The Political Economy of EU Merger Control: Small vs. Large Member States*

by

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Introduction

The European Commission has recently intervened against a number of mergers and acquisitions in small Member States arguing that the mergers would reduce competition in nationally defined markets within the Union. For instance, in March 2000, the Commission prohibited Volvo's acquisition of Scania, arguing that Volvo/Scania would have an adverse effect in e.g. Sweden and Finland.[1]

These interventions triggered a political debate about EU merger control and market definitions in several Member States. Representatives of smaller countries have declared that, in effect, EU merger policy makes it impossible for companies in small countries to merge and obtain a leading global position. Following the Volvo/Scania decision, there was almost complete consensus among the political parties in Sweden on this view, with only the Liberal party expressing support for the Commission's decision.

These claims have been rebutted by EU officials, who argue that companies in smaller countries can expand by merging with companies operating in other countries. According to this line of reasoning, the Volvo/Renault operation and the strategic partnership concluded by Scania/Volkswagen, following the prohibition of the Volvo/Scania merger, clearly showed that there were alternative ways for these companies to merge.[2]

There are several possible interpretations of this critique against EU merger control. It could be seen as a "national champion"-type argument, based on the notion that competition authorities should allow mergers that hurt domestic consumers if domestic firms gain a sufficient competitive advantage over foreign firms in foreign markets through the merger. The argument against this from EU officials would be that the purpose of merger control is only to protect European consumers. And, while there may

[1] *COMP/M.1672 Volvo/Scania.*

[2] It is also maintained that several other alternatives are open to firms from small member states in addition to international mergers, for example internal growth and the possibility of adequate remedies (e.g. selling off parts of the assets to reduce concerns for competition). Although these possibilities are important strategies for the firms, these issues are not addressed in the present analysis.

be efficiency gains related to firm size and therefore to mergers, those gains can be achieved with less impediments to competition, for example through international mergers. Moreover, they might say, experience shows that companies that are successful abroad are, in most cases, those facing a competitive environment back home.

But the critique has also taken other forms. It has been acknowledged that international mergers may indeed constitute alternatives to domestic mergers. The problem is instead that international mergers may be less advantageous from the point of view of smaller countries. These worries seem to be at least partly based on the possible effect of international mergers on employment and the location of R&D units and head quarters. In response to these worries, EU officials only concede that EU merger control does not take into account a possible move of firms abroad.

It is evident from this discussion that the issues involved are highly complex. Therefore, it is natural to seek guidance in the economic literature on the merits of the arguments put forth. To the best of our knowledge, there does not exist any research that can be directly applied to this end. Nevertheless, the economic literature has provided us with a number of useful analytical tools, and the purpose of this paper is to employ these tools, to discuss the validity of some of the main claims put forth in this debate on EU merger control rules.

The structure of the paper is as follows. In next two sections, we demonstrate why and how EU merger control treats companies from small and large states differently and discuss whether the whole idea of merger control is well founded: Do we really need to control mergers? The rest of the paper discusses various proposals suggested to reduce this asymmetry. These ideas include fighting market segmentation (Proposal 1), or that the Commission should change its principles for geographical market delineations (Proposal 2). Still others argue that the root of the problem is the "skewed" goals of competition policy, i.e. that only consumer welfare is considered (Proposal 3). The appropriate goal for competition policy, whether efficiency defenses should be allowed, etc, are of course issues that have been intensively discussed before. The distinguishing feature of the discussion here is that we reexamine these questions from the point of view of the debate about the alleged asymmetry in EU merger control.

Most of the time, however, we will spend on two other related claims, which we feel to be more central to the policy discussion, referred to as Proposals 4 and 5. One is a refutation of the argument that firms in smaller countries are at a disadvantage, even if treated asymmetrically, since they can instead choose to merge internationally. Implicitly, this thus suggests that the Commission should take into account the possibility for alternative mergers. The second claim, which is a counter-argument to the first, is that international mergers may be worse than domestic mergers for Member States, due to adverse implications for the location of production following international mergers, and that the Commission should take these effects into account in its assessment. The paper ends with a section summarizing the main findings.

The Asymmetric Treatment of Small and Large Countries

This section will explain the sense in which EU merger control can be said to treat mergers in small and large member states asymmetrically. To this end, it starts by very briefly laying out core features of EU merger control.

Salient Features of EU Merger Control

EU merger policy is enshrined in the so-called Merger Regulation.[3] The main purpose of EU merger control is usually seen as the protection of competition. The latter goal is, in turn, often motivated by consumer protection (Monti, 2001).[4] The Merger Regulation prohibits a merger if, and only if, it "…would significantly impede effective competition, in the common market or in a substantial part of it, in particular as a result of the creation or strengthening of a dominant position…".

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[3] Council Regulation No 139/2004 of 20 January 2004 on the control of concentrations between undertakings, which entered into force on May 1, 2004.

[4] Sometimes other goals are also mentioned. For instance, the Commission (1980) refers to economic integration of Member states, as well as "fairness", as such objectives. It is unclear to us whether and to what extent these goals actually influence merger policy. More elaborate discussions of the goals of EU merger control may be found in Martin (1994) and Fridolfsson (2002).

In the original Merger Regulation, adopted in 1990, the substantive test put an even larger emphasis on the concept of *dominance*, which is defined in the case law under Article 82 as "…a position of economic strength enjoyed by an undertaking … affording it the power to behave to an appreciable extent independently of its competitors, customers and ultimately of its consumers".[5] Market shares play important roles in the assessment of dominance. But many other factors believed to indicate dominance are also considered, such as legal protection, superior technology, strong financial status, economies of scale and scope, extensive vertical integration, and a degree of product differentiation.

Firms' market shares obviously depend on the definition of the extent of the market, and the delineation of the "relevant market" is consequently a key aspect of merger control. The definition of the relevant market consists of two parts, namely the relevant product market and the relevant geographical market.[6] Interestingly, adjudicating bodies have applied rather different approaches to the determination of these two aspects of market delineation.

The key criterion for judging if two goods are competing on the same product market is if they are *interchangeable*. The primary aspect is if customers consider the goods to be substitutable. Demand side substitutability may be measured by the cross-price elasticity of demand, or assessed using the physical characteristics of the products, or their prices or intended use. Supply side substitution plays a less important role. A certain firm is considered to be part of the relevant market, even if it is not active on that market at present, but can quickly start to supply the market if prices are slightly increased. If this were to take longer, the firm will not be considered to be in the market. Still, it may influence the dominance assessments by being considered as a potential entrant.

The relevant geographical market is defined as a geographical area where the product is marketed and "…where the conditions are sufficiently homogenous for the effect of the

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[5] *United Brands v Commission*, Case 27/76 [1978] ECR 207, [1978] 1 CMLR 429.

