 percent ownership (0.33-rule). The 50 percent threshold is the most commonly used. A holding of more than 50 percent ensures control of decisions that require simple majority at the general meeting, including approval of the annual accounts and decisions to distribute dividend. The election of members of the board of directors and corporate assembly also requires simple majority.\footnote{80} However, the state can also exert significant influence with a lower ownership share: One-third of the votes yields veto power over two-thirds majority-decisions; allowing the shareholder to block important decisions such as moving the head office, increasing the share capital or amending the articles of association. Furthermore, no more than 60 percent of shareholders are usually present at the general assembly in important Norwegian companies with minority state ownership.\footnote{81} Thus, in practice the state has a majority with about 30 percent of the shares.

The Norwegian FDI stock has grown tremendously since the early 1990s. Norwegian FDI stocks in 1980 and 1990 constituted only 0.4 percent and 9.0 percent respectively of the 2006 stock’s volume.\footnote{82} Norway’s share of the global FDI stock increased from 0.1 to 1.0 percent between 1980 and 2005. Norwegian FDI has historically been concentrated to OECD, and in particular Western European countries. However, recent years have seen investment surges in several Asian, Eastern European and African countries. As Table 1 shows, more than one-third of Norwegian FDI in 2006 was carried out by SOEs when applying the 0.50-rule, and almost 60 percent when applying the 0.33-rule. SOEs (0.50-rule) accounted for more than 90 percent of the Norwegian FDI stock in several countries in 2006, particularly in developing and transition economies like Algeria, Angola, Azerbaijan, Bangladesh, Pakistan, Nepal, Serbia, Ukraine and Venezuela.\footnote{83} In contrast, many OECD countries received relatively little FDI from Norwegian SOEs. SOEs conducted less than 5 percent of Norwegian FDI in Finland, Italy, Spain, France and Canada in 2006.

\footnote{80} If a corporate assembly has been established, this body elects the board of directors.
\footnote{81} Kiær and Jakobsen 2007
\footnote{82} UNCTAD 2007; see also Hveem et al. 2009
\footnote{83} Some government funds, such as Norfund, have an explicit purpose of investing in developing countries (MFA 2009). However, these funds provide loans both to POEs and SOEs. Also, the share of total SOE FDI by Norfund subsidiaries was only 0.1 percent in 2003 and still only 0.6 percent in 2006.
Table 1: SOE share of Norwegian FDI stock

<table>
<thead>
<tr>
<th>Year</th>
<th>1998</th>
<th>1999</th>
<th>2000</th>
<th>2001</th>
<th>2002</th>
<th>2003</th>
<th>2004</th>
<th>2005</th>
<th>2006</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.50-rule</td>
<td>0.44</td>
<td>0.23</td>
<td>0.31</td>
<td>0.24</td>
<td>0.23</td>
<td>0.28</td>
<td>0.31</td>
<td>0.36</td>
<td></td>
</tr>
<tr>
<td>0.33-rule</td>
<td>0.44</td>
<td>0.37</td>
<td>0.44</td>
<td>0.40</td>
<td>0.42</td>
<td>0.52</td>
<td>0.57</td>
<td>0.58</td>
<td></td>
</tr>
<tr>
<td>Total FDI in billion NOK</td>
<td>239.1</td>
<td>345.1</td>
<td>415.9</td>
<td>508.1</td>
<td>507.3</td>
<td>553.8</td>
<td>549.7</td>
<td>665.3</td>
<td>781.2</td>
</tr>
</tbody>
</table>

4.3 Independent variables

To measure institutional business risk environment, we use different indicators from the World Governance Indicators (WGI) and the ICRG researcher’s dataset.\(^\text{84}\) From the WGI, we use the Rule of Law index (RLI) and the Control of Corruption index (CCI).\(^\text{85}\) The RLI is based on several indicators, many of which relate to private property protection and others more directly to rule of law. From ICRG we use the Investment Profile index (IPI), which captures expropriation risk, contract enforcement, profits repatriation and payment delays.\(^\text{86}\) These indexes all relate to politically induced business risk, and thus relate to the arguments underlying H1. For testing H2, we use the Polity Index (PI), which captures among others competition and participation aspects of democracy, and the Freedom House Index (FHI), an average of Freedom House’s Political Rights and Civil Liberties indexes.\(^\text{87}\) The FHI captures not only procedural aspects of democracy, but also how political regimes protect basic rights and liberties.

