

WHAT DID FREDERICK LIST ACTUALLY SAY?

Some Clarifications on the Infant Industry Argument

Mehdi Shafaeddin

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* Tel. 022-907.5733; Fax 907.0274; E.mail: nicole.winch@unctad.org

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Mehdi Shafaeddin

United Nations Conference on Trade and Development, Geneva

Abstract

The purpose of this study is to clarify some confusion surrounding the infant industry argument presented by Frederick List. Its main contribution is to show that List recommended selective, rather than across-the-board, protection of infant industries and that he was against neither international trade nor export expansion. In fact, he emphasizes the importance of trade and envisages free trade as an ultimate aim of all nations; he regards protection as an instrument for achieving development, massive export expansion and ultimately free trade. List's theory was a dynamic one, with dimensions of time and geography. Making a distinction between "universal association" and national interest, he argues that infant industry protection is necessary for countries at early stages of industrialization if some countries "outdistanced others in manufactures". Nevertheless, protection should be temporary, targeted and not excessive. Domestic competition should in due course be introduced, preceded by planned, gradual and targeted trade liberalization. List guards, however, against premature liberalization. He is aware of the limitation of size for infant industry protection but claims that in most cases this obstacle could be overcome through collaboration with other countries. To List, trade policy is not a panacea; it is an element in his general theory of "productive power" (development); industrial development also requires a host of other socio-economic measures.

The infant industry argument is not only still valid, if properly applied, but, in fact, it is at present even more relevant owing to recent technological revolution and changes in the organization of production. But despite this increased need, the means to achieving it have been restricted by international trade rules. The study also refers to significant incidences of targeted protection of production and exports in advanced countries, while universal and across-the-board liberalization is recommended for developing countries. International trade rules need to be revised to aim at achieving a fair trading system, in which the differential situations of countries at various stages of development are taken into greater consideration. Universal free trade may be easier for developing countries to implement than a dynamic and targeted trade policy; but "easiness" is not a substitute for "soundness". It is emphasized, however, that, as List maintained, after a point in time trade should be liberalized selectively and gradually, aiming at the ultimate goal of free trade when all nations have reached the same level of development.

“...restrictions are but means, and liberty, in its proper sense, is an end”

F. List (1856: 64)

Introduction

Having been dissatisfied with the theory of comparative advantage (CA), economists have introduced a host of alternative trade theories. Although the infant industry argument is not new, it is an important argument, often made in the context of developing countries at early stages of industrialization, and it is the basis of most new trade theories relating to developing countries. Moreover, it is a significant challenge to the classical theory of international trade, i.e. the theory of comparative cost advantage. According to the proponents of the infant industry argument, the doctrine of CA is essentially concerned with static efficiency in the allocation of resources, and is not conducive to long-term development, which is the chief concern of developing countries. In other words, there is a conflict between market-determined comparative cost advantage and the acceleration of development. Although the theory of comparative cost advantage does not entirely exclude dynamic elements (i.e. changes in the supply of factors of production, consumption pattern and tastes), “it insists that under perfect conditions, the effects of such changes will be reflected in market mechanisms” (Chenery, 1961: 141), i.e. in the structure of current costs and prices, and it rules out the discussion of path of adjustment and evolution of economic forces over time. However, critics would claim that current market prices and costs fail to serve as a guide to social needs and scarcities over time, basically because of the existence of dynamic externalities, uncertainties and risks.

As a tool of policy-making too, infant industry protection is significant. With the exception of Hong Kong, no country has developed its industrial base without resorting to infant industry protection. Both early industrialized and newly industrialized countries applied the same principle, although to varying degrees and in different ways (Shafaeddin, 1998).

The infant industry argument is largely based on Frederick List’s writings, strongly influenced by ideas from Hamilton and Carey of the United States, and there is, to my knowledge, hardly any thorough review of his ideas in the economic literature in English.¹ In fact, most often his contribution is totally ignored. For example, in his book, *Economic Theory in Retrospect*, Blaug (1962) does

¹ One exception is Henderson (1983).

not makes a single reference to List's work.² Similarly, in his book *The Origin of Economic Ideas*, Routh (1975) makes no mention of List. Given this silence among senior historians of economic thought, it is not altogether surprising that the writings of Frederick List on the theory of infant industry have often been misinterpreted or misrepresented by development economists. Furthermore, the literature on the infant industry argument, in general, is heavily loaded with fallacies and confusions. For example, the literature often regards the debate on infant industry protection as one against free trade, or even against international trade; perceives infant industry protection as synonymous with import substitution; conceives import substitution as a permanent feature or strategy versus export orientation strategy (e.g. Little et al., 1970; Krueger, 1978); restricts the infant industry argument to the stage of production for the domestic market; and envisages that protection should be applied across-the-board to the manufacturing sector as a whole, rather than on a selective basis (Greenaway and Milner, 1993; Corden, 1974). For example, Corden maintains that List "provides an argument for general protection of the whole manufacturing sector of an economy" (Corden, 1974: 260). Moreover, List's infant industry argument is sometimes regarded as not applicable to small countries (Cronin, 1980: 118) and, finally, the failure of import substitution policies is often attributed to deficiencies in the theory of infant industry protection (Krueger, 1978). As a result, not only many scholars but also many policy makers in both developed and developing countries tend to believe that, as infant industry protection has failed, universal and across-the-board trade liberalization is the answer.

