



The PB Report 2015/2016

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Two Record years herald an ongoing privatization wave



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What is the PB Report?

The PB Report is a summary on privatization activity in the enlarged European Union. It aims to monitor the most recent trends, to analyze aggregate data on revenues and transactions, and to provide updated statistics at the country and sector level.

The report highlights the most important privatization deals of the year, focusing on the European Union but also monitoring the process around the rest of world. It hosts contributed articles by top international scholars, who will make accessible to the reader the most recent results of professional research.

Rigorous, updated, easily accessible and freely distributed on the web, the PB Report is an authoritative source of information and a vehicle for a more informed discussion on the choices and consequences of privatization.

The Privatization Barometer was developed by Fondazione Eni Enrico Mattei (FEEM) with the financial support from Fondazione IRI. As of 2010, KPMG Advisory S.p.A. becomes unique partner of PB, providing data, research skills and financial resources. This seventh joint issue of PB Report represents the long term strategic partnership between FEEM and KPMG Advisory S.p.A.

William L. Megginson

University of Oklahoma, FEEM and King Fahd University of Petroleum and Minerals

Privatization Trends and Major Deals in 2015 and 2016**Abstract**

This article details major privatization deals executed during 2015 and 2016 and surveys trends shaping the privatization landscape worldwide. We document several important facts, including the following: (1) Governments raised a record \$319.9 billion (€289.5 billion) through privatization sales worldwide during 2015, substantially more than the \$218.8 billion (€166.5 billion) total for 2014 and easily exceeding the previous record of \$265.2 billion (€184.3 billion) set in 2009; (2) The global value of privatizations during 2016, \$266.4 billion (€241.4 billion) is the second highest on record; (3) Share issue privatizations (SIPs) accounted for over 95% of the total number of privatizations during 2015, and 87% of the total value while auctions, targeted stake sales, convertible bond offerings, and asset sales accounted for the rest. The corresponding figures for 2016 are 93% and 81%, respectively; (4) China was, by far, the leading privatizing country during both 2015 and 2016, raising an astonishing \$173.2 billion (€158.4 billion) during 2015, and \$148.0 billion (€134.0 billion) during 2016. These Chinese totals represented over half of the worldwide total for both 2015 (54.1%) and 2016 (55.6%). The United Kingdom was a distant second-leading privatizing country during 2015 [13 deals, worth \$34.8 billion (€32.1 billion)], while Australia [5 deals worth \$25.7 billion (€23.3 billion)] took second place during 2016; (5) The \$87.1 billion (€80.0 billion) and \$37.8 billion (€34.0 billion) raised by EU governments during, respectively, 2015 and 2016 represented 27.2% and 14.2% of the respective global annual totals. Both 2015 and 2016's values are far below the long-run average EU share of 37.5% of the global value of privatizations, with 2016 hitting a historic low; (6) There were a relative handful of failed, withdrawn, and cancelled specific privatization sales during 2015 and 2016, but the political turmoil associated with the United Kingdom's surprisingly successful "Brexit" vote in June—plus global uncertainty leading up to the US presidential election in November—forced a pause in a number of European privatization programs, especially Britain's; and (7) The large number (903) and value [\$586.3 billion (€530.9 billion)] of privatizations executed during 2015 and 2016, coupled with several massive planned sale announcements—especially Saudi Aramco's mooted \$100 billion IPO in 2017 or early 2018, suggests that the massive global privatization wave that began in 2012 continues unabated.

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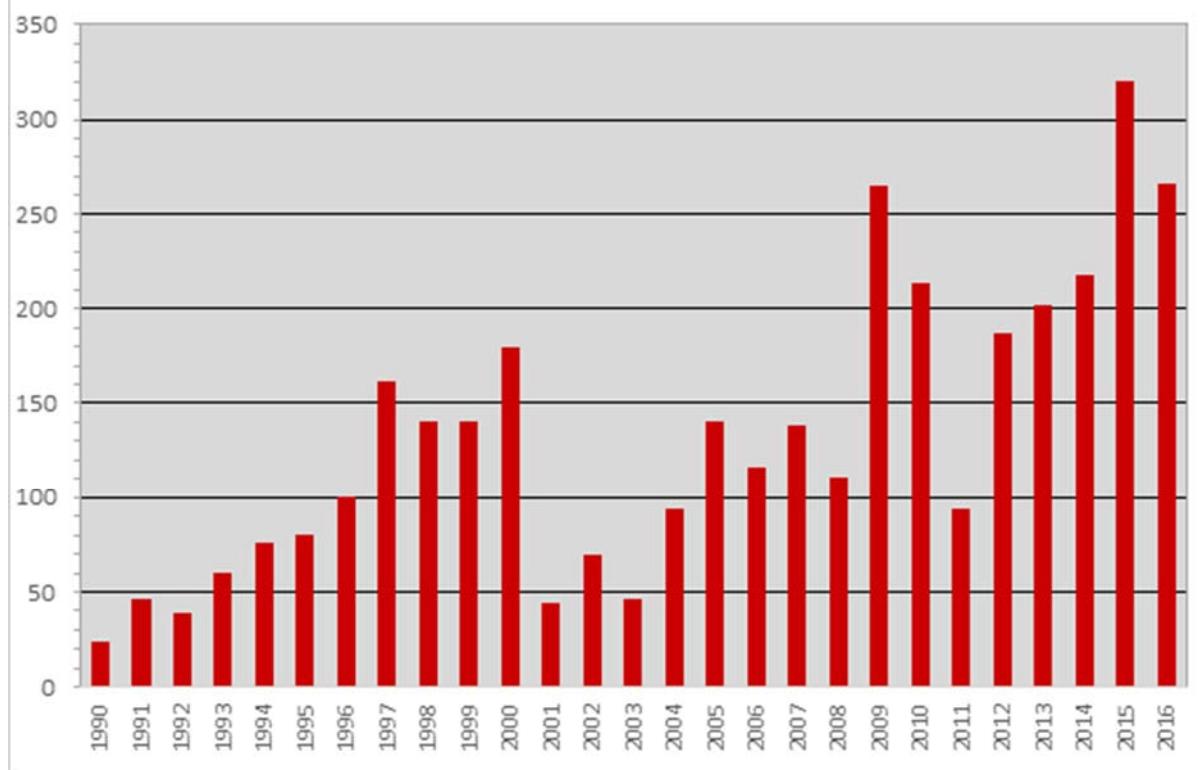
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Global Trends in Privatization, 2012-16

The 48-month period between January 2013 and December 2016 saw governments around the world raise almost one trillion dollars (\$998.8 billion; €842.7 billion) through privatizations, dwarfing the total for any comparable previous period. And since the 24-month period beginning in January 2015 witnessed privatizations totaling an astonishing \$586.3 billion (€30.9 billion), it seems that privatization programs are now raising over one-quarter trillion dollars annually, implying that an enormous privatization wave is in progress that may well last many years. The years 2014-16 yielded, respectively, the fourth, first and second highest total privatization revenues on record. Furthermore, since a large fraction of the “privatizations” during the immediate post-Crisis period of 2009-10 actually involved banks repurchasing from governments preferred stock acquired through rescues, the years 2014-16 probably represent the three highest annual levels of “true privatizations” ever. Figure 1 presents yearly worldwide privatization revenues, in US\$ billions, over the period January 1988 through December 2016.

Figure 1. Worldwide Revenues from Privatizations, US\$ Billions, 1988-2016



Worldwide, governments raised a record \$319.9 billion (€289.5 billion) through privatization sales during 2015 and \$266.4 billion (€241.4 billion) during 2016. This two-year total exceeds the six-year total value of privatizations between 2001 and 2006, while the five-year dollar total for 2012-2016 (\$1,189 billion) easily exceeds the amount (\$1,077 billion) raised during the entire decade 1999-2008¹. Both the 2016 and, especially, the 2015 totals were substantially higher

¹ In addition to the summaries and articles cited in this article, readers interested in a recent survey article of the empirical evidence on privatization are referred to William Megginson, “Privatization, State Capitalism, and State Ownership of Business in the 21st Century,” *Foundations and Trends in Finance* (forthcoming 2017). This article is available for downloading from https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2846784.

than the \$218.8 billion (€166.5 billion) and \$193.7 billion (€146.2 billion) totals for 2014 and 2013, respectively—although these were also very strong years. 2015 and 2016 also saw the return of massive sales of at least \$5 billion each, with seven such transactions in 2015 and five in 2016, whereas there were only four \$5 billion+ deals in 2014. Additionally, no fewer than 74 sales during 2015 and 63 during 2016 were worth between \$1.0 billion and \$5.0 billion, compared to only 40 and 39 such deals during 2014 and 2013, respectively.

Overview of Global Privatizations in 2015

The first and third largest privatization deals of 2015 were actually asset sales, rather than share issue privatizations (SIPs). The year's largest deal, the British government's sale of £13.0 billion (\$19.55 billion; €18.45 billion) of former **Northern Rock loans** to the US private equity group Carlisle, was announced in early December.² The year's second largest sale, and the largest SIP, was the long-delayed three-part IPO of **Japan Post Group** in early November 2015, which raised \$11.95 billion (€10.36 billion) for the Japanese government. The three components of this mega-deal were offerings of: (1) an 11% stake in **Japan Post Holdings**, which raised \$5.73 billion (€5.01 billion); (2) a 9.17% stake in **Japan Post Bank**, raising \$5.01 billion (€4.28 billion); and (3) an 11% stake in **Japan Post Insurance**, which raised \$1.22 billion (€1.06 billion).³ All three offerings were heavily over-subscribed and rose sharply in price on the first day of trading—by a remarkable 56% for Japan Post Insurance. The year's third largest deal also came late in 2015 (November), when the government of New South Wales (Australia) sold **Transgrid**, its electricity transmission grid, to an international consortium of investors for A\$10.258 billion (\$7.495 billion; €6.85 billion).⁴

The fourth largest privatization of 2015, and the EU's second largest, occurred in March, when the Finnish company **Fortum** sold off its Swedish electricity grid holdings for €6.60 billion (\$6.95 billion) to a group of Swedish pension funds and the Canadian firm, Borealis.⁵ The third largest EU deal (fifth largest overall) of 2015 was actually an accumulation of small, opportunistic “dribbles” of shares in **Lloyds Bank** by the UK government, which disposed of a further 9% holding and raised \$6.14 billion (€5.55 billion) between January and August.⁶

Despite raising twice as much through privatizations during 2015 than the rest of the world combined, China's single largest deal of 2015—the May seasoned equity offering (SEO) in Hong Kong of **Huatai Securities Company**—raised “only” \$5.00 billion (€4.49 billion), giving it a ranking of sixth largest overall.⁷

² See George Parker and Emma Dunkley, “Sale of N Rock's 'toxic' loans heralds further privatisations,” *Financial Times* (November 13, 2015).

³ See Takahiko Hyuga, “Japan Post Shares Surge 26% in the Biggest IPO of 2015,” *Bloomberg.com* (November 3, 2015) and Leo Lewis, Japan Post Bank to go ‘superglobal’ after stock listing,” *Financial Times* (November 13, 2015).

⁴ Angela Macdonald-Smith, Anthony Macdonald, and Sarah Thompson, “Hastings wins TransGrid in \$10.3b deal,” *Australian Financial Review* (November 25, 2015).

⁵ Reported in Richard Milne, “Fortum Sells Swedish Power Grid for €6.6bn,” *Financial Times* (March 13, 2015). See Emma Dunkley, UK launches £16bn Bradford & Bingley loans sale,” *Financial Times* (October 25, 2016).

⁶ See Emma Dunkley, “Summer Budget: Government to Start Selling Stake in RBS,” *Financial Times* (July 8, 2015) and Naomi Rovnick and Judith Evans, “Q&A: Lloyds retail shares offer,” *Financial Times* (October 7, 2015).

⁷ See Prudence Ho, “Huatai Securities' \$4.5 Billion IPO Makes Hong Kong Top Listing Venue,” *Wall Street Journal* (May 22, 2015) and M Rochan, “Huatai Securities: World's second biggest IPO this year fails to sizzle,” *Reuters* (June 1, 2015).

The seventh largest privatization of 2015 was Spain's long awaited, and enthusiastically received IPO of a 49% stake in the airport operator **Aena** in February, which raised \$4.83 billion (€4.27 billion). China bounced back into the league tables by claiming the eighth, ninth, and eleventh largest privatizations of 2015. These are the \$4.81 billion (€4.31 billion) May private placement of **Inner Mongolia Batou Steel**; the January SEO (in Hong Kong) of **CITIC Ltd**, which raised \$4.43 billion (€3.72 billion); and the \$4.12 billion (€3.61 billion) October private placement of a 13.54% stake in **IRICO Display Devices Company**.⁸ The only remaining \$4 billion+ privatization of 2015, and tenth largest overall, was the November IPO of a 23% stake in **ABN Amro Group**, which raised \$4.12 billion (€3.85 billion). The Dutch government had rescued and nationalized the bank during the 2008-09 Financial Crisis.⁹

Eight privatizations, all SIPs, raised between \$3 billion and \$4 billion during 2015. The largest of these was the October IPO of a 38.53% stake in **Poste Italiana**, which raised \$3.72 billion (€3.42 billion).¹⁰ The next largest deal of 2015 was the sale by Britain's Barclays Bank of at least 24% of its stake in the U.S. bank **Citizens Financial Group**, which was announced in March and completed in July. This raised \$3.69 billion (€3.69 billion), and dropped Barclays' stake below 50%, thus allowing Citizens Financial to escape EU rules on bankers' pay, since it was no longer a financial institution majority-owned by an EU company. Barclays sold another tranche of **Citizens Financial** shares four months later, raising a further \$2.57 billion (€2.33 billion).¹¹ The fifteenth largest privatization deal of 2015 was the January SEO of a 10% stake in **Coal India**, which was the largest ever Indian share offering in rupee terms—raising \$3.66 billion (€4.31 billion). This represented yet another step forward for the reform and privatization program launched in 2014 by India's Modi government, though that same program took a serious hit in August 2015, when state-owned Indian financial institutions had to rescue the government's secondary offering of a 10% stake in **Indian Oil Corporation**, that raised a lower than hoped for \$1.40 billion (€1.14 billion).¹²

Five other SIPs raised at least \$3.00 billion during 2015, four of which were Chinese--three SEOs and one IPO. The Chinese SEOs were the May private placement of **Unispandour Corp**, which raised \$3.63 billion (€3.27 billion); another secondary offering of **CITIC Securities** of June, worth \$3.50 billion (€3.12 billion); and the \$3.09 billion (€2.82 billion) April SEO of **China Galaxy**

⁸ The first two deals are described, respectively, in Fiona Law, "China Market Rout Closes Off an Avenue of Fundraising," *Wall Street Journal* (July 8, 2015), and Gabriel Wildau, "Citic Investor Presses Regulator on Insider Trading Claim," *Financial Times* (January 21, 2015).

⁹ The ABN Amro offering is described in Rachel Sanderson, "Italy to launch biggest privatisation in more than a decade. Partial sale of Poste Italiane will raise about €4bn for government," *Financial Times* (October 11, 2015), Gavin Jackson, "European IPOs test investors' risk appetite," *Financial Times* (October 27, 2015), and David De Jong and Ruth David, "ABN's Initial Sale Raises \$3.6 Billion as Government Cuts Stake," *Bloomberg.com* (November 19, 2015).

¹⁰ Dan Liefgreen and Lorenzo Totaro, "Poste Italiane Initial Stock Sale Raises About \$3.5 Billion," *Bloomberg.com* (October 23, 2015).

¹¹ The March 2015 Citizens Financial sale is discussed in Ben McLannahan, "Citizens Financial Looks to 'Wriggle' Out of EU Pay Curbs," *Financial Times* (March 26, 2015), while the July sale is described in "Citizens Financial Group Announces Pricing of Secondary Common Stock Offering By RBS Group," *BusinessWire* (July 28, 2015) and "Citizens Financial Group Announces Secondary Common Stock Offering by RBS Group," *Business Wire* (October 29, 2015).

¹² See James Crabtree, "Government raises \$3.6bn through Coal India stake sale," *Financial Times* (February 2, 2015) and Amy Kazmin, "India's LIC salvages \$1.4bn Indian Oil share sale," *Financial Times* (August 26, 2015).

Securities in Hong Kong.¹³ The IPO was the October offering of **China Huarong Asset Management Company**, which raised \$3.45 billion (€3.02 billion) by selling a 15% stake in in Hong Kong.¹⁴ The final \$3 billion+ deal of 2015 was the inaugural sale of a 5.2% stake in **Royal Bank of Scotland** (RBS) in August, which raised \$3.23 billion (€2.89 billion). This sale was especially important both because it initiated what promises to be a lengthy divestment of the British government's majority holdings of RBS shares, acquired during the rescue operations of late 2008, and because the shares were sold at a lower price than the government had paid in the rescue—something the previous coalition government had long resisted doing.¹⁵

As usual, China was the leading privatizing nation during 2015, raising an astonishing \$176.8 billion (€159.6 billion) through 298 sales of at least \$50 million. To put this into perspective, this dollar total exceeds the \$182.6 billion raised by *all* European privatizations for the three years 2012-2014. The (distant) second largest privatizer of 2015, after China, was again the United Kingdom, which executed 13 sales worth \$34.78 billion (€32.12 billion). The next five largest privatizers of 2015, after China and the UK, were Italy (11 deals; \$12.38 billion; €1.24 billion); Japan (3 deals; \$11.95 billion; €10.36 billion); India (34 deals; \$11.36 billion; €10.03 billion); the United States (7 deals; \$11.00 billion; €9.92 billion); Sweden (6 deals; \$9.11 billion; €8.55 billion) and Australia (5 deals; \$8.59 billion; €7.84 billion).

Overview of Global Privatizations in 2016

As noted in the Introduction, the \$266.4 billion (€241.4 billion) global total value of privatizations during 2016 was the second largest in history—only surpassed by 2015's massive \$319.9 billion (€289.5 billion) total. The five largest sales of 2016 were all executed by non-EU governments, beginning with the complete sale, in October, of the Australian state of New South Wales' electricity distribution network, **Ausgrid**, to a consortium of “all-Australian” investors for A\$16.1 billion (\$12.36 billion; €11.25 billion). This sale was precipitated after an unsolicited bid, was accepted without a new public tender, and only happened after the government had vetoed a bid by Chinese investors to purchase Ausgrid. One week later, the state of Victoria announced the sale of rights to operate the **Port of Melbourne** (through a 50-year lease) to the Lonsdale Consortium of four Australian and Canadian investment funds. This raised A\$9.7 billion (\$7.38 billion; €6.72 billion), the highest price ever paid for an Australian port, and was 2016's fourth largest privatization globally. Australia also accounted for the fifth largest privatization of 2016: the June sale of a 50.08% stake in the New South Wales financial planning business, **State Plus**, to the New South Wales public servants' superannuation fund manager, First State Super, which raised \$5.26 billion (€4.68 billion). In all, Australian state or national governments executed five large privatizations worth a total of \$25.71 billion (€23.28 billion) during

¹³ The Uniplendour, CITIC, and China Galaxy Securities deals are described in, respectively, “BRIEF-IT services provider Uniplendour to raise up to 22.5 bln yuan in private placement,” Uniplendour Corporation media release (May 25, 2015); Bonnie Cao, “Citic Securities Seeks \$3.5 Billion in Hong Kong Share Sale,” *Financial Times* (June 15, 2015); and Jennifer Hughes, “Fosun raises \$1.2bn as stock price doubles,” *Financial Times* (May 11, 2015).

¹⁴ See Bonnie Cao, “Citic Securities Seeks \$3.5 Billion in Hong Kong Share Sale,” *Financial Times* (June 15, 2015); Denny Thomas, “China Galaxy plans \$3.1 bln private share sale to boost margin finance business,” *Reuters.com* (April 28, 2015); and Jennifer Hughes, “China's top investment bank seeks Hong Kong IPO,” *Financial Times* (July 22, 2015).

¹⁵ Tellingly, the RBS shares were sold at far below the price the Government paid to rescue the bank in 2008, which the Cameron government had been unwilling to do previously. See Emma Dunkley and Martin Arnold, “Sale of RBS Stake Marks Start of the UK's Biggest Privatisation,” *Financial Times* (August 4, 2015).

2016, giving it second place among divesting governments that year—after only China.¹⁶

The second largest privatization of 2016 came late in the year (November), with the direct sale of a 19.5% stake in the Russian oil company **Rosneft** to a group of (mostly) sovereign wealth fund investors, which yielded \$11.00 billion (€10.25 billion). One month earlier, the Putin government had allowed Rosneft to acquire a 12.17% stake in the state-controlled **Bashneft** through an accelerated bookbuilt offering—despite previously vowing that only privately owned bidders could acquire the stake—because Rosneft’s \$1.34 billion (€1.22 billion) bid topped all others.¹⁷ These two sales, plus 11 others, gave Russia total privatization revenues of \$15.77 billion (€14.58 billion) for 2016, third in the world overall.

China repeated the pattern observed during 2015, of raising more privatization proceeds than all other countries combined, while still ranking no higher than third place among the largest individual sales of 2016. This was the September IPO of **Postal Savings Bank of China**, which raised \$7.63 billion (€6.78 billion), but closed only 2% above the offering price on the first day of trading.¹⁸ On the other hand, China accounted for four of the seven sales during 2016 that raised between \$3 billion and \$4 billion. These are the July SEO of **Industrial Bank Company**, which raised \$3.92 billion (€3.54 billion); the April private placement of **China Yangtze Power**, raising \$3.73 billion (€3.30 billion); the follow-on SEO of **IRICO Display Devices** Company that raised \$3.35 billion (€3.23 billion), also in April; and that same month’s private placement of **Unisplendour Corporation**, raising \$3.41 billion (€3.02 billion).¹⁹ These four sales ranked ninth, tenth, twelfth, and thirteenth overall in 2016’s size league tables.

