

**TRADE AND COMPETITION POLICY:
WHERE DO WE STAND ?**

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CR-E-00-02

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March 2000

Abstract

This paper discusses critically the links between trade and competition policies, starting with the empirical literature which suggests that liberal trade policies and tight competition policy are, in a loosely defined sense, substitutes. Next, the underpinnings for the “substitution” hypothesis in a strategic environment, whereby trade liberalization may reduce the incentive to enforce anti-trust legislation, are evaluated. Political-economy motives behind trade and competition policies are then considered to discuss the incentives for a government to approve a merger when there are cross-border effects. Finally, the pros and cons for harmonization at the regional or multilateral levels are considered.

JEL Classification: F12, F13, L40

Keywords: trade policy, competition policy, merger, import-discipline.

*Part of this research was supported by a grant from the EC, # B98/A07050/03. We thank Damien Neven and Marcelo Olarreaga for comments on an earlier draft. Any views or opinions are those of the authors, not those of their respective affiliations.

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1. Introduction

To a large extent, the current wave of interest in the harmonization of competition policies has been fostered by the twin developments of globalization and regionalism. On the theoretical front, if the existence of multiple linkages between trade and competition policies has been known for long, the development of the theory of international trade under imperfect competition has led to renewed research in the area. This survey reviews critically the recent research and draws implications for the current policy debate on the harmonization of competition policies at the regional and/or multilateral level.

At the theoretical level, the literature has evolved around two main themes : First, does a liberal trade policy largely substitute for a restrictive competition policy, as would presumably be the case in a world with little strategic interaction across firms and between national and foreign firms (mostly multinationals)? Second, if it is not superfluous, does a strict competition policy aimed at curbing the market power of domestic firms work at cross-purposes with a strategic trade policy aimed at shifting rents in favor of national firms? In other words, would countries caught in a globalization process leading to a liberal trading environment try to compensate with laxist competition policies?

Drawing the practical implications of this research is difficult, and occupies much of this survey. It must be recognized that in a world in which harmonized and delegated trade policies are less subject to capture by domestic lobbies, competition policies might be affected by increased lobby pressure. This means that the policy objective involves more than the maximization of a suitably defined domestic welfare function, and one should take into account the political pressures that are likely to shape the formulation of trade and competition policies.

Within this broader perspective, should competition policies be harmonized multilaterally or delegated to regional or multilateral agencies? In other words, how desirable is it for, say Latin American countries, to harmonize their competition policies with those of the US, or even more concretely, how desirable it is for transition economies (or other industrializing economies of the Mediterranean and elsewhere) to engage in a deeper integration process with the EU by seeking closer harmonization with EU competition policies? Thus, this survey is largely addressed to policy choices facing many industrializing economies with close ties, though it applies also to small economies, integrated in the world trading system, facing possibilities of regional integration that may involve the delegation of competition policy decisions to some supranational authority.

Section 2 starts with a review of the empirical literature on the links between trade and competition policies, which is the point of departure of any attempt at quantitative assessment of the links between trade and competition policies. Though couched in an imperfectly competitive environment, that literature ignores strategic interactions across firms, and it is only relevant for those industries where barriers to entry are not sufficient to suggest strategic interaction across firms. The bottom line of that research, mostly carried out at the sector level, is the fairly robust result that increased imports - an imperfect proxy for liberal trade policies - are negatively correlated with price-cost margins. This result, known as the "import-discipline" hypothesis, suggests that liberal trade policies and tight competition policies are, in a loosely defined sense, substitutes. Yet, we emphasize that caution is in order as several difficulties have to be contended with the interpretation of the results.

Section 3 turns to a situation where trade policy takes place in a strategic environment. We look at the theoretical underpinnings of the "substitution" hypothesis, namely whether trade liberalization reduces the incentive of a welfare maximizing

government to enforce anti-trust legislation. It turns out that the answer is ambiguous mainly because of two conflicting effects of a change in anti-trust policy: a tight anti-trust policy on the one hand works towards raising consumer welfare by lowering prices, while it reduces producer surplus as it reduces the extent of rent-shifting that can be achieved by trade policy. However, the literature points out that under fairly plausible assumptions trade liberalization may in fact induce a tightening of anti-trust policy, suggesting that there is little theoretical support for the “substitution” hypothesis.

Section 4 deals with the political economy of trade and competition policies, recognizing that such policies are not just the result of welfare-maximizing governments, but are subject to lobbying pressures from all sides, national and foreign. We first look at the incentives for a government to approve horizontal mergers in an environment where mergers have cross-border effects. The result is that conflicts between countries are likely even if competition policies in different jurisdictions share the same objectives. We then consider the incentives for multinationals to engage in lobbying activities seeking to modify domestic trade policies, a concern that is relevant for many industrializing economies that seek to attract FDI by offering special incentives. Section 5 turns to the issue of harmonization of competition policies, either through a multilateral process or within the scope of regional integration agreements.

2. Imports as competitive discipline

One of the key sources of gains from international trade is the fact that international competition constrains the ability of domestic producers to engage in anti-competitive practices which would otherwise reduce welfare. This idea, known in the industrial

organization literature as the “imports-as-competitive-discipline” hypothesis, is, at least in principle, relatively straightforward to test empirically, and has indeed been the object of considerable statistical scrutiny. Common behind most of the work in this area is the notion that, in Schmalensee’s words (1989), “the ratio of imports to domestic supply tends to be negatively correlated with the profitability of domestic sellers, especially when domestic concentration is high”. Schmalensee’s statement reflects two underlying assumptions: first, that import penetration is a reasonably good proxy for exposure to international competition; second, that the concentration of domestic producers is correlated with their market power in autarky, so that the profits of a concentrated industry are more vulnerable to foreign competition than those of an industry that is already competitive in autarky.

