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No. 6894

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OF MERGER POLICY IN  
INTERNATIONAL MARKETS**

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Discussion Paper No. 6894  
June 2008

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June 2008

## ABSTRACT

### A Political Economy Model of Merger Policy in International Markets\*

This paper looks at the political economy of merger policy under autarky and in international markets. We assume that merger policy is decided by antitrust authorities (whose objective is to maximize welfare) but can be influenced by governments, which are subject to lobbying by the firms (be they insiders or outsiders to the merger). We argue that political economy distortions may explain some of the recently observed merger policy conflicts between authorities and politicians, as well as between institutions belonging to different countries. We illustrate our analysis with applications motivated by recent merger cases, which have been widely debated in the international press.

JEL Classification: D72, F59, H11 and L40

Keywords: antitrust policy, European union, lobbying and mergers

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\* We would like to thank Sara Biancini, Chiara Fumagalli and participants to seminars at EUI and Munich for comments. **Disclaimer: The opinions expressed in this paper should be attributed to the authors. They are not meant to represent the positions or opinions of the WTO and its Members and are without prejudice to Members' rights and obligations under the WTO.**

Submitted 23 June 2008



countries might have opposing interests and might try to favour or oppose particular combinations of international firms' assets, and to study under which circumstances there might be a conflict between such behavior and economic efficiency.

**Description of the model and main results.** The model economy is composed of two regions (or countries) between which there are no trading costs. For simplicity, we analyze an industry where there are only three firms (possibly located in different countries). A merger between two firms (that we call *insiders*) creates a larger and, possibly, more efficient entity and reduces competition in the market. If the efficiency gains are large enough under the merger, the equilibrium price falls. In this case, consumers benefit from the merger and the competing firm (or *outsider*) is hurt. The aggregate welfare effect of a merger is the sum of the change in consumer surplus and in the profits of the insiders and the outsider. A merger improves aggregate welfare if its efficiency gains are sufficiently high, as the combined positive effects on consumers and insiders dominates the negative effect on the outsider. We refer to mergers that satisfy this condition as *efficient*.

In order to understand the political economy of merger policy, it is important to specify the institutional environment in which this policy is decided. Two dimensions matter. First, the international dimension of the merger. Regions can be part of a single country (in which case mergers have no external effects as under *autarky*), be two independent countries (we refer to mergers in this case as *non-EU mergers*), be part of an international union (where member states cede part of their sovereignty, in this case we refer to *EU mergers*).

The second relevant dimension corresponds to the legal/political environment in which merger policy is decided. In principle, either an antitrust authority (maximizing social welfare) and/or a government (subject to firms' lobbying) can be in charge of merger policy. The relationship between the authority and the government depends on several institutional factors and varies on a case by case basis. For this reason, we consider a general structure where the decision of the antitrust authority can be influenced by the government with some exogenous probability, capturing diverse things such as an explicit reversal clause or implicit political influence on the members of the authority. As long as this probability is positive, firms may have an incentive to pay contributions to politicians (or take other actions) to influence the government's position on the merger. As in the standard lobbying model (Bernheim and Whinston, 1986, and Grossman and Helpman, 1994), politicians care about social welfare, but attach a positive weight on such political contributions from firms. In equilibrium, governments' actions (and, possibly, the decision on whether to approve or block a merger) can be influenced by lobbying.

We organize our discussion along the first -i.e. the international- dimension. We first consider merger policy under autarky as a benchmark: Section 2 deals with a situation where all firms are located in the same country, but two different agents - say, the antitrust authority and the economy minister - are involved in the merger decision process. This situation may well describe

several cases where there has been a conflict between domestic decision-makers. For instance, in the *E-On/Ruhrigas* German energy merger, the Bundeskartellamt, which is the relevant competition authority in Germany (and the Monopolkommission, another authority which has an advisory role) did not want to approve the merger, but the German government decided to authorize it (under German law, the BKartA can be overruled by the economy minister). In the case of the (failed) merger project between *Gas Natural/Endesa* (both Spanish firms) the Tribunal de Defensa de la Competencia (the relevant Spanish competition authority) did not express a favorable opinion of the concentration, whereas the Spanish government openly approved of it.

Our closed economy model provides a rationale for the conflict which has emerged between authorities in charge of antitrust policy and national governments. If politicians can influence the decision of the authority with a positive probability (or a fortiori if they can overturn it), merging firms and the outsider have an incentive to lobby the government to affect its position on the merger. The model shows that a government that (in addition to social welfare) cares about lobbying pressures will endorse at least some inefficient merger, thus entering in a conflict with the antitrust authority.

In Sections 3 and 4 we build on the model of Section 2 and deal with the political economy of merger policy in international markets. Our model will help interpret a set of recent interesting merger cases of firms outside the European Union (mostly in the US), but which had important effects on consumers and firms in the EU (e.g. *Gencor/Lohstro*, *Boeing/McDonnell Douglas*, or *General Electric/Honeywell*), and accordingly fell under EU jurisdiction. In these non-EU mergers, conflicts arose within countries and, more forcefully, between the two sides of the Atlantic. Finally, we consider mergers that take place within an international union (such as the European Union) with a single antitrust authority, but with independent national governments. There are two types of such mergers. First, insiders might be located within the same member country (e.g. *Volvo/Scania* in Sweden); and second, mergers can be cross-border and insiders are in different member countries (e.g. *Edison/EdF*, *E-On/Endesa*, *ABN-Ambro/Antonveneta*). In some merger cases of both types, the relevant competition authority (the European Commission) and the EU governments involved have taken different positions. Note that, even though there may be only one decision-maker (the European Commission) that is formally invested with the power of allowing or prohibiting the merger, member countries' governments might have several ways to affect the final outcome of the merger. For instance, they could try to increase the costs of the merger by changing the market rules, as when the Spanish authorities imposed a number of restrictive conditions (contested by the European Commission) for E-On's (failed) takeover of Endesa, or when the Italian government changed the corporate governance rules of Edison, or when it announced that it would consider unbundling of Telecom Italia's fixed network, following AT&T's interests in taking over TI. Or they could affect the Commission's decision by trying to press their case with the

Competition Commissioner or by voicing opposition within the Commission as a whole, through their Commissioner.

In Sections 3 and 4, we show that conflicts over merger policy can emerge for two reasons. First, the effects of the merger on national social welfare is different across countries, because in this case the location of firms and consumers matters. Second, different perspectives on merger policy may also be the outcome of the political process, as governments can be influenced by national firms that engage in lobbying activities. These findings and a closer look at some recent merger cases discussed above suggest that, while in international markets different countries or national governments and union authorities may have opposing views on mergers for genuinely economic reasons, several of these cases can be better understood by looking at the "politics" of merger policy.

**Related literature.** A large literature studies the effects of mergers in international markets and provides normative indications on how antitrust policy should be conducted in open economies. Examples include Barros and Cabral (1994), who extend the classic work of Farrell and Shapiro (1990) on horizontal mergers to the case of an open economy, and Head and Ries (1997), who study nationally and globally optimal policy towards cross-border mergers. Differently from this literature, we adopt a positive rather than a normative approach as we consider a political economy environment where merger policy can be influenced by lobbying pressures.

Our model is related to the recent work of Neven and Röller (2005), who also employ a similar political economy framework to study merger policy.<sup>1</sup> However, their paper addresses very different questions, as they analyze under what conditions a consumer surplus standard yields higher welfare than a welfare standard once political motivations are taken into account in the (domestic) merger process. They also assume that firms lobby the antitrust authority directly, while in our model the firms' lobbying influences the position on the merger of politicians, who in turn can affect the decision of the authority. More importantly, they abstract from the open economy dimension, which instead is a key aspect of the present work.

## 2 Autarky

In this Section we consider our benchmark case, autarky. After briefly describing the economic setting, we introduce our political economy model and study merger policy in a closed economy.

In the economy there are two regions  $A$  and  $B$  with a total population of measure 1. We adopt a partial equilibrium framework,<sup>2</sup> and assume that demand in region  $j = A, B$  is  $p = \phi_j(1 - q)$ ,

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<sup>1</sup>A first empirical assessment of the role of lobbying in antitrust decisions in the EU is in Duso, Neven and Röller (2007).

