

List Revisited: Dynamic Consideration of Trade and Protection

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I

The name of Friedrich List (1789-1846) has been associated generally with protection and particularly with the infant industry argument, although some writers have argued that he was "in principle" a free-trader (see e.g., Haberler 1959, p. 278; von Mises 1983, p. 71; Schumpeter 1954, p. 505). A few writers have noticed his important contribution to development economics (Clairmonte 1959; Hoselitz 1960; Henderson 1983). However, List's essential and original contribution to economic theory has not been fully appreciated. In particular, his dynamic analysis of trade and protection in the context of economic development and growth provides some original insights into the gains and losses from trade and protection which are still highly relevant to current debates on these issues.

The fundamental message of List, which we wish to highlight in this paper, is the tremendous importance of adopting a thoroughly dynamic approach to economic policies, particularly in the field of foreign trade. Issues involving the search for a sustained growth path through international trade cannot be fruitfully analyzed within a static framework that takes technical progress and current comparative advantages as given. Accordingly, policies of international division of production should not be formulated without consideration of such dynamic forces as technical progress, cultural change, and learning by doing which affect the economic performance and alter the existing comparative advantages of a nation.

In List's dynamic framework technical progress is placed at the centre of international trade and economic development. Access to know-how is crucially dependent on international trade, yet without a manufacturing base a country cannot fully exploit this know-how, let alone generate its own. And in a world where comparative advantages are constantly changing as a consequence of technical progress, such a country may lose its present advantage and fail to find a new niche in world trade. Thus without a manufacturing sector the search for

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potential comparative advantage will be pointless, and both growth and trade will be retarded. Hence the importance, for List, of the development and protection of 'productive forces' (produktionskrafte), especially 'the manufacturing power' of a nation. It permeates his whole work.

II

Realising the need to establish his policy recommendations on both logical and historical grounds, List begins his *magnum opus*, *The National System of Political Economy* (published in Germany in 1841 and translated into English first by G.A. Matile in Philadelphia in 1856 and later by Sampson S. Lloyd in London in 1885) with the history of European and North American nations¹. From the changing and diversified records of their economies List distinguishes five stages of economic development: (i) the savage stage, (ii) the pastoral stage, (iii) the agricultural stage, (iv) the agricultural-manufacturing stage, (v) the advanced stage of agriculture-manufacture-commerce). But he is careful to point out that not all nations have passed, or are destined to pass through all these stages. Some (e.g. Spain and Portugal of his day) had started on the development path, got far along it, and then slipped back. Others which lack the favourable climate, necessary resources and population are not capable of becoming great manufacturing nations.² Only those nations endowed with sufficient resources and willing to apply the appropriate trade policy at different stages of development can hope to reach the last stage and remain there.

Throughout his sketchy account of "The History of Nations", List stresses, among other things, the tremendous importance for economic development of the dynamic and permanent gains from international trade, namely the acquisition of technical skills, trade secrets and better machinery and tools, which he contrasts with the static and transient gains of buying certain things cheaper than can be produced at home. He associates the former gains with his own theory, "The Theory of Powers and Production", and the latter with the theory of Adam Smith and J.B. Say, "The Theory of Values":

According to the theories of Adam Smith and J.B. Say, The Theory of Values, ... England should have bought what she required where she could buy them cheapest and best; it was an act of folly to manufacture for herself goods at a greater cost than she could buy them at elsewhere, and at the same time give away that advantage to the Continent.

The case is quite the contrary, according to our theory which we term the Theory of the Powers of Production, and which the English Ministry, without having examined the foundations on which it rests, yet practically

adopted when enforcing the maxim of importing produce and exporting fabrics.

The English Ministers cared not for the acquisition of low priced and perishable articles of manufacture, but for that of a most costly but enduring manufacturing power (1885, p. 45).

List accuses England not only of failing to practice what she preaches, but also, and more seriously, of preventing other nations from acquiring the power of manufacturing. He quotes from a statement made in Parliament in 1815 by Lord Brougham that "it was well worthwhile to incur a loss on the exportation of English manufactures in order to stifle in the cradle the foreign manufactures" (*ibid.*, p. 81). Later in Book IV, "The Politics", List makes the pointed observation that "it is a very common clever device that when any one has attained the summit of greatness, he kicks away the ladder by which he has climbed up, in order to deprive others of the means of climbing up after him. In this lies the secret of the cosmopolitical doctrine of Adam Smith" (*ibid.*, p. 368).

In the last chapter of Book I entitled "The Teachings of History" List seems to have deliberately chosen those points which will buttress his "theoretical" case against Adam Smith and J.B. Say ("the popular school"). He reminds us, for example, that economic development in the past has depended as much if not more on social institutions and state intervention in the economy as on individual initiative and freedom. Indeed he wants to show that the relationship between individual and national accumulation of wealth is not a one way process from the individual to the nation, as Smith has seemingly argued, but rather a two way process from the individual to the nation and from the nation to the individual. It is a dynamic process in which both the individual and the state play constructive roles:

History everywhere shows us a powerful process of reciprocal action between the social and individual powers and conditions ... History also teaches that individuals derive the greater part of their productive power from the social institutions and conditions under which they are placed (1885, p. 107).