Following this line of reasoning, most empirical tests of the “imports-as-competitive-discipline” hypothesis consist of regressing a measure of profitability, such as price-cost margins, on import penetration and a number of other factors potentially contributing to industry profitability. Let PCM_{jt} be the average price-cost margin of industry j at time t , H_{jt} be a measure of its concentration, such as the Herfindahl index, IMP_{jt} its import-penetration ratio, KQ_{jt} its capital-output ratio, DI_j an industry dummy and DT_t a time dummy. Then, the typical regression equation (see e.g. Roberts and Tybout, 1996a) is:

$$PCM_{jt} = f(H_{jt}, IMP_{jt}, H_{jt} \cdot IMP_{jt}, KQ_{jt}, DI_j, DT_t) \quad (1)$$

where j is an index over sectors and t an index over time. In (1), the multiplicative form $H_{jt} \cdot IMP_{jt}$ reflects the hypothesis expressed in Schmalensee’s statement above that the effect of foreign competition on profitability should be higher when the concentration of domestic producers is large, because high profits in a concentrated industry are likely to reflect some degree of market power. Thus, the coefficient on the multiplicative variable should be

expected to be negative. The inclusion of the capital-output ratio on the right-hand side of (1) reflects the fact that price-cost margins pick up not only pure economic profits, but also the remuneration of the capital invested in the industry; thus, a more capital-intensive industry should have, *ceteris paribus*, a higher price-cost margin than a labor-intensive one.

A voluminous literature has centered around the estimation of (1), mostly in a cross-section framework at the sector level, although the recent availability of data at the firm level has allowed estimation at the firm level (see below).¹ The evidence is overwhelmingly in support of the “import-discipline” hypothesis. However, for several reasons to be spelled out, one must be cautious in interpreting these results.

To begin with, even after controlling for capital intensity, it is possible that profitability is influenced by additional specific industry characteristics. For instance, different industries may be characterized by different levels of productive efficiency, so that more efficient industries may be better able to maintain profitability in the face of foreign competition. Some industries may also be shielded from the erosion of their profits by their ability to innovate and compete in dimensions other than price. When such is the case, estimates of the relationship between profitability and import penetration are likely to pick up the effect of these hidden industry characteristics and hence to be biased. With panel data, it is possible to correct for this type of bias by including so-called “fixed effects”, i.e. industry dummy variables - hence the inclusion of DI_j in (1). Finally, time dummies may be included to reflect macroeconomic influences on profitability (e.g. changes in real interest rates or in the rate of growth of consumption) which are typically important.

¹ Breshanan (1989) surveys the empirical literature in the Bain (1951) tradition of structure-conduct-performance approach to industrial organization. Examples of applications of the import-discipline hypothesis include Jacquemin and Sapir (1991) and, more recently, the case studies in Roberts and Tybout (1996b), which allow for a comparison between firm-level and sector-level estimates.

Moreover, although useful, the framework provided by (1) clearly has a number of important limitations to be borne in mind when interpreting the results. First, as noted by Roberts and Tybout (1996a), a finding that higher import-penetration subsequent to trade liberalization reduces profitability does not necessarily imply that domestic producers were, prior to trade liberalization, engaging in anti-competitive practices.

In a Heckscher-Ohlin world, if import-competing industries are relatively capital-intensive, trade liberalization will put downward pressure on the remuneration of capital; but this will reflect factor-price equalization rather than the elimination of anti-competitive practices. Indeed, the type of trade that can bring competitive discipline on domestic producers is intra-industry trade rather than Heckscher-Ohlin trade. Thus, the mechanism implicit in (1) should be expected to work primarily in industries where intra-industry trade is substantial.

In industrializing and transition economies, relatively low wage costs compared to those in the OECD have induced some degree of specialization in labor-intensive industries (see Neven, 1995) and consequent Heckscher-Ohlin trade in which capital-intensive industries in these countries are downsized as a result of trade liberalization (in transition economies especially, these industries were, independently of comparative advantage considerations, characterized also by large-scale managerial inefficiencies). This process by itself would have tended to reduce the remuneration of capital irrespective of any anti-competitive behavior prior to the trade liberalization of recent years.²

² These remarks do not imply that there is no scope for strong pro-competitive effects of economies opening to foreign trade, especially when it comes to transition economies. For example, trade data reported in Cadot, Faini and de Melo (1995) showed that intra-industry trade was gaining importance in EU trade with Central and East European countries. However, intra-industry trade indices must be interpreted cautiously, especially when they are computed at a high degree of aggregation. A large share of intra-industry trade is intra-firm trade due to outsourcing strategies by large corporations whereby labor-intensive parts of the value chain (such as final assembly, packaging and so on) are located in low-wage countries. This phenomenon gives rise to seemingly intra-industry trade that is nevertheless driven by factor-price differences.

Second, productive efficiency is taken in this framework as exogenously given, so that price-cost margins are meant to reflect the extent of market power. But it has long been noted that in the absence of competitive pressure, costs tend to creep up simply because of slack management (what Harvey Liebenstein called “X-inefficiency”). It is quite possible that in a first stage of the trade liberalization process, the increased competitive pressure wrought on domestic producers induces restructuring and active cost cutting, leading to lower costs at constant prices. Although not picked up by (1), where the endogenous variable measures only price efficiency, this type of effect is clearly welfare-enhancing and is consistent with the broad notion that competition improves efficiency. Indeed, it is not clear how the impact of foreign competition on productive efficiency compares in magnitude with its impact on price efficiency.

