

## The scope for industrial policy in a free trade environment\*

*O escopo da política industrial em um  
ambiente de livre comércio*

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**RESUMO:** O artigo discute o dilema contemporâneo de política industrial, que consiste em definir estratégias nacionais de crescimento coerentes com a dinâmica de uma economia globalizada. O argumento se compõe de três partes. A primeira sugere que o conceito de firma proposto por Coase em 1937 é um instrumento fundamental para analisar as mudanças ocorridas nos anos 80 nos padrões internacionais de concorrência. A segunda descreve a dimensão doméstica do dilema de política industrial, mostrando as restrições de caráter macroeconômico e o papel das instituições reguladoras do poder econômico. A terceira considera a dimensão internacional, destacando a importância do GATT como um fórum de negociação dos conflitos entre políticas domésticas e interesses internacionais.

**PALAVRAS-CHAVE:** Política industrial; globalização; comércio internacional.

**ABSTRACT:** The article discusses the contemporary dilemma of industrial policy, which consists of defining national growth strategies consistent with the dynamics of a globalized economy. The argument consists of three parts. The first suggests that the concept of firm proposed by Coase in 1937 is a fundamental instrument for analyzing the changes that occurred in the 1980s in international competition standards. The second describes the domestic dimension of the industrial policy dilemma, showing the macroeconomic restrictions and the role of the institutions that regulate economic power. The third considers the international dimension, highlighting the importance of GATT as a forum for negotiating conflicts between domestic policies and international interests.

**KEYWORDS:** Industrial policy; globalization; trade.

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## 1. INTRODUCTION

In his book *The Work of Nations*, Robert Reich highlights one of the most compelling characteristics of our times: the survival of national States within the framework of a global economy.

“Each nation’s primary political task will be to cope with the centrifugal forces of the global economy which tear at the ties binding citizens together – bestowing ever greater wealth on the most skilled and insightful, while consigning the less skilled to a declining standard of living. As borders become ever more meaningless in economic terms, those citizens best positioned to thrive in the world market are tempted to slip the bonds of national allegiance, and by so doing disengage themselves from their less favored fellows” (p. 3).

This tension is present at several ongoing processes in the world economy, such as the trend towards regional economic integration, the Uruguay Round of multilateral negotiations of the GATT – General Agreement on Tariffs and Trade –, and the constant mutations in the time-honored battle between free traders and protectionists. From the perspective of industrial organization, it appears under the format of an intricate challenge for policy makers. During the last twenty years, technical progress has allowed a dramatic reduction in the costs of information and data processing, through innovations such as personal computers, modems, and fax machines. These technologies form the core of the present trend towards globalization, that signifies, among other things, a standardization of business practices and expectations. Until recently, only transnational corporations were able to maintain weekly contacts with their clients and partners in different countries. Today, small firms have online access to international data banks, and can watch the daily behavior of their foreign competitors. In this context, several conventional instruments of industrial policy (such as tariffs, quotas, and capital controls) become anachronisms that are incompatible with the material base of contemporary society. They are either worthless or unnecessary sources of commercial complaints at home and abroad.

However, the continual re-creation of uneven conditions of competition is intrinsic to technical progress, and this characteristic has been particularly intense in the recent past. This generates two sources of protectionist pressures. On the one hand, innovating firms lobby for regulations that will allow them to extend the period during which they can extract Schumpeterian rents from their new technologies. Such regulations seldom imply explicit barriers to merchandise trade, but to the knowledge embodied in the innovations, i.e., legislation on patents, trademarks, licensing, and other instruments to preserve intellectual property. On the other hand, industries that suddenly became obsolete push for temporary relief, in order to restructure and regain international competitiveness.

Thus, while the gains from global competition become more appealing, domes-

tic industries press their governments for privileges in order to enter into that game. This is the contemporary dilemma of industrial policy: how to create special conditions for capital accumulation at home, without establishing direct constraints on the international movements of citizens, goods, and financial resources?

