To Whom Are State-Owned Enterprises Sold?
Strategic vs Financial Buyers

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Abstract

Following the recent upward trend in privatizations, there has been a surge in the academic literature on M&A deal-making where State-owned enterprises (SOEs) are targeted by private firms (privatizations). However, the determinants of the privatization process design remain under-researched as little is still known about whether strategic or financial buyers are more interested in acquiring SOEs. Our study fills this gap making two contributions to the literature. First, it investigates the determinants of the sales method's choice made by a country's government when selling a SOE. Second, it enlightens the factors driving a strategic or a financial buyer to acquire a SOE. Our work is the first to address the above two issues, namely the sales method adopted by the government and the typology of the acquirer, in the context of M&A transactions involving SOEs. Based on 401 private-public deals completed globally in the 2013-2021 period (within or outside of privatization programs) in which the acquisition involves a company or a stake in a company from a Government seller by a non-Government acquirer, we find that private acquirers are more likely to bid in public auctions; cash is the preferred method of payment of the purchase price in auctions of SOEs; privatizations of SOEs are most likely arranged via auctions rather than direct negotiations; strategic buyers are more likely to participate in auctions of SOEs within privatization programs, while outside such programs financial buyers are more likely to bid. Implications for selling governments, policy-makers and researchers are drawn.

1. Introduction

Privatizations started in the United Kingdom in the 1980s and spread across the world during the 1990s with several governments selling large blocks of their ownership stakes of State-owned enterprises (SOEs) to the private sector (Megginson and Netter, 2001). Despite these privatization waves, SOEs continue to play an important role in the global economy (Del Bo, Ferraris and Florio, 2017). SOEs in Europe and Central Asia account for almost half of all public sector employment. In many countries, SOEs have largely exited from competitive sectors such as manufacturing but remain important providers in network and services' industries such as energy, gas, water (e.g., municipal utilities) and railways. However, SOE performance has often been disappointing. Several measures were thus taken to reduce the flow of public funds to SOEs, separate commercial and non-commercial objectives, strengthen oversight and monitoring, improve their boards and management, and minimize political interference (ADB, 2022). But most of these reforms were unsuccessful. Hence, since the 1980s privatization emerged as a tool to reduce the budgetary burden of SOEs, enhance their performance, improve financial discipline, professionalize their operations and provide full access to investment capital for modernization and growth expansion of SOEs.

Over the last fifteen years, there has been a massive retreat of the State from entrepreneurial activity (Schuster, Schmitt and Traub, 2013). Indeed, the number of privatizations increased following the 2008 financial crisis with revenues accruing to national governments rising from $110 billion in 2008 to $266 billion in 2016 (OECD, 2018). Below are described some examples of recent privatization programs conducted around the world.

In February 2023, the Prime Minister of Egypt announced that the government will sell stakes in 32 SOEs from 18 economic sectors over the next year under a renewed privatization program designed to pull the country out of its financial crisis and secure flows of much needed foreign currencies (*sources*: Enterprise; Al-Monitor, February 9, 2023). Such a privatization program is part of the country's new State Ownership Policy, which outlines how the government intends to more than double the private sector's role in the economy to 65% (from current 30%) and attract $40 billion in private and foreign investments by 2026 to ease a severe economic and liquidity crunch. The Egyptian government said that, following a $3 billion deal with the International Monetary Fund signed in December 2022, it will reduce its involvement in a number of sectors – including banking and insurance, oil and petrochemicals, real estate and ports – via public share offerings on the Egyptian Exchange (EGX), direct sales to strategic investors, and expansion of public-private partnerships. Among the companies offered for sale

by the Egyptian government are three banks including the United Bank (rumored to be subject to the takeover bid by the Saudi sovereign wealth fund), six oil and petrochemical companies such as Egyptian Ethylene and Derivatives Company (Ethydco), the pharmaceutical firm Misr Pharma, two military-owned firms including the bottled drinks firm Safi, the real estate player El Nasr Housing and Development, the Suez Canal Authority's Canal Company for Mooring and Lights, as well as the country's largest wind farm project, the 580-MW facility in Gabal El Zeit.

In August 2022, the Uzbekistan government approved the roadmap for the initial public offerings (IPO) of shares of some of its larger SOEs on the Tashkent Stock Exchange as well as overseas stock exchanges during the 2022-2023 period (*source*: Silk Road Briefing, August 18, 2022). This roadmap also provides for the audit of large SOEs with the involvement of international audit firms on privatization processes. The Uzbekistan privatization program involves 21 companies from various industries including Uzbekinvest, the country's largest insurance company, Uzbekneftgaz, the Uzbekistan's national oil and gas company, Uzbekistan Airways, the national airline company, and Uzbekistan Pochtasi, the country's national postal carrier also providing financial services.

In 2019 the Bolsonaro's right-wing government embarked on a national privatization program in Brazil to reduce the State's footprint in the economy planning to sell off nine SOEs, including Correios, the country's postal service company, and two of the largest State-controlled technology firms, Federal Data Processing Service (Serpro) and Social Security Technology and Information Company (Dataprev). As of October 2019, in the first nine months of the program, Brazil had already privatized State assets worth $23.5 billion surpassing its full year target of $20 billion (*source*: Reuters, October 4, 2019).

The inefficient SOEs operating in Pakistan have been a key target of the International Monetary Fund (IMF)'s program since its inception in July 2019, thus urging the local government to put 24 companies for sale between 2023 and 2024 (*source*: Dawn, The Business and Finance Weekly, August 1, 2022). Additionally, the Pakistan's government planned to sell shares of listed SOEs to some Middle Eastern countries on a government-to-government (G2G) basis to bridge a $4 billion financing gap for the 2022 fiscal year over and above about $36 billion financial plan estimated by the IMF.

The same logic applies to Iraq whose industrial production is dominated by 176 SOEs that tend to be high-cost, low-quality and mostly unprofitable producers resulting in consumers paying too much and receiving too little. SOEs are also collectively the largest employers after the national government with 600,000 employees and tend to pollute more than the private

sector. Hence, maintaining SOEs in the Iraq's economy would cause a large fiscal burden that reduces funds available for needed investments in critical sectors, waste the country's human talent and damage the environment. In this sense, there is an urgency to promote a massive privatization of SOEs for the benefit of the economic and political future of Iraq (Iraq Britain Business Council, IBBC, May 2022).

Based on firm ownership, M&A deals can be classified into four types: (a) a private firm acquiring another private firm (private-private deal); (b) a private firm acquiring a firm owned by a government (private-public deal); (c) a government-owned firm acquiring another government-owned firm (public-public deal); (d) a government-owned firm acquiring a private firm (public-private deal) (Del Bo, Ferraris and Florio, 2017). A private-public deal is also defined as privatization, which is a transaction where the seller is a government-controlled entity denoted as State-owned enterprise (SOE). The acquirer is instead not under the control of that government or of any other foreign government but it is a private enterprise. The opposite of a privatization is a public-private transaction, where a government-owned entity is the acquirer of a majority stake in a private company, defined as a publicization. Our focus in this study is on private-public deals falling within or outside of privatization programs and completed globally in the 2013-2022 period.

The extant literature on M&A suggests three options to sell off a company in a takeover, classified on the basis of the number of potential buyers contacted and potential buyers signing confidentiality agreements: (i) auction; (ii) controlled sale; (iii) direct, one-to-one negotiation (Boone and Mulherin, 2009). In an auction, multiple buyers are contacted and sign confidentiality agreements; in a controlled sale a restricted number of buyers are contacted and sign confidentiality agreements; in a direct negotiation, the selling firm deals with a single buyer (Boone and Mulherin, 2007).