List also challenges the Smithian doctrine that "what is prudence in the conduct of every private family can scarce be folly in that of a great kingdom". "How?", he asks rhetorically, "Is the wisdom of private economy, also wisdom in national economy? Is it in the nature of individuals to take into consideration the wants of future centuries, as those concern the nature of the nation and the state?" (1885, p. 165).

Moreover, List attacks the school for underrating the special interests and historical continuity of the nation, and insists that the economic interests of the nation should transcend those of the individual. For his purpose the most important unit of economic analysis is neither the class nor the individual but "the nation". In the Preface to *The National System* he himself states: "I would indicate as the distinguishing characteristic of my system, NATIONALITY. On the nature of nationality, as the intermediate interest between those of individualism and of entire humanity my whole structure is based".³ From this he proceeds to distinguish between "Political Economy" and "Cosmopolitical Economy", and to highlight the difference between his system and that of Adam Smith. He asserts, for example, that Adam Smith and his followers abstracted from national rivalries, international conflicts and discontinuities, and "assumed as being actually in existence a state of things which has yet to come into existence" (1885, p. 126).

List's insistence on "the principles of nationality and national interests" may seem strange from the point of view of the tradition of Anglo-Saxon economics which emphasises the role of individuals and classes in the economic system.⁴ But his deliberate choice of the nation as the unit of analysis for economic development was very much in line with the German intellectual tradition established by such influential thinkers as Hegel, Herder, Schiller and Goethe who had argued against the atomistic and mechanistic conception of society in favour of an organic conception. They had also emphasised the importance of history and conflict for understanding the nature of society and its development over time. It was, therefore, natural for List to conceive the nation as an organic unity that has evolved over time, as a consequence of the interplay of various political, social and economic forces. For him it was worse than useless to separate economic from non-economic forces in analysing the process of economic and social development of a nation.⁵

List was undoubtedly correct in rejecting abstraction from non-economic factors in analysing the process of economic development of a nation. He was also correct in questioning the traditional conception of "economic man" as a reliable agent for national economic development.⁶ For him the pursuit of wealth by individuals operating in the market place is necessary but not sufficient for attaining the highest stage of economic development. It follows that the state must intervene in the economy not only in matters referred to by Adam Smith, but also in those directly related to economic and social development, and in particular in the development of "the manufacturing power" — his chief engine of economic growth. List was probably the first economist to perceive that the higher the stage of economic development a nation has reached, the bigger is the role of the government:

Statistics and history teach that the necessity for the intervention of legislative power and administration is everywhere more apparent, the further the economy of the nation is developed (1885, p. 172).

It is tempting to link List with economic planning and socialism. Thus Clairmonte (1959) refers to List as "the father of economic planning" and Hayek in his famous book *The Road to Serfdom* (1962, p.16) mentions List and other members of the Historical School as a source of ideas favourable to socialism and economic planning. However, both Hayek and Clairmonte overlooked the emphasis that List placed upon free competition, freedom of political organisations, freedom of the individual and the entrepreneurial spirit which he observed and admired during this long stay in the United States. A careful reading of List's work reveals that he was by no means a thorough-going collectivist.

In short, List's emphasis on the dynamic gains from international trade, the interests of the nation, the role of the government, and the relevance of non-economic factors, stems from his preoccupation with economic development in the long-run rather than with the allocation of resources in the short-run or, as he would prefer to say, with "the theory of productive powers" rather than with "the theory of values".

III

Although List envisages five stages of economic development, his analysis in Book II, "The Theory", of *The National System* is devoted almost exclusively to stage iv, the semi-advanced stage of industrialisation; this stage requires heavy state intervention and protection of the manufacturing industry from the devastating effects of foreign competition. He has little to say on the successive development of the earlier stages, though he gives more attention to this matter in *The Natural System*. Very briefly, he argues that there should be free trade between the countries in the earlier stages of development and the more advanced economies so as to learn from them the skills needed to promote economic progress. In the fourth stage when new industries have been established, the government should protect these industries by tariffs and encourage entrepreneurs by subsidies and privileges. He readily agrees with "the school" on the advantages of free trade in agricultural goods and raw materials both to "the individual as well as to the entire state", but not in manufacturing as a means of promoting economic progress, because "the manufacturing productive power ... is governed by other laws, which have, unfortunately, entirely escaped the observation of the school" (1885, p.217).

What laws govern "the manufacturing productive power" List does not explicitly say, though it is quite clear from his analysis of the nature of agricultural and manufacturing nations that he is referring to such things as division of labour, increasing returns, external economies, learning by doing, stable prices, rapid accumulation of capital, structural change, high productivity, technical progress and cultural change — all of which are associated more with manufacturing activity than with agriculture. An advanced manufacturing sector, according to List is indispensable for sustaining a high and balanced rate of economic growth, as well as for making a nation politically and economically independent of other nations:

We think that we have now made it clear that if a country desires to ensure its national independence and to achieve a high degree of prosperity wealth and power, it must possess highly developed and efficient manufacturing industries (1983, p.70).