We include several (host country) control variables. GDP is a measure of market size. A large market attracts FDI because of large demand and by allowing for economies of scale in production and distribution. Geographical distance measures costs associated with serving a foreign market through trade, which may reduce the need for investing in production facilities in that market. However, distance also influences trading costs within a TNC. As FDI may be either a complement or a substitute to trade in different circumstances, distance may

\(^{84}\) The PRS Group 2009
\(^{85}\) See Kaufmann et al. 2007. These variables lack data for 1999 and 2001.
\(^{86}\) See https://www.prsgroup.com/ICRG_Methodology.aspx.
\(^{87}\) For Polity, see Marshall and Jaggers 2002. For Freedom House, see http://www.freedomhouse.org/template.cfm?page=35&year=2005.
impact both positively and negatively on FDI. We also include energy production in kilotons of oil equivalents, as a proxy for energy resources, to account for the importance of oil-related FDI, especially for Norwegian SOEs. Finally, real GDP per capita (2000-dollars) (proxy for wage level), investment/GDP ratio (proxy for capital density), gross tertiary school enrolment ratio (proxy for human capital), and EU15/EEA and Nordic dummies are also entered as controls. Data for GDP, energy production, GDP per capita, investment and school enrolment are from the World Development Indicators (WDI).

5. Statistical analysis

5.1 Main analysis

Our baseline method is OLS with Panel Corrected Standard Errors (PCSE). We investigate the determinants of FDI stock allocation for POEs and SOEs separately. OLS with PCSE allows us to utilize both cross-national and inter-temporal variation, and takes into account heterogeneous standard errors across panels, as well as autocorrelation (AR1) within panels. In all models, we log-transform GDP, energy production, distance and GDP per capita. For FDI stock, the dependent variable, we use the transformation $y = \ln(x + \sqrt{x^2 + 1})$ from Busse and Hefeker, allowing us to retain also zero and negative observations. FDI may obtain negative values because it is, somewhat simplified, calculated as the parent company’s equity capital plus loans from parent to affiliate minus loans from affiliate to parent. Investment and tertiary school enrolment ratios, already normalized to between 0 and 100, and the dummy variables, are entered linearly. All institutional indexes are also entered linearly, since taking the logarithm of ordinal indexes is conceptually problematic. To avoid multicollinearity problems due to the high correlation between the institutional variables, we first enter the institutional indexes

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88 Navaretti and Venables 2004
89 See Hveem et al. 2009 for a discussion and closer description of the control variables.
91 Most FDI studies use a log-log formulation, due to the skewed nature of the data.
92 Busse and Hefeker 2007, 404
93 We also ran the models below using a straightforward log-transformation (ln (FDI+1)), leaving out the negative cases. This yielded results quite similar to those reported below. All results not reported in tables are available, from c.h.knutsen@stv.uio.no, on request.
94 Knutsen 2010
separately in different models.\textsuperscript{95} Tables 2 and 3 show results for models applying the 0.33- and 0.50-rules respectively. A lower value on the FHI implies stronger protection of civil liberties and political rights.

As seen in Tables 2 and 3, the effect of RLI on SOEs’ FDI is insignificant at the 5 percent level, independent of classification rule. Norwegian SOEs appear undeterred by poor investment environments, supporting H1. This result holds when substituting RLI with CCI. When using the IPI, SOEs’ FDI is deterred by more risky environments when applying the 0.33-rule (significant at the 1 percent level), but not when using the 0.50-rule. All in all, these results are quite surprising given the results in the literature on the importance of safe business environments for FDI, but not surprising in the light of Section 3.1’s arguments on how state ownership mitigates business risk.

The POE results in Tables 2 and 3 do not resemble the SOE results, but rather the results from previous studies on host country institutions and FDI. Independent of classification rule, RLI’s effect is positive and significant (1 percent level). Also the effect of CCI on POE FDI is significant (at least 5 percent level) for both classification rules. The only exception to the general trend is the insignificant result when IPI is used as proxy for business environment in combination with the 0.33-rule.

