



# State Created Barriers to Exit: The Example of the Acquisition of Alstom by General Electric



By Nicolas Petit<sup>1</sup>

## ABSTRACT

*This paper seeks to understand the competitive impact of State restrictions to M&A transactions that target domestic corporations. In the economic literature, a rich body of papers has examined the impact of State restrictions in terms of market access, international trade and FDI. In contrast, the consequences of State restrictions in terms of economic competition remain poorly understood. To discuss the competitive effects of State restrictions to M&A transactions that target domestic firms, the present paper offers a case study of the takeover of the French company Alstom by the U.S. conglomerate General Electric (“GE”) in 2014, and of the measures adopted by the French Government to undermine it. This case is interesting. Unlike in the conventional scenario where Government intervention leads to prohibit the transaction, the Government interference did not kill the GE/Alstom transaction. Rather, in GE/Alstom, the French Government re-engineered the initial transaction. In lieu of an “absorption” of Alstom by GE as initially envisioned, the parties were forced to seal an “alliance.” Our case-study shows that State interference may influence the competitive conditions in the market. In particular, we advance a counterintuitive idea. While the traditional market access literature would lead to envision State interference as a form of measure that protects the domestic firm, we show that State interference can also harm the domestic firm. In particular, in the case in point, the French Government measures may have locked Alstom behind exit barriers, by preventing it to leave the energy markets it purported to quit. We review empirical data to test our hypothesis. In practical terms, we believe our findings are interesting, because the literature on failed industrial projects suggests that Governments are often bad at making exit choices. This should be kept in mind, at a time where proponents of strong industrial policy agendas are increasingly vocal. Moreover, our analysis may have implications for antitrust policy. As much as entry barriers, barriers to exit prevent the emergence of competitive markets and are thus a concern for antitrust agencies. Additionally, State interference with M&A risk undermining the efficacy of merger control systems, in depriving antitrust agencies’ ability to negotiate remedies that remove competition concerns.*





## INTRODUCTION

This paper seeks to understand the competitive impact of State restrictions to Merger & Acquisitions (“M&A”) transactions that target domestic corporations. In the economic literature, a rich body of papers has examined the impact of State restrictions to M&A in terms of market access, international trade and Foreign Direct Investment (“FDI”). In contrast, the consequences of State restrictions in terms of economic competition remain poorly understood.

To discuss the competitive effects of State restrictions to M&A transactions that target domestic firms, the present paper offers a case study of the takeover of the French company Alstom by the U.S. conglomerate General Electric (“GE”) in 2014, and of the measures adopted by the French Government to undermine it. This case is interesting. Unlike in the conventional scenario where Government interference thwarts the transaction – the aborted purchase of U.K. AstraZeneca by U.S. Pfizer in 2014 is a case in point – the Government interference did not kill the GE/Alstom transaction. Instead, in GE/Alstom, the French Government re-engineered the transaction. In lieu of the initially planned “absorption” of Alstom by GE, the Government forced the parties into the sealing of an “alliance.”<sup>2</sup>

Our case-study shows that State restrictions may influence the competitive conditions in the market. In particular, we advance a counterintuitive finding. While the traditional market access literature envisions State restrictions as measures that protect home businesses, our case study shows that the State interference can harm the domestic firm. In the case in point, the measures taken by the French Government may have trapped Alstom behind exit barriers, by preventing it to leave the energy markets it sought to quit. We review empirical data to test our hypothesis. Additionally, we observe that a barrier to exit may have been imposed on GE, as well as on all prospective investors in the French economy. This barrier to exit may be, however, of lesser height than the one imposed on Alstom.

In practical terms, our findings are interesting, because the literature on failed industrial projects suggests that Governments often make bad exit choices. This should be kept in mind, at a time where industrial policy activists are increasingly vocal. Moreover, our analysis may have implications for antitrust policy. As much as entry barriers, barriers to exit prevent the emergence of competitive markets. Additionally, State interference with M&A undermines the efficacy of merger control systems, depriving antitrust agencies’ ability to negotiate remedies that remove competition concerns.

The structure of the paper is as follows. Section I provides a description of the initial transaction and of the reaction of the French Government. Section II describes the transactional effects of Government interference, by undertaking a before-and-after analysis that compares GE’s initial bid of April 30 with the second bid eventually accepted on June 19 by Alstom under Government insistence. Section III uses the framework of the “competitive neutrality” literature to assess the competitive impact of State intervention in GE/Alstom. Section IV suggests that a better approach to understand the impact of State restrictions consists in framing the issue in terms of barriers to exit within the meaning of industrial organization (“IO”) and business strategy literature. Section V reviews some observed stock market data to test the hypothesis that State interference in GE/Alstom has created a barrier to exit detrimental to Alstom. Section VI concludes that approaching those State restrictions in terms of barriers to exit – rather than in terms of barriers to entry as conventionally done in the market access literature – refines the understanding of the large welfare costs





associated with such measures, and should be of assistance to both academics and practitioners in the fields of industrial and antitrust policies.

## INITIAL GE/ALSTOM DEAL

On April 23, 2014, Bloomberg leaks that GE is in talks to buy Alstom's for approximately \$13 billion.<sup>3</sup> GE is a century old American firm founded by Thomas Edison, with worldwide activities in energy, finance, aerospace, pharmaceuticals, etc. It is the 4th largest U.S. firm. Alstom is a French industrial group, active in energy and transport (primarily rail). It is five times smaller than GE (in revenue). The press often describes it as a "national champion."<sup>4</sup>

The news electrifies the French government.<sup>5</sup> GE's acquisition is perceived as a threat for the 9,000 Alstom workers on French territory.<sup>6</sup>

On April 30, 2014, GE confirms its intention to acquire Alstom Thermal, Renewables, and Grid businesses for EUR 12.5 billion. For GE, this acquisition – the largest in GE's history – is an opportunity to gain scale in energy as utilities move to gas fuelled power plants,<sup>7</sup> particularly in Europe.<sup>8</sup> For Alstom, the sale of its energy assets will yield cash. With it, Alstom can pay down its heavy debt, and reposition on transport, the segment with the highest growth potential.

But for the French government, GE's offer remains "not acceptable."<sup>9</sup> A twin strategy is followed to undermine GE's plan. First, with the support of German politicians, the Government solicits a counter-offer from Siemens. Siemens, who is the main rival of Alstom and GE, is invited to play the knight in shining armor.

Second, on May 15, the Government expands the text of an existing regulation that subjects foreign investments to prior ministerial authorization. The new text now covers investments from non-E.U. firms in energy, transport and electronic communications if the interests of the State are at stake.<sup>10</sup> If GE is ever to acquire Alstom, it will have to demand ministerial approval, and may be imposed conditions.<sup>11</sup>

Weeks of negotiations follow. GE and Siemens will both revise their offers. Siemens will offer to team up with Mitsubishi Heavy Industries and Hitachi to create an "alliance" with Alstom. In this variant, the French government would take a 10 percent minority stake in Alstom.

But on June 19, GE, Alstom and the French government sign a protocol. GE will acquire the entirety of Alstom Energy for EUR 12.35 billion. In turn, GE will set up an "alliance" with Alstom, through three joint ventures ("JVs"): (i) a 50/50 JV in renewable energies; (ii) a 50/50 JV in grid; and (iii) a 80/20 JV in steam turbines for nuclear power plants and for the French market. Importantly, Alstom will use the proceeds of the sale to invest EUR 2.5 billion in the JVs.

The nuclear JV is subject to specific arrangements. The Government will benefit from a preferred share and corporate governance rights – a veto – to protect the national interest, in particular on nuclear plant security and technology.





In addition, GE commits to sell its transportation's signaling business to Alstom, and to enter into a global rail alliance with GE. Finally, GE will add 1,000 employees in France in the next 3 years (subject to penalty of EUR 50,000 per job and a cap of EUR 50 million) and keep the headquarters ("HQs") for Grid, Hydro, Offshore, Wind and Steam in France. On June 21, Alstom's board of Directors recommends GE's offer.

In parallel, the French government has been in talks for the purchase of a stake in Alstom. On June 22, Bouygues Telecom, the owner of 29 percent of Alstom shares, accepts to lend 20 percent of them (including voting rights) to the French Government. Bouygues also accepts to sell, for a period of 20 months, its shares to the French government at a pre-agreed price. With this share, the French Government will be the main shareholder in Alstom, though not with a majority.