[6] See the Commission's Notice on the definition of the relevant market for the purpose of community competition law, OJC 372 (1997).

economic power of the undertaking concerned to be able to be evaluated".[7] Our interpretation of this definition is that customers in different locations are considered to be in the same geographical market if the merger affects them in a very similar way. To define the geographical market, the Commission may, among other things, consider whether products are expensive to transport in relation to their value or two areas are separated due to market-sharing agreements.[8]

When the Merger Regulation was reformed in 2004 the substantive test was changed from 'the creation or strengthening of a dominant position' to a 'significant impediment to effective competition'. The new test is intended to emphasize that unilateral effects (to use U.S. terminology) are included: a merger may be prohibited also where the fear is that the merged entity could raise prices even though it will not become the largest player (single dominance) and without the need of any tacit coordination with other players (joint dominance).

Finally, for a merger to be blocked, it does not suffice that anticompetitive effects are found in a particular geographical market. It must also be the case that this market constitutes a *substantial part of the common market*. Thus, it is important to note that determining the relevant market is of a different nature from determining the limits of what constitutes a substantial part of the common market. The former is basically an analytical aid in the positive assessment of the consequences of the merger. The normative criterion largely lies in determining how geographically widespread the negative effects must be to be deemed undesirable. Further, this requirement prevents mergers of minor importance from being caught. It seems clear that large Member State may be considered as substantial parts of the common market. In some cases, it has even been established that parts of Member States can be substantial parts. However, the lower bound on the size of a substantial part is as yet unclear.

[7] *United Brands v Commission*, Case 27/76 [1978] ECR 207, [1978] 1 CMLR 429 at paras 10 and 11.

[8] Additional types of evidence that may be used is exemplified in the Commission's notice.

The Asymmetry Identified

It is clear that if the whole common market were found to be the relevant market, it would be immaterial to the assessment of a notified merger whether it took place in a small or large Member State. However, as will be argued more fully below, it is likely that the boundaries of relevant markets sometimes coincide with national borders. In that situation, an asymmetry arises between larger and smaller Member States in the sense that the relevant markets are smaller in the smaller states.

This conclusion hinges on two facts. For most products, the servicing of a market is associated with fixed costs. There is therefore a tendency for smaller markets to support fewer firms, and the competitive pressure is consequently likely to be weaker in such markets. There is also a strong tendency for firms to serve primarily the markets in which they are located – there is typically a "home market bias". A merger between firms of a given magnitude in terms of turnover is thus more likely to lead to a dominance finding in a smaller than in a larger Member State (still assuming that relevant market delineation and national boundaries coincide). An inescapable consequence of this is that *large companies active in small countries are treated differently from equally large companies in large countries, in the sense that their possibilities to merge domestically (that is, with other firms in the same market) are more limited, due to the merger policy being pursued.*

It is not clear to us to what extent this asymmetry actually constitutes a problem, even for small Member States. Nevertheless, some observers perceive it as a problem and have made a number of proposals in the policy debate for how this asymmetry can be removed. The rest of the paper will seek to shed some light on situations where the asymmetry may cause problems, and discuss the pros and cons of the different proposals for reform that have a bearing on the asymmetry.

Proposal 1: Reduce Market Segmentation

The notion of geographical "market segmentation" is a central for the discussion of EU merger control and smaller country interests. Roughly speaking, it refers to barriers to the

transportation of goods and services. The essential consequence of such barriers is that they provide shelter from outside competition for firms inside the barriers.

Segmentation is what makes it necessary for the Commission to delineate relevant geographical markets smaller than the Common market. It is also due to segmentation that the anti-competitive effects of mergers of a given size are worse in small that in large countries. Therefore, it seems reasonable to believe that reducing market segmentation is the best way of reducing the asymmetric treatment of companies from small and large Member States, in addition to other more direct benefits such policies may have.

Sources of Segmentation

There are a couple of distinctions that need to be made. First, one should distinguish between segmentation on the consumer- and the producer side of the market. Consumers typically face much higher costs of importing products from other markets than do firms, so that markets are often more strictly segmented on the consumer- than on the producer side. Hence, from a competition point of view, the hope often rests with the ability of firms and middlemen to reduce price divergences between different markets.

Another distinction is between *variable trade costs* barriers and *sunk cost* barriers as sources of partial or complete segmentation on the side of the firms. The most obvious example of the former is the cost of physically moving a good from one location to another. For instance, if the value to weight ratio is very low, it is not economically viable to transport the product very far, and there is a tendency that local producers do not face any external competition. If, in addition, there are pronounced economies of scale, there is a strong tendency for local monopolies to arise.

But there are also other costs affecting the transportation of products in a common market. These often arise when passing national borders, and stem from differences across countries in terms of legislation, culture, language, etc. Much of the EC 1992 Internal Market program was directed at the removal of government-induced barriers of this type, such as differences in product standards, customs red tape, etc. These barriers are sometimes sunk costs, but often a significant component depends directly on the traded volume, making them "variable trade costs."

Sunk cost barriers are of a different nature. They may arise in situations where certain firms have already incurred costs from investments in e.g. distribution networks, while others have not. These investments are "sunk" in the sense that they cannot be recovered should the incumbent firms decide to leave the market. In situations where incumbents firms have already made sunk cost investments, it may not be profitable for outside firms to enter, if entry requires a significant investment in building up distribution and maintenance networks, and they would face intense competition from incumbent firms after the entry. The asymmetry between the firms thus shelters the incumbent firms from competition from outside.

It is clear that market segmentation is still important in the EU, despite the attempts to reduce it. This is evidenced by the significant price differences that still exist across countries for a large number of products. In particular, it seems as if the Nordic Member States are segmented from the other Member Countries. Such geographical segmentation may have important implications for the effects of mergers, as can be illustrated by a few simple examples.

Implications of Segmentation for Merger Control

A central aspect of a common market is that normally, it does not comprise one homogenous market, but rather a set of markets partly segmented from each other. The assessment of pro- and anti-competitive effects of mergers becomes much more complicated when done at the level of the common market, than for a national, homogenous market.

The consequences of a merger in a common market partly depend on the extent to which the markets involved are segmented, and partly whether a merger is domestic or international. Large trade barriers between different countries imply that the anti-competitive effects of a domestic merger are worse than when these barriers are low, since foreign firms are less able to discipline the merged entity when barriers are high. The anti-competitive effect of an international merger, on the other hand, may even be smaller when barriers are high compared to when they are low, the reason being that in the former case, the firms were not engaged in very intense competition before the merger in any event. This argument is especially important for small countries, where the

markets sustain fewer active firms. In particular, international mergers may be preferred to domestic mergers in small markets from a competition point of view.

Can Segmentation be Reduced?