The purpose of this paper is to clarify some of these issues by referring to the original writings of List, as an early exponent of the infant industry argument. It should be mentioned that List's ideas were not original; to a large extent he borrowed them from the American economists mentioned above. Nevertheless, he developed and formulated them in the form of a theory, i.e. the infant industry argument vis-à-vis the classical theory of international trade. Development of the infant industry argument will be reviewed in a separate paper. Sections I to III of this paper refer to the origin and main features of, and justification for, infant industry protection. Modalities of implementation and neglected features of the theory, including List's views on the importance of international trade and the ultimate aim of free trade, and exports of manufactured goods, are discussed in section IV. Section V looks at the case of small economies; and section VI explains how List's theory was based on experience. The final section is devoted to some concluding remarks which present arguments in favour of the applicability of List's infant industry argument in modern conditions.

² Review of his work is more common by the German economists (see, for example, Senghaas, 1989).

I. THE ORIGIN OF THE THEORY

The infant industry argument was the reaction to the uneven industrial development of Great Britain on the one hand, and the main European countries and the United States, on the other hand, after the first industrial revolution. These countries fell behind Great Britain in industrialization mainly because the first industrial revolution took place in that country. According to List (1856: 69–70), Adam Smith (1776) developed his universal theory of international trade – absolute CA – having mainly the interests of Great Britain in mind. His followers developed his theory of CA, which also advocated universal free trade.³

The origin of the infant industry argument is attributable to Alexander Hamilton, who initiated the debate on industrialization through infant industry protection in 1791, and argued for the protection of United States's industries vis-à-vis imports from Great Britain in his official reports to the American Government (McKee, 1934: 178–276). The first Tariff Act of the United State regarded to have elements of protectionism was that of 1789.⁴ Hence, the United State was the motherland of infant industry protection as an economic theory and as a tool of trade and industrialization policy. According to Bairoch (1993), not only “the modern protectionist school of thought was actually born in the United States”, but “it was also the mother country and the bastion of modern protectionism” (ibid.: 23, 30). List, who lived in the United States between 1825 and 1830 and was strongly influenced by Hamilton, Carey, Henry Clay and Daniel Raymond (1786–1844), first published a book on *Outlines of American Political Economy* in 1827.⁵ As a journalist and writer, List published various books and articles. Nevertheless, as far as the infant industry argument is concerned, his book on *National System of Political Economy*, first published in German in 1841, is the most important and

³ It should be mentioned, however, that even Adam Smith regarded restoration of free trade as an utopia because of the opposition by the private sector. Furthermore, Smith was in favour of protecting defence industries, and approved the Navigation Acts to develop the English merchant navy so as to compete with the Dutch commercial supremacy (Panic, 1988: 125). Moreover, Smith recommended various sorts of government intervention in the domestic economy with their impact on foreign trade. Goldsmith (1995) and Panic (1988) argued that the classical theory of international trade is as sound as any theory based on a certain number of assumptions. The problem with it is that its assumptions are unrealistic. For more details see Shafaeddin (2000).

⁴ For more details about the history of industrial policy in the United States and Europe during late eighteenth and early nineteenth centuries, see: Shafaeddin (1998); Bairoch (1989, 1993); Goldstein (1993); Bairoch and Kozul-Wright (1996).

⁵ In his writings in Germany in the form of various memoranda during the period 1819–1820, List argued for protection mainly as a “retaliatory” measure rather than as infant industry protection (Henderson, 1983: 144–145).

comprehensive one. Although he was not original in his ideas, he used the tools of economic analysis vigorously in developing and formulating the infant industry argument in that book (Schumpeter, 1952).⁶ Henderson (1983: 158) correctly claims that “List offered his readers much more than a repetition of the familiar argument put forward by these writers” (those who advocated protectionism before him). We refer basically to the *National System of Political Economy* in the present paper.⁷ The first English translation of the book appeared in 1856 in the United States.

List’s infant industry argument is very comprehensive, and as a basic theoretical framework extremely relevant to problems of trade and industrialization of developing countries. In the light of the confusions about his theory outlined above, we shall review the main features, justification and modalities of protection and liberalization as developed by him. We shall also refer to the comparative role of history and theory in List’s argument.

II. THE MAIN FEATURES OF LIST’S ARGUMENT

List’s infant industry argument is based on the following principles.⁸ First, countries go through five stages in their development: (i) the savage stage; (ii) the pastoral stage; (iii) the agricultural stage; (iv) the agricultural and manufacturing stage; and (v) the agricultural, manufacturing and commercial [services] stage.⁹ Second, to progress, countries ought to industrialize, i.e. go from stage (iii) to stages (iv) and (v). Third, such transitions cannot take place automatically through the “natural course of things”, i.e. through market forces. Hence, to do so, infant industry protection becomes necessary for countries which are

⁶ There is a controversy in the literature whether or not List had his own ideas (similar to Hamilton’s), uninfluenced by his American friends, before arriving in the United States (see Yaffey, in particular pp. 101–103). This aspect of the controversy, however, is of less concern to us as we are interested in the related issues in the form of a comprehensive economic theory for the first time, rather than its history.

⁷ List’s first book, *Outlines of American Political Economy*, was a collection of articles which had been published in American journals and newspapers and covered his basic ideas. List’s second book, *The Natural System of Political Economy*, was written in haste for the purpose of participating in a prize competition in France, and its ideas are not always well exposed (Henderson, 1983).

⁸ See Hoselitz (1960: 197–205) and List (1856, particularly the introductory chapter).

⁹ The concept of stage economies was not new. Eighteenth-century economists had referred to it. Adam Smith outlined a four-stage schema of economic development in *Lectures on Jurisprudence*. List made a minor variation on Smith’s schema by inserting “manufacturing” into a schema that originally moved from agriculture (stage iii) directly to commercial society (stage iv). I owe this point to John Toye.

at stage (iii) if other countries are at different stages of development, i.e. “some have outdistanced others in manufactures”. Fourth, protection should be temporary, i.e. confined to the infant stage and should be gradually removed as the industry matures. Finally, protection should be confined to the manufacturing sector; agriculture should not be protected, even though productivity growth in this sector is important for development.

