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THE LINK BETWEEN TARIFFS AND IMPORTS IN A COUNTRY WITH ENDOGENOUS INDUSTRIAL VERTICAL STRUCTURE AND LENIENT CONTROL OF CONCENTRATIONS: A GOOD REASON FOR TWO NEGOTIATORS TO CARE ABOUT ANTITRUST

A LIGAÇÃO ENTRE TARIFAS E IMPORTAÇÕES EM UM PAÍS COM ESTRUTURA INDUSTRIAL VERTICAL ENDÓGENA E CONTROLE LENIENTE DE FUSÕES EMPRESARIAIS: UMA BOA RAZÃO PARA DOIS NEGOCIADORES SE PREOCUPAREM COM O ANTITRUSTE

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Abstract

In the recent years, there have been growing concerns among competition authorities that the reduction in governmental barriers to trade may not result in the expected increase in trade, because of the development of private anticompetitive practices. In the present article, we focus on the link between tariffs and imports on an intermediate market when local firms can react to the level of tariffs by adapting the vertical structure of the industry through mergers and/or divestitures. We show that successful commercial negotiations with a partner country that has a lenient control of mergers can have adverse effects on the exports of firms toward this country.

Key-words: Trade policy – Antitrust – Vertical Integration.

Resumo

Recentemente, as autoridades que regulamentam a concorrência têm percebido que a redução das barreiras governamentais ao comércio pode não resultar no aumento esperado do comércio, devido ao desenvolvimento de práticas anticompetitivas privadas. No presente artigo, abordamos a ligação entre tarifas e importações em um mercado intermediário, quando firmas locais podem reagir ao nível das tarifas adaptando a estrutura vertical da indústria através de fusões e/ou desinvestimentos. Mostramos que negociações comerciais bem-sucedidas com um país parceiro que possua um controle leniente de fusões podem ter efeitos adversos sobre as exportações que empresas realizam para esse país.

Palavras-chave: Política de Comércio – Antitruste – Integração Vertical.

Introduction

In a recent paper, Hamilton and Stiegert (2000) show that a firm producing a finished product can replicate direct government subsidization of exports by private contracts with its input suppliers. An important implication of this result is that countries with lenient antitrust laws can be expected to accept relatively easily the suppression of export subsidies, since they know that local firms can replicate these subsidies[1]. As a consequence, countries with stringent antitrust laws should insist on the harmonization of antitrust laws in negotiations on trade liberalization[2]. Hamilton and Stiegert thus raise the question of the effect of the suppression of export subsidization on international trade in countries in which vertical restraints are regarded without suspicion and largely accepted. In the present paper, we examine the related question of the effect on imports of a reduction in custom duties in a country with lenient control of concentration. Contrary to Hamilton and Stiegert (2000), we consider a market in which an intermediate good is traded and we focus our analysis on vertical concentration between local firms.

It is generally admitted that the structure of an industry is determined endogenously by the private arrangements that firms make to maximize profits given the competitive framework in which they operate. One element of this framework is the presence or absence of foreign competitors on the local market and, in the first case, the level of tariff protecting local firms from foreign competition. Any modification in the level of the tariff is thus susceptible to lead local firms to revise their decisions regarding private structural arrangements. In particular, it can lead a non-integrated upstream firm to merge with a downstream firm or a vertically-integrated firm to split into two separate entities. The resulting modification in the vertical structure of the local industry may of course reinforce the effect of the tariff reduction if the structural changes facilitate foreign penetration, but it may also oppose the effect of a reduction in tariffs if the modification of the industrial structure makes it more difficult for the foreign firm to penetrate the local market. This raises the question of whether a reduction in tariffs can effectively be expected to lead to an increase in the imports of a country in which firms can merge or split without significant limitation through the control of (vertical) concentration exercised by antitrust authorities.

There is a growing literature on vertical integration and trade. Most papers examine the link between the local country's trade policy and the level of supply of a foreign vertically-integrated firm on the domestic market. Focusing on the intermediate market, Spencer and Jones (1991) show how the foreign firm's supply decision is affected by the domestic trade policy. In Spencer and Jones (1992), foreign supply conditions for the input (foreclosure or not) are shown to significantly affect whether imports of this input should be taxed or subsidized. In Ishikawa and Spencer (1999), imports of the input by a foreign integrated firm are shown to reduce the incentive to subsidize exports of final goods. Ishikawa and Lee (1997) analyze the link between the domestic trade policy and the supply strategy of a foreign vertically-integrated firm on the domestic final market. In all of these papers, the focus is on vertical integration in the foreign industry. Vertical integration on the domestic market, when it is considered, is not endogenously determined.