We also run principal component analysis on the three above indicators. The retained component is significant at the 1 percent level in models with POE FDI as dependent variable, and insignificant at the 5 percent level in SOE FDI models. The results above thus back up H1: SOEs do not seem too concerned about investing in risky business environments. POEs, however, tend to shy away from such environments. We also tested H1 using the ICRG dataset’s Bureaucratic Quality Index (BQI), where scores are influenced by whether “the bureaucracy has the strength and expertise to govern without drastic changes in policy or interruptions in government services”.\textsuperscript{96} H1 also received support when using BQI, particularly when applying the 0.33-rule.

H2 proposed that SOEs would be more reluctant than POEs to invest in dictatorships with bad human rights records. The FHI is significant at the 1 percent level for SOE FDI. However, also for POEs, the FHI is significant (at least 5 percent level) for both classification rules. The picture is relatively similar when using the PI: A higher degree of democracy attracts FDI, both from SOEs and POEs. The t-values and point estimates are somewhat larger for the SOE models. However, the SOE coefficients’ point estimates, both for FHI and PI, are within the POE coefficients’ 95 percent confidence intervals.

\textsuperscript{95} Hveem et al. 2009 discuss benefits and drawbacks with entering institutional variables separately versus jointly when investigating FDI allocation.

\textsuperscript{96} The PRS Group 2009
Table 2: OLS with PCSE results when using 33 percent state ownership criterion

<table>
<thead>
<tr>
<th></th>
<th>POEI</th>
<th>POEI</th>
<th>POEI</th>
<th>POEIV</th>
<th>POEIV</th>
<th>SOEI</th>
<th>SOEI</th>
<th>SOEI</th>
<th>SOEIV</th>
<th>SOEIV</th>
</tr>
</thead>
<tbody>
<tr>
<td>RLI</td>
<td>2.773***</td>
<td>(5.48)</td>
<td>2.132***</td>
<td>(4.21)</td>
<td>-0.309</td>
<td>(-0.54)</td>
<td>-1.394**</td>
<td>(-2.16)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CCI</td>
<td>2.394***</td>
<td>(4.82)</td>
<td>0.150</td>
<td>(1.10)</td>
<td>0.133*</td>
<td>(1.95)</td>
<td>0.419***</td>
<td>(2.59)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IPI</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
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<tr>
<td>PI</td>
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<td></td>
<td></td>
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<tr>
<td>FHI</td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ln ener. prod.</td>
<td>0.319*</td>
<td>(1.85)</td>
<td>0.240</td>
<td>(1.40)</td>
<td>0.060</td>
<td>(0.32)</td>
<td>0.625**</td>
<td>(2.22)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ln GDP</td>
<td>1.348***</td>
<td>(5.21)</td>
<td>1.455***</td>
<td>(5.80)</td>
<td>1.707***</td>
<td>(5.80)</td>
<td>1.119***</td>
<td>(3.18)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ln GDP pc</td>
<td>-0.778**</td>
<td>(-2.03)</td>
<td>-0.707*</td>
<td>(-1.85)</td>
<td>0.139</td>
<td>(0.41)</td>
<td>0.320</td>
<td>(1.00)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ln distance</td>
<td>-0.435</td>
<td>(-1.12)</td>
<td>-0.535</td>
<td>(-1.33)</td>
<td>-0.543</td>
<td>(-1.11)</td>
<td>-0.545</td>
<td>(-1.18)</td>
<td></td>
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</tr>
<tr>
<td>Nordic</td>
<td>1.391</td>
<td>(1.44)</td>
<td>0.914</td>
<td>(0.93)</td>
<td>2.566**</td>
<td>(2.11)</td>
<td>2.556**</td>
<td>(2.02)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>EU15</td>
<td>0.139</td>
<td>(0.12)</td>
<td>-0.101</td>
<td>(-0.08)</td>
<td>1.201</td>
<td>(0.87)</td>
<td>0.259</td>
<td>(0.20)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tertiary enr.</td>
<td>0.024*</td>
<td>(1.85)</td>
<td>0.027**</td>
<td>(2.04)</td>
<td>0.031**</td>
<td>(2.04)</td>
<td>0.030*</td>
<td>(1.72)</td>
<td></td>
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</tr>
<tr>
<td>Invest./GDP</td>
<td>-0.021</td>
<td>(-0.56)</td>
<td>-0.000</td>
<td>(-0.00)</td>
<td>-0.015</td>
<td>(-0.38)</td>
<td>-0.049</td>
<td>(-1.01)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Constant</td>
<td>-17.844***</td>
<td>(-3.65)</td>
<td>-19.952***</td>
<td>(-4.16)</td>
<td>-32.259***</td>
<td>(-6.27)</td>
<td>-23.202***</td>
<td>(-3.81)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