The objective of this paper is to discuss the industrial policy dilemma in three steps. The first, presented in section 2, is a brief inquiry on the analytical instruments that explain the process of competition in a global economy. It will be argued that Ronald Coase's classical paper on "The nature of the firm" (1937) provides a basic tool to deal with corporation strategies, namely, the interplay between the costs of production and transaction. As Coase's approach is complementary to the theories on contestable markets and Schumpeterian competition, his contribution can be integrated into a general framework that covers the two relevant themes of any study on international competitiveness: the firm and the industry structure. The second and third steps, presented in sections 3 and 4, refer, respectively, to the domestic and the international dimensions of the industrial policy dilemma. The essence of the argument to be made is that, nowadays, every country – whatever its size or development stage – must carry out its public policies under constraints imposed by global competition. What varies among nations is their ability to draw a clear-cut borderline between homework and international bargaining. The paper's main conclusions are summarized in section 5.

## 2. INTELLIGENT FIRMS, SUSTAINABLE CONFIGURATIONS AND SCHUMPETERIAN COMPETITION

A convincing explanation for the managerial innovations that have been changing the competition patterns of the world economy since the mid-eighties was provided, although indirectly, by Coase, in 1937. His paper on "The nature of the firm" contains an insightful answer to three basic questions for the theory of industrial organization: why firms exist, what determines the number of firms and what determines firms' activities. His answer is well known: it all depends on the relation between production costs and transaction costs.

Transaction costs, in Carl Dahlman's neat definition, are "search and information costs, bargaining and decision costs, policing and enforcement costs" (1979, p. 148). Thus, as Coase restated recently,

"although production could be carried out in a completely decentralized way by means of contracts between individuals, the fact that it costs something to enter into these transactions means that firms will emerge to organize what would otherwise be market transactions whenever their costs were less than the costs of carrying out the transactions through the market. The limit to the size of the firm is set where its costs of organizing a transaction become equal to the cost of carrying it out through the market. This determines what the firm buys, produces and sells" (1988, p. 7).

The ratio between production costs and transaction costs is a direct function of existing technologies. Whenever technical progress reduces more intensively the former than the latter type of costs, the likely trend will be towards larger firms, vertical integration, and economic concentration; and vice-versa. In the recent past, as the rate of innovations has been similar in *both* directions, a rather peculiar situation is emerging. On the one hand, new economies of scale are pushing towards a greater internationalization of production lines. On the other, diminishing information costs are generating new economies of *scope*, i.e., new opportunities for rearranging production vectors. Thus, as Reich (1991) pointed out,

“while competition among high-volume producers continues to compress profits on everything that is uniform, routine, and standard – that is, on anything that can be made, reproduced, or extracted in volume almost anywhere on the globe – successful businesses in advanced nations are moving to a higher ground based on specially tailored products and services. The new barrier to entry is not volume or price; it is skill in finding the right fit between particular technologies and particular markets. Core corporations no longer focus on products as such; their business strategies increasingly center upon specialized knowledge” (p. 84).

These changes have been crystallized under the concept of *intelligent enterprises*, created by James Brian Quinn (1992): those firms that are able to narrowly define their core capabilities, and concentrate their output exclusively on those activities they can perform according to the best international practice. Every item included in the firm’s output vector that can’t be produced under this rule must be subcontracted or bought from external suppliers. “Intelligent” firms are (very often) small or medium sized, have a “flat” organizational layout, and their main strategic weapon is human capital. They constitute a contemporary illustration of Coase’s approach.

Although no general survey has been published yet, there is a flourishing literature on the diffusion of managerial innovations inspired by the notion of “intelligent” enterprises, and on the new roles for small and medium firms in the world economy. However, it is interesting to notice that this literature also registers the revitalization of large corporations, and the corresponding trend towards economic concentration in several branches of industries. The theories on contestable markets and on Schumpeterian competition may explain these mixed trends.

The contestable markets theory addresses the same questions raised by Coase, but from a slightly different perspective. Instead of focusing on firms’ activities, it is more concerned with the determination of industry structure. According to this theory, an industry configuration (i.e., its number of incumbent firms, their respective output vectors, market shares, and price vectors) results from the interaction of three variables: the nature of available productive techniques, market size, and potential competition. One fundamental concept in this theory is that of *sustainable configuration*. It is ...