The sixth largest privatization if 2016 was actually Europe’s largest of the year—the February rights offering of €4.03 billion (\$4.49 billion worth of new shares in **EDF** (Electricité de France). This offering, of which the French government purchased €3.0 billion (\$3.3 billion), was executed to raise funds to complete EDF’s purchase of Britain’s Hinkley Point nuclear power plant.²⁰ The EU only saw one other \$3 billion+ sale during 2016, the September private placement of the Dutch government’s 100% stake in **Propertize BV**, which raised \$3.65 billion (€3.34 billion).

The final two \$3 billion+ privatizations of 2016, ranking seventh and eighth largest overall, occurred in Japan and Canada, respectively. In October, the Japanese government launched a \$4.00 billion IPO (€3.64 billion) of **Kyushu**

¹⁶ The Australian privatizations of 2016 are described in Jamie Smyth, “Foreign investors shunned in ‘all Australian’ grid sale,” *Financial Times* (October 25, 2016), Jamie Smyth, “International investors pay A\$10bn for Melbourne port,” *Financial Times* (September 19, 2016), and Sarah Thompson, Anthony Macdonald, and Joyce Moullakis, “Macquarie Capital is charged with selling financial planning business StatePlus,” *Australian Financial Review* (February 26, 2016).

¹⁷ The Russian Bashneft and Rosneft sales are described in Jack Farchy, “Moscow clears oil giant Rosneft’s move to buy Bashneft,” *Financial Times* (October 6, 2016), Jack Farchy, “Rosneft cements Russian oil dominance with \$5.2bn Bashneft deal,” *Financial Times* (October 25, 2016), and Elena Mazneva and Ilya Arkhipov, “Russia Sells \$11 Billion Stake in Rosneft to Glencore, Qatar,” *Bloomberg.com* (December 7, 2016).

¹⁸ See Leslie Shaffer, “Postal Savings Bank of China IPO goes over like a wet firecracker,” *CNBC.com* (September 28, 2016).

¹⁹ See Twinnie Siu and Meg Shen, “IRICO Display Devices aims to raise \$3.6 billion to fund LCD projects,” *Reuters.com* (April 12, 2016).

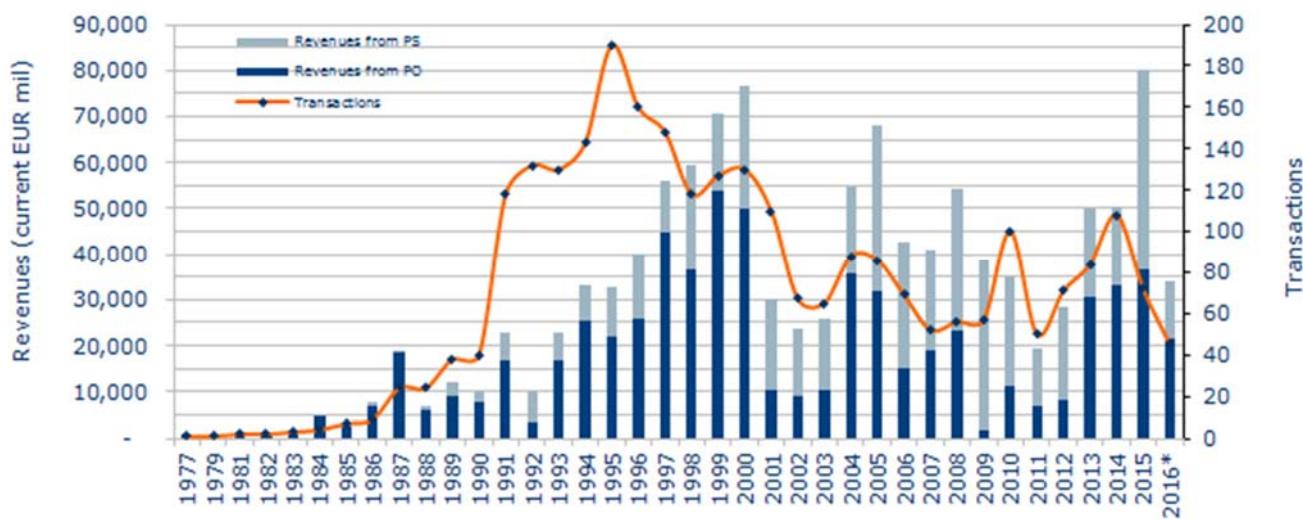
²⁰ The EDF rights offering is described in Emily Gosden, “EDF shares tumble on plan to raise cash to help fund Hinkley Point,” *The Telegraph* (April 26, 2016), Michael Stothard, “France to sell shares in country’s largest companies to aid EDF,” *Financial Times* (May 1, 2016), and “EDF investors agree 4bn euros Hinkley Point fundraising,” *BBC.com* (July 20, 2016).

Railway Company, targeted principally to investors in that region. The shares rose 15% above the offer price during the first day's trading.²¹ Six months earlier, Canada's provincial government of Ontario executed a \$3.99 billion (€3.64 billion) secondary offering of **Hydro One**, which reduced the province's remaining stake in the transmission utility company to 71.9%.²²

Privatization Deals in the European Union during 2015 and 2016

Figure 2 describes the evolution of total privatization revenues (in current € millions) and transactions in the enlarged European Union over the entire privatization era from 1977 through 2014. This clearly illustrates that the number of EU privatizations peaked in the mid-1990s, before beginning a long but mostly steady decline through 2012, and then bouncing back sharply during 2013 and 2014 to 84 and 117 deals, respectively. 2015 saw another spike in activity, when European countries executed 72 deals, but this fell back to only 45 during the politically tumultuous year of 2016.

Figure 2. Privatization in the Enlarged Europe: Total Revenues and Transactions 1977 - 2016



Source: *Privatization Barometer* (*preliminary results)

EU privatization revenues initially peaked during the Bubble Era of 1998-2000, with €21 billion being raised just during these three years, dropped sharply during the recession of 2001-2003, and then fluctuated between €41 billion and €68 billion between 2004 and 2008. Proceeds then declined almost monotonically from 2008 to 2012, falling to only €28.2 billion (\$36.7 billion) in 2012. The EU total then rose sharply to a five-year peak of €0.72 billion (\$67.99 billion) in 2013 and a nine-year peak of €8.34 billion (\$77.62 billion) during 2014. EU countries raised a healthy €79.97 billion (\$87.06 billion) during 2015, but this fell again to a mere €33.96 billion (\$37.79 billion) during 2016, as political turmoil—especially the Brexit vote and its tumultuous aftermath—distracted European governments.

²¹ See Chris Cooper and Kiyotaka Matsuda, "JR Kyushu Shares Surge in Tokyo Debut After \$4 Billion IPO," *Bloomberg.com* (October 24, 2016).

²² See Barry Critchley, "Hydro One Ltd makes its debut on the Toronto Stock Exchange in biggest IPO in 15 years," *Financial Post* (November 5, 2015).

Continuing a trend that has been emerging for several years, the 27 countries of the European Union accounted for a minority of the total number and value of privatization deals worldwide during 2015 and 2016. Table 1 presents the total proceeds, in US\$ billions, raised by European Union and non-EU countries between 1988 and 2016. This shows the fraction of privatization revenues raised by EU governments represented 27.0% and an all-time low for Europe of 14.1% of the worldwide totals during 2015 and 2016, respectively. This is lower than the long-run average EU share of about 37.5%, and far lower than the 68.2% share of total global divestments that the EU accounted for as recently as 2008. Interestingly, the 2015 decline in the EU fraction of world privatizations, from 34.9% in 2014, has less to do with an absolute decline in the number and value of European deals—which, as noted, are near record levels—than to the massive increase in non-EU, especially Chinese, privatization programs.

Table 1. Privatization Revenues. Worldwide and European Union, US\$ billions, 1988-2016

Year	World	EU25	% World (ex EU25)	% EU25
1988	39.0	7.8	79.9%	20.1%
1989	28.0	14.2	49.2%	50.8%
1990	24.0	12.6	47.6%	52.4%
1991	46.0	28.0	39.1%	60.9%
1992	39.0	12.7	67.5%	32.5%
1993	60.0	27.1	54.8%	45.2%
1994	76.0	39.6	47.9%	52.1%
1995	80.0	43.8	45.2%	54.8%
1996	100.0	51.4	48.6%	51.4%
1997	162.0	63.5	60.8%	39.2%
1998	140.0	66.1	52.8%	47.2%
1999	140.0	75.1	46.4%	53.6%
2000	180.0	70.9	60.6%	39.4%
2001	43.8	27.1	38.2%	61.8%
2002	69.2	22.5	67.4%	32.6%
2003	46.6	29.4	36.9%	63.1%
2004	94.0	68.1	27.5%	72.5%
2005	140.0	84.5	39.6%	60.4%
2006	116.0	51.5	55.6%	44.4%
2007	138.0	54.5	60.5%	39.5%
2008	110.9	75.6	31.8%	68.2%
2009	265.2	55.9	78.9%	21.1%
2010	213.6	46.8	78.1%	21.9%
2011	94.4	26.4	72.1%	27.9%
2012	189.4	37.6	80.1%	19.9%
2013	193.7	67.4	65.2%	34.8%
2014	218.8	77.6	64.1%	35.9%
2015	319.9	87.1	72.8%	27.2%
2016	266.4	37.8	85.8%	14.2%
TOTAL	\$3,634	\$1,363	62.5%	37.5%

Sources: *Privatization Barometer*, Securities Data Corporation (SDC) New Issues and Mergers and Acquisitions files, and author's search of various news media (principally *Financial Times*).

Details of EU Privatization Deals during 2015

Table 2 details the 30 largest European privatization sales (those yielding at least €500 million) during 2015, while the left-hand side of Table 3 presents the ranking of EU countries by total value of privatization proceeds.

Table 2. Large (€500 million+) EU Deals, 2015

Date	Company Name	Nation	Sector	% for Sale	Value (€ mil)	Value (\$ mil)	Method of Sale
Nov 15	Northern Rock loan p/f	United Kingdom	Finance	n.a.	18,455	19,552	Asset sale
6/1/2015	Fortum Distribution AB	Sweden	Utilities	100	6,600	6,945	Private Placement
Jan-Jul 15	Lloyds Bank Group	United Kingdom	Finance	9	4,634	5,148	Market Follow-on
2/9/2015	Aena SA	Spain	Infrastructure	49	4,267	4,829	IPO
11/20/2015	ABN Amro Group NV	Netherlands	Finance	23	3,845	4,119	IPO
10/27/2015	Poste Italiane SPA	Italy	Services	38.53	3,417	3,720	IPO
8/4/2015	Royal Bank of Scotland	United Kingdom	Finance	5.2	2,887	3,236	SEO
9/7/2015	Dragon Oil PLC	Ireland	Petroleum	46.25	2,547	2,773	Private Placement
2/26/2015	Enel SpA	Italy	Petroleum	5.7	2,185	2,449	SEO
2/24/2015	Ansaldo	Italy	Transports		2,000	2,262	AS
3/23/2015	Unicredito	Italy	Finance	3	2,000	2,160	ExBd
3/26/2015	London Stock Exchange	United Kingdom	Finance	17	1,847	2,017	SEO
9/17/2015	Aer Lingus Group PLC	Ireland	Transports	100	1,431	1,557	Private Placement
4/27/2015	Commerzbank	Germany	Finance		1,400	1,525	SEO
11/23/2015	Bank of Piraeus SA	Greece	Finance	na	1,331	1,426	Market Follow-on
12/14/2015	Regional airports (14)	Greece	Transports	na	1,300	1,422	Long-term lease
7/15/2015	Deutsche Pfandbriefbank	Germany	Finance		1,155	1,266	IPO
2/6/2015	GrandVision BV	Netherlands	Retailing		1,122	1,272	IPO
2/11/2015	TeliaSonera AB	Sweden	Telecoms	4	1,073	1,216	SEO
3/4/2015	Eurostar cross-channel svc	United Kingdom	Transports	40	1,043	1,155	AS
6/11/2015	Royal Mail	United Kingdom	Services	15	1,034	1,162	SEO
3/3/2015	Safran SA	France	Aerospace	4	1,029	1,153	SEO
10/13/2015	Royal Mail PLC	United Kingdom	Transports	13.91	899	979	Market Follow-on
11/9/2015	VTTI	Netherlands	Trade	50	762	817	Private Placement
12/23/2015	Self Srl	Italy	Utilities	100	758	829	Private Placement
11/30/2015	Safran SA	France	Manufacturg	na	743	796	Accel Bookbuild
6/4/2015	Markit Ltd	United Kingdom	Data services		628	708	SEO
11/30/2015	Industrl & Fincl Systems	Sweden	Services	63	591	633	Private Placement
10/13/2015	Hochtief AG	Germany	Construction	na	538	614	Accel Bookbuild
4/27/2015	Permanent TSB Group	Ireland-Rep	Finance	48	500	545	SEO
	42 deals, < €150m each				7,944	8,778	
	Total, 72 deals				€79,965	\$87,064	

Sources: *Privatization Barometer* database, Securities Data Corporation, author's research.

The United Kingdom was once again far the largest EU privatizer during Januray-August 2015, with 13 sales worth €32.12 billion (\$34.70 billion), while Italy ranked second in Europe with 11 deals worth €11.24 billion (\$12.38 billion). Sweden ranked third in the EU, with six deals accounting for €8.55 billion (\$9.11 billion); the Netherlands ranked fourth with three sales raising €5.73 billion (\$6.21 billion); and Ireland placed fifth, with six deals worth €5.23

billion (\$5.71 billion). Rounding out the EU privatization leaders during 2015 were Greece with three sales worth €3.09 billion (\$3.34 billion) and France, which executed seven sales and raised €2.78 billion (\$3.07 billion).

Between them, Britain and Italy accounted for well over half (54.2%) of the total value of EU privatizations during 2015. Besides the deals described above, other noteworthy British privatizations during this period include the March secondary market sale by Bourse Dubai of its remaining 17.4% holdings in the **London Stock Exchange Group** for €1.85 billion (\$2.02 billion); the June seasoned offering of a 15% tranche in **Royal Mail** that raised €1.03 billion (\$1.16 billion); the highly successful March asset sale of the government's 40% stake in the **Eurostar cross-channel train service** for a much higher than expected €1.04 billion (\$1.16 billion); and the June SEO of €628 million (\$708 million) worth of shares in **Markit Ltd** executed by the consortium of banks (including state-controlled RBS) that own the data provider.²³ Besides the Poste Italiane IPO in October, there were four large Italian privatizations during 2015. The first of these, the secondary offering of a 5.7% stake in **ENEL SpA**, executed in February, raised €2.19 billion (\$2.45 billion); the second deal, also in February, was the €2.00 billion (\$2.26 billion) asset sale of a stake in the transportation company **Ansaldo**; the third sale was a March exchangeable bond offering by the UAE's Aabar Investments company that converted into 3% of the shares of **UniCredit**, which raised €2.00 billion (\$2.16 billion); and the fourth was the December private placement of the government's entire 100% ownership in **Self Srl**, which raised €758 million (\$796 million).²⁴

Table 3. Ranking EU Countries by Total Privatization Revenues, 2015 and 2016

2015 Country	# Deals	Value (€mil)	Value (\$ mil)	2016 Country	# Deals	Value Euro (mil)	Value USD (mil)
United Kingdom	13	32,121	34,779	France	9	8,619	9,596
Italy	11	11,239	12,383	Netherlands	4	6,496	7,099
Sweden	6	8,548	9,114	Denmark	2	4,746	5,360
Netherlands	3	5,729	6,208	Italy	3	4,375	4,878
Ireland	6	5,231	5,712	Greece	4	2,443	2,724
Greece	3	3,086	3,335	Switzerland	2	1,526	1,709
France	7	2,781	3,071	Norway	2	1,158	1,302
10 other countries	42	3,648	4,009	8 other countries	18	2,699	3,060
2015 Total EU, 16 countries	72 deals	€79,965	\$87,064	2016 Total EU, 15 countries	45 deals	€33,958.2	\$37,792.7

Sources: *Privatization Barometer*, *Securities Data Corporation (SDC)* New Issues and Mergers and Acquisitions files, and author's search of various news media (principally *Financial Times*).

²³ The LSE and Markit sales are described in Philip Stafford, "LSE targets new openings as Borse Dubai bows out," *Financial Times* (March 26, 2015) and "Banks prepare to sell down stakes in data provider Markit," *Financial Times* (June 5, 2015). The Royal Mail deal is discussed in Gill Plimmer and Arash Massoudi, "Royal Mail stake sale raises £750m for UK government," *Financial Times* (June 11, 2015). The Eurostar auction is described in George Parker, Gill Plimmer and David Oakley, "Eurostar sale raises £757m for Treasury," *Financial Times* (March 4, 2015).

²⁴ The ENEL and Ansalso deals are discussed in Rachel Sanderson and Arash Massoudi, "Italy to sell 5.7% of state-controlled utility Enel," *Financial Times* (February 25, 2015). The Aabar exchangeable bond offering is described in Giovanni Legorano, "Debt can be exchanged for shares in Unicredit, in which Abu Dhabi fund is largest holder," *Financial Times* (March 23, 2015).

Besides the Fortum Distribution sale in June, the only other large Swedish privatizations of January-August 2015 was the February accelerated bookbuilt offering of a 4% stake in **TeliaSonera**, which raised €1.07 billion (\$1.22 billion) and the November private placement of a 63% stake in **industrial and financial systems**, which raised €91 million (\$633 million).²⁵ The Netherlands executed two large privatizations during 2015, besides the ABN Amro IPO. These were the February SEO of €1.12 billion (\$1.27 billion) worth of shares in **GrandVision BV** and the November private placement of **VTTI**, which raised €762 million (\$817 million).

The next two leading EU privatizers, Ireland and Greece, executed two €1 billion+ sales each during 2015. The two largest were the Irish deals: the September sale of a controlling 46.25% stake in **Dragon Oil**, worth €2.55 billion (\$2.77 billion), to Emirates National Oil Company, and the €1.43 billion (\$1.56 billion) private placement (to Ryanair) of the government's 100% stake in **Aer Lingus**, also in September. The Irish government had a third significant offering, April's sale of a 48% stake in the insurer **Permanent TSB Group**, which raised €500 million (\$545 million). The fiscal struggles of Greece enjoyed some respite with the November SEO of **Bank of Piraeus**, raising €1.40 billion (\$1.53 billion), and the granting of a 99-year lease concession, to a German company, to the operation of **14 regional airports**, which yielded €1.30 billion (\$1.42 billion).²⁶

The remaining large EU privatizations of 2015 were two German and one French sales. The German deals were the €1.40 billion (\$1.53 billion) April capital-raising SEO by **Commerzbank**, in which the German government did not participate, and the July secondary offering of shares in **Deutsche Pfandbriefbank**, which raised €1.16 billion (\$1.27 billion).²⁷ The French sale of 2015 was the March accelerated bookbuilt offering of a 4% stake in **Safran SA**.²⁸

Details of EU Privatization Deals during 2016

Table 4 details the European transactions that raised at least €100 million during 2016 while, as presaged above, the right-hand side of Table 3 presents the ranking of EU countries by total value of privatizations. France was the largest EU privatizer of 2016, with nine sales worth €8.62 billion (\$9.60 billion), while the Netherlands ranked second with four deals worth €6.50 billion (\$7.10 billion). Denmark ranked third in the EU, with two deals accounting for €4.75 billion (\$5.36 billion), and Italy placed fourth, with six sales worth €4.38 billion (\$4.88 billion). Rounding out the European privatization leaders during 2016 were Greece with four sales worth €2.44 billion (\$2.72 billion); Switzerland [geographically European, but not an EU member], with two deals raising €1.53 billion (\$1.71 billion); and Norway, which executed two sales worth €1.16 billion.

²⁵ See "Solidium Launches Accelerated Bookbuilt Offering of TeliaSonera Shares," *Thomson Reuters* (February 10, 2015).

²⁶ See Stelios Bouras and Nektaria Stamouli, "Greece's Piraeus Raises Cash but Still Needs State Funds," *Wall Street Journal* (November 22, 2015) and John Murray Brown, "Greece seals €1bn deal to sell biggest port to Cosco," *Financial Times* (April 8, 2016).

²⁷ Both German sales are discussed in James Shotter, "Deutsche Pfandbriefbank shares rise on market debut," *Financial Times* (July 16, 2015).

²⁸ The Safran offering is discussed in Michael Stothard, "Florange law gives French state the upper hand," *Financial Times* (April 16, 2015).

billion (\$1.30 billion). As noted in the Introduction, Europe's total privatization proceeds for 2016, €33.96 billion (\$37.79 billion), were not only low in absolute terms, but were also the lowest ever fraction of total world proceeds (14.2%).

