

Theoretical Controversies on Strategic Trade Policy

Liviu-George MAHA, Ion IGNAT
Alexandru Ioan Cuza University of Iasi, ROMANIA
mlg@uaic.ro
ignation@uaic.ro

Andrei Teofil POSTOLACHI, PhD Student
Alexandru Ioan Cuza University of Iași, ROMANIA
at.postolachi@gmail.com

Abstract: *During the 1980's, a major change of paradigm could be identified in international trade theories, which completed the traditional one that had its bases on the comparative advantage. The present paper makes a description of the way in which strategic policies, as significant part of trade theory, were analysed and modelled by various economists, highlighting the results of adopting such policy. The specificity of these analyses is the variety of conditions and variables taken into account, which led to relatively homogenous general conclusions creating at the same time some particular issues linked to the implementation of a strategic policy.*

Keywords: *international trade theory, strategic trade policy, subsidies*

Introduction

“Strategic trade policy is a taxonomic umbrella.” [1, 107], so under this umbrella a family of related approaches from economics and political science can be found. From the economic field come analyses of government policy under imperfect competition with or without important unpriced side effects on growth rates and productivity. From political science come analyses of trends in post-war trade regimes based on hegemony or other sorts of power relations and the resurgence of interest in economic “statecraft” - commercial diplomacy and sanctions. [1, 107] Our interest concerning the present paper is the economic space rather the political one.

The general concept of trade policy is one widely debated on literature and linked to our proposal in present paper and that's why is necessary to emphasize the classification made by Nollen and Quinn (1994) on trade policies, with the specification that authors customized the classification on U.S. case study:

- *Free trade* is the main goal of neoclassical economics. It assumes a free market regime in the international field, and its main objective is the achievement of “maximum production and consumption possibilities for citizens of all nations, given each nation's resource endowments”. [2, 493] The role of governments is to prevent market imperfections by supporting free trade policies that should reduce and sometimes eliminate subsidies, contingents or tariffs with direct implication in trade with products or services. This means minimum intervention on price, features or quantity.

- *Protectionism*, which has the objective of impeding or decelerating the economic adjustments (like “geographical relocation of production, change in product lines or displacement of labour” [2, 494]) that otherwise, would have to be made in the conditions of increasing international trade. The protected sector should benefit from these restrictions by adding a higher income and a lower unemployment rate.

- *Fair trade* is a policy of struggling against unfair practices on trade adopted by other countries, in order to “restore outcomes that would prevail under free trade” [2, 495]. In essence fair trade policies mean reciprocity in suchlike product markets. One country might ask access to a foreign market for a product category, and in return it grants access to the national market for the same category of products. This of course means reciprocity but it can mean fairness for the first country and in the same time unfairness for the second. That is why in many cases the fair trade can be seen as a protectionist action, and distinguish between fair and unfair must take into consideration the overall conditions and results.

- *Strategic trade*, that promotes “competitiveness of domestic firms in key industries at the expense of foreign firms” [2, 497]. So, these kinds of policies are applied in case of oligopolies, with a low number of companies that compete on world market and products that are characterised by a high level of technology and need of large capital to put them in the product lines. And so it appears the need of large expenses on research and development (R&D). There is mutually accepted that, in this conditions firms that enter first into the market have greater chances to succeed, despite the firms that get into the market later.

1. Evidences of the Concept of Strategic Trade Policy in Literature

Most countries are using different types of policies in order to sustain or to improve certain segments in the economic field. Of course, the main interest of government by applying this kind of policies is supposed to be justified especially when we are talking about the domestic field. The government’s action can be seen in two different ways: directly on market by offering export subsidies or adopting higher import tariffs (by setting prices or quantity levels), or it can use subsidies to R&D, direct investment to internal firms, products quality; and so their development on the global market takes a turn in the way that the competition can be diverted from some third markets. In this way most literature leads to the idea that strategic trade policy can change the relationship between foreign and national companies. The framework of all theories is the one provided by imperfect competition.