There is no doubt in List's mind of the superiority of a manufacturing over an agricultural nation. Writing some sixty-five years after Adam Smith, when England had become a highly industrialised nation using capital intensive methods and exporting manufactured goods to other nations, List naturally places less emphasis on agriculture and rejects Adam Smith's famous theory that the bulk of the nation's capital should be invested in agriculture⁷ (1885, pp.250-3). He also rejects implicitly the critical role given by Ricardo to agriculture as the provider of wage goods and as the ultimate determinant of the rate of profit and hence of the economic development of the nation. List does not only believe that there are severe limits to economic and social progress through specialisation in agricultural products, but he sees no future for an agricultural nation exporting its products in exchange for manufacturing goods:

The popular school betrays an utter misconception of the nature of national economic conditions if it believes that such nations can promote and further their civilisations, their prosperity, and especially their social progress, equally well by the exchange of agricultural products for manufacturing goods, as by establishing a manufacturing power of their own. The purely agricultural nations are thus in the first place dependent for their power of effecting sales on the chances of a more or less plentiful harvest in agricultural-manufacturing nations; in the first place they have to compete in these sales with other purely agricultural nations, whereby their power of sale, itself very uncertain, thus becomes still more uncertain (1885, pp.179-180).

An agricultural nation is not merely subject to a high degree of uncertainty and fluctuations in output and prices, but has a different structure of employment.

Nearly all types of commodities which it produces are found in the more advanced agricultural-manufacturing nations, but not vice versa. This asymmetry gives the latter nation a much greater bargaining power in its trade relations with the former. Further, productivity is usually so low in the agricultural country that the great majority of its population can afford no time to produce anything but the very basic goods necessary for survival. Consequently, no surplus is generated and "little or no capital can be accumulated" (ibid., p.141). Furthermore, the much higher productivity obtained in the manufacturing sector is not confined only to that sector but is extended to the agricultural sector. Indeed List argues that the improvement of productivity in the latter sector depends on that of the former, and that in no country are agricultural machinery and implements more advanced than in a state where manufacturing industry is flourishing (1983, pp.63-4). As a result, the supply of foodstuffs and raw materials for both the industrial sector and for exports will increase. In short, List argues that there is a reciprocal process between the growth of the two sectors, and this process, he asserts, will go on "*ad infinitum*" (1885, p.155).

There is also a reciprocal relationship between manufacturing industry and technical progress. For List, the significance of manufacturing, and in particular the capital goods sector, lies in the fact that it is this sector which generates technological progress and acts as a centre for the acquisition and diffusion of new skills and techniques.⁸ In turn, technological progress generates new products and better ways of producing existing outputs. It is not merely labour-saving but resource-saving as well. In his own words:

The greater the advance in scientific knowledge the more numerous will be the new inventions which save labour and raw materials and lead to the discovery of new products and new processes (1983, p.69).

Thus for List the essence of development is the application of the power of machinery ("machinofecture"), which not only raises labour productivity, but also, and more importantly, in the case of the machine-making sector, it permits the exploitation of new inventions by solving the technical and mechanical problems which usually accompany such inventions. Thus a programme of development involves a programme of industrialisation which is necessary as much for increasing agricultural output and manufactures as well as for generating and exploiting technical progress:

Manufacturers are at once the offspring, and at the same time the supporters and nurses of science and the arts ... In the manufacturing State the industry of the masses is enlightened by science and the sciences and arts are supported by the industry of the masses ... No progress, no new discoveries and inventions can be made in these sciences by which a

hundred industries and processes could not be improved or altered. In the manufacturing State, therefore, sciences and arts must necessarily become popular. A manufacturing nation has a hundred times more opportunities for applying the power of machinery than an agricultural nation ... In the manufacturing State, there is no path which leads more rapidly to wealth and position than that of invention and discovery (1885, p. 200-2).

In his theoretical case for the industrial development of a nation List emphasised over and over again the dynamic and interdependent nature of the various branches of the manufacturing sector. He argues that the establishment of one branch of industry will lead to the establishment of another related branch, which in turn will lead to yet another branch, and so on until a fully integrated and developed manufacturing sector comes into existence. Similarly, the decline of one branch will lead to the decline of another branch. "The manufacturing power" of a nation is thus indivisible:

The English have thus given a striking confirmation of the opinions which we in another place have propounded and explained that all individual branches of industry have the closest reciprocal effect on one another; that the perfecting of one branch prepares and promotes the perfecting of all others; that no one of them can be neglected without the effects of that neglect being felt by all; that in short, the whole manufacturing power of a nation constitutes an inseparable whole (1885, p. 387; cf. also p. 298).

List is here clearly alluding to the doctrine of external economies which forms part, perhaps the major part, of his case for protecting infant industries. Such industries require protection or assistance for a certain period of time until the development of related industries reduces their cost to an internationally competitive level. This is "the infant-economy case", the case of an agricultural economy which has the potential for industrialisation. But List's argument also implies the opposite case of an advanced industrialised economy in which one branch has ceased to be internationally competitive, but because of the existence of external economies it too may require protection. This is "the mature industry case" for protection.