Table 4. Large (€100 million+) EU Deals, 2016

Date	Company Name	Nation	Sector	% for Sale	Value (€mil)	Value (\$ mil)	Method of Sale
July 2016	EDF SA	France	Utility		4,030	4,492	Rights
9/27/2016	Propertize BV	Netherlands	Finance	100	3,354	3,652	Private Placement
6/9/2016	DONG Energy A/S	Denmark	Utility		2,638	2,988	IPO
5/25/2016	Poste Italiane SpA	Italy	Services		2,612	2,959	Follow-On
9/23/2016	Nets A/S	Denmark	Services		2,109	2,372	IPO
11/03/16	Areva SA	France	Energy		2,071	2,222	Placement
3/1/2016	Limassol Port	Cyprus	Infrastructure	100	1,897	2,065	Private Placement
11/17/16	ABN Amro Group NV	Netherlands	Finance		1,314	1,409	Accelerated Book
2/4/2016	LafargeHolcim Ltd	Switzerland	Manufacturing		1,217	1,356	Follow-On
6/10/2016	ASR Nederland NV	Netherlands	Finance	36.3	1,107	1,205	IPO
7/20/2016	Grandi Stazioni Retail SpA	Italy	Finance	100	995	1,083	Private Placement
7/6/2016	Former Athens Intl Airport	Greece	Infrastructure		915	1,013	Lease (99 year)
9/16/2016	Telenor ASA	Norway	Telecoms		889	1,000	Convertible
4/8/2016	Port of Piraeus	Greece	Infrastructure	67	841	950	Asset Sale
7/21/2016	ENAV SpA	Italy	Transports	42.5	768	836	IPO
1/6/2016	NN Group NV	Netherlands	Insurance		760	833	Follow-On
11/16/16	Schneider Electric SA	France	Manufacturing		649	727	Accelerated Book
4/22/2016	Vallourec SA	France	Energy		477	539	Rights
8/31/2016	Ekokem Oyj	Finland	Services	81	481	523	Private Placement
9/23/2016	Veolia Environnement SA	France	Services		455	511	Follow-On
5/20/2016	Eiffage SA	France	Construction		433	491	Follow-On
4/28/2016	Resurs Holding AB	Sweden	Finance		422	476	IPO
16-Jun	Athens Tourist Resort	Greece	Real Estate		400	450	Asset Sale
11/23/16	Safran SA	France	Manufacturing		360	386	Accelerated Book
8/30/2016	Straumann Holding AG	Switzerland	Services		310	347	Accelerated Book
4/21/2016	Nova Kreditna Banka Maribor	Slovenia	Finance	100	276	312	Private Placement
8/10/2016	Piraeus Port Authority SA	Greece	Infrastructure	51	286	311	Private Placement
9/14/2016	Entra ASA	Norway	Real estate		267	302	Accelerated Book
6/27/2016	SODEP SA (Marsa Maroc)	Morocco	Services		173	195	IPO
5/02/2016	Soitec SA	France	Manufacturing		152	172	Follow-On
4/21/2016	SNGN Romgaz SA	Romania	Utility		120	136	Follow-On
6/14/2016	AcadeMedia AB	Sweden	Services		117	131	IPO
3/1/2016	Telenet Group Holding NV	Belgium	Telecoms		113	126	Follow-On
5/24/2016	Royal Bank of Scotland Grp	United Kingdom	Finance		109	124	Follow-On
4/15/2016	Royal Bank of Scotland Grp	United Kingdom	Finance		107	121	Follow-On
	10 deals, <100m each				734	978	
	Total, 45 deals				€33,958	\$37,793	

Sources: *Privatization Barometer* database, Securities Data Corporation, author's research.

Besides the two sales noted previously—the EDF rights offering and the Propertize BV private placement--four EU privatizations raised between €3 billion and €4 billion, and four others raised at least €1 billion but less than €2 billion. The four large sales were the June IPO of **DONG Energy A/S**, which raised €2.64 billion (\$2.99 billion);²⁹ the May follow-on offering of **Poste Italiane**, worth €2.61 billion (\$2.96 billion); another Danish IPO, the €2.11 billion (\$2.37 billion) September offering of **Nets A/S**;³⁰ and the November placement of shares in France's **Areva SA**. Of the four smaller EU sales, the most distinctive was the March private placement of the Cyprus government's 100% stake in the **Port of Limassol**, which raised €1.90 billion (\$2.06 billion). The three remaining €1 billion+ EU privatizations of 2016 were the November accelerated bookbuilt offering of **ABN Amro Group** [€1.31 billion (\$1.41 billion)]; the February SEO of Switzerland's **LafargeHolcim Ltd** [€1.22 billion (\$1.36 billion)]; and the June IPO of **ASR Nederland NV** [€1.11 billion (\$1.21 billion)].³¹

Sales Outside of Europe during 2015 and 2016

Although European governments raised significant proceeds through privatization sales during 2015 and 2016 (especially during 2015), their collective impact was dwarfed by non-EU privatizations over the same period. Table 5 presents the ranking of non-EU countries by total value of privatizations during 2015 and 2016.

Table 5. Ranking non-EU Countries by Total Privatization Revenues, 2015 and 2016

2015 Country	# Deals	Value (€mil)	Value (US\$ mil)	2016 Country	# Deals	Value (€mil)	Value (US\$ mil)
China (including HK)	297	158,383	173,231	China (including HK)	276	133,956	148,047
Japan	3	10,356	11,947	Australia	5	23,280	25,705
India	34	10,034	11,358	Russia	13	14,583	15,774
United States	6	7,460	8,230	India	35	6,655	7,393
Australia	5	7,839	8,590	Malaysia	11	4,796	5,330
Canada	5	3,923	4,354	Canada	3	3,817	4,271
Malaysia	7	1,227	1,361	Japan	2	3,751	4,145
14 countries	40	7,659	13,760	19 countries	45	12,878	15,651
2015 Non-EU Total, 21 countries	396	€209,520	232,831	2016 Non-EU Total, 25 countries	395	€207,410	\$230,638
2015 Total World 38 countries	468	€289,485	\$319,895	2016 Total World 40 countries	434	€241,410	\$266,389

Sources: Privatization Barometer, Securities Data Corporation (SDC) New Issues and Mergers and Acquisitions files, and author's search of various news media (principally *Financial Times*).

As noted, China executed 297 sales of at least \$50 million—45 of which raised \$1 billion+ each—and raised an astounding \$173.2 billion (€158.4 billion) during

²⁹ See See “Dong Valued at \$15 Billion Joins List of European IPO Giants,” *Bloomberg.com* (June 9, 2016) and “Dong Energy says overallotment increases IPO size to \$3 bln,” *Reuters.com* (June 20, 2016).

³⁰ See Christian Wienberg and Peter Levring, “Nets IPO Disappointment Has Investors Raising Doubts on Pricing,” *Bloomberg.com* (October 4, 2016).

³¹ See David De Jong, “ASR IPO Raises \$1.2 Billion as Dutch Government Cuts Stake,” *Bloomberg.com* (June 9, 2016).

2015, and 276 sales (32 worth \$1 billion+ each) during 2016, raising \$148.0 billion (€134.4 billion). While China has been one of the top two or three privatizing countries for many years, the massive surge in sales during January 2014-August 2015 coincided with the 145% rise in the value of shares traded on the Shenzhen and Shanghai stock exchanges through May 2015, and the number of privatization deals fell off only slightly during the June-August 2015 period, when Chinese share prices fell by over 40%.

Governments outside of Europe and China also raised \$59.60 billion (€51.14 billion) through 99 deals during 2015 and an impressive \$83.15 billion (€75.35 billion) through 119 deals in 2016. Two of these countries each raised over \$10 billion in 2015 and two different ones did so during 2016. Japan was the leading non-EU, non-Chinese privatizer during 2015—and fourth overall after China, Britain, and Italy—with the aforementioned three-part IPO of Japan Post Group, which yielded total proceeds of \$11.95 billion (€10.36 billion). India came next in 2015's league tables (fifth in the world), executing no less than 34 sales yielding \$11.36 billion (€10.56 billion), followed by Australia [5 deals worth \$8.59 billion (€7.84 billion)], and the United States, raising \$8.23 billion (€7.46 billion) through six sales. The next two leading non-EU, non-Chinese privatizers of 2015 were Canada [5 deals worth \$4.35 billion (€3.92 billion)]; and Malaysia [7 deals worth \$1.36 billion (€1.23 billion)].

The two non-EU, non-Chinese privatizers that raised over \$10 billion each during 2016 were Australia and Russia, and these were the second and third largest sellers overall after China. Australia raised \$25.71 billion (€2.3 billion) through five deals during 2016, while Russia raised \$15.77 billion (€14.58 billion) through 13 sales. India came next in the 2016 league tables—and fifth overall after China, Australia, Russia, and France—with another impressive 35 sales, yielding \$7.39 billion (€6.66 billion), followed by Malaysia [11 deals worth \$5.33 billion (€4.80 billion)]; Canada [3 deals worth \$4.27 billion (€3.82 billion)]; and Japan [2 deals worth \$4.15 billion (€3.75 billion)].

Details of Individual Sales outside Europe and China in 2015

Table 6 lists the largest Chinese (including Hong Kong) privatizations during 2015 that raised at least \$1 billion while Table 7 lists the non-EU, non-Chinese privatization transactions of 2015 that raised at least \$500 million.

Table 6. Large (\$1.0 Billion+) Chinese Deals (Including Hong Kong), 2015

Date	Company Name	Nation	Sector	% for Sale	Value (€ mil)	Value (\$ mil)	Method of Sale
5/22/2015	Huatai Securities Co Ltd	China	Finance		4,487	5,000	SEO-HK
5/22/2015	Inner Mongolia Baotou Steel	China	Manufacturing		4,310	4,809	Private placement
1/20/2015	CITIC Ltd	China	Finance	3	3,724	4,433	SEO-HK
10/22/2015	IRICO Display Devices Co Ltd	China	Manufacturing	13.54	3,606	4,119	Private placement
5/21/2015	Unisplendour Corp Ltd	China	Services		3,265	3,632	Private placement
6/15/2015	CITIC Securities	China	Finance		3,117	3,500	SEO
10/22/2015	China Huarong Asset Mgmt Co	China	Finance		3,022	3,452	IPO
4/27/2015	China Galaxy Securities	China	Finance		2,818	3,094	Private placement

7/15/2015	China Eastern Airlines	China	Airline		2,605	2,870 ^a	SEO-HK & DS
11/06/2015	SAIC Motor Corp Ltd	China	Manufacturing		2,424	2,596	Follow-On
10/19/2015	China Reinsurance Group	China	Insurance		2,225	2,542	IPO
9/15/2015	Chengzhi Shareholding Co Ltd	China	Finance		1,992	2,243	Follow-On
6/12/2015	Shenwan Hongyuan Group	China	Finance		1,952	2,193	Private placement
5/29/2015	China National Nuclear Power	China	Utilities		1,951	2,128	IPO-HK
12/31/2015	China CITIC Bank Corp Ltd	China	Finance		1,934	2,116	Follow-On
6/22/2015	Legend Holdings Corp	China	Conglomerate		1,765	1,975	IPO-HK
7/28/2015	Air China Ltd	China	Airlines		1,749	1,933	Private placement
11/26/2015	Dongxu Optoelectronic Tech Co	China	Manufacturing		1,774	1,900	Follow-On
12/03/2015	China Energy Engineering Corp	China	Manufacturing		1,720	1,881	IPO
9/07/2015	Beijing Shougang Co Ltd	China	Manufacturing		1,630	1,836	Follow-On
5/7/2015	China Taiping Ins Hldgs	China	Insurance		1,541	1,739	SEO-HK
12/18/2015	Hubei Energy Group Co Ltd	China	Energy		1,580	1,728	Private placement
1/26/2015	Nanjing Huadong Electronic Informat	China	Services		1,488	1,679	Private placement
1/23/2015	Henan Billions Chemical	China	Chemicals		1,467	1,655	Private placement
1/13/2015	Guangzhou Baiyunshan Pharmaceut	China	Pharmaceutics		1,430	1,614	Private placement
3/17/2015	Poly Real Estate Group	China	Property		1,520	1,612	Private placement
5/12/2015	BesTV New Media Co	China	Services		1,433	1,611	IPO
7/13/2015	China Railway Construction Corp	China	Engineering		1,452	1,600	Private placement
12/22/2015	Shenzhen Overseas Chinese Town	China	Real estate		1,372	1,500	Follow-On
6/9/2015	Bright Dairy & Food Co	China	Food		1,286	1,451	Private placement
10/30/2015	China Intl Capital Corp Ltd	China	Finance		1,248	1,426	IPO
8/1/2015	China Railway Signal & Communicat	China	Services		1,298	1,422	IPO-HK
10/21/2015	Tongling Nonferrous Metals Grp	China	Mining		1,217	1,390	Follow-On
5/12/2015	China Resources Land	China	Property		1,159	1,303	SEO-HK
6/30/2015	Jihua Group Corp Ltd	China	Manufacturing		1,157	1,290	Private placement
3/21/2015	Shenzhen Overseas Chinese Town	China	Tourism		1,213	1,289	Private placement
6/16/2015	Bank of Nanjing Co Ltd	China	Finance		1,147	1,288	Private placement
1/27/2015	Dongxu Optoelectronic Technology	China	Manufacturing		1,127	1,281	Private placement
12/01/2015	BBMG Corp	China	Construction		1,145	1,252	Follow-On
11/24/2015	Zhejiang Transfar Co Ltd	China	Chemicals		1,135	1,215	Follow-On
5/11/2015	Jionto Energy Invest Co	China	Energy		1,032	1,160	SEO
3/25/2015	Zhejiang Longsheng Auto Parts	China	Automobiles		1,063	1,159	Private placement
9/17/2015	Baotou Huazi Industry Co Ltd	China	Manufacturing		989	1,114	Follow-On
3/25/2015	Fuyao Glass Industries	China	Manufacturing		1,004	1,095	SEO-HK
2/17/2015	CDB Leasing Co Ltd	China	Finance		878	1,000	IPO-HK
	252 Offers <less than \$1.0 billion each				74,932	82,976	
	Total China 2015 (297 deals)				€158,383	\$173,231	

^a Sold \$2,420 million in primary share offering and \$450 direct sale (3.55%) of stock to Delta Airlines.

Sources: *Privatization Barometer* database, Securities Data Corporation, author's research.

We will discuss China's sales first, followed by the "rest of the world" (the non-EU, non-Chinese) offers.

The largest Chinese deals of 2015 were the aforementioned sales of Huatai Securities, Inner Mongolian Batou Steel, CITIC Ltd, IRICO Display Devices, Unisplendour Corp, CITIC Securities, China Huarong Asset Management, and China Galaxy Securities. An additional seven Chinese share offerings during 2015 raised between \$2 billion and \$3 billion. These were the \$2.87 billion (€2.61 billion) SEO in Hong Kong of **China Eastern Airlines** in July; the \$2.60 billion (€2.42 billion) November follow-on offering of **SAIC Motor Corporation**; the October IPO of **China Reinsurance Group**, which raised \$2.54 billion (€2.23 billion); the September follow-on offer of **Chengzhi Shareholding Company**, wrth \$2.24 billion (€1.99 billion); the private placement of **Shenwan Hongyuan Group** in June that raised \$2.19 billion (€1.95 billion); the May primary-share IPO of **China National Nuclear Power** in Hong Kong, which raised \$2.13 billion (€1.95 billion); and the \$2.12 billion (€1.93 billion) follow-on offering of **China CITIC Bank**, which raised \$2.12 billion (€1.93 billion) in December.³² The China Eastern Airlines sale is especially noteworthy, because the company simultaneously sold a 3.55% stake directly to Delta Airlines for \$450 million to further cement the two companies' Skyteam partnership.

Rather than list and comment separately on the remaining 31 Chinese share sales during 2015 that raised between \$1 billion and \$2 billion, we will simply note a few key patterns. First, all 31 were capital-raising primary share issues, and 20 were executed between January and May 2015, when the Chinese stock markets were still surging. Eleven of the 31 sales—and four of the nine IPOs—were share offerings by mainland Chinese companies executed in Hong Kong. The industrial distribution of these 31 offerings covered the spectrum—with the only concentrations being eight issues each from manufacturing and finance and insurance. Apart from the IPOs, almost all the remaining offerings were the now-standard private placements of newly-issued primary shares.

Table 7 lists the largest non-Chinese, non-EU privatizations during 2015—those which raised at least \$250 million. Besides the previously discussed Transgrid, Japan Post, Citizen's Financial Group, Coal India, and Indian Oil sales, there were five \$1 billion+ privatizations during 2015 in "the rest of the world." Canada had two large privatizations, the April private sale of Canada's residual 4.55% stake in **General Motors** to Goldman Sachs, raising \$2.68 billion (€2.45 billion), and the October IPO of a 15.78% stake in **Hydro One** that yielded \$1.39 billion (€billion).³³ The United States executed one SIP, the \$1.59 billion (€1.42 billion) SEO of **IMS Health Holdings** in October. Finally, South Africa and Pakistan executed one large deal apiece, and each of these was unique in its own way. The largest of these was the July direct sale of the South African government's residual 13.9% stake in the telecom firm **Vodacom** that yielded \$2.30 billion (€2.08 billion).³⁴ This was executed to raise the money needed to

³² These offerings are described in Jing Song, "China Huarong kicks off Hong Kong IPO," *FinanceAsia.com* (January 14, 2015); "Financial Times (May 11, 2015); "China Eastern Airlines plans \$2.4 billion private share sale to fund global push," *Reuters* (April 24, 2016); Bonnie Cao, "Citic Securities Seeks \$3.5 Billion in Hong Kong Share Sale," *Financial Times* (June 15, 2015); and David Keohane, Markets go up, markets go down... apparently even in China," *Financial Times* (July 28, 2015).

³³ See Barry Critchley, "Hydro One Ltd makes its debut on the Toronto Stock Exchange in biggest IPO in 15 years," *Financial Post* (November 5, 2015).

³⁴ See Andrew England, "South Africa sells Vodacom stake to bail out Eskom," *Financial Times* (July 1, 2015).

bail-out the floundering electric utility company Eskom. The April SEO of a 42% stake in **Habib Bank** was, at \$1.01 billion (€943 million), not especially large by international standards, but it was the largest share offering in rupee-terms in Pakistan's history.³⁵

Table 7. Large (\$250 million+) Non-EU, Non-China Deals, 2015

Date	Company Name	Nation	Sector	% for Sale	Value (€ mil)	Value (\$ mil)	Method of Sale
12/31/2015	Transgrid	Australia	Utilities	100	6,852	7,495	Asset sale
10/26/2015	Japan Post Holdings Co Ltd	Japan	Finance	11	5,012	5,726	IPO
10/19/2015	Japan Post Bank Co Ltd	Japan	Finance	9.17	4,282	5,006	IPO
3/25/2015	Citizen's Financial Group	United States	Finance		3,480	3,690	Secondary offer
1/29/2015	Coal India Ltd	India	Mining	10	3,236	3,661	SEO
April 2015	General Motors	Canada	Manufacturing	4.55	2,452	2,682	Marketed Follow-on
10/29/2015	Citizens Financial Group Inc	United States	Finance		2,272	2,596	SEO
7/1/2015	Vodacom	South Africa	Telecoms	13.9	2,075	2,300	Asset sale
5/6/15	IMS Health Holdings Inc	United States	Health care		1,423	1,594	SEO
8/25/2015	Indian Oil Corporation	India	Petroleum	10	1,139	1,400	SEO
10/29/2015	Hydro One Ltd	Canada	Utilities	15.78	1,217	1,390	IPO
10/19/2015	Japan Post Insurance Co Ltd	Japan	Insurance	11	1,062	1,215	IPO
04/10/15	Habib Bank Ltd	Pakistan	Finance	42	943	1,006	SEO
9/3/2015	State Bank of India	India	Finance		725	816	Marketed Follow-on
10/1/2015	Moskovskoe	Russian Fed	Finance		467	534	Marketed Follow-on
03/13/2015	State Bank of India	India	Finance		445	471	Follow-On
9/30/2015	Z Energy Ltd	New Zealand	Energy		405	456	Marketed Follow-on
01/29/2015	Tenaga Nasional Bhd	Malaysia	Utility		386	448	Follow-On
12/31/2015	Dogankent Hydroelectric	Turkey	Utilities	100	385	421	Asset Sale
9/28/2015	China Merchant Hldg Ltd	Singapore	Finance		372	419	Marketed Follow-on
2/22/2015	Food Industries Holding Co	Egypt	Agriculture		344	393	IPO
9/1/2015	STB	Tunisia	Finance		346	390	Marketed Follow-on
10/28/2015	Aneka Tambang (Persero)	Indonesia	Mining		339	387	Marketed Follow-on
9/30/2015	Bank of India	India	Finance		332	375	Marketed Follow-on
11/16/2015	Darwin Port & Pilotage	Australia	Infrastructure	100	336	360	Asset Sale
11/26/2015	Oman Air SAOC	Oman	Transports		335	359	Marketed Follow-on
3/13/2015	Malaysia Airport Holdings	Malaysia	Infrastructure		337	357	Follow-On
12/22/2015	Daewoo Shipbldg & Marine	South Korea	Manufacturing		323	354	Marketed Follow-on
6/10/2015	CyberArk Software Ltd	Israel	Services		306	344	Follow-On
10/1/2015	IDBI Bank Ltd	India	Finance		298	340	Marketed Follow-

³⁵ See Kamran Haider and Faseeh Mangi, "Pakistan Raises Record \$1.02 Billion in Habib Bank Share Sale," *Financial Times* (April 11, 2015).

							on
4/3/2015	VASO	Russian Fed	Aviation		303	321	Follow-On
8/25/2015	Indian Overseas Bank	India	Finance		265	303	Follow-On
5/7/2015	Global Power Synergy Co	Thailand	Utility		266	299	IPO
6/4/2015	Kumho Petrochemical Co	South Korea	Chemicals		259	291	Follow-On
9/3/2015	Sydney Airport Holdings Ltd	Australia	Infrastructure		726	284	Marketed Follow-on
8/27/2015	Pembangunan Perumahan PT	Indonesia	Construction		249	277	Follow-On
10/21/2015	Lenta Ltd	Russian Fed	Retailing		241	275	Marketed Follow-on
9/30/2015	Bank of Baroda Ltd	India	Finance		242	272	Marketed Follow-on
7/27/2015	Power Finance Corp Ltd	India	Utility		238	261	Follow-On
3/24/2015	Central Bank of India	India	Finance		245	260	Follow-On
	58 Deals, <\$250m each				6,748	7,486	
	99 Privatizations				€51,961	\$60,371	

Sources: *Privatization Barometer* database, Securities Data Corporation, author's research.