“a price vector and a set of output vectors, one for each of the firms in the configuration, with the following properties: first, the quantities demanded by the market at the prices in question must equal the sum of the output of all the firms in the configuration. Second, the prices must yield to each active firm revenues that are no less than the cost of producing its outputs. And, last, there must be no opportunities for entry that appear profitable to potential entrants who regard the prices of the incumbent firms as fixed” (Baumol *et al.*, 1982, p.5).

In other words, a sustainable configuration ...

“must minimize the total cost to the industry of producing the total industry output. That is, no different number, size distribution, output quantities, or productive techniques for the industry’s firms can provide the industry’s output at a lower total cost than that incurred by the firms in a sustainable configuration” (*ibidem*, p. 26).

In contrast with the conventional wisdom, the contestable markets theory shows that monopolies and oligopolies are, in many cases, sustainable configurations. In principle, they can be highly transient, since technical progress, economic growth and public policies are constantly redefining the sustainability parameters. Yet, in practice, they frequently are long-lived, as aircraft, automotive, flat glass, electrical equipment, and several other manufacturing industries illustrate. The normative consequences of these features will be discussed in the next section. But, before that, let us consider other forces that are affecting concentration in the world economy.

Two outstanding aspects of the current patterns of global competition are the internationalization of small and medium firms, and the partition of old multinational corporations into semi-independent business networks. Coase’s approach provides, as we have seen, an interpretation for these institutional innovations: due to the sharp decline of transaction costs, large firms became superfluous entities for many industries. There are, of course, countervailing forces in this process, and the theory on Schumpeterian competition indicates one of them: firms have memory. As Richard Nelson and Sidney Winter (1982) have shown, when confronted by similar market signals, firms may react differently, according to their own history of achievements and failures. The knowledge acquired from these experiences is stored in the firm’s routines, which do not change easily. Managerial strategies that warranted leading positions for decades will not be abandoned without second thoughts, and the same innovation, assessed as a new technological paradigm by one firm, may be treated as a passing fashion by its competitor. IBM, General Motors, and other symbols of the American production system in this century are now immersed in this type of doubts. Their resistance to adopting new competition policies may either delay the ongoing decentralization trends, or generate hybrid

forms of industrial organization, wherein, for instance, old administrative layouts would be combined with updated decision-making procedures.

### 3. INDUSTRIAL POLICY INSTRUMENTS: CONSISTENCY AND EFFICACY

According to the contestable markets theory, every national government should have one permanent industrial policy target, namely, to ensure conditions of sustainability for all sectors of the economy. An alternative statement for this target would be to *maximize the aggregate competitiveness of the industrial system*, which is a direct function of the number of sustainable configurations operating therein. When a local industry has such a configuration, the incumbent firms don't need tariffs, subsidies, administrative controls, or any other form of governmental support in order to face foreign competition in the home economy. Thus, sustainability is a form of *structural protection of the domestic market*, which is more efficient than conventional protectionism, since it doesn't absorb public resources, generate rent seeking, nor distort prices.

Evidently, sustainability is the best answer to the industrial policy dilemma commented upon in section 1. Although just a theoretical possibility, that will be realized only rarely, it has two fundamental merits. The first is to provide a non-ideological reasoning for industrial policy, avoiding tiresome debates on "market failure versus bureaucratic action", "invisible hands versus special interests", etc., and, incidentally, showing that Robert Reich (1984) was wrong in his caustic assertion that "industrial policy is one of those rare ideas that has moved swiftly from obscurity to meaninglessness without any intervening period of coherence" (p. 32). The second merit is to set a clear policy target that can be used as a conceptual framework to evaluate governmental conduct.