On November 5, the restructured deal is formally approved by the Minister of the Economy.

## **RESTRUCTURED GE/ALSTOM DEAL**

In this section, we seek to circumscribe the exact perimeter of the transaction following State interference, as a prior to assessing its impact on market competition. We, thus, compare the contours of the GE/Alstom transaction before and after State intervention. We consider side by side GE's initial offer of 30 April and GE's eventual offer of June 19.

This "before-and after" analysis is uneasy because the terms of the final offer are secret. To overcome this difficulty, we have retrieved evidence from other sources, such as corporate governance documentation, rating agencies reviews and financial analysts' reports. Those sources shed light on the final perimeter of the transaction, post Government intervention. We review, in turn, the following items: transaction price (A), transaction structure (B), transaction scope (C) and additional issues (D).

### *A. Transaction Price*

Under the first GE bid, GE was to acquire the entirety of Alstom's energy activities in cash for a price of EUR 12.5 billion. Under the updated offer of June 19, the price of the proposed acquisition remained the same, for a total of EUR 12.5 billion.

### *B. Transaction Structure*

#### **1. Data**

In a speech of June 20, the French Minister of the economy gave his own before-and-after analysis. He explained that GE's initial plan consisted in the "absorption" of Alstom's Energy activities. With Government interference, the offer was arguably restructured. According to the Minister of the economy, under the June 19 offer, GE and Alstom will form a "partnership of equals," a "durable ... alliance" in the energy business.<sup>12</sup>

Those statements deserve to be qualified. According to our data, the scope of the said "alliance" in the June 19 protocol seems to cover only certain of Alstom's energy assets, not all of them. In particular, the concept of "alliance" obfuscates that GE will acquire the entirety – in other words, will absorb – the "core





Thermal assets” of Alstom (e.g. fuel, coal and gas), as explained in GE 2Q Earnings. In 2014, those assets represented revenues of \$10.1 billion.<sup>13</sup> The alliance negotiated under French government influence only covers the three JVs that will be formed in “Renewable” energies (hydro + offshore); smart energy “grids” and “strategic activities” (e.g. turbines for nuclear equipment for the French market).<sup>14</sup>

In addition, the three JVs are structured in such a way that GE seems in sole operational control of the JVs, despite an equal distribution of ownership in two of the JVs (50/50). In its Q2 2014 Results Earning Conference Call, Steve Bolze, a Vice President at GE declared: “the deal economics remain the same [...] GE will have operational control in these joint ventures.” He further added “in each JV, GE has control, will appoint the Chief Executive Officer (“CEO”) and expects to consolidate. Alstom will have standard minority governance rights.”<sup>15</sup> Industry analysts confirm this. In its June 25 Credit Opinion on Alstom, the rating agency Moody’s affirmed that “The potential new Alstom would focus on its transportation activities while its energy joint ventures would be managed by GE.”<sup>16</sup> And Standard & Poor’s shares a same understanding. In a comment of July 7, 2014, it declared that “GE will provide operating management and liquidity support to the JVs. Alstom’s involvement will be limited to the abovementioned initial equity contribution.”<sup>17</sup> If confirmed, this data hints that GE will hold de facto sole control over the energy JVs, much like in the initial April 30 offer.

On top of all this, the alliance seems temporary.<sup>18</sup> In his presentation to investors, Steve Bolze explained that “Alstom would have the right to sell its shares in the JVs to GE at a price that would return Alstom’s investment + [...]” According to him, “the timing of those out puts are slightly different, grid and renewables more in the three to four year timeframe; for the nuclear and French steam JV, more in the year 5, 6, 7 timeframe.” The existence of a “put option” (read sale option) was later confirmed in Moody’s Credit Opinion, where it was mentioned that “As part of the envisaged transaction with GE, Alstom will benefit from a put option with regard to its three joint ventures with GE valued at EUR 2.5 billion, which should provide Alstom with additional liquidity if and when the option is exercisable.”<sup>19</sup> The German investment fund ProfitlichSchmidlin Fond UI even reported that “Some statements of the management of Alstom show that the company actually intends to exercise the put options.”<sup>20</sup> And GE has similarly written that it “expect[ed] to consolidate” in the JVs.<sup>21</sup>

## 2. Assessment

If the above data is to be believed, then there is no significant difference between the before world – GE’s absorption offer of April 30 – and the after world – GE’s alliance offer of June 19. GE will immediately take over the core thermal energy activities of Alstom. In relation to the remaining energy assets (energy transition and strategic assets), three JVs will be formed. However, GE will retain full operational control in these JVs. They are therefore not real “joint ventures” in legal terms, for there is no “joint control.”<sup>22</sup>

There is one key difference between the before and after world though. Alstom will not sell all its assets immediately to GE. It will retain a stake in all JVs (equal to an amount of EUR 2,5 billion). And this share benefits from a “put option.” Analysts tend to believe that Alstom will exercise it. Overall, if one assumes analysts to be right, this makes the transaction look more like a progressive absorption of Alstom’s energy by GE, than a “durable” alliance.

### *C. Transaction Scope*





The April 30 offer was exclusively about energy. In the June 19 offer, the transaction has been enlarged to transport. GE has committed to sell to Alstom its rail signaling products and solutions, as well as to enter into a cooperation agreement in rail (to ensure cooperation in purchasing, commercialization, development, production, etc.). This transaction is valued at approximately EUR 600 million.

#### *D. Others*

A key difference between the initial and the latest offer is a GE commitment to add 1,000 employees in France,<sup>23</sup> with financial penalties up to EUR 50,000 per job non-added.<sup>24</sup> This commitment is enforceable through an independent auditor and financial penalties.<sup>25</sup>

In addition, GE has committed to establish HQs decision-making in France for Grid, Hydro, Offshore wind and Steam.

A last difference between the two offers relates to corporate governance rights in the third JV (nuclear activities worldwide and steam turbines in France) and the structure of capital (80/20). In this JV, the French Government will hold a preferred share (veto) as well as other corporate governance rights on specific issues that relate to security and nuclear plant technology in France.

#### *E. Summation*

This before-and-after analysis was a prerequisite to understand the true magnitude of the Government interference in GE/Alstom. It shows that the Government interference has only slightly changed the nature of the transaction (contrary to what was said in the press). All of Alstom's Energy business will be operationally controlled by GE in the short term.<sup>26</sup> Most of it – the core thermal assets – will be financially absorbed upon closing. The rest will be absorbed in a proximate future, if Alstom exercises the put options (which it is poised to do).

The main impact of Government intervention has been to enlarge the scope of the initial offer to transport (see table 1). Under the April 30 offer, Alstom has an option to purchase GE's rail signaling business for EUR 600 million. Beyond this, the differences between the April 30 and June 19 offers relate to employment, HQs and corporate governance rights in the third joint venture.










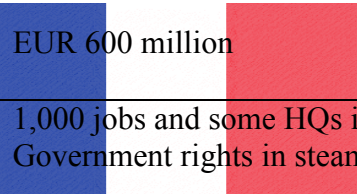
	BEFORE	AFTER
Thermal	GE full control, EUR 8.7 Bn 	GE full control of all assets, EUR 8.7 Bn 50/50 JV in steam and nuclear GE full operational control and put option
Renewable	GE full control, EUR 1.8 Bn 	50/50 JV GE full operational control and put option
Grid	GE full control, EUR 3.7 Bn 	50/50 JV GE full operational control and put option
Transport	None	GE to sell rail signaling to Alstom EUR 600 million 
Other	None	1,000 jobs and some HQs in France + Government rights in steam and Nuclear JV

Table 1: Before and after analysis of the GE/Alstom transaction

## “COMPETITIVE NEUTRALITY” ASSESSMENT OF GE/ALSTOM

Now that we understand what the French Government changed to the transaction, it is easier to assess the impact of its interference on market competition. To examine this question, we first use the framework offered by the growing body of literature on “competitive neutrality” (A). In line with this framework, we review the competitive effect of Government intervention on GE (B) and on Alstom (C) side by side.