<sup>2</sup>This model might be derived from a general equilibrium model with two goods  $y$  and  $q$ , and where each consumer

with  $\phi_j \in [0, 1]$  and  $\phi_A + \phi_B = 1$ . Throughout the paper we assume away trade costs for simplicity.

We assume that only three firms are active in this industry.<sup>3</sup> Each individual has an endowment and possibly derives income from the profits of firms. We assume that only a small fraction of people has shares of firms and that these claims are indivisible and non tradeable. Moreover, we assume that location of firms and ownership coincide - i.e. a firm in region  $j$  is fully owned by individuals in that region. Those who own claims on profits of these firms have an interest in merger policy that goes well beyond their interest as consumers.

We assume that two of the three firms producing good  $q$  have an opportunity to merge and form a larger entity. We briefly review the effects of the merger on welfare, consumer surplus and profits.

**Welfare effects of a merger.** We first look at the effects of the merger on aggregate (or *union*) welfare - i.e. the sum of welfare in regions  $A$  and  $B$ . Let us start by looking at the Cournot-Nash equilibrium in this sector absent the merger.<sup>4</sup> We assume that each firm has a marginal cost  $c \in (\frac{1}{5}, \frac{1}{2})$ , which guarantees that the outsider will never go out of the market (even if the insiders have maximal efficiency gains) and that the merger may lower prices.<sup>5</sup> Each firm  $i = 1, 2, 3$  will have to solve the programme  $\max_{q_i} \pi_i = p(q)q_i - cq_i$ , where  $p(q) = 1 - q = 1 - \sum_i q_i$  is the inverse demand function.

The symmetric equilibrium can be easily found and the following are the equilibrium quantities, price, profits, consumer surplus and welfare:

$$q^N = \frac{1-c}{4}; \quad p^N = \frac{3c+1}{4}; \quad \pi^N = \frac{(1-c)^2}{16};$$

$$CS_U^N = \frac{(3-3c)^2}{32}; \quad w_U^N = \frac{15(1-c)^2}{32},$$

where the superscript  $N$  denotes the "no-merger" case and the subscript  $U$  stands for "union" (i.e. the 'aggregation' of the two countries).

A merger between two firms creates a larger entity and reduces competition in the industry. We will refer to the merging firms as the *insiders* and denote them with  $I$ , while the firm that is

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in country  $j = A, B$  has the quasi-linear utility function  $u_j(y, q) = y + \phi_j U(q)$ . By assuming that good  $y$  is the numeraire and has a price of 1, and that the sub-utility  $U(q)$  takes the specific functional form  $U(q) = q - \frac{1}{2}q^2$  one can derive the demand functions for good  $q$  as in the text, and study this market in isolation from market  $y$ .

<sup>3</sup>This is the minimum number of firms that we need to model the effect of mergers in a sufficiently rich way: if we assumed only two firms, the merger would give rise to a monopolistic firm, whereas as seen below the effect of the merger on outsiders are an important dimension to understand possible political biases towards mergers.

<sup>4</sup>The assumption that firms set quantities makes the model as simple as possible, but assuming price-setting firms with differentiated products would not change the nature of the results. Motta (2004: Chapter 5) derives the effects of mergers in the latter setting and obtains the same qualitative results as in the base model analysed here.

<sup>5</sup>Note that if  $c < 1/5$ , then the merger would never lower prices: absent the merger, prices are already low enough because costs are low enough. Therefore, the market power effect would always dominate the efficiency effect, however large the latter.



left out of the merger is the *outsider* and denoted with  $o$ . By combining their assets, the insiders might gain in efficiency and thus operate at a lower unit cost  $ec$ , where  $e \in [0, 1]$  is the efficiency gain. Note that the lower  $e$ , the larger the efficiency gains, in terms of lower costs, entailed by the merger.

Without loss of generality, we look at the equilibrium when firms 1 and 2 merge. Here, we have just two firms, an insider, whose output is denoted by  $q_I$ , and an outsider (firm 3), whose output is denoted by  $q_o$ . From the maximization process we shall have the following equilibrium values:

$$q_I = \frac{1+c-2ec}{3}; \quad q_o = \frac{1+ec-2c}{3}; \quad p^M = \frac{1+(1+e)c}{3};$$

$$\pi_I = \frac{(1+c-2ec)^2}{9}; \quad \pi_o = \frac{(1+ec-2c)^2}{9};$$

$$CS_U^M = \frac{(2-(1+e)c)^2}{18}; \quad w_U^M = \frac{c^2(11e^2-14e+11)-8c(e+1)+8}{18},$$

where the superscript  $M$  denotes the "merger" case.

It is useful to understand whether the merger increases or decreases profits, prices, and consumer surplus. First of all, we should check when the merger is profitable, that is if the profits of the new firm resulting from the merger are larger than the sum of the profits of the two individual firms. From  $\frac{\pi_I}{2} - \pi_1^N \geq 0$ , we obtain that the merger is profitable if and only if:

$$e \leq e_{\pi I} \equiv \frac{(4+3\sqrt{2})c - (3\sqrt{2}-4)}{8c}.$$

Clearly, a merger which is not profitable would not be proposed in the first place. For instance, absent efficiency gains (i.e. if  $e = 1$ ), the merger will never be carried out, as  $\pi_I = \frac{(1-c)^2}{9} < 2\pi_1^N = \frac{(1-c)^2}{8}$ .

The merger increases consumer surplus if  $p^N - p^M \geq 0$  (i.e. prices are lower under the merger), which holds if and only if:

$$e \leq \frac{5c-1}{4c} \equiv e_{CS}.$$

Last, we can check when the outsider's profits are higher under the merger ( $\pi_o - \pi_3 \geq 0$ ). We obtain that the outsider gains from the merger if and only if:

$$e \geq \frac{5c-1}{4c} \equiv e_{\pi o} = e_{CS}.$$

Interestingly, the outsider loses from the merger precisely when consumers gain from it, and vice-versa. The reason is that the outsider makes higher profits under the merger if the equilibrium price goes up.

Summing up, firms that are undertaking the merger always gain from it or the merger will not be proposed. Consumers benefit from the merger only if the price is lower and the price decreases only if efficiency gains are sufficiently large under the merger. Notice that the lower  $e$ , the stronger the efficiency gain, the more profitable is the merger for insiders and the more consumers can reap benefits from the merger. The opposite is true for outsiders.

The effect of a merger on aggregate welfare is the sum of the effects on profits and consumer surplus. A merger improves aggregate welfare ( $w_U^M \geq w_U^N$ , in which case we talk about an *efficient* merger) if and only if

$$e \leq \frac{c(3\sqrt{37} + 28) - 3\sqrt{37} + 16}{44c} \equiv e_W.$$

Notice that this condition is weaker than the condition on consumer surplus ( $e_{CS} < e_W$ ), because welfare includes profits which increase with the merger for a larger set of parameters values. These findings are summarized in figure 1.

INSERT FIGURE 1 HERE

**The institutional environment.** We formally define merger policy  $x \in \{0, 1\}$  as a simple binary choice, where  $x$  can take the value of 0 -*allow the merger*- or 1 -*reject the merger*.<sup>6</sup> Merger policy affects the equilibrium price (and quantities) and, ultimately, consumer surplus, profits and social welfare. Therefore, we can write the price of the good as a function of antitrust policy:  $p(x)$ , where  $p(1)$  and  $p(0)$  are respectively the equilibrium price if the merger is rejected or if it is approved. This allows us to express welfare, consumer surplus and profits directly as functions of the policy variable  $x$ .

We assume that a merger to be effective needs to be approved by a welfare-maximizing authority in charge of merger policy. The decision of the authority, however, can be influenced (or even reversed) by the government with some exogenous probability, capturing informal political influence or a formal reversal clause that the government might resort to. (In some countries, governments can rely only on political pressure to affect the final merger decision; in others, they have the last word on mergers.) This opens the question of how the government formulates its position on the merger. In this model, we assume that politicians' preferences are shaped by a combination of social welfare considerations and political contributions by lobby groups representing the interests of firms. In the rest of this section we describe the details of the political economy of antitrust policy.