Another caveat related to productive efficiency arises when firms’ technological heterogeneity is taken into account. According to Demsetz (1973), the more efficient the firm is, the higher its margin, the faster its growth and the larger its market share. At the industry level, this leads to a positive relationship between aggregate margins and concentration which reflects heterogeneity rather than collusive behavior (see Clarke and Davies (1982)). This makes the results of structure-performance studies harder to interpret unless plant-level data are made available. Suppose then that firm-level data are available so that the estimating equation becomes:

$$PCM_{kjt} = f(MS_{kjt}, IMP_{jt}, MS_{kjt} \cdot IMP_{jt}, KQ_{kjt}, DI_j, DT_t) \quad (2)$$

where k is an index for a firm in sector j , MS_{kjt} is the share of firm k in sector j in time period t , and the other variables have the same meaning as in (1). With firm-level data available, Schmalensee (1985) proposes to disentangle the pro-competitive and the

“Demsetz effects” by the use of industry dummies included in (2). If the plant’s price cost margin depends basically on the plant’s market share, while industry dummies are non significant, then technology is the explanation; on the contrary, if it is mostly the industry dummies that are significant, then it is an indication that firms are exercising market power.

Third, although import-penetration ratios are treated as exogenous in (1), they are likely to be endogenous. Variations in import penetration are affected not only by (presumably exogenous) changes in trade policy, but also by the ability of domestic producers to fend off foreign competition, which may be correlated with industry characteristics such as profitability. For instance, according to the “long purse” view, past profitability can enhance domestic producers’ capacity to wage a price war and can thus contribute to deter foreign entry. Thus, short of a full simultaneous-equation approach, import-penetration ratios should be instrumented by other exogenous or predetermined variables. However, relatively few studies do so. A notable exception is Grether (1996) who uses measures of trade incentives at the sector level (tariffs and their equivalents of QRs) in a study of the effects of the Mexican trade liberalization of the middle eighties. His study, and the other country studies reported in the Tybout and Roberts volume is based on firm-level data, followed the specification in equation (2).

In the same vein, the endogeneity problem among the variables is likely to be more pervasive. After all the degree of competition is also potentially endogenous as well as the extent of collusive activity. This is why, theoretically at least, it has been recognized that a thorough testing of the import-discipline hypothesis should model as well the degree of competition and the extent of collusive behavior.³

³ While most studies test the import-discipline hypothesis in a single or two-equation framework, Levinsohn (1993) uses a three-equation framework in which concentration, profitability and the degree of collusion are jointly determined. To do so requires estimates of sectoral elasticities of demand.

Finally, it should be noted that competitive pressure may not always be reflected in changes in trade flows. When markets are sufficiently contestable (i.e. when producer sunk costs and consumer switching costs are sufficiently low) competitive pressure may affect prices more than quantities. If such is the case, low import-penetration ratios may be consistent with significant competitive pressure from foreign producers. In the same vein, if domestic producers are more efficient than their foreign competitors (say because of high transportation costs or other hurdles affecting importers), they may be able to fend off entry by using so-called “limit-pricing”. Doing so would prevent imports from flowing in, but it would also prevent domestic producers from using their market power fully, thus exerting some degree of discipline on their conduct, albeit imperfectly.

In spite of these caveats, the framework summarized by (1) and especially when possible by (2) has proved a useful guide for a number of empirical investigations, many of which focused on the effects of foreign competition on profitability in developing countries (see e.g. Caves (1989) and references therein, or Lee (1991)). Moreover, data at the plant or firm level largely confirmed the validity of the imports as competitive discipline hypothesis (see the essays collected in Roberts and Tybout 1996b). Thus, the idea that trade liberalization and a strict domestic competition policy are substitutes in their welfare effects, which was recently explored analytically by Neven and Seabright (1997), is fairly solidly established empirically.

Mostly on the basis of these results, it has even been argued that strong domestic competition policy would be somewhat superfluous in most small economies of the industrializing (and in many cases developed) world provided that foreign trade is adequately liberalized, as the additional competitive discipline that could be enforced by domestic antitrust authorities would in all likelihood be marginal (see Levinsohn 1996). As an example of this view, a member of Canada’s Bureau of Competition Policy noted that

NAFTA reduced the Bureau's concern with potentially harmful conduct: "within the scope of the relevant market that may be regional, North American or global, many merger transactions and business practices which formerly would have raised questions now are not of concern to domestic anti-trust authorities."⁴

However, there are three counter-arguments to the view that strict competition policies would be superfluous for these countries if they had liberal trade policies. First, imports cannot bring competitive discipline in non-tradable sectors, which constitute a large share of GDP in most countries. Second, as already noted, product differentiation and other dimensions of non-price competition may shield domestic producers from effective foreign competition. Third and most importantly, certain anti-competitive practices, such as vertical arrangements between manufacturers and distributors, may have precisely the effect of restricting market access to foreigners (we return to this issue later on).

Indeed, it has been often argued (we will deal with this issue in more detail in the following section) that when trade liberalization exposes weak domestic producers to foreign competition, import-competing lobbies may seek protection by means other than trade policy - in particular, by loosened anti-trust treatment at home, allowing them to engage in private practices effectively foreclosing foreign competitors from the home market. In other words, trade liberalization may create a "policy vacuum" filled by strategically complacent competition policy.

In sum, in spite of the above evidence, for the majority of small economies that have simultaneously liberalized foreign trade and established elements of a domestic competition policy, the question of whether competition authorities have been proactive in restraining anti-competitive behavior at home remains. And in the case of neglect, was it benign

⁴ Howard Wetston, "Globalization and Competition Policy", paper presented to External Affairs and International Trade Canada "Rules of the Game" luncheon, March 5, 1993; quoted in Dimic (1993).