III. JUSTIFICATION

To justify his theory List emphasizes the differences between national and universal interests, introduces the theory of productive power (development), as against the theory of universal free trade, and concentrates on the differences in the levels of industrialization of various countries.

The main point of List's departure from Adam Smith in his theory of international trade is philosophical. Adam Smith does not make any distinction among the interests of individuals, nations and mankind at large (1776, Book II, chap. V). According to Smith, by seeking their own interests, individuals also preserve the interests of society as a whole. To List, the sum of individual interests is not necessarily equal to the national interest (p. 74),¹⁰ i.e. social interests may diverge from private interests (pp. 245 and 261). Moreover, Adam Smith “overlooks nationality and national interest by arguing for maximization of the global welfare” (p. vi). According to List, some nations may give more weight to their own welfare than to the collective interests of humanity; if so, that nation would be interested more in the expansion of productive forces of the country through infant industry protection than in maximizing the welfare of humanity at large through free trade (p. 2–61). The economy of individuals is different from the national economy, which is in turn different from the cosmopolitan economy, i.e. the economy of mankind.

Professor Viner (1953:4–5) maintained that Adam Smith and other classical economists took a cosmopolitan approach because they thought what was in the interest of England was also in the interest of the world as a whole. It was not because they were not patriotic. Nevertheless, he argues, what was relevant to their time and country may not necessarily be relevant for other times and other countries, particularly for “economically less advanced countries” at any time. Hence, his view is similar to List's

¹⁰ Henceforth, in this article all references to List (1856) will be made by referring to a specific page or pages of his work without repeating his name.

when he maintains that “It is today always necessary ... as it was for the English classical economists, to be perfectly clear whether we are considering a problem, say, commercial policy from a national or from a cosmopolitan point of view” (ibid: 5).

List proposes the “theory of productive power” for the national economy, as against the theory of exchangeable values (international trade) proposed by Adam Smith, which he regards as relevant to the cosmopolitan economy. The theory of productive power, however, goes far beyond international trade. The productive power of a nation depends not only on factors of production and “possession of natural advantage”, but also on the availability and stability of institutional factors and their independence and power as nations. Division of labour should be accompanied by a sense of national unity, independence and a common goal, and cooperation of productive forces (p. 74). In modern economic language, “the theory of productive power” is close to capability-building or, in a wider sense, to the theory of State-directed economic development.

To List, free trade is suitable for advanced countries. Referring to England at that time, he mentions that:

A country like England which is far in advance of all its competitors cannot better maintain and extend its manufacturing and commercial industry than by a trade as free as possible from all restrictions. For such a country, the cosmopolitan and the national principle are one and the same thing. This explains the favour with which the most enlightened economists of England regard free trade, and the reluctance of the wise and prudent of other countries to adopt this principle in the actual state of the world. (p. 79)

Similarly, for countries which are not industrialized, industrialization would be possible through free trade if all countries were at the same (low) level of development, i.e. if all lacked an industrial base and restricted their trade through legislation or military power.

The elevation of an agricultural people to the condition of countries at once agricultural, manufacturing and commercial, can *only* [our italic] be accomplished under the law of free trade, when the various nations engaged at the time in manufacturing industry shall be in the same degree of progress and civilization; when they shall place no obstacle in the way of the economical development of each other, and not impede their respective progress by war or adverse commercial legislation. (pp. 72–73)¹¹

When countries are not at the same level of industrialization, however, protection of infant industries, List claims, is essential to enhance the *productive power* of the nation with a low industrial base (p. 394). In the language of Senghaas (1989), the existence of a “competence gap” among nations would require infant industry protection by the nations who are in an inferior position and would like

¹¹ Note that List was signalized by the British authorities “as a dangerous enemy on account of his endeavouring to rescue his country completely from the manufacturing monopoly of England” (see List, 1856: viii, translator’s preface to the American edition).

to catch up. It is basically on this ground that List proposes his theory of applying infant industry to countries with little or no industrial base.

It [principle of adopting free trade by a nation which has fallen behind in industrialization] seemed to me at first reasonable; but gradually I satisfied myself that the whole doctrine was applicable and sound only when adopted by all nations. Thus, I was led to the idea of nationality; I found that the theorists kept always in view mankind and man, never separate nations. It became then obvious to me that between two advanced nations, a free competition must necessarily be advantageous to both *if they were upon the same level of industrial progress* [our italics]; and that a nation unhappily farbehind as to industry, commerce and navigation must above everything put forth all its strength to sustain a *struggle with nations already in advance* [our italics]. (p. v-vi)

It should be noted here that his argument is in a context where there is a “competence gap”. Hence, when he says that “the whole doctrine was applicable and sound only when adopted by all nations”, he seems to imply in addition that “and all nations are at the same (low) level of industrialization”, as mentioned above.

List maintains that as long as universal association is not attained and some nations fall behind others, universal free trade may not be advisable as far as the interests of the non-industrialized countries are concerned.

Universal association and absolute free trade may possibly be realized centuries hence, their [classical] theory regards them as realized now. Overlooking the necessities of the present and the idea of nationality, they lose sight of the nation and consequently of the education of a nation with a view to independence. (p. 64)

In justifying his infant industry argument, he provides a number of reasons. These reasons are presented in different instances in his book in the language of the time, but they may be regarded as a basis of modern-day arguments in favour of infant industry protection using more technical language. First, industrialization in countries with little or no experience in manufacturing will not take place according “to the natural course of things” in the face of foreign competition (pp. 378 and 394). In other words, in technical language, the market fails to promote the rapid industrialization of those countries.