Some barriers such as national product safety standards are the result of public policies, and may be changed, while some are the result of the firms' own activities, such as exclusive dealing arrangements, and can be battled using other areas of competition policy. Yet other barriers are the result of factors outside the reach of political influence, for example the costs of transporting goods, or barriers created by linguistic or cultural differences. Furthermore, some barriers are unavoidable negative side-consequences of policies with positive net effects and should not be changed for that reason.

Conclusions

Market segmentation is the root of the problem of asymmetric treatment of companies from small and large Member States. The most obvious strategy for curbing the problem would therefore be to hit against the barriers to competition between different countries within Europe, as well as between Europe and the rest of the world. But while there may still be scope for reforms to reduce intra-EU market segmentation, segmentation is likely to remain in the foreseeable future. Reduced market segmentation is thus not likely to be a manageable way of eliminating all the asymmetric treatment in EU merger control in large and small countries.

Proposal 2: Change Geographical Market Delineations

It has also been argued that the method of geographical market delineation is the cause of the asymmetry between small and large Member States. Thus, it has been suggested that the Commission should define the geographical market to be union-wide rather than national. We are not convinced by this idea, however. As already argued, geographical market delineations should only be viewed as an administrative technique used to assess the pattern of market segmentation. The Commission defines markets as narrowly as is appropriate to estimate the effect on price in all possible locations. This procedure is

necessary in order to correctly assess the effects of a merger on competition and consumer welfare.

It is important to point out that it does not necessarily follow that a merger should be prohibited if competition is impeded in one or more of these geographical markets. The regulation requires that competition is impeded in a substantial part of the common market and, depending on the degree of segmentation of the markets, the latter may be a more encompassing concept than the individual relevant geographical markets. In principle, one could thus imagine that a merger is allowed even if it hurts consumers in a certain relevant market, if other consumers gain. Hence, if anything, it must be the conclusions for merger policy drawn from the information obtained through the relevant market definitions that should be changed, rather than the method of obtaining the information itself.

Proposal 3: Change the Objective of EU Merger Control

Many economists would argue that mergers should be permitted even if directly harming consumers, if they result in cost savings that more than compensate the direct loss to consumers, from an aggregate point of view. Such a change in the *goals* of merger control, away from consumer protection to the protection of some notion of national welfare, would also tend to reduce the asymmetric treatment of domestic mergers in countries of different size.

Fridolfsson ([this volume?]) discusses these matters much more fully, and we will therefore just very briefly mention some of the basic arguments in favor of changing the goals of merger control.

The Consumer Surplus Standard—A Means of Affecting Distribution?

The most obvious reason why competition policy would focus more on consumer welfare than on firms' profits is that the policy maker cares for the distribution of wealth between different individuals in the economy, combined with the idea that firm owners are typically wealthier than consumers. The facts are more complicated, however.

Many "ordinary" consumers are also shareholders, at least indirectly through pension funds. Likewise, owners of firms are also consumers (if they are big on shares they are probably also big on consumption). It is therefore not obvious that a consumer welfare approach will have substantial positive effects on distribution. If that is the case, one may question the idea of forbidding mergers that would increase national income by generating substantial fixed cost savings (which are typically not passed to consumers).

Yet another reason why including the implications for profits in the assessment of mergers might be reasonable is that a significant proportion of the profits made by firms goes to employees. While these types of estimates should be viewed with considerable skepticism, it can still be noted that a main textbook on Industrial Organization estimates that about 2/3 of oligopoly profits actually end up with employees.

One may also add that there probably exist more efficient policy tools to affect distribution, in particular progressive taxation, public financing of different services and transfers.

We should emphasize, however, that all these arguments are "common sense" arguments and that there exists no research measuring the relative efficiency of competition policy in affecting distribution.

The National Champions Argument

A somewhat stronger version of the same type of argument builds on variable cost synergies reaped through mergers. According to this "national champion" argument, a merger should be permitted even if it is detrimental to domestic consumer interests through its market power implications, if it reduces the variable costs sufficiently for the increase in profits reaped abroad to be large enough to increase national income. From a national income point of view, there may thus arise a conflict between the increased profits the domestic firms can earn on international markets and the loss for domestic consumers. This type of argument, even though not put as bluntly as done here, has been important in e.g. Sweden in most of the post-World War II period, when many Swedish firms were allowed to dominate the domestic market, while successfully competing in

export markets.[9] It is not clear to what extent it underlies the current criticism of the EU merger control, even though it appears to lurk in the background.

In principle, there is nothing wrong with the notion that profits in foreign markets may more than compensate for consumer surplus losses in domestic markets. However, for this reasoning to be an argument in favor of allowing such mergers, it must be verified why the same cost reducing effects cannot be obtained through international mergers, or if they can, why the share of the profits from these mergers accruing to domestic firms does not suffice to make them a better alternative.

The Consumer Surplus Standard—A Solution to Information Problems?

The focus on consumer welfare does not seem to be well motivated by distributional concerns. One may therefore conclude that a total surplus standard would be more appropriate — that is, to take into account both the effects on consumers and those on the firms' stakeholders. However, recent work on informational problems (Besanko and Spulber, 1993; Fridolfsson, [this volume?]; Lyons, 2002) and lobbying (Röller and Neven, 2002) in merger control suggests that there may be good reasons for competition authorities to use consumer surplus as a "tactical goal", even though the true objective is a more encompassing measure of social welfare. These issues are discussed in more detail in Fridolfsson ([this volume?]).

The Substantiality Criterion and the "Give-and-Take" Problem

Many EU markets are geographically segmented, and mergers in such markets may affect consumers in different countries differently. There may thus be a need for some trade-offs between different consumers. In Europe, the solution to this problem is rather extreme, however. A merger is prohibited if it hurts consumers in *any* significant part of the Common Market, independent of the effects of the merger in other parts of Europe.

At first sight, it appears that the main beneficiaries of the Volvo/Scania decision, for example, were the customers in Sweden and other small countries where the two

[9] The national champion argument is also raised by large countries, as was for instance the French case *Schneider/Legrand* in 2001.

companies have large market shares. However, to evaluate this claim, it is necessary to remember that one should evaluate the merger control system as a whole and not only single decisions.

For simplicity, assume that the competition authority must evaluate two mergers and that each merger affects consumers in different markets differently. Merger A reduces consumer welfare in region 1 and increases consumer welfare in region 2. Merger B reduces consumer welfare in region 2 and increases consumer welfare in region 1. Assuming that both regions constitute a substantial part of the Common Market, the Commission would have to prohibit both mergers. It is entirely possible, however, that consumers in both regions would be better of if both mergers were allowed, that is, it may pay for all consumers to "give" in some markets if simultaneously allowed to "take" in others.