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<sup>6</sup>In the real world, policymakers also have the possibility to approve mergers subject to certain conditions (called "remedies"). In our simple model, there are no meaningful remedies authorities may resort to.

The political economy environment in which merger policy takes place is described by a three stage process (refer to figure 2). We first sketch the game and then provide further details below. At the first stage, the merger is proposed and lobbies representing the interests of firms (insiders and the outsider) may choose to offer political contributions to the government contingent on its position on the merger. At the second stage, the antitrust decision is taken. We assume that at this stage the characteristics of the merger are common knowledge. With some exogenous probability  $\xi_U \in [0, 1]$ , merger policy is determined by the government. With probability  $(1 - \xi_U)$ , the antitrust authority decides whether or not to allow the merger. The probability  $\xi_U$  is meant to capture in a general way the influence of the government on merger policy, lower values of  $\xi_U$  being associated with weaker political influence on antitrust decisions. At the last stage, product market competition takes place, political contributions to the government are paid and profits, consumer surplus and welfare are realized.

INSERT FIGURE 2 HERE

The objective function of the antitrust authority corresponds to aggregate welfare:<sup>7</sup>

$$w_U^A(x) = w_U(x). \tag{1}$$

Governments care about social welfare (i.e. the general electorate), but are also sensitive to contributions by special interests groups. We model the interaction between firms and politicians as in the classic work of Bernheim and Whinston (1986) and Grossman and Helpman (1994). In this setting, political contributions consist of direct monetary transfers to the government. Politicians care about contributions because these transfers can be used for private consumption or to finance electoral campaigns that increase the chance of re-election.

Business owners are assumed to be a small fraction of the population and to be politically organized to lobby politicians for favorable policies. All other individuals are not politically active. There are two reasons to motivate this assumption. First, differently from business owners, consumers have weak incentives to lobby the government to influence merger policy because a specific good generally takes a small part of their budget. Second, due to their large number, consumers often fail to get politically organized as they face a free riding problem (as in Olson, 1965) which is more difficult to overcome compared to business owners.

We denote political contributions offered by lobby  $i = I, o$  (i.e. the lobby representing the interests of the insiders and the outsider respectively) at the first stage of the game with  $l_i(x)$ .

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<sup>7</sup>In several parts of the article, we also consider the alternative of a consumer (rather than welfare) standard for the authority. In the concluding Section, we discuss the possibility that antitrust authorities might be biased because of career concerns.

This notation makes it clear that the contribution is a payment contingent on the position of the government relative to the merger -i.e. contingent on the policy variable  $x$ . Political contributions are binding commitments of payment, that is, lobbies cannot renege on their promises at the last stage of the game. When choosing its contribution schedule, a lobby maximizes the payoff to its members (i.e. profits net of contribution payments).

At the second stage, the government observes contributions and chooses its position on the merger  $x$  to maximize the following objective function

$$w_U^G(x) = \eta w_U(x) + (1 - \eta) \sum_{i=I,o} l_i(x), \quad (2)$$

where the parameter  $\eta \in [0, 1]$  captures the benevolence of politicians, i.e. the weight on the social welfare  $w_U(x)$ . The lower  $\eta$ , the higher is the politicians' predilection for contributions relative to social welfare -i.e. the lower the government's interest to please the electorate. We define the government to be "benevolent" if  $\eta = 1$  and "politically motivated" for  $\eta = 0$ .

The political game is solved by backward induction. We follow the lobbying literature and limit attention to a specific equilibrium with truthful contributions. In the present case, where the choice variable is binary, these contribution functions take the form

$$l_i(x, k_i) = \max [0, \xi_U \Delta \pi_i(x) - k_i], \quad (3)$$

where  $\Delta \pi_i(x)$  is the change in payoff to lobby  $i$  associated to decision  $x$  and  $k_i$  is a constant that is set optimally by the lobby which can be interpreted as the net of contributions payoff to lobby  $i$ . As condition (3) makes clear, the probability  $\xi_U$  directly affects the payoff to the lobby and its willingness to pay contributions. If the government plays no role in the antitrust decision (i.e.  $\xi_U = 0$  and merger policy is uniquely decided by the independent authority), firms have no reason to lobby politicians. On the other hand, the incentive for firms to exert pressures on the government is maximal when  $\xi_U = 1$ , as the government is effectively the decision maker.

**The political economy of merger policy under autarky.** We employ this model to study the political economy of merger policy under autarky. When regions  $A$  and  $B$  are part of the same country (and, therefore, the merger has no effect outside national borders) with a single antitrust authority and a national government, merger policy is

$$x = \begin{cases} x_U^G & \text{with probability } \xi_U \\ x_U^A & \text{with probability } (1 - \xi_U), \end{cases}$$

where superscripts  $G$  and  $A$  stand for government and authority respectively.

We first look at the decision of the authority and then study the choice of the government. The authority endorses a merger if and only if such a merger improves aggregate welfare ( $w_U(0) \geq$

$w_U(1)$ ). Social welfare maximization implies that only those mergers that involve sufficiently large efficiency gains are endorsed by the antitrust authority ( $e \leq e_U^A = e_W$ ), while all other mergers (for which  $e > e_W$ ) are opposed by the authority.

We next study how special interests influence merger policy preferences of the government by solving backward the lobbying game. At the second stage, politicians endorse the merger if and only if the following participation constraint is satisfied:

$$\eta [w_U(0) - w_U(1)] + (1 - \eta) \left[ \sum_{i=I,o} l_i(0) - \sum_{i=I,o} l_i(1) \right] \geq 0. \quad (4)$$

Recall that for any  $e \geq e_{\pi_o}$  both merging firms and outsiders will benefit from the merger. In this case, lobbies representing the interests of insiders and competitors will both exert pressures on politicians to have the merger approved. On the other hand, for  $e < e_{\pi_o}$  efficiency gains are strong, and merging firms and outsiders have opposing interests and will lobby politicians in opposite directions. We study these two cases in turn.

1. For  $e \geq e_{\pi_o}$ , both lobbies gain from the merger and set  $l_i(1) = 0$ , with  $i = I, o$ . Moreover, notice that for  $e \leq e_W$ , the merger is efficient and a politician would endorse it even in the absence of political pressures. In this case, lobbies optimally set  $l_I(0) = l_o(0) = 0$  at the first stage, the merger is endorsed by the authority and the government. For  $e > e_W$  (i.e. inefficient merger), the authority opposes the merger. In this case, lobbies set  $\sum_{i=I,o} l_i(0) > 0$  so as to induce the government to contest the authority's decision. More precisely, political contributions are set such that the government is exactly indifferent between supporting or not the merger (i.e. the contributions at stage one are chosen so that the above participation constraint is satisfied with equality).

We can find the threshold efficiency value for the government, call it  $e_U^G$ , beyond which firms do not find it convenient to lobby. Define the maximum contribution that the outsider and the insiders are willing to pay to induce the government to endorse the merger:

$$\widehat{l}_o(0) = \xi_U \Delta \pi_o(0) = \xi_U [\pi_o - \pi^N] = \xi_U \left[ \frac{(1 + ec - 2c)^2}{9} - \frac{(1 - c)^2}{16} \right] \quad (5)$$

and

$$\widehat{l}_I(0) = \xi_U \Delta \pi_I(0) = \xi_U [\pi_I - 2\pi^N] = \xi_U \left[ \frac{(1 + c - 2ec)^2}{9} - \frac{(1 - c)^2}{8} \right], \quad (6)$$

where we used the definitions of truthful contributions (condition (3)) and set  $k_i$  (the payoff to lobby  $i = I, o$  net of contributions) equal to zero. In this case, we have that total maximum contributions to the government equal

$$\sum_{i=I,o} \widehat{l}_i(0) = \xi_U [\pi_I + \pi_o - 3\pi^N].$$

Using the last three conditions into the participation constraint (4) and solving for  $e$ , we obtain that the government endorses the inefficient merger if and only if

$$e \leq e_U^G \equiv \frac{(32c\xi\eta - 64c\eta - 32c\xi - 128c^2\xi - 112c^2\eta + 128c^2\xi\eta - 12\sqrt{c^2(c-1)^2(24\xi\eta - 4\xi^2 + 37\eta^2 - 24\xi\eta^2 + 8\xi^2\eta - 4\xi^2\eta^2)})}{160c^2\xi\eta - 176c^2\eta - 160c^2\xi}.$$

Notice that  $e_U^G > e_W = e_U^A$  for  $\xi_U > 0$  and  $\eta < 1$ ; and  $e_U^G = e_W = e_U^A$  for  $\xi_U \rightarrow 0$  and/or  $\eta \rightarrow 1$ . Moreover,  $e_U^G$  is decreasing in  $\eta$  and increasing in  $\xi_U$ . In other words, because of political pressures from lobbies representing industrial interests, politicians endorse at least some mergers that would be opposed by the authority on the basis of welfare criteria (those for which the realization of the efficiency level falls in the area  $e_U^A < e \leq e_U^G$ ). This bias is larger the higher the weight attached to political contributions by the government (lower  $\eta$ ) and the larger the probability that the government can influence or reverse the decision of the authority (higher  $\xi_U$ ). If the government does not care about political contributions ( $\eta \rightarrow 1$ ) and/or if it cannot influence the antitrust decision ( $\xi_U \rightarrow 0$ ), then no lobbying takes place and  $e_U^G = e_U^A$ .