When privatizing a company, the government aims to reach two objectives: revenue maximization and efficient allocation of ownership rights (Schmidt and Schnitzer, 1997). On one hand, privatization revenues are instrumental in financing the state budget by integrating taxation and reducing the burden of an excessive budget deficit. On the other hand, a privatization enables the government to transfer a SOE to those who can put it in most profitable use by having the strongest incentives to restructure it, to modernize its production operations, to reduce slack, to divest unprofitable business divisions or to innovate through the development of new products. In this context, Schmidt and Schnitzer (1997) show that, if there are more than two serious bidders, an English auction (based on an ascending open bid format) is more efficient and yields higher revenues than negotiating with a preselected acquirer.

Privatizations of SOEs have been the topic of seminal studies in the finance literature such as initial public offerings (Dewenter and Malatesta, 1997), the restructuring of the internal governance systems of SOEs preserving the state ownership, the so called "corporatizations" (Aivazian, Ge and Qiu, 2005), the determinants of the length of time it takes to fully privatize a company (Boubakri, Cosset, and Saffar, 2017), or the relation between government ownership and firm value during the global financial crisis of 2008–2009 (Beuselinck, Cao, Deloof and Xia, 2017).

Following the recent upward trend in privatizations, there has been a corresponding surge in the academic literature on M&A deal-making where either SOEs are targeted by private firms (privatizations) or SOEs target private firms (publicizations) (Del Bo, Ferraris and Florio, 2017; Clò, Fiorio and Florio, 2017). Despite this wide range of evidence, the determinants of the privatization process design remain under-researched. More specifically, in the context of private-public M&A deals, little is still known about whether strategic or financial buyers are more interested in acquiring SOEs. Our study attempts to fill this gap.

This article combines three streams of research on: (a) procedures by which firms are sold (e.g., auction, controlled sale, direct negotiation); (b) State ownership of firms (SOEs) and, more in general, the government intervention in the economy; (c) privatizations. In doing so, our work makes three contributions to the literature. First, it investigates the determinants of the sales method's choice made by a government when selling a SOE. The government may opt for the arrangement of a public auction process involving multiple bidders, a direct negotiation with a single, pre-selected buyer or, alternatively, a "controlled sale" with a group of few potential acquirers. Auctions and private negotiations are the most widely employed privatization mechanisms, especially in emerging market economies (Fluck, John, and Ravid, 2007). Moreover, we examine whether cash or a stock swap is used by the private acquirer to pay the purchase price to the selling government. In this regard, we contribute to exploring the role of target ownership in helping understand the payment method choice, which is an interesting but understudied factor according to Eckbo, Malenko and Thorburn (2020). Second, we examine whether the entity acquiring the SOE to privatize it is privately-held or publicly listed and whether the government has a preference to sell to either of the two types of buyers depending on the selected sales method. Third, our study enlightens the factors driving a strategic or a financial buyer to acquire a SOE. Selling to a financial (private equity) firm is not the same as selling to a strategic buyer (Fidrmuc et al., 2012). Strategic and financial buyers follow inherently different acquisition strategies. Indeed, a SOE can be acquired by a buyer willing to do so for (i) long-term, strategic purposes (strategic buyer) or (ii) short-medium term,

investment purposes (financial buyer). More specifically, strategic buyers may operate in the same business or industry as the target company seeking to find operational synergies from an integration with this firm to capture a private synergistic value. Strategic buyers may include competitors, suppliers, or customers (Gorbenko and Malenko, 2014). Strategic buyers will also generally want to acquire the target and hold on to it. Strategic acquisitions often involve the integration of the acquired assets with the existing operations of the new owner (Fidrmuc et al., 2012). Unlike strategic buyers, financial buyers frequently include private equity firms, buyout funds or any other finance-related company whose principal line of business is not directly related to that of the target company. Financial buyers are typically cash rich with more readily available access to credit at lower costs, and have superior skills in identifying good undervalued targets and negotiating favorable deal terms, enabling them to extract the common value component of firms (Dittmar, Li and Nain, 2012; Gorbenko and Malenko, 2014). Financial buyers are also capable of taking focused, performance-improving actions post-acquisition to improve the stand-alone value of the target firm. Financial buyers are generally concerned about their return on investment, the strength of the target firm's management team and the size of its current and prospective market. They prefer to maintain the present top management and offer advice and assistance to them for fostering the target firm's growth using the most appropriate incentives after the acquisition. Sale to a financial buyer enables the incumbent management to continue to manage and partially own the company while profiting from further growth in its value (Dittmar, Li and Nain, 2012). Hence, financial buyers will generally want to make acquisitions by treating the target as a temporary asset of their financial portfolio and selling it within a relatively short-medium time frame once exit opportunities become sufficiently appealing so as to maximize their return on investment (Gorbenko and Malenko, 2014; De Maeseneire et al., 2023). In sum, while strategic buyers are keen on searching long-term synergy gains, financial buyers aim to achieve short-term capital gains (De Maeseneire et al., 2023).

To our knowledge, our work is the first to address the above two issues concurrently, namely the sales method adopted by the government and the typology of the acquirer, in the context of M&A transactions involving SOEs. In this respect, our study contributes to the extant literature on strategic vs financial acquirers in the market for corporate control by extending it to the SOEs as targets of private-public M&A deals (Fidrmuc et al., 2012; Dittmar, Li and Nain, 2012; Gorbenko and Malenko, 2014; De Maeseneire et al., 2023). We expand this set of studies by providing new evidence on the interdependence between the choice of the selling mechanism and the identity of the strategic vs financial buyer (Fidrmuc et al., 2012).

For instance, using data on auctions of companies Gorbenko and Malenko (2014)'s work suggests that different targets appeal to different types of (strategic vs financial) bidders but the corporate takeover deals they have considered do not include privatizations. Prior research on M&A transactions is limited to public acquirers. However, private acquirers are of great interest due to the fact that they represent a large portion of the real economy and a sizeable fraction of the M&A market. Our work complements recent studies on M&A deals conducted by private acquirers (Golubov and Xiong, 2020).

Our study also addresses a call for further research made by various scholars. Fluck, John and Ravid (2007) state that while there has been a growing literature on privatizations, less attention has been paid to privatization methods. In this regard, our paper aims to shed new light on the choice of public auctions (vs. direct negotiations or controlled sales) as privatization mechanisms. More interestingly, Gorbenko and Malenko (2014) affirm that it would be intriguing to study what selling mechanisms are optimal in the presence of two distinct categories of bidders: strategic vs financial.

More specifically, this study aims to examine the methods of privatizations mostly adopted by the selling governments, whether acquirers of SOEs are private-held or publicly listed, whether privatizations are typically settled using cash or stock, and whether privatized SOEs are more common among strategic or financial buyers. Our main findings suggest that governments mostly prefer auctions for selling state-owned organizations to privately-held acquirers. When the government opts for a direct negotiation or a controlled sale, then publicly listed acquirers are more likely to be engaged in the transaction. We show that auctions of SOEs likely involve the use of cash to pay the purchase price, whereas stock swaps are most employed in direct negotiations with single buyers (or controlled sales with a few, select buyers). Hence, cash is the best method of payment when a privately-held firm acquires a SOE, while stock swaps are preferred by publicly listed buyers. We also find that selling governments are more inclined to adopt public auctions (rather than direct negotiations or controlled sales) to privatize a SOE. Interestingly, in the presence of a privatization program, strategic buyers will likely bid for a SOE in a government's auction. Financial buyers are instead attracted by public auctions that are not associated with privatization programs.

Moreover, the size of the target SOE does not matter when choosing whether or not to engage in acquisitions of SOEs and does not influence the buyer's preference for the sales method adopted by the selling government. Privately-held acquirers continue to prefer public auctions to buy SOEs, while publicly listed buyers are more prone to a direct (or controlled) negotiation with the selling government regardless of the size of the SOE being sold. Size

matters for the purpose of the acquirer's investment under (or no) privatization programs. When the government launches a privatization program with the aim to sell off several SOEs, small-sized SOEs are bought by strategic buyers through their participation in public auctions. In the absence of privatization programs, small-sized SOEs are instead acquired by financial buyers participating in public auctions. Large-sized SOEs are not typically sold via auctions but resorting to direct negotiations or controlled sales.