### A. Competitive Neutrality

In recent years, Western international organizations such as the OECD or UNCTAD have devoted an increased attention to the policy principle of “competitive neutrality.”<sup>27</sup> The concern that underpins this principle is to avoid that as a result of State intervention, some government business activities “enjoy net competitive advantages over their private sector competitors.”<sup>28</sup>





The concept of competitive neutrality was initially developed in Australia in the 1990s to address the distortive effects caused by Government business enterprises operating in commercial environments, in competition with private operators.<sup>29</sup> It seeks to provide a “level playing field” for all firms, whether they are government or private operators. It has gained traction when the U.S. Government pledged to promote it in international trade.<sup>30</sup> Since then, competitive neutrality frameworks have been rolled out across the globe and in particular in Asia and India where State Owned Enterprises (“SOEs”) are prominent in the economy.<sup>31</sup>

In the competitive neutrality literature, the focus is often placed on the distribution of preferential advantages to State-owned enterprises, and the symmetrical distribution of disadvantages on their privately owned competitors. A 2011 OECD working paper takes, however, a wider approach, and lists “government preferential treatment to privately owned champions” as one of the two most commonly heard concerns from businesses regarding competitive neutrality.<sup>32</sup> The working paper gives examples such as concessionary finance, the raising of regulatory barriers to competitors, or a favorable treatment in public procurement transactions.

In this section, we rely on this extensive definition,<sup>33</sup> and assess the French Government’s interference under the framework of competitive neutrality.<sup>34</sup> We examine whether in relative terms, this gave rise to the distribution of net competitive disadvantages to GE (B), and of net competitive advantages to Alstom (C).

### *B. General Electric*

From GE’s standpoint, the Government interference is not competitively neutral. Instead of disbursing a net amount of EUR 12.35 billion for the entirety of Alstom’s energy business, GE’s acquisition is augmented because it will have to disburse EUR 12.35 billion initially, and it may then rebuy Alstom’s EUR 2.5 billion investment in the JVs under put options. Of course, GE has sole control over those assets, regardless of the put options. This notwithstanding, the revised structure of the deal is more complex than the one initially planned. Moreover, the exercise of the put option may not be seamless, for the French government is poised to take a stake of Alstom’s capital.

In addition, GE’s acquisition is encumbered by a variety of additional costs which include an enforceable commitment to increase the workforce by 1,000 employees; the creation of several HQs on French territory; the sale of its rail signaling operations; the inability to dispose immediately from all of Alstom’s assets; and additional corporate governance concessions.

Finally, GE incurred negotiation costs to secure Government approval (hiring of lawyers, of public relation agents, etc.), and its business operations might have been slightly disrupted. In the press, it was reported that J. Immelt, GE’s CEO, had to make three visits to France in less than two months.<sup>35</sup>

With this background, it can be said that Government interference raised the acquisition costs of GE, without making it impossible though.<sup>36</sup>

### *C. Alstom*

It is unclear that Government interference has at all benefited Alstom – as might have been intended. Firstly, the main beneficiary of GE’s concessions in terms of employment, HQs and corporate governance is the Government, not Alstom. Those advantages or benefits can thus be left out of the competitive neutrality assessment.







Secondly, the option to buy GE's rail signaling division and the cooperation agreement in rail possibly marks a competitive improvement for Alstom.<sup>37</sup> But this improvement cannot be examined in absolute terms. The EUR 600 million that Alstom will pay may well have received better alternative uses. For instance, Alstom may have preferred to use the EUR 600 million to pay down (some of) its heavy debt or to return (some) cash to shareholders. Furthermore, the M&A market may have offered to Alstom better opportunities in transport than the purchase of GE's rail signaling activities.<sup>38</sup>

Moreover, and more importantly, Alstom's commitment to invest EUR 2.5 billion in the three JVs delays the entry into effect of its intended repositioning strategy as a "pure player" in transport, the area with the highest strategic potential.<sup>39</sup> Until the expiry of the put options, billions of useful EUR for Alstom will remain sunk into non-strategic JVs.<sup>40</sup>

In brief, in so far as Alstom is concerned, State interference yields ambiguous results. On the one hand, Alstom will acquire GE's signaling business, and GE is under a duty to sell that will pressure down the acquisition price for Alstom. On the other hand, a significant amount of the cash that Alstom could have used to redeploy in transport will stay frozen in the JVs. This increases the repositioning costs for Alstom.<sup>41</sup>

#### *D. Conclusion*

The "competitive neutrality" framework is not entirely helpful. It is indeed fraught with the well-known difficulties that affect all distributional assessments. As a result, we do not find a clear-cut, typical case of Government intervention that harms the foreign firm and advantages the domestic competitor. Both GE and Alstom face increased costs as a result of Government intervention. On the one hand, the French Government intervention inflicts on GE a cost that consists in training 1,000 additional employees, as well as a number of other concessions, including HQ localization and governance-related ones. On the other hand, Alstom is not free to sell its failing energy assets as it sees fit, and it must commit to reinvest EUR 2.5 billion in energy JVs.

In addition, GE's and Alstom's costs are difficult to measure, and in turn compare. As far as GE is concerned, the financial costs imposed by Government interference are essentially linked to the commitment to recruit 1,000 employees, which can be roughly estimated to EUR 50 million (the cost of the total penalty if GE does not comply). The cost imposed by this commitment depends however, on a counterfactual conjecture, for GE may well have decided, in the counterfactual world, to increase the workforce in France. Beyond this, most costs are transaction costs (e.g. governance obligations) whose effect is complex to gauge in quantitative terms. The training costs associated to labor contracts constitute sunk costs<sup>42</sup> that are notoriously difficult to recoup.<sup>43</sup> Finally, it is difficult to measure the cost inflicted on GE by virtue of the obligation to sell its signaling business to Alstom (in particular, the reduced sale value that GE will extract, given that it is forced to sell).

The same is true of Alstom. The main effect of Government interference is to inflict an opportunity cost on Alstom, which envisioned repositioning opportunities in transport. This cost is uneasy to quantify. It could be thought of as being roughly equivalent to the interest rates to be paid on the money market, in exchange for borrowing EUR 2,5 billion.

With this background, there is no clear evidence that the Government intervention in GE/Alstom has altered competitive neutrality by distributing advantages to the domestic firm and disadvantages to the foreign one.





## BARRIERS TO EXIT AND MOBILITY

In this section, we submit that the competitive effects of the Government interference can be better approached through the lenses of the traditional Industrial Organization (“IO”) and business strategy literature. In particular, the somewhat under-researched concept of barriers to exit may provide a good explainer of what happened in GE/Alstom. Though abstract, the framework provided by IO and business strategy literature is exempt of the distributional measurement difficulties that arise when one puts the competitive neutrality canvass into practice. We first quickly review the economic literature on exit barriers (A), and then discuss GE/Alstom under this framework (B).

### *A. Literature Review*

In the IO literature, barriers to exit are generally treated as an indirect form of barrier to entry. As most IO textbooks put it, if it is costly to exit an industry, there are less incentives for entry.<sup>44</sup> Put differently, a barrier to exit is a barrier to entry, when entry has not taken place.<sup>45</sup> This finding has, however, been both formally and empirically discredited by Rosenbaum and Lamort, who show that while entry and exit are part of the same market process, they are not causally interrelated.<sup>46</sup>

The “contestable markets” theory makes a more thorough discussion of barriers to exit.<sup>47</sup> In brief, the theory contends that as long as markets are perfectly contestable, then welfare is optimized regardless of industry structure (monopoly, oligopoly or perfect competition).<sup>48</sup> Importantly, for markets to be perfectly contestable, and in turn optimal, exit must be “absolutely costless.”<sup>49</sup>

The main barriers to exit identified in IO literature are sunk costs, i.e. costs that cannot be avoided if a firm exits a market (even if amortized and treated as flow). This covers, for instance, workforce training costs or advertisement campaigns. Those costs are considered sunk, for the improved skills of employees or advertising campaign are not directly salvable or reusable in case of exit.