Conclusions

Standard arguments suggest that competition policy should not be used as a tool for redistribution, but to enhance efficient allocations. This would suggest a change in the goals of merger control away from a consumer surplus standard toward a total surplus standard. However, an inherent problem facing merger regulation is lack of information, and there are arguments to suggest that one should give the competition authorities more consumer oriented goals, even if the ultimate objective is total surplus. The state of the art of research on this issue is not yet sufficiently well developed to allow for more definite conclusions. For this reason, and due to the fact that EU merger control is unlikely to be changed in any more dramatic fashion, we believe that a solution to the alleged asymmetry problem must be sought elsewhere than through changes in the current objectives of EU merger control. We do believe, however, that consumer interests in different geographical markets should be aggregated.

Proposals 4-5: Take Alternative Mergers and Location into Account

We will now turn to the core of the policy debate, which can be seen as consisting of two separate ideas/proposals. One is based on the notion that the asymmetry in EU merger control is really not to the disadvantage of firms from smaller countries, if the fact that they can instead merge with competitors from larger countries is taken into account, thus achieving the necessary size for competing in the global markets.[10] More generally, this argument suggests that the Commission should *take alternative mergers into account* when assessing a notified merger. The other argument is based on the notion that the interests of smaller countries may be systematically disadvantaged in certain merger structures, since they may lead to a relocation of production from smaller to larger markets. The argument is thus that the Commission should *take locational implications of mergers into account*.

In this section, we will discuss these proposals within a common framework, since the pros and cons of one of them may depend on whether the other is adopted. Further, discussing these proposals jointly we capture the idea that the Commission should take both alternative merger structures, and their different locational consequences into consideration in its assessments. This would be a unique European element of merger policy, possibly motivated by the fact that Europe consists of several segmented markets to a much larger extent than for instance the US

There are many reasons why the location of firms' head-quarters and production may be of concern to countries. For instance, this may have beneficial effects on employment, and may yield spillovers of various forms of know-how. However, these aspects are of little relevance for merger control, as long as its goal is consumer protection. It may thus be considered that the idea to take locational implications of mergers into account in merger assessments is completely unfounded. One of the main

[10] There are actually two possible interpretations of this suggestion. One is that international mergers are favored since they reduce competition and hurt consumers less. Another is that international mergers are favored, since they lead to increased economic integration of the member states.

purposes of this section is to show how that the relevance of locational effects for merger policy can be expected to depend on the *type* of frictions to trade that exists between different markets.

The analysis is meant to capture salient features of mature or even declining markets where there exists a fixed initial distribution of plants and the choice of location is essentially a choice of plant closure. This focus is motivated by the fact that mergers often occur in declining markets, sometimes even as a response to reductions in demand. It may also be suspected that the anti-competitive effects of mergers are more problematic in declining than in expanding markets where new investments and new entry are important and locational choice is more related to greenfield investment decisions.

The analysis is complicated by the fact that, to the best of our knowledge, the relationship between mergers and choice of location has not received any attention in the literature. The discussion must therefore be based on preliminary research (see Horn and Stennek, 2002). Note that the intention is *not* to provide a full-fledged analysis of this question – which would require a much more solid basis in research than currently exists.[11] The idea is rather to point to some issues that would arise in case the Commission were to take possible alternative merger structures into account, and the resulting locational choices, in its decision-making, or conversely, some of the problems that might result if it does not.

In the next section, we will discuss possible outcomes of the interaction between mergers and locational decisions. Policy implications are dealt with in the ensuing subsection.

Location and Mergers: An Analytical Framework

As an analytical aid, we will employ a simple economic model of an oligopolistic industry. To allow for a role for the location of production, we assume that the output of

this industry is sold in two markets, "Small" and "Large". These markets differ in size, as measured by the number of buyers in the respective market, and possibly also in the degree of competition, but they are identical in all other respects. The two markets are completely segmented from each other on the buyers' side – buyers' trade costs are thus such that they will never find it profitable to buy abroad. With regard to producers, we will consider two alternative scenarios. In one, there are variable trade costs: when a firm located in one market exports to the other market, it incurs a cost for each unit delivered. These costs include those of transportation, but should be considered as including all variable costs associated with servicing a market from a foreign location, including difficulties due to different languages and tastes. The increase in delivery time may also be a disadvantage in the era of just-in-time production. The alternative scenario is where fixed cost investments in distribution and service networks are required in order to sell in a market and when some, but not all, firms have undertaken this expenditure. There is thus an asymmetry between firms having already incurred this cost, and those that have not. We start with the variable cost scenario, and return to the other scenario later.

It should be stressed that we are not arguing that variable trade costs, or fixed cost of entry, are important in each industry in practice, or even that they are important in some average sense. But it is quite clear that such costs are important determinants of location of production in some industries. Basically, we have drawn on the fields of International Economics/Industrial Organization to construct a simple analytical framework that is rich enough to rationalize the argument that the asymmetry in merger control may have undesirable effects for consumer interests in smaller Member States. But theory also suggests other determinants of location. For instance, as highlighted in the literature on economic geography, location may be determined by the balance between various forms of positive externalities in production (i.e., Silicon Valley-type phenomena) that make location in certain areas attractive (including knowledge spill-over and skilled subcontractors) and, on the other hand, high costs of land, labor, etc, in these locations.

[11] One important issue that we abstract from in our analysis is the fact that mergers may trigger new entry, which reduces the anticompetitive effects of mergers, a factor acknowledged in merger control.

The choice of which model to apply should obviously depend on the particulars of the market to be analyzed

In order to capture possible differences between domestic and international mergers in as simple a fashion as possible, let there be four main firms in this market, two in each region, and each operating one production plant. This will allow us to discuss the implications of both a structure where firms merge with domestic counterparts, and where they undertake international mergers. There is also a group of "outside" firms in Large. These firms compete with the other firms in delivering to Large, but as outsiders face sufficiently large trade costs to make it unprofitable for them to serve Small. The reason for including these firms is to allow for the possibility that competition is fiercer in Large. In order to substantially simplify the analysis of the incentives for mergers, the outside firms are not allowed to merge.

The firms first decide whether to merge into two international firms – in this case each firm has a plant in each region – or into two domestic firms, where each firm owns two plants in the same region. The incentive to merge is partly to enhance market power, but it is also to achieve marginal cost synergies (that is, to lower marginal production costs), or reduce duplication in fixed plant costs through the closing of one of the plants in the merged entity.

Choice of Location

The advantage of closing a plant is that it saves on fixed costs. Following *domestic* mergers, there is no disadvantage for a firm of reducing the number of plants in the same region since they have enough production capacity, and domestic merger will hence definitely induce firms to shut down one plant each.

After an *international* merger, the decision is more complex, however. When closing the plant in one region, this region must be served from the other market, which has the disadvantage of forcing the firm to bear trade costs that would be avoided if producing locally. Whether a firm finds it profitable to close the plant in Large or in Small, or in neither region, thus depends on the balance between fixed cost savings and increases in

trade costs, as well as on market power considerations – being alone in a market sheltered by large trade costs has a significant value to a firm.