Details of Individual Sales outside Europe and China in 2016

Table 8 lists the largest Chinese (including Hong Kong) privatizations during 2016, that raised at least \$1 billion, while Table 9 lists the non-EU, non-Chinese privatization transactions of 2016 that raised at least \$500 million. Once again, we will discuss the Chinese deals first, followed by the those from the “rest of the world.”

Besides the five \$3 billion+ Chinese SIPs listed previously—Postal Savings Bank of China, Industrial Bank Company, China Yangtze Power, IRICO Display Devices, and Unisplendour Corporation—China executed six share sales that raised between \$2 billion and \$3 billion. These were the \$2.85 billion (€2.53 billion) placement of **Jinan Diesel Engine** in September; the \$2.70 billion (€2.40 billion) placement of **Blackcow Food Company**, also in September; the May placement of **Kingray New Materials Science**, which raised \$2.30 billion (€2.03 billion); the May placement of **Shanghai Pudong Development Bank**, worth \$2.23 billion (€2.01 billion); the placement, in October, of **Guangzhou Auto Group** that raised \$2.22 billion (€2.01 billion); and the June private placement of **China Shipbulding Industrial Group Power** which raised \$2.05 billion (€1.83 billion).³⁶

China also executed an additional 31 offerings that raised between \$1 billion and \$2 billion each during 2016. Once again, rather than list and comment separately on each offering, we will simply note a few important distinguishing features. As usual, almost all 31 were capital-raising primary share issues (one was a convertible bond offering), five were IPOs, and many were private placements. Three of the 31 sales—and two of the IPOs—were share offerings by mainland Chinese companies executed in Hong Kong. The industrial distribution of these 31 offerings covered the spectrum—with the only concentrations being in manufacturing and finance.

³⁶ These offers are described in “Kingray New Materials to buy financial assets via share issue,” *Reuters.com* (May 19, 2016). “Shanghai Pudong Development Bank completes share issuance for equity acquisition,” *Reuters.com* (March 16, 2016). “China Shipbuilding Industry Group Power completes stake acquisition and fund raising,” *Reuters.com* (July 7, 2016).

Table 8. Large (\$1.0 Billion+) Chinese Deals (Including Hong Kong), 2016

Date	Company Name	Nation	Sector	% for Sale	Value (€ mil)	Value (\$ mil)	Method of Sale
9/21/2016	Postal Savings Bank of China	China	Finance		6,781	7,627	IPO
7/30/2016	Industrial Bank Co Ltd	China	Finance		3,542	3,917	Follow-On
4/5/2016	China Yangtze Power Co Ltd	China	Utility		3,304	3,731	Private Placement
4/12/2016	IRICO Display Devices Co Ltd	China	Manufacturing		3,232	3,649	Follow-On
4/21/2016	Unisplendour Corp Ltd	China	Technology		3,018	3,408	Placement
9/5/2016	Jinan Diesel Engine Co Ltd	China	Manufacturing		2,530	2,846	Placement
9/14/2016	Blackcow Food Co Ltd	China	Agriculture		2,396	2,695	Placement
5/18/2016	Kingray New Materials Science	China	Technology		2,026	2,295	Placement
3/10/2016	Shanghai Pudong Dvlp Bk	China	Finance		2,009	2,232	Placement
10/31/16	Guangzhou Auto Grp Co Ltd	China	Manufacturing		2,014	2,215	Placement
6/23/2016	China ShipBldg Ind Grp Power	China	Manufacturing		1,825	2,051	Private Placement
3/21/2016	China Zheshang Bank Co Ltd	China	Finance		1,745	1,939	IPO
1/5/2016	Industrial Securities Co Ltd	China	Finance		1,713	1,879	Rights
10/21/2016	China Resources Medications	China-HK	Pharmaceuticals		1,646	1,810	IPO
5/28/2016	CRRC Corporation Ltd	China	Manufacturing		1,596	1,804	Private Placement
5/11/2016	Power Constr Corp of China Ltd	China	Construction		1,592	1,803	Placement
1/14/2016	China Merchants Shekou Indl	China	Real Estate		1,641	1,799	Private Placement
10/11/2016	China Shipping Container Lines	China	Shipping		1,624	1,786	Placement
12/15/16	Chengzhi Shareholding Co Ltd	China	Finance		1,721	1,785	Private Placement
3/10/2016	Guangzhou Friendship Grp Co	China	Retailing		1,383	1,537	Private Placement
9/5/2016	Henan Billions Chem Co Ltd	China	Chemicals		1,342	1,509	Private Placement
9/19/2016	CPT Technology (Group) Co Ltd	China	Technology		1,336	1,500	Private Placement
11/04/16	Yan Kuang Group Co Ltd	China	Mining		1,381	1,481	Firm Commitment
11/07/16	AVIC Aviation Engine Corp	China	Manufacturing		1,376	1,476	Placement
4/28/2016	Tus-Sound Envi Resources Co	China	Services		1,301	1,467	Follow-On
11/28/16	Datang Intl Power Generation	China	Utility		1,343	1,441	Placement
9/30/2016	China Merchants Securities Co	China	Finance		1,226	1,379	Follow-On
11/24/16	China Enterprise Co Ltd	China	Real Estate		1,281	1,374	Placement
6/14/2016	Poly Real Estate Group Co Ltd	China	Real Estate		1,214	1,365	Private Placement
10/21/2016	Inner Mongolia Yili Indl Grp	China	Manufacturing		1,209	1,330	Placement
7/15/2016	Hunan Valin Steel Co Ltd	China	Manufacturing		1,139	1,260	Placement
6/22/2016	Kangmei Pharmaceutical Co Ltd	China	Pharmaceuticals		1,096	1,232	Private Placement
8/09/2016	China Resources Beer (Hldg)	China-HK	Beverages		1,096	1,227	Follow-On
10/10/2016	SDIC Essence (Holdings) Co Ltd	China	Manufacturing		1,085	1,193	Placement
8/11/2016	Guangzhou Baiyunshan Pharm	China	Pharmaceuticals		1,063	1,190	Private Placement
8/11/2016	Everbright Securities Co	China	Finance		1,028	1,151	Follow-On
10/21/2016	China Resources Medicatns	China-HK	Pharmaceuticals		1,024	1,126	IPO
2/24/2016	China Greatwall Computer	China	Manufacturing		989	1,102	Placement
4/12/2016	CRRC Group Co Ltd	China	Manufacturing		959	1,083	Convertible
6/29/2016	Orient Securities Co	China	Finance		894	1,005	Follow-On
1/13/2016	China United Ins Hldg Corp	China	Insurance		912	1,000	IPO
	234 Offers < \$1.0 billion each				31,624	34,948	
	Total China 2016 (276 deals)				€134,356	\$148,047	

Sources: *Privatization Barometer* database, Securities Data Corporation, author's research.

Finally, Table 9 lists the largest (those which raised at least \$250 million) non-Chinese, non-EU privatizations during 2016. Besides the previously discussed Ausgrid, Rosneft, Port of Melbourne, State Plus, Kyushu Railway, Hydro One (SEO), and Bashneft sales, there were six privatizations during 2016 in “the rest of the world” that raised between \$1 billion and \$3 billion each. Thailand and

Singapore executed two sales apiece, while Malaysia, Canada each sold one. The two Thai offerings were near simultaneous May sales of shares in **Thailand Future Fund**: the IPO raised \$2.86 billion (€2.53 billion), and a subsequent rights offer raised \$1.23 billion (€1.08 billion).³⁷ Singapore's two sales were the \$1.13 billion (€1.05 billion) private placement of **Singapore Telecommunications**, in November, and the May IPO of **BOC Aviation**, which raised \$1.13 billion (€94 million).

Table 9. Large (\$250 million +) Non-EU, Non-China Deals, 2016

Date	Company Name	Nation	Sector	% for Sale	Value (€ mil)	Value (\$ mil)	Method of Sale
10/20/2016	Ausgrid	Australia	Infrastructure	100	11,246	12,355	Asset Sale
11/2/2016	Rosneft	Russia	Petroleum	19.5	10,254	11,000	Acquisition
10/31/2016	Port of Melbourne Operat	Australia	Infrastructure	100	6,715	7,385	Asset Sale
6/30/2016	State Plus	Australia	Services	50.08	4,679	5,259	Acquisition
10/17/2016	Kyushu Railway Co	Japan	Transports		3,637	4,004	IPO
4/14/2016	Hydro One Ltf	Canada	Utility	100	3,531	3,987	SEO
5/27/2016	Thailand Future Fund	Thailand	Finance		2,525	2,860	IPO
3/23/2016	Edra Global Energy Assets	Malaysia	Utility	100	2,221	2,467	Asset Sale
4/5/2016	Hydro One Ltd	Canada	Utility		1,328	1,500	Follow-On
10/12/2016	Bashneft	Russia	Petroleum	12.17	1,216	1,337	Accelerated Book
5/27/2016	Thailand Future Fund	Thailand	Finance		1,083	1,227	Rights
11/17/16	Singapore Telecommunicat	Singapore	Telecoms		1,051	1,128	Private Placement
5/19/2016	BOC Aviation Ltd	Singapore	Finance		994	1,126	IPO
1/24/16	State Bank of India	India	Finance		753	826	Placement
7/11/2016	AK Alrosa	Russia	Mining	10.9	736	814	Asset Sale
9/7/2016	American Homes 4 Rent	United States	Real estate		711	800	IPO
8/15/2016	Aeroprt Vnukovo OAO	Russia	Infrastructure	74.75	694	777	Acquisition
9/6/2016	IAI	Israel	Aerospace	100	661	743	Asset Sale
2/22/2016	NTPC Ltd	India	Utility		658	734	Follow-On
7/21/2016	Malaysia Building Society	Malaysia	Real estate		649	718	Rights
11/24/16	RusHydro	Russia	Utility		584	627	Private Placement
1/11/2016	Bank Moskvy	Russia	Finance		513	563	Follow-On
12/07/16	MMG Ltd	Australia	Mining		494	512	Rights
5/12/2016	Manulife US REIT	Singapore	Finance		435	493	IPO
6/2/2016	Union Bank of India	India	Finance		423	476	Follow-On
3/9/2016	Middle East Healthcare Co	Saudi Arabia	Services		424	471	IPO
7/20/2016	EC World REIT	Singapore	Finance		420	464	IPO
5/25/2016	Dubai Parks & Resorts	Utd Arab Em	Services		403	457	Follow-On
4/26/2016	NHPC Ltd	India	Utility		365	412	Follow-On
11/01/16	Edra Global Energy Bhd	Malaysia	Utility		373	400	Follow-On
8/19/2016	Khazanah Nasional Bhd	Malaysia	Finance		356	399	Convertible
8/29/2016	Waskita Beton Precast PT	Indonesia	Construction		351	393	IPO
7/27/2016	Mapletree Commercial Trst	Singapore	Finance		354	391	Follow-On
10/19/2016	Natl Buildings Constr Corp	India	Construction		303	333	Follow-On
4/20/2016	Equitas Hldg Ltd	India	Real Estate		291	329	IPO
12/12/16	Univar Inc	United States	Chemicals		280	316	Accelerated Book
11/04/16	Larsen & Toubro Ltd	India	Conglomerate		293	314	Accelerated Book

³⁷ See "Thailand's \$2.8b Future Fund may increase corpus. China's CIC among potential investors," www.dealstreetasia.com (February 18, 2016).

4/29/2016	Oil India Ltd	India	Petroleum		275	312	Follow-On
8/3/2016	PP Energy PT	Indonesia	Utility		271	304	IPO
3/25/2016	Tata Sky Ltd	India	Services		269	299	IPO
9/8/2016	Tenaga Nasional Bhd	Malaysia	Utility		258	290	Follow-On
6/8/2016	Boustead Holdings Bhd	Malaysia	Conglomerate		231	260	Rights
6/10/2016	Denizbank AS	Turkey	Finance		228	256	Rights
12/19/16	Hyundai Merchant Marine	South Korea	Manufacturing		243	252	Private Placement
	70 offers, <\$250mn each				7,622	8,394	
	Total, 118 deals				71,425	\$78,791	

Sources: *Privatization Barometer* database, Securities Data Corporation, author's research.

Failed and Canceled Privatizations during 2015 and 2016

There are two main themes regarding failed, delayed, and cancelled privatization sales during 2015 and 2016. First, several individual deals which failed during 2015 were in fact successfully launched during 2016. The second, darker, trend is the virtual collapse of European privatization sales during 2016, especially after the Brexit vote in June, as terrorism and political turmoil deterred governments from launching EU sales and discouraged investors from buying stock being offered.

The most important failed/canceled privatizations of 2015 occurred in Australia and in the country that dominated European and world headlines for much of the period 2011-2015: Greece. The surprise January 2015 electoral defeat of Campbell Newman's government in the Australian province of Queensland canceled some A\$37 billion worth of planned privatizations. The largest single deal impacted by this election was an A\$16.5 billion coal mining and export project in central Queensland. More general fears that other large Australian privatization would be put at risk were, however, calmed by the March re-election of Mike Baird's government in New South Wales. A dramatic electoral result also changed Greece's privatization path: the January 2015 election of the radical left-wing Syriza party threw the country's (finally) promising privatization program into reverse. The first major deals to be canceled were the aforementioned sale of **14 regional airports** to Germany's Fraport, which had closed only one month earlier, and the proposed \$950 privatization of the the remaining 67% of the **Port of Piraeus** still in state hands. The new government also definitively halted the planned privatization of **Public Power Corporation of Greece**. Ironically—or tragically, depending upon your perspective—this same Syriza government was forced to accept a much more sweeping privatization program plan in July 2015 as part of a third EU bailout package, which Greece was forced to accept after its banks closed due to lack of (euro) funds and the economy neared financial collapse. This plan even removed final authority over privatization execution and control of sale proceeds from the Greek government.³⁸ And, as foreshadowed above, Greece successfully revived the airport and Piraeus port sales during 2016, though not Public Power.

Two high-profile planned privatizations in the global petroleum industry collapsed—or at least were seriously delayed—in 2015. May saw the resignation of the CEO who was pushing a plan for China's **Sinopec** to sell up to 30% of the company's holdings in its string of petrol stations (a cash-cow business), that could have yielded up to \$20 billion (€15 billion). His departure puts these plans on indefinite hold. Two months previously, the Peruvian government indefinitely canceled plans to sell up to 49% of its holdings in **PetroPeru** on the local stock

³⁸ See Kerin Hope, "Greece backtracks on privatisation," *Financial Times* (February 4, 2015).

market, which would have allowed the company to raise up to \$3.5 billion in private capital for its ambitious exploration and production program and to upgrade its refineries to better handle the heavy crude oil it is now producing.³⁹ Neither of these sales were successfully revived during 2016.

Two other countries round out the list of failed and canceled privatization during January-August 2015. The Malaysian government, which had been trying for more than a year to list its **1 Malaysia Development Bank (1MDB)**, was forced to withdraw the planned IPO in April. The parent state-owned company announced plans to attract a new promoter to take over and ultimately list 1MDB. Finally, the Serbia government announced, also in April, that George Soros and others had backed out of announced plans to acquire the pharmaceutical company **Galenika**, due to its high and mounting debts.⁴⁰ Both remain in abeyance as we go to press in early 2017.

The tumultuous year of 2016 largely halted the United Kingdom's privatization program, which had been the second largest in the world after China's. The Brexit vote wreaked havoc on Britain's political establishment—costing David Cameron his premiership, and ushering in the EU-skeptical Teresa May government—and also forced at least a pause in ongoing sales of many companies and assets. The first casualty was the mooted sale of **Network Rail** and the **Land Registry**, in September, followed by announcements of halts to further sales of **RBS, Lloyds Bank**, and other companies during the fall.⁴¹

Planned Sales in 2017 Beyond

We conclude this survey of privatization trends and major deals by describing sales that seem likely to be completed during 2017 or later years. Seven national programs—China, Australia, Russia, Turkey, India, Pakistan, and Japan—stand out due either to aggregate size, scope, or both. As noted several times thus far, China has dominated the privatization leagues tables for the past four years, and this seems likely to continue during 2017 and beyond. Even though the 45% decline in the value of shares traded on the Shanghai and Shenzhen during the second half of 2015, which knocked \$3.9 trillion off China's market capitalization, froze some \$154 billion in planned share sales, many of these sales were executed during 2016 and many more are likely to proceed in 2017. Perhaps the biggest threat to China's ongoing privatization success is a newly assertive Chinese Communist Party, which seems even more intent than before in preserving, even tightening party control over the country's 100 largest SOEs, even as these are further “privatized” through minority bloc share offerings.⁴²

³⁹ These failed deals are described in Yvonne Lee and Prudence Ho, “Sinopec Gas-Station IPO Loses Momentum,” *Wall Street Journal* (May 6, 2015) and Teresa Cespedes, “Peru's State Oil Company Says Scraps Plan For 2015 Share Offer,” *Reuters* (March 30, 2015).

⁴⁰ These two collapsed deals are discussed in Liau Y-Sing and Lilian Karunungan, Escaping Najib's Malaysia, Investors Also Flee Currency and Stock Market,” *Bloomberg* (August 18, 2015) and “Soros Gave Up On Buying Galenika Due To Its Huge Debts,” *Bloomberg* (April 28, 2015).

⁴¹ The sequential collapse of Britain's privatization program is detailed in a series of *Financial Times* articles; see Emma Dunkley, “RBS stalls sale process of Williams & Glyn,” *Financial Times* (June 23, 2016), Gill Plimmer, “UK shelves privatisation of Land Registry,” *Financial Times* (September 7, 2016), Gill Plimmer and Nic Fildes, “Network Rail drops telecom cable sell-off,” *Financial Times* (September 18, 2016), Emma Dunkley, “Chancellor ditches plans to sell Lloyds shares to public,” *Financial Times* (October 9, 2016), and Emma Dunkley, “Battle for UK government-owned mortgage portfolio heats up,” *Financial Times* (November 24, 2016).

⁴² See Lucy Hornby, “China rows back on state-sector reforms,” *Financial Times* (June 16, 2016).

Australia's Liberal government, headed by Tony Abbott from September 2013 until September 2015, began seriously implementing plans to raise up to A\$100 billion [\$85 billion; €64 billion] through sales of existing infrastructure and financial assets, and to recycle these proceeds into new infrastructure investment. There were several large privatizations during 2014 and early 2015, and the new government of Malcolm Turnbull—who unseated Abbott as Liberal Party leader on September 14, 2015—promised continuation of all major policy initiatives.⁴³ There were several large and successful infrastructure privatizations during 2016, and many more are on tap during 2017 and beyond.

During the first half of 2016, Turkey continued to pursue an aggressive, multi-year privatization program focused on divesting its electricity, port, and gaming assets. The future of this program is in considerable doubt, however, due to the wave of terrorist attacks that have struck Turkey recently, plus the unsuccessful, but debilitating attempted coup against the Erdogan government during the summer. Even with these problems, Turkey has many valuable SOEs and infrastructure assets that could be privatized, and continues to have the pressing fiscal need to do so.

The Indian government of Narendra Modi, elected in 2014, has tried with some success to break India's cycle of chronic over-promising yet under-delivering on planned privatizations. His government raised over \$11 billion during 2015, and over \$7 billion during 2016. Though to date the Modi government has been unable to actually divest sizeable stakes in many of the nation's "crown jewels" it was able to sell \$1 billion+ stakes in the huge-but-troubled coal monopoly, Coal India, and in Indian Oil Corporation during 2015. The Government has plans (hopes?) to partially divest the energy company **ONGC** and to sell additional stakes in the electric power group **NHPC, Coal India** and **Indian Oil Corporation**.⁴⁴ Other sacred cows could then follow.

Japan's privatization "program" has long been characterized by a relatively small number of immensely large sales, spaced irregularly over time, and this seems likely to continue. The national government successfully executed very large divestments of **Japan Airlines** (\$8.47 billion; €6.46 billion) in 2012 and **Japan Tobacco** (\$7.75 billion; €5.93 billion) in March 2013, and additional stakes in these companies could well be offered in 2017 or later. Even more important, and portentous, was the government's successful IPO of the **Japan Post Group** in late 2015, since this could well lead to further sales in stakes in the three now-listed subsidiaries.⁴⁵ Japan's government might at long last also follow through on plans first mooted in September 2011 to divest stakes in the oil company **Impex** and the exploration and development company **Japex**, together valued at ¥566 billion (\$7.41 billion; €5.38 billion). Finally, the Japanese (city) government hopes to raise \$7-15 billion by fully privatizing the **Osaka Airport**.

Russia has grand plans for continuing its long-term divestment program, and as 2016 drew to a close—with the massive Rosneft stake sale--there actually seemed hope these plans might come to fruition. In February 2014, Russian Prime Minister Dmitry Medvedev announced plans to raise Rbs 200 billion through sales of **Rostelecom** and the state shipping company, **Sovcomflot**, as well as stakes in **United Grain Company** and **Novoroossiysk Commercial Port**. During 2013 and 2014, Russia raised \$11.52 billion (€9.93 billion) by selling

⁴³ See Lenore Taylor and Daniel Hurst, Malcolm Turnbull promises new style of leadership after overthrowing Abbott," *The Guardian* (September 14, 2015).

⁴⁴ See David Keohane, "Modi plans to sell Coal India stake," *Financial Times* (November 18, 2015).