Next, List considers the beneficial effects of manufacturing industry on the cultural and political development of a nation, particularly its role in eroding outmoded ideas, customs and institutions which hinder the economic and social development of the population. A nation should not see the development of industry from a purely economic point of view. He is never weary of linking individual freedom, freedom of the press, the development of the arts, discipline of the labour force, moral forces, and education, to manufactures. Indeed he devotes

a whole chapter (XVII) of Book II of *The National System* to these issues, and begins this chapter with the following observations:

In a country devoted to mere raw agriculture, dullness of mind, awkwardness of body, obstinate adherence to old notions, customs, methods, and processes, want of culture, of prosperity, and of liberty prevail. The spirit of striving for a steady increase in mental and bodily acquirements, of emulation, and of liberty, characterise, on the contrary, a state devoted to manufactures and commerce (p.197; see also 1983, p.66)

Clearly, List goes beyond the comparison of the economic superiority of the manufacturing sector over the agricultural sector, which other writers had noted. Here he is emphasising the social and cultural features by which industrial and agricultural countries differ (cf. Hoselitz 1960, p.202). It is a difference between a stagnant and a dynamic society. In his view cultural change has an almost equally large share as technical progress in general histories of economic and social affairs, and as such it forms an integral part of his theory. Without it one cannot explain the stimulus for economic growth.⁹

Finally, given the emphasis on nationality, it is not surprising that List particularly insists on the importance of manufactures for the defence of the nation. In a world where international conflicts are rife and international trade is often used as a political weapon it is axiomatic, that there is no more important subject for a nation than its defence:

It is the principle of self-maintenance, of self-defence, which counsels the nation to work up their agricultural products, and to dispense with the manufactured goods of the enemy (1885, p.301).

However, it should not be forgotten that on this point List and Adam Smith are in full agreement. According to Smith protectionist measures are justified in the interests of "national defence which is of much more importance than opulence" (*Wealth of Nations*, Book IV, Ch.II).

In short, the development of "the manufacturing power" is, for List, the *sine qua non* of sustained economic development and national independence. On it depends the prosperity of the agricultural sector, capital accumulation and technological progress. For him the wealth of a manufacturing nation is "qualitatively" different from that of an agricultural nation. It is not so much the quantity of material goods that a nation possesses, but rather it is "the manufacturing power", the technological knowledge of how to make them which matters in the long-run. When this power is linked to the political, social and cultural development, as well as to the defence of the nation, the case for

industrialisation transcends the narrow and short-term calculus of current costs and benefits associated with the allocative function of free trade.

IV

Having demonstrated the critical importance of "the power of manufactures" for the economic and social development of the nation, List then turns to "Politics", to the strategy of economic development. He gives advice on how the process of economic development can be started and sustained. For a nation that has already developed its agriculture and is about to embark on the process of industrialisation, he recommends that it should first import a nucleus of machine-tools or those machines which are needed to make other machines. Because of the special importance of these machines the State should not impose any duties on their import, and indeed it should, if necessary, become actively involved in the development of this branch of manufacturing:

Nations which have not yet made considerable advances in technical art and in the manufacture of machinery should allow *all complicated machinery to be imported free of duty*, or at least only levy a small duty upon them, until they themselves are in a position to produce them as readily as the most advanced nation. *Machine manufactures are in a certain sense manufacturers of manufacturies*, and every tax on the importation of foreign machinery is a restriction on the internal manufacturing power. Since it is, however, of the greatest importance, because of its great influence on the whole manufacturing power ... *this particular branch has very special claims for the direct support of the State* in case it should not be able under moderate import duties to meet competition (1885, p.314. Emphasis added).

The machine-tool sector once established will create the condition whereby the development of one branch of manufacturing industry will lead to the establishment of another related branch until a fully developed manufacturing sector comes into existence. It is, therefore, important for the nation's economic survival and growth that the machine-tool sector be established, supported and developed. This sector forms the foundations of the entire manufacturing industry and, owing to its close connection with technical progress, makes possible the generation of indigenous products and processes of production, so that a loss of comparative advantage in one line of production will be offset by a gain in a new line. Moreover, without an advanced manufacturing sector the nation is unable to utilise fully the existing international pool of technical knowledge, which, for List, constitutes the major and lasting gains from international trade.

The recognition of the importance of the flow of technologies between nations led List to advocate free trade in "complicated machinery" or machinery embodying advanced technology.¹⁰ Apart from this trade, and trade in those goods that can only be produced or found in particular geographical areas, the policy recommendations based on the traditional comparative cost theory seem irrelevant because comparative advantages in manufactured goods are neither fixed nor fully known in advance. Comparative advantages or disadvantages at a given point in time are not, according to List, sufficient reasons for a country to produce or not to produce the respective goods. Goods have to be produced first and given conditional protection for a fixed period of time before it can be conclusively established whether or not a country should produce them.