Second, since the establishment of new industries involves great risk, the producer has to be provided with extra incentives to enter the industry. If the industry is open to foreign competition at early stages of its development, the producers will suffer and their industries will be ruined (pp. 81, 248, 252 and 378). In this context, List argues that protection of domestic industry and the resulting monopoly would permit an eventual reduction in costs and prices allowed by the exploitation of domestic market, protected by import duties (p. 378). Moreover, eventually the gradual introduction of domestic competition would safeguard the interests of consumers (loc. cit. and p. 113). Although List does not

talk about the economies of scale, this concept is implied by the above argument.¹² As will be explained shortly, it is for this reason that he gives importance to the size of the domestic market as a condition for the successful realization of economies of scale, thus infant industry protection. Interestingly, he is also aware of the role of effective demand in the realization of scale economies (p. 383).

Third, List regards “industrial training or education of the country as a whole” and attaining experience – or development of “invisible capital” – one of the main justifications for the regulation of import duties (pp. 68 and 77-78). In modern economic jargon, this is referred to as development of “human capita” through learning by doing and achieving dynamic external economies of learning.

Fourth, while List does not talk specifically about externality – understandably because the term was not common in his days – on several occasions this notion is evident in his argument. In addition to his argument on the importance of protection for industrial training and education of the country as a whole, as mentioned above, he refers to the importance of experience, knowledge and relation [linkages] of certain industries with the rest of the economy as a criteria for choosing industries for protection (p. 69). These are all elements of externalities regarded as an argument for infant industry protection in its modern version of the theory of infant industry protection (see, for example, Corden, 1974, chap. 9).

IV. MODALITIES AND NEGLECTED FEATURES

A. *Modalities of protection*

List emphasizes, throughout his book, a few points on the modalities of protection to which little attention has been paid by critiques of the infant industry argument. Similarly, certain features of his theory are either ignored or not fully appreciated.

Firstly, with respect to modalities of protection, *List regards regulation of import duties and subsidies as one, but not the only, means of government intervention in favour of*

¹² In fact, in his book on *Outlines of American Political Economy*, List provided a numerical example of a cloth factory working with different production scales, and showed the impact of the change in the scale of production on unit average cost (Henderson, 1983: 151). This example implies his concern about static internal economies of scale. Nevertheless, List's argument on the impact of experience and learning over time on the cost of production indicates his view on what is called dynamic internal and external economies of learning – economies of time (ibid.: 185).

industrialization. In addition, he refers to a host of other policies – industrial, financial and educational – necessary for promoting industries (p. 393). In this sense, his theory of commercial policy is only an element of industrial and development policies. More importantly, the success of such policies necessitates the existence of a large number of other factors. These include such socio-economic factors as: transport infrastructure; science and art (R&D) and inventions; technical knowledge; “enterprise in industry”; provision of educational facilities; patent law; political and cultural factors; morality, a sense of national unity; an efficiently operating administration; liberty; and, above all, the right institutions (pp. 70, 122–123 and 385–393). Moreover, he emphasizes that development of agriculture is a necessary condition for successful industrial development. It is in this context that it is sometimes argued that List's theory is not only one of infant industry protection, but also a multidisciplinary theory of development, which includes international trade (i.e. infant industry protection) as an integral part of it, and that List gives significant weight to internal factors and government policy measures (Senghaas, 1989).

Secondly, in contrast to the views sometimes attributed to him (e.g. Corden, 1974), *List recommends protection of manufacturing products on a selective and discriminatory rather than a universal basis*. That judgement is based on an overall assessment of his writings in the *System of National Economy* rather than on a specific passage which at first sight may give an erroneous impression. He clearly states: “But it is not necessary that *all branches of industry* [our italics] be equally protected” (p. 266). It is List's reference to “all branches of industry” which is the source of misinterpretation. But an insight into his works makes it clear that what he means is “all branches of industries which are chosen for protection at each point in time”. For example, it is clear that he is referring to certain industrial products for protection when he mentions the choice of industries which produce “articles of general consumption” at the beginning of industrialization (p. 388). Within this category, he specifies industries which “require large capital ... general knowledge, much dexterity and experience” and industries which provide linkages with others. If he meant general protection of all industries, or even one category of industries (e.g. consumer goods), he would not have specified industries. Nevertheless, List's theory is dynamic; later on, once these industries have been developed, others could be chosen for protection, and the degree of protection needed would be lower. By “other” industries he does not mean any industry, but those which have, in current economic jargon, forward and backward linkages with them. He maintains: “W[w]hen these [chosen industries] are suitably appreciated and developed, other branches of less importance grow up *round them* [our italics] even with less protection” (p. 267). List even clearly excludes certain group of industries for protection at

early stages: “Industries of luxury should not receive attention until in the last phase” (p. 392). In the case of England, he clearly refers to the experience of that country in “selectivity” at each point in time, i.e. in starting with the processing of domestically produced raw materials, flax, wool, cotton, silk, cloth, and iron, and deepening the industrial structure later on by moving to such industries as fisheries, metals, leather, etc. (p. 112). Moreover, *List argues that industrial inputs, both raw materials and capital goods*¹³ *should be exempted from duties, or should be subject to a low level of duties.* Where the import of these items is subject to duties, he recommends a system of drawbacks, as will be seen shortly.¹⁴