N 573 573 711 566 757 569 573 711 566 757 569
R² 0.44 0.43 0.27 0.29 0.28 0.45 0.31 0.31 0.17 0.18 0.19 0.34

* indicates p<0.10, ** indicates p<0.05 and *** indicates p<0.01.
Table 3: OLS with PCSE results when using 50 percent state ownership criterion

|            | POEI       | POEII      | POEIII     | POEIV      | POEV       | POEVI      | SOEI        | SOEII       | SOEIII      | SOEIV       | SOEV        | SOEVI      |
|------------|------------|------------|------------|------------|------------|------------|-------------|-------------|-------------|-------------|-------------|------------|------------|
| RLI        | 1.504***   |            |            |            | 0.943*     | 1.003*     | (1.83)      | (1.79)      | (0.46)      |             |             |            | 0.272      |
|            | (2.99)     |            |            |            | (2.99)     | (1.83)     | (1.79)      | (0.46)      |             |             |             |            |            |
| CCI        |            | 1.278**    |            |            |            | 0.814      | (2.57)      |            | (1.55)      |             |             |            |            |
|            | (1.79)     | (2.57)     |            |            | (1.79)     | (1.55)     |             | (1.55)      |             |             |             |            |            |
| IPI        |            |            | 0.353***   |            |            |            | (3.01)      |            | (1.61)      |             |             |            |            |
|            | (1.61)     | (3.01)     |            |            | (1.61)     | (1.61)     |             | (1.61)      |             |             |             |            |            |
| PI         |            |            |            | 0.141**    |            |            |            |            |             |             | 0.219***    |             |            |
|            | (1.61)     | (3.01)     |            | (1.61)     | (1.61)     | (1.61)     |             | (1.61)      |             |             | (3.30)      |             |            |
| FHI        |            |            |            |            | -0.551***  | -0.557***  | (2.18)      | (2.18)      | (4.38)      |             |             | -0.833***  | -0.754***  |
|            | (2.18)     | (2.18)     |            | (2.18)     | (2.18)     | (2.18)     |             | (2.18)      |             |             | (4.38)      | (4.38)     | (3.90)     |
| Ln ener. prod. | 0.434**   | 0.390**   | 0.249      | 0.749***   | 0.412*     | 0.695***   | 0.447**     | 0.416**     | 0.479**     | 1.001***    | 0.928***    | 0.915***   |
|            | (2.44)     | (2.22)     | (1.31)     | (2.66)     | (1.88)     | (3.12)     | (2.21)      | (2.07)      | (2.37)      | (2.95)      | (4.38)      | (4.13)     |
| Ln GDP     | 1.034***   | 1.093***   | 1.350***   | 0.715**    | 1.165***   | 0.807***   | 1.313***    | 1.353***    | 1.231***    | 0.465       | 0.819***    | 0.875***   |
|            | (3.70)     | (3.96)     | (4.28)     | (1.98)     | (3.60)     | (2.63)     | (4.31)      | (4.47)      | (3.92)      | (3.92)      | (3.92)      | (3.92)     |
| Ln GDP pc  | 0.365      | 0.413      | 0.388      | 0.929***   | 0.591*     | 0.469      | -1.072***   | -1.019***   | -0.761***   | -0.596**    | -0.792***   | -0.940***  |
|            | (1.90)     | (1.00)     | (1.06)     | (1.69)     | (1.19)     | (1.97)     | (2.85)      | (2.62)      | (-2.10)     | (-3.21)     | (-2.67)     | (-2.67)    |
| Ln distance | 0.172      | 0.118      | 0.074      | 0.201      | -0.023     | 0.018      | -3.035***   | -3.070***   | -2.776***   | -2.605***   | -3.004***   | -3.282***  |
|            | (0.42)     | (0.28)     | (0.14)     | (0.38)     | (0.04)     | (0.04)     | (-7.46)     | (-7.58)     | (-5.95)     | (-5.00)     | (-6.65)     | (-8.24)    |
| Nordic     | 1.366**    | 1.120*     | 2.289***   | 1.665**    | 1.806***   | 1.347**    | -1.139      | -1.269      | -0.434      | 1.617       | -1.134      | -1.361     |
|            | (2.39)     | (1.81)     | (3.37)     | (2.34)     | (2.72)     | (2.29)     | (-0.92)     | (-1.02)     | (-0.34)     | (3.7)       | (4.38)      | (4.38)    |
| EU15       | 1.731*     | 1.611      | 2.121*     | 2.015*     | 1.990      | 1.736*     | 2.136*      | 2.067*      | 2.766**     | 3.459**     | 2.724**     | 2.309*     |
|            | (1.70)     | (1.51)     | (1.85)     | (1.94)     | (1.64)     | (1.64)     | (1.74)      | (1.66)      | (2.09)      | (2.41)      | (2.07)      | (1.93)     |
| Tertiary enr. | 0.004      | 0.005      | 0.015      | 0.013      | 0.004      | -0.007     | 0.012       | 0.013       | 0.017       | 0.019       | 0.001       | -0.001     |
|            | (0.31)     | (0.41)     | (0.97)     | (0.72)     | (0.28)     | (-0.51)    | (0.78)      | (0.96)      | (0.97)      | (0.97)      | (0.97)      | (0.97)     |
| Invest./GDP | -0.027     | -0.015     | -0.062     | -0.093**   | -0.051     | -0.019     | 0.012       | 0.019       | 0.010       | 0.085       | 0.011       | 0.024      |
|            | (-0.68)    | (-0.40)    | (-1.63)    | (-2.20)    | (-1.40)    | (-0.47)    | (0.23)      | (0.38)      | (0.20)      | (1.47)      | (0.23)      | (0.47)     |
|            | (-4.62)    | (-4.96)    | (-5.86)    | (-3.38)    | (-3.90)    | (-2.51)    | (1.01)      | (1.67)      | (-2.13)     |             |             |            |
| N          | 573        | 573        | 711        | 566        | 757        | 569        | 573         | 573         | 711         | 566         | 757         | 569        |
| R²         | 0.44       | 0.43       | 0.27       | 0.29       | 0.28       | 0.43       | 0.31        | 0.31        | 0.17        | 0.18        | 0.19        | 0.39       |
Also a retained component from principal component analysis on the FHI and PI yields similar results: Democracy has a positive, significant effect (5 percent level) on both types of FDI, and there is no significant difference between democracy’s effect on SOE and POE FDI. There is thus no clear evidence for H2: All firms seem to reduce investment when degree of democracy is reduced. However, we also tested H2 using the Political Terror Scale (PTS), which focuses on government’s actual human rights abuses, rather than underlying political structures.98 Citizens may be more observant of gross human rights violations, like political killings and imprisonment of activists reported in the news media, than of deeper political structures. Indeed, we find quite robust support for H2 when using the PTS, but only when applying the 0.50-rule.