List was, of course, aware of the costs of temporary protection, resulting from allocative inefficiency, but he assumed that such costs will be more than offset by the long-term gain of learning by doing or the gain resulting from the acquisition of the "power of production". In other words, he assumed the "infant industry" to be the general case:

If, therefore, a sacrifice of value is caused by protective duties, it is made good by the gain of a power of production, which not only secures to the nation an infinitely greater amount of material goods but also industrial independence in case of war (1885, p.145).

Moreover, in his earlier work he argued that in trade policy a country should be prepared to sacrifice some immediate wealth in order to stimulate its productive forces and thereby secure a greater wealth in the future. In other words, what is needed is a dynamic, not a static approach to international trade:

When questions of international trade are under discussion the theory of value should be regarded as subordinate to the theory of productive powers (1983, p.190).

Traditionally, it has been the practice to view the losses from freeing trade as temporary, associated with adjustment costs, and the gains as permanent. List, on the other hand, views the costs of protection as temporary and the benefits as dynamic and as long lasting. But in a world where costs, prices and technology are changing all the time it becomes difficult to balance losses against gains and to know whether the gains or losses are permanent or transitory. Writing before the development of cost-benefit analysis List naturally underestimates the real problem of evaluating temporary and permanent costs and benefits. Instead, he provides a simple rule-of-thumb as to whether a nation should embark on a policy of industrial development:

It may in general be assumed that where any technical industry cannot be established by means of an original protection of forty to sixty per cent, and cannot continue to maintain itself under a continued protection of twenty to thirty per cent, the fundamental conditions of manufacturing power are lacking (1885, p.251).

List insists that the degree of protection should vary from industry to industry and from country to country. In particular, the government should protect those industries (e.g. cotton, woollen, and linen manufactures, iron, engineering and ship building) which require a great deal of capital and technical knowhow and which provide employment to a large number of workers (1885, p.179).

Further, tariffs should be adjusted so that foreign capital and skill are attracted to a country (1983, p.88). But they should be removed after they have performed their function of "nursing" and built up a supply of skilled workers, technicians and entrepreneurs, and have enabled a number of industries to become established and able to stand upon their feet:

As soon as manufactures have secured a dominant position in the home market, the import duty can be reduced on a sliding scale so that competition from foreign countries is gradually allowed ... It is also necessary ... to give advance notice of the sliding scale which is to replace prohibition (1983, pp.115-19).

At the same time the government should do everything in its power to foster the development of technical education, a national transport system and the establishment of public credit institutions in order to facilitate the growth of industry. Further, List, realising the connection between high wages and productivity and wishing to avoid some of the negative features of industrialisation, states that "it is essential that the workers of a country which is becoming industrialised should be well-paid and well-fed" (1983, p.120).

In general, List argues that only in cases where the development of a nation is retarded by the competition of a powerful manufacturing rival is protection justified and even then only until the manufacturing power of the nation is strong enough to withstand foreign competition.¹¹ Free trade is desirable in commodities in which countries have natural advantages and in commodities embodying advanced technology. In the Preface to *The National System* List explicitly accepts free trade if two conditions are satisfied: (a) if all nations would reciprocally follow the principles of free trade, and (b) if they are in nearly equal positions of economic development. Outside these conditions, he argues, free trade will lead to the development of some nations at the expense of that of other nations (1885, p.126).

It can now be seen that the conventional association of List with "the infant industry case" and protection is too narrow an interpretation and a superficial assessment of his contribution to economics. To the extent he had advocated protection (and he did so to a much smaller degree than is commonly believed) he was careful to point out that this was only a temporary part of a strategy of industrialisation. It is in this context that his famous infant-industry argument must be understood. Viewed in this light List's argument becomes, contrary to the traditional view, more than an exception to free trade. For him it forms the general case for industrial development and economic growth.

List's concern with long-term economic development in an imperfect world of unequal developments and national rivalries led him to focus attention on the nation rather than on the individual.¹² In this way he was able to show not only that the interests of the nation do not necessarily coincide with those of its individual members, but that the two kinds of interests are of quite a different order. Further, he made a useful distinction between the wealth of individuals and the wealth of a nation — a distinction which is usually blurred by "methodological individualism" (see Hodgson 1986). For a nation, wealth does not consist simply of a stock of material goods which it had accumulated in the past, but rather it depends on its ability to develop "productive forces" which would create wealth in the future. These forces include technical progress, advances in transport and communications, the supply of educational facilities, and efficient public administration. Accordingly, economic development cannot be achieved by private enterprise alone; the government must provide the necessary stimulus.¹³

The perception that the interests of the nation are of a different order from those of the individual plays a critical role in List's analysis of the infant industry case. His case rests essentially on long-term considerations and external economies which are of little or no concern to the individual, but of vital importance to the nation. By rejecting the free trade doctrine for the period of transition from the agricultural to the manufacturing stage, List emphasises the importance of external economies and appears to have overlooked the internal economies of scale associated with that doctrine. However, it is precisely because of the importance of increasing returns in manufacturing industry that List paradoxically advocates both protection in the initial stages of industrialisation and free trade at later stages. He maintains on both historical and logical grounds that industrialisation and hence long-term economic growth cannot be attained by a policy of free trade, but once it is achieved it cannot be maintained without that policy:

In the existing state of international trade it is the policy of protection that will eventually lead to the establishment of free trade. This is apparently a paradox but it is true (1983, p.108).