His ideas on selective protection of the industrial sector is also well explained in his book on *Outlines of American Political Economy* in a passage cited by Henderson (1983: 148–49):

List next asked himself whether all branches of American manufacture should be protected ... He replied that the “productive powers” of a new country, such as the United States, could best be stimulated by fostering only those industries “which employ a number of labourers, and consume great quantities of agricultural produce and raw materials; which can be supported by machinery and by a great internal consumption; ... and which are not easy to be smuggled”. List considered that the first branches of manufacture to receive tariff protection should be the woollen, cotton, iron, earthenware, and chemical industries. On the other hand luxury goods did not require any protection at this stage of the economic development of the United States. “Those articles of comfort and luxury, if imported cheaper than we can manufacture them, get in use among all labouring classes, and act as a stimulus in exciting the productive powers of the nation.” A few years later List argued that “there is no reason for the United States to encourage silk manufactures in competition with those of France, so long as France will not compel the Americans to do in regard to silk what, compelled by English restrictions, they would not avoid to do in regard to English cottons, woollens, and iron”.

Only in very exceptional circumstances does List recommend in his book *Natural System of Political Economy* the imposition of a general tariff on a country's industries (Henderson, 1983: 161).

Thirdly, not only should protection be *temporary*, as debated in section IV (see also List, 1956: 113), but also *the level of protection should not be excessive* to eliminate competition from abroad, *or too low* to avoid exposing the industry concerned to the danger of foreign competition (p. 79). As it takes a long time to develop the industrial base of a country (pp. 373 and 398), protective duties should be introduced in moderation, and “raised by degrees in proportion as intellectual and material capital, skill in the arts and the spirit of enterprise increase in the country” (p. 266). “All excessive and premature protection is expiated by a diminution of national prosperity” (p. 78). When List warns about premature protection and the need to raise duties gradually, he implies that protection

¹³ List argues that as industrialization advances and experience is gained, the country may protect production of equipment and machinery.

¹⁴ See also Senghaas (1989), who shares the same views.

is neither the only incentive nor the only condition for industrialization. Other conditions and factors should be present and other incentives and policies are required, as mentioned earlier in this paper.

Fourthly, List claims that *theory cannot determine the level of protection* and no general rule can be drawn. The special conditions of the country concerned should be taken into account: “everything depends on the circumstances and the relations between the less and the more advanced country” (p. 390). Nevertheless, he makes some proposition on the minimum conditions for the success of infant industry protection and the level of duties, and emphasizes that not all countries have the essential conditions for industrialization.

As a general rule, it may be said that a country in which a branch of manufacture cannot succeed with the aid of a protection of from forty to sixty per cent, at the beginning, and sustained itself afterwards with twenty or thirty, does not possess the essential conditions for development of a manufacturing industry. (pp. 79 and 390)

Among the conditions List considers, in addition to the importance of other factors outlined earlier, is a certain level of development of the “forces of production”. Where these forces are poorly developed, protectionist measures “prevent the necessary stimulation of the productive forces”. Another condition is the size of the market and climate. List believes that “only the large and populous states in the *moderate climate zones* [our italics] were capable of development”, and that States in hot zones “ought to specialize in the provision of foodstuffs and agricultural raw materials” (Senghaas, 1989: 65). His logic on climate is not evident, and past experience in Asia has shown that hot countries have been able to industrialized successfully. As far as the question of size is concerned, he proposes a solution which is discussed below.

No sudden prohibition is advisable. However, List emphasizes that the scale of protection duties should be determined in advance so that producers might be assured of “safe business” (p. 389).

Fifthly, List advocates that *duties should not be imposed on imports of raw materials*. He envisages a system of drawbacks for duties imposed on raw materials or intermediate goods, giving the example of cotton yarn (p. 392). He adds that little or no duties should be imposed on capital goods at early stages of industrialization when the country still lacks industrial capacity. Such duties on machinery could, however, be introduced later on when the “country shall not be inferior in the construction of machines to the most skilful nation” (p. 392).

Finally, List is well aware of the danger of “monopoly” power arising from protection but maintains that, as protection should be *temporary*, continuation of monopoly power should be halted after a while; in this respect he refers to the importance of the eventual introduction of competition. He

emphasizes that *absolute privilege should be provided “neither for the benefit of producers nor for the detriment of consumers” by leaving the protected industry in the hands of monopolists* (pp. 251–252). Accordingly, after an initial period, domestic competition should first be encouraged, so that prices could be reduced in the light of experience (dynamic economies of time) in combination with competition (*loc. cit.*). List adds that “competition at home and protection against overwhelming competition from abroad have worked wonders, of which the School [classical school] is ignorant” (p. 460). He is well aware of the costs of protection to the consumers, but he believes such costs should be incurred for obtaining the long-term benefits of protection in terms of higher productive capacity and lower prices. It is on the basis of this argument that Bastable (1903) presented his conditions for protection. According to Bastable, the discounted social costs of protection during the initial period should be over-offset by its discounted social benefits (reflected in the lower costs of production) in the subsequent period, i.e. after removing protection. In other words, it is not enough that the country gains dynamic CA; the benefits gained due to achieving dynamic advantage should exceed the costs involved in protection during the initial period. It should be mentioned that in practice measuring these costs and benefits is not easy owing to problems of quantification. Moreover, as maintained by List, the intergeneration distributional problem cannot be avoided.

List advocates the introduction of pressure on the protected firms, through domestic competition, in exchange for incentives provided by the government through protection, as practised later on in Japan and East Asia (Amsden, 1989). The x-efficiency theory advocates a similar policy towards firms a century after List’s book on the *National System of Political Economy* was published. Nevertheless, a condition for realization of domestic competition is the existence of large markets.