Spencer and Rautbitschek (1996) investigate the decision of domestic downstream firms to form an upstream joint venture and produce domestically the intermediate good (at high cost) in order to reduce the price of imported intermediate goods. This paper, as the previously quoted ones, supposes that the foreign firm exports to penetrate the local market and does not consider the possibility for the foreign firm to set up a subsidiary in the domestic country to produce and sell intermediate goods. The recent evolution of the flows of Foreign Direct Investment (FDI) suggests that it is more and more indispensable to consider the possibility for firms to penetrate foreign markets by taking FDI into account when analyzing international trade. More than ever before, FDI and exports are two terms of just one question: how to maximize the gains from the penetration of a foreign market. Roy and Viaene (1998) investigate

vertical FDI by downstream firms depending on foreign intermediate good supply, so that they can meet their input requirements either by investing abroad and producing the intermediate good internally within their foreign subsidiary or by buying the intermediate good abroad. This paper thus analyses the trade-off between FDI and imports, rather than exports. Furthermore, the emphasis is put on exchange rate uncertainty. In fact, the choice between FDI and exports in a context of imperfect competition is investigated only in papers that consider final markets and put forward the competition for market share in oligopolistic industries, rather than the endogenous vertical restructuring of the industry[3] . Conversely, there is also a large literature on the strategic aspects of vertical integration that do not consider trade policy[4] .

None of the previously quoted models is susceptible to give hints as regards the answer to the question that we want to address. To examine this question, we develop a model of successive markets with imperfect competition at both levels of the industry in which both the (vertical) structure of the local industry and the way foreign firms penetrate the local market (by trade or by FDI) are endogenous. We are encouraged to follow this line by two important empirical observations. The first observation is the incredible boom experienced by the worldwide flows and stock of FDI in the last years. The second observation is that industries are presently profoundly transformed by an unprecedented wave of mergers. This merger wave has two aspects. On the one hand, local industries adapt to the increasing foreign competition. On the other hand, more and more firms are multinationals and the merger wave results in the creation of large multinational groups with worldwide activity. As a consequence, the situation on many markets is that locally implanted firms with a significant market power face competition from multinationals that are (at least initially) not implanted locally and consider the various ways to penetrate the local market. Local and foreign firms are engaged in a strategic interaction that determines both the structure of the local industry and the pattern of international trade.

In our model, a local upstream monopolist produces the intermediate good and supplies a downstream Cournot oligopoly that transforms it into the final good via a Leontief technology. A foreign upstream firm competes with the local monopolist on the intermediate market either by selling in the home country the intermediate good that it produces abroad or by producing locally the intermediate good, which requires that the foreign firm makes an FDI in the home country. There is thus a trade-off for the foreign firm between exporting the intermediate good and making an FDI. The local firm also faces a trade-off, since it can merge with a downstream firm (and compensate the owners of this firm) or limit its activities to the intermediate market. Since we assume that the local firm plays first, the vertical structure of the industry influences the foreign firm's market penetration strategy and the level of imports (if any) in equilibrium. This is precisely what we intend to capture with this model. Import tariffs are exogenous, but comparative static analysis allows us to assert the effect of a reduction in tariffs on imports.

We show that, in this model, it is not always true that a reduction in import tariffs is favorable to international trade in the sense that the foreign firm exports more toward a country that lowers its custom duties on imports. Local firms react to this reduction in import tariffs and this reaction may lead to a modification of the vertical structure of the industry that can have two types of consequences on the level of imports. The first type of consequences is a reduction in imports. This reduction is shown to be caused by a modification of the vertical structure of the industry toward less vertical integration that makes the intermediate market more competitive and more difficult to penetrate. The second type of consequences is that imports simply vanish after the reduction of the tariff. It does not mean that foreign market penetration is deterred, but rather that the foreign firm finds it more profitable to make a direct investment than to export after the decrease in tariffs. This quite surprising result is due to the fact that local firms react to the tariff reduction by a vertical merger and that vertical

integration makes competition on the intermediate market softer, so that the foreign firm can fully realize the benefits of an FDI. This last result leads us to the conclusion that when a country negotiates the reduction of custom duties on imports with a partner country to sustain an exporting industry, it has to be very careful and assert what sort of control vertical concentration is submitted to in the partner country. If a stringent control on vertical concentration is absent in the partner country, successful negotiations may lead to a decrease in exports and the implantation of local firms in the partner country.