⁴⁵ See Leo Lewis, "Kyushu Railway shares jump 15% on first day of trading," *Financial Times* (October 25, 2016).

stakes in **Bank VTB**, **Sberbank**, **Freight One**, **VSMPO-Avism**, **Alrosa**, and other companies, and in most of these cases the government retains still more stock that can be sold during 2017 or later, if markets allow sales to be executed at reasonable prices. The government has also announced plans to sell off the rail container group, **Transcontainer**, and perhaps more of the stock it holds in **Russian Railways**. Further sales of **Rosneft**, or perhaps even **Gazprom** or **Aeroflot**, might occur in the near future.⁴⁶

Several eurozone countries—including Italy, France, Portugal, Cyprus, and Ireland—have significant though not massive divestment plans for 2017 and beyond. The sales being contemplated are frequently for assets nationalized through bailouts during the financial crises of 2008-09 or 2012. Italy has an ambitious divestment program underway, although the December 2016 vote against political reforms, which cost Matteo Renzi his premiership, has thrown prospects into doubt. The government might try to sell some or all of its 13% stake in the semiconductor manufacturer **ST Microelectronics**, train-station operator **Grandi Stazioni**, and its indirect holdings (through CDP) in **Snam** and **Terna**, respectively the national oil and gas and electricity grids, and up to 40% of its holdings in **Ferrovie dello Stato**, the group that owns Italy's rail lines and its train operator Trenitalia.⁴⁷ France will hold a presidential election in March 2017, which may well usher in a business-friendly (even “Thatcherite”) government headed by François Fillon. This could accelerate existing plans to sell stakes in **Safran**, **Renault**, **EDF**, the **Nice and Lyon airports**, and other companies.⁴⁸

Portugal plans to sell all or part of the gas and energy provider **Galp**, the railway freight service provider **CP Cargo**, the **CTT** postal service, parts of the water utility **Aguas de Portugal**, and the country's largest bank, **Caixa Geral de Depositos**. Cyprus has passed legislation authorizing sale of three utilities by 2018, which could raise up to €1.4 billion (\$1.75 billion): the electricity authority **EAC**, the telecoms provider **CYta**, and **Cyprus Port Authority**, which manages the ports of Larnaca and Limassol (sold during 2016). Ireland has announced plans to raise up to €3 billion by selling off its 25% stake in **Aer Lingus**, the state forestry body **Coillte**, and **Allied Irish Banks**—but has thus far shied away from any plans to privatize **ESB Group**, the Electricity Supply Board, due to strong union opposition.

Two privatization stars of recent years, the United States and Poland, are in the odd positions of having nearly completed major divestment programs initiated after the Financial Crisis ended in 2009, but the US still has valuable stakes in **General Motors**, **Citigroup**, and a few other companies that will likely be divested piecemeal over the next few years. The incoming Trump administration is a wild card (in so many ways), and it is not inconceivable that it could launch a major US divestment and privatization program involving federal lands and other heretofore untouchable federal government assets.

Two other fairly small, but nonetheless interesting planned national divestment programs deserve explicit mention before we conclude with a discussion of industry-specific planned sales. In July 2014, the newly-elected Serbian Prime

⁴⁶ The mooted sale of Aeroflot is described in Max Seddon and Kathrin Hille, “Putin ally said to be eyeing stake in Russian carrier Aeroflot,” *Financial Times* (March 9, 2016) and Kathrin Hille, “Aeroflot says privatisation will not fly,” *Financial Times* (July 10, 2016).

⁴⁷ See James Politi, “Italy plans part-privatisation of railway group Ferrovie dello Stato,” *Financial Times* (November 23, 2015).

⁴⁸ See Michael Stothard, “France to sell shares in country's largest companies to aid EDF,” *Financial Times* (May 1, 2016).

Minister, Aleksandar Vucic, unveiled plans for the mass sale or liquidation of loss-making SOEs. 584 of the companies included in this plan are already registered with the privatization agency, and **Telekom Srbija**, Belgrade's **Nikola Tesla Airport**, and a major insurer among the firms most likely to be successfully divested.⁴⁹ On the other side of the world, the Vietnamese government announced yet another privatization plan—termed “equitisation” for local consumption. Whether this program will be any more successful than previous attempts to divest the more than 430 SOEs remains unclear. Whereas the government claims to be willing to tolerate up to 49% private ownership in “equitized” firms, foreign strategic holdings will probably remain capped at 20-25%, severely reducing potential demand, though the government does seem poised to sell off majority ownership in its two largest beer brewers and distributors, which could raise up to \$2.2 billion.⁵⁰

Several countries plan to divest state-owned aviation and aerospace assets during 2017 or later. As noted above, Greece, Japan, and Serbia all hope to fully or partially privatize major international airports, while Japan, Ireland, and Vietnam all plan to divest some or all of their national airlines. In addition, Korea plans to divest the **Incheon Airport** in the near future. Although the Brazilian government's hopes of auctioning a concession to operate **Galeão Airport**, Rio's main international access point, have been dealt a serious blow by the turmoil affecting all emerging markets—and the Brazil-specific turmoil resulting from the Petrobras scandal—this valuable asset remains saleable. Additional planned airline and aerospace company sales include Poland's ongoing (but heretofore unsuccessful) attempt to divest its stake in **LOT**, while the Korean government hopes to revive the sale **Korea Aerospace Industries** that collapsed in December 2012. Israel also plans to execute an initial public offering of **Israel Aerospace Industries**, which could raise over \$800 million.⁵¹

Rounding out this listing of proposed state divestments plans are two long-delayed proposed sales. First, the government of Slovakia hopes to sell its 49% shareholding in **Slovak Telekom** through an IPO that could raise up to €800 million (\$890 million), while Korea is hoping that its fourth attempt to sell a 57% stake in **Woori Financial Group** will ultimately succeed and raise as much as \$3.9 billion.⁵²

Conclusions

To summarize, the total value of global privatizations during 2015 reached unprecedented levels, exceeding \$300 billion for the first time, and the 2016 total was the second highest. Additionally, governments have announced major divestment plans that are likely to continue for at least the next two years, so the immediate future of privatization programs looks very bright. Longer term, the continuing fiscal challenges facing both western and emerging market countries suggests that privatization programs will remain a central issue for global finance and economics for many years to come.

⁴⁹ See “Serbian govt starts privatisation of Telekom Srbija,” *telecompaper.com* (June 26, 2015).

⁵⁰ Vietnam's privatization program is described in Michael Peel and Nguyen Phuong Linh, “Vietnam scraps foreign ownership limits in investment push,” *Financial Times* (June 29, 2015). The prospects for selling its brewers are described in Michael Peel, “Brewers size up Vietnam beer sale plan,” *Financial Times* (September 4, 2016).

⁵¹ Yaakov Benmeleh, “Israel Says Aerospace Industries Plans \$800 Million IPO in 2017,” *Bloomberg.com* (September 4, 2016).

⁵² See “Henry Foy, “Slovak Telekom set for flotation as Deutsche Telekom talks end,” *Financial Times* (April 8, 2015).

Martin Hallinger

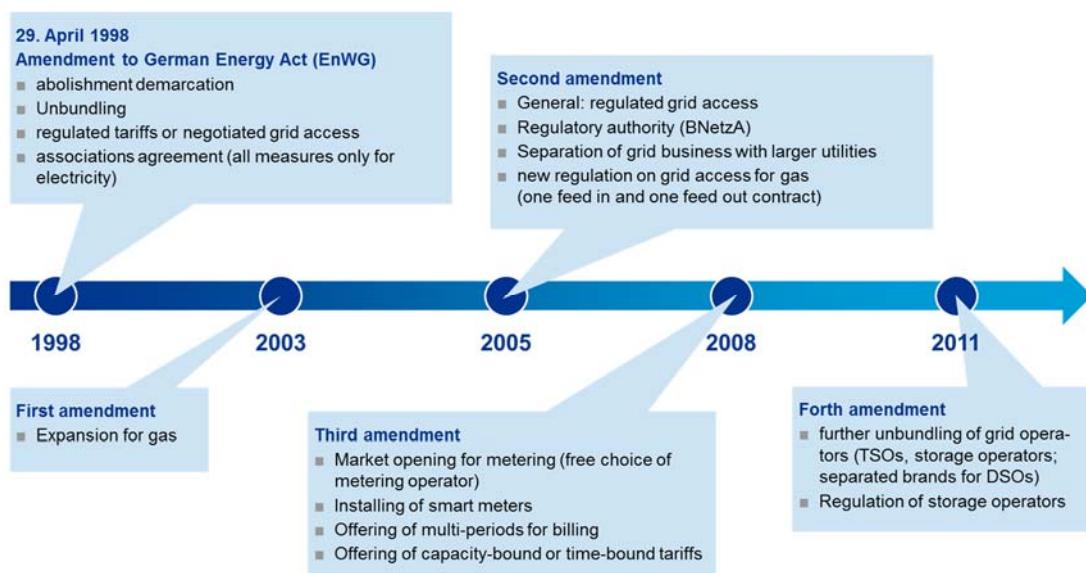
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Privatization – a phase-out model in the German grid operators?

Germany is one of the most fragmented energy markets in Europe. Besides the major utility providers such as E.ON, EnBW, RWE and Vattenfall, there are a multitude of municipal utilities. They are active in various combinations along all parts of the value chain and supply a variety of products. Some of the municipal utilities have a private minority shareholder (often one of the aforementioned big four utilities). These types of partnerships were in many cases established at the beginning of market liberalization, around the turn of the millennium, with the intention of strengthening the market position of the municipalities in light of the impending competition.

When liberalisation started in 1998 many experts expected the end of municipal utilities. They argued that they wouldn't be strong enough to withstand the impending competition. Some predicted that only around 100 municipal utilities would survive the transformation and the business of the disappeared one's would be taken over by the abovementioned major utility providers. This belief was the reason for numerous partial privatizations in the years 1999 through 2004. This development slowed in 2003 and 2004 due to increasing intervention by the Cartel Office. The major utilities ended up with many of the privatised shares and the Cartel Office wanted to restrict their influence on the utility market.

Figure 1. Energy market liberalization in Germany starting from 1998



The expert's assumptions were wrong. In the first years of the market liberalisation (i.e. non-discriminatory grid access and abolition of regional monopolies) some municipal utilities performed much better than before. One

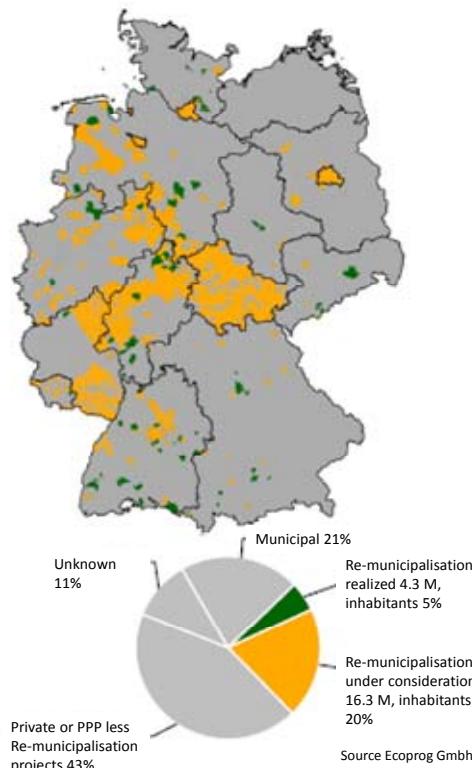
reason for that was the revelation of overcapacities in electricity generation, which was almost completely owned by the aforementioned major utilities. During the age of monopolies overcapacities weren't an issue, but now they led to a situation where kilowatt-hours were sometimes sold at lower than marginal costs. Simultaneously, the regulation of grid operations still needed to be developed and was initially based on a cost-plus mechanism.

Over the years, regulation of the grid was gradually intensified (incentive regulation came into force in 2009) and a regulatory authority was established. Competition for end-users gained momentum very slowly. In 2015, the churn rates of households were 10.4% (electricity) and 10.1% (gas), respectively. We have observed in recent years a rising number of publicly owned utilities, due to a trend known as "re-municipalisation". There are two characteristics of this development. The first is that municipalities are striving to gain full control of their utilities once the contractual conditions allow a rebuy of the formerly privatised shares in the company. The second is that municipalities, which are thus far not active in the energy business because they obtain these services from other utilities, try to build up their own utility. This often starts with commissioning grid operators for electricity and/or gas supplies when a concession contract expires.

This article looks at the second case.

The relevant legal framework for grid operations in Germany stipulates that grid operators require a concession for their activities. There are currently around 20,000 concessions in place. The majority refer to electricity grid operations, not least to the fact that gas supply is not represented in every area. A concession allows the operator to use public property of the respective municipality for laying cables and pipelines in order to supply electricity and gas. The concessions run for up to 20 years – and most of them do so – and are provided by the municipality. The municipality waives the right to maintain its own grid operations in return for a concession levy, which is regulated by law. On a national level, concession levies equal up to EUR 3-3.5 billion per year.

Re-municipalisation of electricity grids in Germany



The concessions are put out to tender, under a process codified in the German Energy Act [En-ergiewirtschaftsgesetz, EnWG] of 1935. For decades, the usual result of bidding was that a regional grid operator, which often was part of one of the larger utilities (see above), won the concession. This has changed in recent years. Due to the fact that a huge number of concessions have expired (around 7,800 between 2012 and 2016), many tenders were required. Municipalities are increasingly participating in tenders with their own legal entity and often win the competition and start running their own operations.

There are several reasons for this development. One reason is that the general atmosphere regarding the activities of private enterprises changed after the financial crisis in 2008. There is a lack of trust in privately operated businesses, particularly when it comes to services for the public. Municipalities often complain about the low interest of the incumbent operators with respect to the particular grid area and suggest that there could be more innovation, such as with respect to climate protection or pushing renewable energy generation and transforming assets towards smart grids.

Therefore, many of the municipalities participate with an own entity in the tender for concessions. The contents of the concession agreement are regulated by law. The concession levy is capped and the relevant ordinance contains a prohibition of additional performance. This contributes to establishing a level playing field for the interested parties. The tender has to be carried out in a non-discriminatory manner, and the decision must be justifiable and can be appealed in a court of law.

Re-municipalisation of grids from a municipality's standpoint	
Pros	Cons
— Direct influence on business policy	— Exchange of risk-less income (concession levy and possibly trade tax) against entrepreneurial risk
— Opportunity to use the own company as core for the exploitation of synergies (e.g. through combination with other municipal activities)	— Uncertainty on the financial burden at the beginning of the re-municipalisation process
— Simplification of implementation of local climate protection projects	— Uncertainty on the future investments in order to change over to smart grids
— Increase of regional value creation	
— Additional income	

A municipal grid operator can be seen as a starting point for further activities. After taking over grid operations, services can be complemented by retail offers. Companies are often approached by grid customers asking for electricity or gas supplies once it becomes known that a municipal company is in charge. In many cases, municipalities seize the opportunity when taking over grid operations to kick off renewable energy projects.

An own grid operating company can also complement already existing activities such as water supply or district heating. Many municipalities are already active in other businesses and the assumption of grid operations can be used to create synergies.

This re-municipalisation development is also driven by a business rationale. Remuneration for grid operations is governed by legislation that awards attractive returns, particularly when compared with other investment alternatives. During the current regulation period, which expires in 2018 (electricity) and 2017 (gas), the law grants a return on capital of between around 7 and 9 percent. This seems to be rather high compensation, but needs to be considered in the context of the underlying calculation scheme. It is regulated in Germany's Incentive Regulation Ordinance. Its key elements are described in the following.

The Federal Network Agency allocates an individual revenue cap to every grid operator. This is the amount that has to be paid by grid users. This amount is reduced every year of the regulation period for which it is valid. If the grid

operator is able to run the business with costs below the cap, it can retain the difference. This represents the “incentive”.

The cap is based on a calculation submitted by the grid operator, which contains opex (operational expenditures) and capex (capital expenditures). Opex is taken essentially without adjustment from regular profit and loss accounting based on the German Commercial Code [Handelsgesetzbuch, HGB]. Capex contains imputed depreciation, imputed trade income tax and imputed return on equity. Depreciation and return on equity refer to a recalculated asset base, which differs from the values in the balance sheet. This means that profit shown in the profit and loss differ from that which is the basis for calculating the revenue cap. In other words: the profits still exist only on paper under the law and will not automatically materialize in practice.

A critical issue is that the modality of the transfer is not clearly regulated. The relevant stipulation in Section 46 of the German Energy Act is not fully fleshed out in some areas. In particular, it is currently not completely clear how the value of the transferred grid assets is to be assessed. In some cases, it took several years before valuation was finalized. This was due to the obvious conflict of interest between incumbent and municipality. Valuation is often the subject of a lawsuit.

Unfortunately, there is no central register which monitors this development. But the Association of Municipal Enterprises (Verband kommunaler Unternehmen e.V., VKU), which counts more than 1,400 members, announced that since 2007, 234 concessions were not prolonged but the electricity and gas grids were repatriated in municipal custody (FAZ, 05.08.2015, p. 17). It is not clear whether or not this trend persists, as the Federal Network Agency has reduced the return on capital for the next regulation period. Due to the generally low interest levels, the interest rate for grid operations now lies between approximately 5 and 7 percent.

Case Study – Stadtwerke MüllheimStaufen GmbH

On the occasion of the expiring concession agreement with the regional gas supplier badenova, the city of Müllheim considered a take-over of the gas grid operations. In 2005 the city therefore ordered the valuation of the gas grid and an economic calculation. Negotiations with badenova started in 2006. Simultaneously Müllheim’s administration contacted the neighbouring city of Staufen, since their contract with badenova expired as well. The cities decided to join forces and to involve a strategic partner in order to obtain operational excellence. Therefore they picked KommunalPartner Beteiligungsgesellschaft mbH located in near Friedrichshafen. A feasibility study on the municipal utility, which came to a positive result, was compiled in 2007. On this basis both town councils made a basic decision for a common municipal utility. It was founded in 2009 and incorporated the water supply of both cities in the same year. Then they started with retail activities for electricity and gas. In 2012 Stadtwerke MüllheimStaufen took over the electricity grids from the former owner Energiedienst Netze. The assignment of the gas grids occurred 2014, eight years after the beginning of negotiations.

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State Ownership, Rent Seeking and Investment Efficiency: Evidence from Natural Advantage Industries

This article investigates how state ownership determines investment efficiency in natural advantage industries by considering state-owned enterprises (SOEs, hereafter) and privatized firms operating in these industries. We define “natural advantage” as a substantial endowment in a specific natural resource (e.g., oil reserves or mineral deposits). In addition, we define that a firm invests efficiently if it undertakes projects with positive net present value in the absence of market friction (e.g., information asymmetry, agency costs). As a result, a firm underinvests if it passes up investment opportunities that could have positive net present value, and it overinvests if it engages in projects with negative net present value. Natural resources’ endowment and ownership by the State enhance rent-seeking and extraction opportunities and incentives. To date, relatively few studies have examined the role of rent-seeking in the privatization context, though the Dinc (2005) analysis of lending patterns of government-owned banks during elections is one good example.

Agency theory provides us with insights on the role of rent-seeking in investment efficiency in private firms: conflicts of interest between shareholders and managers are especially severe in the presence of substantial free cash flow, notably in the presence of natural resources, which could lead firms to overinvest. In particular, managers could entrench themselves by making manager-specific investments so as to guarantee their job security. By the same token, less competent managers are prone to be locked into positions of corporate power in control pyramids and tend to be supported by more competent managers, ultimately entailing investment inefficiencies. More importantly, incompetent managers could simply siphon off anonymous, transportable assets such as cash or commodities--such as natural resources. The literature shows indeed that rent-seeking has strength in numbers, since the probability of getting caught declines if many people steal or loot (Murphy et al., 1993).

With respect to state ownership, the political/rent-seeking view holds that governments use SOEs to invest in projects that channel wealth to their political supporters rather than in projects that generate social welfare improvements. In emerging economies in particular, a high degree of state intervention in the economy increases levels of perceived corruption: Because the government could appropriate the resource rents once the private investment becomes irreversible, state ownership acts as a deterrent to private investment. Even alternative means of control such as indirect state ownership of privatized firms via holding companies or government-sponsored mutual funds consolidate government political influence over firms. In summary, governments in emerging economies tend to resort to public investment to enable rent-seeking, since rents stemming from natural resources promote corruption. Examples of such behavior abound

around the world, such as the recent nationalization of oil fields and companies in Venezuela.

State ownership, rent extraction and privatization

Guriev et al. (2011) observe that waves of nationalization of natural resource based firms occur during periods of high resource prices, in countries with weak political institutions. The risk of expropriation of resources by local authorities tends not only to discourage private investment in resource discovery, but also to reduce extraction rates of known reserves. Studies show that in order to conceal their politically motivated diversion of corporate resources, government owners tend to refrain from using trustworthy auditors (Guedhami et al., 2009).

Most resource-rich countries stimulate a predatory political state so that politicians could pursue rent-seeking by over-extracting resources to increase their chances of remaining in power (Robinson et al., 2006). By decreasing the grabbing hand of the government on firms' resources, privatization leads to improved firm performance of former SOEs: newly privatized firms enjoy more capital investment along with profitability increases in both developed and developing countries (Boubakri and Cosset, 1998; Megginson et al. 1994; Megginson, 2016). Similarly, specific aspects of corporate governance, such as the relinquishment of control by governments and stronger legal protection, enhance post-privatization firm efficiency in developing countries (Boubakri et al., 2005). Although few recent studies provide evidence on the negative impact of state ownership on investment efficiency in regular industries (e.g., O'Toole et al., 2016; Chen et al., 2014), we still lack an understanding of how this relation plays out in resource based industries, arguably among the most strategic in the country, and those most prone to rent extraction by government owners.

State ownership, rent seeking, ethnic fractionalization

Rent-seeking on resource windfalls is more likely in ethnically fractionalized countries than in ethnically homogeneous ones (e.g., Nigeria vs. Norway – Hodler, 2006). In ethnically fractionalized countries, targeted (public) spending favors specific groups of voters. Consequently, inequality across ethnic groups tends to flourish, which compromises economic growth. More generally, heterogeneous and polarized societies are prone to foregoing public goods in order to preserve patronage, which in turn affects fiscal discipline and acts as a deterrent to private investment. Therefore, growth-retarding consequences foster rent-seeking behavior (Easterly and Levine, 1997). While ethnic fractionalization apparently serves to limit economic growth, the literature reveals that several emerging economies show inter-ethnic cooperation (Alesina and La Ferrara, 2005). For example, oil-rich Malaysia has managed to redistribute wealth, through underpriced privatization issues, to economically underrepresented majority ethnic groups (Biais and Perotti, 2002). We thus hypothesize that in low fractionalization countries, the rent seeking behavior of the government in resource-based industries is mitigated. In other words, we should observe a weaker relation between state ownership and investment efficiency in these industries, when ethnic fractionalization is low.