Finally, our findings suggest that an acquirer with prior M&A experience in the same industry as that of the target SOE is more likely to be a strategic (rather than a financial) buyer. Furthermore, we find that a prior extended experience in the M&A activity in general and in the same country as the target SOE makes possible for a strategic (rather than a financial) buyer to bid for the SOE itself in a public auction.

The remainder of our study is organized as follows. In Section 2, we provide a brief literature review and develop our hypotheses. Section 3 describes the sample and variables used in the paper and provides descriptive statistics. Section 4 presents the econometric models. In Section 5 we discuss the main findings. Section 6 concludes the paper by drawing implications for policy-makers and researchers.

2. Literature Review and Hypotheses' Development

Three are the streams of literature relevant to our study. The first of these streams is related to privatizations. The second stream is concerned with the most common methods for selling companies. The third stream relates to the identity of the buyer that can be of strategic (corporate) or financial (private equity) nature.

There exists a rich literature on privatizations. Bolton et al. (1992) describe the different procedures that countries may choose to privatize their assets by comparing mass privatization programs with give-away schemes to auctions. Privatization through give-away schemes is rapid but it is likely to create a budgetary crisis and create an environment which is too favourable to incumbent management as the latter is left in place with no satisfactory procedure to remove inefficient executives. Privatization through auctions achieves an efficient resource allocation in situations where the seller of a state asset does not know which buyer has the best use for it. Additionally, individual bids provide information about the underlying value of a firm to be privatized, which can be of great use to future potential private investors in those

firms. More importantly, sales of state assets provide the government with revenues at a time when it has major difficulties raising revenues through taxes.

Perotti and Guney (1993) document that most privatizations involve partial, staggered sales of State-owned stakes of firms to the private sector in order to build policy credibility. To enhance investors' confidence, a selling government may signal commitment to current policy by retaining a minority stake in the firm for some time while transferring managerial control so as to show willingness to bear some financial costs of its policy changes. This mostly applies to more policy-sensitive firms such as natural or legal monopolies (e.g., utilities).

Fluck, John and Ravid (2007) analyze the privatization process within an agency framework by focusing on the role of the privatization agent and his or her collusion with one of the bidders. Their model explains how political constraints, which are ever present in privatizations, may shape the choice of different privatization mechanisms. Specifically, they investigate how much revenue auctions and private negotiations yield in emerging market economies by modeling political constraints. Their results suggest that in economies or industries where information is widely available and political constraints do not matter, auctions and private negotiations are equally successful in raising revenues. In contrast, in economies or industries where information is scarce and political constraints are present, private negotiations may dominate auctions. This occurs because a corrupt agent has much less direct control of the outcome of an auction than that of private negotiations. This also explains the widespread use of private negotiations in economies, such as those of the emerging countries, where political constraints are significant.

Concerning the literature stream on the most common methods for selling firms, Bulow and Klemperer (1996) find that auctions should be preferred to negotiations as the value of bargaining power is smaller relative to the value of additional competition. Bulow and Klemperer (2009) add that auctions work best for sellers (especially of public companies) as they involve bidders competing simultaneously with such competition allowing the seller to do well independently of any knowledge of bidder values or any ability to exploit that knowledge. Their claim is that it is the inefficiency of the auction – that entry into it is relatively ill-informed and therefore leads to a more random outcome – that makes it more profitable for the seller.

The literature stream comparing the acquisition strategies pursued by strategic vs financial buyers can be further divided into two types of studies examining the outcomes of the public vs private bidding process. The studies relying on the public bidding process include those by Fidrmuc et al. (2012), Dittmar, Li and Nain (2012), and Gorbenko and Malenko (2014). Based on a sample of 410 takeovers of U.S. listed firms completed by financial and

strategic acquirers in the 1997-2006 period, Fidrmuc et al. (2012) study the sequencing of the selling process. The selling process typically starts by either a prospective buyer approaching a target or by a target management decision to offer their company for sale. The starting point is the decision on how to sell a firm that best matches the target firm's characteristics choosing among a full-scale public auction, a controlled sale with a few, select multiple bidders or a direct negotiation with an exclusive buyer. Hence, the selling mechanism choice is not random. Deals initiated by target firm's management involving profitable firms with lower leverage are typically associated with auctions. Buyer initiated deals involving firms with higher R&D are most likely associated with private negotiations or controlled sales. Choosing the preferred buyer is the second key step in the process. In particular, Fidrmuc et al. (2012) argue that financial and strategic buyers do not compete for the same target firm. Targets of financial buyers have low market to book values and high cash levels, while targets of strategic buyers have higher market to book ratios, more intangible assets and high R&D expenses. Moreover, strategic buyers are interested in targets with more specific assets that might potentially result in higher synergies whereas financial buyers target firms with more generally redeployable assets that they can manage more efficiently. The authors claim that the choice of the selling mechanism and the identity of the (strategic vs financial) buyer are interdependent in so far as the former affects the latter with both potentially impacting on premium determination. However, their results show that the takeover premium paid by financial and strategic buyers is not significantly different.

The above result is contrasted by the work of Dittmar, Li and Nain (2012), which shows that strategic (corporate) buyers competing with financial buyers pay lower premia and earn higher abnormal returns. They examine how the presence of financial sponsor competition affects the returns and deal structure of strategic buyers. More specifically, they consider takeover deals where strategic buyers compete with financial buyers for the same target and find that strategic buyers who purchase targets that financial buyers bid for outperform strategic buyers who buy targets that only other strategic buyers bid on. Having ruled out deal terms, acquirer abilities and observable target characteristics that cannot explain these differences in returns, they document that financial buyers identify "better" targets with a high potential for value improvement based on information not easily available to the public. Hence, strategic buyers who follow a first bid by a financial buyer earn significantly higher abnormal returns than corporate acquirers who follow a first bid by another corporate buyer. Their findings suggest that while financial buyers are more skilled at selecting undervalued targets with a high potential for cost cuts and revenue growth, strategic buyers are competent in exploiting this

potential. Indeed, if a strategic buyer acquires a target firm pursued by financial buyers, it benefits from the high common value component in addition to any private synergistic value. This evidence thus confirms that both private synergistic and common value gains exist in M&As.

Gorbenko and Malenko (2014) are the first to study competition between financial and strategic bidders for the same target firms and estimate their different maximum willingness to pay in the context of auctions. They rely on a sample of 349 takeovers of U.S. publicly traded companies completed via auctions in the 2000-2008 period that do not involve privatizations. Their findings suggest that the view that strategic bidders are willing to pay more than financial bidders may be true for the average target. At the same time, however, the difference in average valuations of strategic and financial bidders varies widely across targets. While strategic bidders have higher valuations for targets with higher investment opportunities, as proxied by R&D expenditures, financial bidders are willing to pay higher premiums for poorly performing targets, as reflected in substantial negative cash flows. Their results are consistent with the alternative view of segmentation of the takeover market, whereby different targets appeal to different bidders. According to this view, financial bidders have an advantage over strategic bidders in dealing with poorly performing mature targets because of their expertise in restructuring organizations and their access to debt at a lower cost than strategic bidders. In contrast, strategic bidders have an advantage in generating synergies out of targets' investment opportunities. They also find a large difference in the dispersion of their valuations. Valuations of financial bidders are more correlated with observable economic conditions, while those of strategic bidders are less tied to observables. Interestingly, this result is consistent with different financial bidders applying similar post-acquisition strategies and each strategic bidder having relatively unique synergies to exploit.