Similarly, asset specificity is a commonly mentioned barrier to exit. A firm that has built a manufacturing plant that is highly specialized for a given production will not be able to sell those assets easily to other buyers in another industry.<sup>50</sup>

Strategic commitments can also play as a barrier to exit. A firm that builds a plant with a large capacity in advance of others may try to make a credible commitment to stay in the market.<sup>51</sup> Through this non-exit commitment, the committing firm can deter entry. Gilbert shows that sunk costs can serve as a commitment by incumbent firms not to exit the industry.<sup>52</sup>

Exit barriers have also been studied in the business strategy literature. Porter and Harrigan explain that “exit barriers” – the wording is distinct from IO scholars – are adverse strategic, economic and emotional factors that keep – or “trap” – firms competing in business even though they earn low or negative returns.<sup>53</sup> Harrigan explains that when exit barriers exist, timely extraction of a firm from a business can be delicate. She adds that barrier to exit can be deemed to be high if exit is discouraged when prices are below costs.<sup>54</sup>

Moreover, business strategy scholars advance the closely related concept of “mobility barriers.”<sup>55</sup> Firms may experience problems moving from one group of firms within an industry that has peculiar





structural features, to another group of firms with distinct characteristics. Take for instance a group of multi-product firms selling homogeneous goods in a vertically integrated industry. Mobility barriers would include difficulties for one firm in developing imperfect substitutes, complexities in reducing the product line width, or hurdles in vertically disintegrating.

In welfare terms, the costs of exit barriers are implicitly and unquestionably admitted in the IO literature. Most authors take for granted that the freer market exit, the more competitive the market. Instead, IO scholars have investigated other descriptive issues, such as how exit takes place in declining industries. Fudenberg and Tirole, for instance, show that in oligopolies, firms with high costs exit first. This lends credence to the efficiency of free exit.<sup>56</sup> In contrast, Ghemawat and Nalebuff illustrate that in declining oligopolies, large firms exit first.<sup>57</sup> Other papers have sought to explore proximate issues, such as the plant closing strategy of exiting firms.<sup>58</sup> This line of research has been complemented by empirical studies.<sup>59</sup>

Despite their distinct “frames of reference”, “private-oriented” business strategists have actually come closer than “social-oriented” IO scholars to articulating the welfare costs of barriers to exit.<sup>60</sup> In a broad study devoted to exit barriers in both declining and non-declining industries, Harrigan explains that “strategic and economic exit barriers frequently deter firms from making the types of timely and frictionless exits that are assumed to be possible in economic theories of competition”.<sup>61</sup> In turn, this has a number of detrimental effects. She observes that “relatively inefficient single-business firms may bloody an entire industry before conceding to retire if their exit barriers are high.”<sup>62</sup> And she importantly notes that due to exit barriers, technological progress is impeded, as old-fashioned technologies do not give way to newer ones.<sup>63</sup>

Interestingly, some authors have examined the effects of exit barriers on technological investment. Tin et al. recall that investment in technology is a driver of long-term growth, and then insist on the necessity to maintain good exit opportunities for the funding of investments in technology.<sup>64</sup> Entrepreneurs and venture capitalists must indeed entertain a credible prospect to sell their firms to managers once technology is adopted. While those papers insist on the features of equity and stock markets in that respect, those findings can be extrapolated to the M&A market in general.

### *B. Application to GE/Alstom*

The concessions given by GE and the costs imposed on Alstom fit well within the above concepts. As explained previously, GE committed to create 1,000 jobs and to locate several HQs in France. Those commitments fall neatly within the IO concept of barriers to exit. Labor costs are a well-documented form of sunk costs. Moreover, those costs are often deemed to constitute barriers to exit, because lay-offs often face resistance in the form of political intervention or legal disputes (all the more so in labor intensive industries, like steel).<sup>65</sup> Finally, the various HQ commitments can be analogized with a Government-imposed “strategic commitment” to keep plants and operations on French territory.

In so far as Alstom is concerned, the costs imposed by Government intervention are probably even higher. Here, the business strategy literature seems more relevant. In particular, the concept of “mobility barrier” suits the effects of Government intervention on Alstom. The sunk EUR 2.5 billion stake in non-strategic JVs retards Alstom’s repositioning strategy in transport. Moreover, without going as far as arguing that this “traps” Alstom in a loss-making market, the EUR 2.5 billion stake may undermine its ability to pay down debt, to return cash to shareholders, and possibly to undertake a more profitable, alternative strategy.





Lastly, the regulation that subjects foreign investments to prior ministerial authorization (“the regulation”) elevates a transversal exit barrier in all sectors where a firm “activities [...] are essential to preserve France’s interests in terms of public policy, public security or national defense.”<sup>66</sup> In short, the regulation makes domestic firms’ exit deals conditional on Government approval. With this, moreover, comes a bargaining process with Government institutions, which is likely to feature a certain degree of media exposure and negative publicity. Managers from domestic firms may well delay purported exit strategies for fear of such measures.<sup>67</sup>

Of course, the regulation specifies an exhaustive list of those national interests.<sup>68</sup> But the early practice in GE/Alstom suggests that the French Government makes an extensive, and rather unpredictable interpretation of the scope of the regulation. The French Government deemed Alstom, a 99 percent privately owned firm, a “national champion” or a “strategic firm” worthy of protection by virtue of the fact that Alstom was once under State control (until 2006); that Alstom’s main clients (and revenues) are large SOEs, in utilities notably; and that Alstom entertains industrial partnerships with SOEs (for instance, Areva).<sup>69</sup> Under this approach, virtually any firm that once had the State as a client or supplier, that once was granted a subsidy, or that once had the State as shareholder, can be deemed a “national champion” whose exit ought to be prevented. Clearly, this is likely to create a source of uncertainty for investors. And in welfarian terms, this unpredictability should be thought of through the lenses of the literature that documents a negative impact on uncertainty over investments.<sup>70</sup>

To conclude, it ought to be noted that if barriers to exit are to be understood as indirect barriers to entry, this may have indirect positive effects for GE/Alstom.<sup>71</sup> After all, both companies are in the market. If the existence of the regulation increases entry costs for other possible entrants, then the merged GE/Alstom is shielded from competition. This, however, remains a concern from a consumer welfare standpoint, for consumers will face a market that is not subject to the competitive threat of entry.

## MARKET DATA

Our argument that Government interference raised a barrier on the exit or mobility of Alstom is primarily qualitative. So far, we have assumed that Government interference imposed a burden on Alstom through the changed transaction structure, because the new structure was different from the original one. In turn, this relied on the implicit assumption that the initial transaction was from Alstom’s perspective the optimal one.

We have sought to verify this on the basis of market data. To that end, we have retrieved data on Alstom’s equity valuation (share price) in Bloomberg between January 6, 2014 and January 6, 2015. We try to observe the evolution of Alstom’s equity between April 23, 2014 when the initial transaction was leaked to the market and June 19 when the Government restructured deal was publicized. The red arrow shows that the initial GE offer was well received by the market, with a +36 percent spike in the price of Alstom’s share. This tends to confirm our proxy that Alstom’s initial plan was the optimal one. The green circle, in turn, corresponds to the Government’s June intervention. It shows a concomitant decrease of Alstom equity by almost a half. With this, one may conjecture that State interference dissipated by almost a half the positive April effect. Lastly, we denote with an orange circle the formal authorization of the deal by the Government in November. Again, this coincides with yet another decrease of Alstom’s equity valuation.





This data tends to suggest that Government interference may have harmed Alstom, as conjectured in the previous section. That said, this observation must be interpreted with utmost caution. Markets, and in particular, equity markets are fallible.<sup>72</sup> Moreover, we are well aware that our proof is at best conjectural, and that many other factors that cannot be controlled for may causally explain the evolution of Alstom's equity.

## THEORETICAL AND PRACTICAL RELEVANCE

Our reading of the State interference in GE/Alstom as a measure that elevates exit barriers has four theoretical merits, which are discussed in turn.