2. For  $e < e_{\pi_o}$ , there is a contrast between insiders and outsiders who, therefore, lobby in opposite directions: insiders lobby for approval, while the outsider lobbies for the rejection of the merger. In this case, however, we can show that the government always supports the merger. The reason is twofold: first, consumer surplus is always larger if the merger is approved when  $e < e_{\pi_o} = e_{CS}$ ; second, the lobby of insiders can always offer higher political contributions than the lobby representing the outsider. The first point can be immediately verified, here we show that the second statement is also true.

Notice that competition for influence between the two lobbies will drive down the optimal net of contribution payoff  $k_i$  up to the point where a lobby is indifferent between paying contributions and staying out of the political market.<sup>8</sup> Define the maximum contribution that the outsider is willing to pay to induce the government to block the merger  $\widehat{l}_o(1)$ . This is given by

$$\widehat{l}_o(1) = \xi_U \Delta\pi_o(1) = \xi_U [\pi^N - \pi_o] = \xi_U \left[ \frac{(1-c)^2}{16} - \frac{(1+ec-2c)^2}{9} \right]. \quad (7)$$

We can show that  $\widehat{l}_I(0) \geq \widehat{l}_o(1)$ , where  $\widehat{l}_I(0)$  is the maximum contribution that lobby  $I$  is willing to pay to induce the government to endorse the merger (equation (6)). Define  $\Delta\pi_I = \pi_I - 2\pi_1$  and  $\Delta\pi_O = \pi_N - \pi_O$ . One can show that:

<sup>8</sup>For a generalization of this result see Dixit, Grossman and Helpman (1997).

$$\Delta\pi_I - \Delta\pi_O = \frac{5 + c(22 - 32e) + c^2(53 - 128e + 80e^2)}{144} > 0,$$

since the associated equation of the second order has no roots in the real numbers. Therefore, for  $e \geq e_{cs}$ , both the outsider and insiders gain from mergers. For  $e < e_{cs}$ , insiders gain and the outsider loses, and the gains of the former are of a larger order of magnitude than the losses of the latter. This proves that the lobby of insiders can always outbid the lobby representing the interests of the outsider. That is, lobby  $I$  can set contributions  $l_I(0) = \widehat{l}_o(1) + \varepsilon$  with  $\varepsilon > 0$  arbitrarily small and induce the union government to endorse the merger.

We summarize these findings.

**Result:** Under autarky  $e_{\pi o} = e_{CS} < e_U^A = e_W \leq e_U^G \leq e_{\pi I}$ . For values of  $e$  such that

- $e \leq e_{CS}$ : The efficient merger is endorsed by the authority and the government; firms lobby in opposite directions, but firm  $I$  outbids firm  $o$ . Merger approved with probability 1.
- $e_{cs} < e \leq e_U^A$ : The efficient merger is endorsed by the authority and the government and there is no lobbying. Merger approved with probability 1.
- $e_U^A < e \leq e_U^G$ : The inefficient merger is opposed by the authority and endorsed by the government under lobbying of firms  $I$  and  $o$ . Merger rejected with probability  $1 - \xi_U$ .
- $e_U^G < e \leq e_{\pi I}$ : The inefficient merger is opposed by the authority and by the government and there is no lobbying. Merger rejected with probability 1.
- $e > e_{\pi I}$ : No merger is proposed.<sup>9</sup>

As indicated above, the application analyzed here best describes situations where there is a merger which has an essentially national component but where conflicts arise between different decision-makers, as in the area where  $e_U^A < e \leq e_U^G$ . Here, an authority which cares about aggregate welfare only would oppose the merger because it does not create sufficient efficiency gains, thereby creating bigger losses to consumers than gains to (national) firms. On the other hand, if the government is sensitive to lobbying, then it would favour the merger: all firms here would gain from the merger, and hence would lobby for it to be approved; since the merger is not too welfare-detrimental, the government is willing to accept it. Whether ultimately the merger goes ahead or not depends on the probability  $\xi_U$ . If  $\xi_U = 1$ , as in institutional frameworks where the antitrust authority makes a recommendation but the government (or the economy minister) can overturn it, then the merger will be approved. An example of this case might be *E-On/Ruhrigas*,

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<sup>9</sup>This area would not exist if there were competition in prices rather than in outputs.

where the German antitrust authority issued a negative recommendation (also endorsed by the Monopolkommission, an advisory body), but the economy minister simply decided to approve the merger, which had been heavily promoted by the insiders. Another example was the (eventually failed) merger proposal between the Spanish energy companies Endesa and Gas Natural, where the Spanish competition authority and the Spanish government held opposed views on the merger.<sup>10</sup>

Last, notice that if we were to assume a consumer standard for the authority rather than a welfare standard, the logic of our results would not change. Under a consumer standard, the authority would endorse a merger if and only if  $e \leq e_U^A = e_{CS}$  (that is, if it increases consumers' welfare). There are two main differences with our previous findings. First, the authority would oppose at least some efficient (i.e. welfare enhancing) mergers, as it would not internalize the effect of the merger on firms' profits. Second, the disagreement between the government and the antitrust authority would take place for a larger range of values of  $e$  (i.e. for  $e_U^A = e_{CS} < e \leq e_U^G$ ).

### 3 International mergers, I: Non-EU mergers

An important aspect of recent merger cases is that they can have substantially different effects in a closed or in an open economy environment, as firms might be located in a region different from where the market is. Moreover, in an open economy environment itself there might be important differences, as countries can be part of an international union with a common antitrust authority (as in the EU) or have separate authorities. This Section deals with this second case.

Instead of being regions, suppose  $A$  and  $B$  are countries open to trade, but fully politically independent. Each country has an antitrust authority, that maximizes national welfare, and a politically motivated government that can influence (reverse) the decision of its national authority with probability  $\xi_j$  with  $j = A, B$ . As the role of the benevolence parameter in the governments' objective function ( $\eta$ ) is clear from the previous analysis, here and in the next Section we focus on the two limit cases: a social welfare maximizing government and a non-benevolent government (i.e.  $\eta = 1$  and  $\eta = 0$  respectively).

Differently from the previous Section, the location of firms and consumers now matters and, depending on this, the merger has different effects on the welfare of country  $A$  and  $B$ . To focus ideas, we assume that firms 1 and 2 (the merger insiders) are located in country  $A$ , while the outsider (firm 3) and the market are in country  $B$  - i.e.  $\phi_A = 0$  and  $\phi_B = 1$  in the demand function.<sup>11</sup> Following the principle that competition law of one country applies to mergers which

<sup>10</sup>Some recent mergers in Portugal, both in energy and in the telecom sector, showed some divergences between the competition authority, politicians, and sectoral regulators (also in charge of mergers in regulated sectors), which may also be interpreted in the light of our political economy model. Sectoral regulations are naturally more sensitive than competition authorities to the lobbying of the regulated firms.