One recent study from De Maeseneire et al. (2023) makes use of the outcomes of the private bidding process. These authors investigate how target characteristics determine the extent of the initial interest displayed by strategic versus financial bidders and their persistence during the deal process. Specifically, their work is the first to measure the degree of persistence of the distinct types of bidders as the difference in the number of strategic and financial bidders participating in all subsequent steps of the private bidding process (contact phase, signing of the confidentiality agreement, informal offer). They use a unique set of hand-collected data from 606 takeovers of U.S. public target firms completed between 2005 and 2016 using two selling mechanisms: auctions and direct negotiations. Their evidence suggests that target firms displaying potential stand-alone value improvement at the initiation stage of the bidding

process or having a financial position (stable cash flows and high borrowing capacity) suitable for exploiting leverage (tax-shield) benefits are more attractive to financial buyers, thus enabling them to pursue a value-creating strategy through revenue growth. Lower market-to-book ratios also increase the involvement of financial bidders throughout the private bidding process, thus confirming that they are well positioned to pick undervalued targets engaging in multiple arbitrage (buying at low and selling at high multiples). Strategic buyers instead compete in deals with greater opportunities to realize synergy gains. Their findings further endorse the notion of the takeover market segmentation.

To contribute to the extant literature described above, we develop and empirically test the following five hypotheses.

Bargeron et al. (2008) provide evidence on how the premiums paid by private acquirers compare to the premiums paid by public acquirers and thus compare the gains accruing to target shareholders for acquisitions by private firms and public firms. They find that target shareholders earn 35% higher premiums if a public firm makes the acquisition rather than a private firm. Golubov and Xiong (2020) show that private acquirers experience greater operating performance changes following takeovers due to lower agency costs. Based on the above, we make the following hypothesis:

H1. Privately-held acquirers are more likely to participate in public auctions for the sale of a State-owned enterprise.

According to Bargeron et al. (2008), since a private firm does not have publicly traded equity to offer in an acquisition, it is not surprising that most acquisitions by private firms are cash deals. Dittmar, Li and Nain (2012) also find that strategic buyers competing with financial buyers for a target pay more of the deal value in cash for two reasons. On one hand, they follow financial buyers by offering to risk-averse target shareholders to pay the consideration in cash to make their bids comparable. On the other hand, strategic buyers that chase targets identified by financial buyers know (and this knowledge is private) that these firms have a high potential for value improvement and thus use more cash as a signal of higher acquisition value. Moreover, Eckbo, Makaew and Thorburn (2018) document that the propensity to pay with cash is significantly higher when there is greater potential competition from private companies acquiring firms in the main industry of the target. Based on the above findings, we propose:

H2. Cash is the preferred method of payment of the purchase price in auctions of State-owned enterprises, while stock swaps are more likely to be arranged in direct negotiations with single buyers or in controlled sales with few, select buyers.

Bolton et al. (1992) recommend that state assets not be given away but sold possibly through auctions. Auctions have three advantages over bilateral negotiations with a single buyer. First, by forcing buyers to compete for the public asset higher bids can be generated. In contrast, in direct negotiations, if the buyer knows that the state is eager to privatize quickly, he will act as if the asset is not worth much to him, thus leading the government to sell the asset at a much lower price than the buyer is likely to be willing to pay. Second, in auctions to the extent that higher bids come from efficient management teams, better matching is achieved than if firms are sold via direct negotiations on a first-come-first-served basis. Third, auctions may save time on the valuation of the assets to be privatized. If buyers compete for the acquisition of an asset, the selling government can learn more about the asset's intrinsic value from the winner's bid than from an ex ante valuation. Instead, in direct negotiations the only way for the government to get the single buyer to pay more may be to provide hard information about the value of the asset to be sold, so that it is costly to by-pass the valuation stage.

Bulow and Klemperer (1996) find that an auction is always preferable to a negotiation to profitably sell a company. Bulow and Klemperer (2009) argue that if there is only limited information about valuations, entry costs or the number of bidders, or there is the need to standardize procedures across several sales, as it may occur when selling government entities, a simultaneous auction is the best choice for sophisticated, value-maximizing sellers. Moreover, Fluck, John and Ravid (2007) argue that, in the absence of agency problems, the government can auction the privatized firm to bidders instead of engaging in a private negotiation. Based on the above, we hypothesize that:

H3a. Privatizations of State-owned enterprises are most likely arranged via auctions by the selling governments.

Fidrmuc et al. (2012) find that firms sold in auctions are less likely, while those sold in controlled sales are more likely to be sold to financial (private equity) buyers (both relative to private negotiations). Coherently with this finding, we then hypothesize that:

H3b. Strategic buyers are more likely to participate in auctions for the sale of State-owned enterprises in the context of privatization programs, while outside such programs they prefer to negotiate (alone or with a few competitors) directly with the selling governments.

As shown by Fidrmuc et al. (2012), higher M&A activity is associated with higher odds of auctions. Capron and Shen (2007) also argue that acquirers are more likely to buy private targets that are located in an industry where the acquirer has its core business or has accumulated acquisition experience. Consistently with these findings, we hypothesize that:

H4. Strategic buyers with prior experience in M&A activity and corporate acquisitions in the same country and industry as those of the target State-owned enterprise are more likely to acquire the latter through the participation in the auction arranged by the selling government rather than through a direct negotiation or a controlled sale.

3. Data

Our data are derived from the combined use of three databases: Factset, Orbis (Bureau van Dijk), Orbis M&A (Bureau van Dijk). From Factset we retrieved 401 M&A deals completed globally in the 2013-2022 period in which the acquisition involves a company or a stake in a company from a Government seller by a non-Government (i.e., private) acquirer. In these M&A transactions, the selling government may have decided to use one of three alternative sales methods: auction, controlled sale or direct negotiation. More specifically, Factset has been the source of the following variables: the sales method, the method of payment of the acquisition's consideration, the acquirer's country and industry, the inclusion (or not) of the SOE's acquisition within a privatization program, and the strategic or financial nature of the private buyer. Orbis has been the source of all financial statement variables, including financial ratios, and corporate governance variables for both acquirers and target companies. From Orbis M&A we retrieved the method of payment of the purchase price from the acquirer to the selling government and the transaction values to integrate the same information collected from Factset, as well as the characteristics of the acquirers with the aim to study their degree of M&A experience, that is the number of prior acquisitions (completed before the acquisition of the SOE included in our sample), the number of prior acquisitions in the same industry or in the same country as the target SOE included in our sample.

Definitions and sources of all variables are summarized in Table 1. Descriptive statistics of our sample are reported in Table 2 Panel A, while Table 2 Panel B displays the correlations among all variables. As shown in Panel A of Table 2, about 81% of selling governments use auctions (rather than direct negotiations or controlled sales); 84% of SOEs' acquisitions are associated with a privatization program; 95% of SOEs' acquisitions are settled by cash, 61% are completed for strategic purposes and only 6.5% are cross-border. The correlation matrix in Panel B anticipates that there exist a high positive relationship between the adoption of public auctions to sell a SOE and the presence of a privatization program (57%), as well as the use of cash to settle the acquisitions (39%).

[INSERT TABLE 1 AND TABLE 2 PANEL A AND PANEL B ABOUT HERE]

4. Methodology

This section provides a detailed discussion about the econometric models employed in the study. In sub-section 4.1 we present our models used to investigate the main determinants of the government's decision to use an auction rather than a direct negotiation or a controlled sales to sell the SOE. In sub-section 4.2 we describe our econometric approach to examining as to whether the acquirer of the SOE is of strategic or financial nature and which factors drive a strategic or a financial buyer to acquire a SOE.

4.1 Auction vs Direct Negotiation

In our empirical analysis, we build a pooled logistic model to analyze the determinants of the probability that a country's government may choose to adopt the auction as a SOE sales method (or otherwise a direct negotiation with one single acquirer or, alternatively, a controlled sale).[1] In this sense, we follow the conventional practice of using a discrete and limited dependent variable model, where the probability of adopting the auction as a SOE sales method for any country's government is modelled as:

$$y_i = \mathbf{X_i}\beta' + \mu_i \qquad [1]$$

where:

[1] We run an independently pooled cross-section regression in order to take cross-sectional and time series aspects into account.

$$y_i = \begin{cases} 1 & \text{if } y_i > 0, \text{ government } i \text{ chooses to adopt auction as a SOE sales method} \\ 0 & \text{otherwise} \end{cases} \quad [2]$$

$\mathbf{X_i}$ is the set of exogenous (independent) explanatory variables and the error term. The probability that a country's government i chooses to adopt the auction as a SOE sales method is thus measured as follows:

$$prob\,(y_i = 1) = \frac{\exp \mathbf{X_i}\beta'}{1 + \exp \mathbf{X_i}\beta'} \quad [3]$$

We estimate two distinct logit models (Model 1, Model 2) in order to explore the different effects that the launch of a privatization program and its interaction with the alternative winning participation of a strategic buyer or a financial buyer may have on the probability of opting for an auction as a SOE sales method by the selling government.