The structure of the article is as follows: in section 2, we present the model. Then, in section 3, we examine the impact of vertical integration on the foreign firm's decision as regards the way it penetrates the local market. Finally, in section 4, we establish our main result, namely that the foreign firm's level of export may be reduced, eventually to zero, when the home country lowers its import tariff.

1 A model of successive industries with international trade

We consider a country (the home country in what follows) and a good that is both consumed and produced in this country. It is a final good whose production requires different inputs. We focus on one of those inputs and make the assumption that the production of each unit of the final good requires exactly one unit of this intermediate good, regardless of the quantity of other inputs, which we do not consider. The intermediate good is also produced locally, so that, in the home country, two vertically related industries are involved in the production of the final good: the "upstream" industry produces the intermediate good and the "downstream" industry transforms it into the final good. We consider that there are constant returns to scale in both industries and normalize the unit costs to zero both in the production of the intermediate good and in the transformation of the intermediate good into the final good. Under this assumption, the cost supported by a non-integrated downstream firm is exactly the intermediate price.

There is imperfect competition at both levels of the local industry. The upstream industry is composed of just one firm, the local upstream monopoly, U_L, and the downstream industry is modeled as a Cournot oligopoly. The presence of imperfect competition among local firms creates the possibility for foreign firms to penetrate the local market even in the absence of any cost advantage for them. We focus on the intermediate market and consider a foreign firm U_F interested in penetrating the local intermediate market and competing with the local monopoly.

There are several possible ways for the foreign firm to penetrate the local market. We consider two ways to do it. The first one is to export the intermediate good produced abroad into the home country. The unit cost of production in the foreign country is assumed to be constant, but not necessarily equal to the cost in the local country. This is in fact not essential, because the relevant cost for the foreign firm is the total cost of offering the intermediate good on the local market, namely the sum of the production cost and the export cost. The export cost corresponds mainly to transportation costs and tariffs. We assume that the total export cost, denoted by t, is larger than the cost of producing the good locally, so that even if the foreign firm has a cost advantage, in the sense that the production is less costly in the foreign country, it is more than compensated by the export cost[5]. We assume that t is comprised between zero and ½, which ensures the profitability of exports for the foreign firm.

The second way to penetrate the local market is to make an FDI. In our framework, this means that the foreign firm builds a new plant in the home country to produce the intermediate good[6]. The unit production cost is then equal to zero. This strategy has the advantage of allowing the foreign firm to avoid the export cost and, thus, to compete with the local monopolist on an equal basis. There is in particular a tariff-jumping argument in favor of direct investment. Since direct investment is assumed to have a fixed cost K[7], the limit value of t that ensures the indifference of the foreign firm between export and direct investment is strictly positive as soon as K>0.

The structure of the local industry is a major determinant of this limit value. This structure is determined by the number of firms at each level of the industry, but also by the number of vertically integrated firms in the industry. Whereas the number of firms in each industry is exogenous in the model - there are n downstream firms and one upstream firm -, the number of vertically integrated firms is endogenous and the foreign firm's strategy to penetrate the home market may depend on the local monopolist's integration decision.

In order to take the interaction between the two firms' structural choices into account, we consider a game in which the local monopolist plays first and the foreign firm, after observing the local monopolist's integration strategy, chooses its market penetration strategy[8] . The first two stages of the game are thus as follows:

1.1 Stage 1

U_L makes its choice between vertical integration, i.e. a merger with a downstream firm, and vertical separation, i.e. no merger.

We assume that the local upstream monopolist integrates forward if and only if vertical integration is jointly profitable for itself and the target downstream firm. We assume that the upstream monopolist cannot merge with more than one downstream firm, because we want to analyze purely vertical integration.

1.2 Stage 2

U_F makes its choice between FDI and export.

Then, competition takes place on the intermediate and the final market. As regards the way markets clear, we consider a model of successive oligopolies: upstream firms are price makers on the intermediate market, whereas downstream firms are price takers on the intermediate market and price makers on the final market. The last two stages of the game can thus be described as follows:

1.3 Stage 3

U_L and U_F make simultaneous offers on the intermediate market.