### *A. Contribution to the Literature on Regulatory Barriers*

The main finding of this paper is that the Government interference in GE/Alstom gave rise to exit and mobility barriers. In and of itself, this finding will enrich the scant literature on State-induced exit and mobility barriers. Only a few studies have to date been devoted to such barriers. Harrigan, one of the most prolific author on exit barriers, only mentions them in passing, noting succinctly that "Governmental policies intended to maintain employment levels such as "state ownership" of facilities [...] can be exit barriers."<sup>73</sup> In our review of the literature, we also found a study by Lee, Peng and Barney which examines bankruptcy laws that delay exit can affect the potential for entry.<sup>74</sup>

Beyond this, however, the literature does not seem to pay much attention to legal or regulatory exit barriers. The IO and business strategy papers are indeed primarily centered on the firm and their managers, and often neglect to apprehend the importance of the regulatory environment. This is unfortunate, for many







such barriers seem to exist in the day-to-day economy: restrictions to secondary trading; prohibitions on the resale of licenses, authorizations, and special rights; labor laws and protective trade union statutes; etc.

### *B. Beyond Entry Analysis*

As surmised previously, in the international trade theory literature, many State restrictions on market access are envisioned in terms of “market entry.”<sup>75</sup> In other fields, like welfare economics or entrepreneurship, the focus is also primarily placed on entry.<sup>76</sup> In contrast, in the economics literature, the impact of such restrictions on “exit” remains little researched.<sup>77</sup>

This focus on entry is unfortunate. First, in the GE/Alstom case, GE’s market entry could not possibly be hampered, for GE has already been present for decades in Europe and in France with its own production capacities. In other words, State restrictions to the acquisition of domestic capital do not necessarily raise barriers to entry.

Moreover, this, one only envisions the societal costs of FDI restrictions myopically by looking at one side of the story, e.g. the situation of the foreign entrant whose market access is hampered. However, this misses the forest for the trees, e.g. the costs possibly inflicted upon the domestic firm, whose entry belongs to history, and who may be “trapped” in the market by virtue of State action. Moreover, the obsessive focus on entry deterrence also omits to consider the situation of foreign entrants who overcome the entry barrier in exchange for unrecoverable sunk concessions that limit their ability to exit in the future.

In our view, the notion of exit barriers gives a fuller, more complete account of the competitive costs of Government intervention. It is our submission that when assessing the impact of State measures of the kind found in GE/Alstom, policy makers should systematically review them through the lenses of the theory of exit and mobility barriers, in addition to thinking of them as entry impediments.

### *C. Exit Choices and Industrial Policy*

In recent economic literature, a growing body of influential authors has called for a “rejuvenation” of industrial policy measures. Stiglitz, Lin and Monga argue that Governments can play an instrumental role in sponsoring market players where externalities and public goods issues occur, such as in the market for the production of knowledge.<sup>78</sup>

Rodrik, however, recalls the usual caveat against industrial policy: such measures “are often derided because they may lead to picking the losers rather than the winners.”<sup>79</sup> Nevertheless, he believes that this is a necessary evil that should not distract Governments from engaging into such programs.<sup>80</sup> Rather, Governments should focus on trying “to minimize the costs of the mistakes when they do occur.”<sup>81</sup>

However, while this would literally entail phasing out mistaken industrial programs, this is unlikely to happen. As Seabright explains, once they have sponsored a project, Governments are notoriously bad at making exit choices and do not like to shut down costly industrial ventures. In his words, “politicians, responding to well-understood electoral and lobbying pressures, are reluctant to close projects.”<sup>82</sup> The empirical literature on public project disasters brings myriads of examples of this.<sup>83</sup> In a seminal book, Myddelton reviewed six large British government quasi-commercial twentieth-century projects that all “went wrong.”<sup>84</sup> Key examples were the Concorde aircraft, the Channel Tunnel and the Millenium dome. On the Concorde, from the 1960s, the U.K. government reviewed the project every six months. There were regular







increases in the cost estimates. This notwithstanding, the Concorde was left in operation up until 2003. Eventually, “Concorde’s costs, kept secret for years, totaled £9,600 million, an overrun of 300 percent in real terms. The aircraft took thirteen years to design and build, twice as long as planned.”<sup>85</sup>

It is against this backdrop that the concept of State-induced barriers to exit proves useful. Much like with perfused, loss-bleeding industries who keep on receiving State subsidies, the elevation of exit barriers around a strategic firm may just symptomatize a degree of Government reluctance to pull the plug on a failed project. And since it is a less costly – and possibly less unlawful – measure than net State subsidy, such initiatives may be more attractive to Governments, in particular in dire fiscal times.

As Seabright indicates “allowing projects to fail and disappear is a very important part of innovation and productivity growth in a modern industrial economy.”<sup>86</sup> The elevation of Government exit and mobility barriers is in direct opposition with this idea, and should thus be discouraged. There are, indeed, numerous examples of large, strategic organizations that successfully responded to deep economic crisis with repositioning strategies. In the early 1990s, for instance, IBM was in a dire financial situation. It undertook a dramatic change in strategy, by leaving the very competitive desktop markets, to refocus on business applications.<sup>87</sup> Similarly, Ericsson made a successful move from mobile handsets towards the provision of “turnkey” wholesale network solutions for telecoms operators. Those success stories should inform Government choices, when they contemplate forcing a strategic firm to stay in an industry that it wants to quit.

#### *D. Bargaining with Government and Antitrust Policy*

Antitrust agencies across the world are in charge of policing market competition. This mission generally includes the ex ante scrutiny of M&A transactions. In 2015, more than 200 countries had merger control regimes. As a result, hundreds of M&A transactions are reviewed each year by antitrust agencies. Some are prohibited. Most are cleared. Often, the remedy in problematic merger cases consists in negotiating divestitures with the parties or concessions of other sorts (including pricing, licensing and other commitments). Keeping the ability of antitrust agencies to extract remedies that allay competition concerns is of critical importance for the maintenance of competitive markets.

So far the effects of Government interference on merger policy have been little researched.<sup>88</sup> In theory, if State interference leads to the early abortion of a merger that would be subsequently deemed anticompetitive by the antitrust agency, then there is no problem. In fact, this will save administrative costs for antitrust agencies. Conversely, if State interference reins in a pro-competitive merger that would be subsequently cleared by the antitrust agency, then there is no effect either because the merger control system does not seek to promote, encourage or fabricate pro-competitive mergers, just to prevent the consummation of anticompetitive ones.

However, what has been perhaps less clearly understood is the effect of State interference of the kind observed in GE/Alstom, where the transaction is conditioned on certain commitments. This type of interference may impact on the effectiveness of merger control systems for a simple reason: the early bargaining process that takes place between the parties and Government may pre-empt the amount of concessions that the parties are ready to make, leaving little for antitrust agencies to obtain from the parties if competition concerns appear. To take a graphic example, GE’s board may be reluctant to offer divestments to solve antitrust regulators’ concern, having been previously coerced to divest their signaling business under State interference. In other words, prior State interference may exhaust the amount of concessions that





antitrust agencies can obtain. It risks turning the parties in non-cooperative spirit at the later stage of merger scrutiny by the antitrust agencies. This, in turn, exacerbates the risks of antitrust prohibition, while competition concerns could have been solved with remedies (type I error). An alternative is that having decreased the maximum amount of potential concessions that the parties can offer, the Commission will end up accepting under-fixing remedies (type II error).<sup>89</sup>

In my opinion, this risk of remedy fatigue additionally legitimates that antitrust regulators take an interest in prior Government intervention, and possibly unwind the conditions imposed previously. In addition to raising exit (and mobility) barriers, that constitute a typical antitrust concern, such restrictions call into question the very effectiveness of antitrust institutions. In the E.U., a legal instrument exists to this effect. Article 21 of the merger control regulation imposes on Governments to notify the conditions imposed on mergers to the E.U. antitrust agency.<sup>90</sup>

## CONCLUSION

This case-study has examined the impact of the French Government intervention in the acquisition of Alstom by GE. It shows that State interference has only marginally altered the initial M&A transaction negotiated by GE and Alstom. GE will absorb most if not all of Alstom's energy activities.<sup>91</sup>

In addition, it suggests that while State interference may be innocuous in transactional terms, it may be more harmful from a competitive perspective. In particular, the Government-attempted reshaping of the initial offer may have restricted competitive exit and/or mobility opportunities for both firms.<sup>92</sup> This is interesting, because the problem with State restrictions to foreign M&A may therefore not lie where the literature on competitive neutrality believes it is, e.g. advantaging the local firm at the expense of the foreign one. Instead, the Government intervention may just have been neutrally anticompetitive, by degrading competitiveness across the board.