<sup>11</sup>In terms of the underlying general equilibrium model, we are assuming that all consumers of good  $q$  are located in country  $B$ . This implies that citizens in  $A$  use all their income -possibly coming from holding shares of firms active



have effects on that country's market, we look at the merger decision of the country where the market is.<sup>12</sup> We could think of country  $B$  as being the EU, and investigate its decisions on a merger taking place between two firms that are located outside the EU.

The authority in  $B$  decides whether to approve or block the merger, but this decision can be influenced (or reversed) by the government in  $B$  with probability  $\xi_B$ . In this case, merger policy is

$$x = \begin{cases} x_B^G & \text{with probability } \xi_B \\ x_B^A & \text{with probability } (1 - \xi_B). \end{cases}$$

We study first the effects of the merger on the welfare in country  $B$ , where consumers and the outsider are located. If the merger is rejected, total domestic welfare in  $B$  is given by

$$w_B^N = w^N - (\pi_1 + \pi_2) = CS^N + \pi_3,$$

while total domestic welfare when the merger takes place is:

$$w_B^M = w^M - \pi_I = CS^M + \pi_o.$$

Therefore, the authority in  $B$  will endorse the merger if and only if  $w_B^M \geq w_B^N$ , that is for:

$$e \leq e_B^A = e_{\pi_o} = e_{CS} = \frac{5c - 1}{4c}.$$

The merger in country  $A$  has opposing effects on consumer surplus and the profits of the outsider in  $B$ . For high efficiency gains ( $e \leq e_{\pi_o} = e_{CS}$ ), prices fall if the merger takes place. In this case, consumer surplus raises and the profits of the outsider fall. Vice-versa for low efficiency gains ( $e > e_{\pi_o} = e_{CS}$ ). The effect on consumer surplus, however, always dominates the effect on profits for any realization of the efficiency gain. This determines the behavior of the authority in  $B$ . Notice also that  $e_B^A \leq e_W$ , that is the antitrust authority in  $B$  opposes at least some efficient mergers (efficient from the point of view of aggregate welfare), as it does not internalize the effect of the merger on the profits of the insiders (located in  $A$ ).

The government in  $B$  may influence the decision of the authority with probability  $\xi_B$ . The objective function of the government in  $B$  is given by

$$w_B^G(x) = \eta w_B(x) + (1 - \eta) l_o(x),$$

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in sector  $q$ - to consume the numeraire, good  $y$ , only.

<sup>12</sup>If country  $A$ 's authority or government had jurisdiction on the merger, it would approve it whenever proposed: given that insiders' profits increase, country  $A$ 's welfare would also increase (and there would be no need for insiders to lobby the government). If both countries had jurisdiction, the merger would then be approved or rejected according to country  $B$ 's decision. (Recall that the EU, for instance, has blocked several merger proposals between non-EU firms.) We can therefore disregard the decision process of country  $A$ .

which takes into account that only the domestic firm (the outsider) can lobby the government.<sup>13</sup>

There are two relevant cases. If  $e > e_{\pi o}$ , from the perspective of country  $B$  the merger is inefficient. However, the outsider gains from it and may choose to lobby national politicians to support the merger (i.e. the outsider sets  $l_o(1) = 0$  and  $l_o(0) > 0$ ) (recall that, unless efficiency gains are large, the merger is likely to increase prices and therefore will benefit the outsider). If  $e \leq e_{\pi o}$ , the merger is efficient from the point of view of country  $B$ , but the outsider loses from it and may decide to lobby the government to oppose the merger (i.e. the lobby sets  $l_o(1) > 0$  and  $l_o(0) = 0$ ).

If the government in  $B$  is benevolent ( $\eta = 1$ ), politicians do not care about political contributions and the outsider has no incentive to lobby. In this case, the objective function of the government corresponds to social welfare in  $B$  and no conflict emerges with the antitrust authority. Any merger which implies high efficiency gains ( $e \leq e_B^G = e_B^A = e_{\pi o} = e_{CS}$ ) would be endorsed by the authority and the government in  $B$  and would be approved with probability 1. The opposite would be true for a low realization of the efficiency gain ( $e > e_B^G = e_B^A = e_{\pi o} = e_{CS}$ ): the authority and the government in  $B$  oppose the merger, which is blocked with probability 1.

Consider now the case of a politically motivated government in  $B$  ( $\eta = 0$ ). In this situation, politicians are extremely sensitive to political contributions. The outsider can always set a positive payment (no matter how small) on the policy option it prefers ("support the merger" for  $e > e_{\pi o}$  and "oppose the merger" otherwise) and induce the government to behave accordingly. This implies that for low values of the efficiency gain ( $e > e_{\pi o} = e_{CS}$ ), the outsider (successfully) lobbies the politically motivated government to support the merger. As the authority in  $B$  opposes the merger when efficiency gains are small, in equilibrium the merger is rejected with probability  $1 - \xi_B$ . Suppose, instead, that the merger would result in high efficiency gains ( $e \leq e_{\pi o} = e_{CS}$ ). The authority supports the merger, while the government in  $B$  opposes it under the lobbying pressure of the outsider. In this case, the merger is approved with probability  $1 - \xi_B$ . Summing up:

**Result:** "Non-EU merger", market and the outsider in  $B$ , the insiders in  $A$ , then  $e_B^A = e_B^G = e_{\pi o} = e_{CS} < e_W < e_{\pi I}$ . For values of  $e$  such that

- $e \leq e_B^A = e_B^G$ : The authority in  $B$  endorses the efficient merger. For  $\eta = 1$ , the government in  $B$  supports the merger and the merger is approved with probability 1. For  $\eta = 0$ , the government in  $B$  opposes the merger, which is approved with probability  $1 - \xi_B$ .
- $e_B^A = e_B^G < e \leq e_W$ : The authority in  $B$  opposes the efficient merger. For  $\eta = 1$ , the government in  $B$  opposes the merger and the merger is rejected with probability 1. For

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<sup>13</sup> Allowing foreign lobbies to affect the home government would not change the nature of our results, provided that it is sufficiently easier for domestic firms to lobby the home government than for foreign firms. There are several reasons why this might be the case. First, politicians often view gifts from foreign sources as tainted money. Second, foreign lobbies have weaker connections with the home government compared to domestic interest.

$\eta = 0$ , the government in  $B$  supports the merger, which is blocked with probability  $1 - \xi_B$ .

- $e_W < e \leq e_{\pi I}$ : The authority in  $B$  opposes the inefficient merger. For  $\eta = 1$ , the government in  $B$  opposes the merger and the merger is rejected with probability 1. For  $\eta = 0$ , the government in  $B$  supports the merger, which is blocked with probability  $1 - \xi_B$ .
- $e > e_{\pi I}$ : The merger would not be proposed (unprofitable for insiders).

There are two contrasting effects on social welfare in country  $B$ . For high efficiency levels implied by the merger in country  $A$  (i.e.  $e \leq e_{\pi_o} = e_{CS}$ ), the outsider loses, but consumers gain. This second (positive) effect always dominates and the welfare-maximizing authority in  $B$  supports the merger. The opposite holds true for mergers in the area  $e > e_{\pi_o} = e_{CS}$ . Notice, however, that the authority in  $B$  endorses fewer mergers than what would be optimal from an aggregate welfare point of view (i.e.  $e_B^A < e_W$ ), as it does not internalize the effect on the profits of the insiders. The government in  $B$  is subject to lobbying by the outsider. Whether lobbying is successful or not in this case depends on parameter values. Our results suggest that the government in  $B$  can always be induced by the outsider to oppose the decision of the authority if it is politically motivated (i.e.  $\eta = 0$ ) and the legal and institutional environment allows political influence on merger policy ( $\xi_B > 0$ ).

In this case, there is potentially a stark conflict between the different decision-makers, because the situations where the merger harms national welfare coincide with the situations where national profits would increase, and vice versa. Some commentators have suggested that the *Boeing/McDonnell Douglas* case reflected a tension between efficiency arguments on one side and protectionist arguments on the other side, as one would expect in the area where  $e \leq e_B^A = e_B^G$ . Arguably, the merger between the two American firms (located in country  $A$  in our example) might have been procompetitive (according to many, McDonnell-Douglas was bound to exit the industry anyhow), and therefore EU consumers would have been better off. Rival EU firm Airbus, however, might have been hurt by the merger, which explains why many voices rose against the merger (in our example the EU corresponds to country  $B$ ). The final outcome decision (after long discussions within the European Commission) to approve the merger subject to some remedy may be compatible with the hypothesis that the Competition Directorate - caring for consumer welfare only - favoured the merger despite some of the opposing views expressed by some member states and possibly represented within the Commission as a collegial body.