Krugman (1986) said “imperfectly competitive does not mean that competition is not fierce or that the firms are somehow misbehaving” [3, 9]. This means that simple economic concepts of demand and supply aren’t capable to explain widely and completely the movements and actions that take place on markets. Imperfect competition takes places also in real world but especially in the economic analysis.

Also Helpman and Krugman (1989) provide an example about how governments can influence international trade by intervening on local market. [4, 145] For instance they were talking about the two biggest companies on aircraft industry: Airbus and Boeing and the possibility of building a brand new plane. The whole process is one that needs first of all, time, and secondly it involves great financial and monetary costs (taking into consideration the fact that they were talking about a brand new product and the costs included planning, developing, production and selling). So there is a dispute between companies, in which they try to convince themselves about the commitment of producing, and the result is often related to the fact that one of them gives up. However in this kind of situation some government policy could intervene and can alter perfect competitiveness. It means for example that Airbus can benefit from the European governments payments on a production subsidy, which will allow them to entry the market even though Boeing enters as well. In this situation Boeing should realize that entering the market could become unprofitable, and so they can leave the market to Airbus, which will enlarge their profits not only from the subsidy, but also from the sole possession of the market. “Ignoring consumer costs, this will raise European national income at American expense.” [5]

The strategic trade policy means that governments give home companies enough support with the goal of obtaining a competitive position in the international market. Regarding the example offered above, we can make an analysis of the two companies in two scenarios: with and without government intervention.

In first case, the assumption is that Boeing and Airbus are in the position to develop a new product, addressed to external markets, do not receive any governmental subsidy, and only one of them can achieve profits. The figure below shows that the profits are of 10 percent for the company that enters alone, while both enter the market, they would lose 10% each, especially due to relatively small market and high costs.

The conclusion is that the firm which enters first will cash out the profits, because the other firm should realise the results of both presence on market, so it will stay out.

In the situation that Airbus benefits from government subsidy, available in Figure 2, it will act independently on Boeing’s action, because it will have profit whether Boeing enters or not, so the most probable action is

entering the market. On the other hand if Boeing enters, in the absence of subsidies it will have the same loss (-10%) as in the first situation, and so the decision will be a refuse to enter.

		BOEING	
		Enter	Do not enter
AIRBUS	Enter	A: -10 B: -10	A: 100 B: 0
	Do not enter	A: 0 B: 100	A: 0 B: 0

Figure 1. Profits gains in the absence of subsidy

		BOEING	
		Enter	Do not enter
AIRBUS	Enter	A: 10 B: -10	A: 120 B: 0
	Do not enter	A: 0 B: 100	A: 0 B: 0

Figure 2. Profits gains if European governments grant a 20 subsidy to Airbus

The same idea can be found in Eaton and Grossman’s paper (1986) - “government policies that affect the competitiveness of their firms in international markets, as well as the welfare of their consumers, involve not only traditional trade policy (trade taxes and subsidies) but policies that affect other aspects of firms' costs, such as output taxes and subsidies”. [6, 383] However the dispute in this area takes place at the meeting point of two main directions: free trade and protectionism. While under the coverage of free trade there is no interest to adopt specific strategies because of the perfect competition that is given by a free market which will offer the right signals; governments act as protectors for internal firms giving them strategic advantages, of course being first of all, rightly informed about the specific industry which it must protect and the magnitude of the measurements. When not all of this information is available, free trade may still be the best commercial policy [7, 1184] because there is the impeding danger that other actors on international stage may react, for example by starting a commercial war that could harm both sides.

Subsidizing the research and development (R&D) is one of the common strategic policies adopted by governments in their attempt to increase domestic income by improving national firm’s activity on international market. Generally, the subsidy rates are one of the most important indicators of government’s assistance, and as we said above, the final goal is the cost reduction. Measuring the assistance through subsidy rates can provide a briefly comparison of countries around the world, and according to Table 1 below, there are differences between France with an average of 40%; Spain, Canada, India and Brazil with percentages around 30% and countries like Russia and Switzerland with rates near zero. Comparing these results we are able to identify the signals of imperfect competition among countries, even though the subsidies are still hazy in the direction of being part of perfect or imperfect competition.