In practice, there is a need for industrial policy in two circumstances: (a) to confer sustainability to an infant industry that may be running under a feasible configuration only because of protection<sup>1</sup>; and (b) to return to a sustainable configuration that had lost its status due to technical progress in the rest of the world, or any other type of external shock. The former case is more frequent in developing countries, while the latter is the case for industrial restructuring that is typical in OECD countries. But, in every economy, and in either circumstance, there is a minimum set of conditions to be provided by the government. Although non-controversial, this set is not easily attained, as explained in the next paragraphs, and is composed of three permanent requirements.

The first requirement is exchange rate equilibrium, within a context of macroeconomic stability. This paper does not aim to discuss the international monetary

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<sup>1</sup> An industry configuration is feasible when all incumbent firms can serve the market without running into losses. Feasibility is a weaker requirement than sustainability, since it doesn't require that the configuration be the most efficient one. (See Baumol et al., 1982: 24/25.)

system and related issues, such as the harmonization of macroeconomic policies. However, it is necessary to remember that the economy's structure of effective protection becomes rather uncertain when the RER – real exchange rate – is volatile. Local production can be either overprotected, or exposed to unfair competition from abroad, depending upon RER swings. Among other harmful effects, this instability inhibits long-term contracts between local firms and independent foreign counterparts, due to the high risks involved in such type of operation. Together with intra-firm trade, these contracts form the core of intra-industry trade, which is a basic source of dynamism of contemporary world trade. In other words, RER instability raises transaction costs and precludes the realization of the benefits generated by technical progress in the computer and telecommunication industries.

The second requirement is symmetry between the demand upon public resources and the State taxation power. The size and composition of public investment may vary according to the peculiarities of each economy, but the headings are similar everywhere: defense, education, infrastructure, science and technology, social security, and welfare. These expenditures play two strategic roles as industrial policy instruments. The first is Keynesian, by preserving a foreseeable demand source that equips local producers with better conditions to face market oscillations. This means lower levels of planned idle capacity, and, consequently, smaller unit costs. The second is Schumpeterian, through the public support to R&D activities, the ultimate growth source of industrial capitalism.

In an open economy, the maintenance of an adequate and non-inflationary level of public investment requires a fiscal system that is able to reconcile international competitiveness and social fairness with a heavy tax burden. This implies a long run fiscal policy systematically committed to *reducing* tax rates and to *enlarging* the tax base, objectives that only become feasible when education and income distribution are permanent national top priorities. As Table I indicates, the capacity to meet this challenge is, nowadays, a fundamental attribution that differentiates advanced from developing countries. On average, between 1981 and 1988, the tax burden jumped from 41.3 to 44.4 percent of GDP in the European Community and remained around 36 percent in the OECD countries. In contrast, among the six largest Latin American economies, only Chile has been able to keep a performance similar to the OECD pattern, albeit far from the European levels.

Table 1: Tax Burden in Latin America and In OECD Countries  
(government revenue as a percentage of GDP)

Country	1981	1982	1984	1985	1986	1987	1988
Argentina	26.0	22.7	23.1	28.0	28.1	26.5	23.4
Australia	31.9	32.4	33.3	33.7	34.4	34.2	33.6
Austria	47.8	46.7	47.5	48.5	48.2	47.8	46.8
Belgium	43.4	45.1	45.6	45.9	45.1	45.8	44.3
Brazil	23.9	23.5	22.8	23.4	26.4	25.0	23.8
Canada	38.5	39.1	38.7	38.7	39.5	39.6	40.4
Chile	32.8	32.4	33.6	35.9	35.0	34.5	38.2
Colombia	16.9	18.1	19.5	20.9	23.4	22.0	21.6