With this background, Government interference of the kind found in GE/Alstom should also be approached from the IO and business strategy perspectives. In particular, the notion of barriers to exit helps understand the cost of government interference with M&A transactions that involve domestic champions. Competitive exit is a crucial feature of well-functioning markets. Academics, policy makers and practitioners from all sides – industrialists, antitrust advocates, etc. – should keep this in mind when thinking about such measures.

---

<sup>1</sup> Professor, University of Liege (ULg), Liege Competition and Innovation Institute ("LCII"). [Nicolas.petit@ulg.ac.be](mailto:Nicolas.petit@ulg.ac.be). The author is grateful to Dirk Auer, Pierre Larouche, Jorge Marcos Ramos, Mario Mariniello, Frederic Marty and Karl Soukup for their useful comments on a previous draft of this paper. All ideas, opinions and possible errors remain mine only.

<sup>2</sup> Hugh Carnegie, "France Claim victory in Forcing GE to Revise its Alstom Energy Bid", *Financial Times*, June 22, 2014, <http://www.ft.com/intl/cms/s/0/4fae5558-fa15-11e3-a328-00144feab7de.html>.





- <sup>3</sup> Aaron Kirchfeld, Matthew Campbell and Jeffrey McCracken, "General Electric Said in Talks to Buy France's Alstom," *Bloomberg*, April 24, 2014, <http://www.bloomberg.com/news/2014-04-23/ge-said-in-talks-to-buy-france-s-alstom-for-about-13-billion.html>.
- <sup>4</sup> Gilbert Reilhac, "Alstom workers relieved as GE wins takeover bid," *Reuters*, June 24, 2014 <http://www.reuters.com/article/2014/06/23/us-alstom-generalelectric-idUSKBN0EY2DC20140623>.
- <sup>5</sup> In a tweet, the Minister of the economy Arnaud Montebourg talks of a "breach of national ethics." In the past years, Montebourg has been the champion of "economic patriotism," a modern offshoot of mercantilism (or of its French version, colbertism), a doctrine that purports to promote local production by all means.
- <sup>6</sup> In the energy sector. It should be noted, however, that GE is not the archetypal foreign predator. GE has headquarters and factories in France since 1999, and it employs there more than 10,000 workers.
- <sup>7</sup> Turbines are used in power plants, to convert gas and steam into electricity.
- <sup>8</sup> GE also sees potential synergies with its turbines portfolio.
- <sup>9</sup> Mark John, Ingrid Melander, Benjamin Mallet and Natalie Huet, "France's Hollande says GE must improve Alstom bid," *Reuters*, May 6, 2014 <http://www.reuters.com/article/2014/05/06/us-france-alstom-idUSBREA4505R20140506>.
- <sup>10</sup> See Décret no 2014-479 du 14 mai 2014 relatif aux investissements étrangers soumis à autorisation préalable. This regulation expands Article L151-3 of the Code monétaire et financier. Pursuant to this text the minister of economy has the power to impose conditions on foreign investments, to enjoin them and to sanction breaches of ministerial the decisions. This regulation has been labeled "Décret Alstom."
- <sup>11</sup> The legality of this document under E.U. law is dubious. However, in end June, the European Commission informally explains that the regulation is compatible in its wording, though not necessarily in its application. Tim Worstall, "France breaks European union law to block GE bid for Alstom," *Forbes*, May 16, 2014, <http://www.forbes.com/sites/timworstall/2014/05/16/france-breaks-european-union-law-to-block-ge-bid-for-alstom/>.
- <sup>12</sup> See Conférence de presse d'Arnaud Montebourg sur Alstom, 20 juin 2014.
- <sup>13</sup> See GE 2nd Quarter 2014 Earnings (this also includes biomass, tidal energy, etc.), *available at* <http://www.ge.com/investor-relations/ir-events/ge-2nd-quarter-2014-earnings-webcast>.
- <sup>14</sup> See <http://www.genewsroom.com/Press-Releases/GE-Announces-Energy-and-Transport-Alliance-with-Alstom-97412>. It is agreed that Alstom will use the proceeds of the sale to buy back 50 percent of each of the JVs, by EUR 2,5 billion.
- <sup>15</sup> See Seeking Alpha Transcript, Q2 2014 Results Earning Conference Call, July 18, 2014. Similarly, a PowerPoint presentation of 18 July 2014 where GE comments its Q2 performance affirms twice that the three JVs will be under "GE operational control." See GE 2014 second quarter performance, Financial Results and Company Highlights, July 18, 2014, [http://www.ge.com/sites/default/files/ge\\_webcast\\_presentation\\_07182014\\_0.pdf](http://www.ge.com/sites/default/files/ge_webcast_presentation_07182014_0.pdf).
- <sup>16</sup> See Moody's Investors Service, Credit Opinion, Alstom, 30 June 2014.
- <sup>17</sup> See Standard and Poor's, Rating Direct, 7 July 2014, France-Based Alstom 'BBB-' Ratings Affirmed On Accepted Offer Of Power Assets Sale To General Electric; Outlook Stable.
- <sup>18</sup> Richard A. Kessler, "Alstom to have GE JV sales clause," *Rechargenews*, July 18, 2014, <http://www.rechargenews.com/wind/1369954/Alstom-to-have-GE-JV-sales-clause>.
- <sup>19</sup> See Moody's Investors Service, Credit Opinion, Alstom, 30 June 2014. This was also mentioned in other official documents from the parties.
- <sup>20</sup> "Alstom: Overengineering einer Übernahme?," *profitlich-schmidlin*, August 1, 2014, <http://profitlich-schmidlin.de/archive/749>.





- 
- <sup>21</sup> See GE 2014 second quarter performance, Financial Results and Company Highlights, July 18, 2014, [http://www.ge.com/sites/default/files/ge\\_webcast\\_presentation\\_07182014\\_0.pdf](http://www.ge.com/sites/default/files/ge_webcast_presentation_07182014_0.pdf).
- <sup>22</sup> See B.II.3 of the 2008 Consolidated Jurisdictional Notice, in particular at §62 which states that “joint control is characterized by the possibility of a deadlock situation resulting from the power of two or more parent companies to reject proposed strategic decisions”; and see §63: “There is joint control if the shareholders (the parent companies) must reach agreement on major decisions concerning the controlled undertaking (the joint venture).” Finally, see §81 which recognizes that joint control can exist even when a “parent company can play a modest or even non-existent role in the daily management of the joint venture where its presence is motivated by considerations of a financial, long-term-strategy, brand image or general policy nature.” But the Commission adds “Nevertheless, it must always retain the real possibility of contesting the decisions taken by the other parent company on the basis of equality in voting rights or rights of appointment to decision making bodies or of veto rights related to strategic issues. Without this, there would be sole control.”
- <sup>23</sup> In the three next years. For more on this commitment, “Alstom: Montebourg annonce des pénalités pour chaque emploi non créé par GE,” *l’express*, June 23, 2014, [http://lexpansion.lexpress.fr/actualite-economique/alstom-montebourg-annonce-des-penalites-pour-chaque-emploi-non-cree-par-ge\\_1553385.html](http://lexpansion.lexpress.fr/actualite-economique/alstom-montebourg-annonce-des-penalites-pour-chaque-emploi-non-cree-par-ge_1553385.html).
- <sup>24</sup> *Id.*
- <sup>25</sup> Tomas Kelner, “Alstom Accepts GE’s updated offer,” *Ge Reports*, June 23, 2014, <http://www.gereports.com/post/89252315760/alstom-accepts-ges-updated-offer>.
- <sup>26</sup> This represents 71 percent of Alstom’s turnover (2013-2014). Geraldine Amiel, “GE Is in Talks to Buy Alstom’s Energy Business,” *The Wall Street Journal*, April 24, 2014, <http://online.wsj.com/news/articles/SB10001424052702304788404579521601019616462>.
- <sup>27</sup> OECD, “Competitive Neutrality: Maintaining a Level Playing Field Between Public and, Private Business,” *OECD*, (2012), Paris.
- <sup>28</sup> This is the seminal definition of competitive neutrality of the Australian government. See Commonwealth Competitive Neutrality Policy Statement, June 1996, at 3, <http://archive.treasury.gov.au/documents/275/PDF/cnps.pdf>.
- <sup>29</sup> Mark Pearson, “Competitive Neutrality.” - *Discussion Paper 8th Seoul Competition Forum*, September, (2014): 1–10. Zahirul Hoque and Jodie Moll, “Public sector reform-Implications for accounting accountability and performance of state-owned entities –an Australian perspectives,” *The International Journal Of Public Sector Management*, no 14 (4) (2001): 304-326.
- <sup>30</sup> Kar P. Sauvart, Persephone Economou, Ksenia Gal, Shawn Lim, and Witold P. Wilinski, “Trends in FDI, home country measures and competitive neutrality”, in *Yearbook on International Investment Law and Policy 2012-2013*, ed. Andrea K. Bjorklund (New York: Oxford University Press, 2014), ch.1.
- <sup>31</sup> OECD *supra* note 27.
- <sup>32</sup> Antonio Capobianco and Hans Christiansen, “Competitive Neutrality and State-Owned Enterprises: Challenges and Policy Options,” *OECD Corporate Governance Working Papers*, no. 1 (2011): 30.
- <sup>33</sup> They do not primarily seek to keep market structures competitive. They rather try to keep the capital, labor or production centers on national territory.
- <sup>34</sup> After all, State measures that protect domestic champions from foreign acquisition may too harm competitive neutrality by shielding them from the discipline generated by the M&A markets. In the abstract, those measures include outright State appropriation of the coveted assets, efforts to sponsor competing acquisitions, forced enrollment in joint-ventures with local champions, and more generally all *ad hoc* measures that raise the cost of acquisition for the purchaser. The undergirding motives for such measures are well documented in the political economy literature.
- <sup>35</sup> Ed Crooks, “Vindication for Immelt in GE’s Alstom bid.” *Financial Times*, June 23, 2014, <http://www.ft.com/intl/cms/s/0/00d38fd4-fa29-11e3-9f7e-00144feab7de.html>.