List favours temporary protection because this will lead to structural changes which, he believes, will bring about long-term benefits. For him, the dynamic and structural problems of underdevelopment transcend the criterion of maximising world production efficiency, under static conditions. Once we allow for the problems of market imperfections, externalities, capital accumulation, technical progress, learning by doing, and institutional factors of developing countries, then free trade is not necessarily the best policy for industrialisation and economic development. Indeed, if we agree with List that protection and other temporary interference with free trade can bring forth new skills, encourage indigenous enterprise and technology, and activate idle resources, which would otherwise be stifled by foreign competition, then there arises the possibility that protection in the long-run will be beneficial not only to the developing country but to the advanced countries. Thus he stated that "England's gain would be far greater than her losses because the united manufacturing power of all the industrialised countries would be far more effective than the isolated industrial power of England alone" (1983, p.50). Moreover, he declared: "supporters of the manufacturing system (unlike those of the mercantile system) do not suggest that a country can prosper only at the expense of another country" (ibid., p.179).

List was, perhaps, the first economist to point out that the foundations of the traditional theory of international trade had been laid by economists who lived in the economically advanced countries. Hence its neglect of structural changes, the importance of technical progress, and international learning, which are more important to developing countries. Moreover, he perceived a fundamental conflict between free trade and underdevelopment or, more precisely, a conflict of interests in free trade between manufacturing and agricultural countries. Free trade, he argued, is mutually beneficial amongst states of equal levels of economic development. But given the historical fact that few, if any, countries have developed without any interference with free trade and given also that there are more economically backward than advanced nations, it follows that free trade will not be advantageous from a "cosmopolitan" point of view.¹⁴

List clearly shows that the standard international trade theory, which focuses on factor endowments and existing comparative costs, ignores the peculiar problems of less developed countries in coping with constant changes in these costs. It is the rate of capital accumulation and technical progress, which is dependent on a developed manufacturing sector, that is crucial in determining the

ability of a country to adapt to changing circumstances.¹⁵ Thus, what is important for a nation is its ability or power to adjust to external changes, to give up the production of old products and processes and adopt new ones. Free trade in manufactures is, according to List, beneficial to the extent it will facilitate the flow of technical knowledge. By adopting the more efficient technology a nation will permanently increase its wealth and its power of adjustment. Although this principle is valid for all countries, List warns that:

In an age of great inventions, such as the one in which we are now living, it is impossible to assess the influence of new technical discoveries either upon particular branches of manufactures or upon industry as a whole in the second or third phase of industrial development. In fact the manufacturers of the dominant manufacturing country ... will feel the urge to exploit the invention as quickly as possible and to snatch it from under the noses of the manufacturers of the relatively backward industrial countries so as to provide goods even more cheaply than before" (1983, p.74).

List was, of course, wrong in treating agriculture as a primitive occupation, dependent "upon natural processes that man can do little to modify" (1983, p.87), though he was basically right in emphasising the "qualitative difference" between specialisation in agricultural products and specialisation in manufactured products, and between industrial wealth and agricultural wealth. Since he linked both technical progress and productivity in agriculture to manufactured products, the country that specialises in the latter products will eventually shift comparative advantages even in agricultural products in its favour, and the agricultural country will remain underdeveloped and dependent on the manufacturing nation.¹⁶

In short, List drew attention not only to certain adverse consequences of free trade for a developing country, but also showed that temporary protection can have more dynamic and lasting beneficial effects on industrial development. Contrary to the received doctrine, he argued, from a dynamic point of view, that protection, used judiciously and selectively, will in the long run, turn out to be internationally more advantageous than free trade. In addition, List made a useful theoretical distinction between the static (allocative) and dynamic (creative) function of international trade, and on the basis of this distinction he derived the important insight that the primary and permanent source of gains from trade is not so much the exchange of goods, but rather the acquisition of advanced technology and technical skills which are embodied in these goods. This particular insight of List has been re-discovered and emphasised by Pasinetti (1981, pp.250, 271) who points out that "there seems to have been, in the past, a widespread failure to realise that the primary source of international gains is not

mobility of goods, but mobility of knowledge". List, of course, cannot be accused of this failure.

Lastly, List's observation made in 1837 on the gap between theory and practice in the field of international trade is still as fresh and relevant today as it was then:

In the name of scientific progress doctrinaire economists have urged practical men to adopt the policy of free trade ... Yet in all countries practical men faced with real problems have always found it both necessary and judicious to regulate commerce and to restrict trade in various ways (1983, p.19).

Two further brief comments on this observation are in order. First, because of his national enthusiasm, List underestimated the strength of pressure groups in persuading democratically-elected politicians ("practical men") to support protectionist legislation which may harm the national interest. Secondly, and as Eatwell (1982, pp.124-5) has pointed out, "List failed to appreciate the potential for intellectual and institutional inertia built into the free-trade programme", as illustrated in the case of Britain after World War II. According to Eatwell, Britain's national commitment to free trade has not faltered despite her declining performances in world markets for manufactures. Obviously, "practical men" in Britain have overlooked List's "mature industry-case" for protection.