## 4 International mergers, II: EU mergers

Consider now countries  $A$  and  $B$  as part of an international union, with a single antitrust authority. This implies that each national government affects the antitrust decision with probability  $\xi_j$ ,

with  $\xi_A + \xi_B \leq 1$  (i.e. the common antitrust authority determines merger policy with a positive probability). Merger policy in the international union is as follows

$$x = \begin{cases} x_A^G & \text{with probability } \xi_A \\ x_B^G & \text{with probability } \xi_B \\ x_U^A & \text{with probability } (1 - \xi_A - \xi_B). \end{cases}$$

We will consider two types of mergers that have distinctive features: domestic and cross-border mergers. The first type of mergers are the ones we have dealt with so far, where merging firms are located in the same country ( $A$ ). However, mergers can involve firms located in different countries (as in several interesting recent merger cases in the EU). We refer to this second situation as a cross-border merger.

As the union authority maximizes aggregate welfare, it will endorse a merger if and only if  $e \leq e_U^A = e_W$  and oppose it otherwise, independently of the type of merger. This is not the case for governments of  $A$  and  $B$ , we therefore need to address these two cases separately.

## 4.1 Domestic mergers

The position of national governments on the merger is influenced by the location of consumers and firms and their "pro-social" preferences (i.e. the benevolence parameter  $\eta$ ). We assume that consumers are located in country  $B$ , as this represents the most interesting case.<sup>14</sup> To simplify the discussion, we follow the previous Section and consider the two limit cases of political biases: benevolent governments, who only act to maximize national welfare ( $\eta = 1$ ) and politically motivated governments, who exclusively care about lobbying contributions ( $\eta = 0$ ).

### 4.1.1 Benevolent national governments

If  $\eta = 1$ , governments maximize national welfare:  $w_A^G(x) = w_A(x)$  and  $w_B^G(x) = w_B(x)$ . No lobbying takes place as governments are not interested in receiving any political contribution.

Since the market is in country  $B$ , government  $A$  only takes into account the effect of the merger on the profits of the insiders (which are both located in  $A$ ). Therefore, the government in  $A$  endorses the merger if and only if  $e \leq e_A^G = e_{\pi I}$ , that is whenever the merger is proposed because profitable to the insiders.

One can immediately verify that the benevolent government in  $B$  endorses the merger if and only if  $e \leq e_B^G = e_{CS} = e_{\pi o}$ , as the effect on consumer surplus always dominates the effect on the profits of the outsider.

This implies the following configuration:

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<sup>14</sup>When the market is located in country  $A$ , we have a situation very similar to the one discussed in Section 2.

**Result:** Domestic "EU merger", market and the outsider in  $B$ , the insiders in  $A$ , benevolent governments, then  $e_B^G = e_{CS} < e_U^A = e_W < e_A^G = e_{\pi I}$ . For values of  $e$  such that

- $e \leq e_B^G = e_{CS}$ : The union authority, governments  $A$  and  $B$  endorse the efficient merger. The merger is approved with probability 1.
- $e_B^G < e \leq e_U^A = e_W$ : The union authority and government  $A$  endorse the efficient merger, while government  $B$  opposes it. The merger is approved with probability  $1 - \xi_B$ .
- $e_U^A < e \leq e_A^G = e_{\pi I}$ : The union authority and government  $B$  oppose the inefficient merger, while government  $A$  favors it. The merger is blocked with probability  $1 - \xi_A$ .
- $e > e_{\pi I}$ : The merger would not be proposed (unprofitable for insiders).

These results tell us that conflicts among different member states may occur even *absent* political economy considerations. There are situations where the views of domestic governments and union authorities could diverge due simply to the fact that their welfare objectives differ. Note, however, that if such governments/authorities had consumer surplus rather than welfare as their objective function, then such tensions would be eliminated in the simple economic model of this Section<sup>15</sup>, although they would reappear in the political economy framework we analyze below.

This simple framework, and the above considerations, also help us explain why it is important that within the EU whenever there is a merger that affects several countries it is the supranational authority which should decide on the merger: member states may have genuinely different positions on the merger due to the possible asymmetric distribution on firms' assets and market demands. It makes sense that overall welfare is taken into account, to avoid that a national government may block a merger which would be beneficial to the Union as a whole.

#### 4.1.2 Politically motivated national governments

If  $\eta = 0$ , national governments only care about political contributions. That is,  $w_A^G(x) = l_I(x)$  and  $w_B^G(x) = l_o(x)$ . In this case the location of the market does not matter, as governments pose no weight on the effect of the merger on the general electorate (hence, on consumer surplus). Lobbying is always successful: firms can set their contributions slightly positive on the policy option they prefer (say, oppose the merger) and zero on the alternative (say, endorse the merger). This will always induce non-benevolent governments to follow the wishes of special interests.

For  $e \leq e_{\pi o}$ , the insiders in  $A$  benefit from the merger and (successfully) lobby government  $A$  for endorsement. The outsider in  $B$ , on the other hand, loses from the merger for a low realization

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<sup>15</sup>It is conceivable that there may exist situations where due to the existence of multiproduct firms, trade costs, different market structures or technological conditions, a merger may have a different impact on prices and consumer welfare across countries.

of  $e$  and lobbies its government for rejection. For  $e_{\pi_o} < e \leq e_{\pi_I}$ , the outsider and the insiders would gain if the merger were to be approved. They can set  $l_I(0)$  and  $l_o(0)$  slightly positive and induce the governments of  $A$  and of  $B$  respectively to endorse the merger.

**Result:** Domestic "EU merger", the outsider in  $B$ , the insiders in  $A$ , politically motivated governments, then  $e_B^G = e_{\pi_o} \leq e_U^A = e_W \leq e_A^G = e_{\pi_I}$ . For values of  $e$  such that

- $e \leq e_B^G = e_{\pi_o}$ : The union authority and government  $A$  endorse the efficient merger, while government  $B$  opposes it. The merger is approved with probability  $1 - \xi_B$ .
- $e_B^G < e \leq e_U^A = e_W$ : The union authority, governments  $A$  and  $B$  endorse the efficient merger. The merger is approved with probability 1.
- $e_U^A < e \leq e_A^G = e_{\pi_I}$ : The union authority opposes the inefficient merger, while governments  $A$  and  $B$  favor it. The merger is blocked with probability  $1 - \xi_A - \xi_B$ .
- $e > e_{\pi_I}$ : The merger would not be proposed (unprofitable for insiders).

Even with politically motivated governments, efficient mergers are likely to be approved (efficient mergers are approved with certainty if the implied realization of the efficiency gains is in the range  $e_{CS} < e \leq e_W$  and with probability  $1 - \xi_B$  for efficiency levels  $e \leq e_{CS}$ ). Unfortunately, this probability is lower exactly when the merger is more efficient. Political motivations of national governments create more damages when mergers are inefficient. In this case -because of the opposition of national governments- mergers are less likely to be blocked (in the area  $e_W < e \leq e_{\pi_I}$ , mergers are rejected with probability  $1 - \xi_A - \xi_B$ ). Quite intuitively, the probability that national governments can influence the antitrust decision is key.