From equation [3], the logit Model 1 may be written in the following log-linear form:

$$\log\left(\frac{p}{1-p}\right) = \alpha_0 + \alpha_1 Private\ Acquirer + \alpha_2 ROE + \alpha_3 Cash + \alpha_4 CrossBorder + \alpha_5 Industry\ Relatedness + \alpha_6 Privatization + \alpha_7 Strategic\ Buyer + \alpha_8 Eastern\ Europe + \alpha_9 Number\ of\ BoD\ Members + \varepsilon_i \quad [4]$$

where p is the probability that any country's government i chooses to adopt the auction as a SOE sales method.

Model 1 includes the *Private Acquirer* dummy, the *ROE* variable, the *Cash* dummy, the *Cross-Border* dummy, the *Industry Relatedness* dummy, the *Privatization* dummy, the *Strategic Buyer* dummy, the *Eastern Europe* dummy, and the variable associated with the *Number of BoD Members*. Model 2 only adds one interaction term between *Privatization* and *Strategic Buyer*, as follows:

$$\log\left(\frac{p}{1-p}\right) = \beta_0 + \beta_1 Private\ Acquirer + \beta_2 ROE + \beta_3 Cash + \beta_4 CrossBorder + \beta_5 Industry\ Relatedness + \beta_6 Privatization + \beta_7 Strategic\ Buyer + \beta_8 Eastern\ Europe + \beta_9 Number\ of\ BoD\ Members + \beta_{10} Privatization\ x\ Strategic\ Buyer + u_i \quad [5]$$

4.2 Strategic vs Financial Buyer

Our second purpose is to analyze the determinants of the probability that the acquirer of a target SOE being sold by a selling government is of strategic nature (strategic buyer), thus operating in a close industry and seeking to exploit synergies from the business combination with a long-term investment holding strategy. The alternative type of buyer would be of financial nature, thus aiming to maximize its return on investment over a relatively short time horizon.

To this end, we estimate three distinct logit models (Model 3, Model 4, Model 5). Model 3 has the following log-linear form:

$$\log\left(\frac{p}{1-p}\right) = \gamma_0 + \gamma_1 Auction + \gamma_2 Industry\ Relatedness + \gamma_3 Privatization + \gamma_4 Acquirer\ M\&A\ Experience + \gamma_5 Acquirer\ Target\ Country\ Experience + \gamma_6 Acquirer\ Target\ Industry\ Experience + \gamma_7 Privatization\ x\ Auction + \zeta_i \quad [6]$$

where *p* is the probability that any acquirer *i* of a target SOE being sold by a selling government is of strategic nature (strategic buyer).

Model 3 includes the following explanatory variables: *Auction*, *Industry Relatedness*, *Privatizatio*n, *Acquirer M&A Experience*, *Acquirer Target Country Experience*, *Acquirer Target Industry Experience*, and includes the interaction variable: *Privatization x Auction*. Model 4 adds one interaction variable: *Acquirer M&A Experience x Auction*. Model 5 replaces the Model 4's interaction term with the following interaction variable: *Acquirer Target Country Experience x Auction*.

5. Empirical findings

The main findings arising from our econometric analysis are described next. Sub-sections 5.1 and 5.2 present the results of the logistic regression analysis in which the dependent

variable is a dichotomous variable that takes the value of 1 if the sales method chosen by the government to sell the SOE is an auction and 0 if, otherwise, it is a controlled sale or a direct negotiation (Models 1 and 2). Sub-sections 5.3 and 5.4 present the results based on the logistic regression analysis in which the dependent variable is a dichotomous variable that takes the value of 1 if the acquirer is of strategic nature and 0 if, otherwise, it is of financial nature (Models 3, 4 and 5).

5.1 Auction vs Direct Negotiation

The two logit regression models (Models 1 and 2), which obtain a Pseudo R-squared of 50.8% and 55% respectively, shed new light on the determinants of the probability that a country's government may decide to arrange an auction as a method for selling a SOE. Table 3 presents the results of Models 1 and 2.

The dummy variable associated with the acquirer being a privately-held, unlisted entity (*Private Acquirer*) has a positive and strongly significant (at 1% level) coefficient in both Models 1 and 2. This result supports the conjecture that when a country's government arranges the sale of a SOE via an auction, privately-held acquirers are more likely to bid seeking to acquire the target company. Instead, when the government opts for a direct negotiation or a controlled sale as a sales method, then publicly listed acquirers are more likely to be engaged in the M&A deal-making. This finding empirically validates *H1*.

The coefficient of the *Cash* dummy variable accounting for the method of payment of the purchase price chosen by the government in the design of the sales transaction is positive and statistically significant (at 5% level). This finding suggests that public auctions of SOEs are more likely to be associated with the payment of the consideration to selling governments through cash. Stock swaps are instead more likely to be employed in direct negotiations with single buyers (or in controlled sales with few, select buyers). So, auctions are mostly settled by cash, while one-to-one negotiations are stock-for-stock transactions. This provides empirical support for *H2*. The combination of these two above results yields the idea that when a privately-held firm acquires a SOE, cash is the best method of payment, while stock swaps are preferred by publicly listed buyers.

The *Privatization* dummy variable is positive and highly significant (at 1% level) in Model 1, which suggests that selling governments are more likely to adopt the auction process

as a method for the sale of a SOE in place of the direct negotiation or controlled sale in the context of a privatization program. This finding confirms *H3a*.

Interestingly, the coefficient of the *Strategic Buyer* dummy variable has a negative sign and is statistically significant (at 5% level) in Model 2, thus providing empirical support for the most likely participation of financial buyers in government's auctions with the purpose of acquiring SOEs' majority stakes put up for sale. However, when we introduce the interaction term *Privatization x Strategic Buyer* in Model 2, we find that this variable is positive and statistically significant (at 5% level). This result conveys the idea that when a country's government sells a SOE via an auction within a privatization program, then strategic buyers are more likely to show up in the attempt to acquire it. Strategic buyers are thus more inclined to negotiate directly (alone or with a few other potential competing acquirers) with governments in stand-alone private-public deals in the absence of privatization programs and are instead interested in bidding in public auctions associated with privatization programs. Moreover, the coefficient of the interaction variable *Privatization x Strategic Buyer* (6.891) of Model 2 is much higher than that associated with the *Privatization* variable (2.269) in Model 1. This finding indicates that the participation of a strategic buyer in the public auction organized by the selling government amplifies the effect according to which privatizations of SOEs are most likely executed via auctions. Hence, *H3a* is further reinforced and *H3b* is fully supported.

The positive and moderately significant (at 5% level) coefficient of *Eastern Europe* demonstrates that most recently auctions tend to be preferred over direct negotiations or controlled sales by the Treasuries of Eastern Europe's countries to arrange the sale of the domestic SOEs.

The variable associated with the number of board directors (*N_BoD*) aims to capture the relationship between the corporate governance characteristics of the target SOE and the choice of the sale method by the country's government. As its coefficient is negative and marginally significant (at 10% level), we can conclude that the more complex the target SOE's governance reflected in a higher number of board members, the more likely the recourse by the selling government to the direct negotiation with a single buyer or the controlled sale. Interestingly, a "light" board involving a small number of directors may be more efficient and thus faster in endorsing the government's higher-ranking decision to sell to the winning bidder in full-scale auctions with a large number of bidders.