1.4 Stage 4

Downstream firms make simultaneous offers on the final market.

Competition is "a la Cournot" on both the intermediate and the final market. As regards consumers' demand for the final good, we consider a simple form, namely D(p) = 1-p. The resolution is based on the backward induction principle.[9]

2 What vertical integration changes for foreign competitors

It is convenient to decompose the total effect of the vertical integration of the local upstream firm on market equilibrium and profits, in particular the foreign firm's profit, into three effects. First of all, because there is double marginalization in this model in the absence of vertical integration, vertical integration has a *pure efficiency effect*: the downstream division of the integrated firm does not pay the market price for each unit of the intermediate good, but rather the internal transfer price that is equal to the marginal cost of producing the required unit of the intermediate good. Because it no longer has to pay upstream firms' margin, the downstream division perceives the true cost of its input and produces more efficiently. Vertical integration thus leads to a decrease in the production cost of the merging downstream firm. This is the root of the second effect of vertical integration, the *downstream (partial) monopolization effect*: the downstream division of the integrated firm has a cost advantage over its rivals that is exactly equal to the margin on the intermediate market and uses this advantage to increase its market share at the expense of its competitors. Note now that the margin on the intermediate market is determined at least partly by the local upstream firm. When it is integrated, it has a supplementary incentive to raise the margin on the market, because this reinforces the downstream

monopolization effect. In order to achieve a higher level of price on the intermediate market, the local upstream firm is thus a softer competitor for the foreign firm when it is integrated than when it is not. We call this effect the *rising rivals' costs effect*: the integrated firm modifies its reaction function and thus its equilibrium strategy in order to increase its downstream profits, at the expense of a reduction in its upstream profits.

Whereas the first effect has no direct impact on firms other than the two merging ones, it is clear that the second and third effects influence the foreign firm's profit in opposite directions. In fact, the integrated firm is a softer competitor for the foreign firm on the intermediate market, but a tougher competitor for the foreign firm's clients on the final market. Whether vertical integration on the local market is at the advantage or at the disadvantage of the foreign firm depends on the magnitude of the two effects.

Let us now analyze in more details the integrated firm's strategy on the intermediate market. Because it wants the price to be relatively high, the integrated firm reacts to a given quantity offer of the foreign firm by a quantity offer that is smaller than in the absence of integration. We show that, in our model, this rising rivals' costs effect is so strong that the integrated firms would like to make negative quantity offers for any offer of the foreign firm. These negative offers are just the strategic purchases analyzed in Salop and Scheffman (1987) and Gaudet and Van Long (1996). Allowing for such strategies, as we do here[10], leads to result 1.

2.1 Result 1

For any value of the parameters (n, t and K), the local firm makes strategic purchases in equilibrium when it is integrated.

The foreign firm thus faces a competitor that uses its market power on the intermediate market to raise the price on this market in order to reinforce the downstream monopolization effect. This last effect, as we said, is detrimental to the foreign firm, as it reduces the independent downstream firms' demand for inputs. Result 2 shows which of the downstream monopolization effect and the rising rivals' costs effect dominates depending on the value of the parameters.

2.2 Result 2

The foreign firm makes higher profits in the presence of vertical integration if there are at least three firms in the local downstream industry.

Note that this result holds both when the foreign firm makes a direct investment in the home country and when it exports from the foreign country into the home country. This is because, due to the specification of the model, the impact of export costs on the foreign firm's profit takes the form of a product factor equal to (1-2t). Switching from export to direct investment thus allows the foreign firm to increase its profit (gross of the investment cost) by a 1/(1-2t) coefficient. It is thus very easy to analyze the impact of vertical integration not only on the foreign firm's profit, but also on its incentives to make a direct investment - measured by the difference between the gross profit with an FDI and the profit with exports -, and establish result 3.

2.3 Result 3

The foreign firm has a stronger incentive to make a direct investment in the home country in the presence of vertical integration if there are at least three firms in the downstream local industry.

It turns out that the downstream monopolization effect is very strong when the local downstream industry is a duopoly. The integrated firm manages to increase its market share in a large proportion on the final market, at the expense of its rival that notably reduces its output and, as a consequence, its demand for inputs, in particular for the intermediate good produced by the foreign firm. The foreign firm would in the duopoly case prefer the integrated firm to be tougher on the intermediate market and softer on the final market. However, as soon as there are at least three firms on the final market, downstream

monopolization is harder to achieve for the integrated firm and the rising rivals' costs effect dominates the monopolization effect. The foreign firm benefits from vertical integration and has a stronger incentive to achieve a direct investment and take advantage of lower costs in the home market.