As it can be seen in Table no 2, in France (the country with the highest percentage in subsidy rates in R&D according to Table no 1) the R&D subsidies rates in total R&D investment has decreased more than three times in twelve years. However it can be pointed that the highest rates are in second half of the 1980’, the period of wide spreading of the enforcement of strategic policies in international trade. This is also the main reason why most of literature is dated during this period.

Table no 1

**Subsidy Rates on Investment in R&D (%), Department of Finance Canada,
Tax Expenditures and Evaluations, (2009)**

<i>Country</i>	<i>Large firms</i>	<i>Small firms</i>	<i>Combined Large/Small</i>	<i>Combined Ranking</i>
France	38.6	47.6	40.2	1
Spain	34.1	36.9	34.5	2
Canada	26.9	46.0	30.2	3
India	29.3	31.7	29.7	4
Brazil	28.9	33.0	29.6	5
Hungary	26.1	26.8	26.2	6
Ireland	26.2	26.1	26.2	7
Turkey	23.5	26.3	24.0	8
Czech Republic	22.1	24.7	22.5	9
United Kingdom	21.1	22.8	21.4	10
Japan	18.0	23.2	18.9	11
China	17.1	18.8	17.7	12
Norway	15.9	24.6	17.4	13
Australia	14.2	15.5	14.4	14
Singapore	12.6	12.9	12.7	15
Korea	12.1	14.2	12.4	16
Belgium	11.3	9.6	11.0	17
Austria	10.8	12.0	11.0	18
Netherlands	10.0	12.2	10.3	19
United States	9.1	10.0	9.2	20
Italy	4.9	17.5	7.0	21
Greece	3.2	4.1	3.4	22
Finland	3.1	3.4	3.1	23
Mexico	2.7	3.3	2.8	24
New Zealand	2.4	3.7	2.6	25
Luxemburg	2.3	3.5	2.5	26
Denmark	2.3	3.0	2.4	27
Sweden	2.1	3.2	2.3	28
Slovak Republic	2.2	2.3	2.2	29
Germany	1.6	3.3	1.9	30
Hong Kong	1.9	2.0	1.9	31
Portugal	1.5	3.3	1.8	32
Poland	1.5	2.3	1.6	33
Iceland	1.3	1.7	1.3	34
Switzerland	0.4	2.6	0.8	35
Russian Federation	0.2	0.6	0.3	36
Unweighted average	12.3	14.9	12.7	
Median	10.4	12.1	10.7	

Table no 2

**Evolution of R&D subsidies in France
between 1985 and 1997 (Duguet, 2004)**

(Unit) Variable	Number of firms (X)	(Billions) Sales	(Millions) Total R&D	(Millions) R&D subsidies	Firms with a subsidy (%)	(%) R&D/Sales	R&D subsidies/ Total R&D (%)
1985	1032	158	6985	1680	34.4	4.4	24.0
1986	1032	159	7567	1756	32.7	4.7	23.2
1987	1126	168	8610	1975	28.0	5.1	22.9
1988	1236	174	9483	2115	29.5	5.4	22.3
1989	1230	190	9923	1820	31.2	5.2	18.3
1990	1316	214	11727	2157	31.1	5.5	18.4
1991	1407	254	1462	2907	34.5	5.8	19.9

1			3				
199	1396	267	1440	2641	34.3	5.4	18.3
2			4				
199	1445	258	1466	2415	33.5	5.7	16.5
3			3				
199	1633	281	1547	2393	32.1	5.5	15.5
4			7				
199	1665	292	1465	1666	27.9	5.0	11.4
5			9				
199	1672	293	1436	1388	27.8	4.9	9.7
6			1				
199	1618	297	1347	958	26.3	4.5	7.1
7			6				

In this context there is an unclear situation, on the one hand the WTO (World Trade Organization) and other institutions “restrict the use of trade policy and of production subsidies”, while on the other hand “individual countries are free to set their R&D subsidies autonomously”. [8, 1127] The usage of R&D subsidies give the policymakers the possibility of gaining from two directions; firstly from the protection of the national economy, and secondly from raising the gains from international trade.