Data and Sample Description

Our data cover the period 2003 to 2013. The choice of the study period is justified as follows: In the 1990s, findings on privatization activity started to

proliferate and limited data on SOEs became available. With the digital age, in the late 1990s, SOEs in several countries began to publish their annual reports electronically on their corporate websites.

Table 1: Sample Description – State-Owned Enterprises and Privatized Firms

This table describes the number of firms by year, natural resource used intensively, sector, and geographical region. The first three columns denote the number for the total sample, the subsample of state-owned enterprises (SOEs) only, and the subsample of privatized firms only, respectively. The next three columns represent the corresponding percentages for the total sample, the subsample of SOEs only, and the subsample of privatized firms only, respectively. The following countries are represented in our sample (the value in parentheses alongside each region denotes the number of countries included in the sample): Africa/Middle East (11) – Angola, Cape Verde, Jordan, Kuwait, Mauritius, Morocco, Namibia, Qatar, Sao Tome and Principe, South Africa, Tunisia; East and South Asia/Pacific (12) – Australia, Bangladesh, China, India, Indonesia, Japan, Malaysia, New Zealand, Pakistan, Philippines, South Korea, Thailand; Europe/Central Asia (27) – Belgium, Croatia, Cyprus, Czech Republic, Estonia, Finland, Germany, Greece, Hungary, Ireland, Italy, Kazakhstan, Kyrgyzstan, Latvia, Lithuania, Netherlands, Norway, Poland, Portugal, Russia, Slovakia, Slovenia, Sweden, Switzerland, Tajikistan, Turkey, United Kingdom; Latin America/Caribbean (14) – Argentina, Bolivia, Brazil, Chile, Colombia, Dominica, Grenada, Jamaica, Mexico, Peru, Saint Lucia, Suriname, Trinidad and Tobago, Uruguay; North America (1) – Canada.

	Number			Percentage		
	Total	SOEs	Privatized Firms	Total	SOEs	Privatized Firms
<i>By Year</i>						
2003	125	39	86	6.20	6.44	6.09
2004	152	43	109	7.54	7.10	7.73
2005	164	50	114	8.13	8.25	8.08
2006	182	54	128	9.02	8.91	9.07
2007	194	57	137	9.62	9.41	9.71
2008	203	63	140	10.06	10.40	9.92
2009	206	64	142	10.21	10.56	10.06
2010	205	63	142	10.16	10.40	10.06
2011	204	62	142	10.11	10.23	10.06
2012	199	60	139	9.87	9.90	9.85
2013	183	51	132	9.07	8.42	9.36
Total	2,017	606	1,411	100	100	100
<i>By Natural Resource</i>						
Bauxite	4	1	3	1.80	1.49	1.94
Coal	30	11	19	13.51	16.42	12.26
Copper	5	2	3	2.25	2.99	1.94
Diamonds	2	1	1	0.90	1.49	0.65
Gas	67	19	48	30.18	28.36	30.97
Gold	2	1	1	0.90	1.49	0.65
Iron Ore	21	2	19	9.46	2.99	12.26
Nickel	2	0	2	0.90	0	1.29
Oil	75	27	48	33.78	40.30	30.97
Phosphates	6	2	4	2.70	2.99	2.58
Salt	2	0	2	0.90	0	1.29
Tin	2	1	1	0.90	1.49	0.65
Zinc	4	0	4	1.80	0	2.58
Total	222	67	155	100	100	100
<i>By Sector</i>						
Chemical	9	2	7	4.05	2.99	4.52
Mining	33	10	23	14.86	14.93	14.84
Oil	63	20	43	28.38	29.85	27.74
Steel	20	2	18	9.01	2.99	11.61
Utilities	97	33	64	43.69	49.25	41.29
Total	222	67	155	100	100	100

By Region

Africa/Middle East (11)	17	12	5	7.66	17.91	3.23
East and South Asia/Pacific (12)	54	19	35	24.32	28.36	22.58
Europe/Central Asia (27)	101	22	79	45.50	32.84	50.97
Latin America/Caribbean (14)	49	14	35	22.07	20.90	22.58
North America (1)	1	0	1	0.45	0	0.65
Total (65)	222	67	155	100	100	100

Consequently, one can construct a meaningful data set covering SOEs and privatized firms as of the 2000s.

We choose 65 privatizing countries with a wide variance in natural resource endowment, geographical location, level of development, ethnic fractionalization, and with electronic disclosure of financial information by local SOEs and privatized firms (i.e., availability of annual reports on their corporate websites). Table 1 presents an overview of SOEs and privatized firms in our sample. We note that our sample consists of 2,017 firm-year observations, ranging from 125 to 206 firms in a specific year. In addition, it consists of 67 SOEs and 155 privatized firms (222 firms in total), distributed in five sectors: chemical, mining, oil, steel, and utilities. We note that 43.69% of our sample consists of utilities (49.25% in the case of SOEs, and 41.29% in the case of privatized firms) and 14.86% encompass firms operating in the oil and mining sectors (14.93% in the case of SOEs, and 14.84% in the case of privatized firms), respectively. As for natural resources, which follow the classification elaborated by the British Geological Survey, 33.78% (40.30% in the case of SOEs, and 30.97% in the case of privatized firms) and 30.18% (28.36% in the case of SOEs, and 30.97% in the case of privatized firms) of the firms in our sample are related to the natural resources oil and gas, respectively. In addition, we observe that coal (13.51%), iron ore (9.46%), phosphates (2.70%), and copper (2.25%) are also natural resources present in the operations of at least five firms considered in our sample (the percentages in the case of SOEs are 16.42%, 2.99%, 2.99%, and 2.99%, respectively; the percentages in the case of privatized firm are 12.26%, 12.26%, 2.58%, and 1.94%, respectively). With respect to geographical location, which follows the classification established by the World Bank, our sample is concentrated in Europe and Central Asia (45.50%, distributed in 27 countries).

Table 2: Univariate Analysis

This table presents a series of univariate analyses. In the first two panel, we examine investment efficiency (InvEff) and firm-specific characteristics (i.e., Age, Size, and free cash flow – FCF) by using t tests (Panel A) and Wilcoxon texts (Panel B). In every analysis, we compare two groups, namely state-owned enterprises (SOEs) and privatized firms. In Panel C, we proceed with univariate regressions. In all models, the dependent variable is investment efficiency (InvEff). In Model 1, we run a regression of InvEff on OWN, the proportion of ultimate state ownership. In Model 2, we regress InvEff on Frac_ADEKW, the Measure on Ethnic Fractionalization (Alesina et al., 2003). In Model 3, we run a regression of InvEff on Frac_F, the Ethnic Fractionalization Score (Fearon, 2003). In Models 4 we regress InvEff on the Ethnical Fractionalization Index (Montalvo and Reynal-Querol, 2005), respectively. The numbers in parenthesis indicate standard errors. *, **, *** denote significance at the 10%, 5%, and 1% levels respectively.

	Panel A – T Test						t Statistic	
	SOEs		Privatized Firms		Total			
	N	Mean	N	Mean	N	Mean		
InvEff	606	0.073 (0.003)	1,347	0.060 (0.001)	1,953	0.064 (0.001)	-4.483***	
Age	606	3.322 (0.035)	1,347	3.520 (0.022)	1,953	3.458 (0.019)	4.798***	

Size	606	21.536 (0.085)	1,347	21.856 (0.055)	1,953	21.757 (0.046)	3.153***
FCF	585	0.015 (0.004)	1,312	0.043 (0.003)	1,897	0.035 (0.002)	5.591***

Panel B – Wilcoxon Test							
	SOEs		Privatized Firms		Total		Z Statistic
	N	Median	N	Median	N	Median	
InvEff	606	0.052 (0.003)	1,347	0.041 (0.001)	1,953	0.044 (0.001)	-3.976***
Age	606	3.466 (0.035)	1,347	3.761 (0.022)	1,953	3.638 (0.019)	4.796***
Size	606	21.543 (0.085)	1,347	21.898 (0.055)	1,953	21.752 (0.046)	3.021***
FCF	585	0.009 (0.004)	1,312	0.032 (0.003)	1,897	0.026 (0.002)	6.607***

Panel C – Univariate Regressions				
	(1)	(2)	(3)	(4)
OWN	0.013*** (0.003)			
Frac_ADEKW		0.036*** (0.006)		
Frac_F			0.044*** (0.005)	
Frac_MRQ				0.038*** (0.005)
Year FE	No	No	No	No
R ²	0.009	0.020	0.037	0.036
Observations	1,953	2,015	1,951	1,668

The use of a sample of SOEs and privatized firms presents us with a unique opportunity to assess how privatization affects the sensitivity of investment efficiency to changes in the level of government ownership. We measure investment efficiency as the deviation from the expected level of investment made by a benchmark of international private firms. Accordingly, a higher deviation means less efficiency. Table 2 presents univariate results. In Panels A and B, we perform a series of t tests and Wilcoxon tests. We observe that state-owned enterprises (SOEs) tend to have less investment efficiency, age, size, and free cash flow relative to privatized firms. In addition, we note in Panel C that higher ultimate state ownership deteriorates investment efficiency, as do higher levels of ethnic fractionalization and polarization.

Main Results

Table 3 presents our multivariate analysis by resorting to split-sample analysis. In Models 1 and 2, we divide our sample by using the median of Frac_ADEKW, the Measure on Ethnic Fractionalization (Alesina et al., 2003). We note that the coefficient on OWN is positive and significant in the above-median sample only. This corroborates the conjecture that higher government ownership is detrimental to investment efficiency in natural advantage industries that tend to feature rent-seeking and corruption, and suggests that privatization can decrease the grabbing hand of the government and improve firm efficiency and performance.

Table 3: Multivariate Analysis

This table examines investment efficiency via split-sample analysis. We proceed with firm-clustered OLS regressions, with year dummies. The dependent variable in all regressions is investment efficiency (InvEff). OWN denotes the proportion of ultimate state ownership. As for the control variables, all models consider free cash flow – FCF, Size, and financial development – FinDev. Models 1 and 2 examine below- and above-median samples of Frac_ADEKW (Alesina et al., 2003). Models 3 and 4 consider below- and above-median values of Frac_F, the Ethnic Fractionalization Score (Fearon, 2003), respectively. Models 5 and 6 consider below- and above-median values of Frac_MRQ, the Ethnical Fractionalization Index (Montalvo and Reynal-Querol, 2005), respectively. The numbers in parenthesis indicate standard errors. *, **, *** denote significance at the 10%, 5%, and 1% levels respectively.

InvEff	Frac_ADEKW		Frac_F		Frac_MRQ	
	Low	High	Low	High	Low	High
	(1)	(2)	(3)	(4)	(5)	(6)
OWN	0.003 (0.010)	0.023** (0.010)	-0.003 (0.010)	0.028*** (0.009)	-0.001 (0.009)	0.026** (0.011)
Size	-0.001 (0.002)	-0.005*** (0.002)	-0.001 (0.002)	-0.006*** (0.002)	-0.002 (0.003)	-0.005*** (0.002)
FCF	-0.049 0.033	0.024 (0.026)	-0.009 (0.026)	0.006 (0.027)	-0.026 (0.033)	0.032 (0.028)
FinDev	-0.005 (0.003)	0.001 (0.003)	-0.004 (0.003)	0.001 (0.003)	-0.004 (0.004)	0.000 (0.004)
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
R ²	0.111	0.136	0.096	0.164	0.081	0.170
Observations	939	900	922	910	836	668

In Models 3 and 4, we split our sample by using Frac_F, the Ethnic Fractionalization Score (Fearon, 2003). Again, we report that the coefficient on OWN loads positive and highly significant in the above-median sample only, which lends support to our previous result. In Models 5 and 6, we divide our sample by resorting to Frac_MRQ, the Ethnical Fractionalization Index (Montalvo and Reynal-Querol, 2005). The results remain unchanged. In particular, we document that the coefficient on OWN enters positive and significant in the above-median sample only, consistent with our previous findings. Overall, this supports the conclusion that resource windfalls tend to nurture rent-seeking in ethically fractionalized countries, and that this negative effect is worsened by high state ownership.

Conclusions

In this document, we examine how state ownership affects investment efficiency in resource based industries and with respect to ethnic fractionalization in the country. Using a sample of 67 SOEs and 155 privatized firms from 65 countries operating in five natural advantage based industries covering 13 natural resources, we provide evidence that ultimate state ownership serves to impede the formation of investment efficiency patterns in natural advantage based firms. We also show that state ownership of natural advantage based firms located in ethically fractionalized countries is associated with greater investment inefficiencies.

Our findings have various implications. The privatization literature suggests that a slow pace of divestiture of natural advantage based firms could be an integral part of a “Machiavellian privatization strategy” (Biais and Perotti, 2002), since the ensuing politically motivated rents could ultimately be redistributed to middle-class voters. However from a corporate governance viewpoint, a slow paced privatization does not eliminate the grabbing hand of the government over

the countries' resources or the rent seeking behavior by politicians, which leads to sub-optimal outcomes at the firm level.

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State-owned enterprises in Singapore: a possible model for state capitalism?

State-owned enterprises in Singapore, frequently referred to as government-linked companies or GLCs, are on the whole regarded as efficient firms with good corporate governance. It is therefore not surprising that the Singapore GLC model is on occasion regarded as a possible model for countries that wish to reform their SOEs. In determining how replicable this model is, it is important to understand its historical foundation and important drivers. This paper attempts a succinct account of the relevant factors⁵³.

Period of self-governance and the need for political support

The People's Action Party (PAP) has been the dominant political party in Singapore since the late 1950s. For much of this period, the most influential person within the PAP was Lee Kuan Yew, the country's founding Prime Minister who held this position from 1965 to 1990 and remained a member of the Cabinet until 2011. It is therefore easy to forget that in the early years of the PAP, Lee Kuan Yew and his allies (many of whom were educated in English) were not the real force in the PAP; that mantle belonged to those who have been described as left-wing Chinese educated extremists under the influence of the Malayan Communist Party. These pro-communist members of the PAP commanded the support of organized labour and the Chinese masses. However, their ability to take control of the PAP was hampered by arrests of their leadership under internal security laws.

In 1959, Singapore attained full internal self-government with defence and foreign affairs being retained by the British colonial government. In elections for the new Legislative Assembly in May 1959, the PAP obtained a strong majority winning 43 out of 51 seats. The new PAP government faced a number of challenges. One was the need to provide employment as a result of the high percentage of individuals found to be in poverty (around 25%) and the rapid post-war rise in the birth rate which foreshadowed future difficulties. Better social services were also necessary, particularly in education, housing and sanitation.

Accordingly, to increase its political support, the PAP government that was dominated by persons aligned to Lee Kuan Yew embarked on a program of social reform. The Housing and Development Board was established in

⁵³ This is derived from an academic study by Tan, Puchniak and Varottil published in the Columbia Journal of Asian Law (Vol. 28 No. 2, Spring 2015), entitled "State-Owned Enterprises in Singapore: Historical Insights Into a Potential Model for Reform".

February 1960 and within three years built 21,000 flats. By 1965, it had built 54,000 flats. The success of the Board can be seen from the fact that today more than 80% of Singaporeans live in public housing that is regarded as being of good quality. Improvements were also made in health, utilities and education. For example, expenditure on education rose from \$600,000 in 1960 to \$10 million in 1963 and the school population increased substantially. The PAP government pledged to provide universal free primary schooling and embarked on a crash school building program and the recruitment and training of teachers.

Without economic development, such goals would be unsustainable. To assure economic development, Singapore embarked on industrial development. More importantly, she pursued merger with the Federation of Malaya. Historically, Singapore's entrepot economy was tied to the wider Malayan peninsula and it was conventional wisdom that Singapore was not viable as an independent entity. Merger took place on August 31, 1963 but the union was a difficult one and on August 9, 1965 Singapore ceased to be part of Malaysia, marking the beginning of her status as an independent republic.

Challenges faced by post-independent Singapore and industrial development

Aside from separation from Malaysia, another very serious challenge emerged when the British government announced in January 1968 that its forces east of Suez would be withdrawn in December 1971. Given that the British bases in Singapore provided direct and indirect employment for at least 20% of the work force and comprised 13% of GDP, this was a major setback to the government of a new and developing country. In addition, the Singapore government now also needed to invest more to build up its military capacity, particularly as the Malaysian government continued to maintain a military presence in Singapore. This would further strain Singapore's public finances.

The planned withdrawal of British forces was a major inflection point for Singapore as it marked the beginnings of a significantly expanded and more intrusive role played by the government in the economy that endures until today. Prior to this the government confined itself mainly to more traditional activities and to indirect involvement in the economy. With the British announcement, the government redoubled efforts to promote industrial development. As Singapore's economy had largely revolved around her status as an entrepot city, she lacked the necessary human talent and capital for industrial development. This perceived market failure was an important factor that led the government to play a direct role in bringing about industrial development.

Singapore adopted a two-fold strategy to achieve this. The first was to court multinational corporations and encourage them to set up manufacturing facilities in Singapore. The second involved establishing GLCs to start new industries and take over assets that the British government had agreed to hand over to Singapore after its planned withdrawal. The GLCs that took over British assets included Sembawang Shipyard Pte Ltd that began business as a commercial ship repairer after taking possession of a naval dockyard, and Changi Airport Group (Singapore) Pte Ltd that took over an air base that had

been designated as the site for Singapore's international airport and today manages Changi Airport, one of the world's busiest.

The Singapore government also incorporated GLCs that went on to develop new industries. These included Development Bank of Singapore (an important provider of finance for industrial development); Singapore International Airlines; Neptune Orient Lines (the national shipping company); Chartered Industries of Singapore Pte Ltd (ordnance manufacturer for the Singapore Armed Forces); and Singapore Technologies Aerospace Pte Ltd (provision of maintenance, repair and overhaul services to the Singapore Air Force).

When the government embarked on this path, it was fully aware of the risks involved. Lee Kuan Yew has written of his fear that the GLCs would become subsidized and loss making nationalized corporations as had happened in many new countries. However, he was persuaded by Hon Sui Sen, who later became Minister for Finance, that it was possible to succeed as these companies could compete in the market. If they were not profitable they would be shut down. Lee Kuan Yew, together with other Cabinet colleagues such as Goh Keng Swee who is widely regarded as the main architect of Singapore's economic success, thought this bold plan was worth the risk given the dearth of the right type of local entrepreneurs.

Economic development and political legitimacy

Singapore's industrialization efforts proved successful. The economy saw a shift to manufacturing. Its share in total output grew from 16.6 percent in 1960 to 29.4 percent by 1979. In 1992, manufacturing contributed 27.6 percent of GDP and accounted for 27.5 percent of employment. Public enterprises were, by the first half of 1974, thought to account for 14 to 16 percent of total manufacturing output. The PAP government's efforts towards economic development coupled with social reform both before and after independence translated into substantial political support and is a major factor contributing towards its continuing political success. Accordingly, when elections were held in September 1963 the PAP gained a clear victory, winning 37 out of 51 seats. The Barisan Sosialis, which had been formed by left-wing former PAP members, managed to win thirteen and the United People's Party won one. The PAP's victory in the following elections held in 1968 was even more comprehensive. The Barisan Sosialis boycotted the elections and the ruling party won every seat that was contested.

The Barisan's boycott in 1968 meant that the outcome of the elections was a foregone conclusion. The 1963 elections are therefore a better indicator of a decisive switch in popular support to the PAP. While it is true that the Barisan operated at a disadvantage as some of its leaders were in prison, the outcome was not certain. According to a historian, Catherine Mary Turnbull, the result of the 1963 polls appeared to hang in the balance and the PAP's clear victory was a surprise to both PAP and Barisan supporters alike. The PAP obtained just under forty-seven percent of the popular vote while the Barisan obtained around 33%. A major reason for this was the PAP's governance record. The party's good economic management and social policies had helped it to garner more support from the populace. As the PAP leadership under Lee Kuan Yew was aware of its initially precarious position within Singapore's political

arena, and sought to win the support of the majority of Singaporeans, their strategy was to improve the social and economic conditions of the people. Good economic management was regarded as an important pillar to strengthen the PAP's political position, and state capitalism was intended to facilitate Singapore's economic development.

The link between economic legitimacy and political power in Singapore cannot be overstated. Singapore has for most of her modern history been a largely immigrant society focused on commercial enterprise. The Chinese, Indians and other races that came to Singapore did so to engage in trade or to find work. By the end of the nineteenth century Singapore had a secure place in the pattern of world trade as a staple port, the entrepot for Southeast Asian raw materials and Western manufactured goods, with an increasingly sophisticated infrastructure of commercial institutions and expertise. Singapore today is still essentially a commercial city and her survival is premised on her ability to be commercially relevant to the wider region around her and as an important node for Western commercial enterprises and investors. Thus while economic growth is important to all countries, it is an almost existential condition in Singapore. It is therefore not surprising that economic legitimacy is probably the most important determinant of political legitimacy in the country.

The social contract with the people that has kept the PAP government in power since independence is widely accepted to be the promise of employment and a fair distribution of economic benefits, a significant part of which is represented by the provision of good public housing which a large majority of Singaporeans reside in. In this context, GLCs gave and continues to give the government considerable influence in certain segments of the economy. Arguably, any serious diminution of the position of GLCs would have major implications for the political regime, one reason being that the fortunes of the GLCs will influence the reformulation of any new social contract between the government and Singapore's citizens. Thus fortuitously from the outset the conditions to encourage the responsible management of GLCs were in place. The management of GLCs in the Singapore context cannot be separated from the overall approach that the PAP government adopted in the development of the Singaporean economy. Insofar as the PAP government needed robust economic development to strengthen its political position, it also needed the GLCs to succeed. To ensure the alignment of goals, the government seconded civil servants to manage many GLCs.