To sum up, vertical integration may influence the foreign firm's market penetration strategy in two ways. It may induce an FDI in the sense that the foreign firm would export in the absence of vertical integration, but prefers to invest when the local firm is integrated. This may happen for a number of downstream firms at least equal to three. To the contrary, it may deter investment and, as a consequence, induce export, but only if the downstream industry is a duopoly. Of course, vertical integration may also have no influence on the foreign firm's marketing strategy, either because it always exports - FDI is blockaded, maybe due to a very high fixed cost - or because it always invests, in which case the local firm will accommodate entry.

3 The effect of lower tariffs on the level of imports with endogenous vertical integration in the local industry

For this part of the analysis, it is convenient to think of the foreign firm's trade-off between export and direct investment in terms of the values $t_{vi}(n,K)$ and $t_s(n,K)$ of the total export cost that make the foreign firm indifferent between export and direct investment respectively when the local monopolist is integrated and when it is not. As long as the structure of the local industry is exogenous, these values of the export cost determine the foreign firm's penetration strategy for any n, t and K. In the absence of integration, for example, the foreign firm makes an FDI if $t > t_s(n,K)$. As soon as we take into account the fact that local firms do not simply wait for the foreign firm to adopt a strategy, but anticipate it by adapting the structure of the local industry, the foreign firm's penetration strategy is determined by the values of n, t and K both directly, as previously, and indirectly, through the influence of these parameters on the structure of the local industry. In particular, the total export cost influences both the foreign firm's penetration strategy for each structure of the local industry and the structure of the local industry itself. For this reason, the impact of a modification of the export cost on the foreign firm's strategy is sometimes quite unconventional, as is stated in result 4.

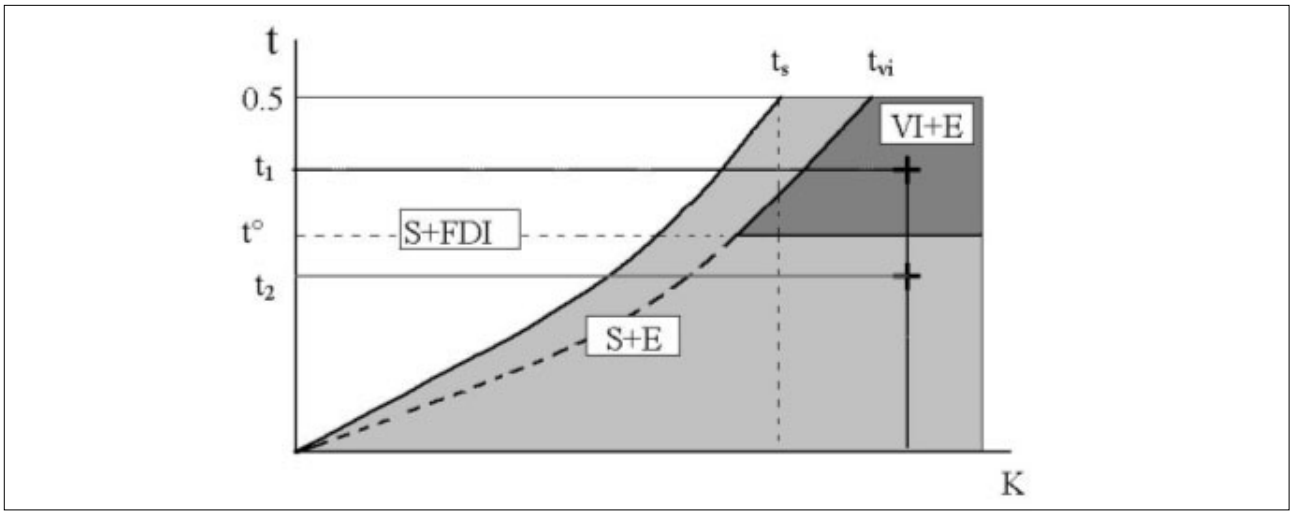
3.1 Result 4

When the vertical structure of the local industry is endogenously determined by the value of n, K and t, a reduction in the unit export cost may lead to a reduction in the quantity exported in equilibrium or even to the abandonment of the export strategy, the foreign firm switching to the direct investment strategy to penetrate the local market.