We also test models including both RLI and FHI, to reduce omitted variable bias and better separate between pure business environment aspects and human rights and democracy aspects. These models, reported in Tables 2 and 3, provide strong support for H1. RLI is positive and significant (1 percent level) in the 0.33-rule POE model and has a p-value of 0.068 in the 0.50-rule model. RLI is insignificant at the 10 percent level in the 0.50-rule SOE model. Moreover, when using the 0.33-rule, the RLI actually has a significant negative effect (5 percent level) on SOE FDI. Also these models yield little support for H2; FHI is always significant at the 1 percent level.

5.2 Robustness checks

We conduct a variety of robustness checks. The results described use RLI to test H1 and FHI to test H2. The RLI is particularly suitable for testing H1, as it draws on a variety of indicators tapping both rule of law and property rights protection. Similarly, the FHI is particularly suitable for testing H2, as it is a broader democracy measure than the PI, and also measures protection of different civil liberties, including for example freedom of organization.

First, we run models where all variables are entered linearly rather than logarithmically. As above, there is evidence for H1; RLI has a statistically significant effect on POE FDI, but not on SOE FDI. The point estimates for the RLI are even negative for the SOE models, and significantly so for the 0.50-rule model (10 percent level). There is still no evidence for H2. Indeed, the linear models find a significant effect of FHI (5 percent level) for POE FDI, but not for SOE FDI, contradicting H2.