In keeping with the goal of fostering good governance, the government also adopted a zero tolerance approach to corruption. It is well known that corruption was fairly widespread in Singapore in the 1950s and 1960s and the PAP set out to contrast its conduct with that of the previous Labour Front government. Much of the corruption in Singapore at the time was of the petty kind but there were also larger scandals. The PAP government took steps to eradicate corruption and today Singapore is regarded as one of the world's least corrupt countries. This undoubtedly was also a factor in GLCs in Singapore being relatively well managed and not the victims of rent seeking that often occur in SOEs elsewhere. Indeed the aversion of the PAP government to corruption, particularly in the public sector, is evidenced by the fact that under Singapore law, a public servant who receives any gratification

shall be presumed to have received such gratification corruptly as an inducement or reward, unless the contrary is proved by such public servant. This inverts the presumption of innocence and is indicative of the seriousness with which the PAP government has traditionally viewed corruption.

With GLCs seen as an important engine in the development of the Singapore economy, the main method chosen by the government to exercise control over GLCs when civil servants ceased to manage such companies was the appointment of senior civil servants to the boards of these companies. These civil servants serve a monitoring function but otherwise government control is very loose. The government generally stays away from decisions involving appointments to the management of the GLCs and does not interfere in how they are run. The boards of GLCs are policy and monitoring boards rather than functional (managerial) ones. This model has endured and is still largely in operation today though one important difference is the interposition of a company to play the role that the state once did. Temasek Holdings Pte Ltd was incorporated on January 1st, 1974 to hold and manage the investments and assets previously held by the Singapore government. Its sole shareholder is the Minister for Finance and the transfer of government assets to Temasek was to allow it to manage those assets on a commercial basis.

Temasek states that it is an engaged shareholder that promotes sound corporate governance in its portfolio companies. This includes supporting the formation of high calibre, experienced and diverse boards to guide and complement management leadership. Temasek's policy is not to direct the business operations or decisions of the companies in its portfolio, but to leave this to their respective boards and management. Temasek does, however, advocate that boards be independent of management in order to provide effective oversight and supervision of management. This includes having mostly non-executive members on boards with the strength and experience to oversee management. Similarly, Temasek advocates that the roles of Chairman and Chief Executive Officer be held by separate persons, independent of each other. As with the position soon after independence, boards will comprise senior civil servants as well as former senior civil servants. Many board members are also drawn from the private sector and the professions. Former senior civil servants are also occasionally appointed to senior management positions within the GLCs.

Some reflections on the Singapore model

While Singaporeans generally regard Lee Kuan Yew and his cabinet ministers as persons with high moral integrity, the role of a highly contested democratic political environment in the 1950s and 1960s should not be understated as helping to foster a culture of good political governance that in turn was transposed to the GLCs. Lee Kuan Yew, for all his caveats about democracy, has said on a number of occasions that it was beneficial for his ministers and parliamentarians to submit to the will of the people every few years. The PAP was clearly aware of how the previous Labour Front government lost support partly as a result of negative public perception brought about by allegations of corruption against a member of the Cabinet. The PAP therefore sought to cast itself in the 1959 elections as the party of honest and efficient government.

Having won convincingly, it had to live up to its promises or risk being punished in subsequent polls. The task was all the more urgent as Lee Kuan Yew and his allies in the PAP had the communist wing of the Party to contend with which eventually broke away to form the Barisan Sosialis. The PAP has relied on its competent management of the economy and the fair distribution of its benefits to retain strong political support. Accordingly, properly understood, Singapore does not stand (as some people seem to think) as a good example of an authoritarian political system (whether with or without the trappings of democracy) being superior for early economic development. The PAP leadership took radical steps to bring about economic development at a time when the electoral landscape was highly contested and its political support was relatively weak. Although it had the advantage of colonial era legislation that allowed it to imprison political opponents that were regarded as communists, the opposition Barisan Sosialis had substantial support in the early 1960s and it must be remembered that in the 1963 elections the PAP did not obtain a majority of the popular vote. Nevertheless, it had done enough in its first term in government to persuade enough Singaporeans to vote for it to become the party with the largest percentage of the valid votes cast.

As the PAP's legitimacy is deeply intertwined with Singapore's economic performance, this creates a structure in which Temasek has clear incentives to ensure that GLCs are effectively governed for the benefit of all shareholders. This suggests that conventional comparative corporate governance theory, which assumes that controlling shareholders are incentivized primarily to extract private benefits of control, does not seem to apply in full force to Temasek. It also explains why Temasek continues to adhere to its policy of ensuring that independent boards on its portfolio companies provide the requisite strategic direction and monitoring so as to benefit shareholders, including minority shareholders. While there is nothing to stop the Singaporean government from interfering if it wishes to do so, there exists a strong convention built up over many years against such interference. As GLCs were seen as important drivers of the economy, the government saw the importance of putting in place measures that would allow them to be run efficiently and has continued to honour this approach.

It is clear from the foregoing that political, social and economic factors played important roles in the development of state capitalism in Singapore. This should be taken into account when determining if the Singapore approach can be adapted elsewhere. For example, in countries where meaningful multi-party elections are non-existent, are there other mechanisms that can effectively discipline its leaders so as to act as a restraint to rent seeking behaviour? While all governments need to be mindful of retaining political legitimacy, it seems unlikely to this author that over a longer runway the perceived need to retain political legitimacy will be as consistently effective as the need to submit periodically to the will of the people in competitive elections.

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Failed Privatizations: A European Perspective

1. Introduction

Despite the rise (and failure) of forms of State Capitalism characterized the first decade of the 21st century, privatizations programs have spread worldwide, allowing governments to raise over \$3.6 trillion since 2004 (Megginson, PB 2015). Even though the recent shift in divestments away from the European region towards emerging countries has reduced EU privatization shares to 32.6% of the global privatization total over the period from January 2005, to December 2016 (Megginson, 2016), European governments have been heavily relying on this policy tool, collecting \$770.8 billion over the same period.

While an extensive literature has carefully studied the economic and political determinants and consequences of successful privatization programs, extant research has completely ignored that after a privatization is initiated, the proposed transaction can actually be withdrawn from the market before being completed. These ‘failed’ privatizations have been generally regarded as rare outcomes and virtually no study has ever investigated these potentially important economic events. Interestingly, this widespread belief that proposed security offerings and asset sales are never cancelled has no empirical foundation. Dunbar et al. (1998) and Busaba, Benvenistem and Guo (2001) show that between mid-1980s and mid- 1990s almost 20% of filed IPOs were actually withdrawn before completion. In a more recent study, Dunmbar et al. (2008) confirm this statistic, furthermore showing that the fraction of withdrawn IPOs has increased to almost 50% of total filed IPOs over the period between the mid-1990s to 2008.² Similarly, Mikkelsen and Partch (1988), and, more recently, Lee and Masulis (2008) hand collect samples of American firms’ SEOs, both finding that approximately 10% of these announced equity issues were withdrawn after being announced.

Given the existence of this strong pattern for private firms, it would not be unreasonable to expect similar figures for privatizations programs. In fact, as in any equity offering, when a government announces a future privatization, it is not committing to issuing/selling shares at any price or market conditions. Rather, the government’s commitment should be interpreted as conditional on the characteristics of the received offers and on changes in the political environment. Hence, the privatization can be cancelled or postponed at any time.³ This opportunity represents a valuable real option owned by the government and taken into account by investors when deciding whether and how to bid on an offered transaction. Therefore, the option to withdraw a privatization will impact both governments’ behaviours and investors’ demand for the proposed deal.

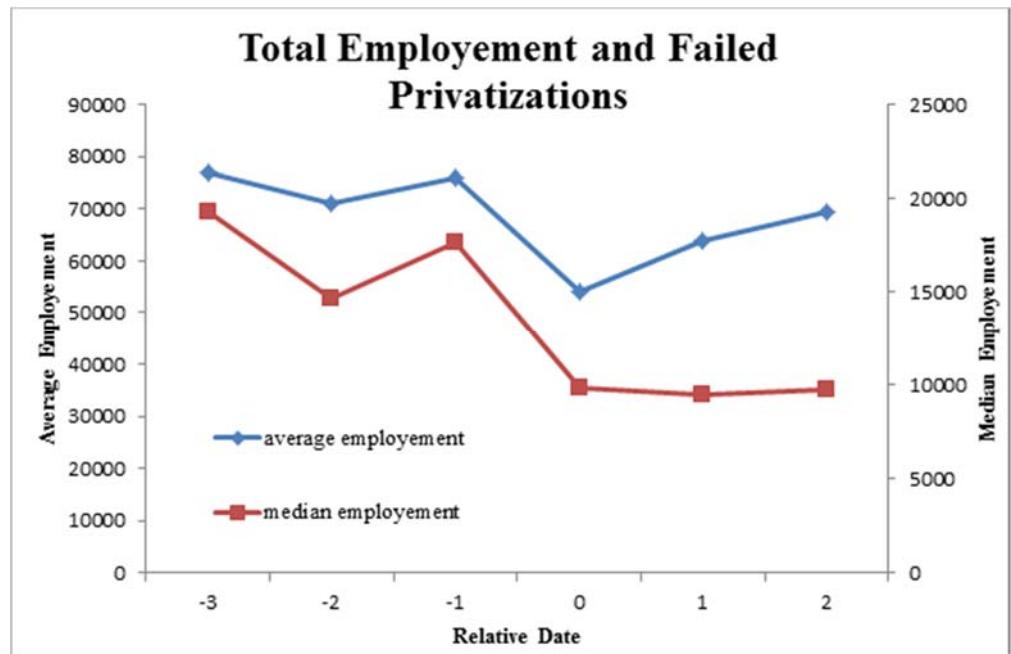
¹ Corresponding author: please address correspondence to gabriele.lattanzio@ou.edu.

² These IPO statistics refer to U.S. based firms.

³ For instance, Greece was the world third largest privatizer of 2014, rising above \$13.00 billion. Nonetheless, the election of Alexis Tsipras as new prime minister in 2015 significantly slowed down the Greek privatization program, resulting in several failed (cancelled or postponed) privatizations.

This setting is theoretically formalized in the framework of privately owned firms' IPOs by Busaba et al. (2006), in which the authors show the existence of a strong association between the probability of an IPO's withdrawal and underpricing, with this real option consistently having a non-zero value. Despite being relevant,⁴ this setting cannot be applied directly to privatizations. Governments are not profit maximizer agents, and their system of incentives is structurally different from the one faced by private investors. In particular, in democratic countries the incumbent government might be working to maximize the probability of retaining power (winning future elections), or might be naively and blindly following a certain ideology, instead of maximizing social welfare. This view would be consistent with findings in Roberts and Saeed (2013), in which the authors show that political factors are crucial determinants of privatization processes around the world. Furthermore, quoting Milton Friedman,⁵ even if the governments "intend only to serve public interest [, they] are led by invisible hand to private interest which was no part of their intention".⁶ All in all, it appears to be important to study whether or not a government's decision to withdraw a privatization is purely based on economic reasons. If this is not the case, in fact, privatizations' withdrawals might be used as a wealth-transfer device by ruling parties seeking to maximize their probability of re-election at tax-payers' expenses. In particular, there is a widespread belief that privatizations are followed by dramatic jobs-cut, even though extant research is inconclusive about the direction and magnitude of this undesired consequence (Megginson 2016).

Figure 1. Change in average and median employment in SOEs whose proposed privatization failed



⁴ In particular, if the probability of withdrawing a privatization is lower (because of higher reputational costs) than the probability of private investors withdrawing an IPO, this model might explain at least a portion of the severe privatization discount discussed in Lopez-de-Silanes (1997), among others.

⁵ From the "Free to choose" documentary series, PBS 1980.

⁶ See Laffont and Tirole (1993) and Shleifer (1998), among others.

Therefore, if privatizations are withdrawn to avoid or postpone cuts to these implicit economic subsidies for electoral purpose, then privatizations' withdrawals might serve private goals instead of social welfare maximizing objectives. Figure 1 provides support for this "subsidization" hypothesis". After a failed privatization, SOE's average employment bounces back to high levels, while median employment stops decreasing.

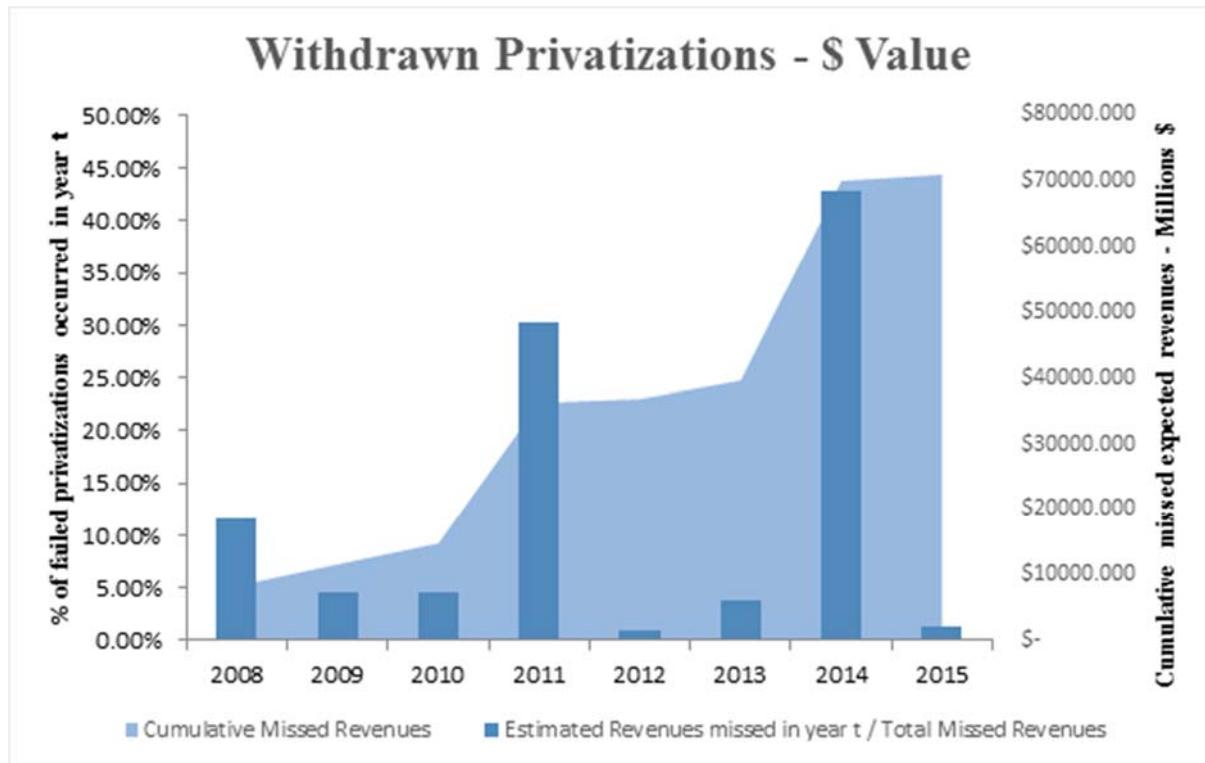
My novel database collecting comprehensive information about withdrawn privatizations in Europe between 2004 and 2015 might shed light on this important phenomena, allowing us to open the black box of failed privatization for the very first time.

2. A novel database

I hand collect information on failed privatizations occurred in Europe between 2004 and 2015 by surveying the Privatization Barometer Reports for the period 2004 to 2015, Lexis-Nexis, and Bloomberg. Failed privatizations are defined as transactions announced by a government, and subsequently cancelled or postponed by at least 12 months, and for which the estimated expected revenues from the transaction were above \$500 million. This selection leads to a final sample of 63 withdrawn European privatizations, which appear to be relatively homogenously distributed over time, consistently with the privatizations' withdrawals not being clustered around a few important macro-events. Table 1, Panel A describes the temporal distribution of failed privatizations. Puzzlingly, the number of privatizations' withdrawals decreases significantly between 2007 and 2009, when market conditions were particularly problematic. This puzzling result should be interpreted within the proper context. First, the applied filter might be cutting out of the sample several smaller privatizations that were a part of those large privatizations programs that were withdrawn during the financial crises (Bortolotti and Megginson, PB 2008). Second, due to hand collection, selection bias might arise from the research methodology employed. Notwithstanding, this dramatic decrease in the number of failed privatizations cannot be fully captured by these two considerations, so remains puzzling and worthy of further investigation. Aside the above mentioned issue, the smooth time-distribution of failed privatizations is consistent with withdrawals being a valuable real option for European governments (Busaba et al., 1999).

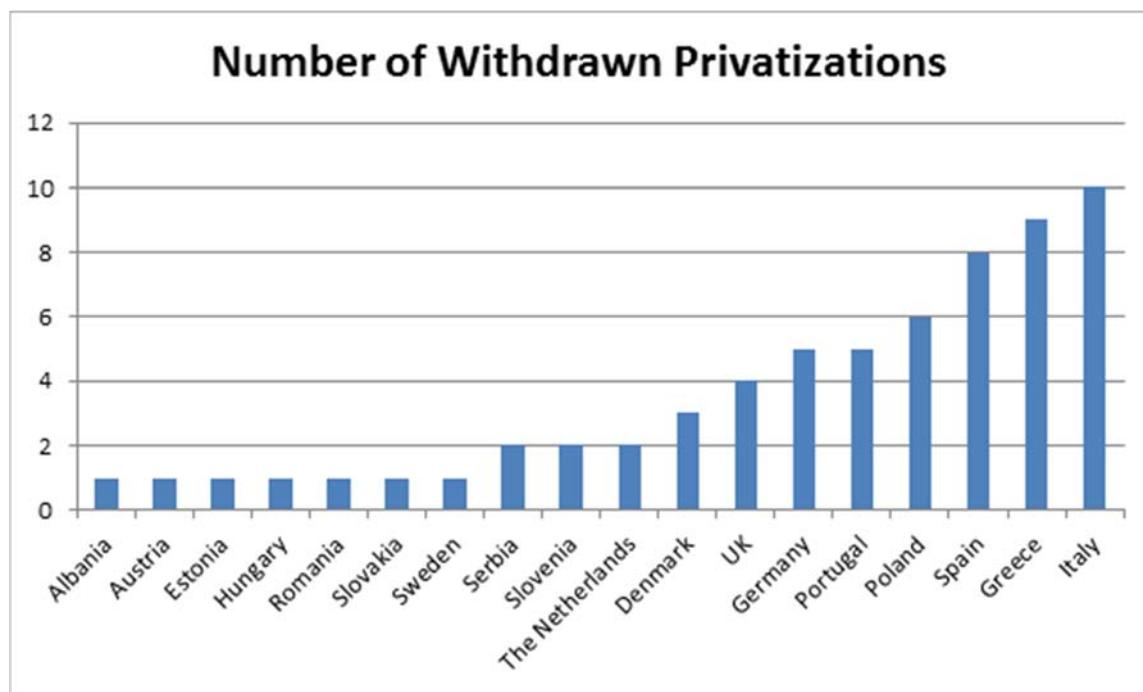
A potential concern is related to the fact that these failed privatizations might represent a set of small transactions, whose economic significance might be marginal. Table 1, Panel B reports the temporal distribution of European governments' foregone revenues from failed privatizations. The reported values are impressive, with "missing" expected revenues cumulating to over \$70.00 billion over the period from 2008 to 2015. It is important to emphasize that these values are conditional on two important caveats. First, as previously mentioned, the current sample accounts exclusively for failed privatizations whose estimated revenues were above \$500 million. Second, Table I, Panel B reports only foregone revenues for which estimates were disclosed by independent sources, such as Bloomberg or the Privatization Barometer Report.⁷ Therefore, these estimates might well suffer from selection bias, and are likely to represent a severe underestimation of governments' true foregone expected revenues from failed privatizations. These results are briefly summarized in figure 2.

⁷ To date, estimated miss revenues are available exclusively for the period from 2008 to 2015.

Figure 2. Missed Expected Revenues between 2008 and 2015

Another important concern is related to the possibility that all the observed withdrawn privatizations occurred in a few countries in which dramatic change in the economic or political environment might have caused the withdrawal of entire privatization programs. For instance, Greece represents the perfect case study. Alexis Tsipras was elected as Prime Minister of Greece on January 26, 2015, and re-elected on September 21, 2015. Tsipras was supported by the left-wing, socialist party Syriza, which strongly opposed and committed to cancel most of the privatizations proposed by the previous government, headed by Antonis Samaras. These sales were required by the IMF and by the ECB as a crucial component of the Greek deficit reduction plan. If most privatizations' withdrawals in my sample are connected to a few countries experiencing similar political and ideological shifts than the interpretation of the opportunity to withdraw a privatization as a valuable real option owned by governments would be severely undermined. As shown in Table 1, Panel C, this is not the case. More than 18 European countries have experienced at least one large privatization's withdrawal over the last 11 years, suggesting that withdrawing a privatization is indeed a valuable option that governments can exercise at their convenience and discretion.

All in all, these simple summary statistics confirm that withdrawn privatizations are not rare events associated to temporary situations of political and/or financial turmoil, but the outcome of strategic decisions undertaken by governments operating in different economic and political environments.

Figure 3. Geographical distribution of failed privatizations in Europe**Table I****Number of Withdrawn Privatizations**

This table presents the full sample of European Withdrawn Privatizations. Panel A reports the number of withdrawn privatizations per year; Panel B reports the time-distribution of the estimated missed revenues; Panel C reports the country-distribution of the estimated missed revenues from failed privatizations. All dollar amounts have not been deflated.