The locational decision after international mergers is substantially complicated by the fact that the balance between cost savings, market power effects, etc, depends on the competitor's actions. However, it can be shown that *under certain circumstances, including a sufficiently weak competitive pressure from the outside firms in Large, both international firms will shut down the plant in the small market, regardless of the locational choice of the other firm*.[12] On the other hand, *when the outside firms are sufficiently competitive, both firms will locate in the small region*. This pattern is summarized in Table 1.

	Weak "outside" competition in Large	**Intense "outside" competition in Large**
Domestic mergers	Each firm has one plant only, located in its home country	
International mergers	Each firm has one plant only, located in Large	Each firm has one plant only, located in Small

Table 1: Locational implications of domestic and international mergers

Domestic or International Mergers?

The process of merger formation is likely to differ from that of choosing location in the sense that when choosing location, firms can be expected to act rather independently. Indeed, overt coordination among firms on decisions about location is likely to violate the prohibition of agreements between firms that restrict competition.[13] The merger process,

[12] For both firms to locate in the large region, independent of the other firm's choice, it is necessary that the size difference between the regions is large and that the variable trade cost is relatively small so that the location in the small market does not provide too much shelter from competition.

[13] Naturally, this does not imply that such collusion does not occur. Still, one may suspect it to be relatively inefficient (from the firms' point of view) since the firms must enforce the agreements themselves without

on the other hand, is characterized by (legal) communication between firms, in the form of negotiations, and the possibility of transferring wealth between the parties. In such a negotiation, the participating firms must take into account how their future production structure would be affected by a merger, and how other firms would act with regard to mergers and location. But they must also consider in what *other* mergers they might instead engage, as well as the outside opportunities of their counterparts. It is thus a rather complicated strategic interaction that leads to a pattern of mergers in a concentrated industry, such as the one we are portraying here.

The obvious question is then: which firms are likely to merge in the example we have in mind? A fair amount of research has gone into this question over the years, employing a large variety of different analytical tools.[14]

Due to the complexity of the strategic interaction in such situations, the literature has not come up with any clear-cut predictions. However, some recent research on merger formation suggests that if mergers to duopoly are permitted, the merger pattern will be such as to maximize *industry* profits. Intuitively, whenever a market structure is about to be realized through mergers that would not maximize industry profits, firms have incentives to rearrange the merger pattern, and will be able to do so, since they are free to communicate with whomever they wish in the industry (see Horn and Persson, 2001a-b). One may view this as an instance of the much more general Coase theorem.[15]

There are caveats to the idea of global maximization. A careful analysis of the bilateral and interdependent negotiations, that are probably the norm in a merger context, shows that the result may be suboptimal, as a result of conflicts over the distribution of

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the help of the legal system and since there is always a risk of being caught and fined. As this is the first attempt to analyze the issue of location and merger, we abstract from these issues for the sake of simplicity.

[14] The so-called theory of endogenous merger aims at predicting which merger will occur when there are many alternatives, using different economic models of bargaining and/or stock market interaction, but it is still in its infancy. The first traces of this kind of reasoning can be found in Stigler (1950) who noted that horizontal mergers may be hard to arrange, since it may pay more for a firm to stand outside the merger than to participate. This free-rider problem was later formalized by Kamien and Zang (1990, 1991 and 1993). For an empirical test of the free-rider problem, see Lindqvist and Stennek (2005).

[15] According to the Coase Theorem, independent of the initial allocation of certain assets within a group of agents, and despite the externalities inflicted by one agent's use of the assets on other agents in the group,

the surplus from mergers (see the Appendix, page 23). Since these complications do not concern the core of the political debate on EU merger control and the interests of small Member States, we will simply abstract from them here, and *assume* that as long as both a pattern of domestic and a pattern of international mergers are allowed, absent any policy intervention, the resulting duopoly structure will maximize the industry profits.[16]

Then, what is the implication of this assumption for the predicted merger structure? Generally speaking, the firms' choices between domestic and international mergers depend on the balance between the magnitude of trade costs, and market characteristics such as the intensity of competition in Large, and the relative magnitude of the two regions.[17] When trade costs are very substantial, it becomes very difficult to compete effectively from a foreign location. Under such circumstances, there is a tendency toward domestic mergers, since the merged firm in Small will essentially be a local monopoly. Each of the merged firms will then close one of its local plants to save on fixed costs, as explained above. In this case, when trade costs are high, the merger pattern is essentially driven by *market power* aspirations.

On the other hand, when the variable trade costs are relatively small, there will be international mergers. Firms then know that the future pattern of location will be determined by the degree of competition in Large. When there is little competition from outside firms, locating production to Large will be attractive for both firms, since this will limit the trade cost expenditures. But, when competition is quite intense, it is very hard to make any profit at all in this market, and it is then better to locate in Small, since this minimizes trade costs. Hence, in these cases, *reduced trade cost expenditures* is the main factor driving mergers.[18]

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the final allocation of the assets between agents is efficient (from the point of view of the group), if there are no transaction costs in transferring ownership between members of the group.

[16] In our example, we assume that a merger to monopoly would not by allowed by the "Commission".

[17] We will focus on those determinants of merger patterns that are of special relevance for the debate on whether EU Merger Control disfavors small Member States. This should not be taken as a denial of the existence of other determinants, such as differences in fiscal policies between countries.

[18] Note the dual role of trade costs. On the one hand, trade costs provide shelter from competition. On the other hand, they must be incurred by the firms. When trade costs are high, the former effect is more important for the firms' merger decisions, while the latter effect dominates in markets with low variable trade costs.

The above outcomes are summarized in Table 2:

	Weak outside competition in Large	**Intense outside competition in Large**
Variable trade costs Large	Domestic mergers; production in both regions	
Variable trade costs Small	International mergers; production in Large only	International mergers; production in Small only

Table 2: Merger and location patterns

Distribution Networks

The Volvo/Scania case suggests that in some markets, the segmentation of different regional markets may rather be connected to differences in sales and maintenance networks, and differing technical standards, than to variable trade costs. To capture this, let us assume that the variable trade costs are small, but that investments of a certain magnitude are necessary in order to serve a region. The two local firms in Small have already made such investments both in Small and in Large, but the two main firms in Large have only invested in such infrastructure in their domestic market. Hence, in order to serve the Small region, it is necessary to have access to one of the two firms in this region, whereas all firms can serve the Large region.