The theoretical debates on strategic trade policies take into consideration the rising number of variables in their analytical models, and the whole interest about this action was outlined during de 1980's, with the first studies made by Brander and Spencer (1983 and 1985), which increased the interest on the effects of strategic trade policies. The example offered above with companies like Airbus and Boeing might create the specific landscape for protectionists that are in the favour of adopting aggressive trade policies.

They were taking into consideration an international duopoly, called later by Brander (1995) a “third-country model” [9, 1431], by which they identified the typically effects of implementing a strategic policy in the commercial area. Actually, these “third-country” models considered two companies, a domestic one and a foreign one, under Cournot competition (the companies are not cooperating and have market power, each one's output decision is affecting the price and there is a competition in quantities) which produced a homogeneous product sold only in a third market. Firms are considered to be economically rational and usually, throughout the strategic plan, they are seeking to maximize profit given by their competitor decisions. The domestic government cannot avoid that the foreign company exports to the third country, but it can help its company by implementing a commercial policy. If the domestic government sets an export subsidy in the first stage, national welfare increases because it makes the threat credible that the domestic company will increase production and, so, the rival company decides to reduce production and exports. National welfare increases since firms revenue increases more than the subsidy value. [7, 1184] It was in many ways the point from which later authors gave their contribution giving some extensions to the model such as: governments of both countries can adopt different strategic policies at the same time, asymmetries in the informational field, extending the duopoly to a greater number of firms (oligopoly).

Choosing the optimal trade policy must be aware about the specification of market structure and firms behaviour. A number of works considered that the model of Bertrand competition (this means that the products have same qualities, there is no cooperation between firms and the competition is given by the fact that they are establishing prices at the same moment, the consumers would buy the cheaper price), with a “third market” duopoly where the goods produced (one in each country) are substitutes, shows that the sense of the optimal trade policy depends on the form of competition. So Eaton and Grossman (1986) identified the two types of competitiveness: “quantity competition (where goods are strategic substitutes) the optimal trade policy is an export subsidy, while under price competition (where goods are strategic complements) the optimal trade policy is an export tax”. [6]

There is a wide debate on the strategic policies adopted by governments, such as those linked to the environment. Riveiro (2008) showed that the outcome, the existence of environmental regulation increasing the production costs of firms requires, in order to maximize welfare, a stronger trade policy when firms compete in quantities and a weaker trade policy under price competition and that, therefore, the strategic use

of environmental policy as a substitute of trade policy consists in weakening that policy in the former case and strengthening it in the latter one, depend on the way in which environmental regulation is determined. [7, 1184] In addition to that, Conrad (1993) and Barret (1994) found out that in conditions of environmental regulation, under a quantitative competition, they can “reduce the welfare if no policy trade is applied, and so to maximize the welfare the government must adopt a higher export subsidy that it would have been required in the absence of environment regulation; on the other side there is need of a weaker regulation in the absence of trade policy” [12, 330; 13, 128].

Impullitti (2010) made a quantitative model which showed that a higher competition on international relations can lead to “a *business-stealing* effect that reduces domestic profits and income, thus affecting negatively, and a *growth* effect that raises welfare” [8, 1129]. Depending on the dimension of these two effects it can be determined an overall change in the national welfare. However there is a direct link between R&D subsidies on foreign firms and national ones, an R&D level of efficiency that is produced by a foreign entry and that is increasingly higher, would increase also a “*consumer surplus* motive for subsidies” [8, 1129]; and so, as a conclusion, if foreign competition becomes more tight, the level of subsidies on domestic firms will increase.

2. Criticism

Of course there has also been some criticism of the theory of Brander and Spencer, such as Engelmann and Normann (2007) who tested the model in which they reported results from an “experiment designed to test strategic trade policy in laboratory markets.” [14, 145] The result showed that the usual action of governments in subsidizing firms takes places in a few number of cases. This is not because of a national policy, beyond the common will, the companies’ strategies are also very important.