A reduction in t may of course have the usual, expected effect: it may increase the exported quantity. What result 4 establishes is that there are also cases where the variations of t induce counterintuitive effects on exports. As it should by now be clear, this is related to the impact of t on the structure of the local industry.

Let us first explain why a reduction in t may reduce the exported quantity. Assume that K is very large, so that the foreign firm has no other choice than to export, whatever the structure of the local industry is. Essentially, when t is close to ½, the foreign firm exports a very limited quantity of intermediate good and the downstream firms depend on the local firm for their input supply. It is optimal for the upstream firm to integrate forward and to monopolize the downstream market. When t is equal to zero, vertical integration is not necessarily optimal for the local firm, as the foreign firm can supply the downstream firms at low cost. The monopolization of the downstream market is thus very partial. As soon as there are at least five firms in the downstream industry, it is optimal for the local firm not to integrate forward. As a consequence, the value t° of t such that the local firm is indifferent between integration and separation is comprised between 0 and ½ for n larger than or equal to five. Figure 1 describes the equilibrium of the game for every K and t when n is larger or equal to 5.

Figure 1 – Industry structure and pattern of trade in equilibrium (n=5)

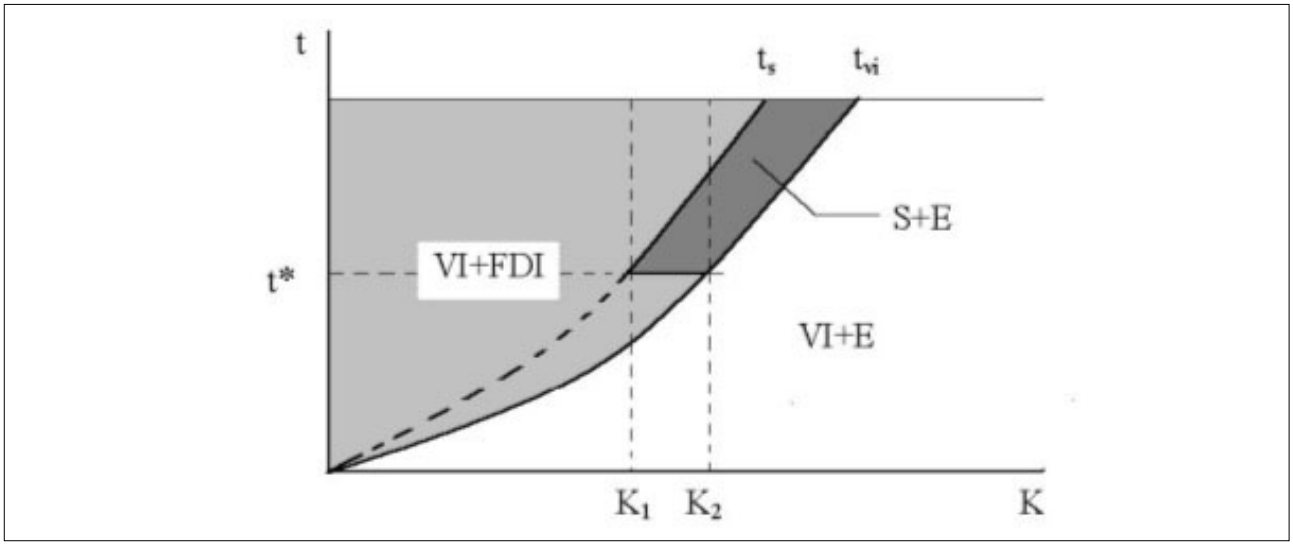


Now consider two values of t, t_1 larger than t° and t_2 lower than t°, and assume that these two values are very close to each other and to t°. When the export cost is t_1, the foreign firm faces an integrated competitor that is soft on the intermediate market, but tough on the final market. When the export cost is t_2, the foreign firm faces a non-integrated competitor that is tough on the intermediate market, but soft on the final market. It turns out that it exports lower quantities than it would do in the presence of integration, because the rising rivals' costs effect would dominate the downstream monopolization effect. Thus, for $t=t_2$, the foreign firm exports less when the local firm is not integrated than when it is.

Since t_1 and t_2 are very close to each other and the local firm is integrated when $t=t_1$, it follows (by continuity of exported quantities) that the foreign firm exports less when $t=t_2$, than when $t=t_1$, although t_2 is lower than t_1.