Following *domestic* mergers, each firm closes one plant if the fixed cost saving is large enough. The merged entity in Large only serves its home market, if (as is assumed here) the investment cost required to serve Small is too large relative to the limited size of this market. The firm in the small region will thus have a local monopoly in this market, but it will also sell in Large, where there may be more intense competition. Following *international* mergers, on the other hand, both firms have access to distribution networks for both markets. Absent variable trade costs, the firms are indifferent between the two locations, independent of the other firm's choice. But, presuming that there are some

smaller variable trade costs and that competition in Large is not too intense, both firms will locate in Large. In the merger negotiations, the firms foresee the different choices of locations resulting from domestic and international mergers. The only difference between the two cases is that there will be competition in the small country following international mergers. As a result, the firms will always choose domestic over international mergers.

Thus, in the case where segmentation is partly supported by distribution networks, and where firms from the smaller region have invested in networks for this region, the simple framework that we have employed here suggests that market power driven mergers will be proposed in the smaller region.

Appendix: Why the merger process may be biased against international mergers

The analysis in this chapter builds on the presumption that the firms (through some unexplained process) will be induced to merge domestically or internationally depending on which pattern that leads to the highest industry profit. There are reasons, however, why nationality differences may obstruct international mergers and force firms into less efficient domestic alliances instead. These "frictions" in the merger process may arise as a result of differences in opinions over how the surpluses from mergers should be shared between the merging parties. Such disputes may hinder international mergers more than they hinder domestic mergers, at least when the primary source of difference between firms is nationality. As a result, the firms may merge with domestic partners, even when international mergers would lead to a higher aggregate profit in the industry.[19]

To illustrate this claim, consider a situation in which a domestic merger in the large country only has a small impact on the merging firms' profits, for example as a result of a high remaining competitive pressure in that country. In contrast, a domestic merger in the

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[19] In case firms are different between countries and similar within countries, there are also other reasons for why domestic mergers may be more prevalent than international mergers. Differences in culture may for instance mean that international mergers are less profitable. However, any such considerations which affect profits are captured by the previous analysis, and need not be further elaborated here. Nationality differences may also add to the perceived uncertainty about the outcome of international mergers. Also such risk differences should be captured in the previous analysis. Yet another reason for why international mergers may be more difficult is that nationality differences may be associated with asymmetric information between the parties. Standard bargaining theory may then be taken to suggest that such mergers will be less easily agreed.

small country may reduce competition more and lead to a substantial increase in profits. In such an asymmetric situation it may well be that the profit of a merged international firm is lower than the profit of a domestically merged firm in the small country, even though international mergers increase the aggregate profit by more than domestic mergers. Will the firms then agree to international mergers and, if so, how will the surpluses be split?

Standard bargaining theory suggests that the two parties to e.g. an international merger will both receive whatever they would have earned in status quo (the so-called inside option), and that they will split the surplus – which is the increase in the sum of their profits relative to the status quo – equally between themselves. The so-called outside option, which in this case is to merge domestically instead, will not affect the bargaining strength of the parties. The irrelevance of the outside option is unfavorable to the firms from the small country, and favorable to the firms from the large country. As a result, the stock market values of the firms from the small country may be lower if the stock market expects international mergers, than if the stock market would expect domestic mergers. The opposite is true for the firms from the large country.[20]

However, further analysis suggests that the story doesn't end here. The firms can choose if they want to bid for a domestic or an international partner. Then, if the stock market values of the firms from the small country are low, they may start to bid for each other, rather than to bid for international partners. This bidding means that the "outside option" becomes a realistic alternative to the international merger. The firms from the large country will thus have to consider the possibility that they will be left to merge with each other. They will therefore be prepared to offer more to the firms from the small country. There will, in short, be bidding competition for the firms from the small country. It can be shown that the stock market values of the firms will adjust to balance the firms' bidding strategies in such a way that there is a positive probability for both domestic and international mergers to occur. That is to say, the firms' stock market values will adjust to make firms indifferent between the different merger options, and the final outcome will

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[20] This transformation of the issue of surplus-sharing into an issue about firms' stock market values is built on the endogenous merger model by Fridolfsson and Stennek (2005a-c).

be determined by circumstances of second order importance from an efficiency point of view.

This "bias" of the merger formation process towards domestic mergers raises the theoretical possibility that the desired policy should be designed to assist the firms to avoid such strategic behavior. Such a conclusion is premature, however, since the gains from such intervention will accrue differently between the two countries. Moreover, these considerations have rather little to do with consumer protection which, at least today, is the major goal of merger control. In Europe, of course, competition policy is also to some extent viewed as an instrument to promote further European integration. Then, one may view the obstacles raised by nationality differences as an argument for biasing the control system against domestic mergers.

Since these considerations, though related, do not concern the core of the political debate on EU merger control and the interests of small Member States, we will simply abstract from them here.

Implications for Merger Control

So far, we have highlighted some determinants behind mergers and location patterns. Against this background, we will now discuss some aspects of EU merger control.

The basic idea behind EU merger control is to protect consumer interests. In practice, the legal criteria described above fall short of a full cost-benefit analysis. Thus, even if the legal test set up in the Merger Regulation may be a useful tool, perhaps even producing accurate information in some average sense, it is still probably an imperfect predictor of the effect of a merger on consumer welfare in individual cases. As a starter, however, we give the Commission the benefit of the doubt and simply assume that the legal criteria correctly assess the effect of mergers on consumer welfare.

We assume that the two regions are both sufficiently segmented to be considered as separate geographical markets and sufficiently large to be considered as substantial parts of the common market.

Should Location be of Importance?

In the above framework, there is a special case of interest for the policy debate, which arises when competition in the large market is not too intense, and the trade cost is of an intermediate magnitude. We may then have a situation where firms will seek to undertake domestic mergers entailing local production but where, at the same time, they will both choose to locate in Large if domestic mergers are prevented. This case roughly reflects the notion put forth in the debate that the Commission's blocking of domestic mergers in small countries will induce international mergers that will eventually lead firms to concentrate their production to large regions only, to the detriment of small Members states.

In our view, this possibility is less obvious than it might first appear. After all, if firms seek to merge domestically, which is when the asymmetry is mainly of importance, they seem to prefer to be located in their respective home countries, yielding a geographically dispersed pattern of production. One may then reasonably believe that the firms would also choose to locate in separate countries following international mergers. If so, the asymmetry in the merger control would not be of great importance for the actual outcome.

The reason for this somewhat counter-intuitive result is the difference in the nature of the merger game and the location game. Following an international merger, the firms will find themselves engaged in a non-cooperative location game where the outcome is inefficient from the point of view of the firms. Both firms may locate in the large region, since they do not take into account the negative externality (a business-stealing effect) their choice of location will imply for the competitor. In the merger game, however, the possibility for firms to negotiate with each other and transfer wealth, actually makes them internalize these externalities. Thus, they merge domestically to ensure location in different regions, which maximizes the aggregate profit.