List, however, does not limit his theory to the need for domestic competition. He argues that competition should subsequently be applied through trade liberalization and eventually free trade, as protection is to be temporary. His theory is a dynamic one and specific to each country, depending on the level of development and characteristics of the country at each point in time, as explained below.

B. Features of the infant industry argument

List’s infant industry argument also has a few features that are not fully considered in the literature. Firstly, he advocates for any nation *temporary protection within the context of his proposal for a dynamic trade policy over time* (p. 133). At low levels of development introduction of free

trade would *inter alia* improve agriculture. At a later stage, import restrictions would give an impulse to manufacture and commerce: "... after having reached the highest degree of skill, wealth and power, by a *gradual return* [our italics] to the principle of free trade and free competition in their own and foreign markets, they keep their agriculture from inaction, their manufactures and their merchants from indolence, and stimulate them to wholesome activity, [in order] that they maintain the supremacy which they have acquired" (p. 188).

Secondly, in proposing a commercial policy one should, List asserts, take into account, at each point in time, the *particular situation of the nation* and its industry and prevailing conditions (p. 392). "The measure it [political economy in matters of international commerce] advises must be appropriate to the want of our time, to special conditions of each people" (p. 63). For example, whether one should apply a system of absolute (quantitative) prohibition of certain products or of import duties, high or moderate, no general rule can be drawn (p. 386). Similarly, on the type of goods to be chosen for protection and on the speed of protection, or liberalization, he also emphasizes the importance of specific conditions of the country (e.g. pp. 389–392).

In advocating the infant industry protection for Germany, List stresses that "if the author had been an Englishman, he would probably never have ... entertained doubts of the fundamental principle of Adam Smith's theory. It was the conditions of his [List's] own country which begot in him the first doubts of the infallibility of that theory" (pp. 69–70).

Thirdly, List also strongly warns *against premature and rapid liberalization* of the import system (p. 388). "Every manufacture ruined by the [premature] reduction or withdrawal of protection, and specially by a governmental measure, is a dead body so exposed as to injure every living industry of the same kind" (p. 69). In this context he refers to the unfortunate experience of the United States, which was induced at one point to open its ports to the manufactures of England prematurely after the country had experienced rapid growth under the protection system (p. 62).¹⁵ *It should be emphasized, however, that List also warns countries of the damages caused by a prolonged and unnecessarily high level of protection.*

Fourthly, according to List, *infant industry protection would eventually aim at massive exports of manufactured products*. To him there could be four phases in the development of

¹⁵ It should be mentioned that, among classical economists, Smith and Ricardo also guarded against rapid trade liberalization, when a country has developed its industrial base by protection, despite their advocacy of free trade. This is regarded by them as the right policy "if trade liberalization results in a high unemployment and a drastic reduction in domestic income" (Panic, 1988: 123–124).

international trade and industrialization. In the first phase, domestic agriculture is encouraged by imports of manufactured goods and exports of agricultural products. In the second phase while imports of manufactured goods continue, domestic production of these products begins with the help of protection. In the third phase, home manufacturers supply the domestic market. In the final phase, exports of manufactured goods take place at a large scale. The process, however, is slow and gradual since it involves “industrial education” (List, 1856: 77).

Finally, *List is not by any means against international trade* or in favour of autarchy. He refers to the important role of international trade in the progress and development of a country:

International trade by rousing activity and energy, by the new wants it creates, by the propagation among nations of new ideas and discoveries, and by the diffusion of power, is one of the mightiest instruments of civilization, and one of the most powerful agencies in promoting national prosperity. (pp. 70–71)

In this respect, his ideas on the importance of trade for development compares, by and large, with those of Mill (1948). Nevertheless, the distinguishing feature of his ideas is that he stresses that trade is only an instrument of development. It is not an end. The ultimate end is progress, development and independence. In this context, he refers, for example, to the need for the domestic supply of machinery during a war (p. 392). Hence, strategic consideration is one reason for his proposal for protection:

To preserve, to develop, and to improve itself as a nation is consequently, at present, and ever must be, the principal object of a nation’s effort. (p. 70)

Similarly, *List regards restrictions as a means to development, independence and ultimately liberty, i.e. free trade*. “Restrictions are but means ... and liberty in its proper sense is the end” (p. 64). However, he stresses that “liberty should not be reached without carrying human welfare with it” (p. xi). “The system of import duties is ... a natural consequence of the tendency of nations to seek for guarantees of their existence and prosperity, and to establish and increase their weight in scale of national influence” (p. 73). List claims that progress and development ultimately lead to universal association, insofar as nations have reached the same degree of culture and power (p. 71). When some nations are at lower levels of development than others, *universal association is not achieved by free trade unless it is preceded by protection by countries at early stages of industrialization*.¹⁶

¹⁶ Incidentally, insofar as List frequently refers to the role of protection in achieving independence and obtaining influence and power, his theory contains some elements of strategic trade policy.

Professor Schumpeter in fact states: “List’s argument about protection issues into free-trade argument: if this is not obvious, we can convince ourselves of it by noticing the fact that J.S. Mill accepted the infant industry theory, evidently realizing that it ran within the free-trade logic” (Schumpeter, 1952: 505).