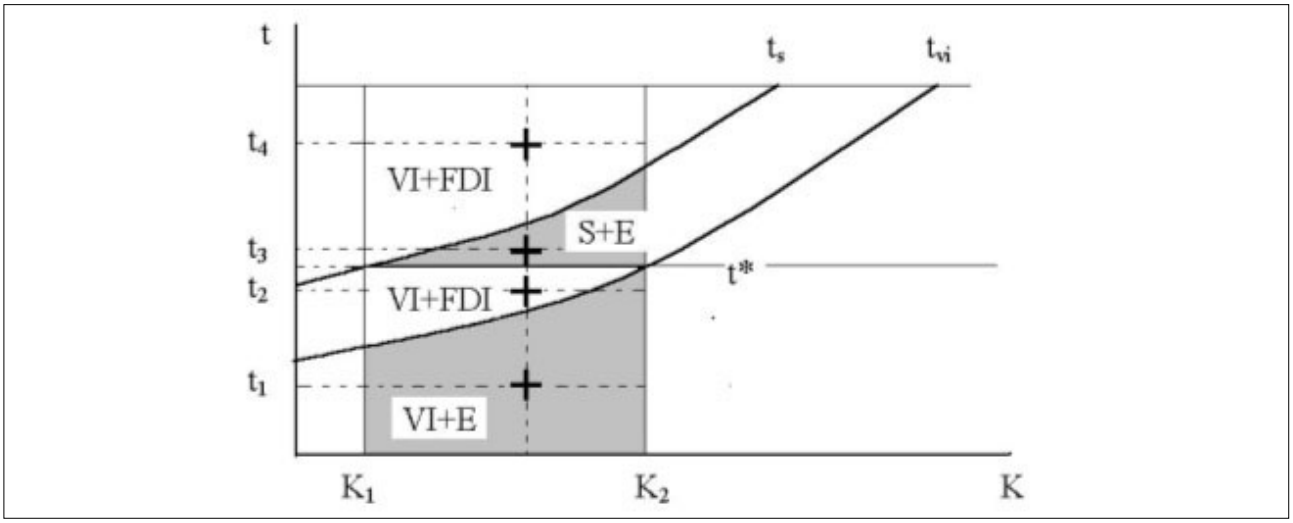
Let us now explain why a reduction in t may induce a switch from export to direct investment in the foreign firm's penetration strategy. Figure 2 describes the vertical structure of the local industry and the pattern of international trade in equilibrium depending on K and t when n is equal to 3 or 4. The value t* is such that the local firm is indifferent between vertical integration with a locally implanted rival and vertical separation with an exporting foreign rival.

Figure 2 – Industry structure and pattern of trade in equilibrium (3=n=4)



Let us consider a value of K comprised between K_1 and K_2 and have a closer look at how the equilibrium evolves when t is modified. See Figure 3.

Figure 3 – Industry structure and pattern of trade in equilibrium (3=n=4; K_1=K=K_2)



For the values of n and K that we consider here, the local firm finds it optimal to be integrated when it faces a locally implanted competitor or when the foreign firm exports, because the downstream monopolization effect dominates the cost of strategic purchases. When $t=t_4$, larger than both t_s and t_{vi}, the foreign firm makes an FDI whatever the local firm's integration decision is. The local firm thus integrates. For $t=t_1$, lower than both t_{vi} and t_s, the local firm finds it optimal to integrate, since the foreign firm exports in any case. Now consider a value of t comprised between t_{vi} and t_s. The local firm faces a trade-off. If it integrates, it can benefit from the downstream monopolization effect that dominates the cost of the rising rivals' costs effect, but it faces an implanted rival instead of a foreign firm exporting from abroad. It appears that both can be optimal, depending on t. When t>t*, the local firm prefers to remain separated, because foreign competition with exports is very soft. Considering t_3 larger than t* and t_2 lower than t*, it is now easy to assert the effect of a reduction in t from t_3 to t_2 on the foreign firm's penetration strategy: it switches from export to direct investment. This is not due to the reduction of t, but to the structural changes in the local industry induced by the reduction in export cost.