Footnotes

1. He devotes a quarter of the book (Book I) to history. He also devotes a quarter of his much smaller and earlier book *The Natural System of Political Economy* (written in 1837 and translated into English by W.O. Henderson in 1983) to history but this comes at the end. The emphasis given to history by List has led some historians of economic thought to regard him as the co-founder or principal forerunner of the historical school (see, e.g., Spiegel, 1971, p.417). Yet List himself treated the lessons of history as merely suggestive, not conclusive. Thus in the two books he insists on the unity of theory and practice.
2. List, following the prejudice of his times, includes in this category those nations in "the torrid zone". He argues at length that these nations are not suited for factories and manufacturing industry: "hence India has given up her manufacturing power with her independence to England; hence all Asiatic countries of the torrid zone will pass gradually under the dominion

of the manufacturing commercial nations of the temperate zone" (1885, p.270).

3. In *The Natural System* List is also aware of the importance of the nation in economic analysis: "We are not numbered among those who deny that nations have individual characteristics and special interests", but adds: "we regard nationality as simply one particular stage of human development which will one day be replaced by cosmopolitanism" (1983, p.189-90).
4. It is of some interest to note that Prof. E.A.G. Robinson (1960, p.XIV), writing some 120 years after List and without mentioning him, commented as follows: "Indeed the concept of the nation would be largely irrelevant from the point of view of economic analysis if everywhere all that is practicable were done to minimise discontinuities and to promote mobility. It was, perhaps because the classical economists tended to assume such freedom of movement that they tended not to emphasise the concept of the nation". Perhaps it should be added that it was precisely because labour was immobile between nations that Ricardo demonstrated the benefits of free trade and the fact that the pattern of commodity trade followed comparative advantage. It is rather surprising that List does not mention Ricardo on matters of international trade.
5. Perhaps he went too far in accusing Adam Smith of drawing an unjustified distinction between political benefits and economic costs and of not perceiving, the law of alternating action and reaction between political power, the forces of production and wealth (1885, pp.44-6). List argued that "power is more important than wealth, simply because, national power is a dynamic force by which new productive resources are opened, and because the forces of production are the tree on which wealth grows, and because the tree which bears the fruit is of greater value than the fruit itself" (ibid.).
6. In particular, List argued that "dead materialism" and "individualism" fail to take into consideration "the mental and political, the present and future interests and the productive powers of the nation" (p.174). Again in his polemics against Adam Smith he had overlooked not only the numerous passages in the *Wealth of Nations* which qualify this caricature picture of Smith, but also ignored the fact that Smith has written a whole book, *The Theory of Moral Sentiments*, on ethics and its relevance to economic development.
7. The theory is set out in Book III, Chapter I, of the *Wealth of Nations*. It would appear that List had, once again, misunderstood Adam Smith.

According to Hollander (1973, p.98), "Smith emphasised frequently the temporal priority of agriculture as a general historical phenomenon". Had List interpreted Smith's emphasis in this light, he would not have seen any contradiction on this point between his position and that of Smith. But having caricatured the methodology of the popular school as purely deductive and mechanistic, he failed to see the historical dimension of *The Wealth of Nations*.

8. Nathan Rosenberg (1976, p.99-100, 157-69) has similar views on the strategic role of the capital goods industry in "the learning process associated with industrialisation" and in the transfer of new skills and techniques to the entire economy. In particular, he shows "that many of the major innovations in Western technology have emerged in the capital goods sector of the economy", and that in the American experience "the sources of productive growth have come from the machinery-producing sector, which developed a mechanical technology appropriate to agriculture".
9. Even consumption, "the spirit of striving for a steady increase in mental and bodily acquirements", in the manufacturing state, "may stimulate manufacturers to extraordinary exertions, and lead to new discoveries and improvements, especially to an increase of productive powers" (1885, p.54).
10. Commentators on List have overlooked this important exception to his theory of protection. Spiegel (1971, p.418), for example, states that List "explicitly excluded agriculture from protection" and "countries that because of location, climate or other reasons would be unable to participate in the march towards industrialisation". Although he describes List as "the prophet of industrialisation" and correctly states that "the concept of productive powers formed the core of List's national economy", nowhere does he refer to the strategic role of the machine-tool sector in the generation and diffusion of new technology.
11. Although he allows implicitly for the case of a mature industry where there are substantial potential losses of external economies and technical knowledge if the industry is eliminated, List repeatedly warns against the danger of other industries demanding and getting protection after they have grown up and those industries where resources can be transferred without much cost and loss of technical knowledge. Indeed he insists over and over again on the need to enforce rigorously a limit to the duration of protection or assistance. It is only when protection is seen as temporary that the intended gains are realised.