- <sup>36</sup> In industrial economics and management literature, a firm that acquires a rival is said to follow a strategy of “expansion” through “external growth.” See Edith T. Penrose, *The Theory of the Growth of the Firm*, (New York, Oxford University Press, 1995).
- <sup>37</sup> Following this acquisition, Alstom’s position in rail signaling will remain behind Siemens, the market leader (market share of 21 percent) and at a similar level as that of Thales (13 percent). See Natixis Equity Research, 5 Aout 2014.
- <sup>38</sup> Even though GE’s signaling business is more profitable than Alstom’s transport operations.
- <sup>39</sup> See Moody’s Investors Service, Credit Opinion, Alstom, 30 June 2014.
- <sup>40</sup> Though the shares in the JVs will pay off dividends.
- <sup>41</sup> The hypothesis that the French Government harmed Alstom more instead of protecting may be further confirmed by circumstantial evidence, such as the fact that Alstom never turned to the French Government for protection. Leaks in the press subsequently brought the Government in the process, on its own motion. Alstom was the one that took the initiative of entering into negotiations with GE, hoping to enter into a sale and purchase transaction with the later under standard market conditions.
- <sup>42</sup> See OECD “Policy Roundtable on barriers to entry,” DAF/COMP (2005) at 28, [www.oecd.org/daf/competition/abuse/36344429.pdf](http://www.oecd.org/daf/competition/abuse/36344429.pdf).
- <sup>43</sup> Paul Belleflamme and Martin Peitz, *Industrial organization: markets and strategies*, (UK, Cambridge University Press, 2010), 15.
- <sup>44</sup> Dennis W. Carlton and Jeffrey M. Perloff. *Modern Industrial Organization*, (Addison Wesley, 3<sup>rd</sup> Edition, 1999), 125. A variant of this theory is that barriers to exit raise barriers to entry. This is because if barriers to exit affect the competitive incentives of the established firms and make them more formidable competitors than they would be if barriers of exit were small, then that may defer potential entrants (see e.g., Ghemawat and Nalebuff, 1985, Fudenberg and Tirole, 1986).
- <sup>45</sup> We are grateful to Pierre Larouche, who suggested this wording to us.
- <sup>46</sup> David Rosenbaum and F. Lamort, “Entry, barriers, exit, and sunk costs: an analysis”, *Applied Economics*, no. 24 (1992): 297–304.
- <sup>47</sup> William J. Baumol, John C. Panzar, and R.D. Willig, “Contestable Markets: An Uprising in the Theory of Industry Structure: Reply”, *The American Economic Review* 73, no. 3 (1983): 491-496.
- <sup>48</sup> William J. Baumol, “Contestable Markets: An Uprising in the Theory of Industry Structure”, *The American Economic Review* 72, no. 1 (1983): 1-15. Baumol argues that in contestable markets, “zero profits must characterize any equilibrium.” And the “second attribute of any contestable market is the absence of any sort of inefficiency in production in industry equilibrium.”
- <sup>49</sup> This is because what keeps prices low on markets is the threat of “hit and run” strategy. Baumol (1982, at p.4) means that a potential entrant must be free to go in, “and, before prices change, collect his gains and then depart without cost, should the climate grow hostile.”
- <sup>50</sup> Li, Willis and Xu, “Asset Specificity and Management Forecasts,” *Financial Accounting and Reporting Section*, 2014 – Annual Meeting Sessions, [http://aaahq.org/AM2014/display.cfm?Filename=SubID\\_1561.pdf&MIMETType=application percent2Fpdf](http://aaahq.org/AM2014/display.cfm?Filename=SubID_1561.pdf&MIMETType=application percent2Fpdf).
- <sup>51</sup> Dennis W. Carlton, “Why Barriers to Entry Are Barriers to Understanding,” *The American Economic Review* 94, no. 2, (2004): 466-470.
- <sup>52</sup> Richard Gilbert, “Mobility barriers and the value of incumbency,” in *Handbook of Industrial Organization*, ed. Richard Schmalensee and R. Willig (Elsevier Science Publishers B.V., 1989) ch. 8.
- <sup>53</sup> See Harrigan, *infra* note 54. See also Michael E. Porter, “Please Note Location of Nearest Exit: Exit Barriers and Planning,” *California Management Review* 19, no. 2 (1976) and Paul Geroski, Richard J. Gilbert and Alexis Jacquemin, “Barriers to entry and strategic competition,” *Fundamentals of Pure and Applied Economics*, (1990):







41, 97., who say that an exit barrier exists if incumbent firms earn profits that are less than the profits that can be earned by firms that have not entered the industry, at 59.