(reflecting the redundancy of domestic competition policy when foreign competition is substantial) or strategic (reflecting the substitution of strategic competition policy for trade protection). However, any attempt to shed light on this question requires first an understanding of how trade liberalization should be expected to affect government incentives to enforce competition rules.

3. Trade policy and competition policy in a strategic environment

The relationship between competition and trade policies is a complex one because they overlap in their effects while having sometimes orthogonal objectives. As Levinsohn (1996) noted, whereas competition policy is aimed at curbing the market power of domestic producers, strategic trade policy attempts to *use* their market power in order to shift rents away from foreigners. In this sense, trade and competition policies work at cross-purposes. Thus, progress in understanding the relationship between trade and competition policies and in devising ways to harmonize them across trading nations requires a clarification of their relationship in terms of both effects and motivation.

The fear has often been expressed that, in the presence of unabated pressure from import-competing interests, reduced trade barriers may lead governments to search for alternative instruments of protection. This fear is largely grounded in the observation that, over the last few decades, the reductions in tariff barriers negotiated in multilateral rounds of trade liberalization have led to the spread of less transparent non-tariff barriers and to growing use of contingent protection. By the same reasoning, couldn't one expect a

selective relaxation of competition rules to be used strategically to provide favorable treatment to domestic producers?⁵

The answer to this question turns out to be less than straightforward, but a first grasp of what is involved is perhaps best expressed in symbolic form. Let W be an appropriate measure of domestic welfare, i.e. the sum of tax revenue and producer and consumer surplus, let t be an import tariff taken as a summary measure of trade policy, and let n be some measure of how strict competition policy is (a higher value of n meaning a stricter competition policy). For simplicity, take a partial equilibrium perspective, so that variations in W are only those variations attributable to changes in the performance of the particular industry under scrutiny. The argument, developed in section 2, according to which international trade and competition policy are substitutes in terms of welfare is equivalent to the mathematical statement that dW/dt and dW/dn have opposite signs; that is, trade liberalization, ($dt < 0$), and reinforced competition policy, ($dn > 0$), have the same qualitative effect on welfare. Quite different is the question of this section: namely, whether trade liberalization reduces the incentive to enforce antitrust regulations. To illustrate what is at stake here, suppose that t is bound by international agreements to some value t_0 , and let $n^*(t_0)$ be the value of n that maximizes W given t_0 . The simplest mathematical equivalent to the latter question would consist of asking whether ($dn^*/dt > 0$); or equivalently (by the implicit function theorem) whether $d^2W/dndt > 0$. In other words, if ($dn^*/dt > 0$), then, to maximize national welfare, trade liberalization should be accompanied by a relaxation of anti-trust legislation.

⁵ As noted by Fox and Ordober (1996) the suspicion, widely held in the US, that anticompetitive practices were used as a device to restrict foreign access to the Japanese market and that antitrust rules were deliberately enforced at a suboptimal level, prompted the 1995 Kodack-Fuji case.

In two closely related papers, Richardson (1996) and Horn and Levinsohn (1998) showed that there is no simple answer to this question. Richardson uses a partial-equilibrium model with Cournot competition between a number of home and foreign firms in which the government determines the number of home firms (a large number of firms being taken as a proxy for the strictness of competition policy) and the level of a specific tariff on imports. Although he uses his model to explore political-economy questions, here we deal only with the case where governments maximize undistorted domestic welfare. Richardson's policy-substitution exercise (which is slightly different from the evaluation of the cross-partial derivative above) consists of comparing the optimal number of firms in two equilibria: an unconstrained equilibrium where governments pick tariffs and the number of firms non-cooperatively; and a constrained one where tariffs are eliminated in both countries, so that the only remaining instrument is the number of firms.

Although no general analytical result can be obtained, Richardson reports simulation results suggesting that the number of firms is higher in the constrained (free trade) equilibrium than in the unconstrained (tariff-ridden) one. In other words, contrary to the fears expressed earlier, bilateral trade liberalization leads to *tighter* competition policies. Richardson's explanation for this result is as follows. Strategic trade policy is aimed at shifting profits away from foreign producers, and in the unconstrained equilibrium this is obtained by means of a tariff. In the constrained equilibrium, because one instrument is eliminated, competition policy has to be relied upon for the profit-shifting objective. This is done by letting the number of home producers increase, thus raising their aggregate market share albeit at the cost of lower industry profits.

Looking at the substitution issue with unilateral trade liberalization, also with Cournot competition between a number of home and foreign firms, but where trade policy takes the form of an export subsidy to home firms rather than an import tariff, Horn and

Levinsohn (1998) reach a similar result: trade liberalization, unilateral or multilateral, would lead to a tightening of domestic competition policy by a welfare maximizing government. Starting from a position where the export subsidy is set at its optimal level, they show that a small reduction in this subsidy (taken as a proxy for trade liberalization) induces a tightening of domestic competition policy. As the result is valid only locally (around the optimal subsidy) and depends on the linearity of demands, Horn and Levinsohn are careful to stress that it should not be taken too literally, but the trade-off is by itself instructive. First, strategic trade policy aims at raising the market share of domestic producers at the expense of foreign ones. This calls for an export subsidy. Second, notwithstanding the profit-shifting motive, strategic trade policy is aimed at the exploitation of the domestic producers' market power at the expense of foreign consumers. This calls for an export *tax*. Third, as domestic producers sell also on the home market, there are domestic welfare benefits to competition between them. This calls for some competition policy. With constant marginal costs, there is no strategic interdependence between the home and foreign markets. But in affecting the number of firms, competition policy targeted at home-market objectives will nevertheless interfere with strategic-trade objectives, as the number of home producers affects their ability both to shift rents and to exploit foreign consumers. As the export subsidy is reduced by an arbitrarily small amount below its optimum, the ability of home producers to exploit foreign consumers is enhanced but their ability to shift rents is reduced. The optimum is reestablished by slightly tightening competition policy, raising the number of firms.