Second, we return to the logarithmic models, but exclude FDI from the petroleum sector. The petroleum sector constitutes one third of Norwegian FDI

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98 See http://www.politicalterrorscale.org/.

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(stock), and Norwegian SOEs are heavily involved in petroleum activities. The lacking relation between business environment and SOE FDI above may be due to several countries with large oil and gas resources having bad business environments. The 0.50-rule model does indeed find a positive significant effect (1 percent level), from RLI on SOE FDI, but the RLI is insignificant at the 5 percent level in the 0.33-rule model, in accordance with the results above. SOEs do, however, invest more in democracies (1 percent level). POE FDI is positively affected both by rule of law (1 percent level) and democracy (1 percent level), independent of classification rule. This robustness check thus provides only partial support for H1 and no support for H2. However, although natural resources are often located in countries with poor business risk climates, the profits and thus likelihood for the host country of pursuing partial or full expropriation in these industries is very high. As Lipson points out, these are very vulnerable industries, and there may thus be systematic reasons why foreign investors in these sectors are often SOEs, be they Chinese or Norwegian.

Third, we check whether the results above are due to company size rather than ownership. It may be that home states are willing to bail out or negotiate on behalf of large companies in general and are not particularly attentive to SOEs’ concerns. Although there are numerous Norwegian SOEs, much SOE FDI stem from a few large companies, notably Statoil and Hydro, the main contributors to SOE FDI in natural resources, and Telenor. We exclude FDI from the twenty largest Norwegian companies, by sales, in 1997. Although all RLI coefficients are significantly different from zero, the POE point estimates are far higher. Indeed, the POE point estimates are outside the SOE estimates’ 95 percent confidence intervals, for both the 0.33- and 0.50-rules. Moreover, when considering only the 20 largest companies, there are large differences in the sizes of RLI coefficients for POEs (significant 1 percent level) and SOEs (insignificant 10 percent level). Thus, there is decent support for H1, even when taking company size into account. However, there is no support for H2; all FHI coefficients are significant (1 percent level), and the estimated effects of FHI are larger on POE FDI than on SOE FDI when excluding the large companies.

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99 Oil-and gas-related investments are defined as those classified in the 2002 Standard Industrial Classification as either: 11 Extraction of crude petroleum and natural gas, service activities incidental to oil and gas extraction excluding surveying; or 74.203 Geological surveying, which includes exploration of oil and gas fields. Other categories were also considered, but did not contain observations. However, we are unable to incorporate a range of supplier operations associated with these activities.

100 Lipson 1985, 29

101 Findexa 1998. Although the two largest are SOEs, the majority of the top 20 companies are POEs. 1997 was chosen as baseline year to avoid endogeneity problems; FDI may impact on company size. However, also Yara, which was split from Norsk Hydro in 2004 and which is currently one of the largest Norwegian companies, is excluded.
Fourth, we exclude the “old” OECD countries of Western Europe, North America, Japan, Australia and New Zealand from the sample, to investigate H1 and H2 in developing country samples. There is still a positive effect, significant at the 1 percent level, of RLI on POE FDI when using both classification rules. Moreover, the sign of RLI is actually negative (though insignificant at the 10 percent level) for SOE FDI when using the 0.33-rule. The evidence is somewhat mixed however, as the 0.50-rule model shows a positive effect, significant at the 5 percent level, of RLI. Nevertheless, also for the sample of non-OECD countries, there are indications that POEs are more reluctant to invest in countries with poor rule of law than are SOEs. When it comes to H2, there is still no support: Both POEs and SOEs invest significantly more in democratic than in dictatorial non-OECD countries.

Fifth, we include a dummy for tax havens and offshore financial centers, as classified by the OECD, to address the problem of trans-shipment FDI biasing results. Tax havens are often used as platforms for trans-shipment FDI, and are thus often not the ultimate destination for FDI despite frequently being scored as such in the data. When including this dummy, the RLI coefficient is always significant at the 1 percent level for POE FDI and insignificant at the 5 percent level for SOE FDI. H1 thus receives support, again. However, there are no large differences between the FHI coefficients (always significant at the 1 percent level) in POE and SOE models, and H2 is thus not supported. Interestingly, the models also show a robust, positive effect of being a tax haven on POE FDI, but no such effect on SOE FDI. Some models even show a significant negative effect of tax haven status on SOE FDI.