The rest of variables (*ROE*, *Cross-Border*, *Industry Relatedness*) are not statistically significant, thus suggesting no relevance to the government's choice of the public auction as a method for selling a SOE.

[INSERT TABLE 3 ABOUT HERE]

5.2 Auctions: The Size Effect

To prove the robustness of our previous analysis, we run two further logistic regression models separately for small-sized and large-sized target SOEs. The purpose of the regression analysis is still to estimate the probability that a country's government may decide to arrange a public auction as a method for selling a SOE. The results shown in Table 4 suggest that when a country's government sells off a small or large-sized SOE, privately-held (unlisted) acquirers prefer to participate in auctions rather than negotiating directly with the government. The coefficients of the variable *Private Acquirer* are positive and statistically significant for both small and large-sized target SOEs. Hence, when engaging in acquisitions of SOEs, the size of the latter does not influence the buyer's preference for the sales method adopted by the selling government. Privately-held acquirers prefer public auctions to buy SOEs, while publicly listed buyers are more prone to a direct (or controlled) negotiation with the selling government regardless of the size of the SOE being sold. Hence, the size of the target SOE does not matter as to when it comes to the acquirer's decision to buy from a selling government.

Instead, we find a size effect related to the purpose of the acquirer's investment. For small-sized target SOEs, the coefficient of the interaction variable *Privatization x Strategic Buyer* is positive and significant, while the coefficient of the *Strategic Buyer* dummy variable is negative and significant. This combined finding conveys the idea that strategic buyers are more likely to bid in auctions for the sale of small-sized SOEs arranged in the context of privatization programs, while in the absence of privatization programs small-sized SOEs are mostly acquired by financial buyers via public auctions. Hence, large-sized SOEs are not subject to public auctions. This finding is consistent with the results obtained by Boone and Mulherin (2007; 2009) supporting the "information cost hypothesis" based on which the use of auctions is more costly for large sellers compared to small sellers, whereby the cost lies in the leakage of proprietary information among multiple bidders that can reduce the inherent value of the selling firm. Large sellers may have more to lose if their rivals were to learn about their strategic plans or core knowledge assets; small sellers may have less to lose if they

disclose such information. Hence, a tightly controlled selling process that limits the number of potential bidders minimizes this risk. This is the main reason why one-to-one or controlled negotiations with a limited number of bidders may prevail for large-sized target SOEs.

[INSERT TABLE 4 ABOUT HERE]

5.3 Strategic vs Financial Buyer

The additional three logit models (Model 3, Model 4, Model 5) presented above are intended to investigate the typology of buyer (strategic vs financial) that is more likely to acquire a SOE from a selling government in the context of a private-public deal. These results are presented in Table 5.

[INSERT TABLE 5 ABOUT HERE]

The coefficient of the dummy variable associated with the adoption of an auction as a method of sale of the SOE by the selling government (*Auction*) has a negative sign and is strongly significant (at 1% level) across all Models 3,4 and 5. This result confirms the idea that financial (rather than strategic) buyers are more likely to bid in public auctions organized by governments in the absence of privatization programs in an effort to acquire the SOE put up for sale. This finding empirically confirms *H3b*.

The coefficient of the dummy variable *Industry Relatedness* is positive and highly significant (at 1% level) across all Models 3,4 and 5, which confirms that strategic buyers of SOEs tend to have similar industry operations compared to those of the target companies so as to exploit potential operating (revenue or cost) synergies.

Interestingly, the variable *Acquirer Target Industry Experience* has a positive coefficient with good statistical significance (at 5% level) in Model 3. This finding implies that an acquirer with prior M&A experience in the same industry as that of the target SOE is more likely to be a strategic (rather than a financial) buyer. The higher the number of M&A transactions completed in the same industry as that of the target SOE prior to the SOE acquisition, the greater the probability that the buyer of the SOE is of strategic nature.

Even more interestingly, we find that the two interaction variables *Acquirer M&A Experience x Auction* and *Acquirer Target Country Experience x Auction* are both positive and moderately significant (at 5% level) in Models 4 and 5 respectively. This combined result

suggests that a strategic buyer with prior experience in the M&A activity and corporate acquisitions in the same country as that of the target SOE is more likely to acquire the latter company through the participation in the auction arranged by the selling government. In other words, the higher the number of firms the strategic buyer has acquired so as to become a "serial M&A deal-maker" and the number of prior acquisitions the strategic buyer has completed in the same country where the target SOE operates in the years preceding the private-public transaction involving the target SOE, the more likely this strategic buyer will acquire the target SOE via a public auction in place of a direct negotiation or a controlled sale. Clearly, a prior extended experience in the M&A activity in general and in the same country as the target SOE makes possible for a strategic (rather than a financial) buyer to bid for the SOE itself in a public auction. This finding, if combined with the above result concerning the prior M&A experience of the strategic buyer in the target SOE's industry, empirically corroborates *H4*.

5.4 Strategic Buyer: The Size Effect

To confirm the robustness of our previous analysis and provide further evidence, we run additional models separately for small-sized and large-sized SOEs and for acquisitions completed in the absence of and within a privatization program. The dependent variable of our robustness analysis is still a dichotomous variable that takes the value if the SOE is acquired by a strategic buyer and 0 otherwise. So, the aim of our further regressions is to estimate the probability that any acquirer *i* of a target SOE being sold by a selling government is of strategic nature (strategic buyer). These results are reported in Table 6.

[INSERT TABLE 6 ABOUT HERE]

We find that the coefficient of the variable *Auction* is negative and significant for large-sized SOEs, thus implying that strategic buyers of large-sized SOEs are more likely to avoid participating in public auctions preferring a direct, one-to-one negotiation or a controlled sale with the selling government. This corroborates the finding based on which large-sized SOEs are not subject to public auctions.

The variable *Industry Relatedness* is positive and strongly significant (at 1% level), which implies that strategic buyers with close industry operations compared to those of the target SOE tend to acquire SOEs of small size.

In the analysis based on the sample split between the presence and absence of a privatization program, we find that the coefficients of the variable *Auction* are negative and highly significant in both subsamples, which provides evidence supporting the idea that a strategic buyer's participation in a public auction is not dependent on the existence of a privatization program. This result does not confirm our previous findings according to which strategic buyers tend to bid in public auctions only in the context of a privatization program. Hence, *H3b* is only weakly supported.

We can instead fully confirm the finding that, in the presence of a privatization program, an acquirer with prior M&A experience in the same industry as that of the target SOE is more likely to be of strategic nature. This is due to the fact that the variable *Acquirer Target Industry Experience* has a positive and significant coefficient under privatization. The same finding cannot be extended to those circumstances in which a privatization program is not running.

6. Implications and Conclusions

Our study enables us to draw interesting implications for governments and, more in general, policy-makers, as well as researchers. Our analysis can aid policy-makers in the design of the takeover process of a SOE. Governments – whose intent is to privatize a SOE according to the terms of a specific, fully dedicated program – must design public auctions with multiple bidders competing for the acquisition of the target company rather than negotiating with pre-identified, interested buyers on a stand-alone basis. Governments that are willing to improve the operations and performance of the SOE being privatized through the generation of synergies from the integration with a strategic buyer will successfully reach this objective if they arrange a public auction. Strategic (rather than financial) buyers are indeed most likely to be attracted by auction procedures. More specifically, the organization of a privatization program increases the probability of participation in the public auction of strategic (rather than financial) buyers. Prior experience in the M&A activity and in corporate acquisitions in the same country as that of the target firm is critical for a strategic buyer to opt for bidding in public auctions of SOEs.

Cash will be the preferred method of payment for auctions regardless of the nature of the bidder (strategic of financial). Stock swaps should instead be employed by governments when they negotiate directly with a single buyer or a small, selected group of buyers in a controlled sale.