V. MARKET SIZE

List was aware of the limitation of the infant industry argument in its application to small countries owing to the small size of their market. Nevertheless, he still thought that, even in the case of small countries, development of the manufacturing sector was important because of the need for absorption of surplus labour in agriculture by that sector to prevent starvation of the expanding population (Yaffey, 1998). List in fact attributed the great famine of Ireland mainly to the lack of industrialization and overpopulation on small holdings in the country (ibid.). He states that:

A large population, and an extensive territory endowed with manifold national resources, are essential requirements of the normal nationality ... A nation restricted in the number of its population and territory, especially if it has a separate language, can only possess a crippled literature, crippled institutions for promoting art and science. A small state can never bring to complete perfection within its territory the various branches of production. In it all protection becomes mere private monopoly. (List, cited in Yaffey, 1998: 98)

Nevertheless, smallness should not necessarily stop a country to develop its manufacturing industries through infant industry protection. List proposed a number of ways in which a country could remedy the problem of size through alliance with other countries, small or large. It was in this context that in the case of Germany he argued in favour of the German *Zollverein*, which was a custom union of German-speaking cities. Referring to such countries as Belgium, Denmark, Holland and Hungary, he proposes “the union of the interest of various states by means of free convention” (ibid: 99).¹⁷ This is, in modern language, called regional integration, or custom unions. The experience of regional integration has failed in the case of Africa. Nevertheless, among factors contributing to this failure was the lack of transport infrastructure to link up the countries, individual and collective industrial policy, and

¹⁷ Before List, Daniel Raymond argued in favour of the importance of development of a transport infrastructure to stimulate a dynamic relationship between agricultural and manufacturing sectors in the United States and the removal of internal duties among them (Yaffey, 1998).

division of labour, among the member countries in a way that they could share their markets for various products.

If no solution can be found to resolve the size problem through alliance with other countries, "... did List prescribe that a country should give up hope of pursuing its NS (national system) and hope for the best in the world market" (Yaffey, 1998: 98).

It should be mentioned that the question of size, as a limiting factor, should not be exaggerated. Large size is essential for industries which involve significant economies of scale. However, there exist medium- or small-sized industries which can still be efficient. Moreover, within this category there exist industries whose products are demanded by the public at large – such as food-processing, clothing, etc. Hence, unless the market is very small, the development of some industries might be possible through infant industry protection. The experience of a small country like Switzerland indicates that industrialization in certain lines of production through initial protection has been feasible.

VI. THEORY AND HISTORY

List was proud that the prime source of his theory was based on history and experience rather than on unrealistic assumptions. He states that "political economy in matters of international commerce must draw its lessons from experience" (p. 63). To him, history does not provide the justification for absolute freedom of international trade in all circumstances advocated by the classical school (p. 394). In fact, he began his book by reviewing the history of commercial policies of Italy, the Hanseatic cities, Flanders and Holland, Spain and Portugal, France, Germany, Russia, the United States and, in particular, England (Book I). "Great Britain borrowed from all the countries of the continent their special arts and gave them a home under the shelter of her protective system" (p. 113). "Theorists have since [early 1700] pretended that England has become rich and powerful, not on account, but in spite of, her commercial[protective] policy" (p. 114). List adds that it was only after developing its industries through protection that England attempted to secure foreign markets through the Navigation Act, to advocate pursuance of free trade by other countries, and to dampen its industrial products in foreign markets (pp. 14–17).¹⁸

¹⁸ For more details see Shafaeddin (1998).

List argues that political economy must rest upon philosophy, policy and history, but emphasizes in particular the role of history:

History, for its part, assists in no equivocal manner in providing exigences of future, by teaching how, in every epoch, progress, material and intellectual, has kept pace with the extent of political association and commercial relations. ... [It shows] how a commerce entirely free with nations more advanced has been of advantage to those still in the first phase of their development; also how those which had made some progress have been able by proper regulations in their foreign trade, to make still greater progress and to overtake those which had preceded them. History thus shows the way of reconciling the respective exigencies of philosophy and Government.

But practice and theory, such as actually exhibited, take their sides, the former exclusively for particular exigencies of nationality, the latter for the absolute requirements of cosmopolitanism. (pp. 63–64)

In learning from history, List was most influenced by the experience of the United States during the period he lived there. “The best book on Political Economy in that country [the United States] is the volume of life.” There he witnessed the gradual development and industrialization of the country with regulation of foreign trade and government intervention in the economy. “That book I have read earnestly and assiduously, and lessons drawn [drawing lessons] from it I have tried to compare and arrange [sic] with the results of my previous studies, experience, and reflections” (pp. xi–xii).

VII. CONCLUDING REMARKS

The purpose of this study is to clarify the contents of the infant industry argument presented by List, as there is some confusion about his theory, and the infant industry argument in general, in the literature. It shows that List’s theory is a dynamic one, with dimensions of time and geography. Infant industry protection becomes necessary for countries at early stages of industrialization if some countries “have outdistanced others in manufactures”. His point of departure from the classical theory of international trade is that he makes a distinction between “universal association” and national interests when all countries are not at the same level of development. He is, however, neither against international trade nor against export expansion. In fact, he emphasizes the importance of trade and envisages free trade as an ultimate aim of all nations; but regards temporary protection as an instrument for achieving development, massive export expansion and ultimately free trade. To him, trade policy is not the sole means of industrial and development policy; a host of other measures are required. When protection

is applied, it should be temporary, selective and targeted, and not excessive. Contrary to the widely held belief, List does not recommend across-the-board protection of the whole manufacturing sector. To guard against the development of monopoly power, domestic competition should eventually be introduced, preceded by planned, gradual and targeted trade liberalization. List is aware of the limitations of size for infant industry protection, but he argues that in most cases this obstacle could be overcome through various types of alliances with other countries, large or small, including regional integration.

Is List's infant industry argument still valid?