If Richardson's and Horn and Levinsohn's results point in the same direction (Horn and Levinsohn also find that multilateral trade liberalization leads to a tightening of national competition policies), their common difficulty in establishing strong analytical results shows that a final answer to the substitution question is yet to come. What is clear is

that when competition policy is proxied by government choice over the number of firms, the substitution hypothesis has, so far, little analytical support.

In closing, it is worth noting that the type of modeling exercise carried out by Richardson, and by Horn and Levinsohn, is fairly remote from the policy debate epitomized by the “Kodack-Fuji” dispute mentioned above, where competition policy had to do with vertical restraints allegedly aimed at foreclosing market access. So far, after having examined the links in a strategic trade context, whether trade liberalization should be expected to induce governments to use competition policy as a surrogate for strategic trade policy remains still a largely unsettled question, even if one is able to find robust empirical support of the “import-discipline” hypothesis.

4. The Political-economy of Trade and Competition policies

The maintained assumption of the previous section was that government decisions are motivated by the maximization of welfare (although Richardson considered the possibility that consumer and producer surplus receive different weights in government objective functions, the flavor of his results was not substantially affected by the inclusion of this type of consideration). A vast literature in the theory of international trade is however predicated on the idea that governments have objective functions that differ from social welfare. One reason for this may be that the probability of reelection is influenced not just by overall incumbent performance (as measured by the change in welfare induced by the incumbent’s policy decisions) but also by the incumbent’s ability to raise campaign funding. In turn, campaign contributions are likely to come as a quid pro quo for decisions that favor special interest groups. Thus, government decisions may be viewed as resulting

from the maximization of a composite function in which welfare is but one argument, the other being the aggregate contributions extracted from competing lobbies. This approach, sometimes referred to as the influence-driven approach to the endogenous determination of trade policy, yields an objective function in which producer surplus and consumer surplus have different weights.⁶

4.1 Horizontal mergers

Bond (1997) uses the influence-driven approach to analyze government incentives to approve horizontal mergers with cross-border effects. Horizontal mergers affect three types of constituencies: merging firms, fringe firms in the industry, and consumers, via two effects: a pro-competitive effect due to a reduction of the merging firms' marginal costs, and an anti-competitive effect due to the 'efficient' (i.e. cooperative) determination of the merging firms' output. Let γ be the cost-reduction parameter of a merger and G be the government's objective function. Ceteris paribus, a higher value of γ is associated with a stronger pro-competitive effect, so consumer surplus and merging-firm profits increase with γ while fringe firm profits decrease with it. Provided that the weights in G are such that $dG/d\gamma > 0$, Bond shows that there exists a critical value of γ , γ_0 , such that all mergers with $\gamma > \gamma_0$ are approved. Consider now mergers such that all merging firms are in one jurisdiction while some of the fringe firms are outside of it. Clearly, as outside fringe firms get no weight in the objective function of the jurisdiction's government, relatively pro-competitive mergers will be viewed more favorably than if all fringe firms were within the

⁶ This approach, introduced by Grossman and Helpman (1994), rests on developments in principal-agent theory of Bernheim and Whinston (1986). It has the advantage of relating trade policies more directly to fundamental parameters describing preferences and technology. However, for what follows, the specific choice of framework for the determination of trade policy matters little since, as shown by Helpman (1995),

jurisdiction. Thus, political-economy considerations in a small open economy may affect merger-approval rules, and the magnitude of the effect depends on the size of jurisdictions relative to the reach of decisions. Bond stresses that this effect can be expected to be stronger and more prevalent the smaller the jurisdiction is. But even if it is large, provided that competition in the industry transcends national borders, the type of effect that he describes is likely to be present.

Such considerations may lead to what Ostry (1993) called “system friction” if the objective functions of jurisdictions differ. Moreover, because the extraterritorial reach of competition-policy decisions is due, in this case, to competition between firms within an industry, it is likely to be magnified by the elimination of trade barriers. This is a potentially important issue in an increasingly regionalized world. For example, in the case of transition economies contemplating deep integration with the EU, while Article 9 of the EU’s 1989 merger directive provides recourse (to the Court of Justice) in cases where a member state’s local market is adversely affected by a merger decision, no such recourse is provided for in the Europe Agreements (see Nicolaidis and Mathis 1996). In general, competition-policy spillovers of this type have been a subject of considerable attention in the context of the debate over competition-policy harmonization which is discussed in section 5.

4.2 Foreign direct investment and protection

Although there is a growing literature on endogenous trade policy in the presence of FDI, it is generally inconclusive. Several authors have argued that, even in the case of *quid pro quo* FDI (FDI in fear of barriers against imports), FDI will tend to lower the return to

fairly similar conclusions are reached with various approaches (e.g. the political support approach of Hillman

lobbying for protection by domestic firms. The reason is the following. Because FDI leads to a fall of imports, the return to lobbying falls as the competition now comes from inside the border.

However, if governments are sensitive to demands for protection from foreigners it may turn out that FDI would lead to higher tariffs. Suppose that the tariff selection process follows the influence-driven approach mentioned above. Then, if the weight given by government to FDI is higher than the weight given to domestic owners of capital and consumers, the government will supply more protection. How likely is this outcome is yet to be determined, though two observations can be made. First, in the case of the Central and East European countries, it is known that for several industries (e.g. automobiles), the negotiation of the Europe Agreements were accompanied by an increase in protection and or special differential incentives for foreign investors. Second, in the case of Mexico, Grether et al. (1999) find econometric evidence during the period of trade liberalization in the late eighties.