Denmark	52.1	51.2	55.5	58.5	58.3	59.2	59.5
France	45.1	45.9	47.5	47.6	47.1	47.6	47.1
Germany	44.8	45.4	45.3	45.6	44.9	44.4	43.7
Greece	29.1	32.3	34.8	34.6	35.7	36.9	35.1
Italy	34.1	35.9	37.4	38.0	39.0	39.3	39.9
Japan	29.1	29.5	30.4	31.2	31.5	33.4	34.3
Mexico	20.8	23.6	23.6	24.7	23.6	24.6	24.3
Netherlands	53.5	53.8	54.1	54.3	53.0	53.4	52.2
Norway	51.8	51.9	53.0	55.1	54.7	53.7	
Portugal	33.3	35.4	37.3	35.9	37.6		
Spain	31.2	31.4	33.2	24.5	35.0		
Sweden	57.7	58.3	59.2	59.2	60.7	61.8	
United Kingdom	42.4	43.0	42.3	42.3	41.5	40.7	
United States	31.6	31.1	30.7	31.2	31.4	31.9	31.5
Venezuela	36.1	34.5	37.2	31.0	29.5	30.4	21.8
EEC Average	41.3	42.2	43.0	43.3	43.1	43.9	44.4
OECD Average	35.6	35.9	36.0	36.5	36.6	37.0	36.2

Sources: OECD Economic Outlook. Historical Statistics (Paris: 1990);  
ECLAC. Economic Survey of Latin America and the Caribbean, 1990 (Santiago: 1992), Table 1.

The third requirement to be attained within an industrial strategy is the provision of an institutional framework to regulate the competition process. Recently, the Industry Development Division at the World Bank presented a comprehensive approach on this subject (see Atiyas *et al.*, 1992), covering the whole set of policy and institutional measures that would ensure a competitive environment to modern economies. Three types of measures are proposed therein: those that strengthen discipline, enhance mobility and improve the availability of resources. One basic assumption is that these measures ...

“are strictly complementary to each other. Emphasis on one set of measures to the neglect of the others is likely to be ineffective, or at worst, counter productive. Hence when resources are not available and mobility is restricted, increased discipline may aggravate financial distress, which, in turn, may force the government to relax discipline once again. In such an environment, government’s intentions to strengthen discipline may in fact not be credible *ex-ante*. Similarly, an environment with ample resources but insufficient discipline is likely to result in their inefficient allocation and use” (Atiyas *et al.*, p. 3).

The discussion in section 2 suggests an additional assumption, that those measures should be convergent with the natural trends prevailing in the industrial system. Hence, industry decentralization should be stimulated whenever the ratio of production costs/transaction costs is raising, and, consequently, the competitiveness of the “intelligent” enterprises is improving; but the restructuring of sustainable monopolies or oligopolies should never be forced. As Baumol (1982) observed, “a history of absence of entry in an industry and a high concentration index may be signs of virtue, not of vice” (p.14).

When an industry has a *contestable* configuration, no governmental intervention is necessary, since the discipline imposed by potential competitors is sufficient to preserve the public interest<sup>2</sup>. However, *non-contestable, but sustainable*, configurations need careful monitoring. This is the case where incumbent firms control a new technology that is not accessible to potential entrants. The history of the flat glass industry in the 1960s is a good illustration of such a case, as I have described elsewhere (Tavares de Araujo, 1982).

Since the 1930s, the flat-glass industry was an international oligopoly organized under the leadership of four firms: one British (Pilkington), one French (Saint-Gobain), and two American (Pittsburgh Plate Glass and Libbey-Owens-Ford). In 1959, after several years of R&D investments, Pilkington introduced the “float-process”, an innovation that revolutionized the industry’s technological base. During the following decade, that firm’s main source of profits was the income earned from licensing the float-process to other competitors, and entry into the industry was restricted to those firms that paid royalties to Pilkington. This situation called the attention of the British Monopolies Commission, which conducted an investigation to verify whether Pilkington’s behavior was affecting the public interest. The conclusions, published in the *Report on the Supply of Flat Glass* (1968), were amply favorable to Pilkington, for the following reasons: (a) during the 1960s, in the United Kingdom, the price of flat glass always remained below the wholesale price indexes for the manufacturing industry; (b) Pilkington’s export performance and technological leadership were highly beneficial to the British economy.