When government takes the role of a new participant whose payoff is the national welfare, “its intervention, setting the trade policy, conditions the payoffs to firms. In that case, there is a two stage game: government policy is set in the first stage and, given that, firms simultaneously choose their strategies in the second stage.” [7, 1194] So for getting the expected results a cohesion between the individual and common acts is mainly asked.

As Bradner (1995) offered for example, it has been persuasively asserted that interventionist policies in countries like Japan, Korea and France have had important effects in allowing industries and individual firms in those countries to develop a strong international presence. “Perhaps more interestingly, one could speculate that the pattern of U.S. high technology production and exports is due in large part to three important interventions. Most importantly, U.S. policy has provided very substantial R&D subsidies to many industries through its heavily subsidized and very productive university research sector. In combination with local agglomeration effects, such as those in evidence at “Silicon Valley” near Stanford University, these R&D subsidies have apparently had a large impact.” [9, 1445-1446] We can consider all above that are results, practical ones in the real world as impacts of adopting different types of strategies by the government, but in every case mentioned above the internal strategies of companies came always in addition with public directions.

“Subtler but equally controversial in the Brander–Spencer model is the assumption that governments have complete information about the economy. Even if governments actually possess such information, it still begs the question of how or from where they obtain such information.” [15, 230-231] This covers up a new problematic aspect about the source of the government information, which naturally should be given by firms; and this was the framework that Creane and Miyagiwa (2008) researched in order to examine the conditions accepted by firms to give necessary information to governments. They revealed the fact that between governments and firms should be a wide channel for information transfer, especially about the costs opportunities that governments should allow. But on the other side there must be also a link between the third countries demands which should alter both firms in the other two countries. And so when the demand is high, it means that both countries will give subsidies to the companies which deal with the domain in which the demand is high. In this case the winner is the firm which receives the greatest subsidy. If the demand lowers, governments should restrict the strategy, because of the possibility of smaller dissolution.

So information is essential, and can provide a most appropriate image about the behaviour and kind of action of other governments. In this way the anticipation of others actions is fairly close to reality, and own actions should bring better results.

Another problem regarding the level of subsidies granted by governments takes into consideration the real possibilities to pay them. This means that developed countries, with high rates of GDP or national income are able to give bigger subsidies to specific industries, and so we can talk about imperfect competition at global level. And also there is the problem of choosing the right industries, because although strategic policies refer to a small number of industries, considered with the highest strategic potential, subsidizing one of them can relocate resources away from others. Even if we analysed from economic point of view, it is obvious that politics mainly decide the direction of subsidies.

Richardson (1990) argued that “policy to promote or preserve a country's own market power and excess profits by deterring market entry of foreign competitors is sometimes in the national economic interest.” [1, 116] In some situations “research and development facilities or research consortia that are concentrated, unified, and free from fear of antitrust may preserve technological impetus and promote diffusion better than decentralized competition among small, competitively vulnerable and secretive laboratories.” [1, 116] This is the same situation when we are talking about competition on a global market. Different kinds of firms are somehow entitled to benefit from some national policies, especially on trade, because they are participating in more or less percentage at the cumulative wealth.

Conclusions

When we are talking about strategic trade policy, and its treatment in literature we must be aware that essence of theory is based on models offered in the middle 1980's, starting with Brander and Spencer, who concluded in their firsts studies that, in some circumstances (number of companies is fixed; usually there are two companies: domestic and foreign; competition between them takes place on third markets; products are sold only abroad, not in own markets; wages are considered constant during the analysis of the model) if a “government subsidies a domestic company who competes in global market; the national welfare in the company's country should increase” [10, 11].