5. Should competition policies be harmonized?

Whereas the harmonization of national competition policies has been for decades on the agenda of various forums, by and large little progress has been achieved to this day, except in the European Union. This section argues that this disappointing record may reflect both a fairly universal reluctance by countries to bind themselves to supranational rules

with the transfers of sovereignty that they imply, and the fact that the rationale for competition-policy harmonization is not overwhelming.

5.1 Multilateral harmonization

Early attempts at multilateral harmonization of competition rules⁷ date back to the 1940s and the stillborn Havana Charter's Chapter V. Following the failure of the ITO's charter to be ratified by the US Congress, in 1953 the US, Canada and a number of other members of the UN drafted an agreement on multilateral enforcement of rules against restrictive business practices. The matter was again picked up by the GATT in 1958, but none of these discussions led to any practical result. In 1980, the Vienna Sales Convention was negotiated under the auspices of the UN, while UNCTAD adopted a code on restrictive business practices of its own. These efforts were followed by a 1986 OECD agreement on the same issue, providing for further consultations and a never-used, non-binding dispute-resolution forum, and establishing a principle of mutual notification of antitrust actions. In sum, very little has been achieved.

It is interesting to note the repeated good intentions that have been reiterated on many occasions. In a 1996 speech, EU Commissioner van Miert spoke of "the belief that increased international cooperation [in the field of competition policy] is essential - even inevitable - in the coming years."⁸ Presumably because its own successful experience provides a model and a source of optimism on the capacity of sovereign states to overcome the hurdles to competition-policy harmonization, the EU has been a particularly enthusiastic

⁷ This historical overview draws on Trebilcock (1996).

supporter of multilateral competition-policy harmonization. By contrast, the US has typically taken the more cautious view that piecemeal bilateral agreements, if anything, are sufficient (see Fox 1997). Clearly, if the European experience can serve as a guide on how to proceed towards harmonized rules and supra-national enforcement, it does not establish a universal rationale for doing so. European integration is primarily a political project, whose original intent was to put an end to the convulsions of the first half of the century. The creation of a common market, which was seen as a vehicle for eliminating the military rivalries of the past, created a phenomenal political momentum which has no counterpart in the world trading system. Therefore, however successful, the European experience does not substitute for a clearly articulated argument about the universal benefits of competition-policy harmonization. But establishing such an argument on strong analytical foundations has proved to be difficult⁹.

First of all, what is meant by “harmonization” is not always clear. A minimal interpretation of the term would simply take it to mean the cooperative determination of otherwise independent competition policies. A more ambitious interpretation would be to take it as convergence to some common principles or rules. Finally, it might mean - although this last interpretation would probably go somewhat beyond the usual meaning of the term - delegating competition-policy enforcement to a supra-national authority. Each model requires a distinct rationale and raises problems of its own.

Cooperation over antitrust rules and enforcement can do no harm, but it is necessary only if uncoordinated decisions create harmful spillovers. In fact, as Bacchetta, Horn and Mavroidis (1997) argue, “spillovers” by themselves, even if negative, do not provide a

⁸ Karel van Miert, “EU Competition Policy in the New Trade Order”, address delivered at the 1996 Oslo Conference on “Competition Policies for an Integrated World Economy”.

⁹ See Bilal and Olarreaga (1998a) for a critical review of the arguments in favor of an international approach towards competition rules.

rationale for cooperation if they are only redistributive (see also Bliss 1996). From a welfare perspective (i.e. ignoring redistributive issues), cooperation is called for only if independent competition policies give rise to a prisoner's dilemma whereby global welfare is reduced by negative externalities. They call this case "distortions", as opposed to "spillovers". Are there such distortions? In other words, what is a "beggar-thy-neighbor" competition policy? Horn and Levinsohn (1998) show that even this basic question does not have a simple answer. As they show, a change in the number of foreign firms affects home producer and consumer surpluses in opposite directions, so that the net effect on home welfare is ambiguous. They comment their result in the following terms: "We are thus led to the unsatisfactory conclusion that we cannot a priori determine whether concentration in one country is good or bad for other countries". But in the absence of a clear idea of where distortions (if any) in uncoordinated competition policies come from, the agenda for talks aimed at harmonizing them is likely to be elusive.

Harmonization in the sense of convergence requires something more that is even less likely to be true. Namely, that moving competition-policy rules towards a common point would raise global welfare. In order to be acceptable, in addition, such a move would need to raise every country's welfare. Assessing whether this may be the case requires a prior understanding of the sources of asymmetry in competition rules across countries, which may well require a political-economy analysis. Richardson (1996) considered this issue in a quasi-symmetric model where the only difference between countries lies in the weight on producer vs. consumer welfare in the respective governmental objective functions. Defining convergence as a reduction in $|n_i - n_j|$ (the absolute difference between the number of firms in countries i and j) such that n_i goes up and n_j goes down if $n_i < n_j$, (and vice-versa if the inequality is reversed) he found that convergence is not a globally

welfare-enhancing move (as welfare would go up if *both* countries were to reduce the number of firms, for reasons explained in the previous section). Thus, even though consistency in antitrust principles and enforcement could arguably ease “system friction”, the rationale for a move toward uniform rules is not yet clearly established analytically. But again, only with a strong underlying rationale could a move toward uniform rules overcome the likely resistance that it would meet in a heterogeneous world.