The fact that the “traditional import substitution strategy” has failed in many developing countries has sometimes been attributed, in the literature, to deficiencies in the infant industry argument. Moreover, it is sometimes argued that the WTO rules do not allow pursuance of trade policies in line with the infant industry argument. Regarding the first point, it should be mentioned that “across-the-board” import substitution, which has taken place in many developing countries, has been a reaction to import restrictions as a result of balance-of-payment problems, and not because of clear industrial and trade policies. Reinert (2000) has shown that the mode of protection which is the closest to the infant industry protection is that of East-Asia, labelled “good protection” – as against “bad protection” applied in Latin America. Prebisch, the founder of the “import substitution strategy”, himself warned against “bad protection” (Shafaeddin, 2000).

Two points should be emphasized with respect to the second argument. First, there is still some room for manoeuvring within the framework of WTO rules for selective intervention (Amsden, 2000). Second, the existence of such rules is not an argument against infant industry protection. These rules need to be revised to aim at achieving a fair trading system, in which the differential situations of countries at various stages of development should be taken into greater consideration.

Finally, universal free trade is sometimes recommended on the ground of easiness as implementation of a dynamic and selective trade policy is difficult, particularly because of the low capacity of the bureaucracy in many developing countries in the early stages of development. However, “easiness” is not a substitution for “soundness” in opting for trade and industrial policy. Nevertheless, it should be emphasized that trade policy is not a panacea, and its role should not be exaggerated. Trade policy is only an element of industrial and general development policies. The success of trade

policy necessitates a host of other socio-economic factors and conditions outlined by List. These include the development of agriculture, infrastructure, institutional and organizational set-up, science, know-how, research and development, entrepreneurship, predictable and efficient domestic policies, political and cultural factors, morality and sense of national unity and above all “liberty”.

Before concluding, it is interesting to note that active, targeted, industrial policy still prevails in various forms in most developed countries, including the United States, the most advanced industrial economy (Reinert, 2000):

It can be argued that while the Washington Institutions stepped up their ideological crusade against government intervention in the Second and Third Worlds, domestically the US actually increased government assistance to business. The Small Business Administration financed 26,000 companies in 1992; in 1997 the number of companies receiving subsidised finance from this federal office alone had grown to 58,000. While the Washington Institutions have managed the de-industrialisation of the Second and Third Worlds during the 1990’s – under the theory that “all economic activities are alike” – within the US there is a plethora of the theory that “all economic activities are alike” – within the US there is a plethora of government support programs specifically targeting manufacturing. Manufacturing industries with investments below 40 million dollars are eligible to receive loans at about 50 per cent of prime rate, subsidised by the federal government. At the last count, in July 1999, there were 821 different income tax credit schemes promoting investments in the real economy operating in the 50 states of the US. (Reinert, 2000: 18–19)

Joseph Stiglitz, former Chief Policy Adviser in President Clinton’s Administration, said: “I found myself in the uncomfortable position of an American saying ‘do as we say, not as we do’” (cited in Reinert, 2000: 16).

More recently, WTO considered a complaint from ECE that the Government of the United States was providing widespread tax relief to US companies on their income from exports, and ruled that they were acting against WTO trade rules. Although no official figures are available, it is estimated that in fiscal year 1999 about \$3.5 billion worth of tax reduction was provided to between 3000 and 7000 companies in the United States on about \$250 billion worth of exports (*Financial Times*, 25 January 2000: 7). Two features of such subsidy assistance to the companies are worth mentioning. One is that the beneficiary companies do not include only small or new companies, nor is subsidy assistance provided to companies for new products. The subsidy and the company coverage are widespread. The subsidy covers such multinational companies as General Electric, Microsoft, Ford, Exxon/Mobile, Motorola, Boeing, Procter and Gamble, and Monosanto, and such mature products as petroleum products, cars and basic consumer goods (ibid: 7).

Another feature of the subsidy assistance system is that it is especially designed for exports. Accordingly:

Any US company whose exports have at least 50 per cent US content can set up a Foreign Sale Corporation [FSC], a shell company established in a tax haven, ... letter box companies that will offer to manage an FSC for \$2000 a year ... The US company “sells” its exports to the FSC which then “exports” them. However, no physical transaction takes place. Instead, the FSC subcontracts the physical handling of exports and other economic activities back to the parent company ... Part of the FSC’s income – as much as 65 per cent – is exempted from US tax. The remainder of the income is taxed by the tax haven (minimally). Dividends paid by the FSC to the parent company are also not taxed. Using an FSC can reduce a company’s taxbill by between 15 per cent and 30 per cent (*Financial Times*, op. cit.).

In addition to the fact that the Government provides subsidy assistance to its “mature” companies for their “mature” products, this specially designed subsidy system implies that the Government of the United States, whose currency is the most important convertible international currency, gives more weight to export earnings, across the board, as compared to earnings derived from domestic sale. Developing countries suffer from shortage of foreign exchange. Hence, to them the relative importance of foreign exchange earnings, as compared to earnings in domestic currency, take much more significance than developed countries such as the United States. Therefore, it is not surprising that many developing countries wonder why a highly industrialized country justifies providing assistance to its “mature” industries, but developing countries are expected to forego such assistance to their infant industries.

Provision of assistance to producers and exporters is not confined to the United States. Enormous amounts of subsidies provided to producers in ECE countries under common agricultural policies is another example (Shafaeddin, 2000).

In short, the infant industry argument as developed by List, within the context of its general theory of “productive power” (development) is still valid if properly applied. One should not, however, forget that he emphasized that after a point in time trade should be liberalized selectively and gradually, aiming at the ultimate goal of free trade *when all nations will have reached the same level of development*.

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