Moreover, the results presented herein are of high importance to capital markets and top executives as global competition and economic recessions have brought governments' fiscal deficits and raised additional concerns of whether new privatizations are needed or these investments are adequately rewarded and valued. This has brought to the forefront the need to connect governments' sovereignty to privatizations. In this regard, our study responds to the call to investigate the factors under which privatizations are efficient and how these investments are reflected in the real economy of the country.

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Table 1 Definitions and Sources of Variables

Variable	Description	Source
Dependent Variable		
Auction	Dichotomous variable that takes the value of 1 if the sales method chosen by the selling government is an auction and 0 if, otherwise, it is a controlled sale or a direct negotiation with a single buyer.	Factset
Independent Variables		
Private Acquirer	Dummy variable that takes the value of 1 if the acquirer is a privately-held, unlisted firm and 0, if, otherwise, it is a publicly listed firm.	Factset
Return on Equity (ROE)	Return on equity (in percentage, %) of the target company.	Orbis
Cash	Dummy variable that takes the value of 1 if the method of payment used for acquiring the target company is cash only and 0 if, otherwise, the purchase price is paid via a stock swap.	Factset; Orbis M&A
Cross-Border	Dummy variable that takes the value of 1 if the acquirer or its ultimate parent is located in a different country than the target company and 0 otherwise.	Factset
Industry Relatedness	Dummy variable that takes the value of 1 if the acquirer operates in the same business or industry as the target company and 0 otherwise.	Factset; Orbis
Privatization	Dummy variable that takes the value of 1 if the sale of the SOE is conducted in the context of a privatization program and 0 otherwise.	Factset
Strategic Buyer	Dummy variable that takes the value of 1 if the acquirer intends to buy the target company for strategic/industrial purposes (strategic buyer) and 0 if, otherwise, the acquirer intends to buy the target company for investment/speculative purposes (financial buyer).	Factset
Eastern Europe	Dummy variable that takes the value of 1 if the target operates in one of the Eastern Europe's countries and 0 otherwise.	Factset; Orbis
Number of Board Directors (N_BoD)	Number of the members of the Board of Directors of the target company.	Orbis
Acquirer M&A Experience	Number of the acquisitions that the acquirer made prior to the target company's acquisition.	Orbis M&A
Acquirer Target Country Experience	Number of the acquisitions that the acquirer made in the same country as that of the target company prior to the target company's acquisition.	Orbis M&A
Acquirer Target Industry Experience	Number of the acquisitions that the acquirer made in the same industry as that of the target company prior to the target company's acquisition.	Orbis M&A

Table 2 Descriptive Statistics

This table shows descriptive statistics of the main variables. Panel A shows summary statistics and Panel B the correlation coefficient matrix. Auction is set to 1 if the selling government chooses to put the target company for sale via an auction process with multiple bidders and zero if, otherwise, the sales method adopted is a direct negotiation with a single buyer or, alternatively, a controlled sale with a restricted group of potential buyers. Private Acquirer indicates the ownership structure of the acquirer; it is set to 1 if the acquirer is a private, unlisted entity and zero otherwise. ROE is the return on equity (in percentage, %) of the target company. Cash is set to 1 if the method of payment in. Cross_Border is set to 1 if the acquirer or acquirer's ultimate parent (if applicable) is located in a different country than the target company and zero otherwise. Industry_relatedness is 1 if the acquirer and the target operate in the same industry, and 0 otherwise. Privatization is set to 1 if the acquisition involves a company or a stake in a company from a Government seller by a non-Government acquirer, and 0 otherwise. Strategic_Buyer is set to 1 if the acquirer operates in the same business or industry as the target company seeking to find synergies from the integration, and zero if, otherwise, the acquirer is a financial buyer with a short-medium term investment purpose willing to maximize the return on its investment. Eastern Europe is 1 if target operates in Eastern Europe and 0 otherwise. N_BoD is the number of board directors.

Panel A: Summary Statistics

	Mean	Median	St. Dev	Min	Max	N
Auction	0.818	1.000	0.387	0.000	1.000	170
Private Acquirer	0.806	1.000	0.397	0.000	1.000	170
ROE	-0.007	2.017	95.91	-432.3	872.1	170
Cash	0.953	1.000	0.212	0.000	1.000	170
Cross_Border	0.065	0.000	0.247	0.000	1.000	170
Industry_relatedness	0.294	0.000	0.457	0.000	1.000	170
Privatization	0.841	1.000	0.367	0.000	1.000	170
Strategic_Buyer	0.612	1.000	0.489	0.000	1.000	170
NBoD	12.459	11.000	8.406	1.000	59.000	170
Eastern Europe	0.847	1.000	0.361	0.000	1.000	170

Panel B: Correlations

	Auction	Private Acquirer	ROE(%)	Cash	Cross_Border	Industry_ relatedness	Privatization	Strategic_ Buyer	NBoD	Eastern Europe
Auction	1									
Private Acquirer	0.568	1								
	0.000									
ROE (%)	-0.094	-0.073	1							
	0.158	0.276								
Cash	0.394	0.255	0.032	1						
	0.000	0.000	0.634							
Cross_Border	-0.306	-0.398	0.003	-0.071	1					
	0.000	0.000	0.971	0.157						
Industry_relatedness	-0.207	-0.205	0.058	-0.154	0.199	1				
	0.000	0.000	0.384	0.002	0.000					
Privatization	0.574	0.408	-0.054	0.331	-0.184	-0.141	1			
	0.000	0.000	0.418	0.000	0.000	0.005				
Strategic_Buyer	-0.340	-0.274	0.149	-0.142	0.149	0.310	-0.230	1		
	0.000	0.000	0.026	0.005	0.003	0.000	0.000			
NBoD	0.031	0.031	0.037	0.024	-0.021	0.105	0.030	0.050	1	
	0.637	0.642	0.635	0.720	0.753	0.113	0.653	0.455		
Eastern Europe	0.728	0.531	-0.067	0.318	-0.283	-0.216	0.525	-0.334	0.021	1
	0.000	0.000	0.319	0.000	0.000	0.000	0.000	0.000	0.752	

Table 3 Main Regression Analysis

This table shows the main results based on a logit model. The dependent variable is Auction. Auction is set to 1 if the selling government chooses to put the target company for sale via an auction process with multiple bidders and zero if, otherwise, the sales method adopted is a direct negotiation with a single buyer or, alternatively, a controlled sale with a restricted group of potential buyers. Acquirer_private indicates the ownership structure of the acquirer; it is set to 1 if the acquirer is a private, unlisted entity and zero otherwise. ROE is the return on equity (in percentage, %) of the target company. Cash is set to 1 if the method of payment in. Cross_Border is set to 1 if the acquirer or acquirer's ultimate parent (if applicable) is located in a different country than the target company and zero otherwise. Industry_relatedness is 1 if the acquirer and the target operate in the same industry, and 0 otherwise. Privatization is set to 1 if the acquisition involves a company or a stake in a company from a Government seller by a non-Government acquirer, and 0 otherwise. Strategic_Buyer is set to 1 if the acquirer operates in the same business or industry as the target company seeking to find synergies from the integration, and zero if, otherwise, the acquirer is a financial buyer with a short-medium term investment purpose willing to maximize the return on its investment. Eastern Europe is 1 if target operates in Eastern Europe and 0 otherwise. N_BoD is the number of board directors. The symbols ***, **, and * denote two-tailed statistical significance at the 1%, 5%, and 10% level, respectively.