The case for establishing a supra-national enforcement (the strongest form of harmonization) might, paradoxically, be the one that rests on the firmest logical ground. As noted by Mattoo and Subramanian (1997), there is little empirical evidence that differences in *rules*, which are in any case limited, have been a significant source of conflict between jurisdictions. In the same vein, Fox and Ordober (1996) argued that most conflicts arise over market access issues, i.e. over practices like foreclosure or cartels with boycotts which are “illegal virtually everywhere”, suggesting again that the source of conflicts rests primarily with unequal *enforcement* rather than with differences in rules.

However, this line of reasoning overlooks the fact that authorities applying similar rules may view cases with different eyes if their domains of jurisdiction are distinct. Conflicts in fact can, and do, arise when several national antitrust authorities simultaneously assert jurisdiction over a case, claiming, on the basis of the commonly accepted “effects doctrine”, that the case affects their own jurisdiction irrespective of the legal location of the firms involved. For instance, if most consumers are located in one jurisdiction and producers are in another, authorities applying identical welfare criteria will view the desirability of a merger differently. As antitrust authorities in both the EU and US increasingly focus attention on the effect of mergers not just on consumer surplus, but also on producer profits, this type of conflict, epitomized by the transatlantic dispute over the 1997 Boeing-McDonnell merger, is bound to become more frequent. For instance, as

remarked by Neven and Röller (1999), the exclusivity agreements that Boeing had to jettison as a condition for the merger's approval by EU authorities primarily affected Airbus' expected profits; not the welfare of European consumers.

Thus, decentralized decision-making can lead to conflicts even when rules are similar. The nature of such conflicts and the conditions under which they are most likely to arise have been explored in several recent papers. Their treatment is related to our earlier discussion of spillovers and distortions, but here the focus is on the potential for conflicts rather than on welfare losses. Barros and Cabral (1994) used the framework of Farrell and Shapiro (1990) where a price-raising horizontal merger is construed as a sequence of infinitesimal reductions in the combined output of the merging firms. They assumed that antitrust authorities were concerned with the spillover effects of mergers, i.e. with their effect on consumer surplus and the profits of "fringe" (non-merging) firms. They showed that decentralized decision-making would lead to overly conservative decisions (rejecting mergers that a centralized authority would approve) in jurisdictions having a relatively high share of consumers relative to fringe firms. The reason is clear given that consumers are penalized by a price-raising merger, whereas fringe firms benefit from it. The opposite is true, of course, of a jurisdiction where consumers are few and non-merging firms are big or plenty (say, a small exporting country) which might be expected to be "relatively lenient" toward mergers. Thus, national (decentralized) decisions can be biased by the characteristics of the local economy. A centralized authority would not suffer such biases, but of course centralized decision-making would generate winners and losers if local political entities having delegated their competition policy to the central agency were not symmetric, and this would also create political friction. Results in a similar spirit were derived by Head and Ries (1997).

Neven and Röller (1999) consider the same type of issue, but innovate in replacing the welfare criterion that most authors have so far attributed to antitrust authorities by a rule that is arguably closer to actual decision-making. They assume that antitrust authorities first define the relevant market by the application of a demand-elasticity test. That is, let there be two countries, i and j , and let e_i be the absolute value of the elasticity of demand in country i . If $e_i < k$, the relevant market for the antitrust authority of country i is the local one; if the inequality is reversed, the relevant market is the “global” one (i.e. the combined market of i and j). Next, the authority determines whether the merged entity’s combined share of the relevant market would be above a given cutoff; if the answer is positive, the merger is banned. Using this, Neven and Röller analyze the potential for conflicts between jurisdictions and compare the outcomes of a decentralized setting where authorities simultaneously assert jurisdiction over a given merger (in effect exercising a right of veto over it) with that of a centralized system where antitrust authority is delegated to a supranational agency.

They first remark that, irrespective of the market share of the merged entity, if both antitrust authorities deem that the relevant market is the global one, there can be no conflict, since applying the same test they must reach the same decision. Thus, they argue, conflict in so-called “global industries” must be a reflection of broader agendas being brought in, like strategic-trade considerations. Conflict can arise, in their setting, under two sets of circumstances. First, when the industry is local by the test of both authorities but the combined entity fails the market-share test (i.e. is too big) in only one country: the authority of that country will ban the merger, whereas the other will approve it. A centralized authority, recognizing the two markets as separate but unable to make separate decisions, would be in a bind and would in all likelihood ban the merger. Second, conflict would also

arise if both the elasticity and market-share tests gave different answers in the two jurisdictions.

In sum, even when the rules are the same, the simultaneous assertion of jurisdiction by independent authorities creates considerable potential for conflict and friction. As the number of contentious cases grows, calls for the delegation of antitrust policy to a single supranational agency may also multiply, even though the decisions of such an agency would necessarily make winners and losers and thus also generate friction. By and large, the European experience shows that ‘supra-nationalization’ of enforcement can succeed against a background of widely different traditions and preferences across member states and survive the friction generated by contentious decisions. But of course, a supra-national competition authority is more easily established as part of a broad-ranging regional agreement than in a stand-alone multilateral negotiation. Does this mean that regionalism provides a promising route for competition-policy harmonization?

5.2 Regionalism

Depending on their depth, regional agreements can have important implications for the conduct of competition policy. On the one hand, as noted above, the elimination of barriers to regional trade enlarges the scope for foreign competition and thus reduces the need for domestic antitrust enforcement. On the other hand, to reap all the benefits of internal free trade, member states must prevent the substitution of internal trade barriers by other forms of restrictive practices. In this sense, as argued by Bilal and Olarreaga (1998b), regional integration reinforces the argument in favor of a common competition policy.

Moreover, regional agreements may provide a forum for the harmonization of competition policy across member states.