A few examples might motivate the analysis carried out here. In *Volvo/Scania*, the merger between two Swedish firms operating in the automotive sector was blocked by the European Commission. This was a very high profile case, and the Swedish government openly backed the merger proposal. Our analysis is consistent with both the possibility that the Swedish government was acting benevolently and that it was instead acting under the influence of lobbying by the domestic firms.<sup>16</sup>

In *Hypoverein/Unicredit*, the merger between a German and an Italian bank had important implications in other EU markets, notably Poland. The Polish government tried to stop the merger, arguably because it would create a very competitive rival to the main (public) Polish bank, whereas the Italian government expressed itself in favour of the merger, and the European Commission

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<sup>16</sup> A detailed analysis of this case goes beyond the scope of the paper, but it is fair to report that according to some commentators (particularly, but not exclusively, Swedish ones) the merger was efficient and the European Commission erred in its decision.

approved it (and threatened actions against the Polish state had they continued to hinder the merger). Our interpretation of this case is that the Polish government attached a bigger weight to the profits of the Polish outsider bank than to the welfare of consumers, resulting in a bias against the merger as predicted by our model.<sup>17</sup>

Another interesting example may be the *Aérospatiale-Alenia/De Havilland* merger, the first merger ever prohibited by the European Commission. This was not a purely EU merger, as it involved two EU firms (Aérospatiale and Alenia) and a Canadian firm, and as such our example is not fitting perfectly the formal framework analyzed here (but could be easily adapted to reproduce such an environment without major complications). In that case, the competent authority was the European Commission (the merger had a EU dimension, and the relevant market was the world market) but while the Commissioner for Competition (our welfare-maximizing authority) was clearly opposed to the merger, some EU governments were favorable to it (in particular, the French government strongly endorsed the merger). In the end, the Commission as a collegial body decided against the merger, which in our framework could be seen as a low realization of the parameters  $\xi_j$ .

## 4.2 Cross-border mergers

Several mergers within the European Union have the distinctive feature of being cross-border, i.e. the insiders are located in different member countries. From an aggregate welfare point of view, a cross-border merger is perfectly equivalent to any domestic merger. However, cross-border mergers differ from the previous case from a political economy perspective and from the point of view of national social welfare maximizers.

Without loss of generality, assume that firm 1 in country  $A$  and firm 3 in country  $B$  propose a merger (now the outsider is firm 2 located in country  $A$ ). In this case, it is important to specify how the profits generated by the merger are divided between the two insiders. Assume that the share of insiders' profits of firm 1 is equal to:

$$\chi = a\pi^N + (1 - a)(\pi_I - \pi^N), \quad (8)$$

where  $a \in [0, 1]$  captures the bargaining power of firm 3. For  $a = 1$ , all the extra profits from the merger go to firm 3 in country  $B$  and firm 1 is indifferent between merging or not, while the opposite is true for  $a = 0$ . For  $a = 1/2$ , the profits if the merger takes place are equally split between the two firms. To fix ideas, we initially assume that insiders have equal bargaining power ( $a = 1/2$ ) and later relax this assumption.

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<sup>17</sup>The fact that Hypoverein and Unicredit were not belonging to the same country can be easily taken into account by assuming the two insiders are in two countries  $A1$  and  $A2$ , and the market is still in  $B$ . The analysis of the model would be unchanged.

We first study the effect of the merger on national social welfare (i.e. for benevolent national governments,  $\eta = 1$ ) and then discuss the case of politically motivated governments (i.e.  $\eta = 0$ ). For the sake of shortness and simplicity, we limit ourselves to deal with the extreme case where all the market is in country  $A$ , which corresponds to some interesting merger cases to which the model could be applied.

#### 4.2.1 Benevolent national governments

When national governments are social welfare maximizers, welfare in country  $B$  corresponds to the profits of firm 3, the insider. For this reason, government  $B$  will endorse all mergers, as whatever merger is proposed must be profitable for the insiders (i.e. if and only if  $e \leq e_{\pi I} = e_B^G$ ). This clearly implies that, based on national welfare considerations, government  $B$  will endorse at least some inefficient mergers.

The situation in country  $A$  is more complex as several interests are present: consumers, the outsider and one of the insiders. The national government maximizes social welfare, which in this case is given by  $w_A^G(0) = CS_U^M + \frac{\pi_I}{2} + \pi_o$  and  $w_A^G(1) = CS_U^N + 2\pi^N$  if the merger is approved or blocked respectively. We, therefore, have that government  $A$  supports the cross-border merger if and only if  $w_A^G(0) \geq w_A^G(1)$ , which is true if and only if

$$e \leq \frac{1}{28c} \left( 20c + 3\sqrt{11}c - 3\sqrt{11} + 8 \right) \equiv e_A^G.$$

One can immediately show that  $e_{\pi o} = e_{CS} \leq e_A^G < e_W$ . The intuition is as follows. Recall that the effect of the merger on consumer surplus and the profits of the outsider is always opposite and that the first dominates the second for any level of realized efficiency gain  $e$ . This implies that for any merger such that  $e \leq e_{\pi o} = e_{CS}$ , the benevolent government in  $A$  would endorse the merger, as the increase in consumer surplus dominates the fall in the profits of the outsider. On the other hand, maximizing only welfare in  $A$ , its benevolent government would be induced to oppose at least some efficient mergers, as the condition that defines the threshold level of  $e$  for country  $A$  is the same as for the union authority except that for one term representing the effects of the merger on firm 3, the other insider.<sup>18</sup>

We can sum up results as follows:

**Result:** Cross-border "EU merger", one insider in  $B$ , one insider, the outsider and the market in  $A$ , benevolent governments, then  $e_{CS} = e_{\pi o} \leq e_A^G < e_U^A = e_W < e_B^G = e_{\pi I}$ . For values of  $e$  such that

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<sup>18</sup>Notice that in this case the bargaining power of the domestic insider  $(1 - a)$  does not really affect the position of government  $A$  on the merger. More precisely, for  $a = 1$  we have that  $e_{CS} = e_{\pi o} = e_A^G$ , while for  $a = 0$  it is still true that  $e_A^G < e_W$ .



- $e \leq e_A^G$ : The union authority, governments  $A$  and  $B$  endorse the efficient merger. The merger is approved with probability 1.
- $e_A^G < e \leq e_U^A$ : The union authority and government  $B$  endorse the efficient merger, while government  $A$  opposes it (despite the positive effect on domestic profits). The merger is approved with probability  $1 - \xi_A$ .
- $e_U^A < e \leq e_B^G = e_{\pi I}$ : The union authority and government  $A$  oppose the inefficient merger, while government  $B$  favors it. The merger is blocked with probability  $1 - \xi_B$ .
- $e > e_{\pi I}$ : The merger would not be proposed (unprofitable for insiders).

#### 4.2.2 Politically motivated national governments

In the opposite scenario where governments only care about political contributions from organized interest groups, the effects of the merger on consumer surplus (and, therefore, the location of the market) does not matter.

Government  $B$  will always be induced by the insider to endorse any proposed merger, so that -once again-  $e_B^G = e_{\pi I}$ . The situation in country  $A$  is more complex as there are realizations of  $e$  for which the outsider and the insider have opposing interests. In particular, for low values of  $e$  (such that  $e < e_{CS} = e_{\pi_o}$ ), the outsider has an incentive to lobby government  $A$  to oppose the merger while the insider in  $A$  exerts political pressures for approval. In this case, the bargaining power of the insiders is crucial.<sup>19</sup> Depending on the share of profits that firm 1 in  $A$  receives (i.e. depending on the parameter  $a$  in condition (8)), the outsider may outbid the insider when a conflict arises (i.e. for  $e < e_{\pi_o}$ ). Consider, for instance,  $a = 1$  (i.e. insider 1 has no bargaining power). In this limit case, the increase in profits of the insider in  $A$  if the merger is approved is exactly equal to zero (and it is therefore dominated by the fall in profits of the outsider  $\pi^N - \pi_o$ ). A politically motivated government in  $A$  will, therefore, oppose the (efficient) cross-border merger because of the opposition of the domestic outsider.

More generally, the outsider outbids the insider in  $A$  whenever

$$\pi^N - \pi_o > a\pi^N + (1 - a)(\pi_I - \pi^N) - \pi^N,$$

where the left-hand side and the right-hand side of the above condition represent the maximum contribution of the outsider and the insider in  $A$  respectively. Notice that the lower the bargaining power of the merging firm in  $A$  (i.e. the higher the parameter  $a$ ), the lower is the payment that this firm can offer to the government at the first stage of the game. From the above condition, we

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<sup>19</sup>One could envisage a more sophisticated game where the distribution of profits from the merger is not exogenous, but endogenous, with the threat of opposition by the politically motivated government determining a higher share of profits left to the domestic insider, so as to outbid the outsider in the offers to the government.

can find a threshold value for  $a$  such that the outsider can always outbid the insider (and induce government  $A$  to follow its wishes) if and only if  $a > \frac{\pi_I + \pi_o - 3\pi^N}{\pi_I - 2\pi^N} \equiv \hat{a}$ .