	Model 1	Model 2
Private Acquirer	2.107***	**2.086*** **
	(2.82)	(2.59)
ROE (%)	-0.00722	-0.00432
	(-1.40)	(-0.78)
Cash	2.852**	**4.446** **
	(1.96)	(2.36)
Cross_Border	0.812	0.178
	(0.81)	(0.16)
Industry_relatedness	-0.0131	0.364
	(-0.02)	(0.46)
Privatization	2.269***	-3.762
	(3.47)	(-1.34)
Strategic_Buyer	-1.084	**-7.050** **
	(-1.28)	(-2.39)
Eastern Europe	1.852**	**1.735** **
	(2.51)	(2.21)
N_BoD	-0.0184	**-0.0749** *
	(-0.56)	(-1.68)
Privatization x Strategic_Buyer		**6.891** **
		(2.22)
Constant	-4.663**	-0.0284
	(-2.32)	(-0.01)
Observations	170	170
Pseudo R-squared	0.508	0.550
chi2	82.10	88.89

Table 4 Robustness Analysis: The Size Effect

This table shows robustness results of the logit model separately for small-sized and large-sized firms. The dependent variable is Auction. Auction is set to 1 if the selling government chooses to put the target company for sale via an auction process with multiple bidders and zero if, otherwise, the sales method adopted is a direct negotiation with a single buyer or, alternatively, a controlled sale with a restricted group of potential buyers. Firms are split into small and large size using the sample median of the target's total assets as reported on the balance sheet of the latest annual and/or interim filings available as of the announcement date. Acquirer_private indicates the ownership structure of the acquirer; it is set to 1 if the acquirer is a private, unlisted entity and zero otherwise. ROE is the return on equity (in percentage, %) of the target company. Cash is set to 1 if the method of payment in. Cross_Border is set to 1 if the acquirer or acquirer's ultimate parent (if applicable) is located in a different country than the target company and zero otherwise. Industry_relatedness is 1 if the acquirer and the target operate in the same industry, and 0 otherwise. Privatization is set to 1 if the acquisition involves a company or a stake in a company from a Government seller by a non-Government acquirer, and 0 otherwise. Strategic_Buyer is set to 1 if the acquirer operates in the same business or industry as the target company seeking to find synergies from the integration, and zero if, otherwise, the acquirer is a financial buyer with a short-medium term investment purpose willing to maximize the return on its investment. Eastern Europe is 1 if target operates in Eastern Europe and 0 otherwise. N BoD is the number of board directors. The symbols ***, **, and * denote two-tailed statistical significance at the 1%, 5%, and 10% level, respectively.

	Small Firms	Large Firms
Private Acquirer	**2.312****	**7.800***
	(2.15)	(1.71)
ROE (%)	0.00321	-0.0512
	(0.78)	(-1.34)
Cash	1.093	0.000
	(0.62)	(0.00)
Cross_Border	1.204	2.526
	(0.85)	(0.81)
Industry_relatedness	-0.802	3.927
	(-0.75)	(1.34)
Privatization	-2.342	-7.860
	(-0.85)	(-0.00)
Strategic_Buyer	**-5.970***	-15.46
	(-1.93)	(-0.01)
Eastern Europe	**2.029****	0.000
	(2.14)	(0.00)
NBoD	-0.0472	-0.285
	(-1.00)	(-1.52)
Privatization x Strategic_Buyer	**6.421***	12.33
	(1.95)	(0.00)
Constant	1.174	12.16
	(0.42)	(0.00)
Observations	93	75
Pseudo R-squared	0.602	0.643
chi2	62.63	26.90

Table 5 Strategic Buyer

This table shows the results based on a logit model with dependent variable the Strategic Buyer. Strategic Buyer is set to 1 if the acquirer operates in the same business or industry as the target company seeking to find synergies from the integration, and zero if, otherwise, the acquirer is a financial buyer with a short-medium term investment purpose willing to maximize the return on its investment. Auction is set to 1 if the selling government chooses to put the target company for sale via an auction process with multiple bidders and zero if, otherwise, the sales method adopted is a direct negotiation with a single buyer or, alternatively, a controlled sale with a restricted group of potential buyers. Industry_relatedness is 1 if the acquirer and the target operate in the same industry, and 0 otherwise. Privatization is set to 1 if the acquisition involves a company or a stake in a company from a Government seller by a non-Government acquirer, and 0 otherwise. Acquirer M&A Experience is the number of acquisitions that the acquirer made prior to the target's acquisition. Acquirer Target Country Experience is the number of acquisitions that the acquirer made in the same country as the target's prior to the target's acquisition. Acquirer Target Industry Experience is the number of acquisitions of firms operating in the same industry as the target's that the acquirer made prior to the target's acquisition. The symbols ***, **, and * denote two-tailed statistical significance at the 1%, 5%, and 10% level, respectively.

	Model 3	Model 4	Model 5
Auction	**-2.414*** **	**-2.619*** **	**-2.615*** **
	(-3.42)	(-3.65)	(-3.64)
Industry_relatedness	**1.524*** **	**1.541*** **	**1.538*** **
	(4.27)	(4.26)	(4.26)
Privatization	-0.963	-0.768	-0.784
	(-1.55)	(-1.19)	(-1.22)
Acquirer M&A Experience	0.0228	0.269	0.681
	(0.32)	(0.58)	(0.78)
Acquirer Target Country Experience	-0.0286	-0.350	-0.868
	(-0.34)	(-0.61)	(-0.79)
Acquirer Target Industry Experience	**2.276** **	0.521	0.579
	(2.17)	(0.54)	(0.60)
Privatization x Auction	1.114	1.018	1.039
	(1.34)	(1.19)	(1.22)
Acquirer M&A Experience x Auction		**2.542** **	
		(2.36)	
Acquirer Target Country Experience x Auction			**2.661** **
			(2.44)
Constant	**2.112*** **	**2.110*** **	**2.105*** **
	(4.45)	(4.45)	(4.43)
Observations	401	401	401
Pseudo R-squared	0.189	0.227	0.225
chi2	97.79	117.3	116.3

Table 6 Strategic Buyer. Robustness Tests

This table shows robustness tests with dependent variable the Strategic Buyer separately for small-sized and large-sized firms and for privatization and no privatization acquisitions. Strategic Buyer is set to 1 if the acquirer operates in the same business or industry as the target company seeking to find synergies from the integration, and zero if, otherwise, the acquirer is a financial buyer with a short-medium term investment purpose willing to maximize the return on its investment. Firms are split into small and large size using the sample median of the target's total assets as reported on the balance sheet of the latest annual and/or interim filings available as of the announcement date. Privatization is when the acquisition involves a company or a stake in a company from a Government seller by a non-Government acquirer. Auction is set to 1 if the selling government chooses to put the target company for sale via an auction process with multiple bidders and zero if, otherwise, the sales method adopted is a direct negotiation with a single buyer or, alternatively, a controlled sale with a restricted group of potential buyers. Industry_relatedness is 1 if the acquirer and the target operate in the same industry, and 0 otherwise. Acquirer M&A Experience is the number of acquisitions that the acquirer made prior to the target's acquisition. Acquirer Target Country Experience is the number of acquisitions that the acquirer made in the same country as the target's prior to the target's acquisition. Acquirer Target Industry Experience is the number of acquisitions of firms operating in the same industry as the target's that the acquirer made prior to the target's acquisition. The symbols ***, **, and * denote two-tailed statistical significance at the 1%, 5%, and 10% level, respectively.

	Small Firms	Large Firms	No Privatization	Privatization
Auction	-0.814	**-1.533***	**-2.596*****	**-1.374*****
	(-0.83)	(-1.78)	(-3.70)	(-3.02)
Industry_relatedness	**2.645*****	0.519	0.0474	**1.909*****
	(3.97)	(0.97)	(0.06)	(4.44)
Privatization	-1.193	0.821		
	(-1.48)	(0.99)		
Acquirer M&A Experience	-0.0577	0.0471	0.0000	0.0232
	(-0.61)	(0.18)	(0.00)	(0.12)
Acquirer Target Country Experience	0.139	-0.0713	0.0000	-0.0440
	(0.84)	(-0.26)	(0.00)	(-0.20)
Acquirer Target Industry Experience	1.391	0.0000	0.0000	**2.129****
	(1.13)	(0.00)	(0.00)	(2.00)
Constant	0.997	1.380**	2.450***	1.188***
	(0.95)	(2.34)	(4.50)	(2.71)
Observations	136	115	79	310
Pseudo R-squared	0.238	0.054	0.210	0.151
chi2	44.49	7.337	14.83	63.32