There are many reasons why loss of production hurts the small country. It reduces the demand for the types of labor used in the affected industry, which will cause lower wages or increased unemployment or both. From a regional perspective, the reduction in demand may be large, even if only one or a few firms in the small country are affected.

The negative effects of the relocation of production may also be multiplied by the negative repercussions for other firms in the economy, such as subcontractors. At the same time, the loss of production hurts the public finances in the small country by reducing the tax base. Our interpretation of the debate in e.g. Sweden is that it is primarily the fear of such negative effects on the factor markets that is the cause of the critique of EU merger policy. Our analysis shows, however, that blocking domestic mergers in favor of international mergers may also hurt consumers in the small country.

Suppose that the competition authority effectively chooses whether to accept international or domestic mergers *without* taking plant closures into account. Firms do not relocate after domestic mergers, and the resulting prices are thus those predicted by the Commission. With international mergers, however, the evaluation of the anti-competitive effects is erroneously based on the assumption that the two merged entities will maintain their production in both markets. In practice, however, firms will locate in Large, serving Small from a foreign base and with higher variable costs than they would have had, had they maintained the local plants. Hence, in this example, *by disregarding locational implications, the competition authority underestimates the negative impact of the international merger on competition in Small*. It may thus prohibit domestic mergers, believing that international mergers better serve small country consumer interests, thereby hurting the very same consumers. More generally, not taking locational consequences into account tends to bias the assessment against the country that does not attract investment.

This example highlights conditions under which the above-mentioned critique of the Commission's policy may be valid. But it can be noted that the conditions identified by this example are rather special: On the one hand, there must be substantial segmentation, otherwise, the firms' first choice would be to merge internationally to save on transportation costs. A negative attitude toward domestic mergers has no consequences. On the other hand, the regions must not be too segmented, otherwise firms would choose different locations following international mergers in order to benefit from local monopoly power.

Our analysis also shows that the “small-country critique” also crucially hinges on the intensity of competition in the two markets. If there is much more competition in the large than in the small market, more and not less production may be located in the small country following international mergers than following domestic ones. In this case, the Commission’s skepticism against domestic mergers may be beneficial for the small region.

It is also important to emphasize that the negative effect on consumers builds on variable trade costs being a source of trade friction, and does not work with investment in distribution and service networks as barriers between markets. Since many trade costs are fixed rather than variable, and since many of the variable trade costs have been reduced in Europe as a result of the creation of the common market, it is questionable whether this effect is actually quantitatively important.

Finally, it is far from clear how a competition authority would go about to predict changes in the location of production as a result of mergers, and how, in turn, the incomes, and the unemployment rates and so on would be affected in different regions. There doesn’t exist any readily available analytical framework for these issues, and the informational requirements would most likely be enormous. Given the importance of relatively strict time limits, such a policy is probably not feasible. Moreover, there may exist other and better suited policy measures for combating regional imbalances.

Should Alternative Mergers be of Importance?

When regional markets are sufficiently segmented, they are treated as different relevant geographical markets, and the effect of a merger is assessed separately in each region. As we have seen, it is possible that international mergers may give rise to the same cost savings as domestic mergers, but with less distortion of competition. It thus seems reasonable that the Commission takes into consideration alternative mergers structures that might arise as a consequence of blocking a proposed merger.

Attractive at it seems, such a merger policy may face serious problems. *First*, as we saw in the example above, consumers may be affected differently by different merger structures because of relocation of production in certain structures. A merger policy

which considers these latter structures as alternatives to other proposed structures, but does not take into account locational implications, will be based on erroneous premises, and would tend to be biased against the countries losing the production.

A *second*, and potentially serious, problem stems from the fact that each "substantial part of the common market" has "*veto power*", in the sense that it suffices to find negative effects in one of these substantial parts for a merger to be blocked. This decision criterion may work well as long as a merger affects consumers in different substantial parts of the common market either in the same direction, or not at all. But it might run into problems when consumers are affected differently, which is possible when mergers have locational implications,[21] as we have seen above.

To highlight the potential severity of these problems, consider what may appear to be the “ideal” merger policy, a policy that (i) compares notified mergers with their relevant alternatives, (ii) requires that consumers must be made better off (compared to the relevant alternative) in all regions, and (iii) that takes the implications of location into account. By requiring that consumers in *each* substantial part of the common market prefer a proposed merger *to the outset*, the "veto power" criterion is a rather stringent condition generally speaking. However, with this type of policy, which compares *more than one merger structure*, the criterion becomes even more conservative. To see why, consider a proposed domestic merger. When international mergers are taken into account, not only must the proposed merger be better for consumers in each substantial part of the market as compared to the outset, *in addition, there must not be any such group of consumers who would prefer the international structure*. The inclusion of alternative merger structures in the assessment may thus make it very unlikely that a merger is accepted, even if it were to improve the situation for *all* consumers relative to the outset.

For instance, in our framework above, suppose that an international merger would lead to a relocation of production to Large, and that consumers in Small would therefore prefer domestic mergers to international mergers, while consumers in Large would prefer

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[21] Another example is that a merger which both reduces competition and reduces marginal costs may benefit consumers in regions where competition is intense while harming consumers in regions with little competition.

international mergers to domestic mergers. However, both groups would prefer any of the mergers to the outset. The Commission would now conclude that a proposed domestic merger cannot be accepted, since when ranking the proposed merger against an international structure, consumers in one substantial part of the common market –Large – would prefer the latter. On the other hand, if an international merger were proposed, consumers in Small would object, and the merger would thus be blocked. Consequently, *neither merger structure would be accepted, despite the fact that both are preferred to the outset by both groups of consumers*.

Then, what is the source of this problem, and how generic is it? The problem arises due to a combination of two factors. First, the Commission in our example takes into account more than one alternative to the proposed merger structure, and second, the locational implications of mergers, which tend to make consumer interest diverge in the two regions. Hence, in any situation where there is such a divergence and alternative structures are taken into account, this problem is likely to arise.

A *third* and important objection to the idea of letting merger policy take alternative mergers into account, is that such a policy would face considerable practical difficulties as a result of informational limitations. A first problem is to correctly predict the alternative mergers that will be proposed if the one under scrutiny is rejected. Here, the Commission would largely have to rely on *fingerspitzgefühl*, since economic theory provides very little guidance. A second problem is how to evaluate the implications of the alternative mergers. The Commission can obtain information about a notified merger from participating firms, but this is not possible for mergers that are not yet notified. A third aspect is the possibility of informational leakage caused by the investigation process itself.[22] Firms often have an interest in keeping merger plans confidential, but since the competition authority would need to contact competitors to obtain sufficient information to evaluate alternative mergers, the process of investigation could alert competitors about their rivals' plans.

[22] We are grateful to a referee for bringing this, in practice probably very important, aspect to our attention.