**Result:** Cross-border "EU merger", one insider in  $B$ , one insider, the outsider and the market in  $A$ , politically motivated governments, then  $e_A^G = e_{CS} = e_{\pi_o} < e_U^A = e_W < e_B^G = e_{\pi_I}$ . For values of  $e$  such that

- $e \leq e_A^G = e_{CS} = e_{\pi_o}$ : The union authority and government  $B$  endorse the efficient merger. Government  $A$  opposes the merger (firm  $o$  outbids  $I$  in country  $A$ ) for  $a > \hat{a}$  and supports it (firm  $I$  outbids  $o$ ) for  $a \leq \hat{a}$ . The merger is approved with probability  $1 - \xi_A$  or with probability 1 respectively.
- $e_{CS} = e_{\pi_o} < e \leq e_U^A = e_W$ : The union authority, governments  $A$  and  $B$  endorse the efficient merger. (There is no lobbying). The merger is approved with probability 1.
- $e_U^A < e \leq e_B^G = e_{\pi_I}$ : The union authority opposes the inefficient merger. Governments  $A$  and  $B$  favor the merger (under lobbying of firms  $I$  and  $o$ ). The merger is blocked with probability  $1 - \xi_A - \xi_B$ .
- $e > e_{\pi_I}$ : The merger would not be proposed (unprofitable for insiders).

Notice that mergers that involve large efficiency gains should be favoured by the national government in the country where the market and the outsider are located ( $A$ ), if purely economic considerations were driving its decisions. When observed, the opposition to efficient mergers in  $A$  can instead be explained by "political" motivations (i.e. lobbying of the outsider that would lose from the merger).

There have been a number of recent merger cases where opposing views have been voiced, and on which our framework may shed some light. One highly debated case was *E-On/Endesa*, where the German company E-On intended to take over the most important Spanish energy company Endesa. The Spanish government (as well as the Spanish energy regulator, partly responsible for the merger) strongly opposed the merger, resulting in political tensions with the European Commission which took action against measures introduced by the Spanish government to hinder the takeover. Eventually, Endesa was taken over instead by a joint-venture between Spain's Acciona and Italy's Enel, a joint-venture sponsored by the Italian and the Spanish governments.

Also worth mentioning are a few cases, such as *ABN-Ambro/Antonveneta*, where an Italian bank has been the object of an attempted takeover by foreign EU banks. Under Italian law at the time, it was the central bank, as regulator of the banking sector, who had responsibility for the takeover. The then governor, Mr Antonio Fazio, strongly opposed such takeovers, and tried

to organize counter-bids by other Italian banks, also opposed to the entry of foreign rivals which would have jeopardized their profitability. In the end, both European Commission's initiatives and the stance of the Italian government, which was favorable to the merger, widely seen as pro-competitive, led to a political campaign which eventually ended with the resignation of Fazio and the success of the takeover bid.

## 5 Conclusions

In this paper we have developed a framework to study the political economy of merger policy. We characterize political economy distortions under different types of mergers (purely domestic, as well as international) and discuss several applications to recent antitrust decisions. We believe that our model helps interpret and understand several recent instances of opposed (between different institutions and between different countries) policy views on mergers in international markets.

The model is also robust to changes in the objective functions of the antitrust authorities. If they cared about consumer welfare rather than total welfare, most of our results would be qualitatively unchanged, and the bias between authorities and governments would in fact be enhanced. In our basic model, governments' positions towards an international merger may sometimes be caused simply by the fact that the government cares about domestic firms' profits as well. But if we believe that the 'true' objective function of antitrust authorities and benevolent governments should be consumer (rather than total) welfare, then opposing views about international mergers can be explained only by a political economy approach where it is the profits earned by firms which explain lobbying and eventually political pressures for or against a merger.

However, several questions remain open. In particular, we abstract from the career concerns of members of the antitrust authority. Bureaucrats face different incentives from politicians, but do not necessarily maximize social welfare.<sup>20</sup> For instance, it is very well possible that presidents and members of antitrust authorities may want to increase their visibility so as to enhance their chances to get important jobs after their tenure in the independent authority. To the extent that a tougher stance on mergers attracts more media attention and a better reputation for caring about consumers, an antitrust authority's decisions may be biased towards prohibiting mergers even when they are pro-competitive. In a richer model, one might thus want to take into account possible biases of the competition authority as well.

Ours is a positive analysis. While we have steered away from normative considerations, it is clear that it would be interesting to study mechanisms which may reconcile the conflicts analyzed here. All these extensions seem to us interesting avenues for future research.

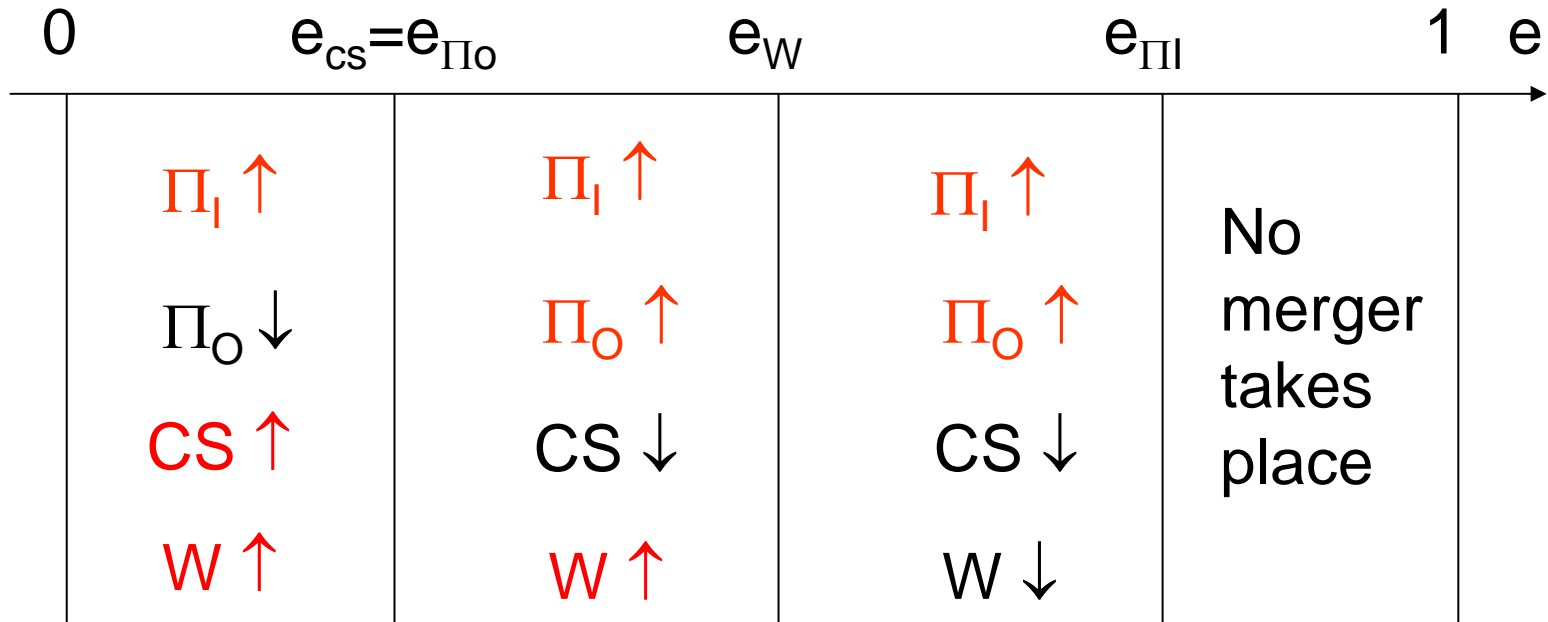
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<sup>20</sup>See Alesina and Tabellini (2006).

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Figure 1. The effects of a merger on profits of insiders, outsiders, consumer surplus and aggregate welfare



## Figure 2. Timing of events