12. It is, perhaps, because List had adopted the nation as the unit of his analysis that he was rejected both by neo-classical economists who embraced economic individualism and by Marxists who used "the class" as their unit of analysis. Marx (1975, p.503) characteristically dismissed List as "a German vulgar economist" and an "advocate of extreme protectionism". Further, List's national enthusiasm was responsible for some of his misplaced criticisms of Adam Smith, and this would not have endeared him to the admirers of the father of economics, particularly those who misunderstood his theory of protection.
13. Henderson (1983, p.200) has criticised List for having "greatly exaggerated the ability of the state to promote economic growth", while Clairmonte (1959, p.36) has praised him for emphasising "the dynamic role of the state in economic development". Henderson's criticism is somewhat inconsistent with List's statement which he (Henderson) quotes earlier on p.150: "It is a bad policy to regulate everything and to promote everything by employing social powers, where things may better regulate themselves and can be better promoted by private exertions". It is clear from the following quotation that List's emphasis on the role of the state was partly a reaction to the prevailing view concerning the virtues of laissez-faire: "This system (of Say) has rushed from one extreme view — that the state can and ought to regulate everything — into the opposite extreme — that the state can and ought to do nothing: that the individual is everything, and the state nothing at all" (1885, pp.356-7).
14. After several decades of trade between the industrialised countries of the North and the agricultural countries of the South, the economic gap between the two groups of countries does not appear to have narrowed. Hence the demand for "a new international economic order" by Third World countries. It is to List's credit that he foresaw the need for such an order (see List 1885, pp.126-7).
15. Although List was mainly concerned with the problems of developing countries given that industrialisation is an on-going process, his ideas are not without relevance to the advanced countries. Indeed a key element in Japanese industrial policy has been the protection of Japanese companies from foreign firms. According to Pugal (1984, pp.428-9) "Japanese industrial policy adopted the infant industry approach, whereby government policy nurtures an immature domestic industry that would otherwise fail to develop in the face of severe foreign competition". But the lesson of the Japanese experience suggests that the benefit of protection accrues only

when it is seen as temporary. On this point, List has been proved to be absolutely right.

16. Cf. Joan Robinson (1974, pp.1-6): "In Ricardo's example Portugal was to gain as much from exporting wine as England from exporting cloth, but in real life Portugal was dependent on British naval support, and it was for this reason that she was obliged to accept conditions of trade which wiped out her production of textiles and inhibited industrial development, so as to make her more dependent than ever ... When accumulation is brought into the story, it is evident that Portugal is not going to benefit from free trade. Investment in expanding manufactures leads to technical advance, learning by doing, specialisation of industries and accelerating accumulation, while investment in wine runs up a blind alley into stagnation". It is important to add that List himself argued, on similar grounds, that the Portuguese government had made a great mistake in signing the Methuen treaty with Britain in 1703. (1885, pp.41-60).

References

- Clairmonte, F. 1959. "Friedrich List and the Historical Concept of Balanced Growth", *The Indian Economic Review*, 4(3).
- Eatwell, J. 1982. *Whatever Happened to Britain? The Economics of Decline*. Duckworth, London.
- Haberler, G. 1959. *The Theory of International Trade*, translated from the German by Alfred Stonier and Frederic Benham. William Hodge and Co., London.
- Hayek, F.A. 1962. *The Road to Serfdom*. Routledge & Kegan Paul, London.
- Henderson, W.O. 1983. *Friedrich List: Economist and Visionary*. Frank Cass, London.
- Hodgson, G. 1986. "Behind Methodological Individualism", *Cambridge Journal of Economics*, 10(3).
- Hollander, Samuel, 1973. *The Economics of Adam Smith*. Heinemann Educational Books, Toronto.

- Hoselitz, B.F. 1960. "Theories of Stages of Economic Growth", in B.F. Hoselitz, ed., *Theories of Economic Growth*. The Free Press, New York.
- List, Friedrich, 1983. *The Natural System of Political Economy*, (1837), translated and edited by W.O. Henderson. Frank Cass, London.
- List, Friedrich, 1885. *The National System of Political Economy*, (1841), translated by Sampson S. Lloyd. Longmans, Green & Co., London.
- Marx, Karl, 1975. *The Theories of Surplus-Value*, Part I. Progress Publishers, Moscow.
- Mises, Ludwig von, 1983. *Nation, State and Economy*. New York University Press, New York.
- Pasinetti, L.L. 1981. *Structural Change and Economic Growth*. Cambridge University Press, Cambridge.
- Pugal, A.P. 1984. "Japan's Industrial Policy Instruments, Trends and Effects", *Journal of Comparative Economics*, 8(4).
- Robinson, E.A.G. 1960. *Economic Consequences of the Size of Nations*. Macmillan, London.
- Robinson, J. 1974. *Reflections on the Theory of International Trade*. Manchester University Press, Manchester.
- Rosenberg, N. 1976. *Perspectives on Technology*. Cambridge University Press, Cambridge.
- Schumpeter, J.A. 1954. *History of Economic Analysis*. George Allen & Unwin, London.
- Smith, Adam, 1930. *The Wealth of Nations*, ed. E. Cannan, Methuen & Co., London.
- Spiegel, H.W. 1971. *The Growth of Economic Thought*. Prentice-Hall Inc., New Jersey.