#### 4. NATIONAL INTERESTS AND GLOBAL TRADE

The preceding section indicated the permanent features that every industrial policy must have. It is important to stress that, with the partial exception of exchange rate stability, all those features are strictly domestic affairs. The rest of the world can never be blamed when a national government is unable to provide them. In fact, the demarcation of a sharp border-line between homework and international bargaining is a basic prerequisite to any meaningful negotiating strategy that would reconcile national interests and global trade. As Laura D’Andrea Tyson (1992) pointed out,

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<sup>2</sup> Baumol *et al.* (1982) define a perfectly contestable market “as one that is accessible to potential entrants and has the following two properties: First, the potential entrants can, without restriction, serve the same market demands and use the same productive techniques as those available to the incumbent firms. Thus, there are no entry barriers in the sense of the term used by Stigler. Second, the potential entrants evaluate the profitability of entry at the incumbent firm’s pre-entry prices. That is, although the potential entrants recognize that an expansion of industry outputs leads to lower prices – in accord with the market demand curves – the entrants nevertheless assume that if they undercut incumbents’ prices they can sell as much of the corresponding good as the quantity demanded by the market at their own prices” (p. 5).

“ultimately, the fate of the nation’s high-technology industries depends not on the trade battles we fight abroad but on the choices we make at home: in macroeconomic policy, education policy, technology policy, and industrial policy” (p. 296).

Although mandatory, those permanent governmental measures are not sufficient to ensure sustainability, since there is also a set of selective and temporary policy instruments which is needed on many occasions. Throughout history, such protectionist policies always generated fierce controversies, but even classical economists like John Stuart Mill recommended them, under special conditions:

“( ... ) the protection should be confined to cases in which there is good ground of assurance that the industry which it fosters will after a time be able to dispense with it; nor should the domestic producers ever be allowed to expect that it will be continued to them beyond the time necessary for a fair trial of what they are capable of accomplishing” (1848, p. 284).

However, as Mill latter recognized (see Gomes, 1987), there is no reliable method that could provide exact figures on how much, and for how long, protection is needed by an industry. Moreover, someone must pay for the protection costs, which will be shared among local consumers and foreign producers, depending upon the particular type of instrument being used.

The contemporary dilemma of industrial policy contains a clear message on this issue: every government is sovereign to protect any industry, but the costs should be entirely kept inside the national borders. There are several instruments that meet this rule. For instance, a VER – “voluntary export restraint” – agreement that raises prices in the importing country’s domestic market to such an extent that it is both sufficient to protect the local industry and preserve the trading partners’ export potential. In this case, the rents generated by the protectionist measure are shared between the domestic industry and the foreign suppliers, at the expense of local consumers. Another instrument that reconciles local protection with foreign interests is a subsidy that equalizes domestic prices to international standards.

In the literature on the political economy of protection, the most frequent cases are infant industries and those that need restructuring in order to recover international competitiveness. Nonetheless, as Tyson (1992) documented, there is a third case that is emerging as the most important among OECD countries: the high-technology industries. To be sure, this is the oldest type of protectionism in the history of industrial capitalism. Throughout the period of the first Industrial Revolution, the British government prohibited the exports of capital goods (until 1843) and the emigration of skilled artisans (until 1824), with the explicit intention of preserving the secrets of mechanical engineering under British producers’ control (see Berg, 1980). Afterwards, the methods became less naive, but the protection of the Schumpeterian rents accruing to those firms that operate at the technological

frontier remained a priority governmental affair in every advanced economy. Nowadays, for instance, in the aircraft engine industry, as the U.S. National Academy of Engineering (1991) certifies,

“( ... ) in addition to being the principal source of technology funds, the U.S. government imposes tight export controls on what are deemed to be the most advanced technologies, not necessarily limited to those contained in the latest military systems. Restrictions imposed by security clearance requirements for personnel working on classified military programs practically exclude using engineers who are foreign nationals. A government policy requiring that dependence on foreign sources for raw materials or finished parts be kept to a minimum is somewhat more flexible” (p. 95).