Sixth, we investigated whether host country institutional factors affect the number of SOE- and POE FDI-projects allocated to a country differently. Some large projects may strongly influence the results above. The results indicate that both rule of law and democracy enhance the number of both SOE- and POE-projects (always significant at 1 percent level). We also conducted Random Effects Censored Tobit (RET) analysis with the dependent variable being the number of SOE projects as share of total projects. This analysis yields no systematic evidence for either H1 or H2. This may indicate that some large projects influence the results for H1 above. However, investment decisions are not purely binary choices (invest or not), and our results may indicate that the ownership-business risk interaction is possibly relevant for how much capital investors are willing to sink into a project.

102 See http://www.oecd.org/dataoecd/38/14/42497950.pdf for the OECD list.
103 RET is a proper method when the dependent variable is restricted and continuous. See e.g. Long 1997. We run a first RET analysis with only log GDP as independent variable (5000 iterations). We use the resulting constant and slope coefficient as initial values. All RET models are based on 20 000 iterations.
Seventh, we run Fixed Effects (FE) models (with Busse and Hefeker-transformed FDI volume as dependent variable). OLS with PCSE incorporates both cross-section and time-series information, and is thus relatively efficient. It may, however, bias results as country-specific omitted variables (e.g. national culture, political history or idiosyncratic geographic features) may impact on both institutional features and FDI volume. In FE models, country dummies are included and only intra-national variation is exploited. In other words, only changes in RLI and FHI within a country over the period from 1998 to 2006 are used as basis for inference. Institutional structures are usually characterized by strong inertia. Therefore, FE is in this case a very strict estimation procedure. Unsurprisingly, the FE models do not yield any significant results when testing H1 and H2.

Finally, since our hypotheses concern the relative propensity of SOEs and POEs to invest in different institutional contexts, we reformulate our dependent variable as the share of SOE FDI in total FDI. This is a natural way of testing our hypotheses, as they concern the relative propensity of POEs and SOEs to invest in countries with different institutional structures. The dependent variable is now a ratio with 0 as lower and 1 as upper limit. A suitable estimation method is therefore RET, which handles restricted, continuous dependent variables. These models find no significant effect of FHI, thus casting doubt on H2. Regarding H1, the RLI has a negative effect on SOEs’ share of total FDI, significant at the 1 percent level (t=-4.61), when the 0.33-rule is used. However, the RLI coefficient is insignificant when the 0.50-rule is applied. Thus, there is some, but not robust, evidence that an improved business environment reduces the share of Norwegian FDI coming from SOEs.

Summing up the robustness checks, we find strong and robust support for H1 when applying the 0.33-rule, while the results are less robust when using the 0.50-rule. In contrast, there is little support for H2, as both SOEs and POEs invest more in democratic countries.

6. Conclusion

In this paper, we presented theoretical arguments on the interaction between state ownership and various host country institutions. First, we argued that SOEs are less reluctant than are POEs to invest in countries with poor rule of law, poor property rights protection and high corruption. SOEs can expect to be “reimbursed” by the home state in case of expropriation, or other types of negative outcomes, in unstable and risky institutional environments. Therefore, SOEs have the same upside in risky environments as POEs, but the downside is considerably smaller. The home state may also, by bargaining with or threatening
the host state, reduce politically induced risks for its SOEs. Second, we argued that *SOEs may invest relatively more than POEs in democratic countries and countries that protect human rights*. Democratic politicians may exert pressure on SOEs not to invest in countries the electorate dislikes. Large-scale SOE investment in autocratic regimes may be politically sensitive and hurt the governing party in the next election. Moreover, SOEs may be particularly sensitive to so-called demand reputation effects, if they are held to higher standards than POEs by consumers.

Using data from Norway, we find little support for our hypothesis that SOEs are more inclined than POEs to invest in democracies and countries that protect human rights better. However, we find support, although not unequivocal, for our hypothesis that SOEs are less reluctant than POEs to invest in countries with poor institutional business climates. More precisely, we find that SOEs’ FDI is not affected by institutional risk factors such as rule of law, property rights and corruption, whereas POEs’ FDI is negatively affected. Our proposed explanation for this result draws on general political economic mechanisms. However, empirical studies should be performed using data from other countries to see whether the result holds.

### 7. Colophon

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