- <sup>54</sup> Kathryn R. Harrigan, "Deterrents to divestiture," *Academy of Management Journal* 24, no. 2 (1981): 306–323.
- <sup>55</sup> Richard E. Caves and Michael E. Porter, "From entry barriers to mobility barriers: Conjectural decisions and contrived deterrence to new competition," *The Quarterly Journal of Economics* 91, no. 2 (1977): 241–262.
- <sup>56</sup> Drew Fudenberg and Jean Tirole, "Dynamic Models of Oligopoly," *Fundamentals of Pure and Applied Economics* 3, (1986).
- <sup>57</sup> Pankaj Ghemawat, and Barry Nalebuff, "Exit," *The RAND Journal of Economics* 16, no. 2 (1985): 184–194.
- <sup>58</sup> Stanley Reynolds, "Plant Closings and Exit Behaviour in Declining Industries," *Economica* 55, no. 220 (1988): 493–503. Michael Whinston, "Exit with multiplant firms," *The RAND Journal of Economics* 19, no. 4 (1988): 568–588.
- <sup>59</sup> Mary Deily, "Exit Strategies and Plant-Closing Decisions: The Case of Steel," *The Rand Journal of Economics* 22, no. 2 (1991): 250–263. Shane Greenstein and James Wade, "The product life cycle in the commercial mainframe computer market, 1968–1982," *The RAND Journal of Economics* 29, no. 44 (1998): 772–789.
- <sup>60</sup> Michael Porter, "The Contributions of Industrial Organization to Strategic Management," *Academy of Management Review* 6, no. 4 (1981): 609–620.
- <sup>61</sup> Harrigan, *supra* note 54
- <sup>62</sup> However, Harrigan also notes that the effects on competition are at times ambiguous. For instance, efficient firms "may not possess the longest staying power or the commitment to fight it out if exit barriers are relatively low" (Harrigan, 1982, at pp. 730 and 731), in contrast to less efficient incumbents who may "resist liquidation because they involve shattered dreams" or because "the very idea of walking away from a [industrial] heritage would seem heretical."
- <sup>63</sup> Kathryn Harrigan, "Exit Decisions in Mature Industries," *Academy of Management Journal* 25, no. 4 (1982): 707–732.
- <sup>64</sup> Tin Katrin, "Technology Adoption with Exit in Imperfectly Informed Equity Markets," *The American Economic Review* 100, no. 3 (2010): 925–957.
- <sup>65</sup> See, for instance Kathryn Harrigan and Michael Porter, "End-Game Strategies for Declining Industries," *Harvard Business Review*, (1983), who talk of social barriers associated with putting people out of work.
- <sup>66</sup> See Article R 153-2 of the Décret Alstom, as mentioned above. It applies only to foreign investments made firms whose headquarters are outside of the territory of the Member States: "Relèvent d'une procédure d'autorisation au sens du I de l'article L. 151-3 les investissements étrangers mentionnés à l'article R. 153-1 réalisés par une personne physique qui n'est pas ressortissante d'un Etat membre de la Communauté européenne ou d'un Etat partie à l'accord sur l'Espace économique européen ayant conclu une convention d'assistance administrative avec la France, par une entreprise dont le siège social ne se situe pas dans l'un de ces mêmes Etats ou par une personne physique de nationalité française qui n'y est pas résidente, dans les activités suivantes."
- <sup>67</sup> Harrigan (1980; 1982) talks of emotional barriers to entry. Kathy Harrigan, "Strategies for declining industries," *Journal of Business Strategy* 1, no. 2 (1980): 20–34.
- <sup>68</sup> It talks of integrity, security, and continuity in the supply of (i) electricity, gas or energy; (ii) in the supply of water; (iii) in the exploitation of transport networks and services; (iv) in the exploitation of communications networks and services; (v) in defense related issues as defined in other legal provisions; and (vi) in public health.
- <sup>69</sup> "Arnaud Montebourg veut qu'Alstom prenne son temps," *le figaro.fr*, April 27, 2014, <http://www.lefigaro.fr/societes/2014/04/27/20005-20140427ARTFIG00090-montebourg-veut-qu-alstom-prenne-son-temps.php>.
- <sup>70</sup> Nathan Wilson, "Uncertain regulatory timing and market dynamics," *International Journal of Industrial Organization* 1, no. 30 (2012): 102–115. Alan Carruth, Andy Dickerson, and Andrew Henley, "What do We Know About Investment Under Uncertainty?" *Journal of Economic Surveys* 14, no. 2 (2000): 119–154.







- 
- <sup>71</sup> We are grateful to Mario Mariniello for bringing this point to our attention.
- <sup>72</sup> Luca Aguzzoni, Gregor Langus and Massimo Motta, "The Effect of EU Antitrust Investigations and Fines on a Firm's Valuation," *The Journal of Industrial Economics* 61, no. 2 (2013): 290–338.
- <sup>73</sup> Kathryn Harrigan, "Overcoming Exit Barriers," in *Palgrave Encyclopedia of Strategic Management*, ed. David Teece and Mie Augier (2013).
- <sup>74</sup> Seung-Hyun Lee, Mike W. Peng, and Jay B. Barney, "Bankruptcy law and entrepreneurship development: A real options perspective," *Academy of Management Review* 32, no. 1 (2007): 257–272. Similarly, the exit cost caused by environmental legislation for oil distribution (cleaning costs associated with closing service stations) raises exit barriers (EU Commission, 1996). See Commission Decision Case IV/M.727 *BP/Mobil*, at §41.
- <sup>75</sup> Alberto Chonga and Gianmarco León, "Barriers to exit," *Economics Letters* 99, no. 1 (2008): 93–97. ([...] virtually all the empirical studies that deal with rigidity issues in international trade focus on goods and services and almost exclusively on the determinants and impact of barriers to entry at 93).
- <sup>76</sup> Justin O'Brien, "Barriers to Entry: Foreign Direct Investment and the Regulation of Sovereign Wealth Funds," *The International Lawyer* 42, no. 4 (2008): 1231–1257. Leora Klapper, Luc Laevena and Raghuram Rajan, "Entry regulation as a barrier to entrepreneurship," *Journal of Financial Economics* 82, no. 3 (2006): 591–629. Nauro F. Campos, and Mariana Loopty, "Institutional barriers to firm entry and exit: Case-study evidence from the Brazilian textiles and electronics industries," *Economic Systems* 31, no. 4 (2007): 346–363. See, more generally, on the growth impact of "competition-enhancing" reforms that reduce barriers to entry. See Philippe Aghion, and Mark Schankerman, "On the Welfare Effects and Political Economy of Competition-Enhancing Policies," *The Economic Journal* 114, no. 498 (2004): 800–824. Büttner B, "Entry barriers and growth," *Economics Letters* 93, no. 1 (2006): 150–155.
- <sup>77</sup> Mike W. Peng, Yasuhiro Yamakawa, and Seung-Hyun Lee, "Bankruptcy Laws and Entrepreneur-Friendliness," *Entrepreneurship Theory and Practice* 34, no.3 (2010): 517–530. "Little research in the entrepreneurship literature has examined exit barriers such as bankruptcy laws" at 519.
- <sup>78</sup> Joseph E. Stiglitz, Justin Yifu and Célestin Monga, "The rejuvenation of industrial policy," Working Paper Series 6628 (The World Bank, 2013).
- <sup>79</sup> Dani Rodrik, "Industrial Policy for the Twenty-First Century," Working Paper Series RWP04-047 (Harvard-KSG Faculty Research, 2004).
- <sup>80</sup> *Id.*
- <sup>81</sup> *Id.*
- <sup>82</sup> Paul Seabright, "National and European Champions - Burden or Blessing?," *CESifo Forum* 6, no. 2 (2005): 52–55. Ifo Institute for Economic Research at the University of Munich.
- <sup>83</sup> Will Jennings, "Executive politics, risk and the mega-project paradox," *Executive Politics in Times of Crisis*, ed. Martin Lodge and Kai Wegrich (Basingstoke, GB, Palgrave Macmillan, 2012), 239–263. Flyvbjerg, B., N. Bruzelius, and W. Rothengatter, *Megaprojects and Risk* (Cambridge University Press, 2003), 218. The reasons behind such failures revolve around basic principal-agent issues (Myddelton, 2007). First, unlike shareholders, Governments are not investing their money in such projects. Second, Governments are only accountable "every four or five years on a whole miscellany of past actions." Finally, the costs of the projects are diffused over a large number of electors, so that the losses may be perceived as so scattered that there are no incentives for lobbying the Government against.
- <sup>84</sup> David Myddelton, "They Meant Well. Government Project Disasters," *Institute of Economic Affairs Monographs*, no. 160 (2007): 244.
- <sup>85</sup> *Id.*
- <sup>86</sup> Seabright, *supra* note 82.
- <sup>87</sup> "How Lou Gerstner Got IBM To Dance," *Forbes*, November 11, 2002, [http://www.forbes.com/2002/11/11/cx\\_id\\_1112gerstner.html](http://www.forbes.com/2002/11/11/cx_id_1112gerstner.html).





- <sup>88</sup> Mario Mariniello, "Foreign takeovers need clarity from Europe," *Bruegel Policy Brief*, no. 861 (2014).
- <sup>89</sup> The *GE/Alstom* transaction was eventually cleared by the European Commission on 8 September 2015. See [http://europa.eu/rapid/press-release\\_IP-15-5606\\_en.htm](http://europa.eu/rapid/press-release_IP-15-5606_en.htm).
- <sup>90</sup> See Council Regulation (EC) No. 139/2004 of 20 January on the Control of Concentrations Between Undertakings, (2004) OJ L24/1.
- <sup>91</sup> Doubts remain on whether Alstom will keep or sell its on-shore wind activities.
- <sup>92</sup> Not to a point, though, where GE would refuse to sign the deal. This barrier to exit does not matter as much for GE, who clearly seeks to expand in energy, than for Alstom, who seeks to leave the energy sector.