As the GATT's regulations do not cover this type of protection, OECD governments created special forms of managed trade to settle international conflicts in this area. One outstanding example was the agreement signed in 1986 by the United States and Japan on the semiconductor industry. As Tyson (1992) observed,

“( ... ) the accord was a first in many respects. It was the first major US trade agreement in a high-technology, strategic industry, and the first one motivated by concerns about the loss of high-technology competitiveness rather than concerns about employment. It was the first US trade agreement dedicated to improving market access abroad rather than restricting it at home. Unlike previous bilateral trade deals, it attempted to regulate trade not only in the United States and Japan but in other global markets as well. It was the first time the US government threatened trade sanctions on Japan for failure to comply with the terms of a trade agreement. Finally, the agreement signaled several major shifts in US trade policy that were to characterize the rest of the decade – shifts toward aggressive unilateralism, conditional reciprocity, and managing trade by results as well as by rules” (p. 109).

According to Tyson, despite the progress achieved by the Uruguay Round, GATT's rules will remain too general, without addressing the peculiarities of frontier technologies: “Whatever finally emerges from the Uruguay Round negotiations is not likely to solve all the problems of controlling industrial targeting and subsidies in high-technology industries” (1992, p. 284). Furthermore, “American policy makers must recognize that developing the necessary rules will be a slow process. In the meantime, the United States will continue to face the challenge of preventing further erosion in its relative economic position” (p. 296). For this, she recommends that instruments like the 1986 semiconductor trade agreement should be kept as key elements of the US foreign policy until the convenient multilateral rules are put in place.

These contentions are only partially correct. There is no doubt that, when an industry has a sustainable oligopolist configuration, and is established in only two

or three countries, the international rules must be formulated through direct negotiations among those countries and according to the features of the competition process prevailing in that industry. These rules will hardly be enduring, since technical progress is constantly changing the forms of competition, as Schumpeterian theories explain. Hence, mechanisms like the semiconductor agreement will always be necessary and under a permanent updating process. But they can never be substitutes for the GATT, whose role is to provide the overall regulatory framework for those sectoral agreements.

Nowadays, in order to be prepared for reconciling conflicts between domestic policies and international interests, the GATT's legislation needs just two small amendments. The first is to make explicit the principle that every nation is free to promote its industries whenever the protection costs are exclusively paid by that society. In fact, this norm is already implicit in the draft of the Code on Safeguards that has been agreed upon at the Uruguay Round, but not yet formalized. That code will introduce a major institutional innovation, by legitimizing nearly all managed trade practices invented by OECD countries in recent decades and keeping such practices under GATT's supervision. Since there is consensus on the substance of that principle, the only missing detail is to emphasize that protection rule in the code's final draft.

The second amendment is a balanced Treaty on Intellectual Property Rights, that would protect the interests of those who create technical progress, but without artificially raising the entry barriers into high-technology industries. Considering the 1986 deadlock situation, when some developing countries were against negotiating this topic within the GATT, the present version of the text is a great achievement, although still biased towards the innovators' side.

It became a common place to say that the GATT's current negotiating agenda is too large. Nevertheless, the Code on Safeguards and the Treaty on Intellectual Property Rights, if drafted according to the formats suggested above, are the milestones that will pave the way for settling the other remaining issues.

## 5. CONCLUSION

This paper's argument can be summarized by recalling a comment made by John Stuart Mill some 150 years ago:

“There are some things with which governments ought not to meddle, and other things with which they ought; but whether right or wrong in itself, the interference must work for ill, if government, not understanding the subject which it meddles with, meddles to bring about a result which would be mischievous” (1848, p. 277).

Within the context framed by the contemporary dilemma of industrial policy, governments ought to meddle with four things: The first is exchange rate steady

equilibrium, that may demand some supranational efforts regarding the harmonization of national macroeconomic policies, as I have argued elsewhere (Tavares de Araujo, 1992). The second is to maintain a tax system that is compatible with the levels of public investment required by the current international patterns of technical progress and welfare. The third is to monitor the conduct of the business community, but under the normative parameters indicated by the structural characteristics of each industry, i.e., the ratio of production costs/transaction costs, the nature of entry barriers, and the interplay between the existing technologies and the market size. The fourth is to pursue an international negotiating strategy that, on the one hand, would avoid injuring the performance of other economies, but, on the other hand, would ensure reciprocity from the rest of the world.

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