Panel A: Number of Failed Privatizations

Year	Number of Withdrawn Privatizations	Number of Failed Privatization in year t / Total Withdrawn Privatizations	Cumulative Number of Withdrawn Privatizations
2004	10	15.87%	10
2005	9	14.29%	19
2006	10	15.87%	29
2007	1	1.59%	30
2008	2	3.17%	32
2009	1	1.59%	33
2010	3	4.76%	36
2011	8	12.70%	44
2012	3	4.76%	47
2013	4	6.35%	51
2014	8	12.70%	59
2015	4	6.35%	63

Panel B: Estimated Missed Revenues from failed Privatizations

Year	Estimated Missed Revenues	Estimated Revenues missed in year t / Total Missed Revenues	Cumulative Missed Revenues
2008	\$ 8,300,000,000.00	11.68%	\$ 8,300,000,000.00
2009	\$ 3,260,000,000.00	4.59%	\$ 11,560,000,000.00
2010	\$ 3,200,000,000.00	4.50%	\$ 14,760,000,000.00
2011	\$ 21,484,000,000.00	30.24%	\$ 36,244,000,000.00
2012	\$ 600,000,000.00	0.84%	\$ 36,844,000,000.00
2013	\$ 2,750,000,000.00	3.87%	\$ 39,594,000,000.00
2014	\$ 30,500,000,000.00	42.93%	\$ 70,094,000,000.00
2015	\$ 950,000,000.00	1.34%	\$ 71,044,000,000.00

Panel C: European Countries and Failed Privatizations

Country	Number of Withdrawn Privatizations	Number of Failed Privatization in year t / Total Withdrawn Privatizations	Cumulative Number of Withdrawn Privatizations
Albania	1	1.59%	1
Austria	1	1.59%	2
Estonia	1	1.59%	3
Hungary	1	1.59%	4
Romania	1	1.59%	5
Slovakia	1	1.59%	6
Sweden	1	1.59%	7
Serbia	2	3.17%	9
Slovenia	2	3.17%	11
The Netherlands	2	3.17%	13
Denmark	3	4.76%	16
UK	4	6.35%	20
Germany	5	7.94%	25
Portugal	5	7.94%	30
Poland	6	9.52%	36
Spain	8	12.70%	44
Greece	9	14.29%	53
Italy	10	15.87%	63

3. Are failed and succesfull privatizations statistically and economically distinguishable?

The decision about which state-owned enterprises (SOE) should be privatized cannot be separated from important political considerations (Lopez-de-Silanes 1997, Roberts and Saeed, 2013). Conversely, political considerations should play

a secondary role in deciding which firm should be withdrawn from the market, since these considerations have already been applied before the initial privatization announcement. In fact, these firms have already been filtered out by the government as those “available for sales”, and, therefore, the strategic decision of withdrawing a SOE’s privatization should be driven mostly (if not even exclusively) by economic factors.⁸ Consequently, it is fair to assume that firms whose privatization process was successfully completed should significantly differ on many important economic dimensions from those that were withdrawn from the market. Table 2 presents a simple comparison between these two groups on the event date.⁹

Interestingly, the two samples are almost statistically indistinguishable. In particular, it is important to emphasize that the two groups are unmatched and, therefore, they might differ severely in terms of cross-country distribution, privatization methods or other important observable and unobservable variables. Note that all these differences should bias these univariate statistics towards being significantly different. Therefore, this simple comparison is strongly suggestive that economic factors are unlikely to fully explain the determinants of privatizations’ withdrawal, consistently with findings in Roberts and Saeed (2013).

Table II
Difference in means between failed and completed privatizations

This table presents results for the full sample of European Withdrawn Privatizations and for the completed privatizations reported in the PB Database, for which financial data are available. The table reports means and difference in means between this two groups, as reported in t=0, that is in the year in which the privatization is completed or withdrawn. The statistical difference between the two groups have been computed with a simple t-test. All values are deflated to 2016 dollars. * indicates that the difference is significant at 10% level of probability.

Variable	Withdrawn Privatizations		Completed Privatizations		Difference in means		
	Mean	N	Mean	N	Mean	N	T-stat
Profitability							
ROS	14.81%	37	9.99%	141	4.82%	178	1.6966*
ROA	4.30%	37	4.20%	141	0.10%	178	0.0100
ROE	12.37%	37	11.39%	141	0.98%	178	0.2859
Efficiency							
Net Income Efficiency	7.08%	32	5.74%	125	1.34%	157	0.7781
Sales Efficiency	53.40%	32	71.69%	125	-18.29%	157	1.1317
Investment							
CAPEX to Sales	14.34%	33	11.37%	132	2.97%	165	0.5665
CAPEX to Total Assets	5.72%	33	4.33%	132	1.39%	165	1.7295*
Employment							
Total Employment	40,717.94	32	44,179.77	126	-3,461.83	158	-0.2350
Leverage							
Debt-to-Assets	29.26%	37	27.05%	133	2.21%	170	0.6772
Long term Debt to Equity	74.43%	37	137.91%	132	-63.48%	169	-1.8083*
Dividends							
Dividend to Sales	6.03%	31	5.50%	123	0.53%	154	0.3661

⁸ Provided that no major political change has occurred between the privatization announcement and its subsequent withdrawal.

⁹ Successful privatizations are collected from the privatization barometer repos; financial data are collected from Bloomberg and Datastream.

Interestingly, withdrawn privatizations seems to be characterized by a slightly higher profitability, as measured in term of return on sales, and by lower leverage levels. All these findings are counter-intuitive, since these firms are likely to have relatively higher valuations and therefore to yield higher revenues.

All in all, these small differences suggest that political factors are likely to represent critical determinants of the decision to withdraw a previously announced privatization, pointing to the possibility of the existence of a large and unexplored wealth transfer arising from tax-payers to the ruling party, whose identification would have important policy implications.

4. Concluding Remarks

Privatizations withdrawals are not as rare as previously thought. Their time- and cross-country distributions suggest that the possibility of withdrawing a previously announced privatization is a valuable real option owned by governments, which can exercise it at their convenience and discretion. Consequently, ignoring this strategic decision would necessarily lead to biased estimates of a SOE's valuation; in particular, the existence of this option might explain at least a portion of the large discount at which governments sell their assets. Furthermore, the reported summary statistics show that failed privatizations are indistinguishable from the group of successful privatizations for most economic and financial performance indicators, providing support for the idea that political factors play a fundamental role in explaining the determinants of privatizations' withdrawal. In turn, these findings are suggestive that ruling parties might be exploiting this policy tool as a wealth transfer device aimed at maximizing the incumbent party's probability of re-election at the expense of tax-payers. Considering that foregone revenues from European failed privatizations cumulate to over \$70.00 billion over only eight years, the social costs associated with this subtle mechanism might be impressive and worthy of further investigation.

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Heterogeneous State Shareholders and Their Impacts

The impact of state ownership on firm performance has always been a topic of concern to practitioners and researchers. State ownership is a double-edged sword to a firm. On one hand, governments have major resources under their control and have high credibility. With the government endorsement, firms might have some implicit competitiveness in business activities including privileges to certain business projects, implicit financial protections, and better access to financial markets. On the other hand, governments have social responsibilities and political purposes. They may politically intervene in the operating decisions of firms owned by them to achieve some social and/or political goals. This kind of political interference often harms the firm interests and therefore hurts the benefit of shareholders. However, as pointed out in the economic literature, state shareholders do not belong to a homogenous group. Different types of government shareholders or state ownership may show different advantages and disadvantages to a firm's operations and have different impacts on a firm's performance. In this article, I summarize the empirical studies in corporate finance literature examining the impacts of different types of state ownership on firm valuation and performance. The rest of this article is organized as follows. Section 1 surveys the studies focusing on the impacts of different types of state ownership on firm valuation or shareholder wealth. Section 2 surveys the studies examining how a firm's operating performance is affected by different types of state ownership. Section 3 surveys the studies investigating how different types of state ownership affect corporate decisions such as the auditor choice or the setting of CEO compensation. Section 4 briefly makes a conclusion.

1. Firm Valuation and Shareholder Wealth Effects

In this section, I survey six articles studying the impacts of different types of state ownership on firm valuation and shareholder wealth. Among them, Holland (2016) and Karolyi and Liao (2011) are international studies. Berkman, Cole, and Fu (2014), Cheung, Rau, and Stouraitis (2010), Jiang, Lee, and Yue (2010), and Gao (2016) focus on China. The ownership classification method and the impacts of different types of state ownership in each study are summarized in Table 1. Holland (2016) examines the shareholder wealth effects of government acquisitions of publicly traded firms with 2,118 government equity investment transactions spanning 71 countries from 1987 to 2013. By grouping government investors according to their probabilities of political interference, the author finds that investments by the political arms of governments are more likely to generate negative target announcement reactions. In addition, the negative wealth effects are more pronounced when investments are made by domestic governments, in regulated industries, or by left-wing governments. In contrast, the industrial and financial arms of governments have positive value effects on target firms. Karolyi and Liao (2011) study the cross-border acquisitions led by government-controlled acquirers. Their main focus is to examine whether government-controlled acquirers have different motives and might cause different consequences than privately-owned acquirers in cross-border acquisitions.

However, they further divide their government-controlled acquirers into sovereign wealth fund (SWF) acquirers and non-SWF acquirers. They find that the three-day cumulative abnormal market-adjusted returns (CMARs) are smaller for SWF-led acquisitions although both types of acquisitions generate positive market reactions. In addition, they find that SWF acquirers tend to target at larger firms with less financial constraints and SWF-led acquisitions are less likely to fail.

Berkman et al. (2014) separate Chinese state control into direct control through state bureaucrats and control through market-oriented state-owned enterprises (MOSOEs) and examine the valuation effects around block-share transfers among state bureaucrats, MOSOEs, and private entities. They find that block transfers from a state bureaucrat to a private entity generate the highest market reactions around announcement periods (33.6%). However, block transfers within state bureaucrats have the lowest market reactions (20.9%). Block transfers from a state bureaucrat to a MOSOE have the middle level market reactions (26.6%). Cheung et al. (2010), Jiang et al. (2010), and Gao (2016) focus on the difference between central government and local government ownership in China. Cheung et al. (2010) find that central government shareholders benefit minority shareholders through related party transactions between publicly traded firms and their wholly state-owned enterprises (SOEs) which is consistent with the helping hand hypothesis. However, minority shareholders are more likely to be expropriated by local government shareholders through related party transactions. A wealth transfer from minority shareholders to local government owned SOEs is documented in the paper. It verifies the grabbing hand role of local governments. Their results are supported by Jiang et al. (2010) who mainly study the tunneling problem and minority shareholder expropriation in China. They focus on a specific type of corporate abuse which was widely practiced in China from 1996 to 2006. The controlling shareholders siphon funds from listed firms through intercorporate loans. The authors evaluate the severity of this tunneling problem in different types of publicly traded firms and find that local government controlled firms face more severe tunneling problem compared to central government controlled firms. In other words, minority shareholders in local government controlled firms have higher risk to be expropriated by controlling shareholders.

Gao (2016) investigates the difference in post-privatization performance improvements between central government owned and local government owned SOEs. His main results show the differences in operating performance changes between the two types of SOEs which will be discussed in detail in the next section. The author also checks and compares the market reactions in the privatization plan announcement periods for the two types of SOEs. He finds that the three-day, five-day, and seven-day average cumulative abnormal returns (CARs) are all significantly positive no matter whether the SOE is owned by the central or local governments. Surprisingly, even though central and local government ownership each have different advantages and disadvantages to corporate operations, the market doesn't show significantly different reactions to the privatization plan announcements of the two types of SOEs. This implies that investors do not believe that the two types of state ownership have different net impacts on firm performance.

Tabella 1. Summary of Empirical Studies of Types of State Ownership and Their Impacts on Firm Valuation and Shareholder Wealth

Study	Ownership classification methods	Impacts on firm valuation and shareholder wealth
Cheung, Rau, and Stouraitis (<i>Review of Finance</i> , 2010). Helping hand or grabbing hand? Central vs. local government shareholders in Chinese listed firms.	Central government shareholders, local government shareholders	Central government shareholders benefit minority shareholders through related party transactions. However, minority shareholders are more likely to be expropriated by local government shareholders through related party transactions.
Jiang, Lee, and Yue (<i>Journal of Financial Economics</i> , 2010). Tunneling through intercorporate loans: The China experience.	Central government controlled firms, local government controlled firms	Local government controlled firms have more severe tunneling problem comparing to central government controlled firms. Minority shareholders in local government controlled firms have higher risk to be expropriated by controlling shareholders through intercorporate loans.
Karolyi and Liao (Working paper, 2011). What is different about government-controlled acquirers in cross-border deals.	SWF acquirers, non-SWF acquirers	Both SWF-led and non-SWF-led acquisitions generate positive market reactions. However, the positive reactions for SWF-led acquisitions (measured by three-day CMARs) are relatively smaller.
Berkman, Cole, and Fu (<i>The European Journal of Finance</i> , 2014). Improving corporate governance where the State is the controlling block holder: evidence from China.	State bureaucrats, MOSOEs, private entities	Block-share transfers from a state bureaucrat to a private entity generate the highest market reactions (33.6%) around announcement periods. Transfers within state bureaucrats generate the lowest market reactions (20.9%). Transfers from a state bureaucrat to a MOSOE generate the middle level of market reactions (26.6%).
Gao (Working paper, 2016). Types of government ownership and post-privatization performance: Evidence from Chinese private placement privatizations.	Central government owned enterprises, local government owned enterprises	The announcement of privatization plan generates positive market reactions regardless of the type of state ownership. No matter privatizations are implemented by CGOEs or LGOEs, the market has similar size of positive reactions.
Holland (Working paper, 2016). Are all government owners viewed the same? Evidence from government acquisitions of publicly traded firms.	Political arms of governments, industrial and financial arms of governments, domestic governments, foreign governments, left-wing governments, right-wing governments	Investments by the political arms of governments are more likely to generate negative target announcement reactions. In addition, the negative wealth effects are more pronounced when investments are made by domestic governments, in regulated industries, or by left-wing governments. Investments by the industrial and financial arms of governments usually generate positive market reactions.

2. Firm Operating Performance

This section summarizes four studies examining the impacts of different types of state ownership on firm operating performance. Three out of the four are Chinese studies. The other one is an international airport study. Table 2 provides a summary of them. As discussed in the previous section, Berkman et al. (2014) check the valuation effects around block-share transfers. In addition, they also examine the accounting performance changes after the transfers. They find positive changes in return on assets (ROA) when the block transfer is from a state bureaucrat or a MOSOE to a private entity, from a bureaucrat to a MOSOE, or within MOSOEs. Among them, the transfers from state ownership to private

ownership show the largest improvement in ROA. Furthermore, they find a faster CEO turnover when control is transferred to a private entity. Their findings support the view that private ownership is more effective than state ownership. Between the two types of state control, the control through MOSOEs has a more positive impact on firm operations.

Chen, Firth, and Xu (2009) study the impacts of different types of ownership on a firm's operating performance and draw a different conclusion from Berkman et al. (2014). Based on different types of ownership, the authors group listed firms into those controlled by state asset management bureaus (SAMBs), SOEs owned by the central government (SOECGs), SOEs owned by local governments (SOELGs), and private firms. They claim that state ownership is not necessarily inferior to private ownership. Surprisingly, in their sample, SOECGs have the best operating performance, while SAMBs and private firms show the worst operating performance. SOELGs are in the middle.

Gao (2016) is the first paper in the privatization literature to investigate the impact of state ownership type on post-privatization performance improvements. The author uses privatization as an experiment and examines whether different types of state ownership may affect a firm's operating performance differently before privatization. His sample includes 254 privatizations implemented by central government owned enterprises (CGOEs) and 503 privatizations implemented by local government owned enterprises (LGOEs) in the period 2006 to 2015. Operating performance is evaluated from the following five aspects: output, profitability, capital investment, operating efficiency, and leverage. He checks for operating performance changes from three years before to three years after privatization and finds that CGOEs experience larger increase in output while LGOEs have greater improvement on profitability after privatizations. Regarding capital investments, operating efficiency, and leverage, the two types of SOEs experience similar changes after privatization. Therefore, the author concludes that central government and local government ownership have limited differences in their impacts on a firm's operating performance. Central government ownership is superior to local government ownership in terms of profitability, but they have similar impacts on a firm's capital investments, operating efficiency, and leverage.

Oum, Adler, and Yu (2006) examine productive efficiency and profitability of major airports in Asia-Pacific, Europe, and North America. According to the ownership structure, airports are classified into those owned and operated by government departments, 100% government-owned corporations, independent airport authorities, mixed enterprises with government majority ownership, and mixed enterprises with private majority ownership. They find that airports owned and operated by 100% government-owned corporations are more efficient than airports owned and operated by mixed enterprises with government majority ownership. On the other hand, airports with private majority ownership are more efficient than those with government majority ownership or multi-level government ownership, and private majority airports have significantly higher operating profit margins than any other types of airports. The authors also find that private majority airports do not necessarily have higher efficiency than the airports owned and operated by the US government branches or 100% government-owned corporations.

Tabella 2. Summary of Empirical Studies of Types of State Ownership and Firm Operating Performance

Study	Ownership classification methods	Impacts on operating performance
Oum, Adler, and Yu (<i>Journal of Air Transport Management</i> , 2006). Privatization, corporatization, ownership forms and their effects on the performance of the world's major airports.	Government departments, 100% government-owned corporations, independent airport authorities, mixed enterprises with government majority ownership, mixed enterprise with private majority ownership	Airports owned and operated by 100% government-owned corporations are more efficient than airports with government majority ownership. Airports with private majority ownership are more efficient than those with government majority ownership or multi-level government ownership. Private majority airports have higher operating profit margins than any other types of airports.
Chen, Firth, and Xu (<i>Journal of Banking and Finance</i> , 2009). Does the type of ownership control matter? Evidence from China's listed companies.	SAMBs, SOECGs, SOELGs, private firms	SOECGs have the best operating performance. SAMBs and private firms have the worst operating performance. SOELGs are in the middle.
Berkman, Cole, and Fu (<i>The European Journal of Finance</i> , 2014). Improving corporate governance where the State is the controlling block holder: evidence from China.	State bureaucrats, MOSOEs, private entities	ROA increases when the block-share transfer is from a state bureaucrat or a MOSOE to a private entity, from a bureaucrat to a MOSOE, or within MOSOEs. Transfers from state ownership to private ownership show the largest ROA improvement. CEO turnover becomes faster when the control is transferred to a private entity.
Gao (Working paper, 2016). Types of government ownership and post-privatization performance: Evidence from Chinese private placement privatizations.	Central government owned enterprises, local government owned enterprises	Usually, CGOEs have larger increase on output while LGOEs experience greater improvement on profitability after privatizations. The two types of SOEs have similar changes in capital investments, operating efficiency, and leverage after privatizations.

3. Corporate Decisions

The two papers surveyed in this section study the impacts of different types of state ownership on different corporate decisions. Both of them focus on China and are summarized in Table 3. Firth, Fung, and Rui (2006) examine CEO compensation in Chinese publicly traded firms and claim that the type of controlling shareholder of listed firms matters in compensation structures. The authors consider four types of controlling shareholders: State bureaucracy, SOECG, SOELG, and private blockholder. They find that CEO pay is positively related a firm's accounting performance (return on sales) when the firm's controlling shareholder is a SOECG, and is positively related to a firm's stock return when the controlling shareholder is a private blockholder. However, when a firm's controlling shareholder is a State bureaucracy, CEO pay is not related to the firm's performance. In addition, firms controlled by SOECGs have higher pay-performance sensitivities than firms controlled by SOELGs or private blockholders although the pay-performance sensitivities are quite low across all types of listed firms.

Wang, Wong, and Xia (2008) investigate the auditor choice of Chinese listed firms. Firms in their sample are divided into non-state-owned firms, central SOEs, and local SOEs. The authors find that local SOEs in general are more likely to hire small local auditors compared to non-state-owned firms. Central SOEs will also have the tendency to hire small local auditors when they are in regions with stronger local government intervention and less developed credit markets. However, both central and local SOEs will have less incentive to hire

small local auditors when local market and legal institutions are more developed or when the level of local political interference is weakened. Compared with the control switch from central SOEs to private parties, the control switch from local SOEs to private parties is usually accompanied with a larger chance of auditor switch from a small local one to a Top-10 or non-local one.

Tabella 3. Summary of Empirical Studies of Types of State Ownership and Corporate Decisions

Study	Ownership classification methods	Impacts on corporate decisions
Firth, Fung, and Rui (<i>Journal of Corporate Finance</i> , 2006). Corporate performance and CEO compensation in China.	State bureaucracy, SOECG, SOELG, private blockholder	State bureaucracy: CEO pay is not related to a firm's performance; SOECG: CEO pay is positively related to a firm's accounting performance (return on sales); Private blockholder: CEO pay is positively related to a firm's stock return.
Wang, Wong, and Xia (<i>Journal of Accounting and Economics</i> , 2008). State ownership, the institutional environment, and auditor choice: Evidence from China.	Non-state-owned firms, central SOEs, local SOEs	Local SOEs: more likely to hire small local auditors; Central SOE: have the tendency to hire small local auditors if they are in regions with stronger local government intervention and less developed credit markets.

4. Conclusion

In this article, I survey empirical work in the corporate finance literature examining the impacts of different types of state ownership on a firm's value, performance, and corporate decisions. Since the papers included in this article use different categorization methods to classify state ownership, it is difficult to draw a generalized conclusion for all of them. But they share some conclusions. Most scholars find and agree that private ownership is better than state ownership in terms of firm operations although we can still see few disagreements. Among different types of state shareholders, the ones controlled by the central government are usually superior to the ones controlled by local governments. However, we need to understand that the number of studies focusing on different types of state ownership is quite small and most of them are Chinese studies. There are still a lot of inconsistency in the findings of empirical works. Therefore, it provides a great potential for future researchers to study on this topic and fill in the gaps.

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