Overall, the record of regionalism in contributing to the emergence of supra-national competition policy principles and enforcement mechanisms is mixed. The one clear success in this regard is of course the European Union, whose common competition policy, based on the relevant articles of the Treaty of Rome, was indeed a key driving force of integration. Some measure of success was also obtained by the 1990 Australia-New Zealand Closer Economic Relations Trade Agreement (ANZCERTA), which allows firms in one country to initiate complaints for abuse of dominant position by firms in the other country (see Trebilcock 1996). Moreover, this limited degree of competition-policy cooperation made it possible for the signatories to phase out the use of anti-dumping regulations against each other. On the other hand, neither the Canada-US free-trade agreement nor NAFTA succeeded in curbing the use of anti-dumping between the Canada and the US. NAFTA's only success in the area of competition-policy convergence is the adoption by Mexico of a set of competition-policy measures. As remarked by Fox (1997), one possible reason for this uneven record is that some of the geopolitical factors that made deep integration possible in Europe do not apply to North America. While any visible loss of sovereignty would meet strong resistance in the US Congress, harmonization along strictly US lines would smack of hegemony and would therefore be difficult to accept for smaller partners of any North-American or pan-American harmonization or integration scheme. Thus, whereas in other areas such as security arrangements US leadership is a facilitating factor, in the area of competition-policy harmonization the imbalance of forces in the Western Hemisphere is an obstacle.

If the historical evidence on the effect of regionalism on the conduct of competition policy is mixed, there is also little analytical work suggestive of what one should expect

from regionalism. One notable exception is Richardson (1996) who explores the relationship between trade and competition policy in a 3-country world with two countries forming a preferential agreement. As in the bilateral trade liberalization exercise described in the previous section, the formation of a customs union (CU) leads to a tightening of the member states' competition policies. The reason, again, has to do with rent-shifting rather than a heightened concern for consumer surplus. As cooperation over competition policy within the CU leads to the internalization of such mutual rent-shifting effects, it leads to a relaxation of competition policies, i.e. to a reduction in the number of firms in the union. Thus, if one envisages a two-stage regional integration process involving first the formation of a "shallow CU" with uncoordinated competition policies, followed by the coordination of competition policies in a "deep CU", the number of firms first rises then shrinks. When member states are symmetric, Richardson shows that, because of the endogenous and non-cooperative adjustment in competition policies, member-state welfare shrinks with the formation of a shallow CU but rises again with the coordination of competition policies. When the objective functions of member states are asymmetric in their weighting of consumer and producer surplus, interestingly, Richardson finds that non-member welfare is adversely affected by the formation of a CU with coordinated competition policy. As he notes, "This suggests that the concerns often expressed about the consequences for non-members of PTAs [preferential trading agreements] through their effects on members' trade policies might be reinforced when further policy co-ordination is considered" (p. 25). In particular, Richardson's result is consonant with those of Cadot, de Melo and Olarreaga's (1999) on the potentially harmful effect of "deep integration".

6. Conclusions

This critical review of the main issues arising on the relationship between trade and competition policy suggests the following. First, in spite of the caution that must be taken in interpreting the results from the numerous studies of the “import-discipline” hypothesis, it is well-established that trade liberalization achieves at least some of the result that competition policy seeks to achieve - namely, putting a check on the ability of domestic producers to exploit consumers. Nonetheless, some industries are non-tradable while in others product differentiation and other dimensions of non-price competition may shield domestic producers from effective foreign competition. Finally, there are also certain anti-competitive practices, such as vertical arrangements between manufacturers and distributors between manufacturers and distributors that may have the same effect of restricting market access to foreigners as a restrictive trade policy.

Following the worldwide move to increased merger activity, trade policy is more likely to be of “strategic” kind, i.e. to be aimed at shifting rents away from foreigners. Then, trade liberalization may lead to the strategic use of competition policy for the same aim. In such a world, it is not clear what the best competition policy should be, though we indicated arguments that suggest, perhaps somewhat counter-intuitively, that it should involve a tightening of merger rules. At the same time, once it is recognized that competition between firms across jurisdictions in an industry is likely to be enhanced by a reduction in trade barriers, it is likely that national horizontal mergers will generate cross-border effects which have to be examined from a political-economy perspective.

Whether such strategic use of competition policy calls for some kind of harmonization is even less clear, for a number of reasons. First, what is meant by harmonization is not spelled out: is it simple cooperative determination of otherwise

independent competition policies?; is it convergence towards some common principles?; or perhaps even delegating competition policy to some supra-national authority? While cooperation over anti-trust rules and their enforcement can do no harm, cooperation would only be called for if independent competition policies gave rise to a prisoner's dilemma whereby global welfare is reduced by negative externalities. However, because a change in the tightness of competition policy affects producers and consumers in opposite directions, the net effect on home welfare of any cooperation will necessarily be ambiguous.

We reviewed also the pros and cons of supra-national enforcement, suggesting that perhaps it rests on the firmest logical ground because sources of conflict are not in rules but with unequal enforcement. Yet, as the recent case on the Boeing-McDonnell merger shows, authorities with similar rules are likely to view cases with different eyes if their domain of jurisdiction are different. It is clear that if consumers are mostly located in one jurisdiction while producers are located in another, then anti-trust authorities applying identical welfare criteria will view the desirability of a merger differently. Conflicts are also likely to be more frequent if, as recently, competition authorities focus attention not only on the effects on consumers, but also on producers profits.

In sum, as a result of globalization, the simultaneous assertion of jurisdiction by independent authorities has been on the rise. As discussed, this creates considerable potential for conflict and friction. As the number of contentious cases grows, calls for the delegation of antitrust policy to a single supranational agency may also multiply. However, looking ahead, the decisions of such an agency would necessarily make winners and losers and thus generate friction which might be sufficient to impede its creation in the first place.

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