A higher domestic welfare is the main target of any government policy. Due to this objective, there are a set of actions that can lead to such aim. The whole theoretical reminders in this article refer to policies of nations that have effect, or come from the international trade. Strategic trade policies are identified being a form of protectionism under free trade, meaning that the raise of internal welfare is obtained through trade. We can consider protectionist because of the imperfect competition created in the global market by adopting a strategic action on a specific industry in some countries, policies that aren't available to other countries, so then appears the differences between companies in different countries. In the same time we can put the strategic trade policies under free trade because of the “freedom” of costs. As we seen above mostly strategic policies are applied especially in the direction of decreasing costs by giving subsidies, but the result of this action leads to an imperfect competition in the relation with similar companies in other countries.

Developed countries are able to offer strongest incentives in order to introduce competition policy when trade costs are high. On the other hand, less developed countries can offer incentives only when trade costs have come down.

It is obvious that traditional trade policies were based on a simple comparative advantage and the new ones considered that trade was based on a higher and more complex factors involved. Some of them can be related to the government's decision on type and scale of policy, industries affected, international market structure and the strategic policy applied by other countries. However the general framework of all studies is based on two main conditions: imperfect competition and the existence of an oligopoly.

Acknowledgements: This work received financial support through the project “Post-Doctoral Studies in Economics: continuous training program for elite researchers - SPODE”, contract no. POSDRU/89/1.5/S/61755, financed by the European Social Fund in Romania through the Sector Operational Program *Human Resources Development* 2007-2013.

References

- [1] Richardson, J., D., (1990), *The political economy of strategic trade policy*, International Organization, No. 44 , p. 107-135
- [2] Nollen, S., D., Quinn, D., P., (1994), *Free trade, fair trade, strategic trade, and protectionism in the U.S. Congress, 1987-88*, International Organization, Vol. 48, No. 3, p. 491-525
- [3] Krugman, P., R., (1986), *Strategic Trade policy and the New International Economics*, Cambridge, Mass.: MIT Press
- [4] Helpman, E., Krugman, P., R., (1989), *Trade Policy and Market Structure*, Massachusetts Institute of Technology
- [5] Dixit, A., Kyle, A., S., (1985), *The use of protection and subsidies for entry promotion and deterrence*, American Economic Review, Nr. 75, p. 139-152
- [6] Eaton, J., Grossman, G., (1986), *Optimal trade and industrial policy under oligopoly*, Quarterly Journal of Economics 101, p. 383-406
- [7] Riveiro, D., (2008), *Environmental policy and commercial policy: The strategic use of environmental regulation*, Economic Modelling, Nr. 25, p. 1183-1195
- [8] Impullitti, G., (2010), *International Competition and U.S. R&D Subsidies: A Quantitative Welfare Analysis*, International Economic Review, Vol.51, No. 4, p. 1127-1158
- [9] Brander, J., A., *Strategic Trade Policy*, in Grossman, G., Rogoff, K., (1995), (Edd): *Handbook of International economics*, Vol. III, Elsevier Science B.V., p. 1395-1455
- [10] Brander, J., Spencer, B., (1983), *International R&D rivalry and industrial strategy*, Review of Economic Studies, Nr. 50, p. 707-722
- [11] Brander, J., Spencer, B., (1985), *Export subsidies and international market share rivalry*, Journal of International Trade, Nr. 18, p. 83-91
- [12] Barrett, S., (1994), *Strategic environmental policy and international trade*, Journal of Public Economics 54, p. 325-338
- [13] Conrad, K., (1993), *Taxes and subsidies for pollution-intensive industries as trade policies*, Journal of Environmental Economics and Management 25, p. 121-135
- [14] Engelmann, D., Normann, H-T., (2007), *An experimental test of strategic trade policy*, Journal of Economic Behaviour & Organization, Vol. 64, p. 144-156
- [15] Creane, A., Miyagiwa, K., (2008), *Information and disclosure in strategic trade policy*, Journal of International Economics 75, p. 229-244
- [16] Dugué, E., (2004), *Are R&D subsidies a substitute or a complement to privately funded R&D?, An econometric analysis at the firm level*, Revue d'économie politique, 2, Vol. 114, p. 245-274.