Yet another issue is whether the Merger Regulation, in fact, does allow the Commission to take alternative mergers into account. The wording of the Regulation itself, does not give explicit support for either conclusion, but the more common interpretation is probably that the statutes speak of a change in the competitive situation vis-à-vis the status quo. Also the Commission's guidelines seem to suggest such an interpretation, at least for most cases.[23] Nevertheless, statements by Commission officials following the *Volvo/Scania* decision indicate that alternatives may have played a role in that decision.

The main conclusion is hence that it is likely to be associated with serious problems to take alternative mergers into account. Unfortunately, disregarding alternative mergers also comes at a cost, in terms of foregone benefits from socially more attractive mergers.[24]

Summary and Concluding Discussion

The paper has discussed a number of issues that arise when evaluating the criticism of EU merger control from the point of view of smaller Member States. The main conclusions can be summarized as follows:

1. *Are there systematic differences in the treatment of mergers in small and large Member States?*

Yes, in a certain sense. Since geographical markets sometimes coincide with national borders, and since smaller markets often support fewer firms, it follows that domestic mergers between large companies in small countries may reduce competition in their

[23] According to the guidelines, the competitive conditions existing at the time of the merger constitute the relevant comparison for evaluating the effects of a merger, in most cases. However, in some circumstances, the Commission may take into account future changes to the market that can reasonably be predicted. See the Commission's Guidelines on the assessment of horizontal mergers under the Council Regulation on the control of concentrations between undertakings (2004/C 31/03).

[24] Fridolfsson and Stennek (2005b) provide an example of a situation where a merger policy that maximizes social welfare on a case-by-case basis, but that does not take alternative mergers into account, may be worse than a laissez-faire regime.

home-market more than domestic mergers between companies of similar size in large countries.

Moreover, since also smaller EU Member States are interpreted to constitute "substantial parts of the common market", and since a merger must not impede competition in any such part, large companies in small countries have more limited possibilities to merge domestically.

2. Does the asymmetry in merger control have implications for firms' choices of location?

The answer to this question is less obvious than it might appear. After all, if firms seek to merge domestically, which is when the asymmetry is of main importance, they seem to prefer to be located in their respective home countries, yielding a geographically dispersed pattern of production. One may then reasonably believe that the firms would also choose to locate in different countries following international mergers. If so, the asymmetry in the merger control would not be of great importance for the actual outcome.

In order to identify circumstances under which firms would actually locate in the larger region following international mergers, we investigated a simple framework. In the model, three forces determine locational choice following an international merger. First, firms tend to prefer to locate in the large region in order to avoid trade costs in servicing the large market. Second, they tend to prefer to locate in the small region since competition may be more intense in the larger region. Finally, there is also an advantage from locating in different regions (as they would following domestic mergers), by limiting competition.

In this framework, firms locate in the larger region following international mergers under certain circumstances, but prefer domestic mergers entailing local production to international mergers. The reason is that the firms in the location game do not take into account the externalities of their choices on their opponents. They may well locate in the same region (e.g. the large one) despite the fact that this entails a reduction

in aggregate profits, due to a “business stealing" effect. In the merger game, however, the firms may transfer wealth between themselves, thereby enabling them to better internalize such effects.

Hence, scenarios can be constructed where the claim that the asymmetry is important for firms' choice of location is validated. However, the conditions under which this occurs are rather restrictive, at least in this framework.

3. *Are smaller Member States adversely affected by the asymmetry?*

Yes, this is possible, at least in theory. Much of the policy discussion has focused on the effects of mergers on factor markets. In particular, there is a widespread fear that relocation of production to larger regions may reduce employment in smaller regions. EU merger control, on the other hand, is mainly concerned with consumer welfare, and in this sense, the critique may at the same time appear relevant to smaller country governments, and irrelevant from the point of view of the Commission. But as we have shown, location may also be of importance for consumers. In particular, if competition authorities block domestic mergers (entailing local production), hereby promoting international mergers (entailing concentration of production to the large region), consumers in the small region may be hurt, since they must pay the higher prices associated with the higher variable trading costs.

More generally, if the assessment of the effects of mergers does not take locational consequences into account, the procedure tends to underestimate the negative impact on competition in the regions from which the firms relocate.

4. *Should the Commission take alternative mergers into account when assessing notified mergers?*

We made several observations concerning the role of alternative mergers in merger control:

- Taking alternative mergers into account has positive consequences under certain conditions.
- Taking alternative mergers into account without also considering location may harm consumers in small countries.[25]
- Taking alternative mergers into account may lead to an overly restrictive merger policy when markets are segmented, as long as mergers are blocked if they impede competition in any significant part of the common market.
- It would be exceedingly difficult in practice to take alternative mergers into account in a systematic fashion.

We thus believe that at the current state of affairs in economic research, the Commission should not take into account alternative mergers, and in particular not if the current interpretation of the "substantial part of the common market"-criterion is employed. The Commission should evaluate each notified merger as if the alternative to accepting the merger is no merger at all.[26] This is an imperfect solution, however, dictated by the insurmountable problems of information. The foregone benefits from socially more attractive mergers and industry structures may be substantial.

5. Should the Commission Take Location into Account when Assessing Mergers?

Our findings with regard to location are the following:

- The claim that international mergers may lead to different patterns of location than domestic mergers can be supported by theory in a plausible fashion.

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[25] Not taking location into account may lead to problems also if the Commission does not consider alternative mergers. However, if the Commission considers alternative mergers, the problems can be expected to be worse, since this will tend to favor international mergers over domestic merger in segmented markets.

[26] It is also not clear whether the Merger Regulation in fact allows the Commission such a broad evaluation of mergers.

- International mergers *may* be detrimental to consumer interests in smaller Member States. However, it is unclear how likely this is. In the analytical framework we have relied on, this claim is only true for a limited set of parameters, and it relies on the existence of variable trade costs.

- Although, it would not involve any fundamental problem if the Commission were to take locational implications of mergers into account, the practical difficulties in reliably predicting location choices would probably be overwhelming.

Where does this leave us then; should we accept the asymmetry? It should first be noted that the empirical magnitude of this problem is unclear. We would be therefore be reluctant to propose any changes in current practices solely to solve this alleged problem, before it has convincingly been shown that the problem is real. But, in our view, if one were nevertheless to seek to remove the asymmetry, several of the remedies suggested in the debate should be avoided, including changes in relevant market definitions. The most natural change to current procedure would be to explicitly weigh consumer interests in different substantial parts of the market, and make a judgment on the aggregate effects. It may also be natural to take locational implications of mergers into account. It is not clear, however, that such a reform would be quantitatively important, due to the difficulties in predicting location and since it is questionable to what extent location actually affects consumer prices. In the longer run, the problem will hopefully be resolved by reduced market segmentation.

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