The ability of local firms to modify the vertical structure of the industry through private arrangements allows them to react to a reduction in import tariffs and thus makes it difficult to anticipate the effect of this reduction on the level of imports. We show that local firms may react to a reduction in import custom duties by splitting in order to make it more difficult for foreign firms to penetrate the local market. They may also react by vertically integrating in order to accommodate the foreign penetration of the intermediate market. In both cases, the reduction in tariffs leads to a reduction in imports. From the foreign country's viewpoint, the reduction in imports tariffs in the domestic country is not profitable because of the absence of an efficient control of concentrations in this country[11] . In particular, the foreign country should insist not only on a reduction in tariffs, but also on a stringent control of vertical mergers if it does not want to see its firms move to the domestic country.

5 Conclusion

The analysis presented in this article shows that, when competition is imperfect in the domestic market of a country, the commercial partners of this

country should not claim victory too early when they obtain a reduction in the custom duties on imports in this country. This is not because local firms strategically choose their prices and outputs - indeed, this feature does not change anything to the fact that a reduction in import tariffs leads to an increase in imports -, but rather because local firms can merge or split and change the structure of the local industry in a way that is favorable to them, with significant consequences on the level of imports. Of course, a reduction in custom duties does not necessarily induce structural changes. To the contrary, there are many cases in which no structural change occurs and imports increase as expected. However, we show that there are also circumstances in which the tariff reduction induces endogenous structural changes in the local industry that dramatically modify the competitive context of foreign market penetration, so that foreign firms export less or simply cease to export and switch to an FDI strategy. In such cases, the reduction in tariffs is counterproductive from the foreign country's point of view, in particular in the case where local firms stop the local production of the good assigned to export and settles in the partner country. This undesirable effect is all the more likely as firms in the partner country can merge more easily. In other words, the performances of the antitrust authorities in the control of concentration in the partner country should be considered with attention in commercial negotiations, since it is the only protection against the perverse effects that we put in light in this article.[12]

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Notas

[1] The International Competition Policy Advisory Committee notes in its final report: "Nations may promise open markets as far as the state is concerned and undertake substantial liberalization commitments with respect to governmental practices, but at the same time allow, by action or inaction, blockage of their markets by firms' anticompetitive restraints". Similar statements can be found in the Report of the American Bar Association (ABA) Sections of Antitrust Law and International Law and Practice Concerning Private Anticompetitive Practices as Market Access Barriers, that also provides several examples of such situations.

[2] Since the Singapore 1996 ministerial, a Working Group on the Interaction between Trade and Competition Policy exists within the WTO. More recently, this topic was discussed at the November 1999 WTO talks in Seattle. However, a comprehensive multilateral competition policy agreement apparently cannot be expected in the near future. On the role of international organizations in general and the issue of a multilateral agreement on competition policy within the WTO in particular, see ICPAC (2000).

[3] See, in particular, Smith (1987), Horstmann and Markusen (1987) and Motta (1992).

[4] See, in particular, Salinger (1988), Ordover, Saloner and Salop (1990), Hart and Tirole (1990), Gaudet and Van Long (1996), Avenel and Barlet (2000).

[5] We assume that eventual export subsidies, thus reducing the total export cost, are not so great as to give the foreign firm a cost advantage over the local firm.

[6] Acquiring an interest in local firms is impossible, except if it consists in acquiring an interest in the domestic monopolist, which would have no effect on the equilibrium. Licensing, in this static context of perfect information, is, from the local monopolist's point of view, equivalent to the setting up of a production unit by the foreign firm.

[7] If K is so high that direct investment cannot be profitable, the foreign firm exports for $t=0.5$ and does not penetrate the local market for $t>0.5$.

[8] This timing seems more likely than the opposite one. The local firm, already set up, can anticipate and take into account the foreign firm's entry, while the foreign firm, not yet present on the market, cannot easily act in order to influence the local firm's strategy in a favorable way.

[9] Expressions and proofs are in an appendix available from the authors.

[10] If strategic purchases are not allowed, the firm forecloses its downstream rivals. The results are not qualitatively different. See Avenel and Barlet (1999).

[11] Note that when exports are replaced by FDI, the foreign firm may benefit from lower tariffs, making more profits as an implanted firm than as an exporting firm with the previous level of tariffs. However, we do not include the profits made in the local country by the foreign firm in the foreign country's welfare, since we ignore what part of this profit goes back to the foreign country. The welfare of the foreign country is thus reduced and the foreign country is armed by the FDI.

[12] There are two main possibilities to challenge anticompetitive practices taking place in a foreign country: positive comity and extraterritorial antitrust enforcement. However, none of these applies to the control of concentration between firms operating exclusively on a foreign market.